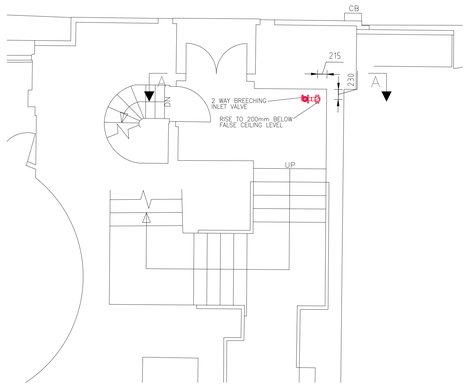
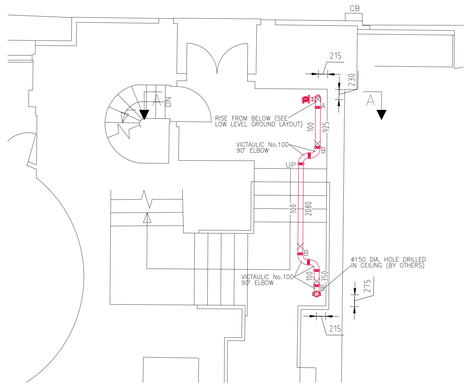
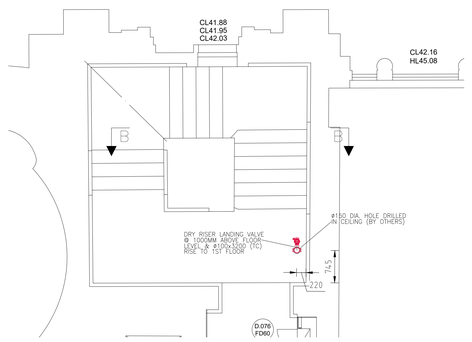


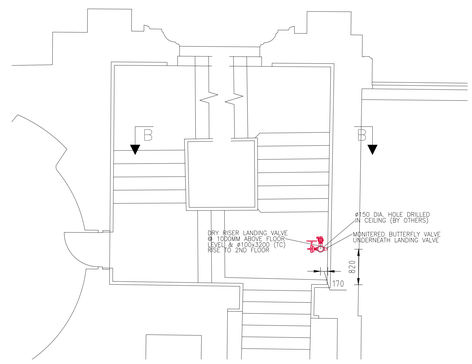
GROUND FLOOR - DRY RISER 1 INLET CABINET



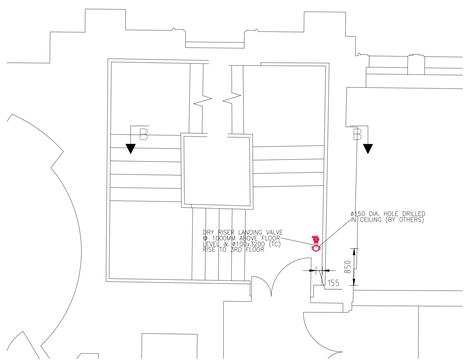
GROUND FLOOR - HORIZONTAL MAINS ROUTE



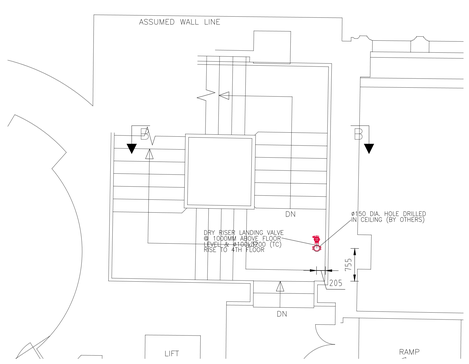
EXCHANGE FLOOR - DRY RISER 1 OUTLET & RISER



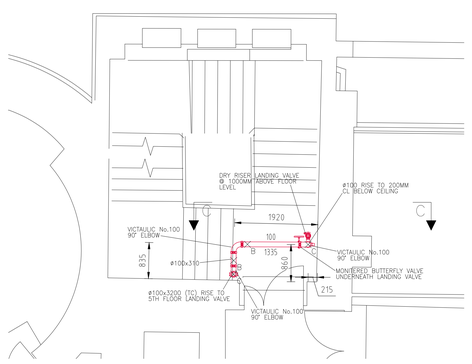
FIRST FLOOR - DRY RISER 1 OUTLET & RISER



SECOND FLOOR - DRY RISER 1 OUTLET & RISER

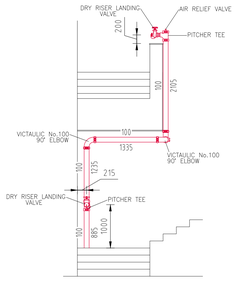


THIRD FLOOR - DRY RISER 1 OUTLET & RISER

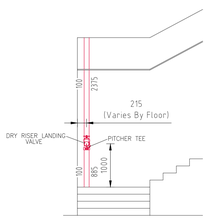


FOURTH FLOOR - DRY RISER 1 OUTLET & RISER

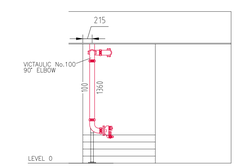
FIFTH FLOOR - DRY RISER 1 OUTLET & RISER



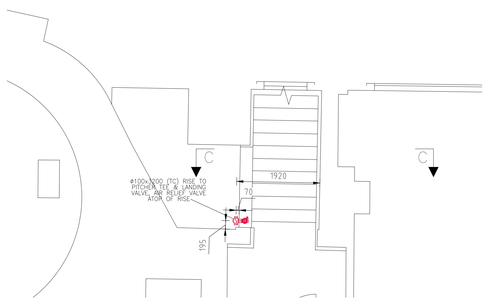
SECTION C-C



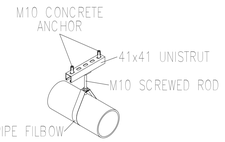
SECTION B-B



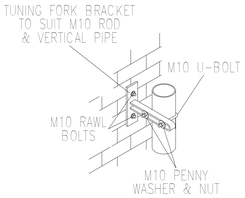
SECTION A-A



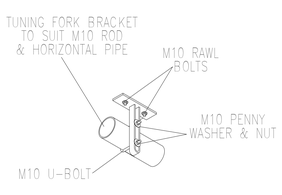
TYPICAL PIPE SUPPORT - A



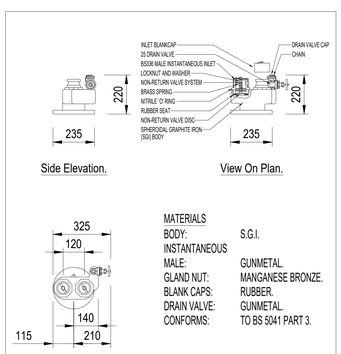
TYPICAL PIPE SUPPORT - B



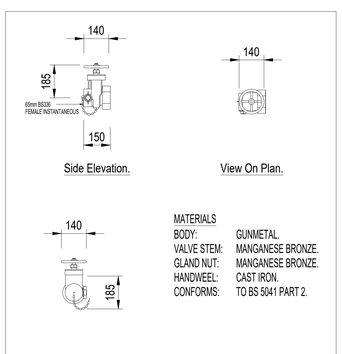
TYPICAL PIPE SUPPORT - C



TYPICAL PIPE SUPPORT - D

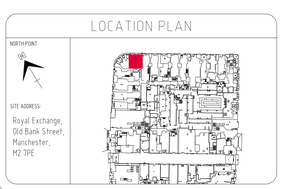


Dry Riser Inlet Valve Detail



Dry Riser Outlet Valve Detail

LOCATION PLAN



MONITORED BUTTERFLY VALVES SHALL BE WIRED TO THE FIRE ALARM PANEL (BY OTHERS) & SECURED OPEN BY PADLOCKS AND STRAPS

SCHEDULE OF SPRINKLERS

INST'N NO or ZONE NO.	LOCATION	CONST'N TYPE	SPRINKLER HEAD MAKE, MODEL, SIZE & K FACTOR	TEMP RATING °C	DESIGN SPACING m^2	QTY

SPECIFICATION STANDARD:	LPC Rules for Automatic Sprinkler Installations 2015 Incorporating BS EN 12845
DESIGN CRITERIA	
ANNEX D & F ENHANCEMENTS	N/A
ANY OTHER APPLICABLE ANNEXES	N/A
HAZARD CLASS	N/A
DISCHARGE DENSITY	N/A
AREA of OPERATION	N/A
HEIGHT of 'C' GAUGE	N/A
HIGHEST HEAD ABOVE 'C' GAUGE	N/A
INSTALLATION TYPE	N/A
SYSTEM VOLUME - (DRY / ALTERNATE ONLY)	N/A
FHC or PRECALCULATED	N/A
PIPEWORK PAINT FINISH:	
RED OXIDE	N/A
POWDER COATED WHITE - RAL 9010	N/A
POWDER COATED RED - RAL 3000	N/A
OTHER (SPECIFY)	Galvanised

PIPEWORK SPECIFICATION(UNLESS OTHERWISE STATED)

1. ALL PIPEWORK TO BSEN 10255 MEDIUM WEIGHT UPTO 150NB
2. PIPEWORK ABOVE 150NB TO BS3601-HEAVY WEIGHT
3. ALL SCREWED FITTINGS TO BE BLACK MALLEABLE IRON TO BS 143
4. ALL WELDED FITTINGS TO BSEN 10253

Clear space to be maintained below the deflector of roof and ceiling sprinklers of at least 0.5m for ordinary hazard systems and 1.0m for high hazard.

Maximum Storage Heights

Storage Category	Maximum Storage Height in m		
	Free Standing or Block Storage (Metres - H = width Min 1.5)	Storage Configurations (For ASS 0.5,1.0,1.5 & 2.0 m)	Maximum Storage Height (m)
Category I	4.0	XXX	XXX
Category II	3.0	XXX	XXX
Category III	2.1	XXX	XXX
Category IV	1.2	XXX	XXX

WEIGHT LOADINGS FOR MEDIUM WEIGHT PIPE WORK & FITTINGS
MAXIMUM SPACING BETWEEN BRACKET LOCATIONS (see FIG 1 - BSEN 12845)

NOMINAL BORE	OUTSIDE DIAMETER	WEIGHT / METRE in KG - (WET)	WEIGHT / METRE in KG - (VARIED)	BRACKET LOCATIONS
25mm	33.7mm	2.5	3.7	4m Maximum
32mm	42.4mm	3.2	4.2	4m Maximum
40mm	48.3mm	3.5	5.0	4m Maximum
50mm	60.3mm	5.1	7.5	4m Maximum
65mm	76.1mm	6.6	10.3	4m For upto 6m - see Note 5
80mm	88.9mm	8.5	13.6	4m For upto 6m - see Note 5
100mm	114.3mm	12.2	20.4	4m For upto 6m - see Note 5
150mm	165.1mm	19.2	38.2	4m For upto 6m - see Note 5
200mm	219.1mm	33.2	56.7	4m For upto 6m - see Note 5

Note 1: Pipe supports on pipe work greater than Ø50 can be at 6m maximum spacing, providing 2no. independent supports are fixed directly to the structure.

TABLE 40 - Design parameters for pipe supports

NOMINAL PIPE DIAMETER DE mm	MINIMUM LOAD CAPACITY at 20°C (see note 3) kg	MINIMUM CROSS SECTION (see note 2) mm^2	MINIMUM LENGTH OF ANCHOR BOLT (see note 3) mm
≤ 8 50	200	50 PRE	30
50 < d ≤ 100	350	50 PRE	40
100 < d ≤ 150	500	75 PRES	60
150 < d ≤ 200	850	125 PRES	80

Note 2: When the material is heated to 250°C the load bearing capacity should not deteriorate more than 25%
Note 3: The nominal cross section of threaded rods should be increased so that the minimum cross section is still achieved.
Note 4: The value for the anchor bolts depends on the type used and the quality and type of material into which they are to be fixed. The values given are for concrete.

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ALL SPRINKLER HEADS TO BE FITTED 90° (PERPENDICULAR) TO ROOF / CEILING
ALL SPRINKLER HEADS MUST BE FITTED WITH MANUFACTURERS SPRINKLER SPANNER

SPRINKLER HEADS, ACCESS AND CONTROLS MUST NOT BE PAINTED
HALL & KAY FIRE ENGINEERING WILL NOT ACCEPT ANY RESPONSIBILITY FOR DAMAGE CAUSED BY FROST. CLIENTS SHOULD TAKE ADEQUATE PRECAUTIONS AGAINST THE WATER IN THE PIPEWORK ABOVE AND BELOW CONTROL VALVES FREEZING DURING SEVERE WEATHER

PIPE WORK COMMISSIONING TESTS TO COMPLY WITH BSEN 12845 9.11.1 & 9.12 WHICHEVER IS APPLICABLE TO THE SPECIFIC INSTALLATION

SERVICES TO BE PROVIDED BY CLIENTS UNLESS OTHERWISE STATED:
ALL BUILDERSWORK, HOLES THROUGH WALLS, FLOORS, SLEEVING, FIRE STOPPING, THROST BLOCKS, TRENCHES, GROUTING & MAKING GOOD

LEGEND

—○—	SPRINKLER HEAD UPRIGHT
—○—	SPRINKLER HEAD PENDENT
◎	SPRINKLER HEAD FALSE CEILING / ON DROP PIPE
	SPRINKLER HEAD WITH FLEXIBLE ARM & DROP TO FALSE CEILING
⊙	SPRINKLER HEAD ON RISE PIPE
⌓	SPRINKLER HEAD SIDEWALL
HHC	SPRINKLER HIGH TEMPERATURE
—○—	CHANGE OF ELEVATION IN PIPEWORK
CL FFL	CENTRE LINE ELEVATION OF PIPEWORK BELOW SLAB / SOFFIT; CENTRE LINE ELEVATION OF PIPEWORK ABOVE FINISH FLOOR LEVEL / DATUM
DP.A	DESIGN POINT
⋈	POSITION AND TYPE OF PIPE SUPPORT
⋈	POSITION OF MECHANICAL COUPLING
—⊙DR	DRAIN / FLUSHING / TEST VALVE WITH BRASS PLUG
—⊣	FLUSHING CONNECTION

DRAWING REVISIONS

REV	REVISION DESCRIPTION	DRAWN	APPROVED	DATE
P03	REVISED AS PER RELOCATED INLET VALVE	CC	JM	14.03.25
P02	REVISED AS PER CLIENT'S COMMENTS	CC	JM	12.03.24
P01	ISSUED FOR APPROVAL	CC	JM	06.02.24

REFERENCE DRAWINGS:
Manchester Royal Exchange - Blank Issue

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PROJECT: Royal Exchange, Dry Riser

DRAWING TITLE: DRY RISER DRAWING FOR ROYAL EXCHANGE, MANCHESTER

DRAWN:	DATE:		SUITABILITY STATUS:
C Campbell	06.02.24		
APPROVED BY:	SCALE:	SHEET:	REASON FOR ISSUE:
J Murphy	1:50	A0	PRELIMINARY
CONTRACT No.	DRAWING No.		REVISION
95112A	01		P03