

Emergency Lighting installation to the rear stair case at 12-20 St Ann's Square

Background:

Reinstatement works undertaken to satisfy the conditions imposed under 135949- FO-2024 & 135950-LO-2023. Emergency light installation needed to be removed for the tiling and plaster works.

The original installation had loose cabling pinned to the brickwork walls. This was left in place ready to reinstate the lights once the plaster and tiling had been done. It had been anticipated the installation would be reinstated to match the original.

When the lights came to be instated, it turns out that the plastic coated wiring was not compliant with the Fire Regulations and the cabling needed to be fire protected. This was after the walls had been replastered and tiled. The existing lights couldn't be reinstated so new lighting to match the previous lights has been installed, with integrated emergency lighting, and cabling contained in new fire proof galvanised trunking. Lighting positions and cabling runs replicate the original positions.

Options for fire protection of the cabling considered:

Chase into the new plaster: This was not considered as the plaster was newly done and chasing out the plaster could potentially risk damaging the historic brickwork substrate below. The other disadvantages include lack of access to the cablings, cover of new plaster may not provide adequate fire protection, and repairing the plaster may impact on the overall quality of plaster finish.

Fire-Rated PVC conduit: Whilst this is available, it doesn't offer the same level of protection as galvanised steel from a fire resistance and impact damage perspective.

Galvanised trunking: Galvanised steel was felt to be the best option as is inherently fire-resistant and is highly durable and can withstand physical impact. Both of these are relevant given the location and purpose of the fire escape staircase. Aesthetically, it provides a quality finish as well as being practical.

Methodology:

New galvanised trunking – see specification details in Appendix A

New galvanised trunking is used to contain the lighting cable. The trunking is 20mm galvanised conduit – Class 3 fire resistance and manufactured from pre-galvanised sheet steel, designed for indoor use, to BS 4568 Part 1, with associated joints and junction boxes.

Trunking is fixed to the new plaster using self-tapping aluminium screws – 4.8mm 16mm . Plaster thickness is between 20-40mm to provide a level surface, so screws into plaster only and not the brickwork substrate.

To the third floor the trunking comes up through the floor and is through the tile.

Lights – see specification details in Appendix B

Lights reflect the size of the original lights, with integrated emergency lighting functionality, so no need for separate emergency lighting fitting as originally installed. The lights are fixed to the wall

by 15mm aluminium screws. As noted above, the screws are only into the plaster and not the brickwork substrate.

Drawings - See Appendix C

The original positions of the lights and the cable runs shown on C&W Emergency Lighting Drawings 02 & 03.

New installation of lighting and galvanised trunking shown on C&W Emergency Lighting Drawings 01, 04 & 05

Appendix A – Galvanised Trunking Details

**Product Code:**

SPC20-3

Product Range:

Steel Conduit

Issue:

A

Description:

20mm Galvanised Conduit – Class 3 (3m Length)

Features:

- Class 3 Galvanised Steel
- Supplied in 3 metre lengths.
- All conduit have threaded ends with one end fitted with a coupler.
- All conduit conforms to BS4568 Part1.
- Used to protect and route electrical wiring in a buildings or structures.

**Technical:**

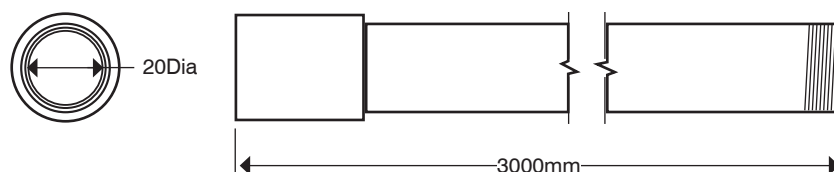
Length	3000mm
Diameter	20mm
Weight	1.95 KG
No. of Compartments	1
Material	Steel
Colour/Finish	Pre-Galvanised
Product Type	Conduit
Standards	BS 4568 Part 1
Resistance Class	Class 3
Supplied With	Threaded on both ends with one end fitted with coupler

Class 3:

Class 3 conduit tube provides a high level of protection.

Manufactured from pre-galvanised sheet steel and designed for indoor use.

Normal Size (mm)	Outside Diameter (mm)		Normal Thickness (mm)	Length (m)	No. of Lengths Per Bundle
	Min.	Max.			
20	19.70	20.00	1.6 ± 0.15	3.00	8
25	24.60	25.00	1.6 ± 0.15	3.00	8

Dimensions:

Product Code: CL20MB
Conlok Malleable Conduit Box



Description

20mm Conlok Solid Bend

Finish

Hot Dipped Galvanised

Material

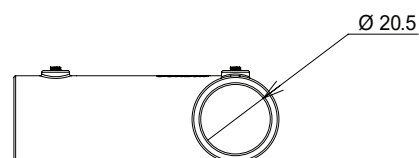
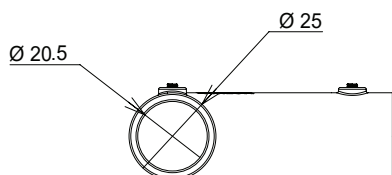
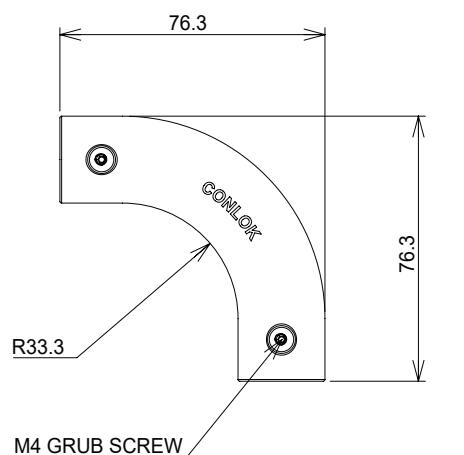
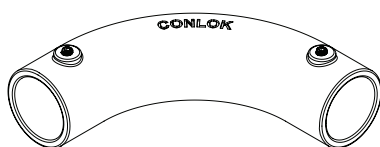
Malleable Iron

Packaging

Packed in qty 20

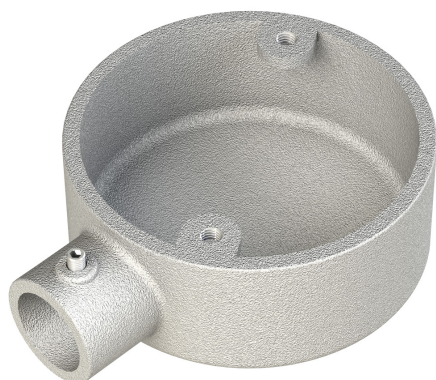
Additional Notes

Conforms to BS EN 61386-21:2021+A11:2021
Supplied with 12.9 Grade grub screw
1 x Allen key supplied in each inner box



Values are nominal and with a general tolerance $\pm 5\%$ unless otherwise specified

PRODUCT CODE: CL1G
CONLOK® MALLEABLE CONDUIT BOX



DESCRIPTION

20mm Malleable Conlok® Terminal Conduit Box

FINISH

Hot Dipped Galvanised

MATERIAL

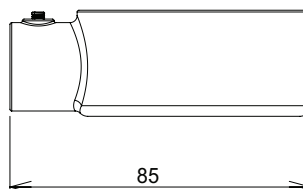
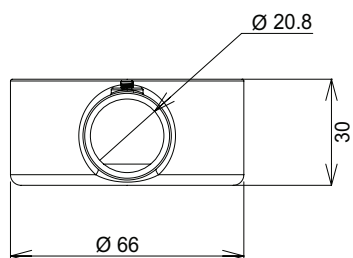
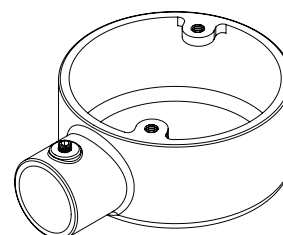
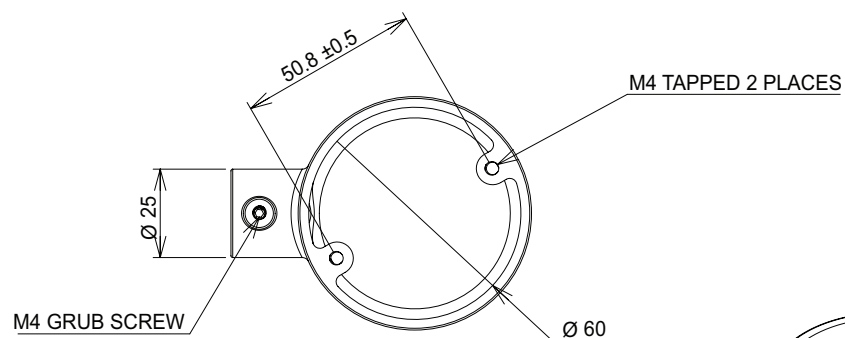
Malleable Iron

PACKAGING

Packed in qty 10

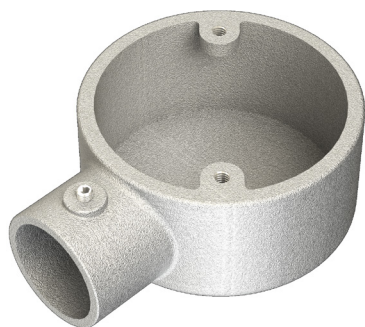
ADDITIONAL NOTES

Conforms to BS EN61386-21:2004
Supplied with 12.9 Grade Grub Screw
1 x Allen key is supplied in each inner box



Values are nominal and with a general tolerance $\pm 5\%$ unless otherwise specified

PRODUCT CODE: CL8G
CONLOK® MALLEABLE CONDUIT BOX



DESCRIPTION

25mm Malleable Conlok® Terminal Conduit Box

FINISH

Hot Dipped Galvanised

MATERIAL

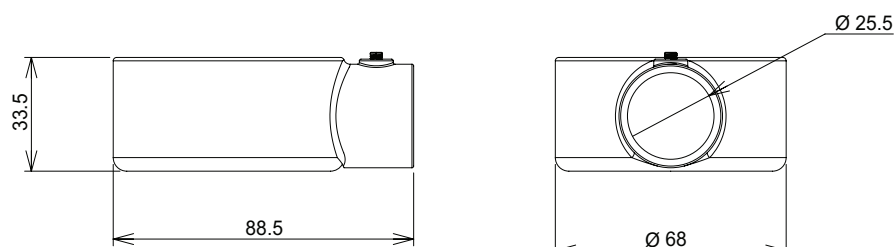
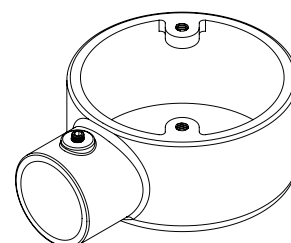
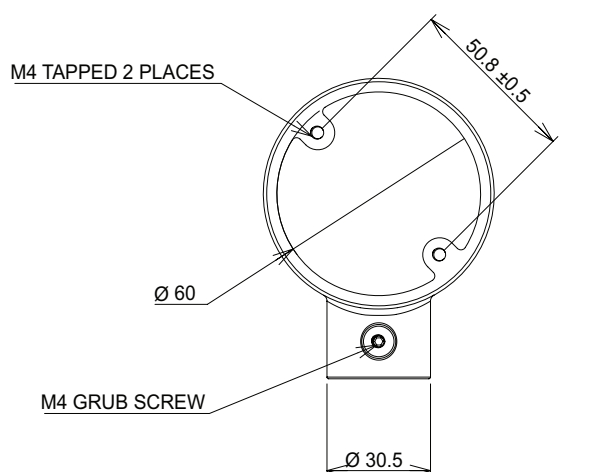
Malleable Iron

PACKAGING

Packed in qty 10

ADDITIONAL NOTES

Conforms to BS EN61386-21:2004
Supplied with 12.9 Grade Grub Screw
1 x Allen key is supplied in each inner box



 Values are nominal and with a general tolerance $\pm 5\%$ unless otherwise specified

Warranties & Liability

1. Wilful, intentional or accidental damage.
2. Damage caused by war, terrorist action or sabotage. Strikes, trade dispute, rebellion, civil disturbance, requisitioning, government or other authority's regulations. Direct or indirect causes of blowing up, a temperature of more than 70°C, radio activity, poison, explosive or dangerous nuclear states.
3. Damage caused by poor workmanship by not following normal working practices.
4. Damage caused by changes made to the profiles or materials afterwards.
5. All damaging on the coating due to unusual use and normal ageing caused by mechanical contact large changes and thermal shocks rubbing of items or objects damaging not affecting the aesthetic appearance of the work poor water drainage of the concept aggressive and polluted environment.
6. Indirect loss or tort, delicate or otherwise, whether consequential or otherwise, howsoever caused.
7. Damage due to cleaning of corrosion of the materials caused by non-neutral chemicals.
8. Damage due to the use of product installed where it was not designed or intended to be used.
9. Slowing down or delaying the repair or preventative repair due to testing or inspection.
10. The material coated is sited within direct influence of zones of salt water (within 500 metres of high tide line) acid or industrial or other aggressive emission sources which are known or believed to be damaging or corrosive to thermosetting powder coating.
11. The whole or partial replacement of the profiles or parts of it.
12. Direct or indirect damage due to deformation of the materials after the coating.
13. Damage due to one or more electric current due to the use of alloys or materials, which are not compatible with aluminium, copper, lead, zinc, etc.
14. Less than 5% of the exposed external surface is affected.
15. Failure to follow cleaning and maintenance guidelines.

Cleaning & Maintenance

1. Cleaning & Maintenance
 - (a) In areas within the direct influence zones of salt water, industrial chemical plants, blast furnaces or other aggressive emission sources, the window should be cleaned at least every three months. In relatively cleaner environments, every six months should be sufficient.

In carrying out regular maintenance outside, the internal surfaces are frequently neglected. After a period of time, grime and deposits from tobacco smoke, coal and oil fires etc can discolour the inside window frame and it is recommended that these should be cleaned at least once a year.
 - (b) Procedure
 - (i) Wash down with clean warm water containing non-alkaline liquid detergent (in a concentration that can be handled safely with bare hands) using non-abrasive cloth, sponge or soft bristle brush. This will remove grime, grease, and any excess chalking. All ridges, grooves, joints and drainage channels where salt or other deposits can collect should be well washed out, thus preventing corrosion sites from occurring.
 - (ii) Rinse thoroughly with clean water.
 - (iii) Dry using a soft cloth or leather.
 - (c) Where a reduction in gloss is observed, chalking is evident or excessive staining has occurred, an approved renovating cream may be carefully applied with a non-abrasive cloth.

Note: T-Cut or similar automotive paint restorer may be used provided it is not too abrasive.

Care must be taken not to abrade sharp corners of sections or beads too heavily where the paint film is normally thinner. It should be noted that this operation should not be carried out too frequently.

Polish with a soft cloth to restore gloss and maintain colour uniformity.
 - (d) For extra protection a wash polish can be applied once or twice a year again polishing with a soft cloth to restore gloss.
2. Repair
 - (a) Blisters and corrosion sites may originate from areas where mechanical damage or scratches have penetrated the paint coating through to the aluminium, or from cut bar or butt ends, mitres, drill holes or drainage slots, where the aluminium is unprotected.
 - (b) Procedure:
 - (i) Use fine grade 120-360 grit abrasive paper to remove corrosion products and any non-adherent paint.
 - (ii) Wipe with white spirit or approved cleaning solvent.
 - (iii) Ensure surface is absolutely dry before applying a thin priming coat. Allow 20-30 minutes to "Flash Off" using a fine brush.
 - (iv) With a fine brush, touch in the damaged and primed area with an air drying paint. It should be recognised that the air drying paint will not possess the same weathering properties as the powder coating, but nevertheless will give a reasonable amount of protection. Their use should of course be confined only to small areas of damage.
3. Points to Bear in Mind When Specifying Organic Coated Aluminium
 - (a) No powder coated paint coating, whether polyester or acrylic (or indeed if the substrate is PVC-U) is "Maintenance free". Especially when installing in coastal districts or areas with high industrial pollution, advice should be given at the time of installation regarding the frequency and nature of cleaning maintenance needed.
 - (b) Modern powder coated finishes that we apply to architectural aluminium are practically identical to the types used on motor vehicles and therefore require a similar degree of care and attention which people typically lavish on their car bodywork. The frequency of cleaning relates directly to the decorative standard which the householder wishes to maintain and also the particular environment where the units are situated.
 - (c) All paints "Chalk" to some extent in service and a reduction in gloss level will occur. The original finish can be easily restored using the procedure in 1c.
4. Replacement of Broken Glass

Windows and doors can be re-glazed and the gasket and weather-stripping replaced using materials supplied. Any damage to the gasket or beads may necessitate replacement to retain the weather performance of the product. (Refer to Supplier)
5. Replacement of Damaged Components

If damage occurs, the furniture and fittings can be readily replaced by releasing the fixing screws and changing the fitting. (Refer to Supplier).
6. Window Hardware and Maintenance

The friction stays and locking mechanisms should be lubricated periodically to minimise wear and to ensure smooth operation. Care should be taken to avoid applying lubricant to the friction pads, as this will impair their braking action. The resistance of the pads can be adjusted, if necessary, with the brass screws provided in each pad.
7. Doors Hardware and Maintenance

Hinges and locking mechanisms should be lubricated periodically to minimise wear and tear to ensure smooth operations.

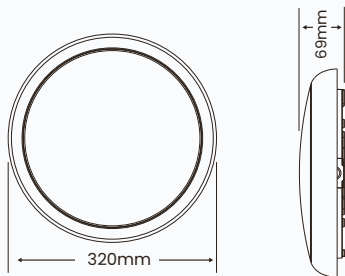
Appendix B – New Lighting specification



Halo Bulkhead

Wattage and CCT Selectable with Plug and Play feature

Dimension



Halo Bulkhead
Watt and CCT Selectable

Technical Data

Lumens(±5%)	1800Lm@4000K@18W
Efficacy	100Lm/W
Operating Temperature	-20°C to +40°C
Beam Angle	120°
Operating Hours	>50000
IP Rating	IP65
IK Rating	IK10

Physical Data

Colour Finish	White
Dimensions (mm)	ø320mm x 69mm
Construction Material	Polycarbonate
Diffuser Material	Polycarbonate
Trim Material	ABS

Light Data

Kelvins	3000K, 4000K or 6000K
CRI	>80Ra



Electrical Data

Wattage	12W, 15W or 18W
Voltage Range	AC220-240V
Power Factor	>0.50

Interchangeable bezels (sold separately)



Chrome Bezel
Products Code: HAR-HALO-TRIM-PC



Black Bezel
Products Code: HAR-HALO-TRIM-BLK



Satin Nickel
Products Code: HAR-HALO-TRIM-SC

Product lines are subject to change and aspects such as colour temperature, lumens, dimensions or options may differ. Please contact your sales representative for confirmation.



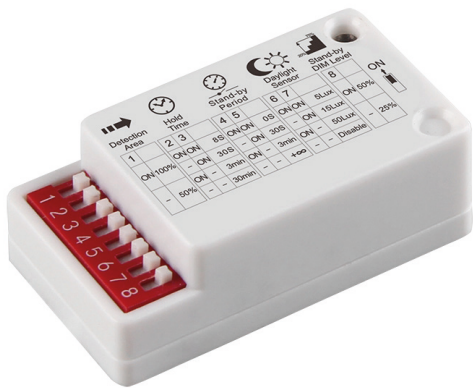
Emergency pack



Key Features

- Wattage and Three Colour Selectable**
Choose between 3000K, 4000K or 6000K colour temperatures, and 12W, 15W, 18W
- Modular Plug and Play**
Emergency and Sensor-Ready with Plug and Play Simplicity
- EM and MW/Photocell Sensors**
Easily make standard bulkhead into emergency, sensor and sensor emergency variants.
- Multiple Cable Entry**
Central and offset rear entry points. Three side 20mm conduit entry points PC Base.

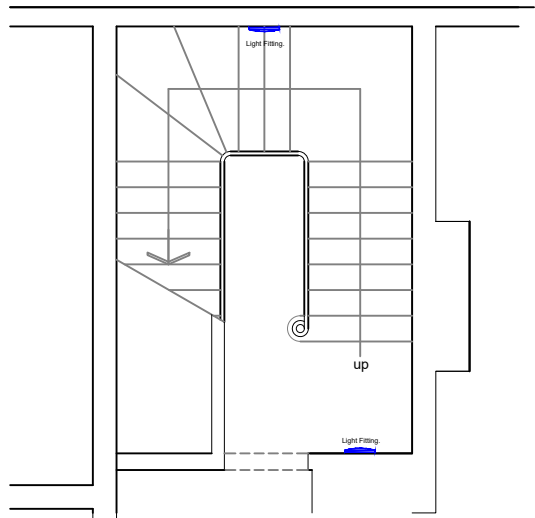
Microwave motion sensor



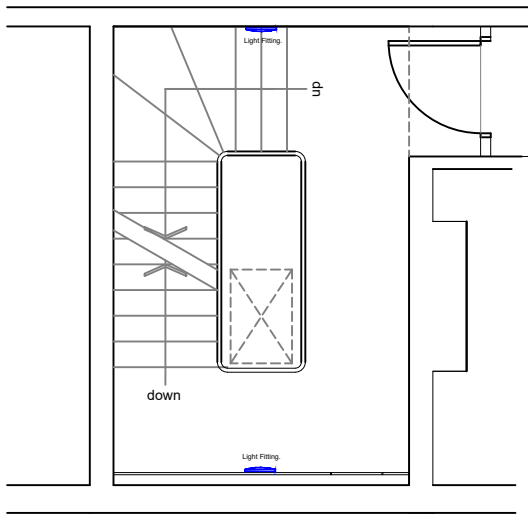
Sensor parameters

Hold time	5S/90S/3min/10min
Stand-by DIM Level	20%(different driver, different brightness)
Stand-by period	0s/30S/10min/+∞(PWM signal)
Detection Area	100%/75%/50%25%
Daylight Sensor	5lux/15Lux/50Lux/Disable(ambient light diffusion)
Detecting Radius	Ceiling mounting(mounting height 3m): 0.3m/S ≥4m, 1m/S ≥2.5m ;
(Detection Area 100%)	Wall Mounting(mounting height: 2m): 0.3m/S ≥6m,1m/S ≥3m
Mounting Height Typical value:	3m (6m Max)
Detecting Angle	1500

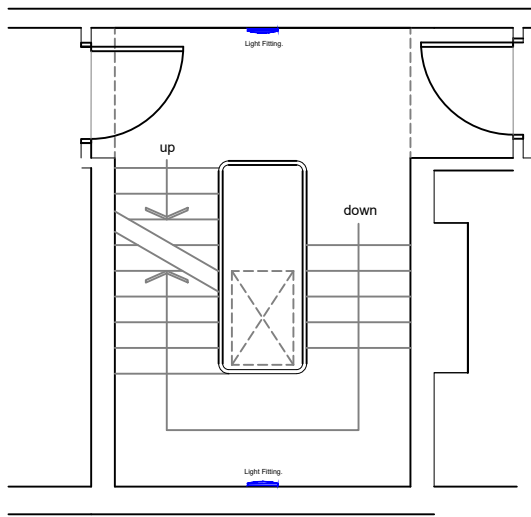
Appendix C – Existing & Proposed Drawings



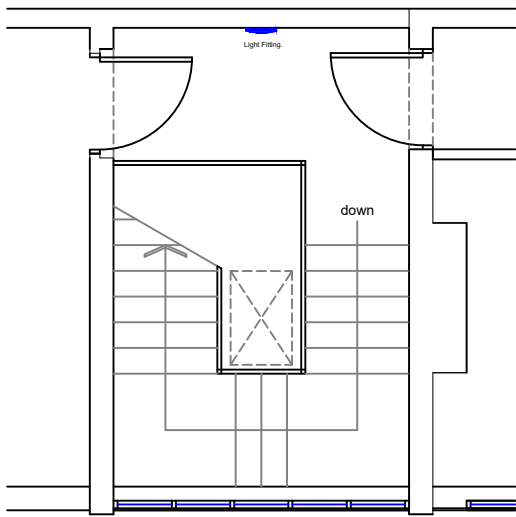
GROUND FLOOR - Stair Plan.



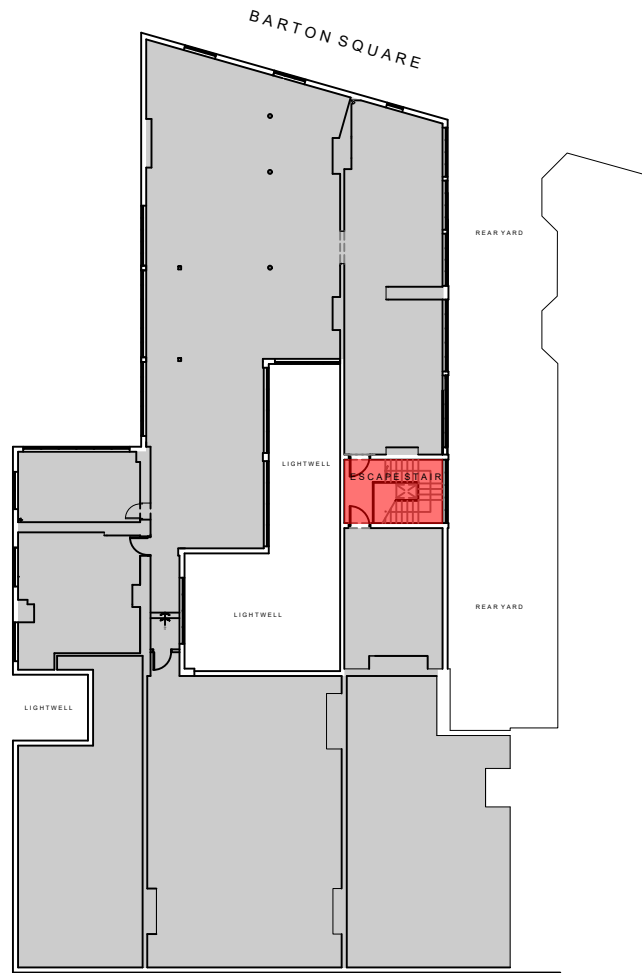
FIRST FLOOR - Stair Plan.



SECOND FLOOR - Stair Plan.

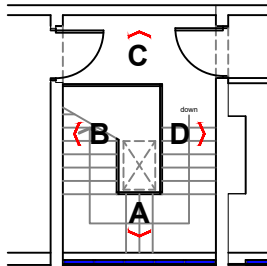


THIRD FLOOR - Stair Plan.



EXISTING - BUILDING PLAN.

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KEY PLAN - STAIR ELEVATIONS

Rev	Description	Date	Drawn



Project and Building Consultancy
North West
No. 1 Marsden Street
Manchester
M2 1HW
Tel: +44 (0) 161 236 9595
Fax: +44 (0) 121 228 7097

Client: **GE Healthcare Pension Trustee Ltd.**

Project: **20 St Ann's Square, Manchester.**

Drawing: **Emergency Lighting Drawing.
Stairwell - Stair Plans.**

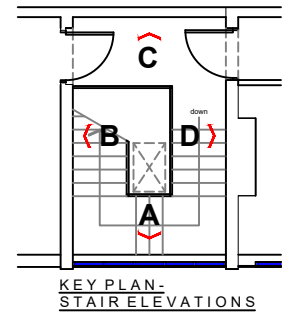
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Date: **28.07.25** Checked by:

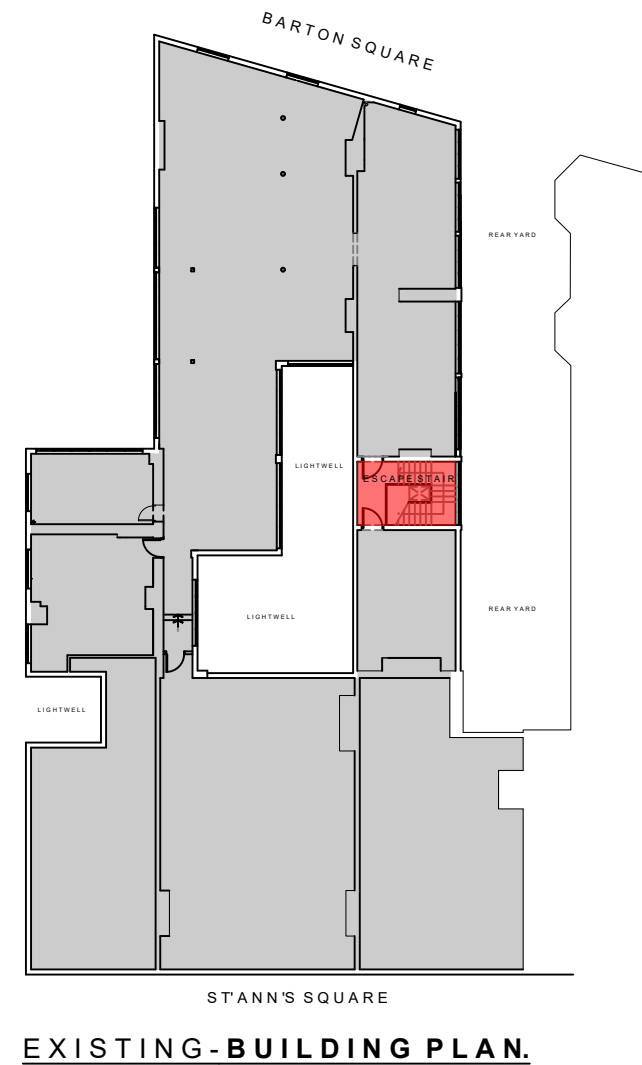
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KEY PLAN -
STAIR ELEVATIONS



EXISTING - BUILDING PLAN.

Rev	Description	Date	Drawn



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North West

No. 1 Marsden Street
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Client: **GE Healthcare Pension Trustee Ltd.**

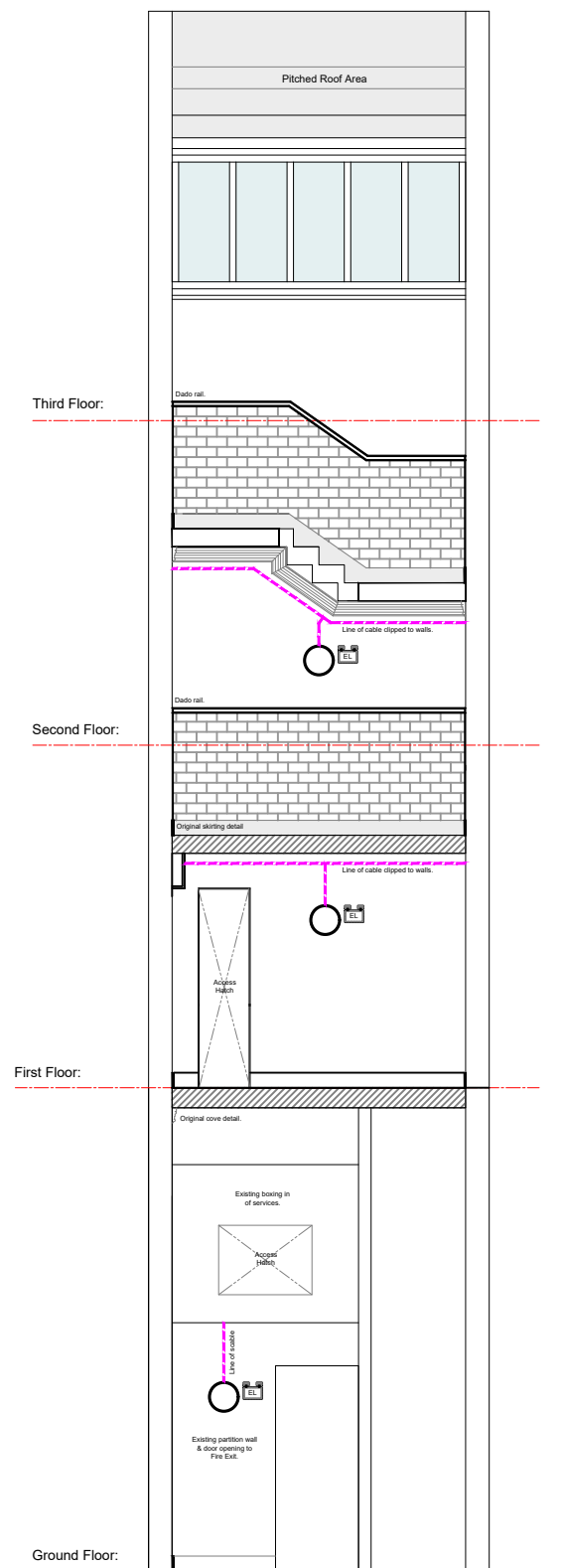
Project: **20 St Ann's Square, Manchester.**

Drawing: **Emergency Lighting Drawing
Stairwell - Existing Elevations A & B.**

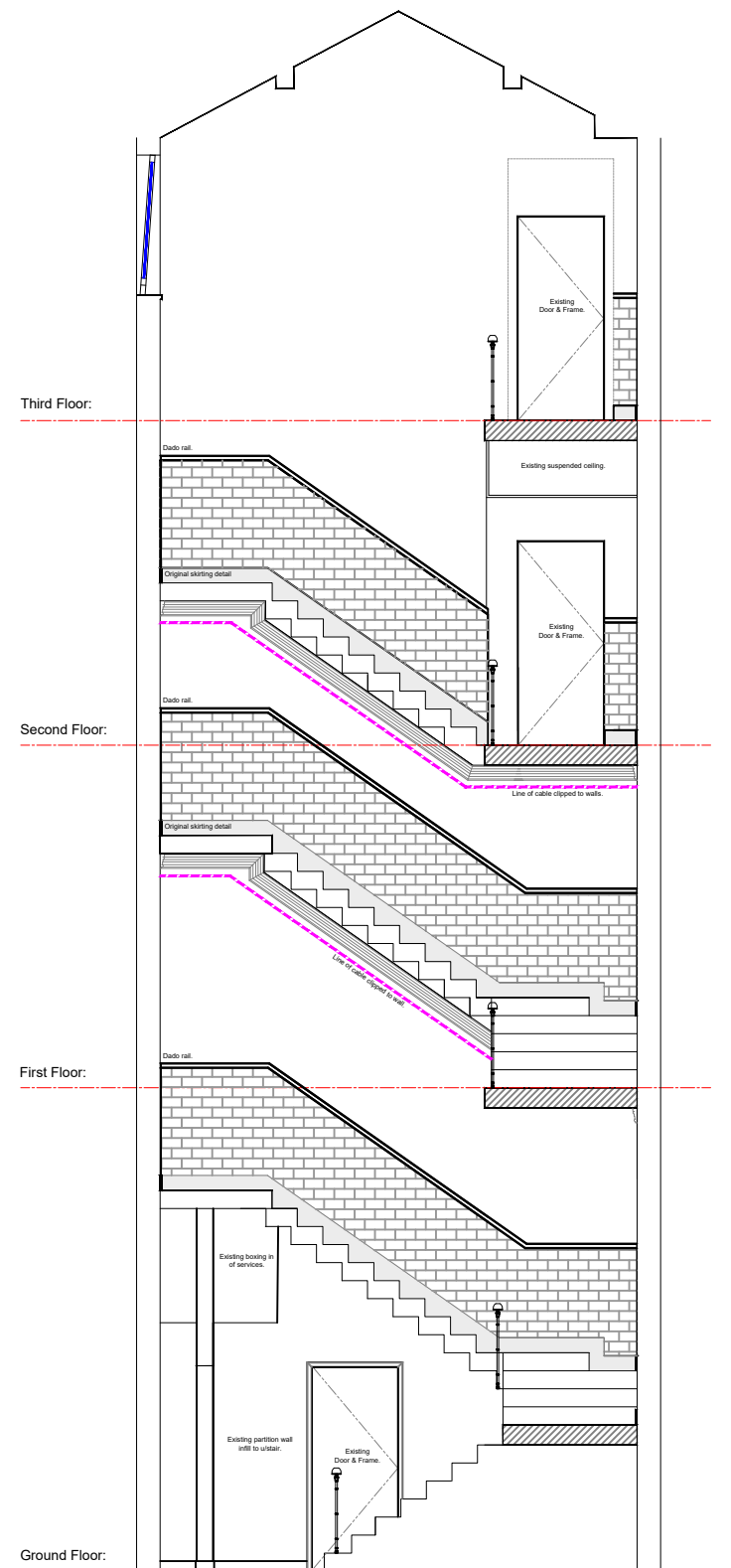
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Date: **28.07.25** Checked by:

Drawing Number: **02**



STAIR - Existing Elevation A.

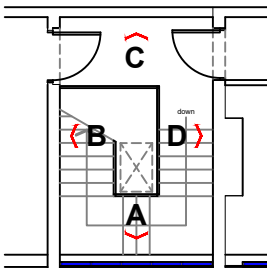


STAIR - Existing Elevation B.

KEY TO SYMBOLS:

- Wall mounted 300mm diameter circular emergency light fitting.
- EL Wall mounted Emergency Light Fitting with cables clipped to wall.
- Existing temporary cable surface clipped to existing walls.

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STAIR - Existing Elevation C.



STAIR - Existing Elevation D.

KEY TO SYMBOLS:



Wall mounted 300mm diameter circular emergency light fitting.



Wall mounted Emergency Light Fitting with cables clipped to wall.

Existing temporary cable surface clipped to existing walls.



Rev	Description	Date	Drawn
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Project and Building Consultancy
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No. 1 Marsden Street
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Fax: +44 (0) 121 228 7097

Client: **GE Healthcare Pension Trustee Ltd.**

Project:

20 St Ann's Square, Manchester.

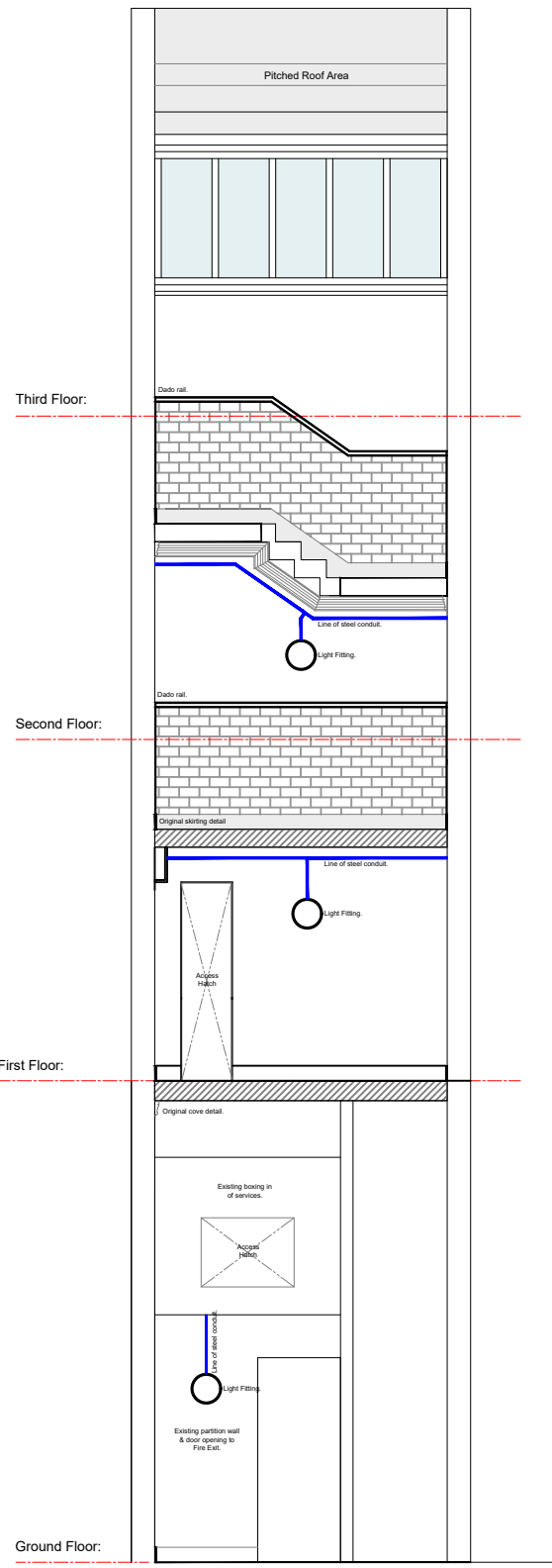
Drawing:
Emergency Lighting Drawing.
Stairwell - Existing Elevations C & D.

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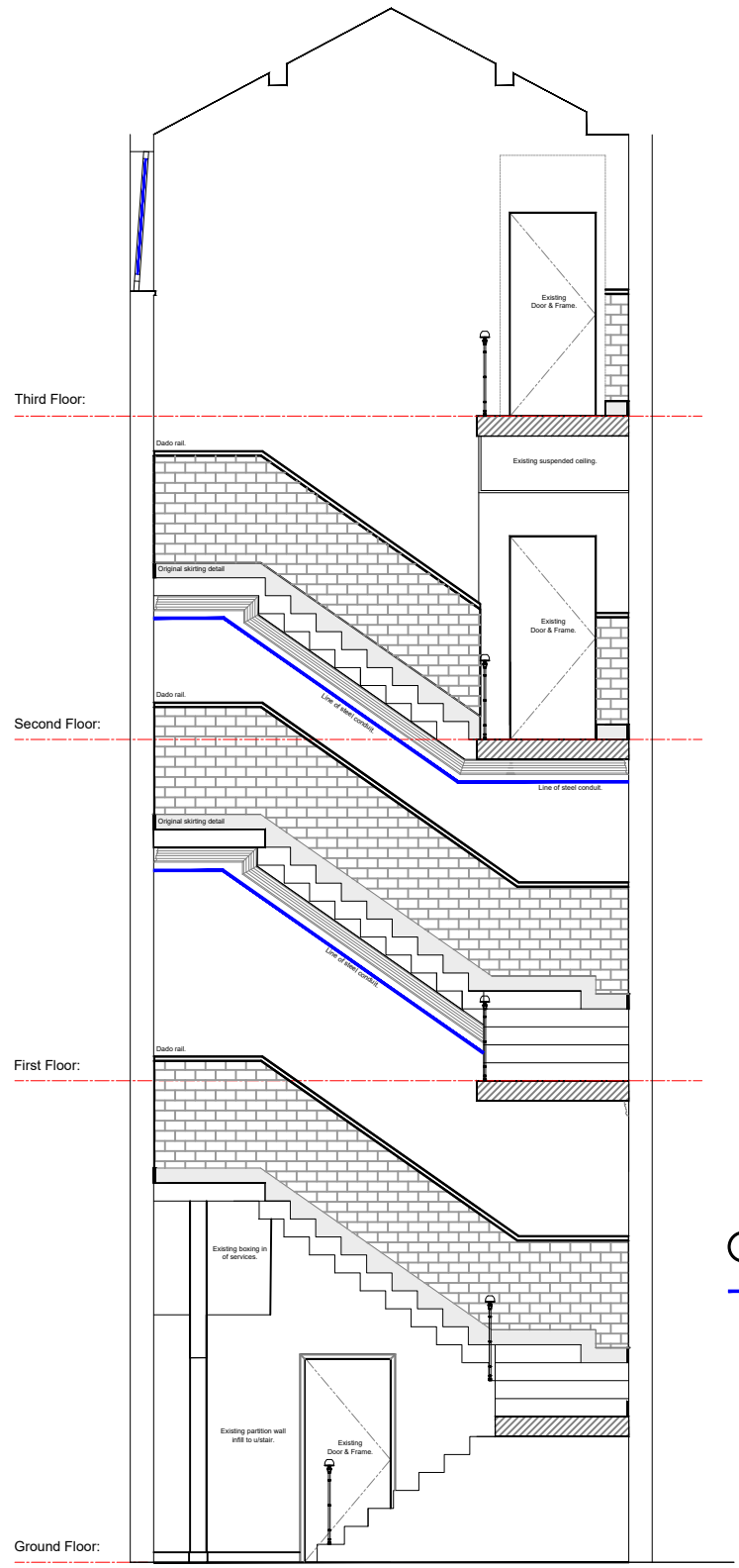
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Drawing Number: .03



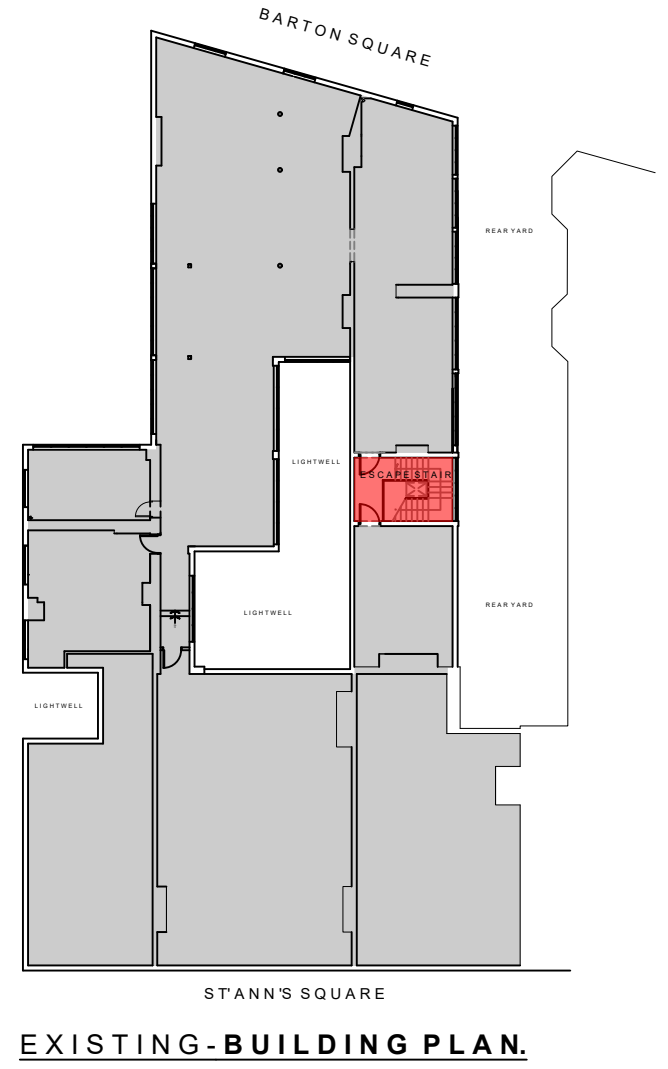


STAIR - Proposed Elevation A.

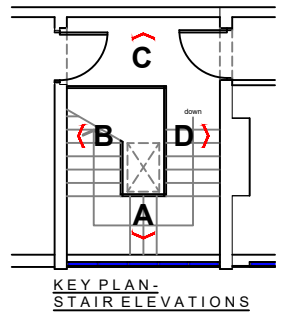


STAIR - Proposed Elevation B.

KEY TO SYMBOLS:
○ Wall mounted 300mm diameter circular emergency light fitting.
— Bold Blue Lines denotes surface mounted steel tubular conduit affixed to plaster walls.



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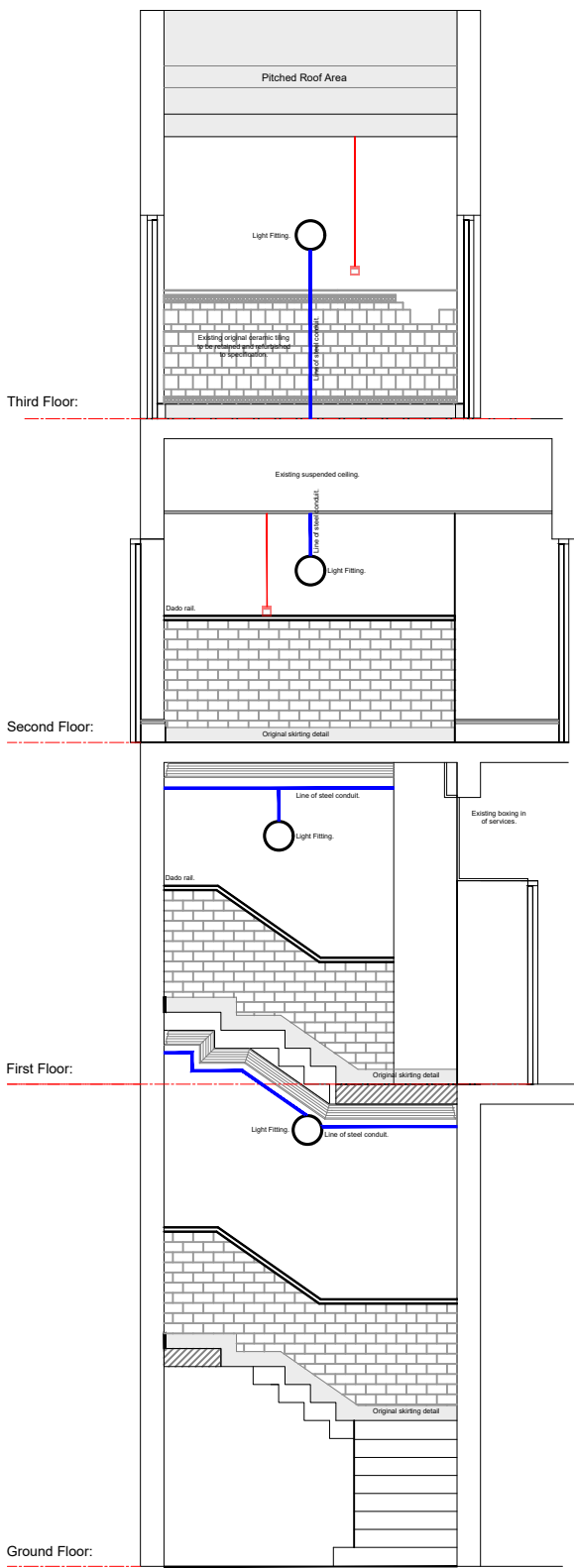
Client: **GE Healthcare Pension Trustee Ltd.**

Project: **20 St Ann's Square, Manchester.**

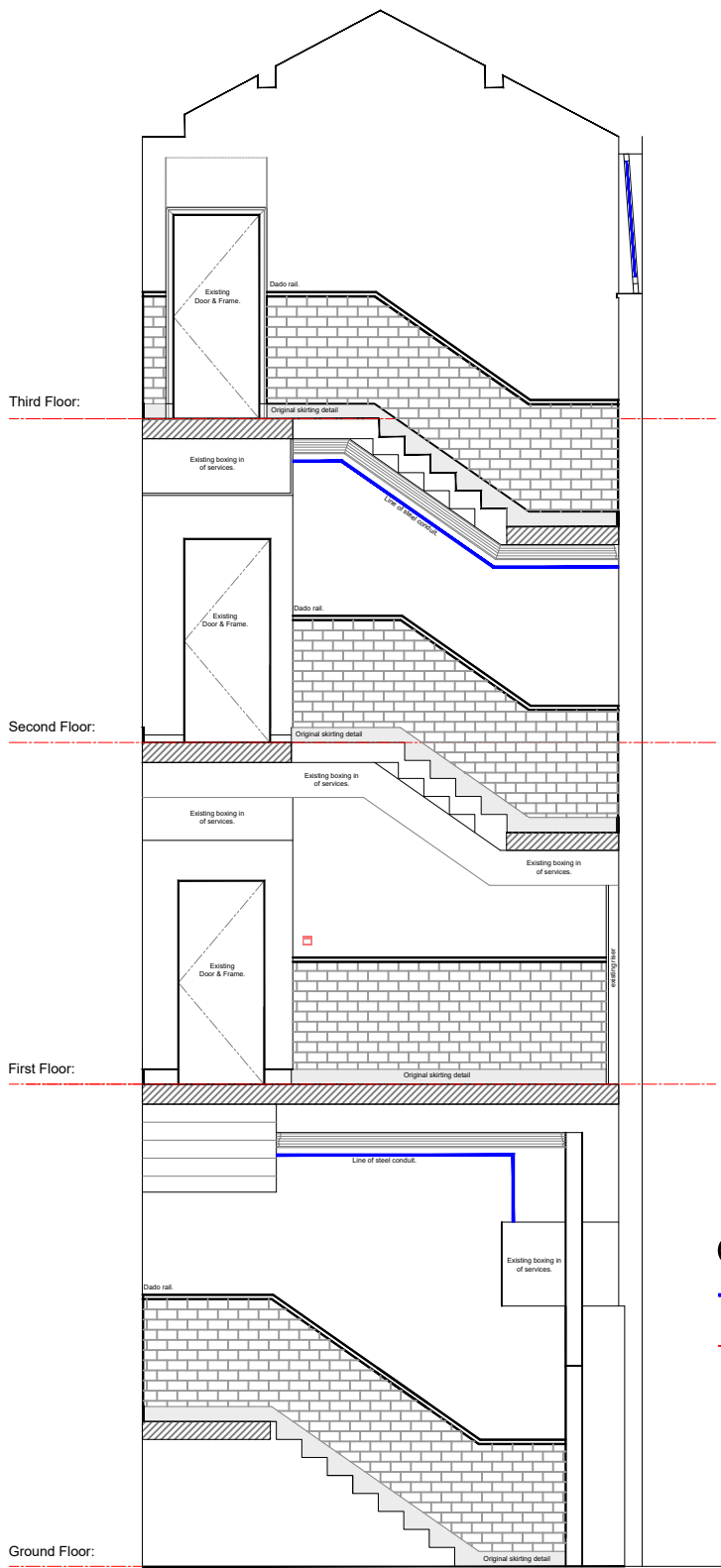
Drawing: **Emergency Lighting Drawing.
Stairwell - Proposed Elevations A & B.**

Scale: **1:75 - A3** Drawn by: **SS.**
Date: **28.07.25** Checked by:
Drawing Number: **04**



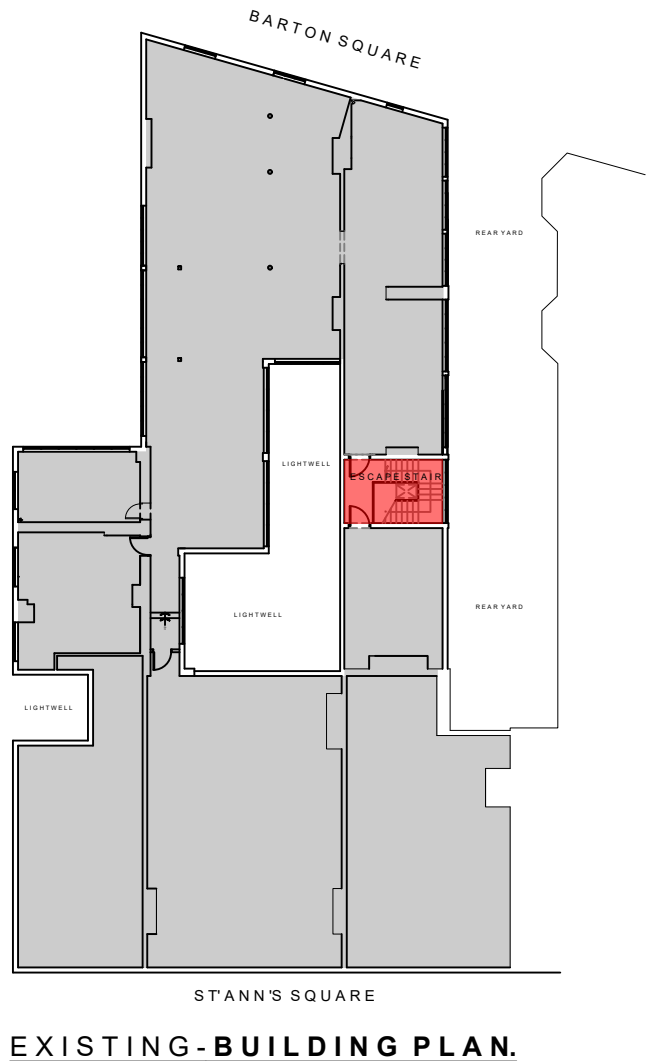


STAIR - Proposed Elevation C.

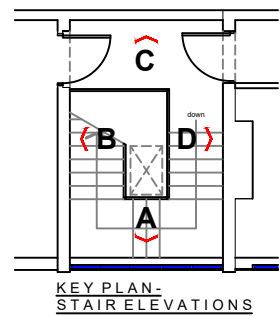


STAIR - Proposed Elevation D.

- KEY TO SYMBOLS:
- Wall mounted 300mm diameter circular emergency light fitting.
 - Bold Blue Lines denotes surface mounted steel tubular conduit affixed to plaster walls.
 - Surface Mounted FR Rated cable to Fire Alarm linked Fire Call Buttons.



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Tel: +44 (0) 161 236 9595
Fax: +44 (0) 121 228 7097

Client: GE Healthcare Pension Trustee Ltd.

Project: 20 St Ann's Square, Manchester.

Drawing: Emergency Lighting Drawing.
Stairwell - Proposed Elevations C & D.

Scale: 1:75 - A3 Drawn by: SS.
Date: 28.07.25 Checked by:
Drawing Number: 05



Sheet No:

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Appendix D – Photos of original & new installation

	
Example of existing lighting prior to plaster and tile reinstatement to stair	Example of existing lighting prior to plaster and tile reinstatement to stair
	
3 rd Floor Landing	2 nd Floor Landing
	
Galvanised turning from 2 nd floor to half landing (other cabling clipped to it.)	Half landing between 2 nd & 1 st floors



Example of trunking following soffit line



Light to 1st floor



Light to stair turn between ground and 1st



Lower ground floor