PLUMBING PLAN

PLUMBING NOTES

1. ALL PLUMBING WORKS SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST PROVISION OF THE PHILIPPINE PLUMBING CODE, THE UNIFORM PLUMBING CODE, THE NATIONAL BUILDING CODE, AND THE RULES AND REGULATIONS OF THE MUNICIPALITY.

2. PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATIONS, DEPTHS AND INVERT ELEVATIONS OF ALL EXISTING PIPES AND STRUCTURES.

3. MINIMUM PIPE SLOPES:
A. SANITARY LINES SHALL MAINTAIN A ONE PERCENT (0.01) SLOPE
B. STORM DRAINAGE LINES SHALL MAINTAIN A ONE-HALF PERCENT (0.005) SLOPE

4. MATERIALS:
A. COLD WATER SUPPLY - MOLDEX BLUE uPVC PIPES & FIITING
B. SANITARY & STORM DRAINAGE - SANIMOLD EXTRA uPVC PIPES AND FITTINGS
C. ALL WATER AND DRAINAGE PIPE SIZES SHALL CONFORM WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE PLUMBING FIXTURES

5. ALL GALVANIZED - IRON (G.I) PIPES DIRECTLY BURIED UNDERGROUND SHALL HAVE TWO COATS OF RED - OXIDE PAINT, OR OTHERWISE PROVIDED WITH TWO COATS OF MELTED ASPHALT AND THEN WRAPPED WITH JUTE CLOTH SOAJED IN MELTED ASPHALT.

6. SANITARY AND WATER LINES SHALL BE TESTED TO CONFORM WITH THE LATEST REQUIREMENTS OF THE PHILIPPINE PLUMBING CODE, AND THE UNIFORM PLUMBING CODE.

GENERAL NOTES

1. SEPTIC TANKS SHOULD BE LOCATED NOT LESS THAN 15 METERS AWAY FROM POTABLE WATER TO PREVENT CONTAMINATION.

2. WHERE THERE IS PUBLIC SEWER PIPE, SEPTIC TANKS ARE NOT ALLOWED.

3. NO SEPTIC TANKS SHOULD BE INSTALLED WITHIN OR UNDER A HOUSE.

4. THE INLETS AND OUTLETS ARE SUBMERGED AND ARRANGES SO AS NOT TO DISTUR THE SLUDGE OR SCUM.

5. THE BOTTOM OF THE TANK SHOUL SLOPE (1:10) MINIMUM TOWARDS THE MANHOLE IN THE CENTER TO FACILITATE CLEANING.

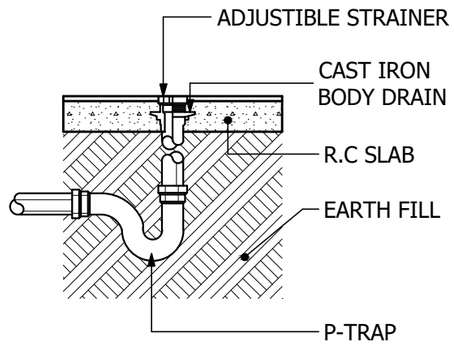
6. THE TOP COVER AND THE MANHOLE ARE USUALLY EXTENDED 15cm ABOVE THE SURFACE OF THE SOIL TO OVERCOME SURFACE INFILTRATION.

PIPE SIZE

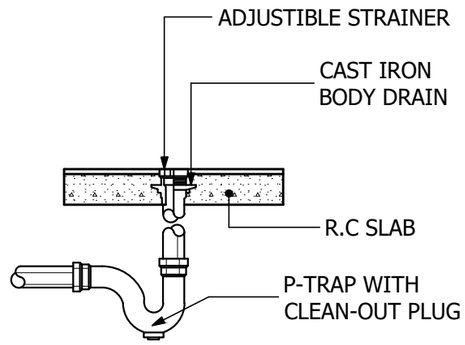
1.	COLD WATER PIPE	-	20mmØ TO 32mmØ
2.	STORM DRAINAGE PIPE	-	50mmØ TO 150mmØ
3.	SEWER PIPE	-	50mmØ TO 150mmØ
4.	VENTILATION PIPE	-	50mmØ TO 150mmØ

PLUMBING LEGEND:

WC	WATER CLOSET	GIP	GALVANIZED IRON PIPE
LAV	LAVATORY	UP	UNION PATENTE
F	FAUCET	GV	GATE VALVE
FD	FLOOR DRAIN	CV	CHECK VALVE
CO	CLEAN OUT	WM	WATER METER
PVC	POLYVINYLCHLORIDE	HB	HOSE BEEB
DP	DRAINAGE PIPE	CB	CATCH BASIN
SP	SOIL PIPE	SV	SEPTIC VAULT
SS	SOIL STACK	MH	MANHOLE
VP	VENT PIPE	DS	DOWNSPOUT
VS	VENT STACK	VSTR	VENTSTACK THRU ROOF



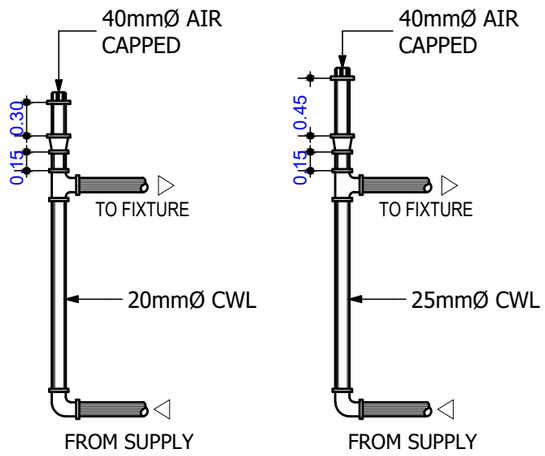
GROUND FLOOR



UPPER FLOOR

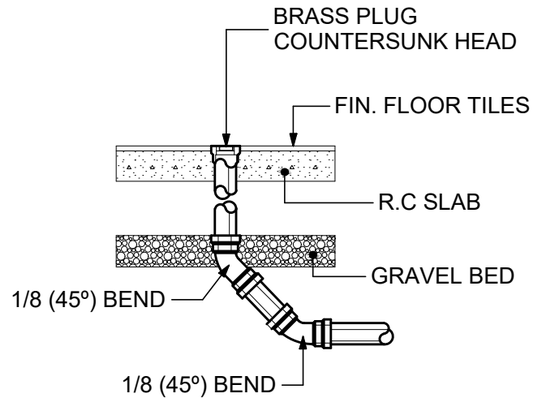
DETAIL OF FLOOR DRAIN

NOT TO SCALE

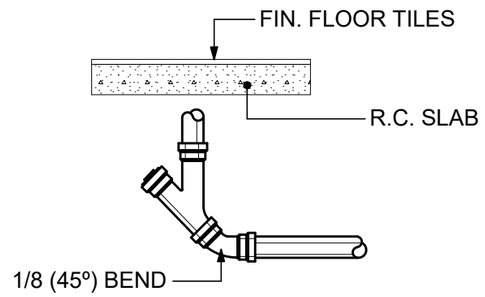


DETAIL OF AIR CHAMBER

NOT TO SCALE



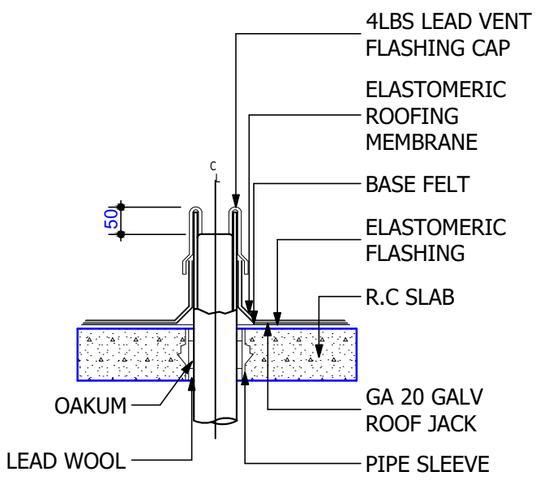
GROUND FLOOR



UPPER FLOOR

DETAIL OF CLEAN OUT

NOT TO SCALE

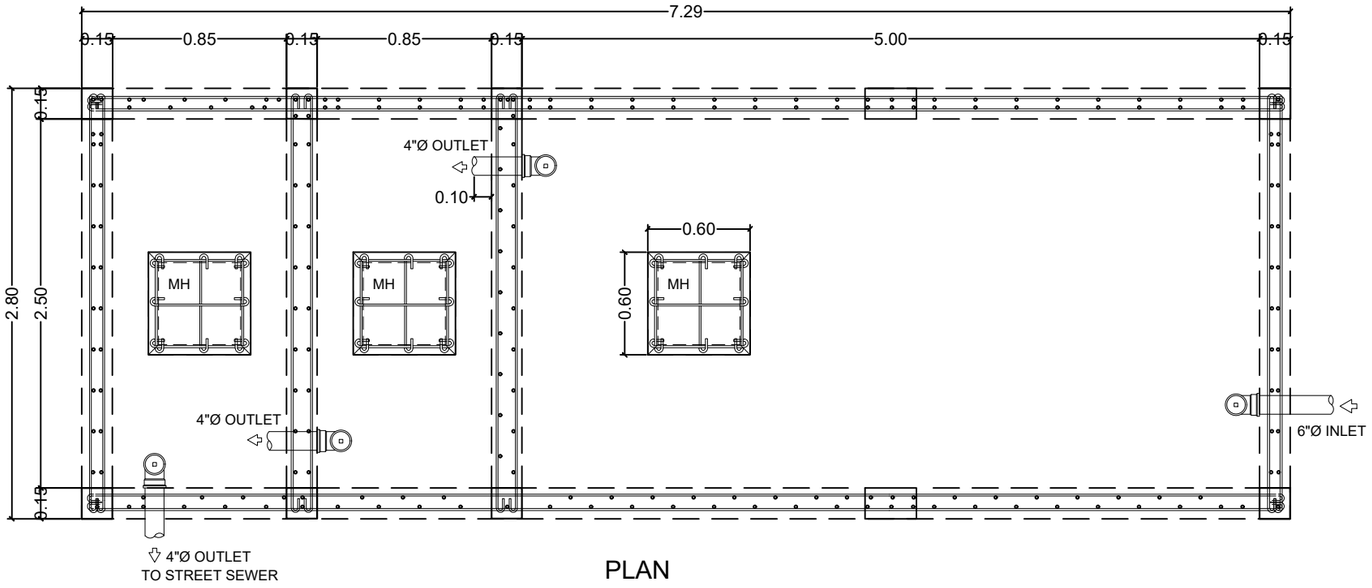


DETAIL OF VSTR

NOT TO SCALE

1 / PL-1 STANDARD DETAIL CONNECTION

NOT TO SCALE



PLAN

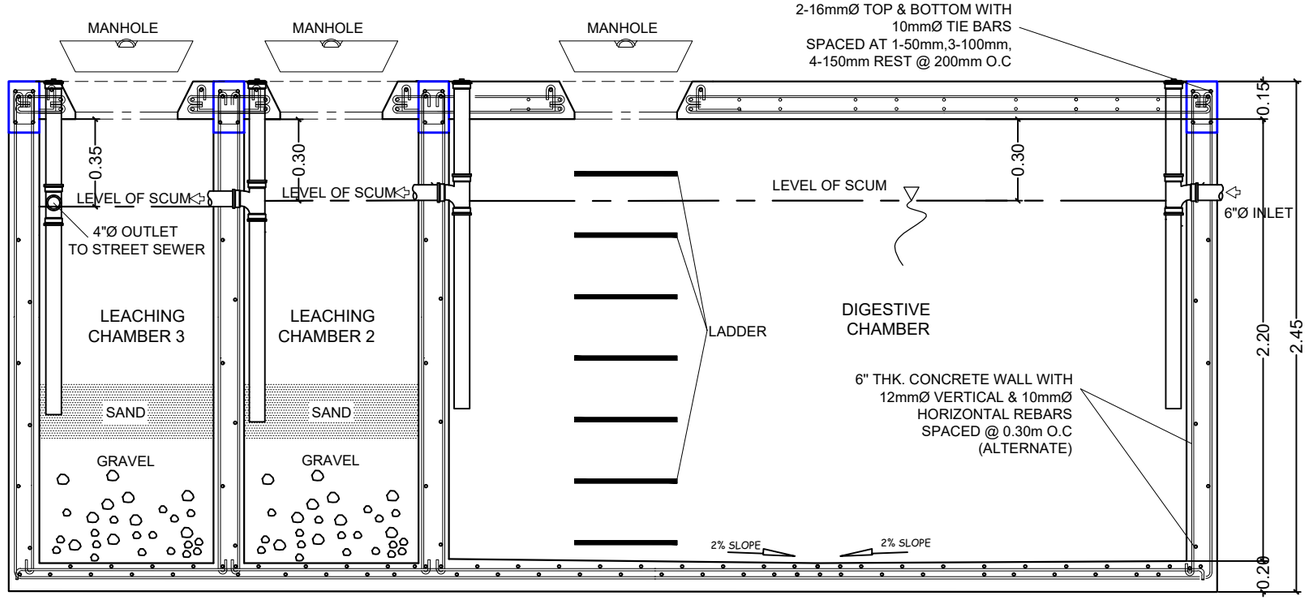
SCHEDULE OF SLAB REINFORCEMENT					
	TOP SLAB		BOTTOM SLAB		REMARKS
	SHORT DIRECTION	LONG DIRECTION	SHORT DIRECTION	LONG DIRECTION	
	12mmØ BARS @220mm O.C. BENT-UP 2 OUT OF 3 @ L/4	-- DO --	12mmØ BARS @150mm O.C. CUT OFF ALTERNATE @ L/5 FROM FACE OF SUPPORT	-- DO --	

DESIGN CRITERIA :

I. LIVE LOAD 960 Pa

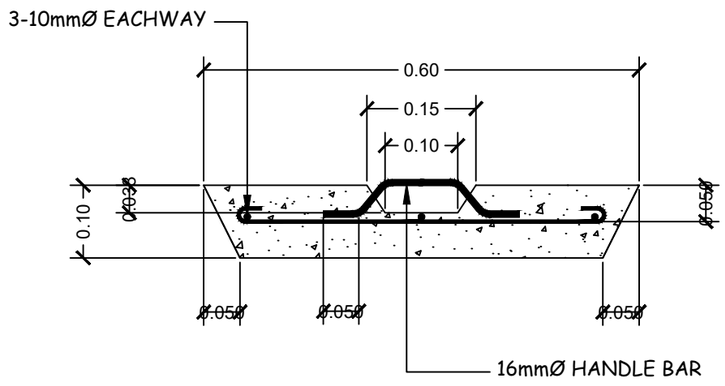
II.ALLOWABLE STRESSES :

1. CONCRETE
   a. For Footings,Beams & Slabs
   fc' = 270 mpa ; fc = 9.315 Mpa,n=9
2. CONCRETE MASONRY UNITS (LOAD BEARING CHB)
   fm' = 690 mpa ; fm = 2.41 mpa
3. REINFORCING STEEL BARS
   For Bars Smaller than 16mmØ
   fy = 230 mpa ; fst = 124 mpa
   fsc = 91 mpa
4. ASSUMED ALLOWABLE SOIL BEARING CAPACITY = 95.76 Kpa

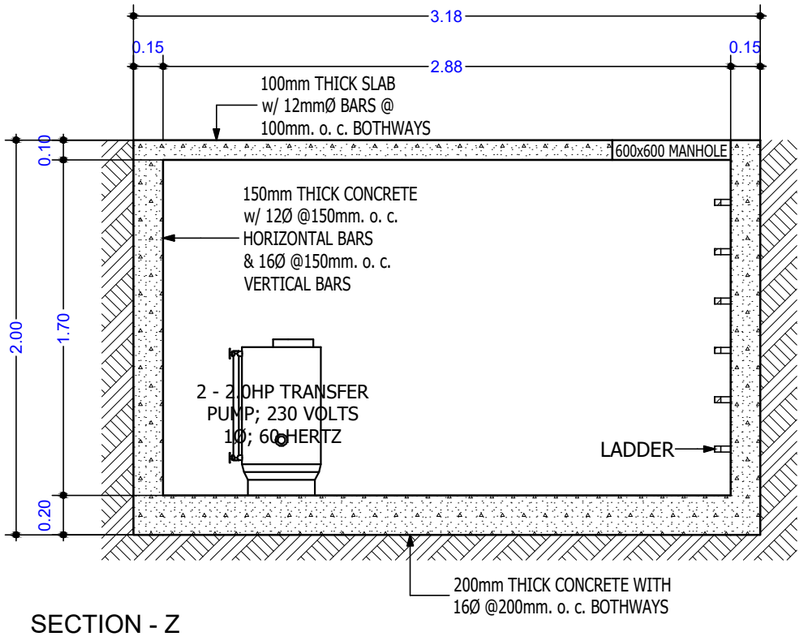


SECTION

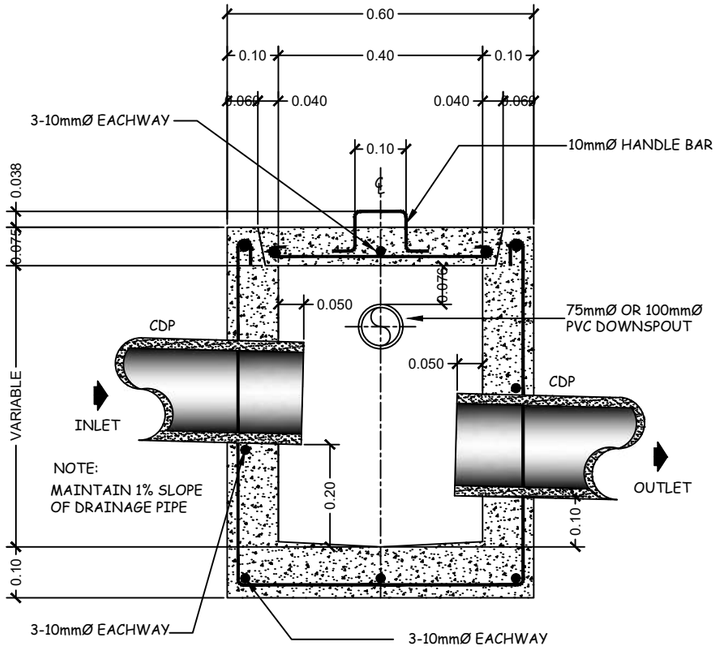
1 / PL-2 DETAIL OF SEPTIC TANK
NOT TO SCALE



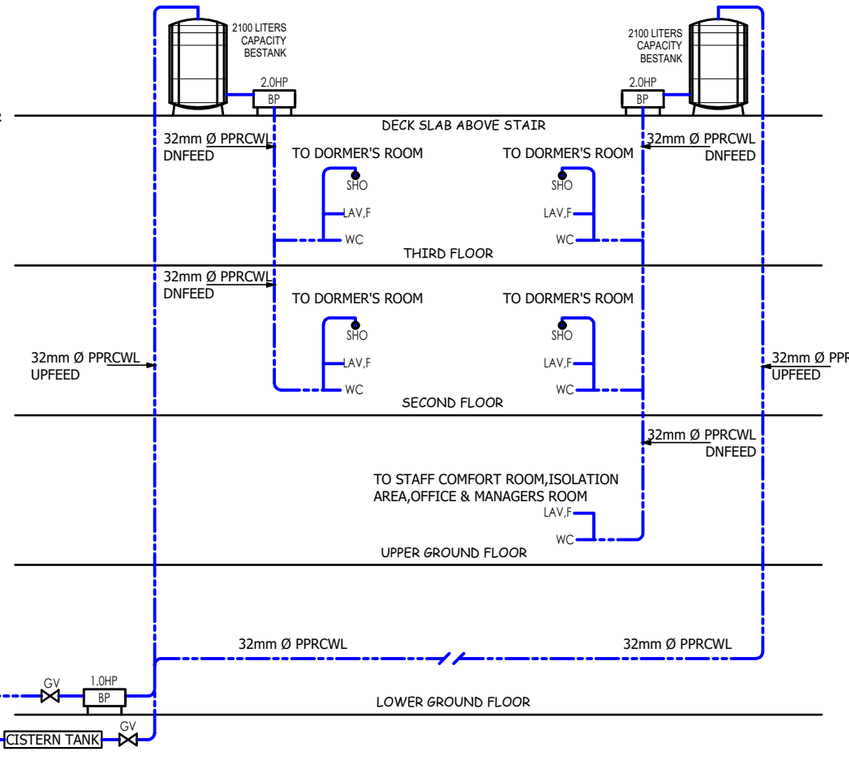
2 / PL-2 DETAIL OF MANHOLE COVER
SCALE 1:10 M.



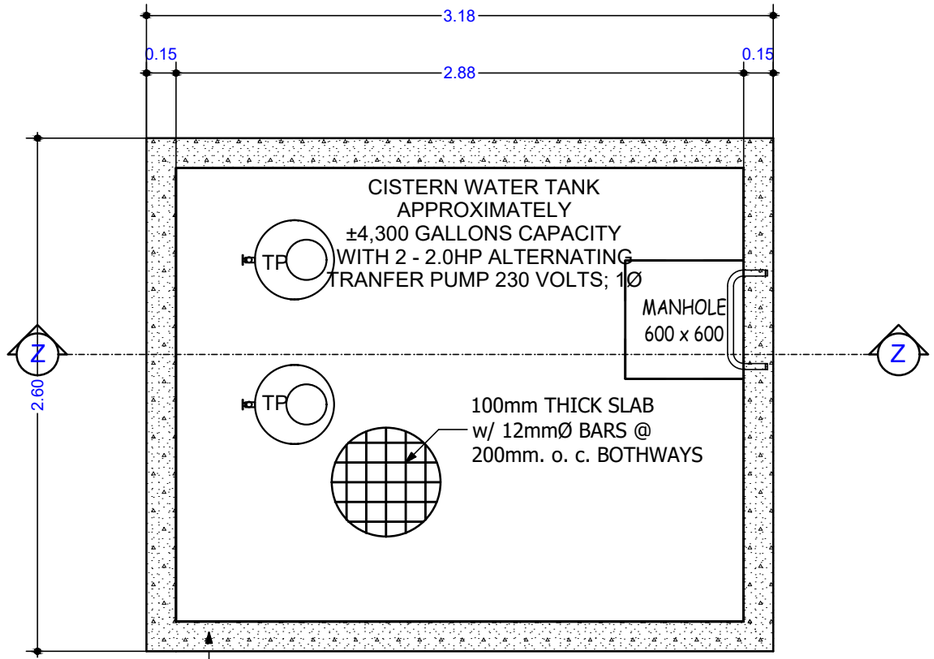
SECTION - Z



SECTION

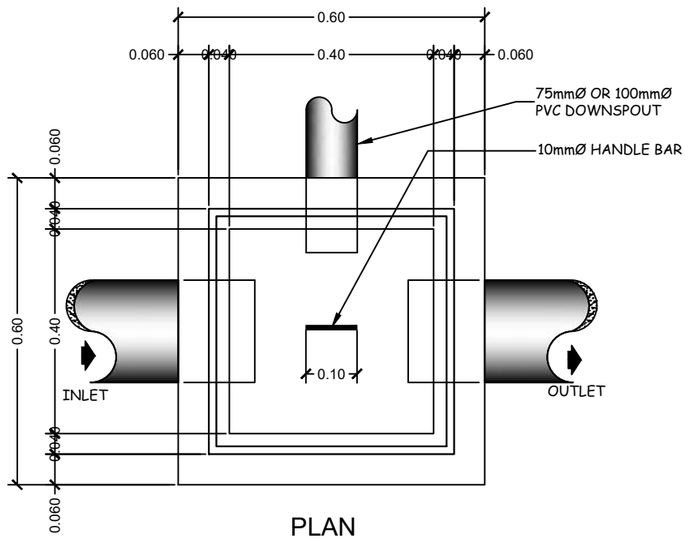


3 PL-3 WATERLINE DIAGRAM
NOT TO SCALE



PLAN

1 PL-3 DETAIL OF CISTERN TANK
SCALE 1:20 M.

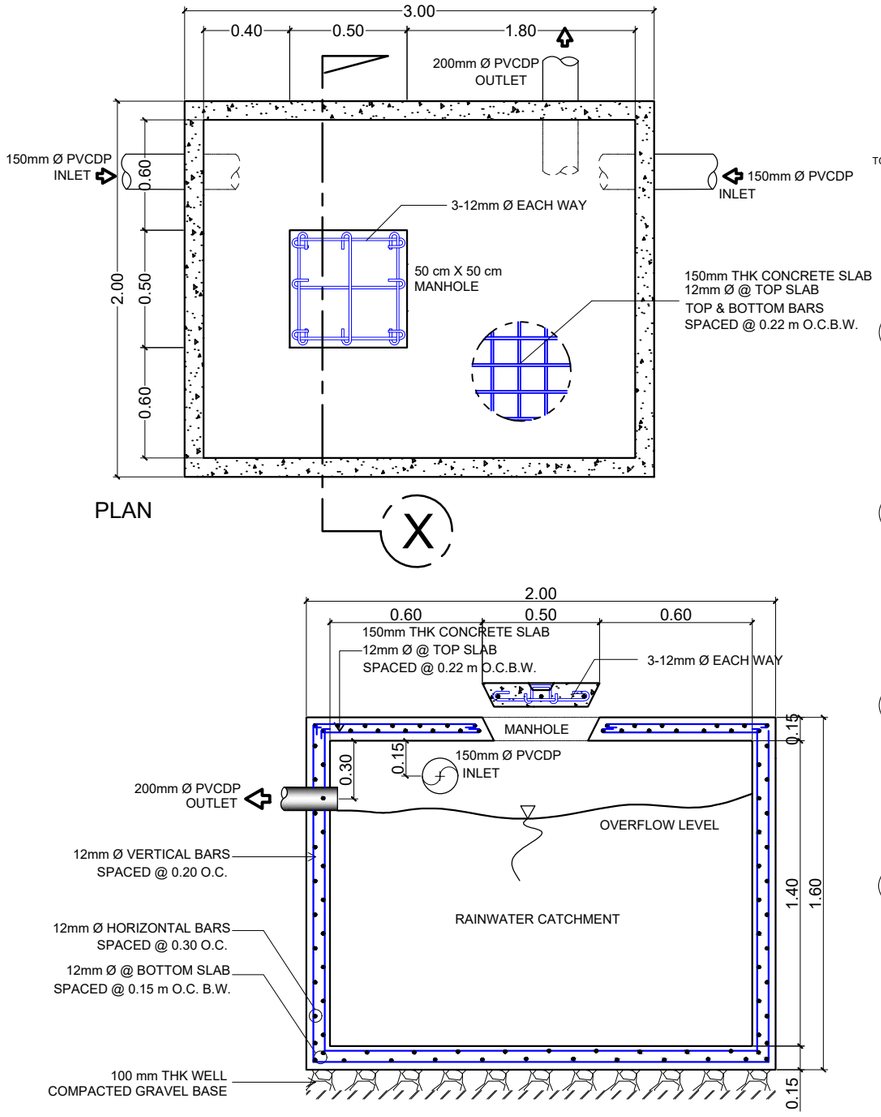


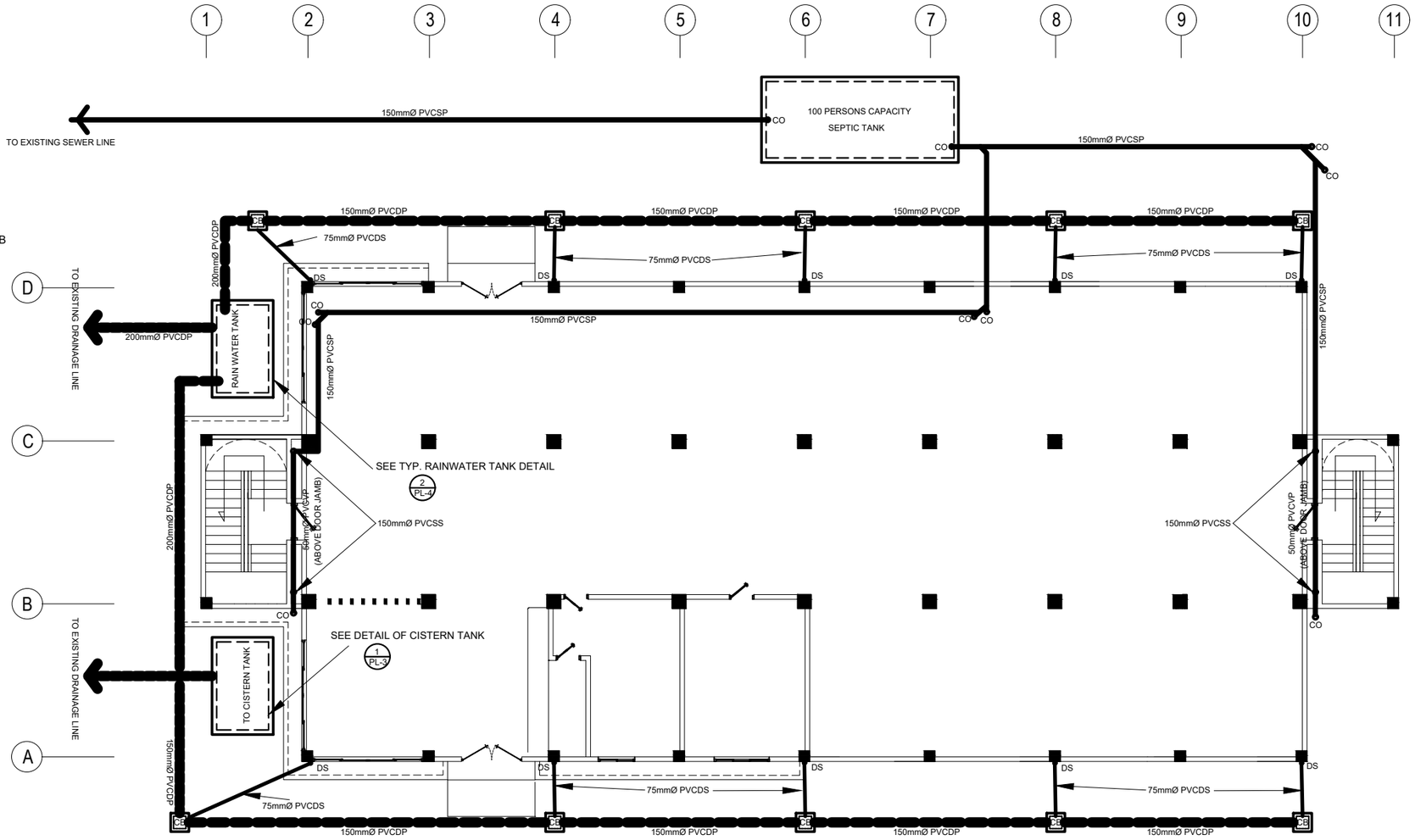
PLAN

2 PL-3 DETAIL OF CATCH BASIN
SCALE 1:10 M.

SCHEDULE OF SLAB REINFORCEMENT @ RAIN WATER TANK

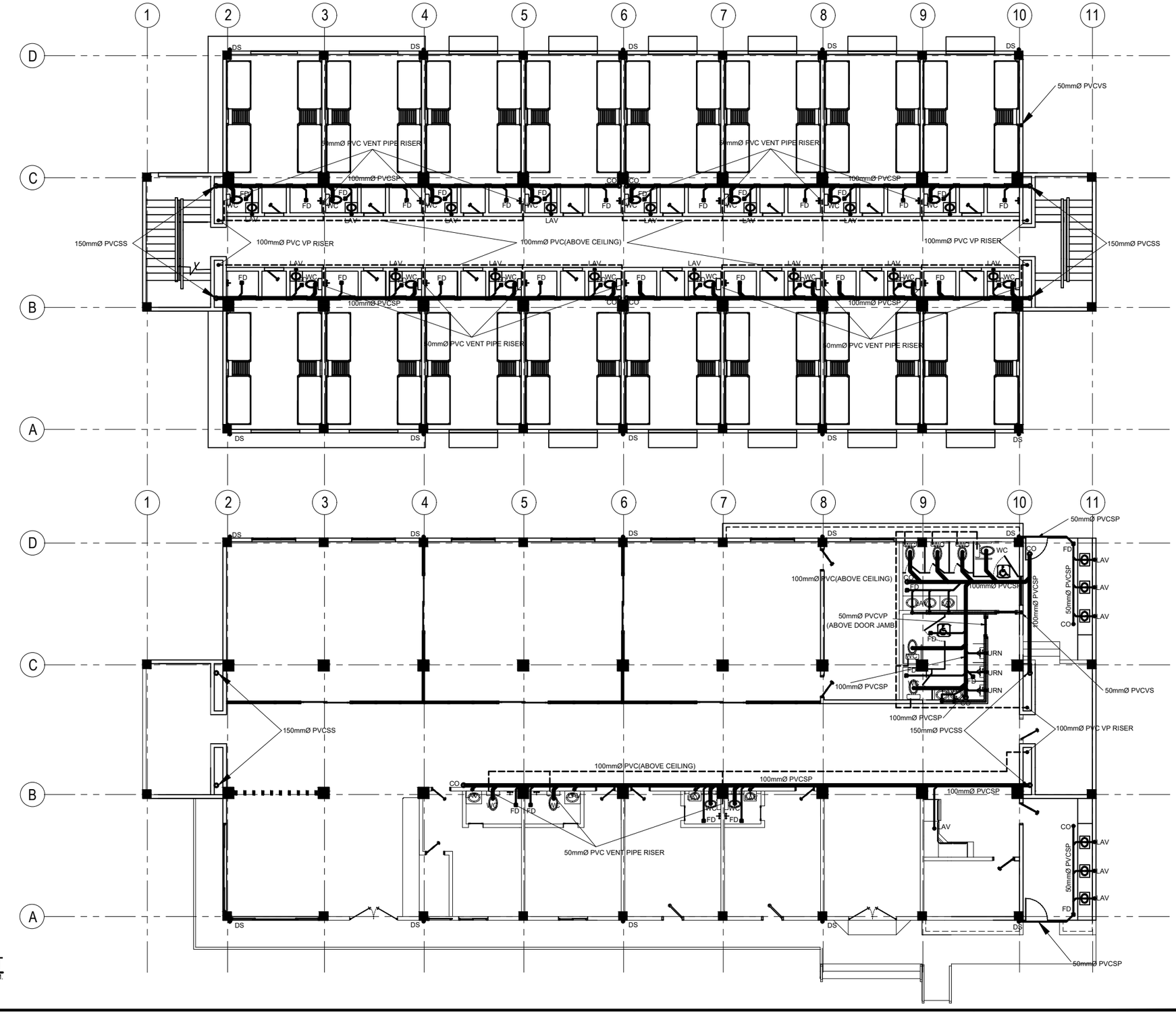
	TOP SLAB		BOTTOM SLAB		REMARKS
	SHORT DIRECTION	LONG DIRECTION	SHORT DIRECTION	LONG DIRECTION	
	12mmØ BARS @220mm O.C. BENT-UP 2 OUT OF 3 @ L/4	-- DO --	12mmØ BARS @150mm O.C. CUT OFF ALTERNATE @ L/5 FROM FACE OF SUPPORT	-- DO --	





2 PL-4 TYP. RAINWATER TANK DETAIL
NO TO SCALE

1 PL-4 LOWER GROUND FLOOR SEWER & DRAINAGE LAYOUT
SCALE 1:100 M.

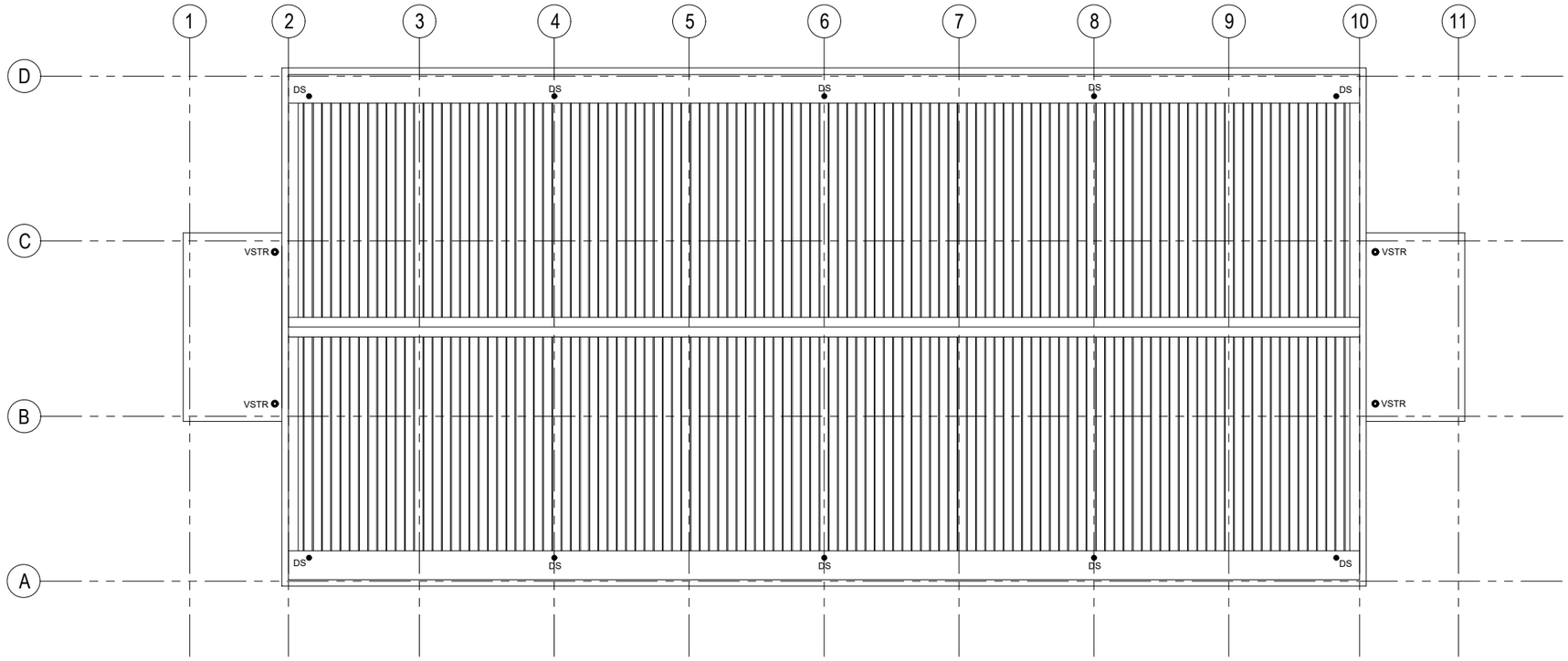


2 PL-5 SECOND FLOOR SEWER & DRAINAGE LAYOUT

SCALE 1:100 M.

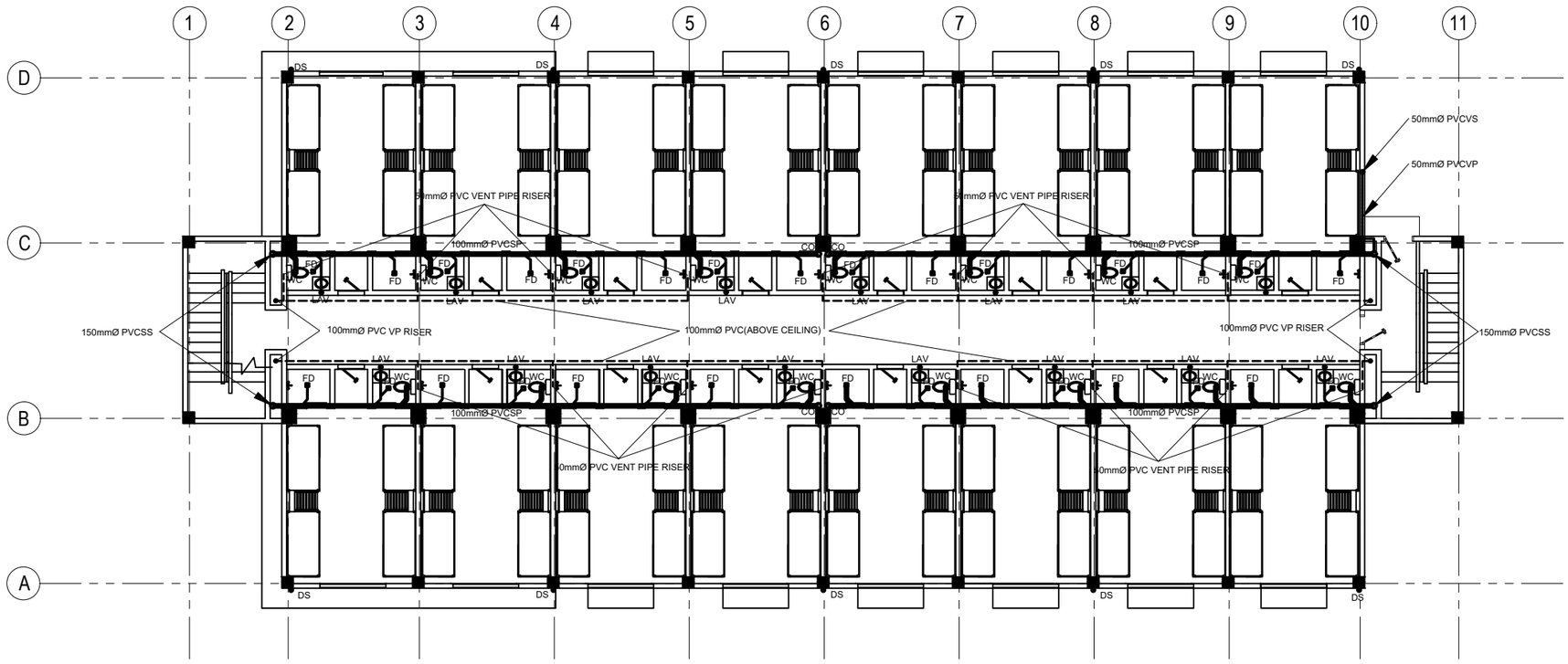
1 PL-5 UPPER GROUND FLOOR SEWER & DRAINAGE LAYOUT

SCALE 1:100 M.



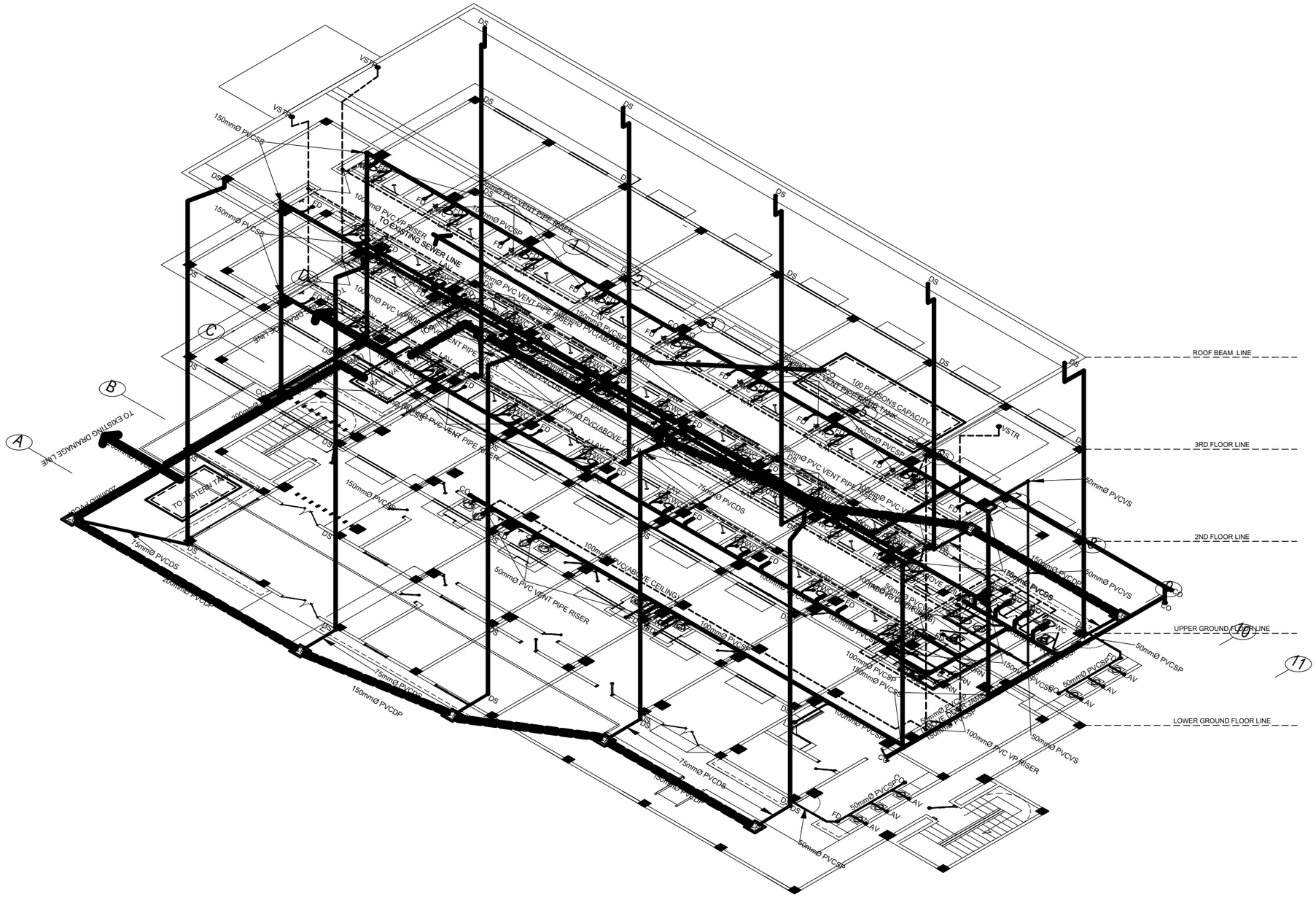
2 PL-6 ROOF SEWER & DRAINAGE LAYOUT

SCALE 1:100 M.



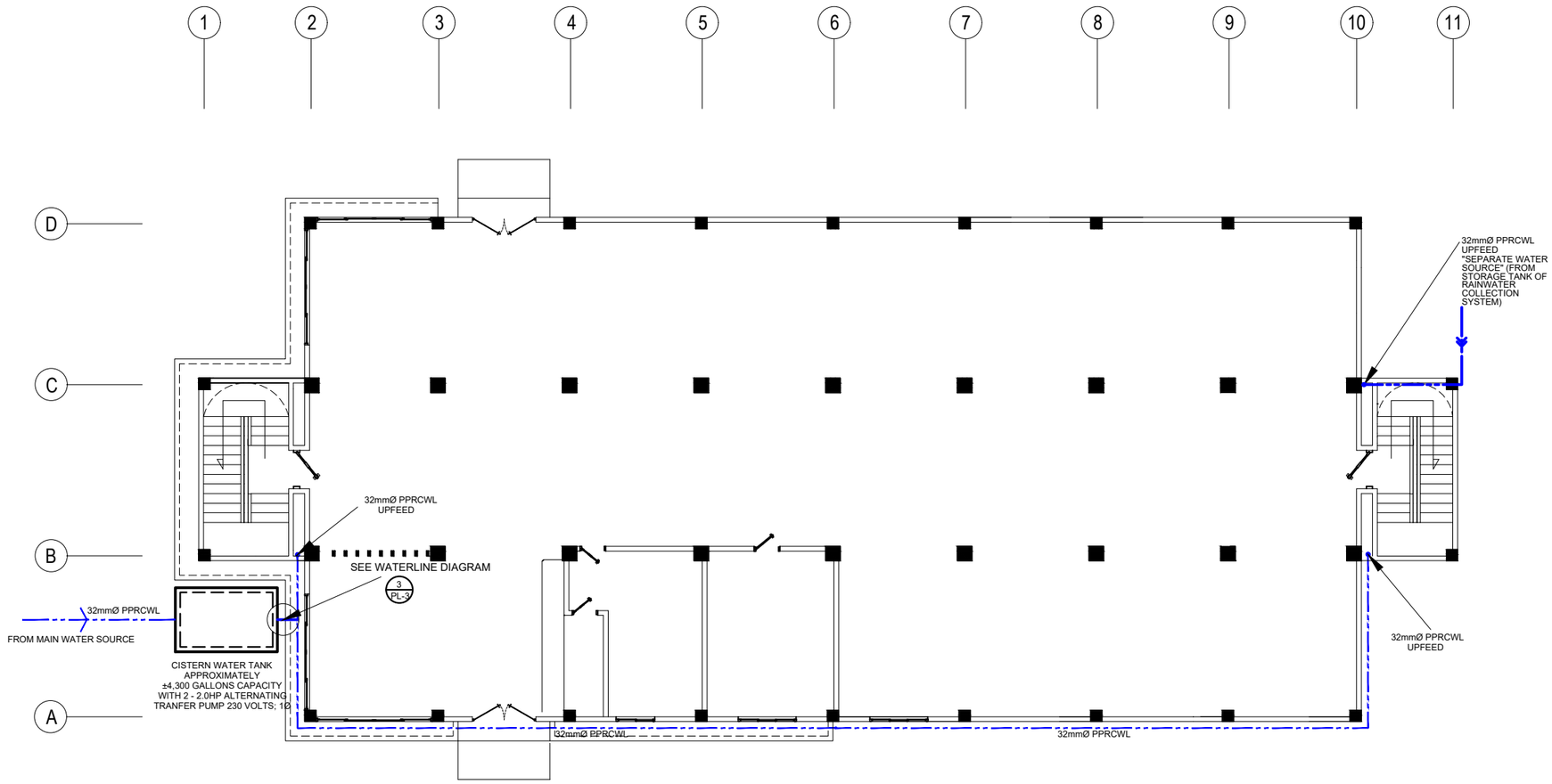
1 PL-6 THIRD FLOOR SEWER & DRAINAGE LAYOUT

SCALE 1:100 M.



1 / PL-7 ISOMETRIC VIEW OF SEWER & DRAINAGE LAYOUT

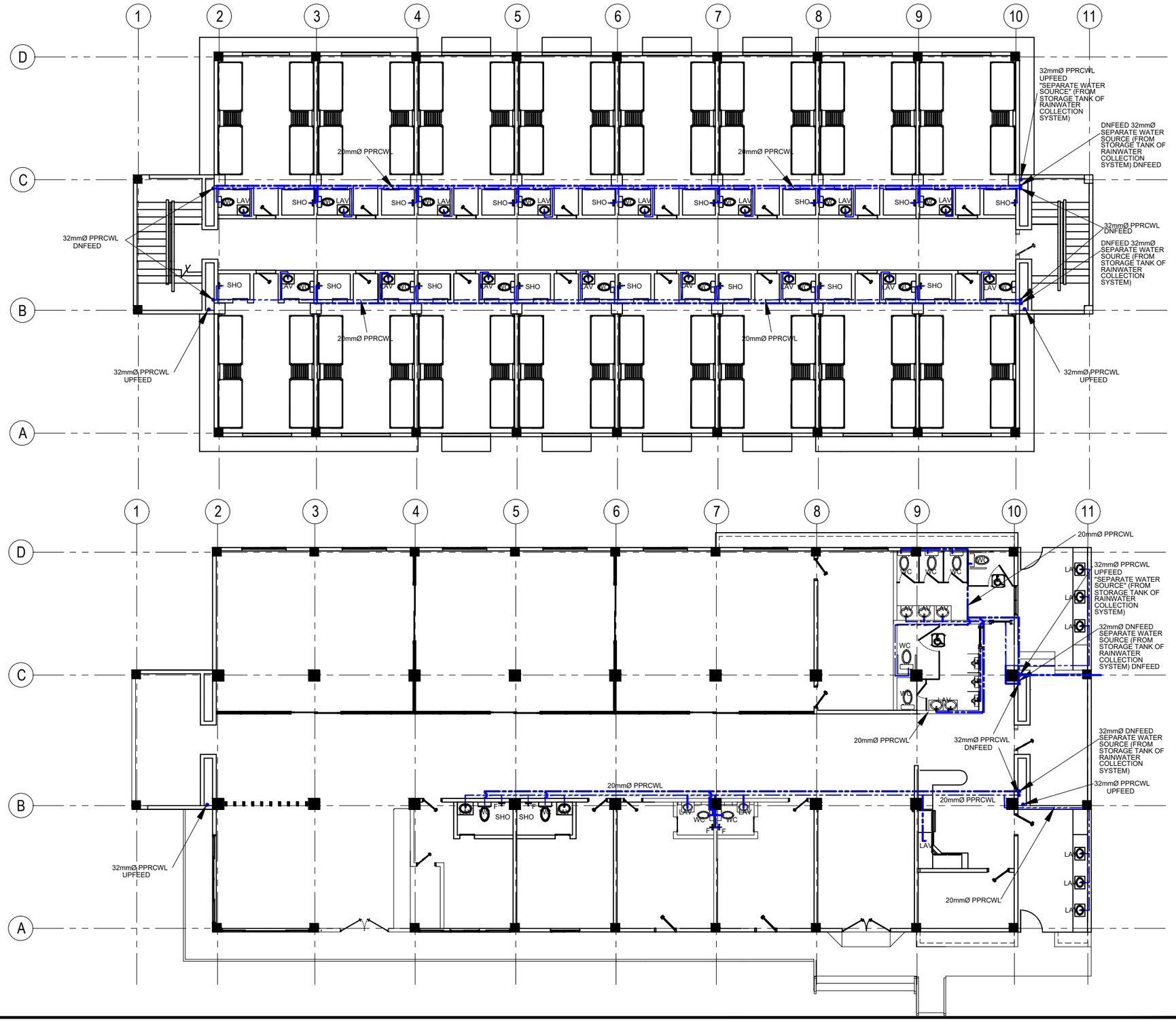
SCALE 1:100 M.



1
PL-8

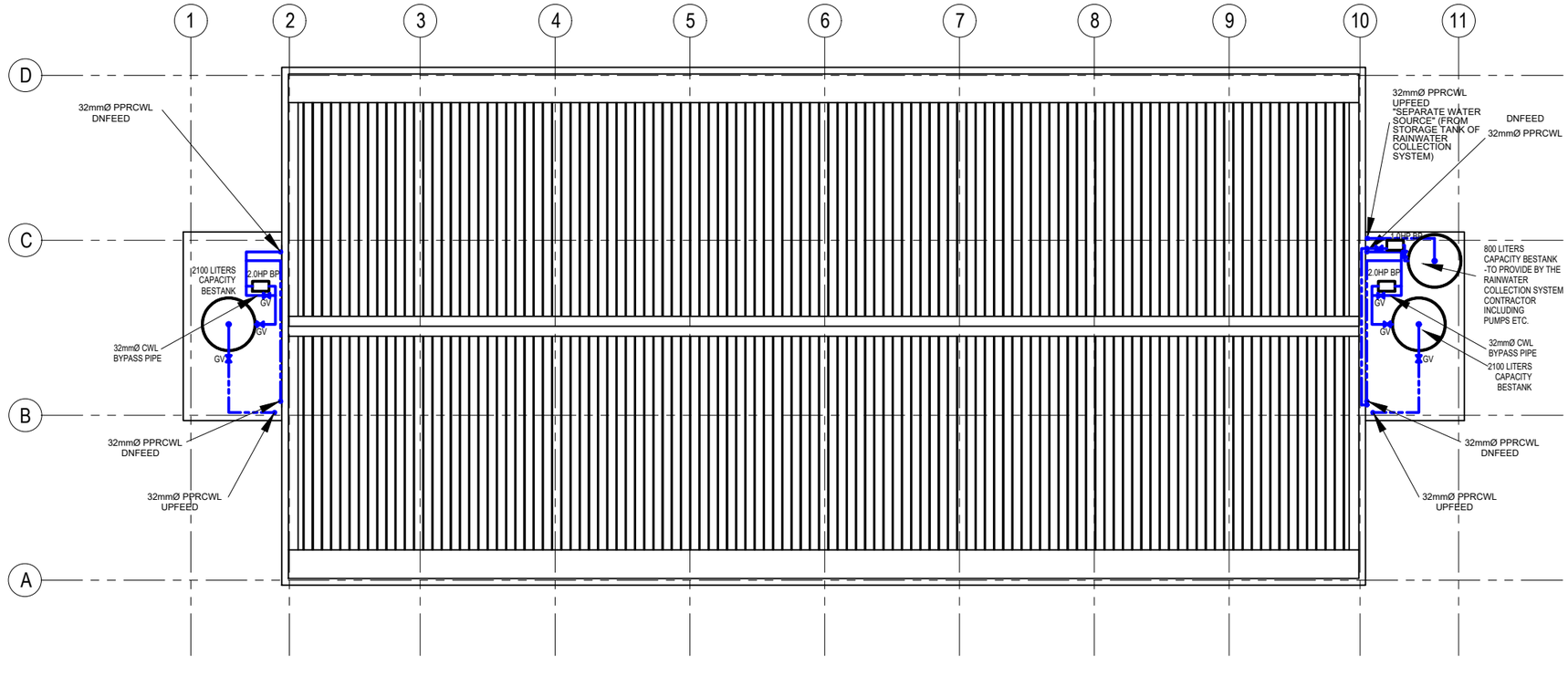
LOWER GROUND FLOOR WATER LINE LAYOUT

SCALE 1:100 M.



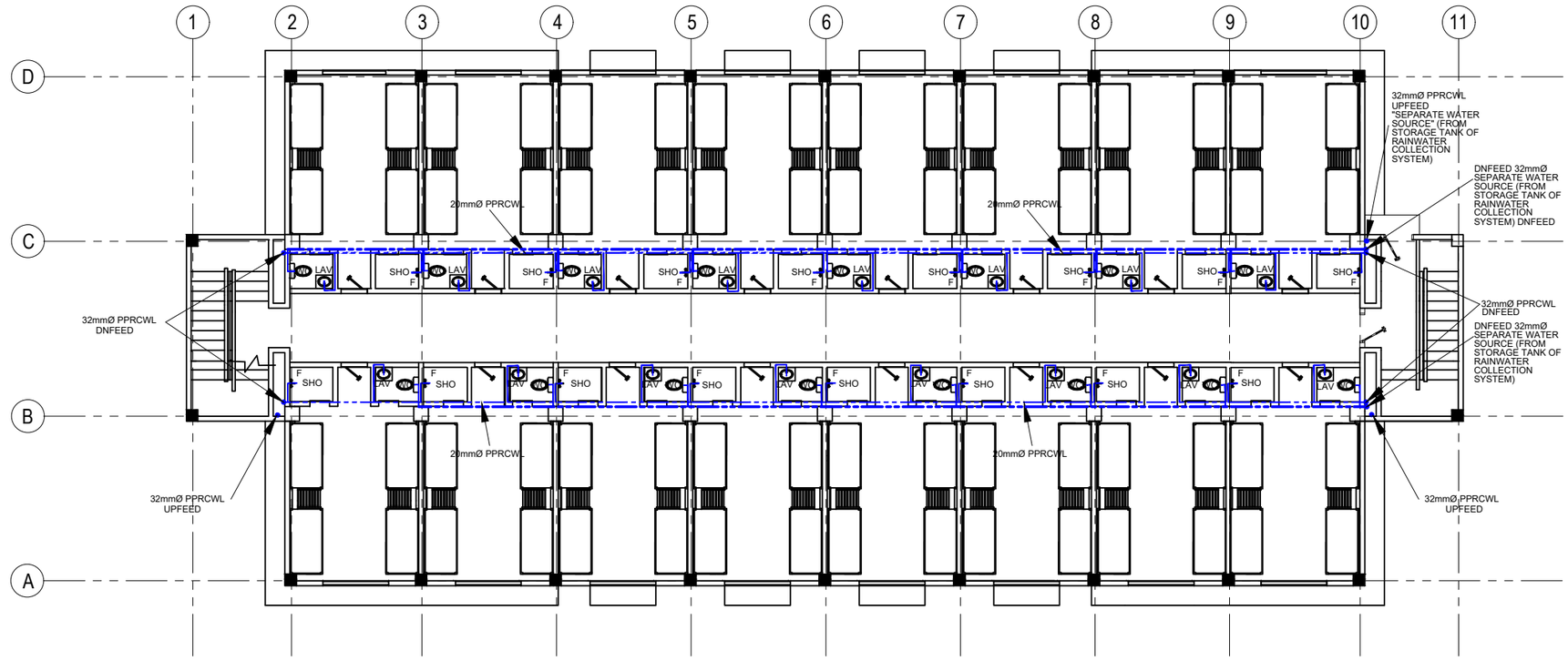
2 PL-9 SECOD FLOOR WATER LINE LAYOUT
SCALE 1:100 M.

1 PL-9 UPPER GROUND FLOOR WATER LINE LAYOUT
SCALE 1:100 M.



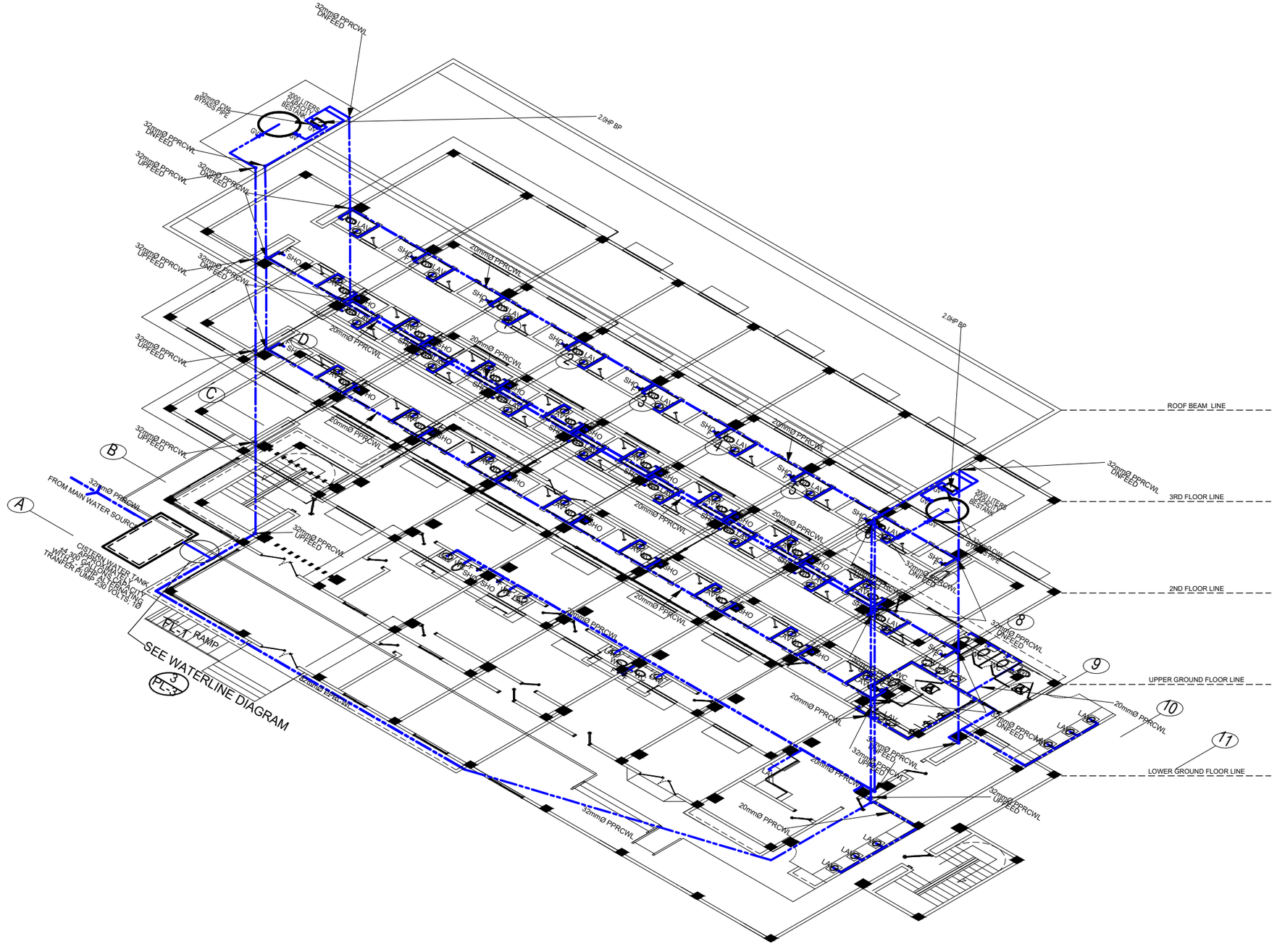
2 PL-10 ROOF WATER LINE LAYOUT

SCALE 1:100 M.



1 PL-10 THIRD FLOOR WATER LINE LAYOUT

SCALE 1:100 M.



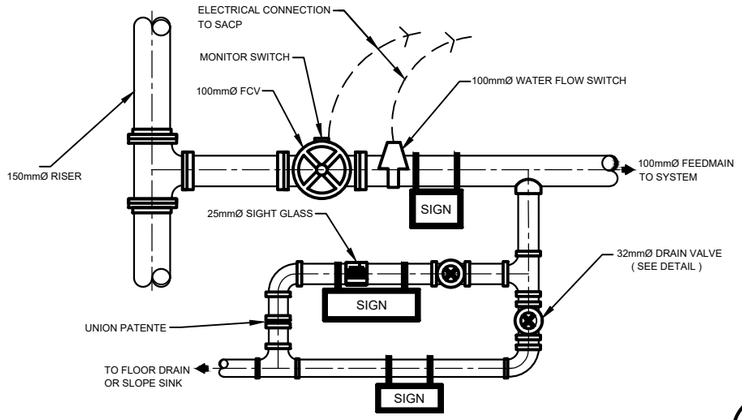
1 PL-11 ISOMETRIC VIEW OF WATER LINE LAYOUT

SCALE 1:100 M.

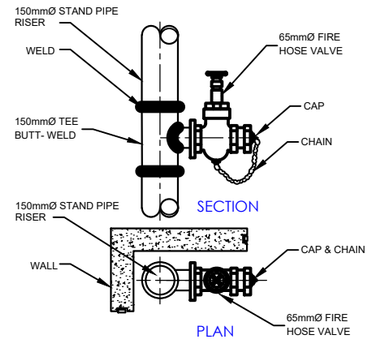
MECHANICAL PLAN

GENERAL NOTES : (FIRE PROTECTION SYSTEM)

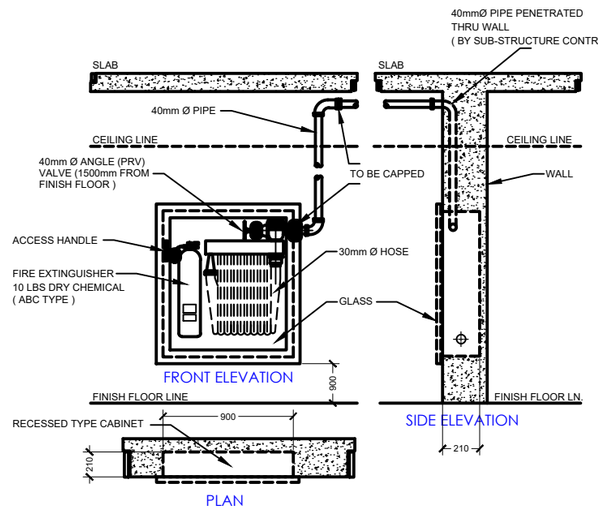
1. THE SPRINKLER SYSTEM SHALL BE DESIGNED ON ORDINARY HAZARD OCCUPANCIES.
2. ONLY NEW SPRINKLER DEVICE AND MATERIALS SHALL BE EMPLOYED IN THE INSTALLATION OF SPRINKLER SYSTEM.
3. A CONNECTION TO A RELIABLE WATER WORKS SYSTEM SHALL BE AN ACCEPTABLE WATER SUPPLY SOURCE.
4. TEST CONNECTION WHICH MAY BE ALSO BE USED AS DRAIN PIPE SHALL BE PROVIDED AT LOCATIONS THAT WILL PERMIT FLOW TEST TO BE MADE TO DETERMINE WHETHER WATER SUPPLIES AND CONNECTION ARE IN ORDER.
5. A PRESSURE GAGE WITH A CONNECTION NOT SMALLER THAN 6MM SHALL BE INSTALLED ON THE RISER OR FEEDMAIN AT OR NEAR EACH TEST CONNECTION. THIS GAGE CONNECTION SHALL BE EQUIPPED WITH A SHUT-OFF VALVE AND WITH PROVISION FOR DRAINING.
6. THE REQUIRED PRESSURE GAGE SHALL BE AN APPROVED TYPE HAVE A MAXIMUM PRESSURE LIMIT NOT LESS THAN TWICE THE NORMAL WORKING PRESSURE AT THE POINT WHERE INSTALLED.
7. PIPES INSTALLED INA SPRINKLER SHALL BE MADE OF B.I. SCHEDULE 40 AND CAN WITHSTAND A PRESSURE OF NOT LESS THAN 175 PSI (12.1 BARS)
8. BENDING OF PIPES MAY BE ACCOMPLISHED WHEN BENDS ARE MADE IN CONFORMANCE WITH GOOD INSTALLATION PRACTICES IN SHOWN NO KINKS. RIPPLES, DISTORTIONS,REDUCTION IN DIAMETER OR ANY NOTICEABLY DEVIATIONS FROM ROUND.THE MINIMUM RADIUS OF BEND SHALL BE 6 PIPE DIAMETER
9. ALL SPRINKLER SYSTEM SHALL BE ARRANGE FOR FLUSHING READILY REMOVABLE FITTINGS SHALL BE PROVIDED AT THE END OF ALL CROSS MAINS SHALL TERMINATE IN 32MM(11/4"OR LARGER PIPE ALL BRANCH ALL BRANCH LINES SHALL BE ARRANGE TO FACILITATE FLUSHING.
10. FIRE HOSE CONNECTION FOR ORDINARY HAZARD OCCUPANCY SHALL BE 63MM(2 1/2" AND SHALL BE ATTACHED TO A WET PIPE SPRINKLER RISER.
11. ALL PIPES SHALL BE PROTECTED AGAINST CORROSION.
12. FLEXIBLE COUPLINGS JOINING GROOVED AND PIPE SHALL BE PROVIDED AS FLEXURE JOINTS TO ALLOW INDIVIDUAL SECTION OF PIPING TO MORE DIFFERENTIALLY WITH THE INDIVIDUAL SECTIONS OF THE BUILDING TO WHICH IS ATTACHED COUPLINGS SHALL BE ARRANGE TO COINCIDE WITH STRUCTURAL OPERATION WITH IN BUILDING.
13. SWAY BRACING SHALL BE DESIGNED TO WITHSTAND A FORCE IN TENSION OR COMPRESSION EQUIVALENT TO NOT LESS THAN HALF WEIGHT OF WATER FILLED PIPING FOR INDIVIDUAL SWAY BRACES THE SLENDERNES SLENDERNESS RATIO L/R SHALL NOT EXCEED 200.
14. LONGITUDINAL SWAY BRACING SPACED AT A MAXIMUM OF 24M SHALL BE PROVIDED FOR FEED AND CROSS MAINS.
15. TOP OF RISER SHALL BE SECURED AGAINST DRIFTING IN ANY DIRECTION, UTILIZING FOR FEED AND CROSS MAINS.
16. PROVISION SHALL BE MADE TO PROPERLY DRAIN ALL PARTS OF THE SYSTEM.
17. EACH INTERIOR SECTIONAL CONTROL VALVE SHALL BE PROVIDED WITH DRAIN CONNECTION SO AS TO DRAIN THAT PORTION OF THE SYSTEM CONTROLLED BY SECTIONAL VALVE.
18. ALL THREADED FITTING AND PIPE SHALL THREAD CUT TO ASME STANDARD , CAN SHALL BE TAKEN THAT THE PIPE DOES NOT EXTEND INTO FITTINGS SUFFICIENTLY TO REDUCE THE WATER WAY.
19. JOIN COMPOUND OR TAPE SHALL BE APPLIED TO THE THREADS OF THE PIPE AND NOT ON THE FITTING.
20. WELDED SECTION OF SPRINKLER PIPING IS PLACE INSIDE THE BUILDING SHALL NOT BE PERMITTED. SECTION OF BRANCH LINES CROSS MAINS OR RISER MAY BE SHOP WELDED.
21. WHEN REDUCING A PIPE SIZE IN THE RUN OF A MAIN, CROSSMAIN,OR BRANCH LINE.A REDUCING FITTING DESIGN FOR THAT PROPOSE SHALL BE USED.
22. SECTIONS OF SHOP WELDED PIPING SHALL JOINED BY MEANS OF FLANGED OR FLEXIBLE GASKETED JOINTS OR OTHER APPROVED FITTINGS.
23. EACH SYSTEM SHALL BE PROVIDED WITH A LISTED INDICATING VALVE SO LOCATED AS TO CONTROL ALL SOURCE OF WATER SUPPLY EXCEPT FIRE DEPARMENT CONNECTION.
24. SPRINKLER PIPING SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE.
25. SPRINKLER SYSTEM SHALL BE TESTED FOR WATER AND AIR LEAK FREE.
26. FIRE AND JOCKEY PUMPS SHALL BE FM OR UL APPROVED.
27. VALVES FITTINGS AND PRESSURE GAGES NOT SHOWN IN THE PLAN BUT DEAM NECESSARY FOR THE CONTINUITY OF THE FLOW SHALL BE PROVIDED.



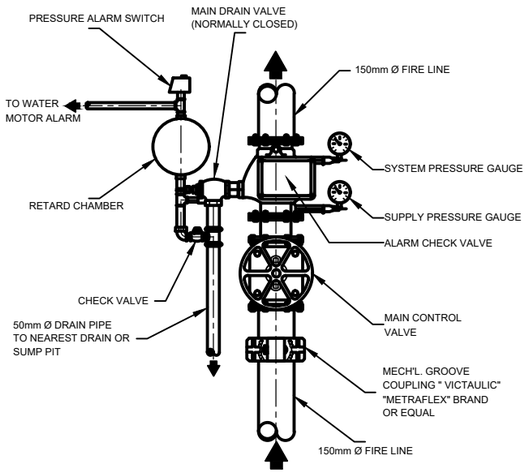
3 ME-1 FLOOR CONTROL VALVE DETAIL
NOT TO SCALE



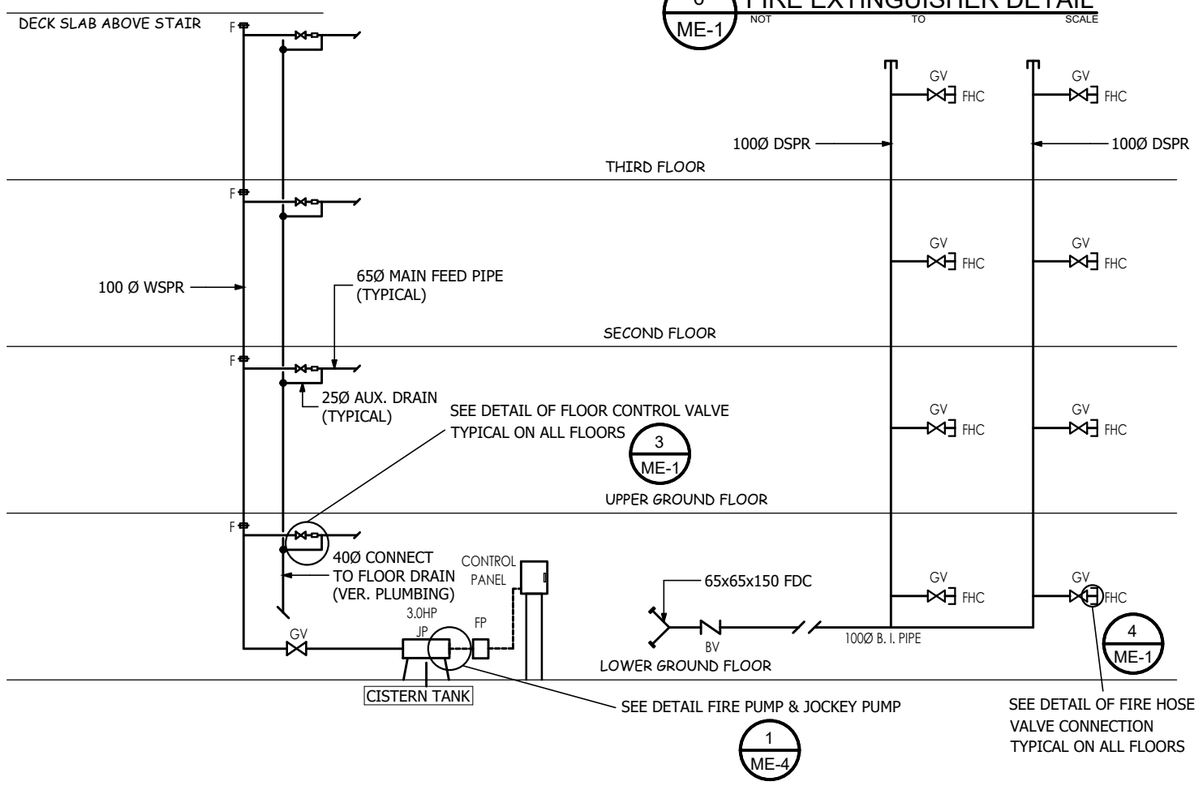
4 ME-1 FIRE HOSE VALVE CONNECTION DETAIL
NOT TO SCALE



6 ME-1 FIRE HOSE CABINET WITH FIRE EXTINGUISHER DETAIL
NOT TO SCALE



5 ME-1 ALARM CHECK VALVE ASSEMBLY DETAIL
NOT TO SCALE



1 ME-1 WET STAND PIPE RISER DIAGRAM
NOT TO SCALE

2 ME-1 DRY STAND PIPE RISER DIAGRAM
NOT TO SCALE

ABBREVIATIONS

ABBREVIATIONS	DESCRIPTIONS	ABBREVIATIONS	DESCRIPTIONS
AAV	AUTOMATIC AIR VENT	JPC	JOCKEY PUMP CONTROLLER
ACV	ALARM CHECK VALVE	LPS	LITERS PER SECOND
BV	BALL VALVE	LPM	LITERS PER MINUTES
FDC	FIRE DEPARTMENT CONNECTION	PRV	PRESSURE REDUCING/RESTRICTING RELIEF VALVE
FHC	FIRE HOSE CABINET	TYP	TYPICAL
FHV	FIRE HOSE VALVE	C/W	COMPLETE WITH
RN	RISER NIPPLE	M	METER
WFS	WATER FLOW SWITCH	ITC	INSPECTOR TEST CONNECTION
GV	GATE VALVE	FPC	FIRE PUMP CONTROLLER
GPM	GALLONS PER MINUTE		

LEGEND AND SYMBOLS

SYMBOLS	DESCRIPTIONS	SYMBOLS	DESCRIPTIONS
	FHC PIPE		QRS PENDENT SPRINKLER
	UNDERGROUND PIPE		UPRIGHT SPRINKLER
	CAPPED PIPE		QRS SIDEWALL SPRINKLER
	VALVE AND CAPPED PROVISION		QRS EXTENDED COVERAGE SIDEWALL SPRINKLER
	GATE VALVE		DIRECTION OF FLOW
	ALARM CHECK VALVE		CONTINOUS PIPE
	CHECK VALVE (SILENT TYPE)		UNION
	DRAIN VALVE FOR PIPE END		PRESSURE GAGE WITH COCK
	END CAP FOR FUTURE CONN.		4.5 KG ABC DRY CHEMICAL FIRE EXTINGUISHER
	FIRE HOSE CABINET		4.5 KG HCFC 123 PORTABLE FIRE EXTINGUISHER
	PUMP		22.7 KG WHEELED TYPE CO2 FIRE EXTINGUISHER
FM	FLOW METER		ALARM BELL
	AUTOMATIC AIR RELEASE VALVE/ AUTOMATIC AIR VENT		FLOW SWITCH
	FIRE PUMP CONTROLLER		HOSE VALVE HEADER
	JOCKEY PUMP CONTROLLER		ELECTRICAL CONTROL PANEL

NEAR FLOOR CONTROL VALVE

NEAR WATER MOTOR GONG

INSPECTORS TEST

INSPECTOR TEST CONN.

AUXILIARY DRAIN

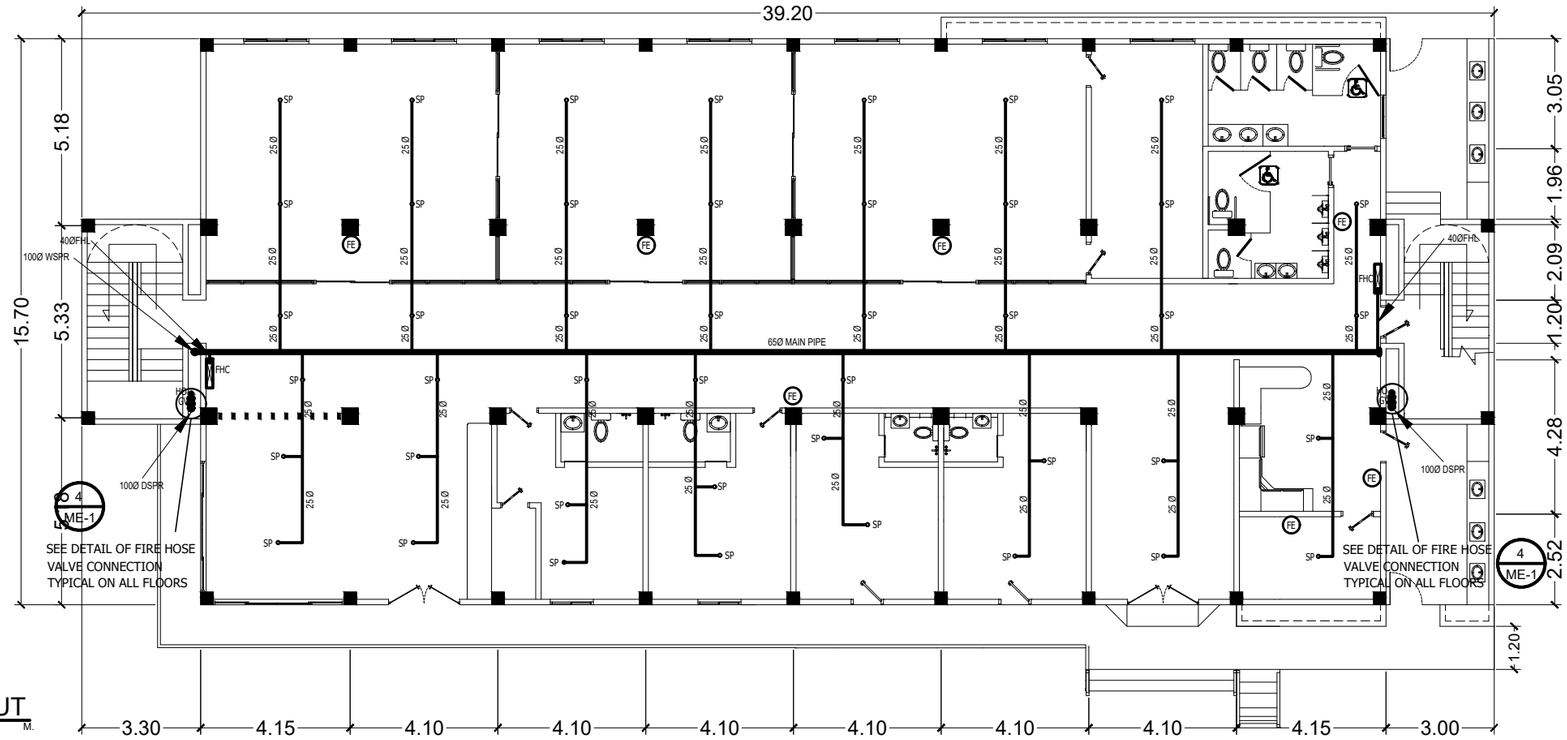
NEAR FLOOR CONTROL VALVE

MAIN DRAIN

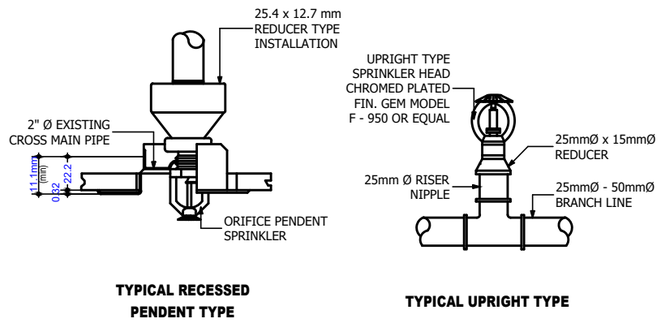
ALARM CHECK VALVE

FIRE DEPARTMENT CONN.
AUTO SPRINKLER

4 / ME-2 IDENTIFICATION SIGNS
NOT TO SCALE



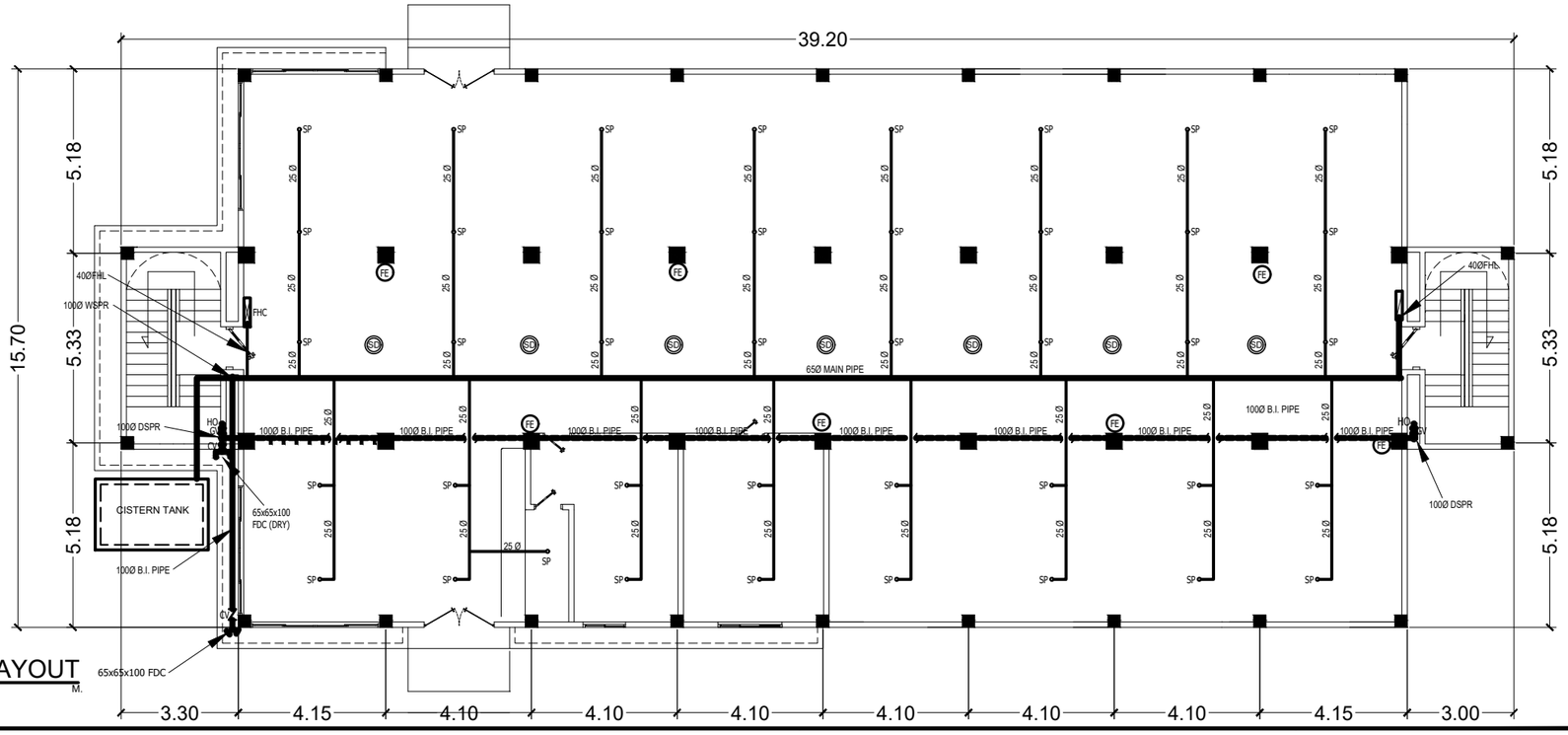
2 / ME-2 UPPER GROUND FLOOR FIRE PROTECTION LAYOUT
SCALE 1:100 M.



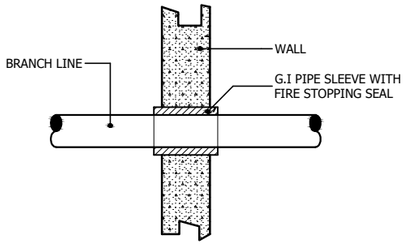
TYPICAL RECESSED PENDENT TYPE

TYPICAL UPRIGHT TYPE

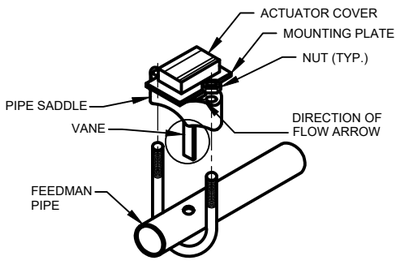
3 / ME-2 DETAIL OF SPRINKLER HEAD
NOT TO SCALE



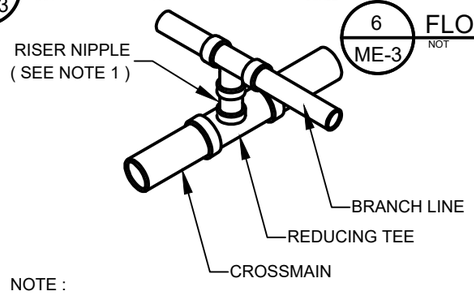
1 / ME-2 LOWER GROUND FLOOR FIRE PROTECTION LAYOUT
SCALE 1:100 M.



4 ME-3 DETAIL OF PIPE SLEEVE
NOT TO SCALE

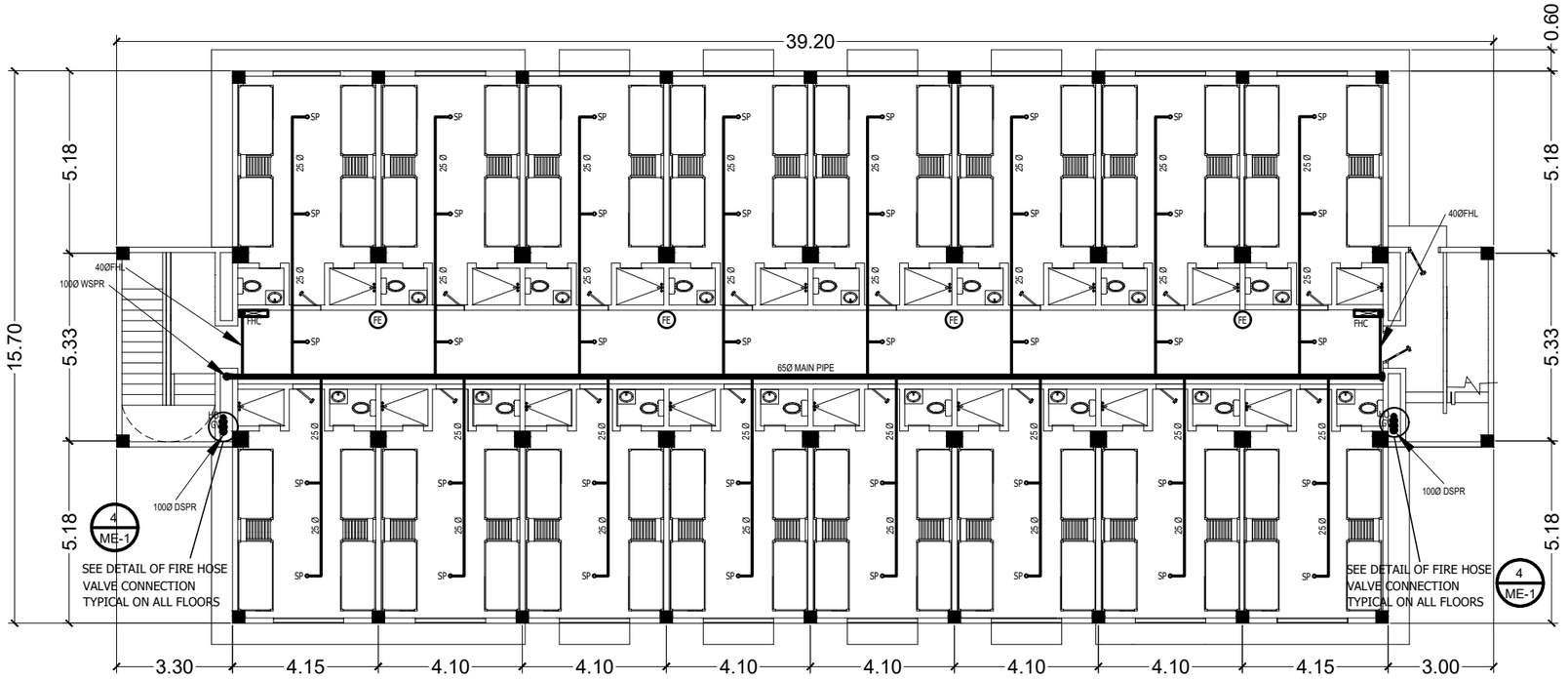


6 ME-3 FLOW SWITCH INSTALLATION DET.
NOT TO SCALE



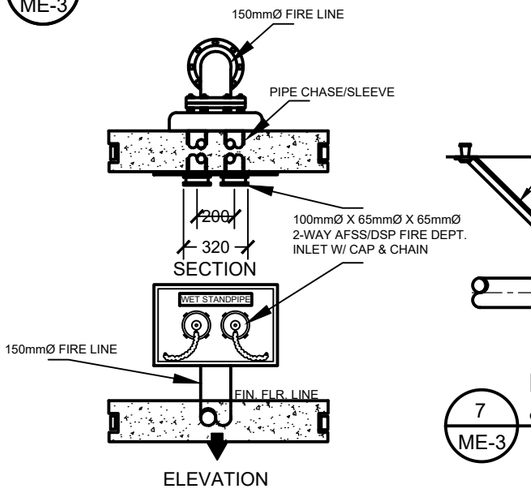
NOTE :

1. ALTERNATIVE CONNECTION IS THRU THE USE OF BOLTED MECHANICAL BRANCH CONNECTION SIMILAR TO " VICTAULIC" MECHANICAL TEE OR CROSS. IF MECHANICAL CROSS IS USED. RISER NIPPLE IS NOT REQUIRED.
2. THE USE OF SCREWED CROSS FITTING IS NOT ACCEPTABLE
3. THE USE OF THREADOLET OR WELDOLET IS NOT ACCEPTABLE

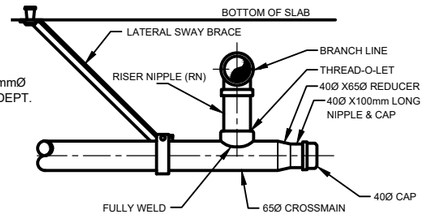


2 ME-3 THIRD FLOOR FIRE PROTECTION LAYOUT
SCALE 1:100 M.

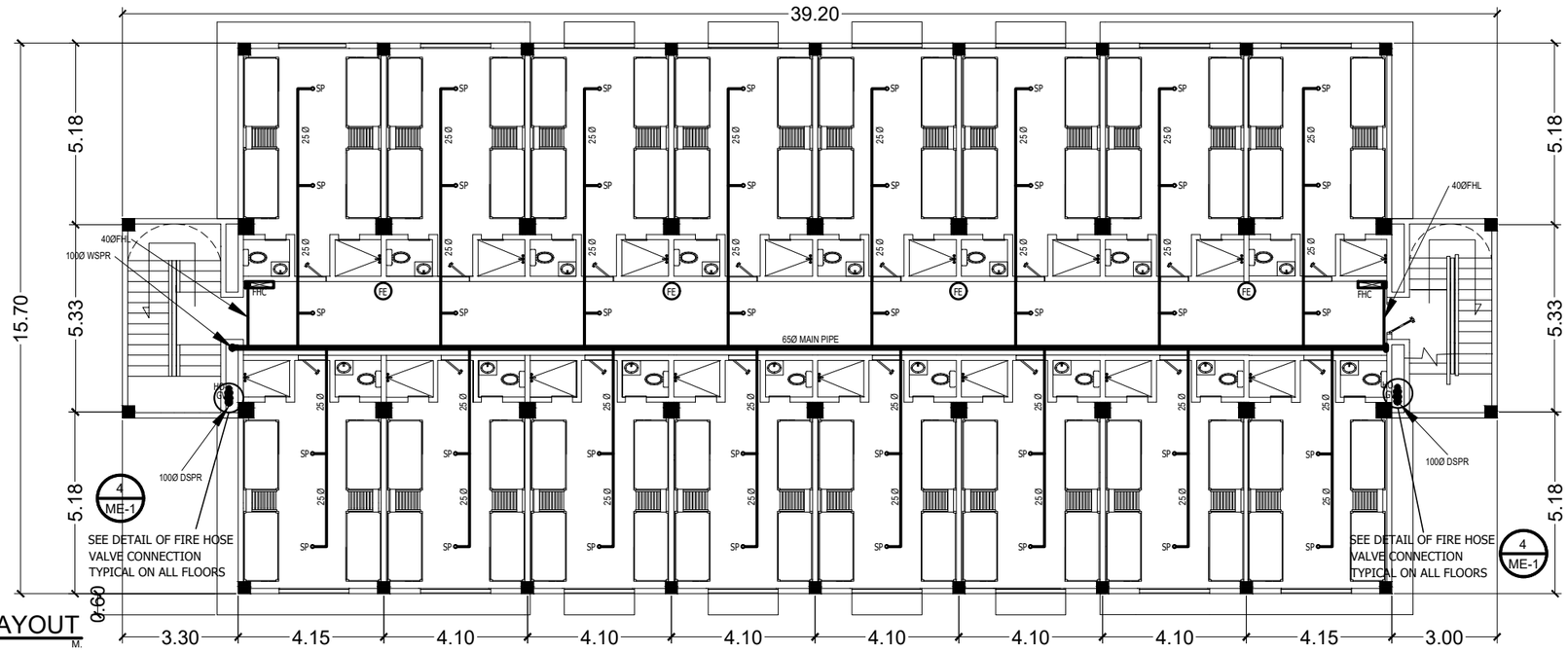
5 ME-3 CROSSMAIN TO BRANCH LINE DET.
NOT TO SCALE



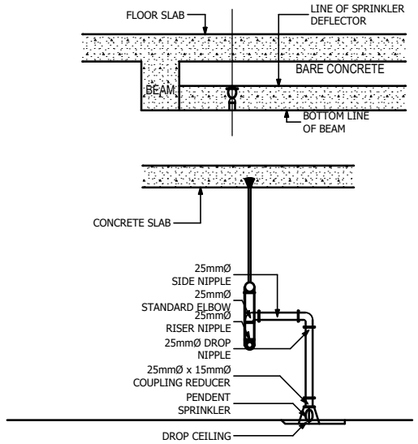
3 ME-3 DETAIL OF FIRE DEPT. CONNECTION
NOT TO SCALE



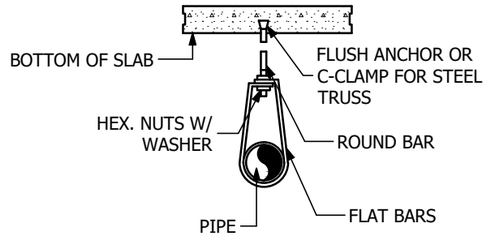
7 ME-3 FLUSHING CONNECTION & LATERAL SWAY BRACE
NOT TO SCALE



1 ME-3 SECOND FLOOR FIRE PROTECTION LAYOUT
SCALE 1:100 M.

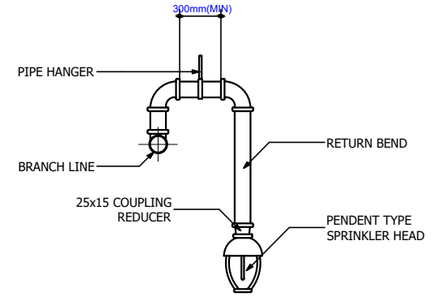


2 ME-4 DETAIL OF PENDENT / UPRIGHT CONNECTION
NOT TO SCALE

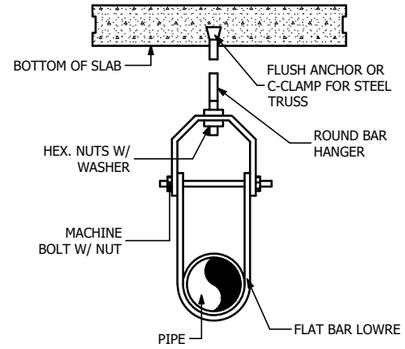


PIPE SIZE		STEEL PLATE BAR	ROD DIA.	
mm.	in.	(thick x width)	mm.	in.
25	1	3.2 x 19 mm	9.5	3/8
32	2.25	3.2 x 19 mm	9.5	3/8
40	1.50	3.2 x 19 mm	9.5	3/8
50	2	3.2 x 19 mm	9.5	3/8

3 ME-4 DETAIL OF ADJUSTIBLE FLAT IRN TYPE
NOT TO SCALE



4 ME-4 DETAIL OF TYP. BRANCH PIPE
NOT TO SCALE

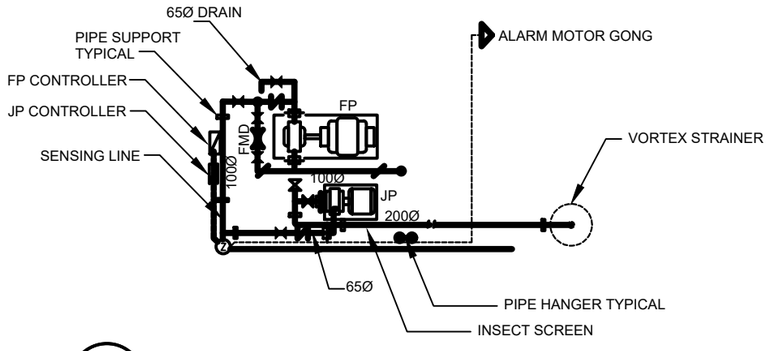


PIPE SIZE		STEEL PLATE BAR		ROD DIA.		MACHINE BOLT W/NUT
mm.	in.	LOWER(thk x W)	LOWER(thk x W)	mm.	in.	(DIA. x L) mm
50	2	3.2 x 25 mm	4.8 x 25 mm	9.5	3/8	9.5Ø x 100 mm. L
65	2 1/2	3.2 x 25 mm	4.8 x 25 mm	9.5	3/8	9.5Ø x 115 mm. L
80	3	3.2 x 25 mm	4.8 x 25 mm	9.5	3/8	9.5Ø x 127 mm. L
100	4	3.2 x 25 mm	4.8 x 25 mm	9.5	3/8	9.5Ø x 165 mm. L
150	6	4.8 x 32 mm	6.4 x 32 mm	12.0	1/2	12.0Ø x 216 mm. L

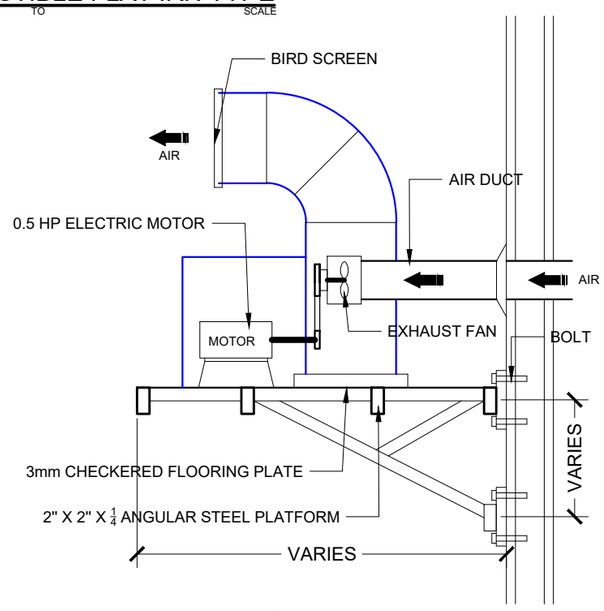
5 ME-4 DETAIL OF ADJUSTIBLE CLEVER HANGER TYPE
NOT TO SCALE

PUMP SCHEDULE

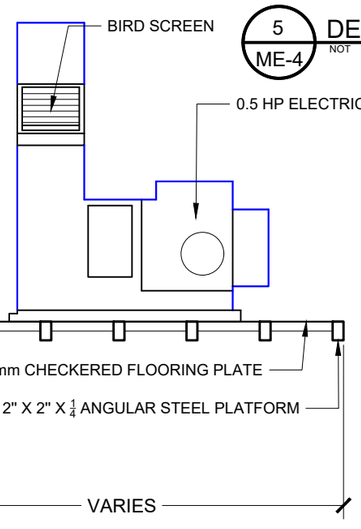
MARK	SERVICE	TYPE	CAPACITY GPM	HEAD FT (PSi)	ELECTRICAL SPECIFICATION				REMARKS
					HP	VOLTS	PHASE	Hz	
FP 1	FIRE PUMP	HORIZONTAL SPLIT CASE TYPE	250 gpm	90 psi	2.0	220	3	60	• SEE SPECIFICATION FOR PUMP DESCRIPTION AND ACCESSORIES
JP 1	JOCKEY PUMP	HORIZONTAL SPLIT CASE	25 gpm	90 psi	2	220	3	60	• ON EMERGENCY POWER

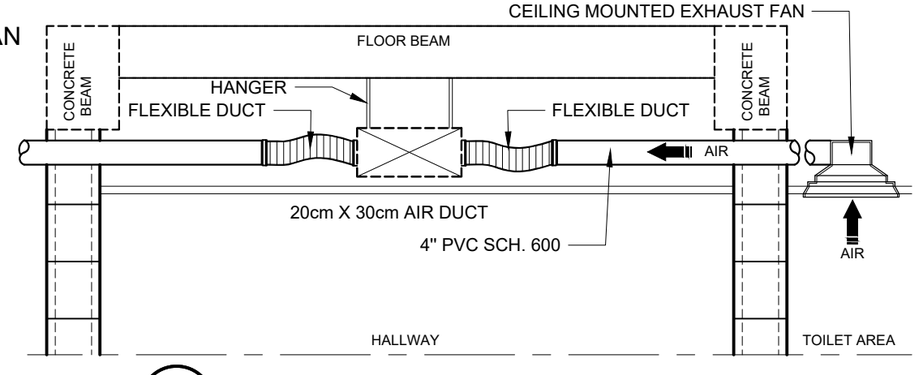


1 ME-4 FIRE PUMP & JOCKEY PUMP DETAIL
NOT TO SCALE

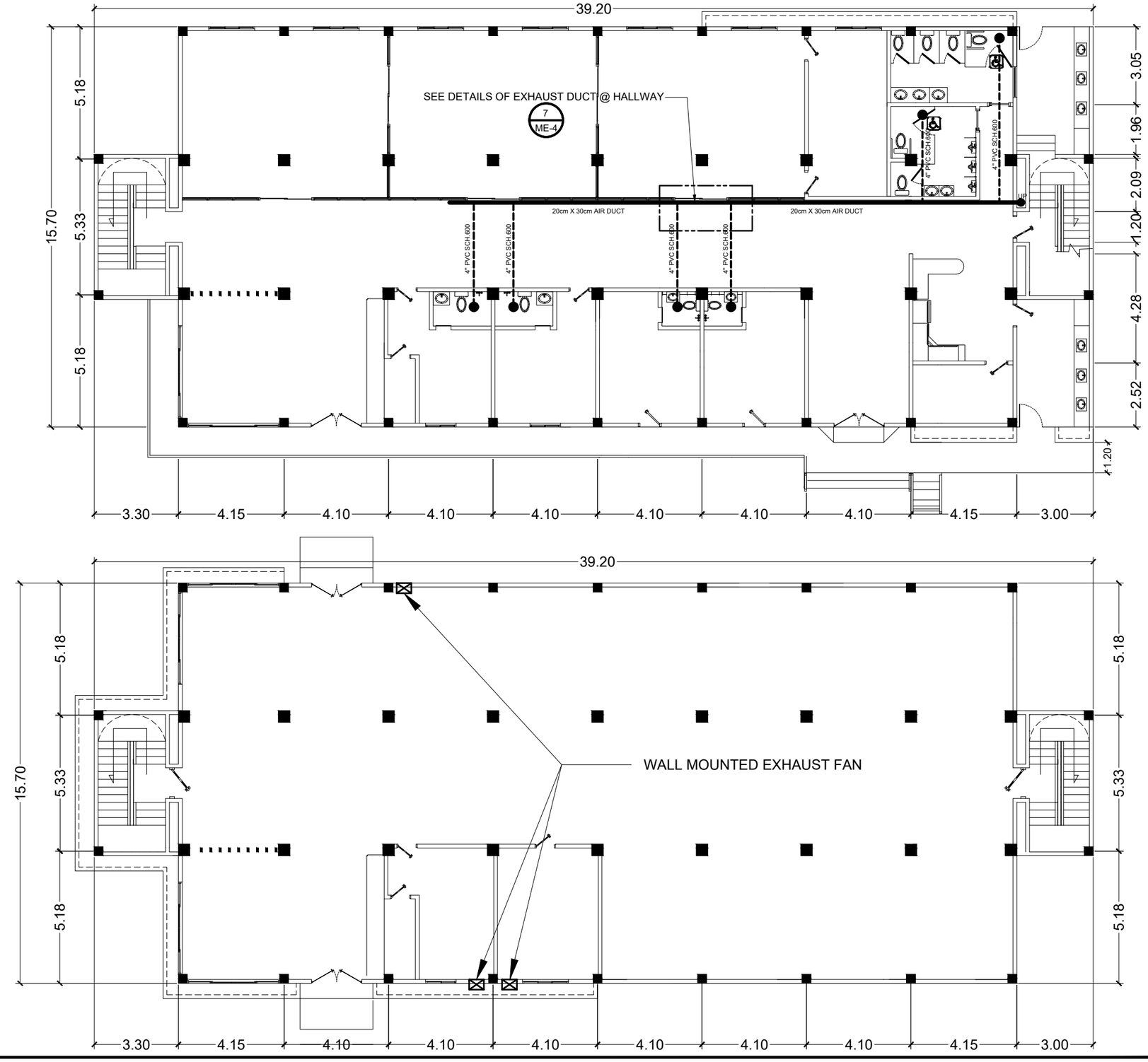


6 ME-4 DETAIL OF EXTERNAL EXHAUST FAN
NOT TO SCALE





7 ME-4 DETAIL OF EXHAUST DUCT @ HALLWAY
NOT TO SCALE

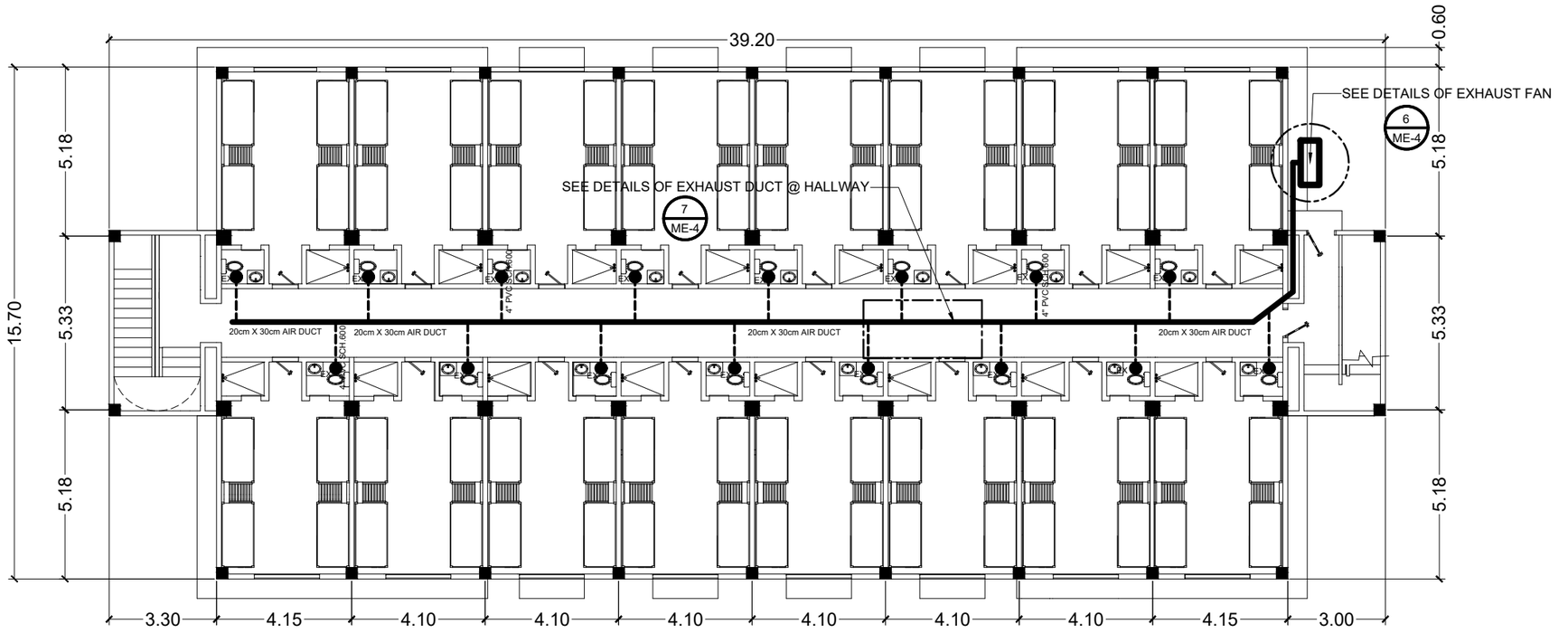


2 / ME-5 UPPER GROUND FLOOR EXHAUST SYSTEM

SCALE 1:100 M.

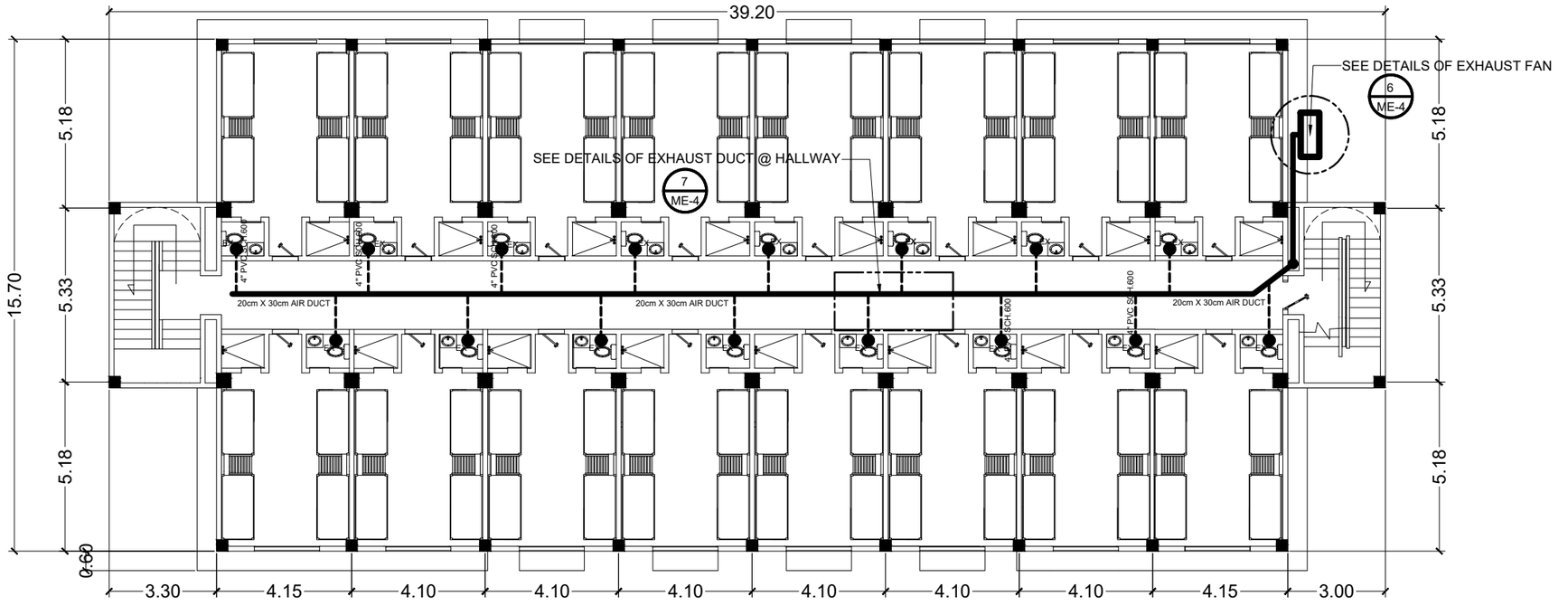
1 / ME-5 LOWER GROUND FLOOR EXHAUST SYSTEM

SCALE 1:100 M.



2 ME-6 THIRD FLOOR EXHAUST SYSTEM

SCALE 1:100 M.



1 ME-6 SECOND FLOOR EXHAUST SYSTEM

SCALE 1:100 M.