

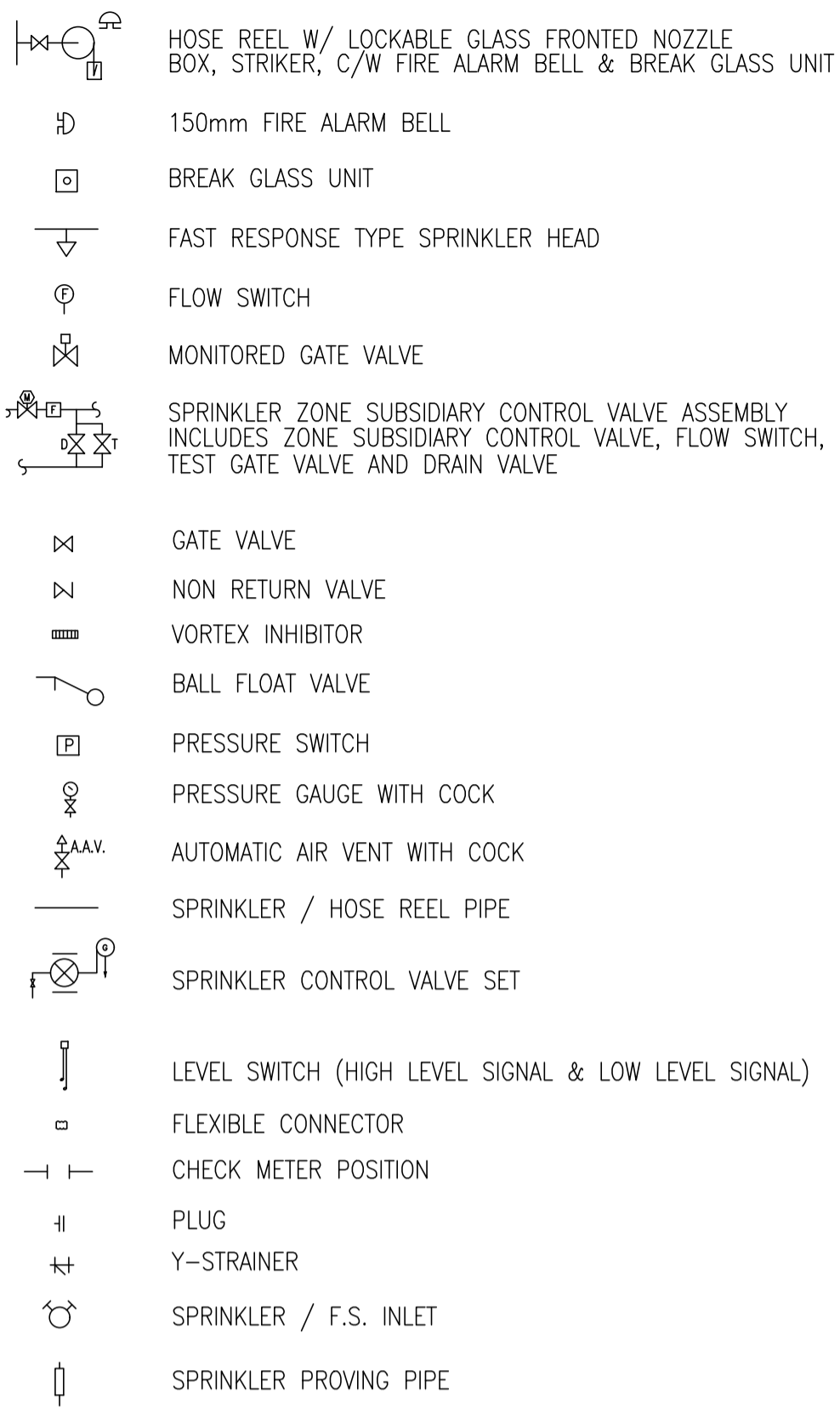
FIRE SERVICES NOTES:

- HOSE REEL SYSTEM**
 - HOSE REEL SHALL BE PROVIDED AT POSITIONS AS INDICATED ON PLANS.
 - THERE SHALL BE SUFFICIENT HOSE REELS TO ENSURE THAT EVERY PART OF THE BUILDING CAN BE REACHED BY A LENGTH OF MORE THAN 30M OF HOSE REEL TUBING. ONE ACTUATING POINT AND ONE AUDIO WARNING DEVICE TO BE LOCATED AT EACH HR POINT. THE ACTUATING POINT SHOULD INCLUDE FACILITIES FOR THE FIRE PUMP START DEVICE INITIATION.
 - A MODIFIED HOSE REEL SYSTEM OF 2000 LITRES WATER TANK TO BE PROVIDED FOR THE ENTIRE BUILDING AS INDICATED ON PLAN.
 - NO FIRE SERVICES INLET TO BE PROVIDED FOR THE MODIFIED HOSE REEL SYSTEM.
 - TWO FIXED FIRE PUMPS (DUTY/STANDBY) TO BE PROVIDED AT SPR. & FS. PUMP ROOM.
 - THE HR SYSTEM INSTALLED SHOULD BE IN ACCORDANCE WITH PARA. 5.14 OF THE CODE OF PRACTICE FOR MINIMUM FIRE SERVICE INSTALLATION AND EQUIPMENT 2012.
 - AN INSTRUCTION PLATE SHALL BE PROVIDED NEXT TO THE BREAK GLASS UNIT FOR OPERATION OF HOSE REEL.
- AUTOMATIC SPRINKLER SYSTEM**
 - AUTOMATIC SPRINKLER SYSTEM SUPPLIED BY A 135,000L SPRINKLER WATER TANK AND HAZARD CLASS OH3 SHALL BE PROVIDED TO THE ENTIRE BUILDING/STRUCTURE IN ACCORDANCE WITH LPC RULES INCORPORATING BS EN12845 : 2003 AND FSD CIRCULAR LETTER 3/2006 & 3/2012. THE SPRINKLER TANK, SPRINKLER PUMP ROOM, SPRINKLER INLET AND SPRINKLER CONTROL VALVE GROUP SHALL BE CLEARLY MARKED ON PLANS.
 - THE CLASSIFICATION OF THE AUTOMATIC SPRINKLER INSTALLATION TO BE **ORDINARY HAZARD GROUP 3**.
 - ONE NUMBER 135,000 LITRES SPRINKLER WATER TANK TO BE PROVIDED AS INDICATED ON PLANS.
 - ALL INSTALLED SPRINKLER SHOULD BE PENDENT TYPE AND THE TEMPERATURE RATING OF SPRINKLER HEAD SHALL BE 68 °C UNLESS OTHERWISE SPECIFIED.
 - SPRINKLER CONTROL VALVE SET AND SPRINKLER INLET TO BE PROVIDED AS INDICATED ON PLANS.
 - ALL SPRINKLER PIPE SIZE SHOULD BE Ø32mm UNLESS SPECIFY.
- FIRE ALARM SYSTEM**
 - FIRE ALARM SYSTEM SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDING IN ACCORDANCE WITH BS 5839-1 : 2002 + A2 : 2008 AND FSD CIRCULAR LETTER NO.1/2009 & 3/2010 & 2/2012. ONE ACTUATING POINT AND ONE AUDIO WARNING DEVICE SHOULD BE LOCATED AT EACH HOSE REEL POINT. THE ACTUATION POINT SHOULD INCLUDE FACILITIES FOR FIRE PUMP START AND AUDIO / VISUAL WARNING DEVICE INITIATION.
 - AN ADDRESSABLE TYPE FIRE ALARM PANEL TO BE PROVIDED AND LOCATED INSIDE G/F SPR. & F.S. PUMP ROOM.
- MISCELLANEOUS F.S. INSTALLATION**
 - PORTABLE FIRE EXTINGUISHER WITH SPECIFIED TYPE AND CAPACITY TO BE PROVIDED AT LOCATIONS AS INDICATED ON PLANS.
 - SUFFICIENT EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDINGS/STRUCTURES IN ACCORDANCE WITH BS 5266: PART 1 AND BS EN 1838.
 - SUFFICIENT DIRECTIONAL AND EXIT SIGN SHALL BE PROVIDED IN ACCORDANCE WITH BS 5266: PART 1 AND FSD CIRCULAR LETTER 5/2008.
 - NO EMERGENCY GENERATOR TO BE PROVIDED FOR SERVING THE EMERGENCY POWER. DUPLICATED POWER SUPPLIES FOR ALL FIRE SERVICES INSTALLATIONS COMPRISING A CABLE CONNECTED FROM ELECTRICITY MAINS DIRECTLY BEFORE THE MAIN SWITCH.
 - WHEN A VENTILATION/AIR CONDITIONING CONTROL IS PROVIDED, IT SHALL STOP MECHANICALLY INDUCED AIR MOVEMENT WITHIN A DESIGNATED FIR COMPARTMENT.
 - NO DYNAMIC SMOKE EXTRACTION SYSTEM SHALL BE PROVIDED SINCE EITHER THERE BE NO FIRE COMPARTMENT EXCEEDING 7000 CUBIC METRES OR THE AGGREGATE AREA OF OPENABLE WINDOWS OF THE RESPECTIVE COMPARTMENT EXCEEDS 6.25% OF THE FLOOR AREA OF THAT COMPARTMENT.
 - THE AGGREGATE AREA OF OPENABLE WINDOWS ABOUT 736 SQUARE METRES EXCEEDING 6.25% OF THE FLOOR AREA OF THE STRUCTURE 1

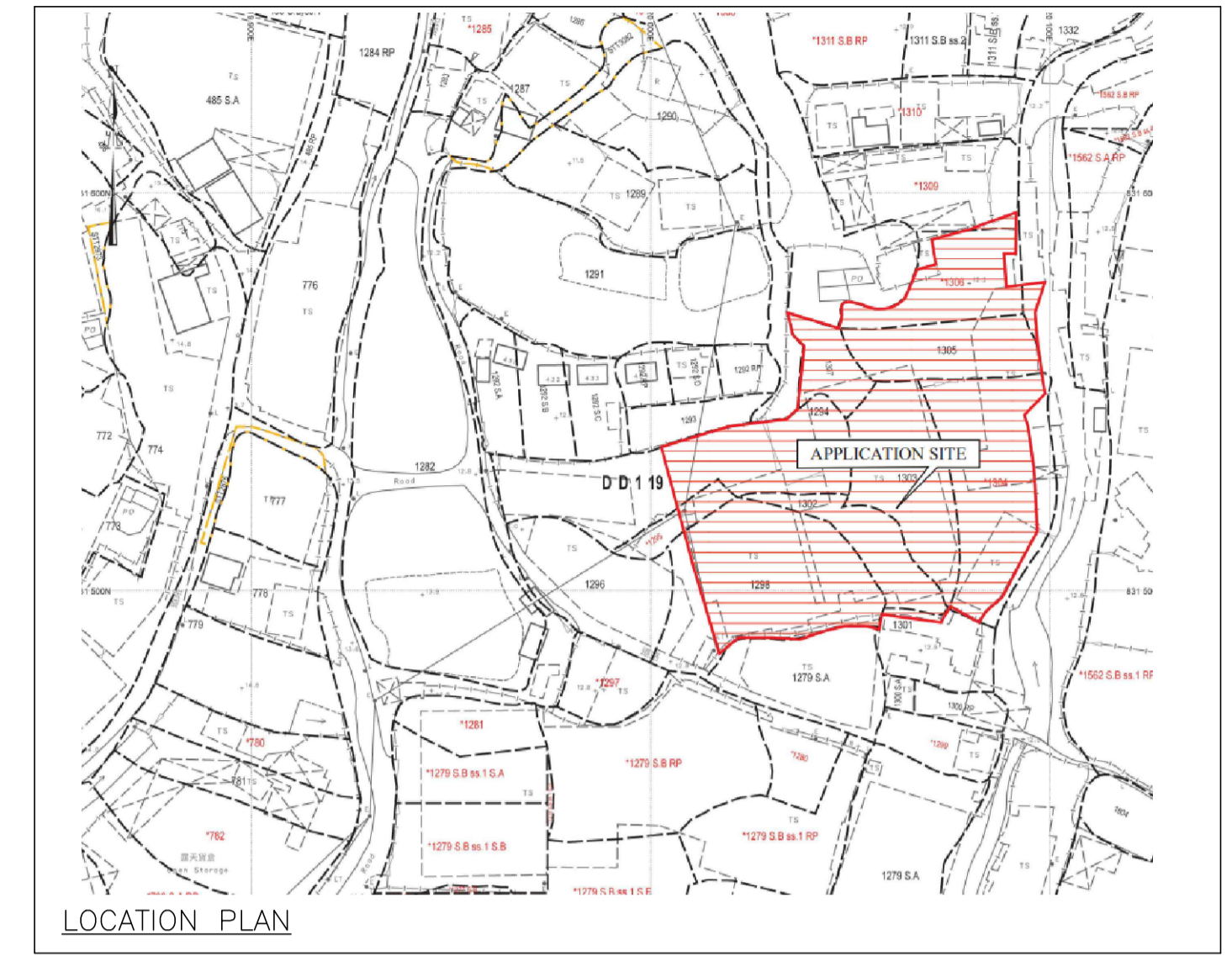
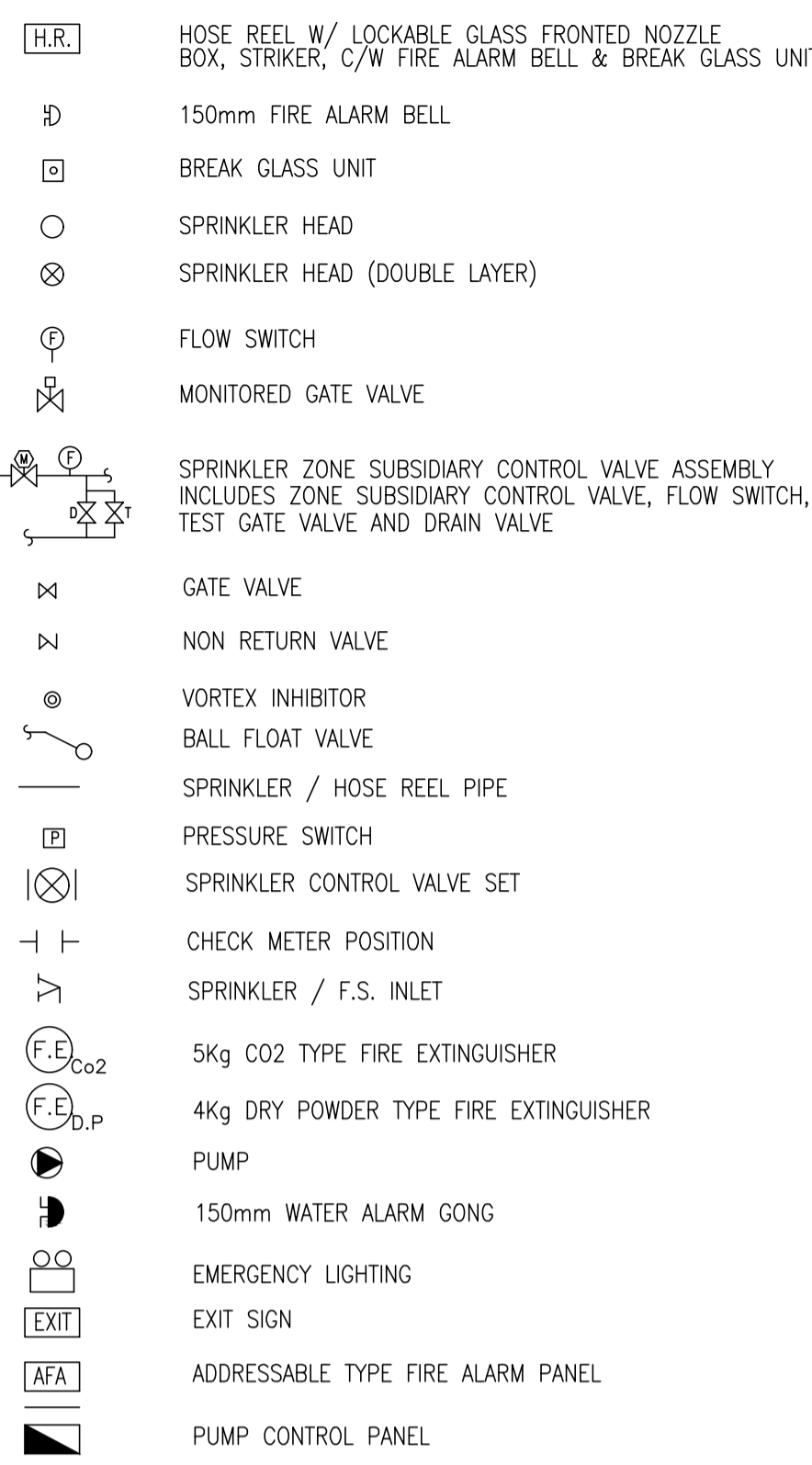
PUMP SCHEDULE:

DESCRIPTION	PRESSURE (BAR)	FLOW (L/MIN.)	PUMP SPEED (RPM)	PUMP RATING (KW)	POWER SUPPLY (volts/phases/Hz)
SPRINKLER JOCKEY PUMP (SJP-1)	5	60	2900 MAXIMUM	2.2 KW	380/3/50
SPRINKLER PUMPS (SP-1 AS DUTY & SP-2 AS STAND-BY PUMP)	1.4 / 2.9 / 3.2	2250 / 1350 / 1100	2900 MAXIMUM	18.5 KW	380/3/50
FIRE SERVICES PUMPS (FP-1 AS DUTY, FP-2 AS STAND-BY PUMP & FJP AS JOCKEY PUMP)	5	60	2900 MAXIMUM	2.2 KW	380/3/50

LEGEND (FOR SCHEMATIC DIAGRAM)



LEGEND (FOR LAYOUT PLAN)



ABBREVIATION

H.R.	HOSE REEL
F.S.	FIRE SERVICES
SPR.	SPRINKLER
U/G	UNDERGROUND
T/A	TO ABOVE
T/B	TO BELOW
F/A	FROM ABOVE
F/B	FROM BELOW
H/L	HIGH LEVEL
M/L	MIDDLE LEVEL
L/L	LOW LEVEL
W/	WITH
FFL	FINISHED FLOOR LEVEL
FE	FIRE EXTINGUISHER
DP	DESIGN POINT

COLOUR CODE

PIPE SIZES	COLOUR
Ø25mm	LIGHT GREEN
Ø32mm	RED
Ø40mm	PURPLE
Ø50mm	YELLOW
Ø65mm	BLUE
Ø80mm	GREEN
Ø100mm	LIGHT BROWN
Ø150mm	DEEP BROWN

DRAWING LIST:

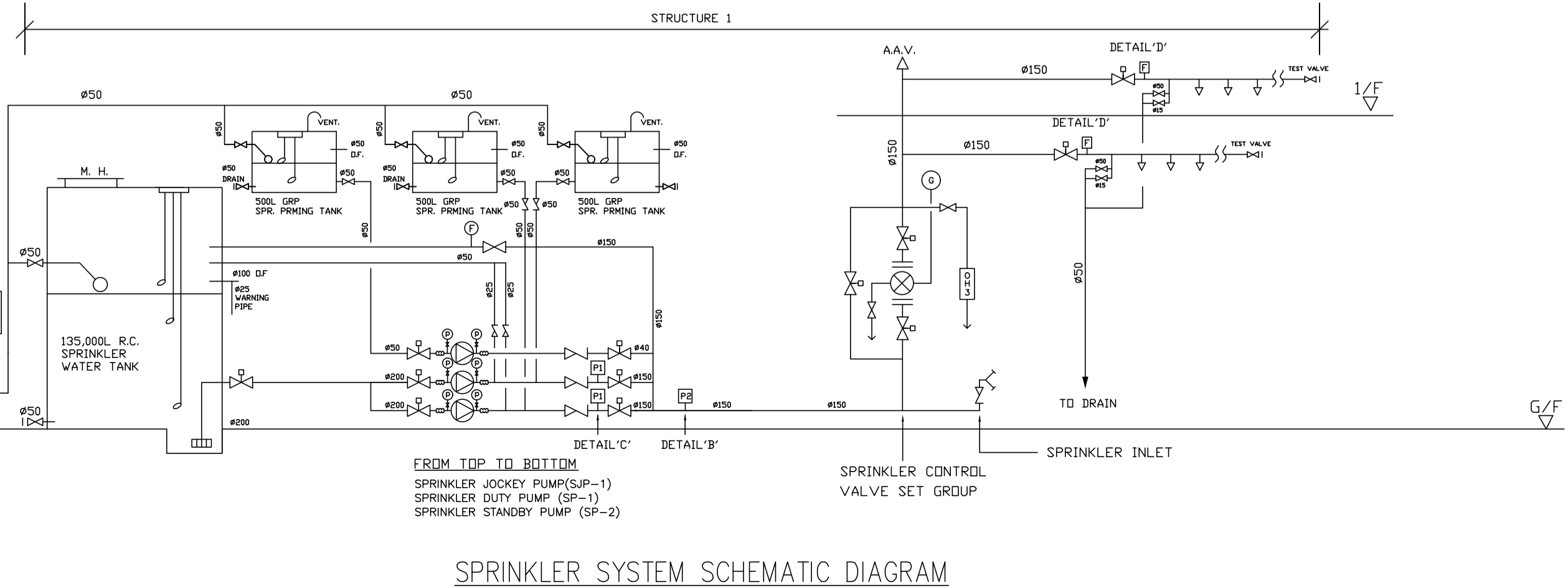
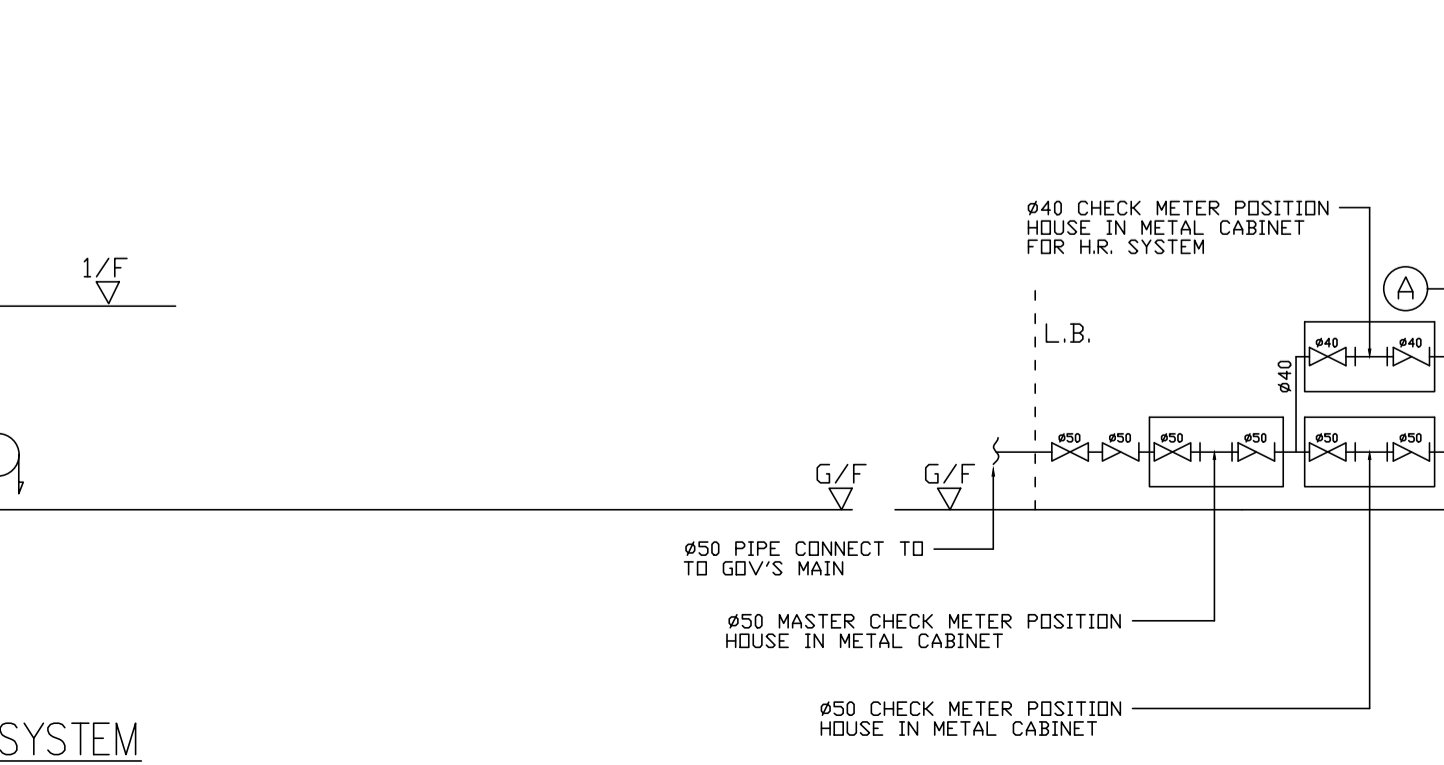
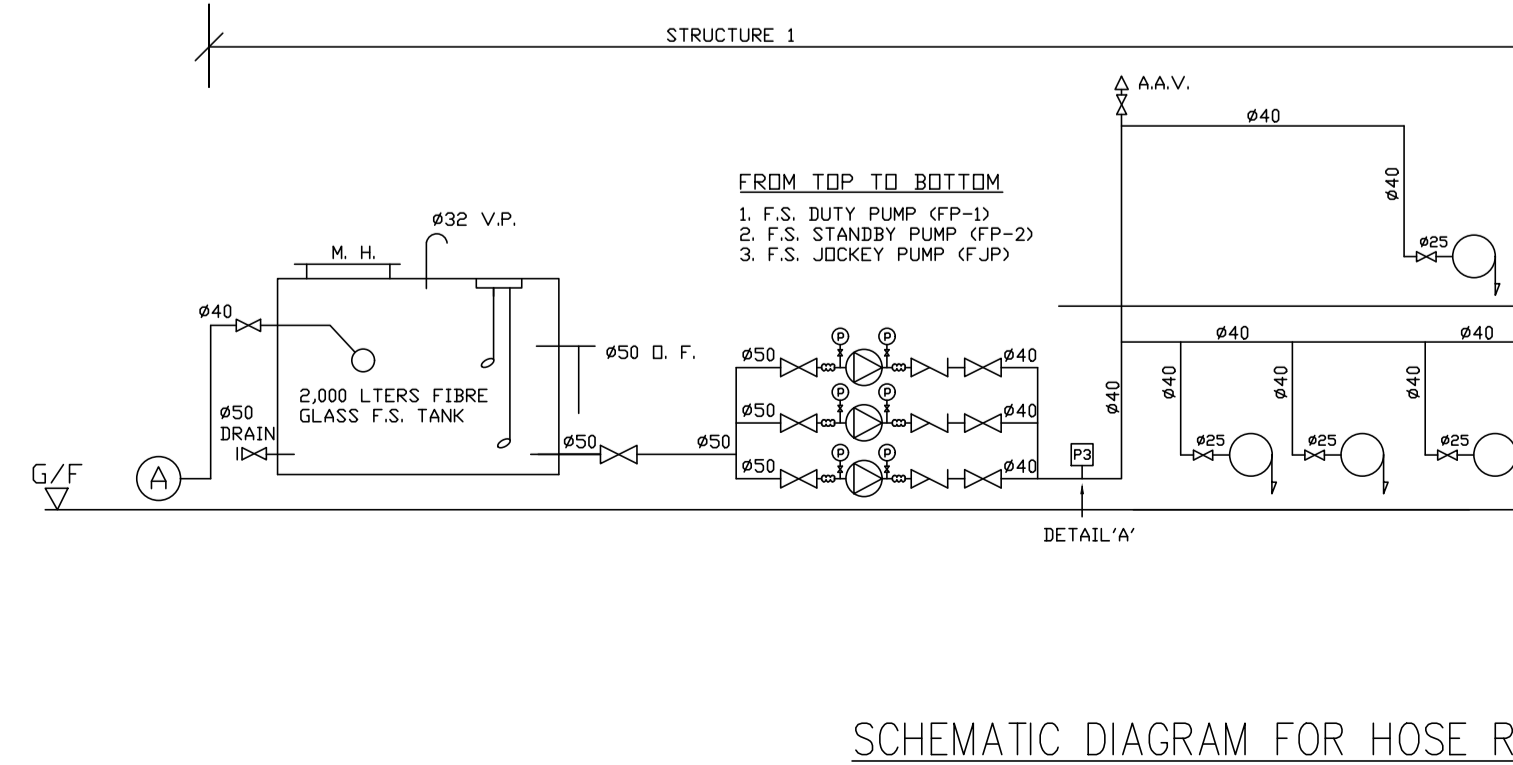
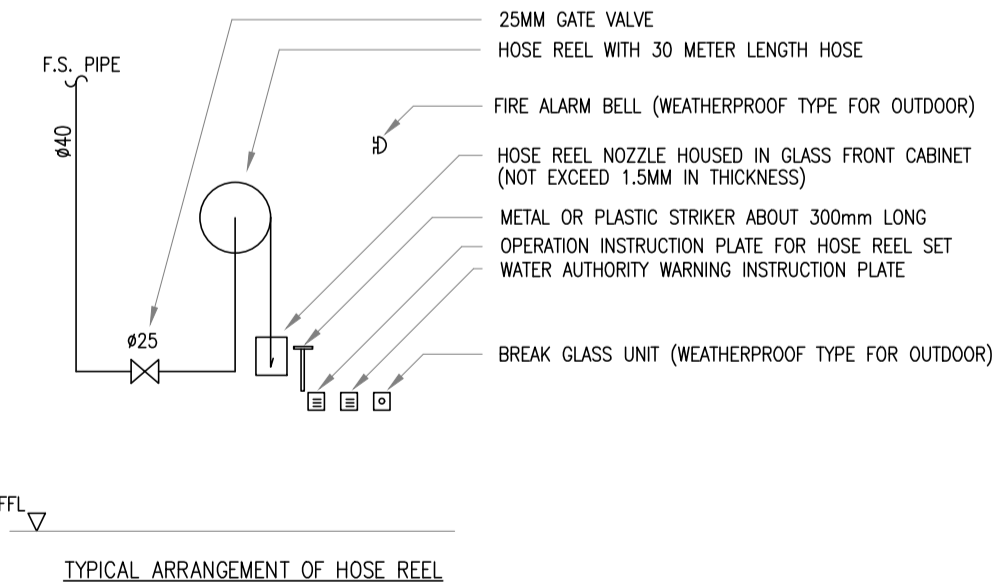
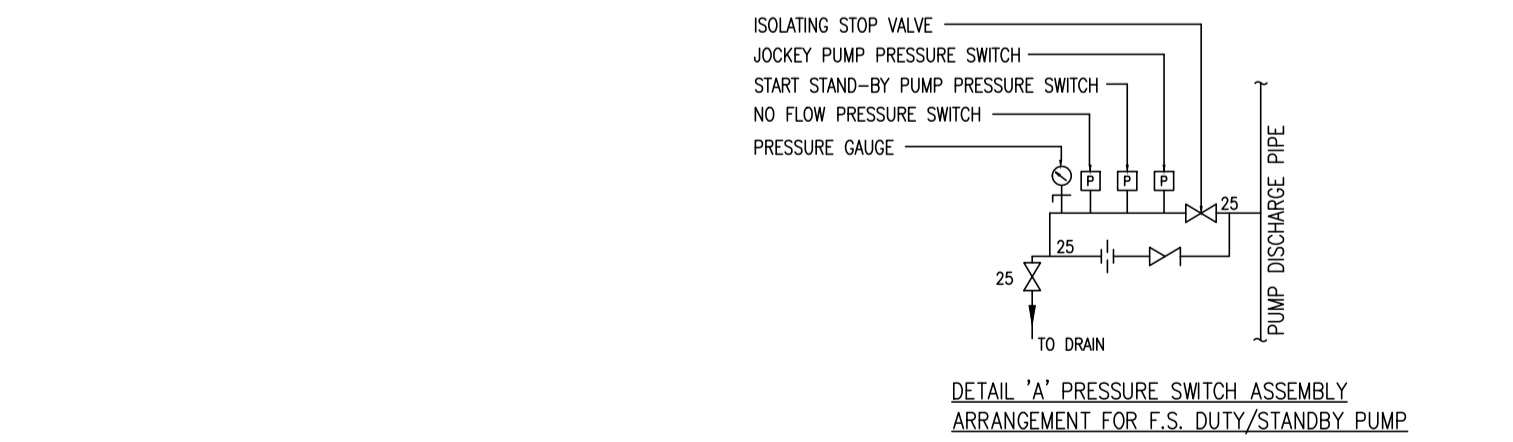
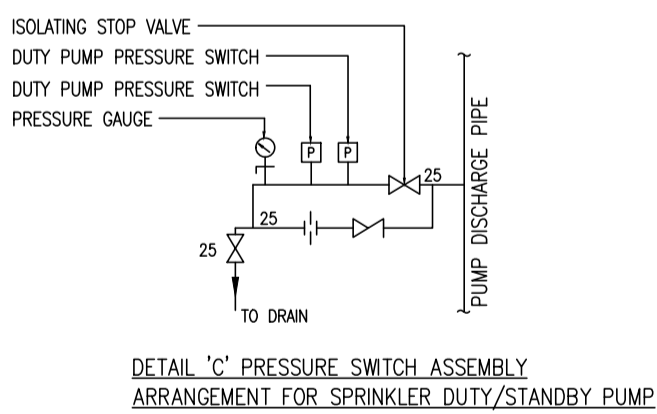
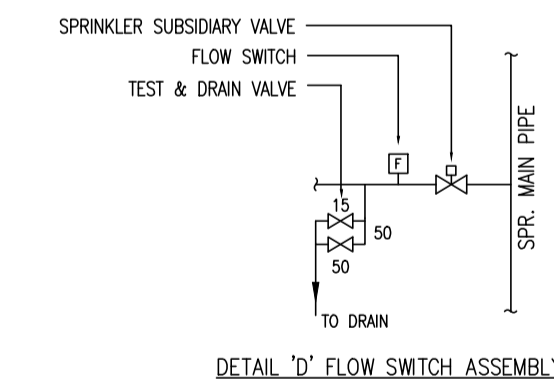
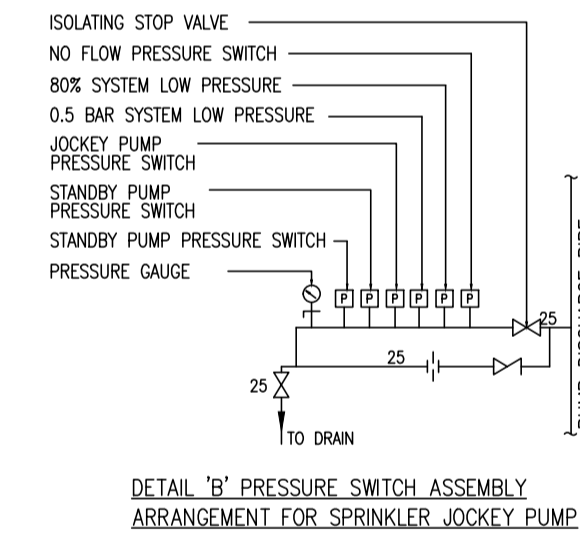
DRAWING NO.	REVISION	DRAWING TITLE
FS-01	B	F.S. NOTES., BLOCK PLAN, LEGEND, ABBREVIATION, DRAWING LIST, PIPE MATERIAL SCHEDULE, PUMP SCHEDULE, VERTICAL LINE DIAGRAM,
FS-02	B	FIRE SERVICES INSTALLATION LAYOUT PLAN

CALCULATION OF SPRINKLER PIPE PRESSURE LOSS FOR SPR. CONTROL VALVE SET

RUN OF DISTRIBUTION PIPE FROM CONTROL VALVE TO DESIGN POINT	PIPE SIZE (mm)	PIPE LENGTH (m)	FITTINGS	NOS.	EQU. LENGTH OF FITTINGS	TOTAL EQUIV. LENGTH OF FITTINGS	TOTAL EQUIV. PIPE LENGTH (M)	CALCULATED BY HAZEN - WILLIAMS FORMULA P =
PIPE TO DESIGN POINT D	150	207.1	TEE	0			235.1	0.182 BAR
			GATE VALVE	2	1.1	2.2		
			90° ELBOW	6	4.3	25.8		
PIPE TO DESIGN POINT D	100	25	TEE	0			25	0.139 BAR
			GATE VALVE	0				
			90° ELBOW	0				
TOTAL							0.321 BAR (LESS THAN 0.5 BAR)	

REFER CLAUSE 13.3 OF BS EN 12845:2005 USING HAZEN-WILLIAMS FORMULA AND PRE-CALCULATED SYSTEM:

$$P_1 = \frac{6.05 \times 10^{-5}}{C^{1.85} \times d^{4.87}} \times L \times Q^{1.85}$$
 P IS THE PRESSURE LOSS IN THE PIPE, IN BAR;
 Q IS THE FLOW THROUGH THE PIPE, IN LITERS PER MINUTE = 1000
 d IS THE MEAN INTERNAL DIAMETER OF THE PIPE, IN mm = 100
 C IS A CONSTANT FOR THE TYPE AND CONDITION OF PIPE = 120
 L IS THE EQUIVALENT LENGTH OF PIPE AND FITTINGS, IN METERS



REV	DESCRIPTION	DATE	BY
A	FSD SUBMISSION	04-03-2025	WC

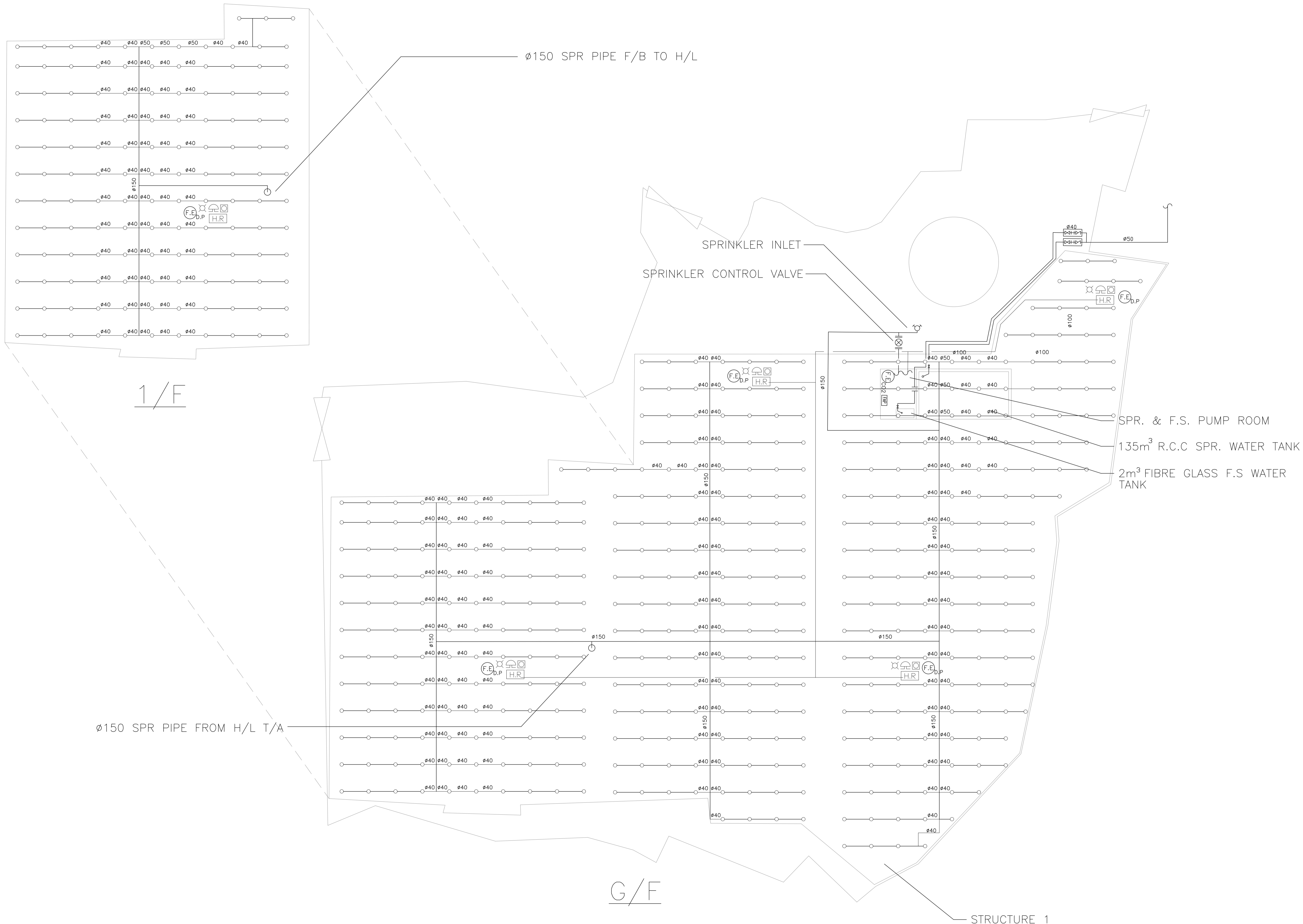
FS CONTRACTOR
East Power Engineering Limited
 Flat A, 7/F., Hop Shing Commercial Building,
 41 Chi Kiang Street, Tseikwan, Kowloon
 Fax : 2394-3772 Tel. : 2397-3238

PROJECT
 FIRE SERVICES INSTALLATION WORK AT
 41 CHI KIANG STREET, TSEIKWAN, KOWLOON

DRAWING TITLE
 F.S. NOTES., BLOCK PLAN, LEGEND, ABBREVIATION, DRAWING LIST, PIPE MATERIAL SCHEDULE, PUMP SCHEDULE, VERTICAL LINE DIAGRAM.

INITIAL	DESIGNATION	DATE
WC	A. ENG	04-03-2025
CM	PM	04-03-2025
CM	PM	04-03-2025

APPROVED BY: _____
 PROJECT NO. TYST-1305
 PAPER SIZE A1 PLOT SCALE 1 : 1
 DRAWING NO. EP-10309-FS01
 SCALE N.T.S REVISION A



A	FSD SUBMISSION	04-03-2025	WC
REV	DESCRIPTION	DATE	BY
FSI CONTRACTOR			
East Power Engineering Limited			
Flat A, 7/F., Hop Shing Commercial Building, 41 Chi Kiang Street, Tseungwan, Kowloon Fax : 2394-3772 Tel. : 2397-3238			

PROJECT
 FIRE SERVICES INSTALLATION WORK AT
 41 Chi Kiang Street, Tseungwan, Kowloon

DRAWING TITLE			
FIRE SERVICES INSTALLATION LAYOUT PLAN			

	INITIAL	DESIGNATION	DATE
DRAWN BY	WC	A. ENG	04-03-2025
DESIGN BY	CM	PM	04-03-2025
CHECK BY	CM	PM	04-03-2025
APPROVED BY	-	-	-
PROJECT NO.	TYST-1305		
PAPER SIZE	A1	PLOT SCALE	1 : 1
DRAWING NO.	EP-10309-FS02		
SCALE	1 : 300	REVISION	A