## **GENERAL NOTES**

- FIRE AUTHORITY REQUIREMENTS AND CURRENT EDITION OF THE FOLLOWING STANDARDS:
- a) STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEM
- b) STANDARD FOR THE INSTALLATION OF STAND PIPE AND HOSE SYSTEM NFPA 14
- c) STANDARD FOR PORTABLE FIRE EXTINGUISHER
- d) STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION NFPA 20
- e) STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION NFPA 22 STANDARD FOR THE INSTALLATION OF PRIVATE FIRE f) NFPA 24
- 2. HAZARD CLASSIFICATION:
- A. LIGHT HAZARD: CHURCHES, EDUCATIONAL, HOSPITALS, INSTITUTIONAL, RESIDENTIAL, OFFICES LIBRARIES AND MUSEUMS.

SERVICE MAINS AND THEIR APPURTENANCES

- B. ORDINARY HAZARD GROUP 1: AUTOMOBILE PARKING AND SHOWROOMS, BAKERIES,
- BEVERAGE MANUFACTURING, CANNERIES AND DAIRY PRODUCT MANUFACTURING.
- C. ORDINARY HAZARD GROUP 2: CEREAL MILLS, CHEMICAL PLANTS, CONFECTIONERY PRODUCTS, DISTILLERIES, DRY CLEANERS, FEED MILLS, MACHINE SHOPS AND METAL WORKING.
- 3. SPRINKLER DENSITY AND SPACING:
- A. LIGHT HAZARD (18.2m<sup>2</sup>) @ DENSITY OF 4.1 LPM/m<sup>2</sup> AREA OF SPRINKLER OPERATION.
- B. ORDINARY HAZARD (12.1m<sup>2</sup>) @ DENSITY OF 6.1 LPM/m<sup>2</sup> (GROUP 1) - 8.1 LPM/m<sup>2</sup> (GROUP 2) AREA OF SPRINKLER OPERATION.
- C. FIRE WATER RESERVE SHALL HAVE A MINIMUM OF 60 MINUTES CAPACITY.
- D. MINIMUM AND MAXIMUM SPRINKLER SPACING SHALL BE 2.40 AND 4.60m.
- 4. TYPE OF SPRINKLER AND TEMPERATURE RATING:
- A. HALLWAYS, OFFICE SPACE, RESIDENTIAL UNITS AND OTHERS WITH CEILING AREAS - PENDENT TYPE (STANDARD RESPONSE @ 165°F)
- B. RESIDENTIAL UNIT AREAS WITHOUT CEILING STANDARD OR
- EXTENDED SIDEWALL TYPE (STANDARD RESPONSE @ 165°F)
- C. PARKING AREAS UPRIGHT TYPE (STANDARD RESPONSE @ 165°F)
- D. KITCHEN PENDENT TYPE (QRS @ 212°F)
- E. FIRE EXIT STAIRWELLS EXTENDED SIDEWALL TYPE (QRS @ 165°F)
- 5. STANDPIPE SYSTEM AND PORTABLE FIRE EXTINGUISHER
- A. FIRE HOSE CABINET CLASS II WITH MAXIMUM OF 30.00m LENGTH OF FIRE HOSE AND 10Ibs DRY CHEMICAL PFE.
- B. WET STANDPIPE WITH MAXIMUM AREA COVERAGE OF 4830m<sup>2</sup>/FLR.
- C. FLOOR CONTROL VALVE (OS & Y GATE VALVE) ONE PER WET STANDPIPE.
- D. 15.00m MAXIMUM RADIUS OF TRAVEL DISTANCE TO FIRE EXTINGUISHER.
- E. FE-36 TYPE FIRE EXTINGUISHER FOR ELECTRICAL ROOMS, GENSET ROOMS, TRANSFORMER ROOMS AND TELCO ROOMS.
- F. ABC TYPE FIRE EXTINGUISHER FOR COMMON AREAS
- 6. ALL EQUIPMENT AND FITTINGS ARE TO BE SUBMITTED FOR ENGINEER'S APPROVAL BEFORE PURCHASE ORDER IS ISSUED.
- 7. PIPES AND PIPE FITTINGS MATERIAL:
- A. ASTM A53 GRADE 'B' ERW G.I. PIPES SCH 40 (EMBEDDED PIPES)
- B. ASTM A53 GRADE 'B' ERW B.I. PIPES SCH 40 (ABOVE GROUND PIPES)
- C. ASTM A-234 SCH 40 B.I. PIPE FITTINGS.
- 8. ALL BURIED, CHASED AND CONCEALED PIPEWORK AND FITTINGS
- SHALL BE TESTED PRIOR TO COVERING UP AND MARKING GOOD.
- 9. ALL PIPEWORK SHALL BE SUITABLY SUPPORTED BE APPROVED SUPPORT BRACKETS.
- 10. ALL PIPEWORK SHALL BE PAINTED RED.
- 11. ANY DISCREPANCY BETWEEN THE STANDARD LISTED IN ITEM 1 AND CONTRACT DOCUMENT MUST BE RAISED IMMEDIATELY TO ENGINEER'S ATTENTION.
- 12. THE SUB-CONTRACTOR SHOULD ENSURE THAT A FINAL INSPECTION MUST BE MADE WITH THE ENGINEER.
- 13. BRIGADE PERSONNELS ARE INVITED TO INSPECT AND APPROVE THE SYSTEM.
- 14. ALL PIPES PASSING THROUGH FLOOR AND WALL SHALL HAVE STEEL PIPE SLEEVES ONE DIAMETER LARGER THAN THE PIPE.
- 15. THE SPACE BETWEEN THE SLEEVES AND PIPES SHALL BE CAULKED WITH ROCKWOOL OR FIBERGLASS. 16. PROVIDE LOW LEVEL SPRINKLER PROTECTION AS AND WHERE REQUIRED DUE TO CONSTRUCTION OF
- OTHERS M&E SERVICES, FOR EXAMPLE OTHER EXHAUST DUCT, A/C DUCTS, PIPES, ETC.
- 17. PUMP PANEL, CONTROL PANEL SHALL CONFORM WITH NFPA STANDARDS.
- 18. FIRE BARRIERS AS SPECIFIED.
- 19. ALL PIPE CONNECTORS SHALL BE VICTAULIC OR APPROVED EQUAL.
- 20. PIPE JOINTS MAY BE DEFLECTED WITHIN THE LIMITS RECOMMENDED BY THE MANUFACTURER.

SYMBOLS	DESCRIPTIONS	SYMBOLS	DESCRIPTIONS	ABBREVIATIONS	DESCRIPTIONS	ABBREVIATIONS	DESCRIPTIONS
	BRANCHLINE	$\otimes$	ALARM CHECK VALVE	AAV	AUTOMATIC AIR VENT	mm	MILLIMETER
	CROSSMAIN		FIRE PUMP	ACV	ALARM CHECK VALVE	NTS	NOT TO SCALE
	SUPPLY PIPE		JOCKEY PUMP	СМ	CROSS MAIN	0.D.	OUTSIDE DIAMETER
	PENDENT SPRINKLER HEAD	FS	FLOW SWITCH	DIA. / Ø	DIAMETER	Pa	PASCAL
0	UPRIGHT SPRINKLER HEAD	N	CHECK VALVE	DWG.	DRAWING	T/A	TO ABOVE
Q	SIDEWALL (EXT.) SPRINKLER HEAD	X	GATE VALVE	FHC	FIRE HOSE CABINET	T/B	TO BELOW
<b>é</b>	SIDEWALL SPRINKLER HEAD	X	PRESSURE RELIEF VALVE	FP	FIRE PUMP	ZCV	ZONE CONTROL VALVE
	ABC DRY CHEMICAL FIRE EXTINGUISHER	k	BUTTERFLY VALVE	FS	FLOW SWITCH		
	CEILING MOUNTED FIRE EXTINGUISHER		FLOOR CONTROL VALVE	F/A	FROM ABOVE		
٢	STANDPIPE RISER	ц	ELBOW	FCV	FLOOR CONTROL VALVE		
8	DRAIN PIPE/RISER	ц	TEE	Ga.	GAUGE		
	FIRE HOSE CABINET	Ъ	WYE STRAINER	G.I.	GALVANIZED IRON		
W	FLEXIBLE CONNECTOR	- F	FIRE DEPARTMENT CONNECTION	ID	INTERNAL DIAMETER		
2	AUTOMATIC AIR VENT (SCHEMATIC)			JP	JOCKEY PUMP		
-2	FIRE HOSE CABINET (SCHEMATIC)		TEST HEADER CONNECTION				
♦	SPRINKLER HEAD (SCHEMATIC)						

### DRAWING INDEX

LEGEND & SYMBOLS

NFPA 13

NFPA 10

#### SHEET NO. SHEET CONTENTS GENERAL DRAWINGS GENERAL NOTES, LEGENDS & SYMBOL, DRAWING INDEX, FP-1 SCHEMATIC DIAGRAM AND EQUIPMENTS SCHEDULE FP-2 MISCELLANEOUS DETAILS FP-3 BASEMENT FLOOR GOLD BUILDING FIRE PROTECTION LAYOUT FP-4 GROUND FLOOR GOLD BUILDING FIRE PROTECTION LAYOUT FP-5 SECOND FLOOR GOLD BUILDING FIRE PROTECTION LAYOUT FP-6 THIRD FLOOR GOLD BUILDING FIRE PROTECTION LAYOUT COPPER BUILDING FIRE PROTECTION LAYOUT, SCHEMATIC DIAGRAM FP-7 AND EQUIPMENT SCHEDULE FP-8 GROUND FLOOR STEEL BUILDING FIRE PROTECTION LAYOUT FP-9 SECOND FLOOR STEEL BUILDING FIRE PROTECTION LAYOUT STEEL BUILDING SCHEMATIC DIAGRAM AND EQUIPMENT SCHEDULE FP-10

## EQUIPMENT SCHEDULE

						PL	IMP SCH	EDULE					1.1/	
		DECODIDITION	CAPACITY	TDH	MOTOR POWER	ELECT	RICAL C	HAR.		CUT-OUT PRESSURE	LOCATION		LI	GHT HAZARD
QUIPMENT NO.	QTY.	DESCRIPTION FIRE PUMP	(GPM) 500	(M) 60	(HP) 40	VOLTS 380	PHASE 3	Hz 60	70 PSI	85 PSI	GOLD BUILDING		PIPE NOMINAL SIZE (mm)	MAX. NUMBER OF SPRINKLERS TO BI FED BY PIPE OF
					,	070			75 001	05 001	FIRE PUMP ROOM		SIZE (IIIII)	SIZE LISTED
$\langle 1 \rangle$	1	JOCKEY PUMP	20	60	3	230	1	60	75 PSI	85 PSI	FIRE PUMP ROOM		25	2
									•				32	3
			_		ን	AAV							40	5
			Π		Ť	FCV	ø <sup>P</sup>	G		TO SPRINKLER			50	10
					Ē		FS	6		SYSTEM			65	30
		50					<u>_</u> ⊗	$\checkmark$	Г Г Г Г Г Г Г Г Г Г Г Г Г Г Г Г Г Г Г				75	60
THIRD FL	OOR LE	50mm EVEL	ءــــــــــــــــــــــــــــــــــــ	100mr	nø					SYSTEM			100	SEE NFPA 13 SECTION
▼ GROUND	FLOOR	LEVEL 50mm		100mr	nø	FCV	FS *	\$	FHC	TO SPRINKLER SYSTEM TO SPRINKLER SYSTEM TO SPRINKLER SYSTEM TO SPRINKLER SYSTEM	 100n	ımø	—	65mmø 2–WAY – TEST HEADER
➡ BASEMENT	[ LEVE	50mm	nø	REST		GV /	ACV GV ØT► 	n ™	PC PC PC FP−1 PC FP−1 PC FC FC FC FC FC FC FC FC FC F	  	FROM WATER SUPPLY CV 100n	1mø		CONNECTION 5mmø 2–WAY RE EPARTMENT DNNECTION

					PL	IMP SCH	edule					
	DECODIDITION	CAPACITY	TDH	MOTOR POWER	ELECT	RICAL C	HAR.		CUT-OUT PRESSURE	LOCATION	LIG	HT HAZARD
FP 1		(GPM)	(M)	(HP) 40	VOLTS	PHASE 3		70 PSI		GOLD BUILDING	PIPE NOMINAL	MAX. NUMBER SPRINKLERS TO
	FIRE PUMP	500	60		380		60		85 PSI	FIRE PUMP ROOM	SIZE (mm)	FED BY PIPE SIZE LISTED
	JOCKEY PUMP	20	60	3	230	1	60	75 PSI	85 PSI	FIRE PUMP ROOM	25	2
											32	3
				2	٨٨٧						40	5
		П		Ť	FCV	ø <sup>P(</sup>	3				50	10
				Ē		FS *	6	<u>ک</u>	TO SPRINKLER		65	30
	50mm	. [				<u> </u>	•	<b>T</b>			75	60
THIRD FLOOR L	EVEL		100mn	nø i-					SYSTEM		100	SEE NFPA 13 SECT
				Ļ	FCV	FS <b>Q</b>	- -					
SECOND FLOOR	50mm	nø	100mr	nø				FHC				
					FCV	FS <b>♀</b> <sup>P(</sup>	;					
	LEVEL 50mm	nø	100mr	nø								
		Ĺ		[	FCV	FS <b>2</b> <sup>PC</sup>	;		TO SPRINKLER			
								FHC	TO SPRINKLER	100mm	ø _ FM-J	65mmø 2-WAY
		i										TEST HEADER CONNECTION
				ļ			GV 2 GV	κ είν παρι είν	FV	FROM WATER	ے . 65n	nmø 2-WAY
	50mn	nø	REST	Ĺ	GV /	acv gv ⊗r≓×	x X	PG VoFC FC YS GV FP-1 PG VoFC FCYS GV	ج 15000 GALLONS FIRE TANK	CV100mm	<mark>۳</mark>	
BASEMENT LEVE	L	DRAIN				L .			~			

PROFESSIONAL MECHANICAL ENGINEER: PROJECT TITLE : OWNER : DESIGN OF FIRE FIGHTING SYSTEM METAL IND LENUEL P. JARAMILLA, PME FOR MIRDC BUILDINGS DEVELOP REG. NO. : PTR NO.: 1365493 004367 MAY. 08, 2020 ISSUED ON : JAN. 12, 2018 ADDRESS : DATE : LOCATION : GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA



## **GIBMA Engineering Services**

93 Kalikasan Street Karangalan Village Phase 2A, Dela Paz, Pasig City 1611 Tel. No.: 682 7114 Fax. No.: 682 8467 Cellphone No.: 0920 9226441 URL: www.gibma.com E-mail: gibma2003@yahoo.com

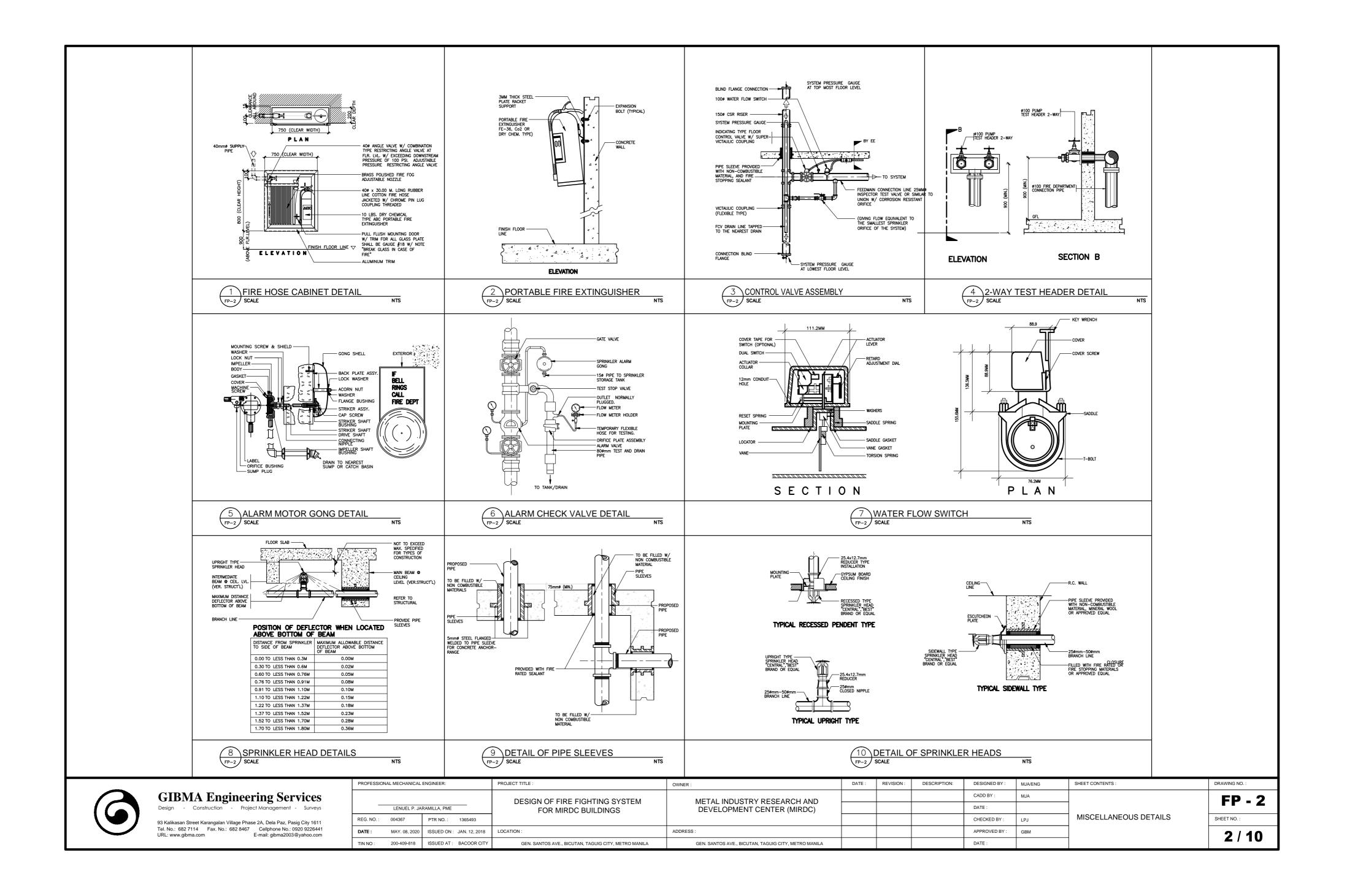
TIN NO :

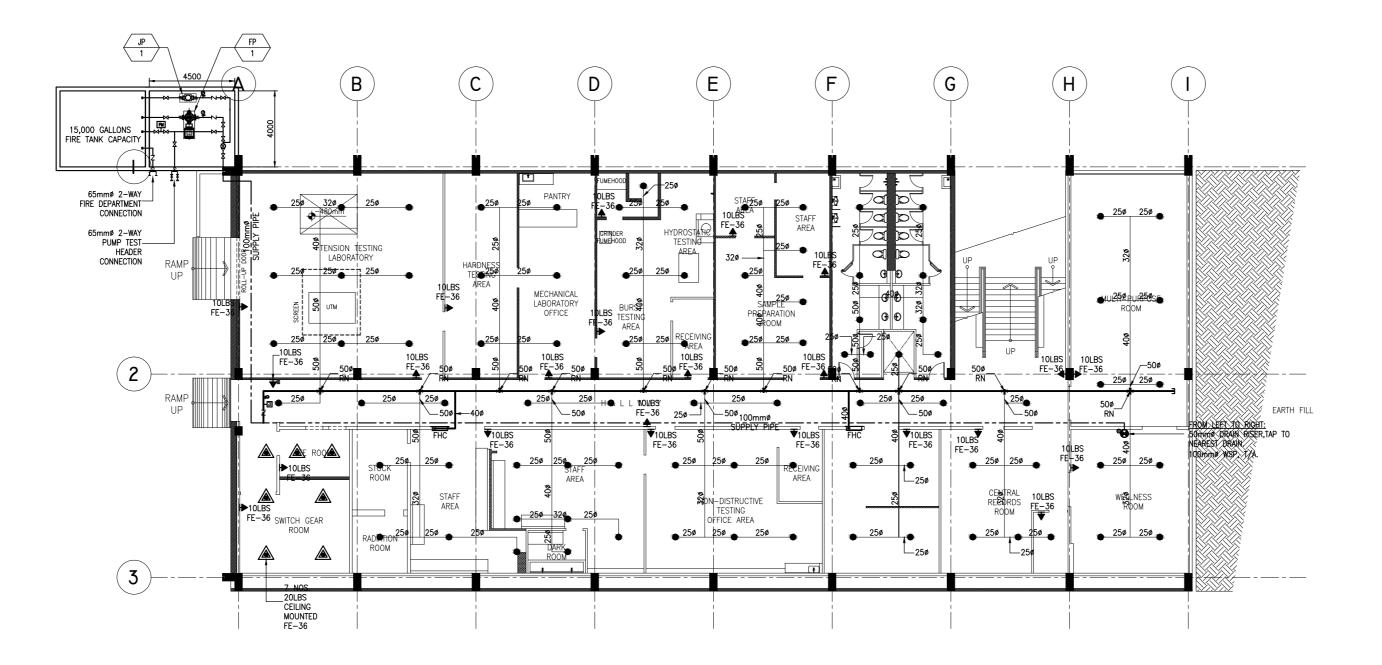
200-409-818 ISSUED AT : BACOOR CITY

## **ABBREVIATIONS**

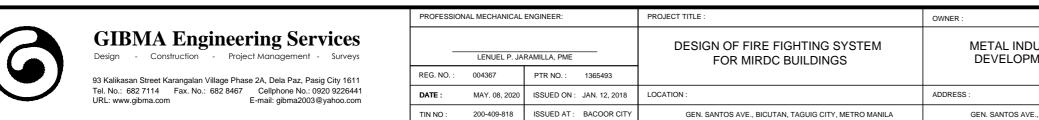
**FIRE PROTECTION SCHEMATIC DIAGRAM** FP-1 SCALE NTS

R :	DATE :	REVISION :	DESCRIPTION:	DESIGNED BY :	MJA/ENG	SHEET CONTENTS :	DRAWING NO. :	
METAL INDUSTRY RESEARCH AND				GENERAL NOTES	FP - 1			
DEVELOPMENT CENTER (MIRDC)				DATE :		LEGENDS & SYMBOLS SCHEMATIC DIAGRAM		
				CHECKED BY :	LPJ	EQUIPMENT SCHEDULE	SHEET NO. :	
:SS :				APPROVED BY :	GBM	DRAWING INDEX	1 / 10	
GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA				DATE :				

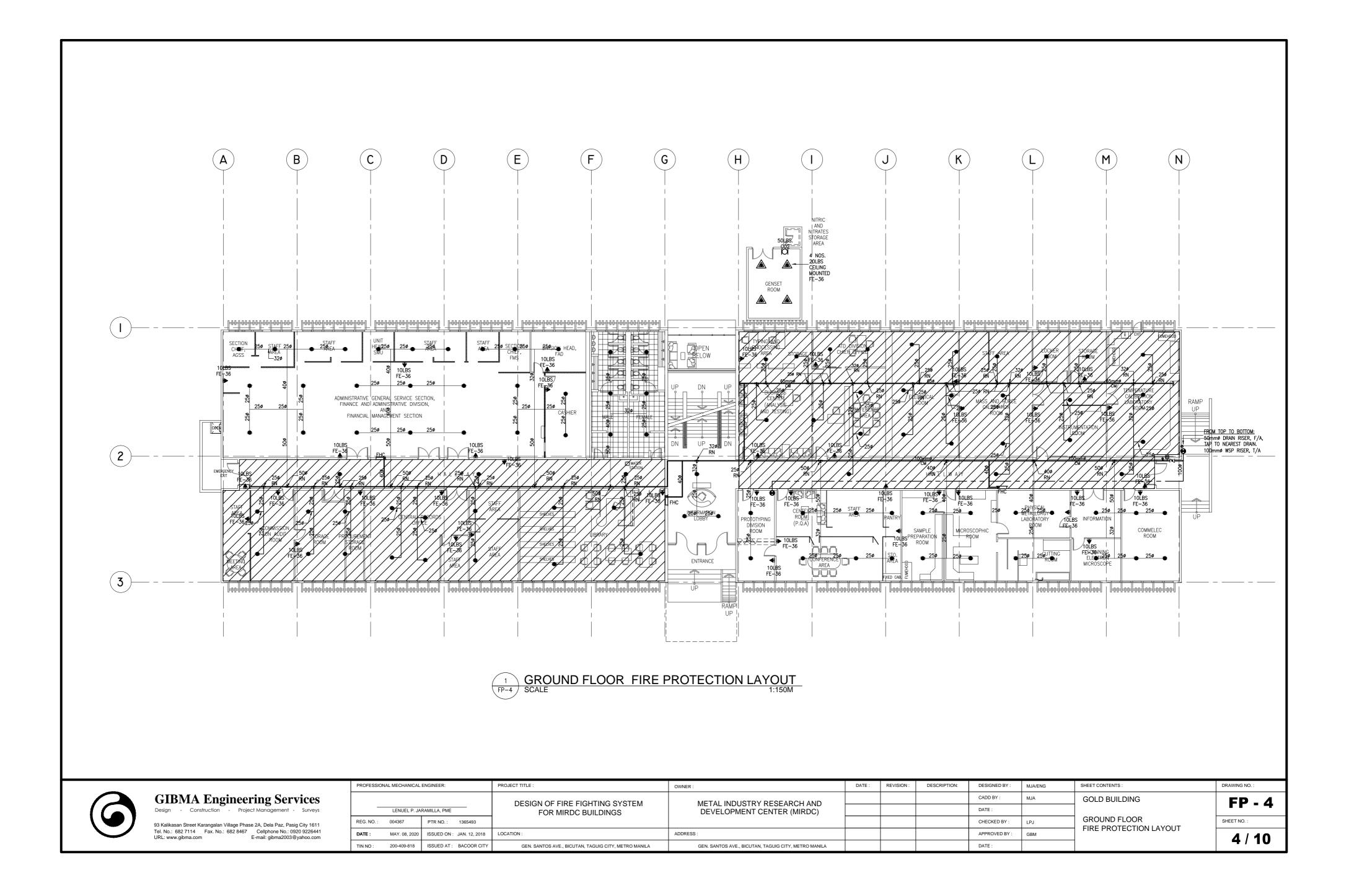


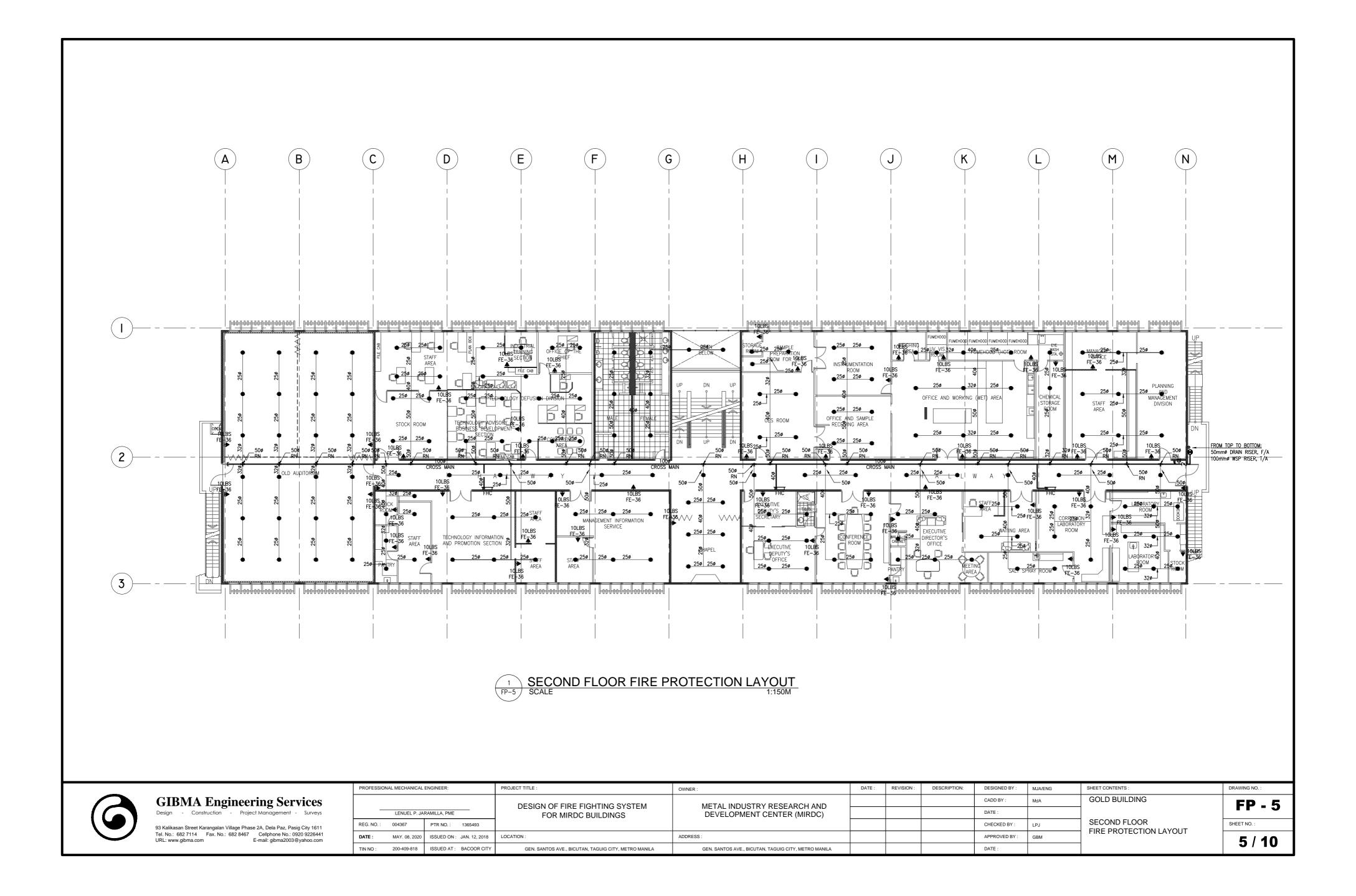


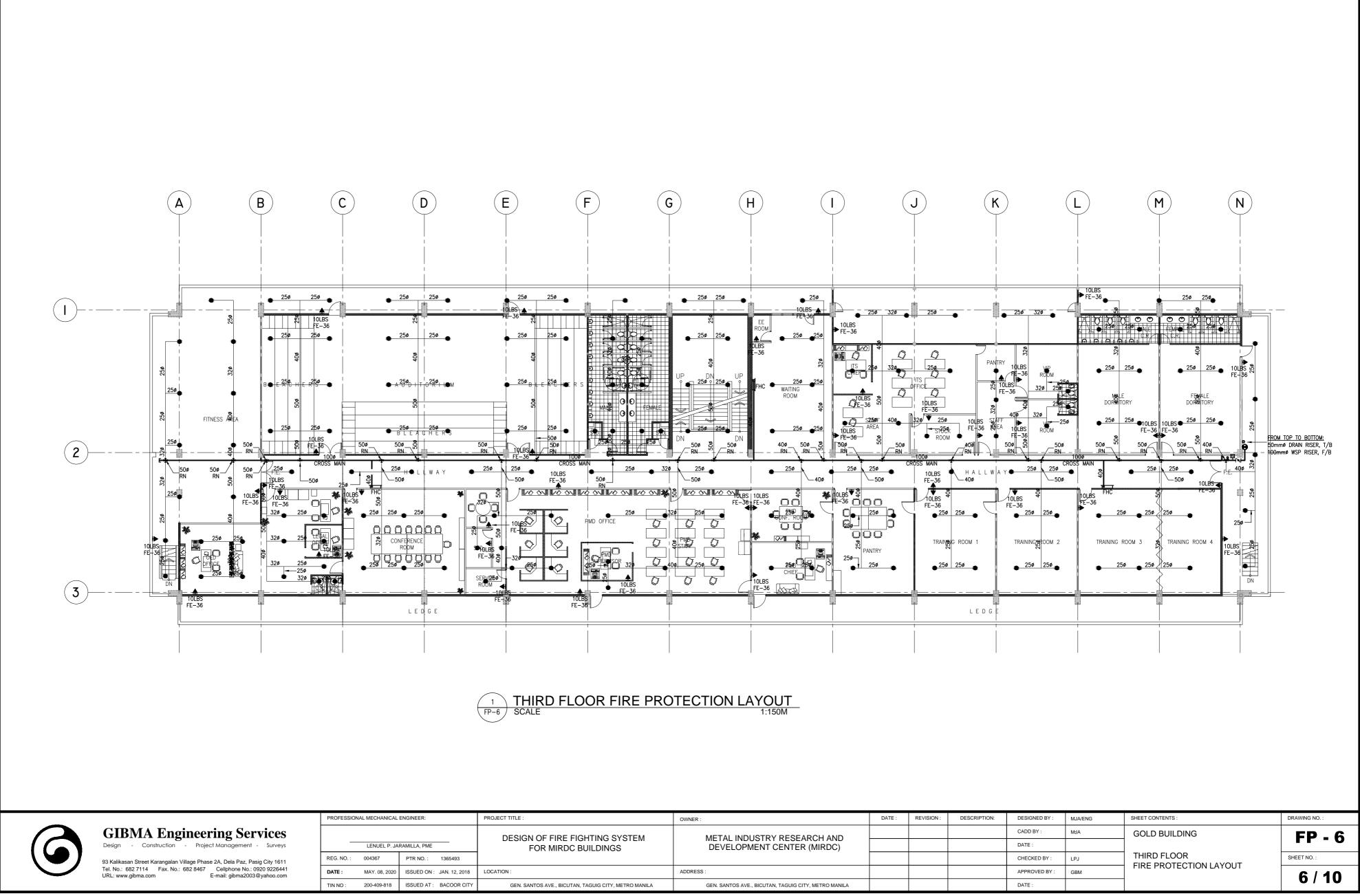


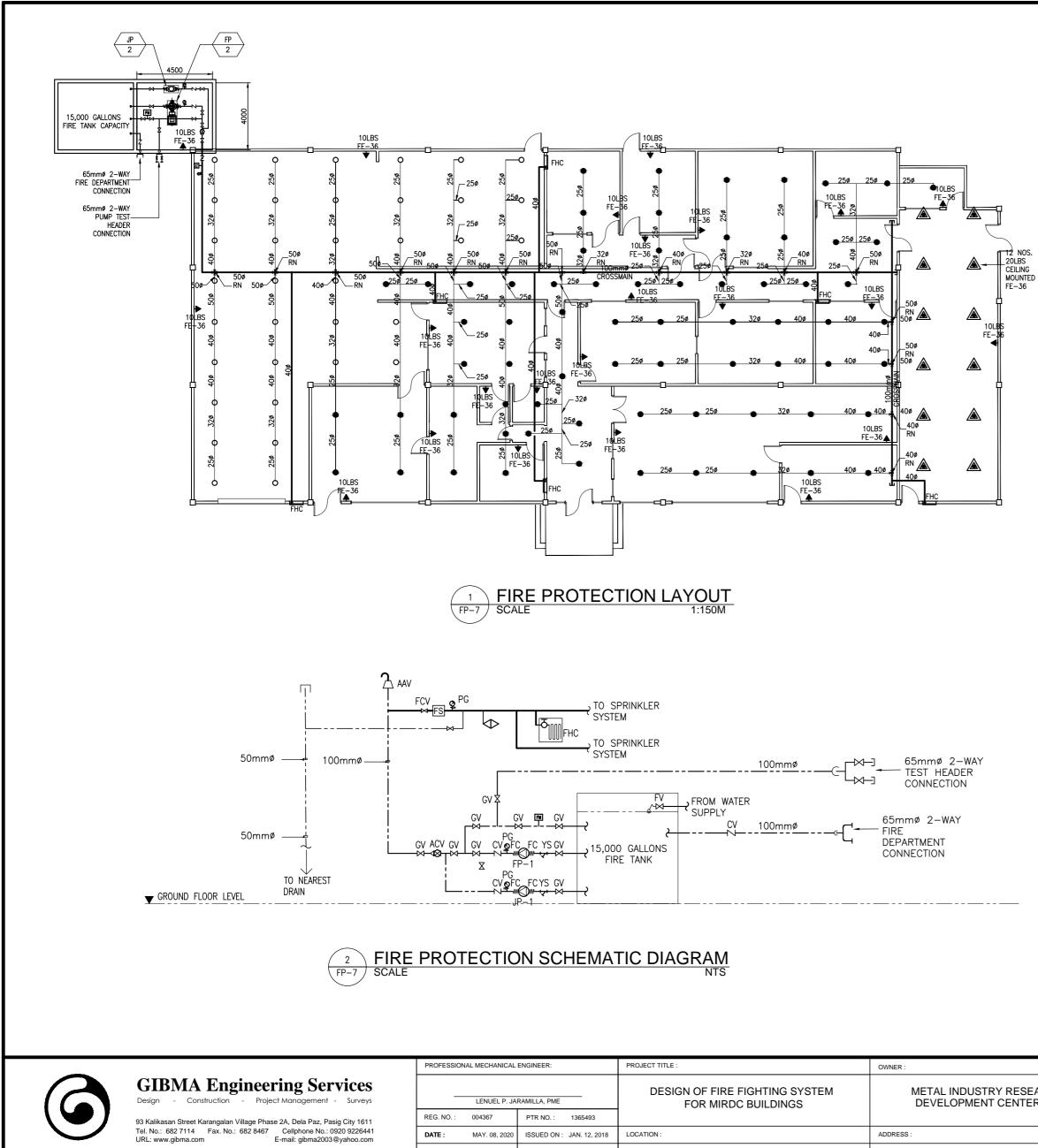


	DATE :	REVISION :	DESCRIPTION:	DESIGNED BY :	MJA/ENG	SHEET CONTENTS :	DRAWING NO. :
NDUSTRY RESEARCH AND				CADD BY :	CADD BY : MJA GOLD BUILDING		FP - 3
OPMENT CENTER (MIRDC)				DATE :			1F - J
				CHECKED BY :	LPJ	BASEMENT FLOOR	SHEET NO. :
				APPROVED BY :	GBM	FIRE PROTECTION LAYOUT	3 / 10
AVE., BICUTAN, TAGUIG CITY, METRO MANILA				DATE :			J / 10









TIN NO :

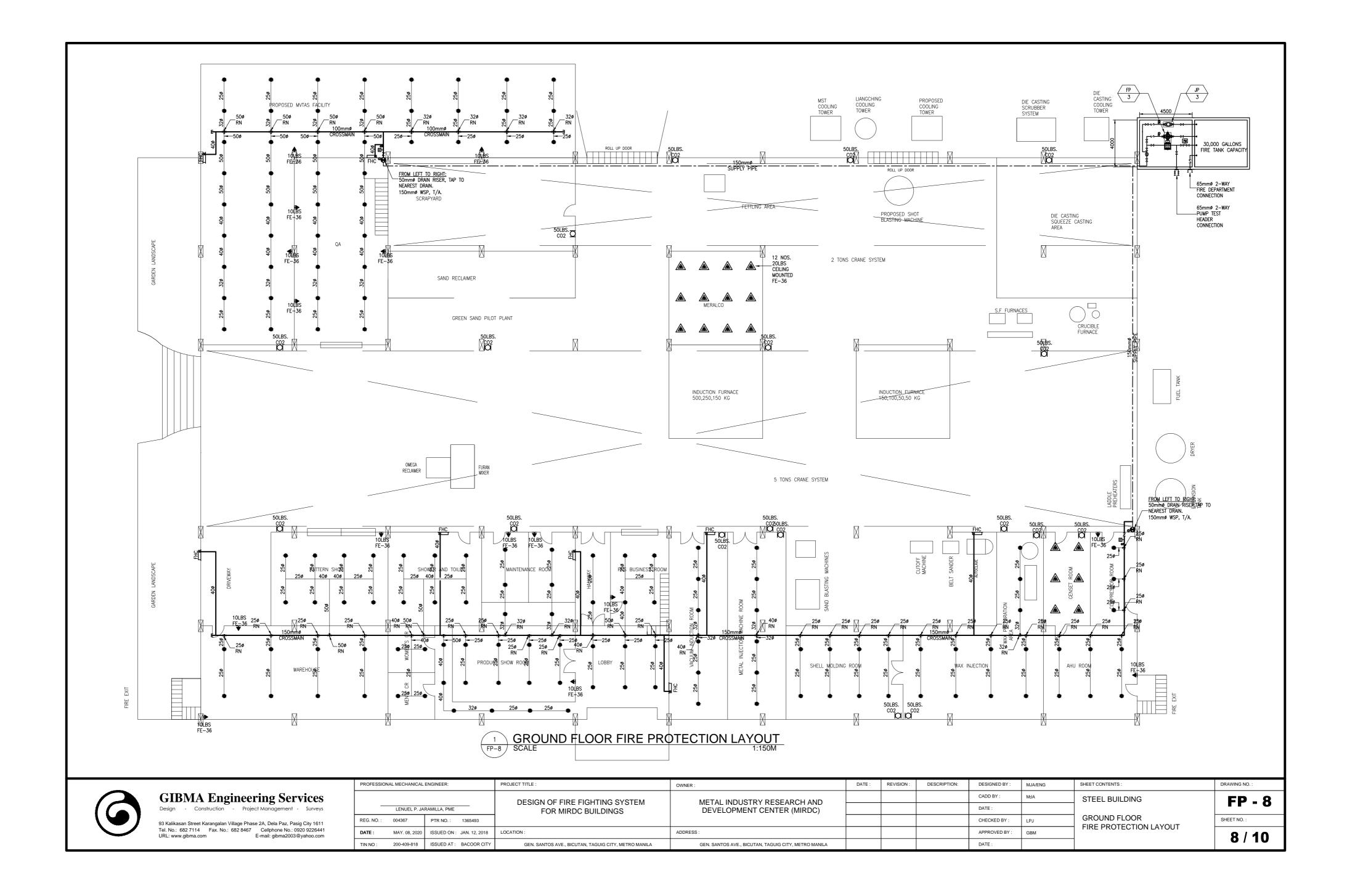
200-409-818 ISSUED AT : BACOOR CITY

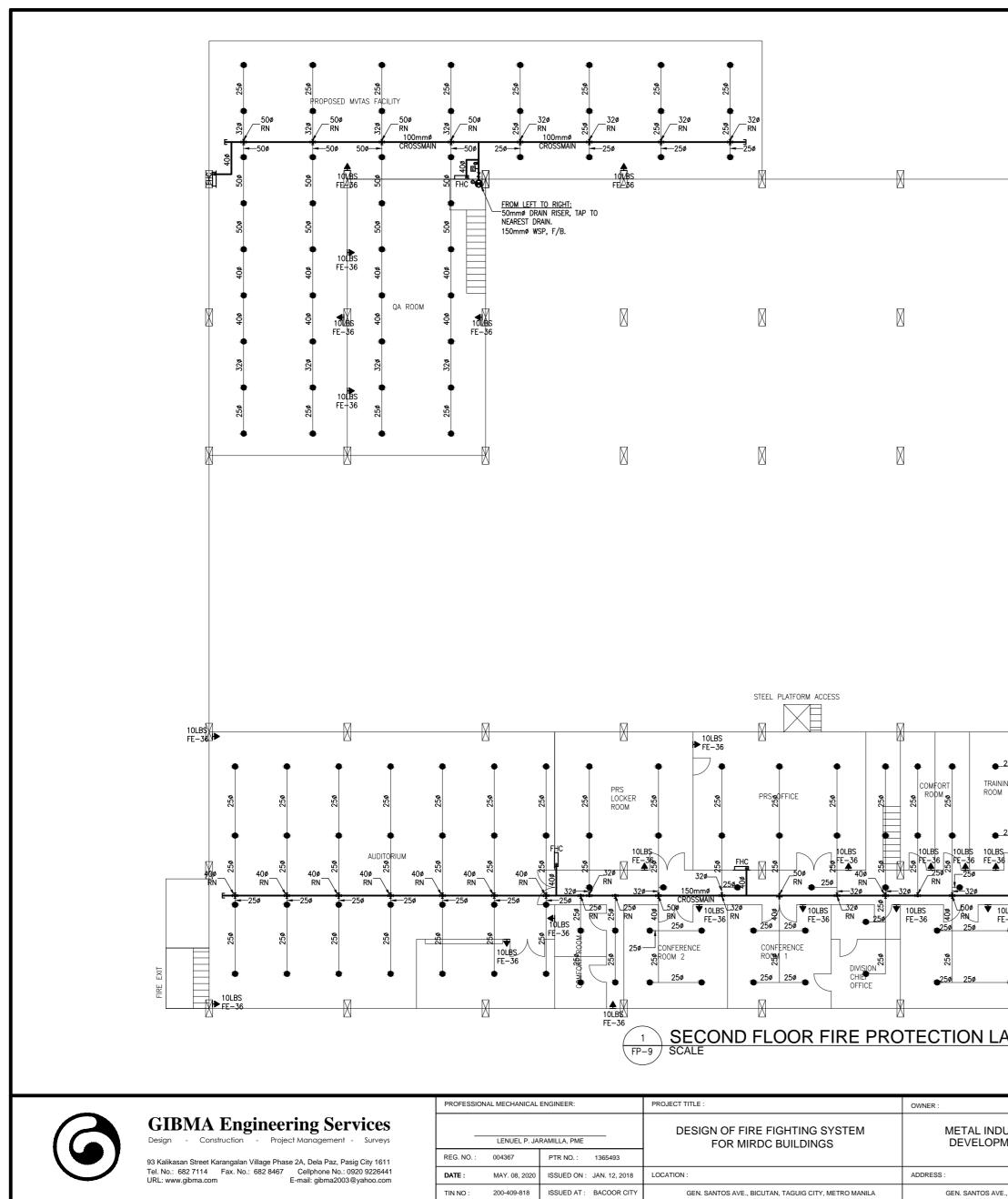
GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA

# **EQUIPMENT SCHEDULE**

	PUMP SCHEDULE													
EQUIPMENT NO.	QTY.	DESCRIPTION	CAPACITY	TDH	MOTOR POWER	ELECTRICAL CHAR.				CUT-OUT PRESSURE	LOCATION			
EQUIPMENT NO.	QII.	DESCRIPTION	(GPM)	(M)	(HP)	VOLTS	PHASE	Hz		COT OUT TRESSORE	LUCATION			
FP 2	1	FIRE PUMP	500	31	20	380	3	60	30 PSI	45 PSI	COPPER BUILDING FIRE PUMP ROOM			
JP 2	1	JOCKEY PUMP	20	60	1.5	230	1	60	35 PSI	45 PSI	COPPER BUILDING FIRE PUMP ROOM			

R :	DATE :	REVISION :	DESCRIPTION:	DESIGNED BY :	MJA/ENG	SHEET CONTENTS :	DRAWING NO. :	
METAL INDUSTRY RESEARCH AND		CADD BY : MJA				COPPER BUILDING	FP - 7	
DEVELOPMENT CENTER (MIRDC)				DATE :				
				CHECKED BY :	LPJ	FIRE PROTECTION LAYOUT,	SHEET NO. :	
ESS :				APPROVED BY :	GBM	SCHEMATIC DIAGRAM & EQUIPMENT SCHEDULE	7 / 10	
GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA				DATE :				

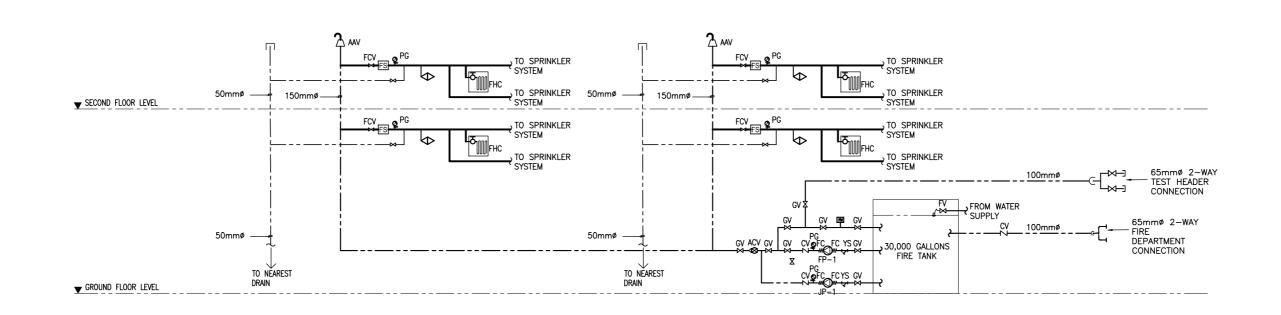




	X	<u>X</u>			
				X	
		25ø 25ø TRAINING ROOM N N	ROOM	25ø RN	0
BS 10LBS 10LBS 10LBS 250 250 250 150mmø 10LBS 400 CROSSMAIN 10LBS 400 250 250 250 250 250 250 250 250 250 2	2500 ₹ 10LBS RN FE-36 RN 250 €	25ø 25ø 10LBS FE-36 25ø 25ø 25ø 25ø DORMITORIES 25ø 25ø 25ø 25ø	25¢ 25¢ 10LBS FE-36 25¢ 25¢ 50¢ 0 50¢ 10LBS RN 4 25¢ 25¢ 25¢ 25¢ 25¢ 25¢ 25¢ 25¢ 10LBS FE-36 10LBS	36 250 FHC RN 250 CT 250 RN 250 250 RN 250	
DUSTRY RESEARCH AN PMENT CENTER (MIRDC	)	DESCRIPTION: DESIGNED E CADD BY : DATE : CHECKED B APPROVED DATE :	Y: LPJ F	HEET CONTENTS : STEEL BUILDING SECOND FLOOR FIRE PROTECTION LAYOUT	DRAWING NO. : FP - 9 SHEET NO. : 9 / 10

## EQUIPMENT SCHEDULE

		PUMP SCHEDULE														
Ī,	EQUIPMENT N	NO	OTY.	DESCRIPTION	CAPACITY	TDH	MOTOR POWER	ELECTRICAL CHAR.				CUT-OUT PRESSURE	LOCATION			
Ľ		NU.	QII.	DESCRIPTION	(GPM)	(M)	(HP)			Hz		COT-OUT TRESSORE	LUCATION			
	FP 3	$\rangle$	1	FIRE PUMP	500	40	20	380	3	60	42	57	STEEL BUILDING FIRE PUMP ROOM			
	JP 3	$\rangle$	1	JOCKEY PUMP	20	40	1.5	230	1	60	47	57	STEEL BUILDING FIRE PUMP ROOM			





	PROFESSIONAL	. MECHANICAL E	INGINEER:	PROJECT TITLE :	OWNER :	DATE :	REVISION :	DESCRIPTION:	DESIGNED BY : MJA/ENG		SHEET CONTENTS :	DRAWING NO. :
GIBMA Engineering Services				DESIGN OF FIRE FIGHTING SYSTEM	METAL INDUSTRY RESEARCH AND				CADD BY :	MJA		FP - 10
Design - Construction - Project Management - Surveys			FOR MIRDC BUILDINGS	DEVELOPMENT CENTER (MIRDC)				DATE :				
93 Kalikasan Street Karangalan Village Phase 2A, Dela Paz, Pasig City 1611	REG. NO. : 004367 PTR NO. : 1365493		PTR NO.: 1365493						CHECKED BY :	LPJ	SCHEMATIC DIAGRAM EQUIPMENT SCHEDULE	SHEET NO. :
Tel. No.: 682 7114 Fax. No.: 682 8467 Cellphone No.: 0920 9226441 URL: www.gibma.com E-mail: gibma2003@yahoo.com	DATE : N	MAY. 08, 2020	ISSUED ON : JAN. 12, 2018	LOCATION :	ADDRESS : GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA				APPROVED BY :	GBM	EQUIPMENT SCHEDULE	10 / 10
	TIN NO : 2	200-409-818	ISSUED AT : BACOOR CITY	GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA					DATE :			