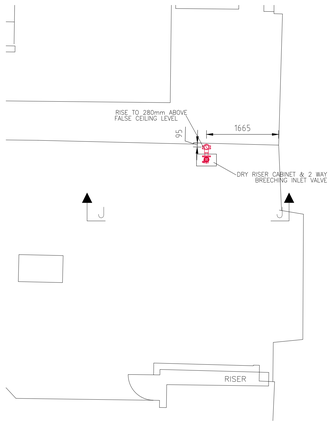
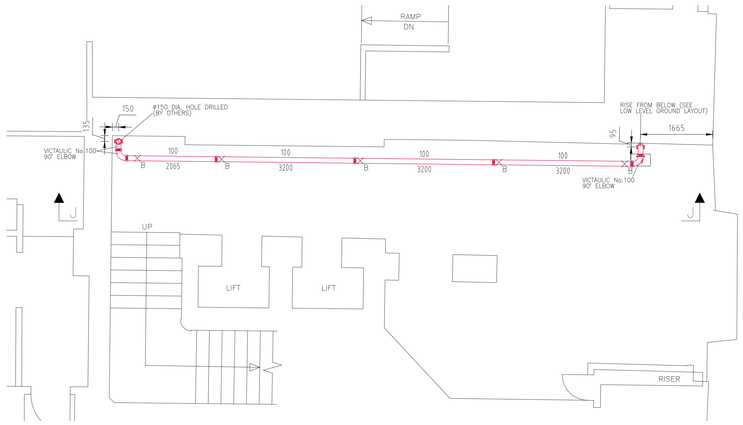
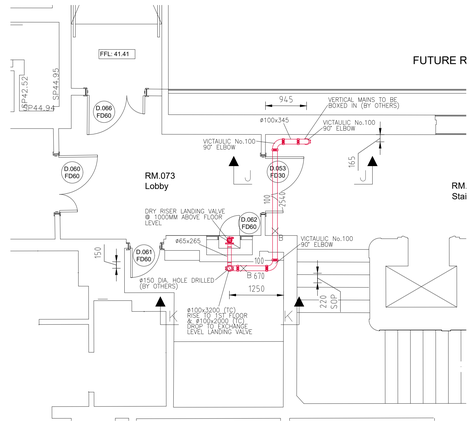


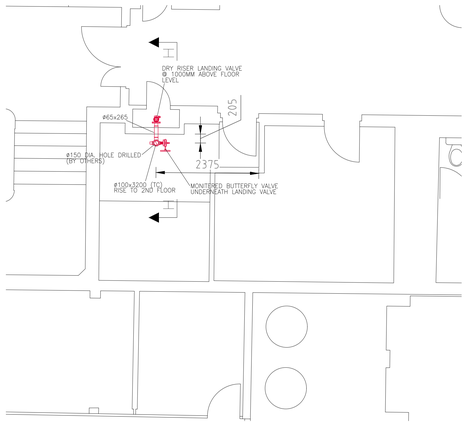
GROUND FLOOR - DRY RISER 4 INLET CABINET



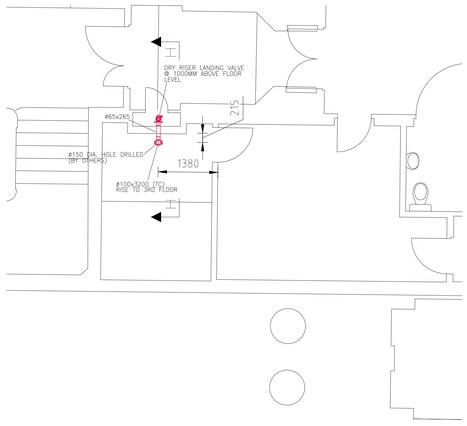
GROUND FLOOR - HORIZONTAL MAINS ROUTE



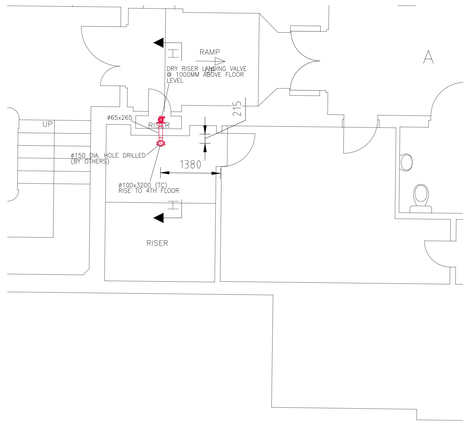
EXCHANGE FLOOR - DRY RISER 4 OUTLET & RISER



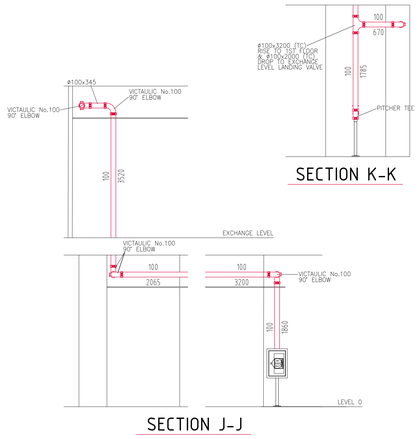
FIRST FLOOR - DRY RISER 4 OUTLET & RISER



SECOND FLOOR - DRY RISER 4 OUTLET & RISER

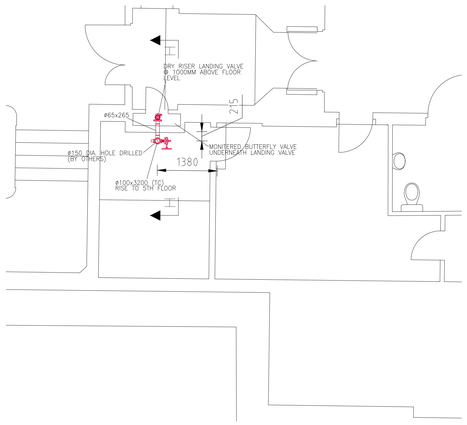


THIRD FLOOR - DRY RISER 4 OUTLET & RISER

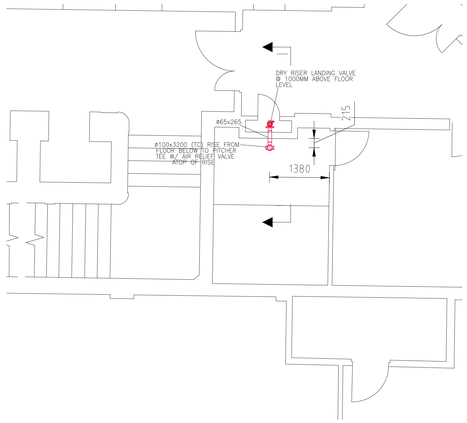


SECTION K-K

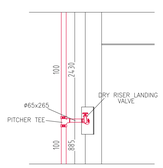
SECTION J-J



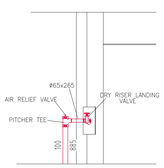
FOURTH FLOOR - DRY RISER 4 OUTLET & RISER



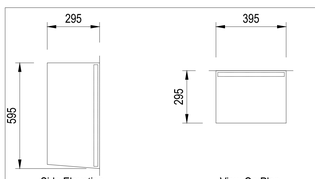
FIFTH FLOOR - DRY RISER 4 OUTLET & RISER



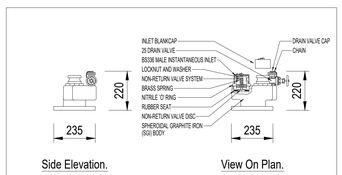
SECTION H-H



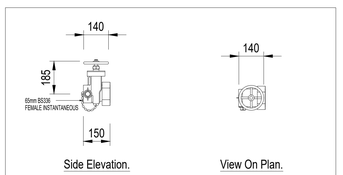
SECTION I-I



Dry Riser Inlet Cabinet Detail



Dry Riser Inlet Valve Detail

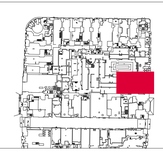


Dry Riser Outlet Valve Detail

LOCATION PLAN

NORTH POINT

SITE ADDRESS:
Royal Exchange,
Old Bank Street,
Manchester,
M2 7PE



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

SCHEDULE OF SPRINKLERS

RISE TO NR or ZONE NR	LOCATION	CONSTN 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 Wooden, 25 - mm thick Bins x 0.8	Storage Configurations (For ANY 25 / 25 / 25 / 6 / 25 x 0.8 or 1.0m	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 IT.2 - BSEN 12845)

NOMINAL BORE	OUTSIDE DIAMETER	WEIGHT / METRE in KG - EMPTY	WEIGHT / METRE in KG - CHARGED	BRACKET LOCATIONS
25mm	33.7mm	2.5	3.1	4m Maximum
32mm	42.4mm	3.3	4.3	4m Maximum
40mm	48.3mm	3.7	5.0	4m Maximum
50mm	60.3mm	5.1	7.3	4m Maximum
65mm	76.1mm	6.6	10.6	4m (For upto 6m - see Note 1)
80mm	88.9mm	8.5	13.6	4m (For upto 6m - see Note 1)
100mm	114.3mm	12.2	21.0	4m (For upto 6m - see Note 1)
125mm	165.1mm	19.2	38.2	4m (For upto 6m - see Note 1)
150mm	219.1mm	33.2	66.7	4m (For upto 6m - see Note 1)

Note 1 Pipe supports on pipe work greater than #50 can be at 6m maximum spacing, providing 2no. independent supports are fixed directly to the structure.

TABLE 4.8 - Design parameters for pipe supports

NOMINAL PIPE DIAMETER 'd' mm	MINIMUM LOAD CAPACITY at 20°C (see note 1) kg	MINIMUM CROSS SECTION (see note 2) mm^2	MINIMUM LENGTH OF ANCHOR BOLT (see note 3) mm
d ≤ 50	200	30 (M8)	30
50 < d ≤ 100	350	50 (M10)	40
100 < d ≤ 150	500	79 (M12)	40
150 < d ≤ 200	850	125 (M16)	50

Note 1 When the material is heated to 250°C the load bearing capacity should not deteriorate more than 25%
Note 2 The nominal cross section of threaded rods should be increased so that the minimum cross section is still achieved.
Note 3 The length of 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, VALVES AND CONTROLS MUST NOT BE PAINTED
HALL & KAY FIRE ENGINEERING WILL NOT ACCEPT RESPONSIBILITY FOR SYSTEMS WHICH HAVE FAILED 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: 9.1.1.1 & 9.1.1.2 WHICHEVER IS APPLICABLE TO THE SPECIFIC INSTALLATION

SERVICES TO BE PROVIDED BY CLIENTS UNLESS OTHERWISE STATED
ALL BUILDER'S WORK, HOLES THROUGH WALLS, FLOORS, CEILINGS, 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
HTC	SPRINKLER HIGH TEMPERATURE
	CHANGE OF ELEVATION IN PIPEWORK
+2250 +2250	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
	DRAIN / FLUSHING / TEST VALVE WITH BRASS PLUG
	FLUSHING CONNECTION

DRAWING REVISIONS

REV	REVISION DESCRIPTION	DRAWN	APPROVED	DATE
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

H&K
Hall & Kay Fire Engineering

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Email: ascot@hkfire.co.uk

CLIENT: HFL Building Solutions

PROJECT: Royal Exchange, Dry Riser

DRAWING TITLE: DRY RISER DRAWING FOR ROYAL EXCHANGE, MANCHESTER

DRAWN:	DATE:	SUITABILITY STATUS:
C Campbell	06.02.24	
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J Murphy	1:50 / A0	PRELIMINARY
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