

Note:
Other services shown only where position may adversely affect the sprinkler distribution.
The design and installation is to be in accordance with BS EN 12845 and LPC rules.

Note to the client:
Kingfell Fire Engineering do not accept any responsibility for damage caused by frost. Clients should take adequate precautions against the water in the valves and above and below the control valves freezing during severe weather. Holes in walls, partitions, beams or ceilings through which pipes pass, must not be filled with materials which have deleterious effect on the pipework.
Pipes scaffolding or any other items of plant must not at any time be attached to or supported from any part of the fire protection equipment.
Warning controls, projectors or sprinklers must not be painted.

Note to the erector:
Dry and alternate pipe systems:
Pipework up to and including 40mm to slope 12mm in every metre.
Pipework above 40mm to slope 4mm in every metre.
All controls and sprinklers to be installed upright unless otherwise shown.
Wet pipe systems:
Pipework to slope 2mm in every metre. Controls and sprinklers to be installed either upright or pendant as shown.

Design data:
1. Design specification: BS EN 12845 and LPC Rules
2. Hazard class: Ordinary Hazard OH3 Property protection only
3. Design density: 5mm/min
4. Area of operation: 216sqm
5. Sprinkler head size: 15mm @ 68°C or
6. Sprinkler finish - voids = brass, false ceiling = white.
7. Pipework table: table 57/58/59
8. Category of storage and max. stack height:
- 3.5m Max height Class I (eg cased bottles spirits, foodstuffs tinned)
- 2.6m Max height Class II (eg office materials, clothes, flat cardboard)
- 1.7m Max height Class III (eg synthetic cloths stored flat, waste paper)
- 1.2m Max height Class IV (eg tissue paper rolls stored vertically)
9. Highest sprinkler: 2.5m (on installation)
10. Water supply: 2 x 150mm incoming mains
11. Type of installation: 150mm Wet (Installation No 9)
12. Deviations:
- The sprinkler system does not cover all areas of the train station.
- Cut-off sprinklers are not provided to cover openings to unprotected areas.
- A Control and Indicating panel for zoned installations is not provided.

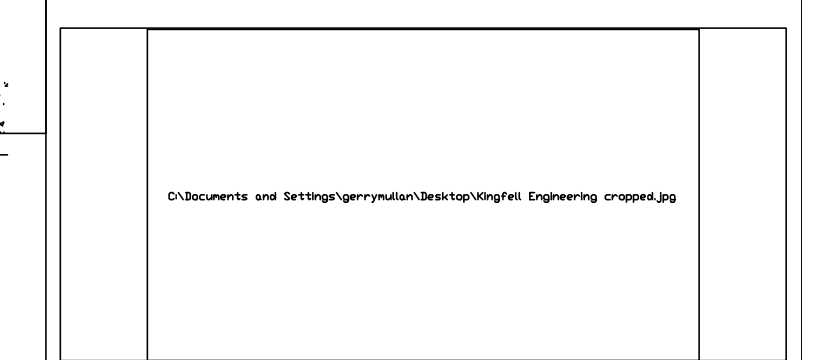
Testing:
1. Hydrostatic test - 15 bar for 2 hours or 1.5 times working pressure, whichever is greater.

Building construction:
Construction detail Euroclass Non-Combustible Construction.

Sprinkler pipework specification:
All pipework up to and including 150mm diameter to be medium weight to BS EN10255 unless otherwise stated.
All screwed fittings to conform to BS EN10226-1.
All welded fittings to conform to BS1965.
All pipe threads to conform to BS EN10242 taper threads.
All welding to conform to BS2640 or BS2971.
All victaulic fittings as per victaulic company standards.
All holes through structure to be fire stopped.

Rev	Description	Date	Drawn	App
A	CURRENT	14.11.11	GM	GM

DRAWING UNITS ARE IN MILLIMETRES



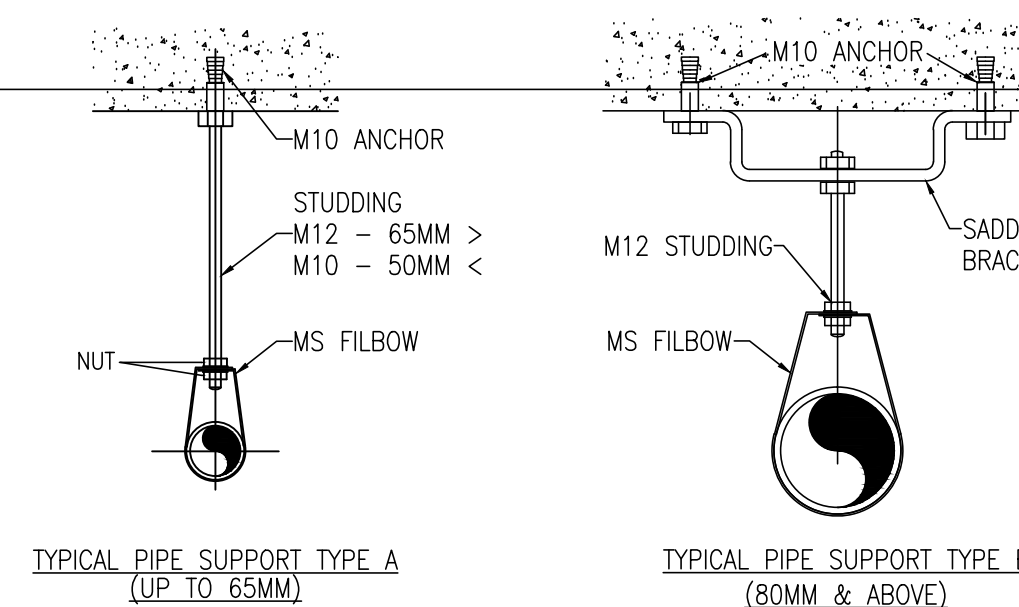
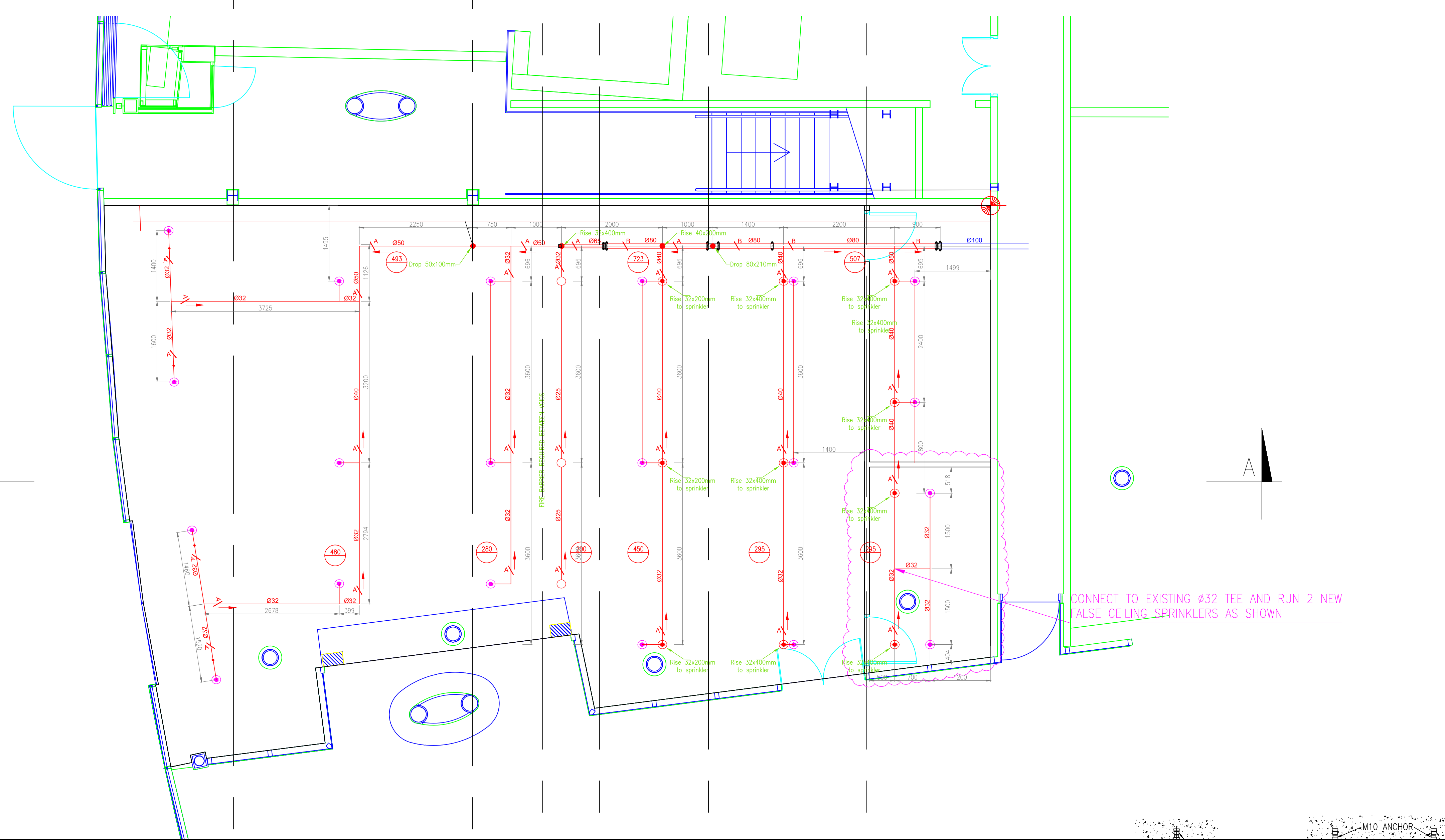
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JOB TITLE:
BOOT'S STORE
KINGS CROSS STATION
LONDON

DRAWING TITLE:
PROPOSED SPRINKLER LAYOUT
GROUND FLOOR PLAN

Drawn By/Date	Checked By/Date	Verified By/Date
GM/ 14.11.11	GM/ 14.11.11	N/A
Design By/Date	Review By/Date	Approved By/Date
N/A	N/A	N/A
SCALE:	REVISION DATE:	SHEET:
1:50 @A1	28.09.15	1 OF 2

Original drawing Date: GM/ 14.11.11 Produced by: GM
DRAWING NUMBER: 1505-DWG-FIR-NR107-04001 REVISION: B



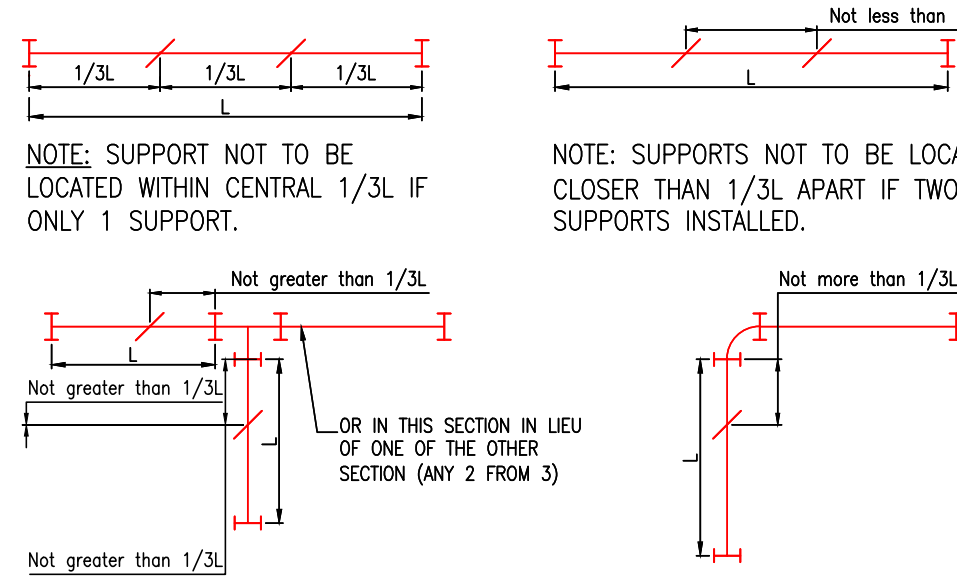
PIPE SUPPORT LOCATIONS MAXIMUM DISTANCE BETWEEN SUPPORTS

PIPE NOMINAL BORE		MAXIMUM SUPPORT SPACING
OVER	NOT GREATER THAN	
mm	mm	m
65	100	4.0
100	250	6.1
		6.5

SUPPORT DETAIL FOR SCREWED FITTINGS

THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT BE GREATER THAN: 914MM - 25MM PIPE, 1220MM - 32MM PIPE, 1524MM - 40MM OR LARGER PIPE.

SUPPORT LOCATIONS ON MECHANICALLY JOINED PIPE



- AS TO VICTAULIC DESIGN DATA FOR FLEXIBLE AND RIGID JOINTS NO PIPE SHOULD BE LEFT UNSUPPORTED BETWEEN SUCCESSIVE JOINTS.
- MAXIMUM OVERHANG=1.5M ON RANGES AND 0.45M HORIZONTAL DISTRIBUTION MAINS.
- FIRST SUPPORT ON RANGE PIPE NOT TO BE MORE THAN 2.0M FROM DISTRIBUTION MAIN.

LEGEND

SYMBOL	DESCRIPTION
(Red line)	NEW SPRINKLER MAINS PIPEWORK
(Green line)	NEW SPRINKLER PIPEWORK
(Circle with dot)	SPRINKLER INSTALLED UPRIGHT
(Circle with horizontal line)	SPRINKLER INSTALLED PENDENT
(Circle with vertical line)	SPRINKLER INSTALLED ON RISE OR DROP AS NOTED
(Circle with diagonal line)	SPRINKLER DRY PENDENT DROP
(Circle with cross)	FLEXHOSE CONNECTION TO SPRINKLER HEAD
(Circle with asterisk)	RISE OR DROP AS NOTED
(Circle with plus)	BLANK CAP TYPE AS NOTED
(Circle with triangle)	BRACKET/ HANGER POSITION
(Circle with square)	D.V. DRAIN VALVE AND BRASS PLUG
(Circle with diamond)	SLOPE OF DRAINAGE FALL
(Circle with vertical line and dot)	CENTRELINE
(Circle with horizontal line and dot)	SLOPE LENGTH TO CUT PIPE LENGTH
(Circle with diagonal line and dot)	DESIGN POINT AND REFERENCE
(Circle with cross and dot)	VICTAULIC REDUCER
(Circle with asterisk and dot)	UNION
(Circle with vertical line and dot)	DIMENSION FROM CENTRE LINE OF PIPE TO SOFFIT
(Circle with horizontal line and dot)	DIMENSION FROM CENTRE LINE OF PIPE TO FINISHED FLOOR LEVEL

STATEMENT OF DISTRIBUTION PIPE LOSSES BETWEEN THE VARIOUS DESIGN POINTS AND THE INSTALLATION VALVES

HAZARD GROUP: ORDINARY HAZARD III	NAME & ADDRESS: KINGS CROSS STATION - LONDON	DATE: 14-11-11	DESIGN FLOW RATE: 1000 L/min					
1	2	3	4	5	6	7	8	9
Design point reference	Pipe size (mm)	Pipe length (m)	No. of turns E T	Equiv. pipe length of turns (m)	Number of valves	Equiv. length valves (m)	Total equiv. length of pipe (m)	Pressure loss at design flow rate
								Pipe losses (mbar)
								Static head gain (Pa) (mbar)
								Total loss (mbar)

Note: In all sections the pressure loss is from the valve set to the Design Point. Maximum Pressure Drop (mbar): 500 (for Ordinary Hazard) Highest Sprinkler (m): 2.5 (on installation)

SCHEDULE OF SPRINKLERS

LOCATION	TYPE	TEMP.	NOS.
SYSTEM OWNER/USER DETAIL			
NAME OF OWNER:	BOOT'S		
Location:	BOOT'S STORE		
Location of premises:	KINGS CROSS STATION		
Premises address:	LONDON		
Occupancy of building:			