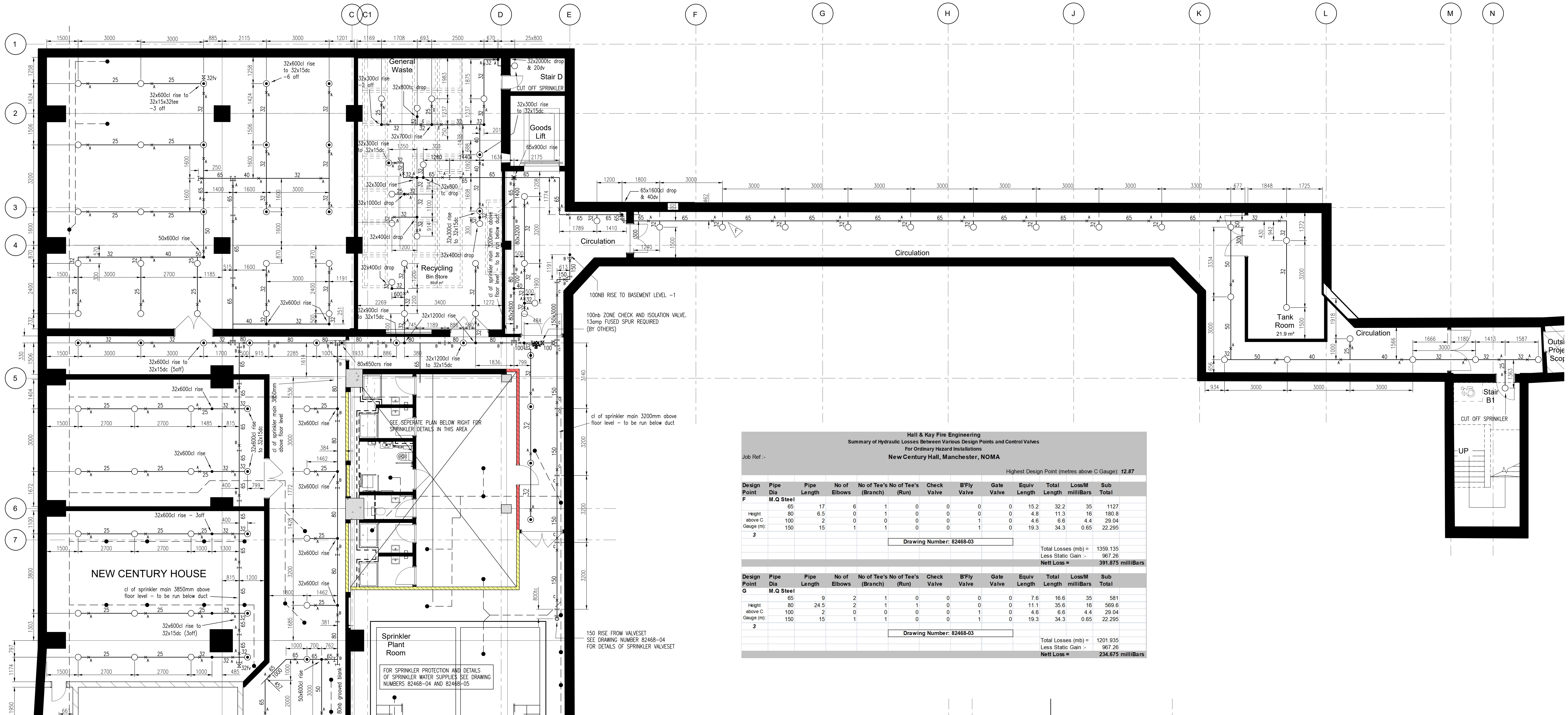
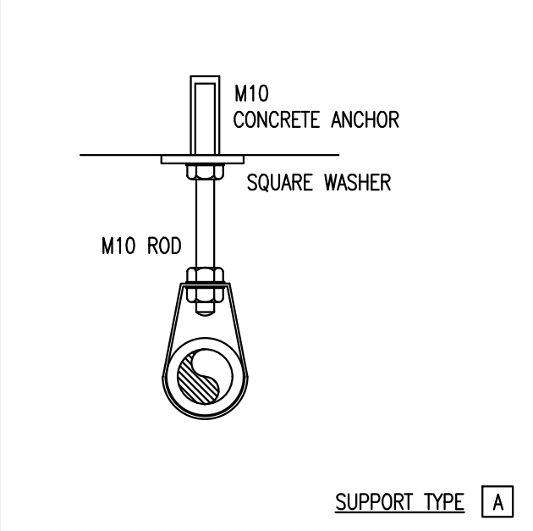
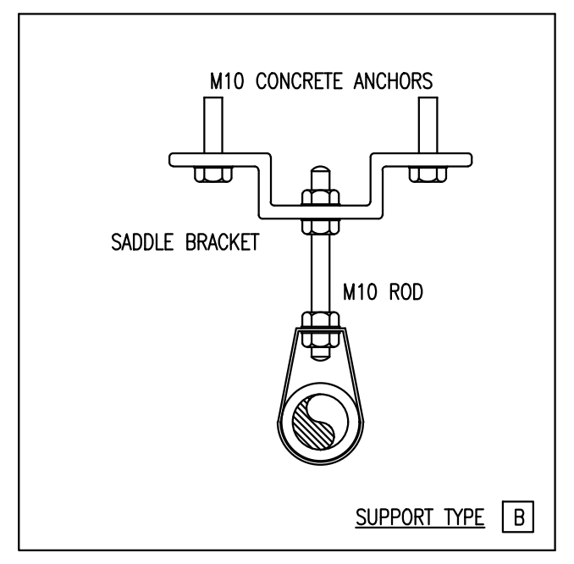

C
C1
D
E
F
G
H
J
K
L
M
N
1
2
3
4
5
6
7
General Waste
Stair D
CUT OFF SPRINKLER
Goods Lift
Recycling
Bin Store
Circulation
Tank Room
21.9 m²
Stair B1
CUT OFF SPRINKLER
UP
NEW CENTURY HOUSE
cl of sprinkler main 3850mm above floor level – to be run below duct
SEE SEPERATE PLAN BELOW RIGHT FOR SPRINKLER DETAILS IN THIS AREA
Sprinkler Plant Room
FOR SPRINKLER PROTECTION AND DETAILS OF SPRINKLER WATER SUPPLIES SEE DRAWING NUMBERS 82468-04 AND 82468-05
100NB RISE TO BASEMENT LEVEL –1
100nb ZONE CHECK AND ISOLATION VALVE. 13amp FUSED SPUR REQUIRED (BY OTHERS)
cl of sprinkler main 3200mm above floor level – to be run below duct
150 RISE FROM VALVESET SEE DRAWING NUMBER 82468–04 FOR DETAILS OF SPRINKLER VALVESET
80nb grooved blank
STORE ROOMS TO BE SPRINKLER PROTECTED ONCE DETAILS OBTAINED
NO SPRINKLER PROTECTION TO BE PROVIDED WITHIN SWITCHROOM
Existing HV/LV switchroom
50.5 m²
Existing HV/LV switchroom
Outside Project Scope
RISER SHAFT
(open to floors above)
Circulation

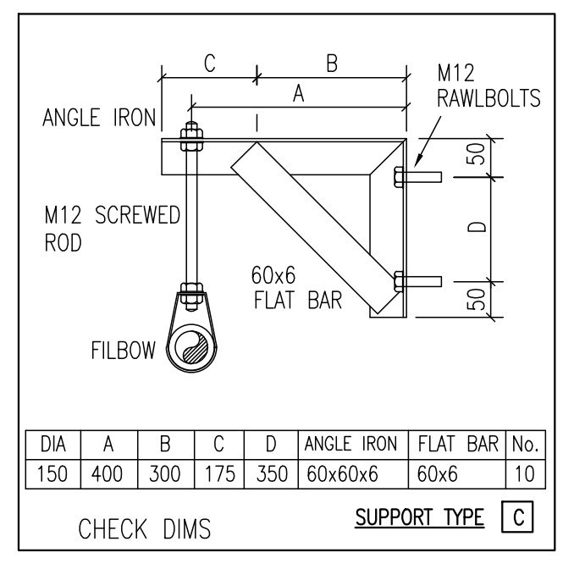
SPRINKLER PROTECTION LAYOUT TO BASEMENT -2 LEVEL



SUPPORT TYPE A



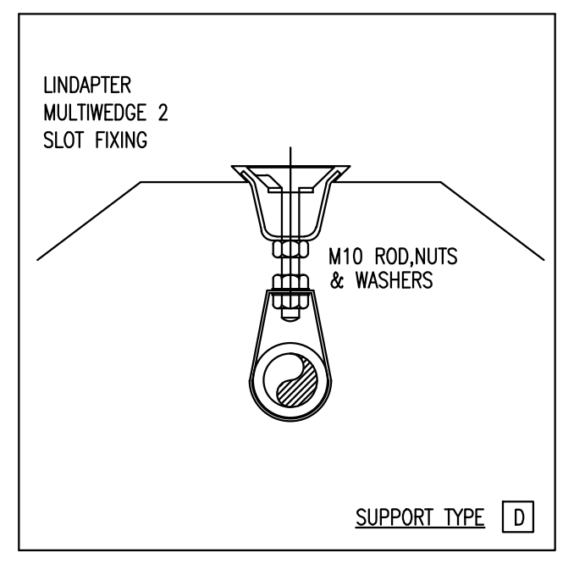
SUPPORT TYPE B



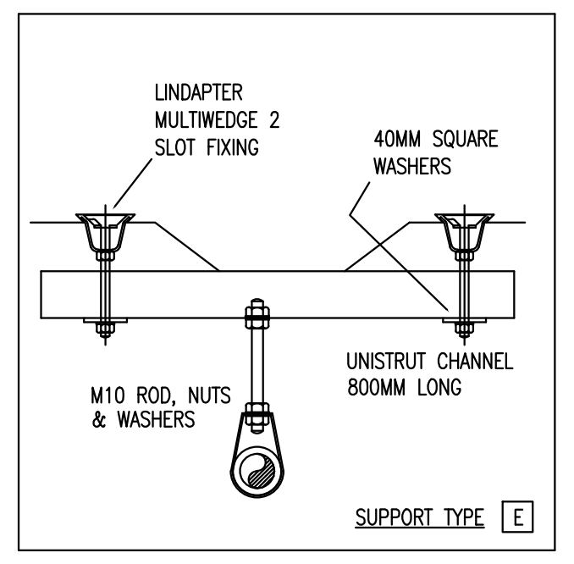
DIA	A	B	C	D	ANGLE IRON	FLAT BAR	No.
150	400	300	175	350	60x60x6	60x6	10

CHECK DIMS

SUPPORT TYPE C



SUPPORT TYPE D


LINDAPTER MULTIWEDGE 2 SLOT FIXING
40MM SQUARE WASHERS
UNISTRUT CHANNEL 800MM LONG
M10 ROD, NUTS & WASHERS

SUPPORT TYPE E

Hall & Kay Fire Engineering
Summary of Hydraulic Losses Between Various Design Points and Control Valves
For Ordinary Hazard Installations

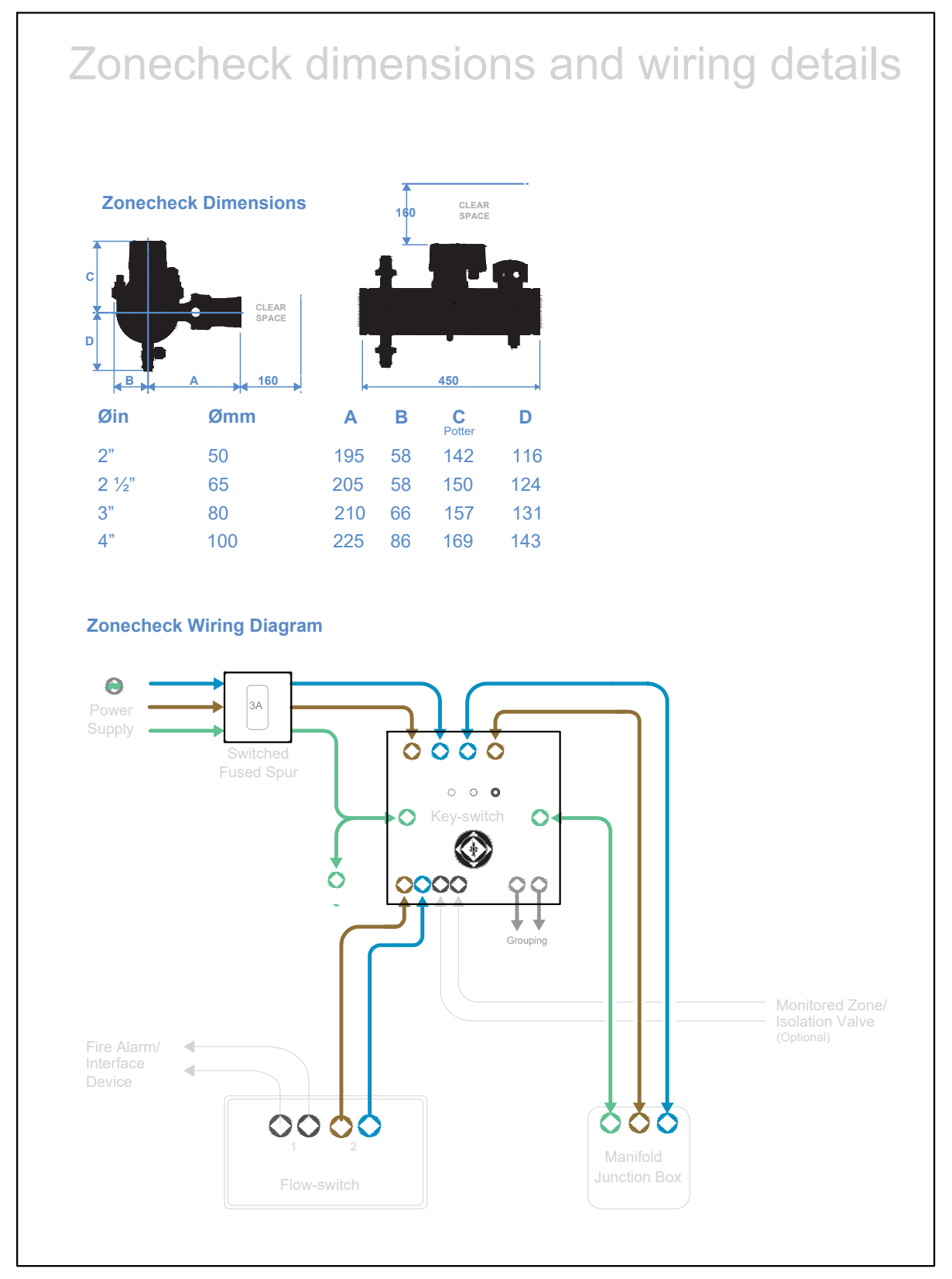
Job Ref :-

New Century Hall, Manchester, NOMA

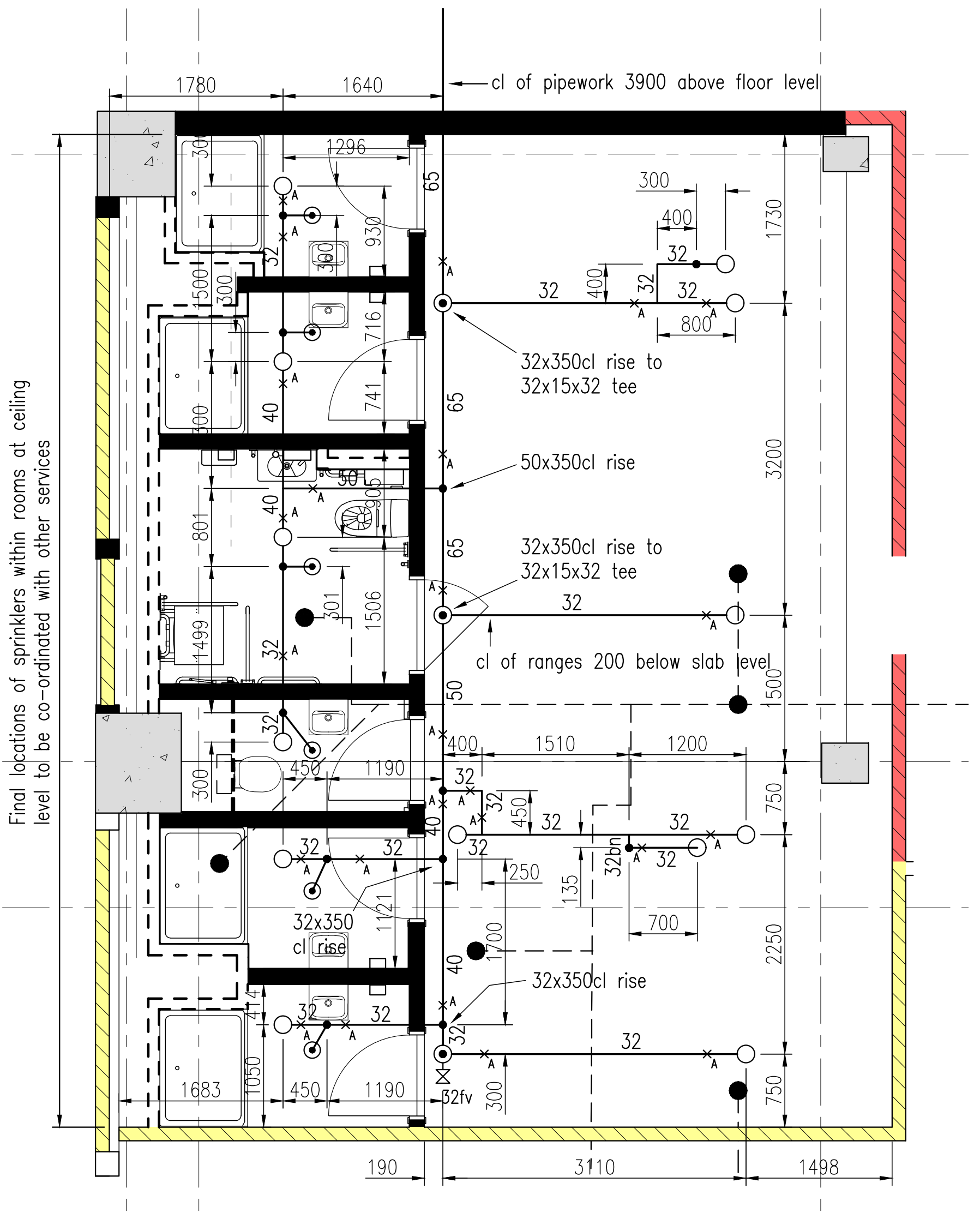
Highest Design Point (metres above C Gauge): ***12.87***

Design Point	Pipe Dia	Pipe Length	No of Elbows	No of Tee's (Branch)	No of Tee's (Run)	Check Valve	B'Fly Valve	Gate Valve	Equiv Length	Total Length	Loss/M milliBars	Sub Total
F	**M.Q Steel**											
	65	17	6	1	0	0	0	0	15.2	32.2	35	1127
Height above C Gauge (m):	80	6.5	0	1	0	0	0	0	4.8	11.3	16	180.8
	100	2	0	0	0	0	1	0	4.6	6.6	4.4	29.04
	150	15	1	1	0	0	1	0	19.3	34.3	0.65	22.295
3												
					Drawing Number: 82468-03							
										Total Losses (mb) =		1359.135
										Less Static Gain :-		967.26
										Nett Loss =		**391.875 milliBars**

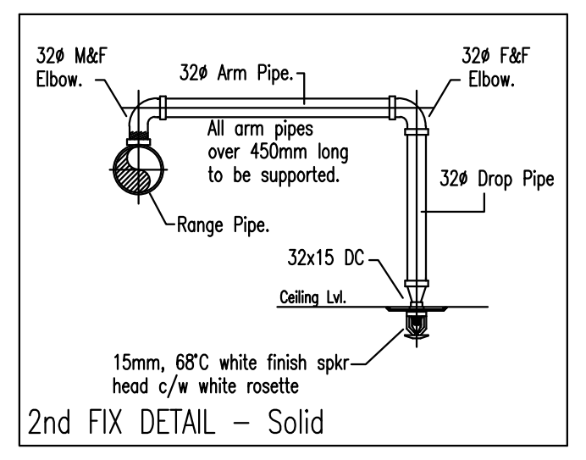
Design Point	Pipe Dia	Pipe Length	No of Elbows	No of Tee's (Branch)	No of Tee's (Run)	Check Valve	B'Fly Valve	Gate Valve	Equiv Length	Total Length	Loss/M milliBars	Sub Total
G	**M.Q Steel**											
	65	9	2	1	0	0	0	0	7.6	16.6	35	581
Height above C Gauge (m):	80	24.5	2	1	1	0	0	0	11.1	35.6	16	569.6
	100	2	0	0	0	0	1	0	4.6	6.6	4.4	29.04
	150	15	1	1	0	0	1	0	19.3	34.3	0.65	22.295
3												
					Drawing Number: 82468-03							
										Total Losses (mb) =		1201.935
										Less Static Gain :-		967.26
										Nett Loss =		**234.675 milliBars**



Øin	Ømm	A	B	C Potter	D
2"	50	195	58	142	116
2 ½"	65	205	58	150	124
3"	80	210	66	157	131
4"	100	225	86	169	143


cl of pipework 3900 above floor level
Final locations of sprinklers within rooms at ceiling level to be co-ordinated with other services
32x350cl rise to 32x15x32 tee
50x350cl rise
32x350cl rise to 32x15x32 tee
cl of ranges 200 below slab level
32x350 cl rise
32x350cl rise

SPRINKLER PROTECTION LAYOUT TO CYCLE STORE/SHOWER AREA - 1:50


32Ø M&F Elbow.
32Ø Arm Pipe.
32Ø F&F Elbow.
All arm pipes over 450mm long to be supported.
32Ø Drop Pipe
Range Pipe.
32x15 DC
Ceiling Lvl.
15mm, 68°C white finish spkr head c/w white rosette

2nd FIX DETAIL – Solid

TO BE READ IN CONJUNCTION WITH
DRAWING NUMBERS 82468-01 AND 82463-02

FOR WATER SUPPLIES DRAWINGS SEE
DRAWINGS NUMBERS 82468-04 AND 82463-05

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 m²	QTY
1	SOFFIT LEVEL	NFP	VIKING MODEL M VK300 SU K80 15MM BRASS	68	12	108
	SOFFIT LEVEL (CORRIDOR)	NFP	VIKING MODEL M VK300 SU K80 15MM BRASS	68	12	20
	BELOW DUCTS	NFP	VIKING MODEL M VK300 SU K80 15MM BRASS	68	12	8
	CEILING LEVEL	NFP	VIKING MODEL M VK300 SU K80 15MM BRASS	68	12	6

ALL SPRINKLERS ABOVE LISTED ARE QUICK RESPONSE TYPE

SPECIFICATION STANDARD: LPC Rules for Automatic Sprinkler Installations 2015 Incorporating BS EN 12845

DESIGN CRITERIA:

ANNEX D & F ENHANCEMENTS	YES
ANY OTHER APPLICABLE ANNEXES	A-P
HAZARD CLASS	ORDINARY
DISCHARGE DENSITY	5mm/min
AREA of OPERATION	AMAO 216m²
HEIGHT of 'C' GAUGE	1.5m
HIGHEST HEAD ABOVE 'C' GAUGE	13m
INSTALLATION TYPE	WET
SYSTEM VOLUME - (DRY / ALTERNATE ONLY)	N/A
FHC or PRECALCULATED	PRE-CALC

PIPEWORK PAINT FINISH:

RED OXIDE	YES
POWDER COATED WHITE - RAL 9010	NO
POWDER COATED RED - RAL 3000	NO
OTHER (SPECIFY)	OTHER (IF APPLICABLE)

PIPEWORK SPECIFICATION(UNLESS OTHERWISE STATED):

1. ALL PIPE WORK TO BSEN:10255 MEDIUM WEIGHT UPTO 150NB
2. PIPEWORK ABOVE 150NB TO SCHEDULE 20 ANSI B36.10M
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 (OHIII Only - ST1 - see BSEN 12845: 6.3.2)	Storage Configurations (for HH) (ST1, ST2, ST3, ST4, ST8, ST15 or ST16)	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 17.2 - 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	3.2	4.2	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	10.3	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	20.8	4m (for upto 6m - see Note 1)
150mm	165.1mm	19.2	38.2	4m (for upto 6m - see Note 1)
200mm	219.1mm	33.2	66.7	4m (for upto 6m - see Note 1)

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 (d) mm	MINIMUM LOAD CAPACITY at 20°C (see note 1) kg	MINIMUM CROSS SECTION (see note 2) mm²	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	70 (M12)	40
150 < d ≤ 200	850	125 (M16)	50

Note 1: When the material is heated to 200°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, NOZZLES 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: 19.1.1.1 & 19.1.1.2 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, THRUST 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
○ XXºC	SPRINKLER HIGH TEMPERATURE
•	CHANGE OF ELEVATION IN PIPEWORK
℄1234	CENTRE LINE ELEVATION OF PIPEWORK BELOW SLAB / SOFFIT
℄1234	CENTRE LINE ELEVATION OF PIPEWORK ABOVE FINISH FLOOR LEVEL / DATUM
DPA ➤	DESIGN POINT
X A	POSITION AND TYPE OF PIPE SUPPORT
◊	POSITION OF MECHANICAL COUPLING
⋈	DRAIN / FLUSHING / TEST VALVE WITH BRASS PLUG
⊣	FLUSHING CONNECTION

NORTH POINT

SITE ADDRESS
New Century Hall,
Mayes Street,
Manchester,
M60 4ES

DRAWING REVISIONS

REV	REVISION DESCRIPTION	DRAWN	APPROVED	DATE
O	ISSUED FOR APPROVAL	RAM	JE	15.04.21
P1	PRELIMINARY ISSUE FOR DISCUSSION	RAM	JE	26.02.21
P	PRELIMINARY ISSUE FOR DISCUSSION	RAM	JE	24.02.21

REFERENCE DRAWINGS:

INFORMATION TAKEN FROM SITE SURVEY
ALSO DRAWINGS

NCHA-SRA-ZZ-00-DR-A-22208 C04
M21109-2B2-P1

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CLIENT: RUSSELLS CONSTRUCTION

PROJECT: NCH MANCHESTER

DRAWING TITLE: EXTENSION TO SPRINKLER SYSTEM TO BASEMENT LEVEL -2

DRAWN: R.A. MANNIEX	DATE: 24.02.2021	ISSUE STATUS: APPROVAL
APPROVED BY C CAMPBELL	SCALE: 1:75	SHEET: A0
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