Client Confirmation to proceed with Arrangement Option 2 on North West Column

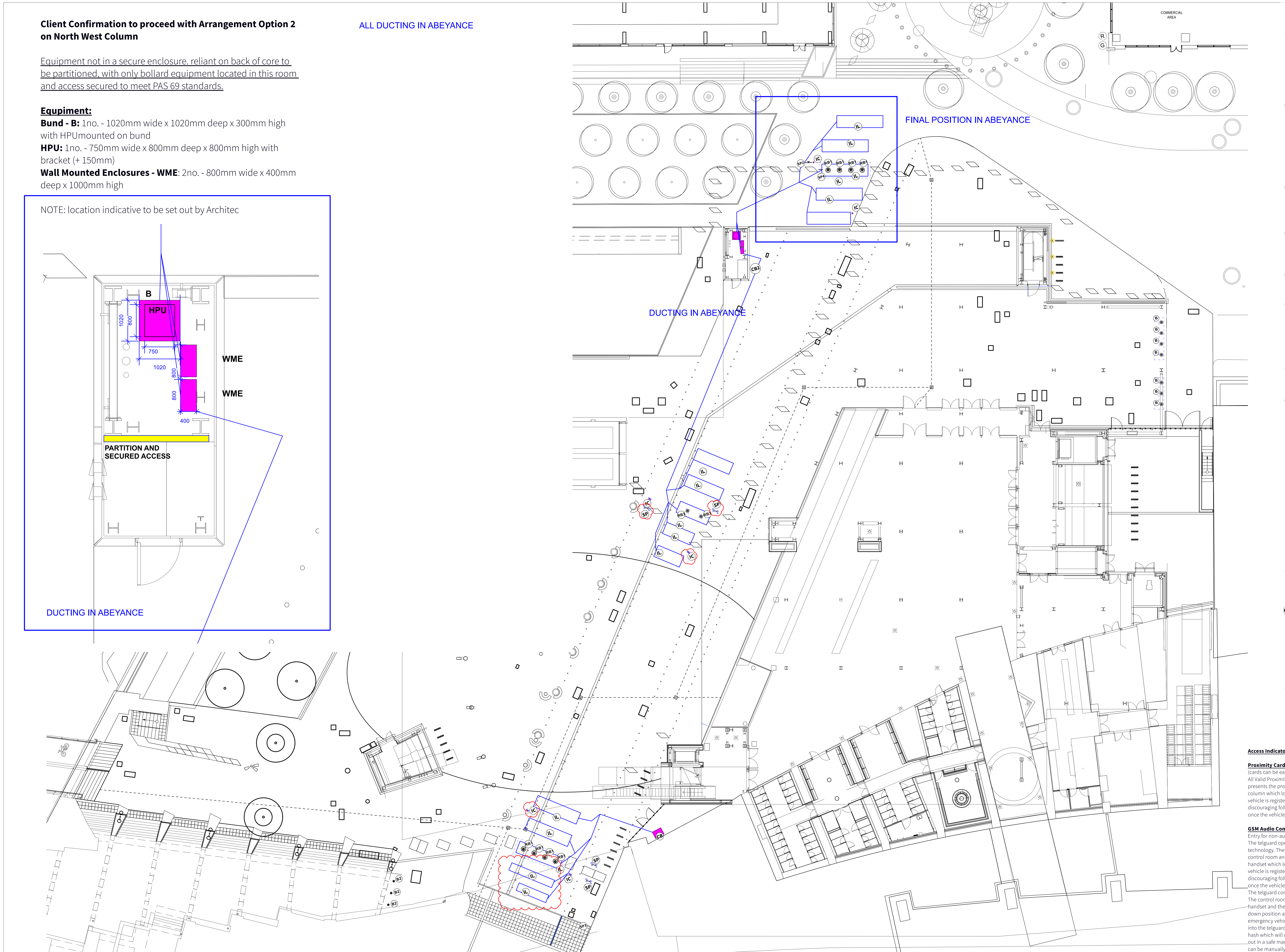
Equipment not in a secure enclosure. reliant on back of core to be partitioned, with only bollard equipment located in this room and access secured to meet PAS 69 standards.

Equipment:

Bund - B: 1no. - 1020mm wide x 1020mm deep x 300mm high with HPUmounted on bund

HPU: 1no. - 750mm wide x 800mm deep x 800mm high with bracket (+ 150mm)

Wall Mounted Enclosures - WME: 2no. - 800mm wide x 400mm deep x 1000mm high



KEY

Refer to NBS clause Q41/140

RB1 ◉ **Retractable Bollard - RB1**
Manufacturer: ATG Access or equal and approved.
Product Reference: SPTT High Security Bollard - .
PAS 68: V/7,500(N2)64/90:0.5 (Crash tested in accordance with BSI PAS 68 standard. Able to withstand speeds of up to 40mph.)
Diameter: 209mm (top) / 280mm (bottom)
Size: 1000mm above ground, 900mm foundation depth.
Material: Stainless steel.
Finish: powder coated black RAL 9005.
Fixing: As per manufacturers recomendation on shallow mounted foundation and drainage.
Accessories: LED lighting band to top of bollard, visibility strips, induction loops, control cabinet and access indicator columns, CCTV.
Refer to drawing MF-PLA-XX-GF-DR-L-10-4002/7011 for further detail.
Refer to NBS clause Q50/192A

B ◉ **Fixed Bollard - B**
Manufacturer: Marshalls or equal and approved.
Product: Rhinoguard
PAS 68: V/75000(N2)80/90:0.5 (Crash tested in accordance with BSI PAS 68 standard. Able to withstand speeds of up 40mph.
Material: Mild steel.
Finish: Powder coated black RAL 9005.
Diameter: 194mm.
Size: 1050mm above ground, foundation depth subject to engineers details, tbc against adjacent services by engineer.
Allow for slightly longer bollard cores in order to accommodate change in gradient of ground plane.
Fixing: Below ground fixing to engineers specification.
Accessories: Visibility strip 1no. Circular stainless steel, powder coated black RAL9005 flange baseplate. 50mm wide, 4mm thick.
Refer to drawing MF-PLA-XX-GF-DR-L-10-4002/7012 for further detail.
Refer to NBS clause Q50/190A

B2 ◉ **Manual Drop Bollard - B2**
Product: Manchester Cast Iron Bollard
Colour: RAL 9005
Fixing: Removable
(To match existing in ground sleeves provided in BDP Landscape General Arrangement (Drawing NHE-127523-5804-OCD-WPA-DDR-L-100104)).
Accessories: 1no. white reflective band. Padlock locking mechanism.
Refer to NBS clause Q50/196.

PB **Power Bollard - PB**
Product: PUPS Bollard - Parc Paris Top
Size: 500mm dia. x 1235mmH plus top.
Colour: To match light column LC1.
Fixing: Surface fixed to engineer / supplier's specification.
Supplier: Pop Up Power Supplies.
Accessories: Power outlet configuration by others.
Refer to NBS clause V91/315.

CCTV **CCTV Column**
Product: Tilt-Over Square Section Column Model TP4S.
Size: 4m high x 120x120mm post section.
Colour: RAL 7016 to match light column LC1.
Fixing: Base plate fixed to concrete foundation to supplier's
Subject to structural Architects design.

F2 **Bespoke Fence, Gate & Pedestrian Access Door**
to service yard
Double leaf vehicular gate and single leaf pedestrian gate.
To include intercom system and photocell columns.
To Architect's specification.
[illegible]
Material: Stainless Steel
Size: External dia. 123/57mm Internal dia. 50mm. 114mm depth.
Foundation to engineer's details.
Supplier: Brandline
Refer to drawing MF-PLA-XX-GF-DR-L-10-4000, 7019 for further detail.
Refer to NBS clause Q50/320.

QP2 **Freestanding Queuing Posts**
not part of the contract.
post sockets clash with manhole covers and a free standing post needs to be used in this location

DB **Fixed Bollard to act as opening door protection - DB**
Manufacturer: ATG or equal and approved.
Product: Rhinoguard
Material: Stainless steel.
Finish: Powder coated black RAL 9005.
Diameter: 114mm.
Size: 1000mm above ground.
Fixing: surface fixed to manufacturers details.
Accessories: Visibility bands 2no. Circular stainless steel, powder coated black RAL9005 .

Double Direction

A double direction bollard system is defined as controlling vehicles in two directions. The system will control the vehicles travelling through the system using a number of strategically positioned induction loops. The approaching vehicle will pull up to the traffic indicator column where it will by its position put the induction loops into detect, a valid demand can be given and the bollards will lower.

CB ▬ **Proposed Control Box Location**
Subject to M&E design.
Measures to prevent tailgating to be incorporated.
Allow for override failsafe mode.
Size: 900mm deep x 1200mm wide x 2000mm high
Satin brushed stainless Steel Cabinet.
Cabinet to be secured to concrete plinth, subject to engineers details.

CB2 ▬ **Proposed Control Box Location**
Subject to M&E design.
To include kit for two rows of bollards.
Measures to prevent tailgating to be incorporated.
Allow for override failsafe mode.
Equipment not in a secure enclosure. reliant on back of core to be partitioned, with only bollard equipment located in this room and access secured to meet PAS 69 standards.
Equipment:
Bund - B: 1no. - 1020mm wide x 1020mm deep x 300mm high with HPUmounted on bund
HPU: 1no. - 750mm wide x 800mm deep x 800mm high with bracket (+ 150mm)
Wall Mounted Enclosures - WME: 2no. - 800mm wide x 400mm deep x 1000mm high
Location indicative to be set out by Architect

IC ● **Proposed Access Indicator Column Location**
As per manufacturers recommendations.
Size: 168mm dia x 2492mm (1906mm above ground, 586mm below ground)
Supplier: ATG Access.
Finish: Satin Brushed stainless steel.
Accessories: Flange baseplate of unit. 50mm wide 4mm thick satin brushes stainless steel.
Foundations to engineer's details.

Access Indicator Column to include:

Proximity Card Reader

(cards can be easily lost, can be a security issue)
All Valid Proximity card users will be accepted into the restricted area. The driver presents the proximity card to the reader situated within the traffic indicator column which lowers the bollards turning the signal from Red to Green. Once the vehicle is registered on the safety loop the Green light will change back to Red, discouraging following vehicles from tailgating. The bollards will automatically rise once the vehicle has cleared the safety loop ready for the next demand.

GSM Audio Communication System

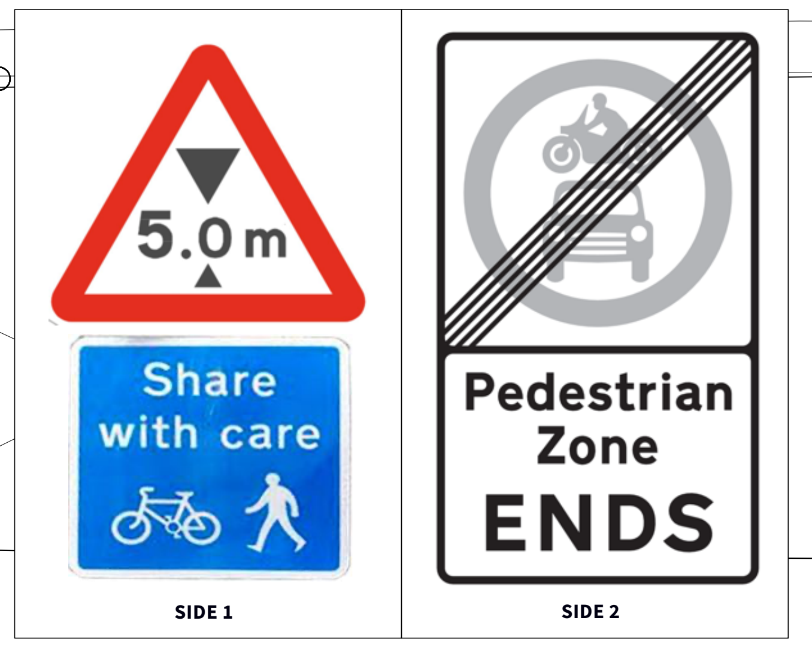
Entry for non-authorised vehicles will be via the telguard communication system. The telguard operates using either a basic analogue telephone line or GSM technology. The vehicle approaches the bollards and depress the call button the control room answers the call, if the vehicle is valid, press hash on the telephone handset which lowers the bollards turning the Red signal to Green. Once the vehicle is registered on the safety loop the Green light will change back to Red, discouraging following vehicles from tailgating. The bollards will automatically rise once the vehicle has cleared the safety loop ready for the next demand.
The telguard communication system can also be utilised for emergency vehicles. The control room can dial into the telguard system press a code number on the handset and then hash. This automatically lowers the bollards leaving them in the down position and turn off the traffic lights. To raise the bollards when the emergency vehicles have past through the system the control room will then dial into the telguard system press a different code number on the handset and then hash which will drive the bollards back into the up position, this must be carried out in a safe manner through monitoring the system with CCTV, alternatively they can be manually reset at the roadside cabinet.

STOP
WAIT FOR GREEN LIGHT BEFORE PROCEEDING
Sign Type 2

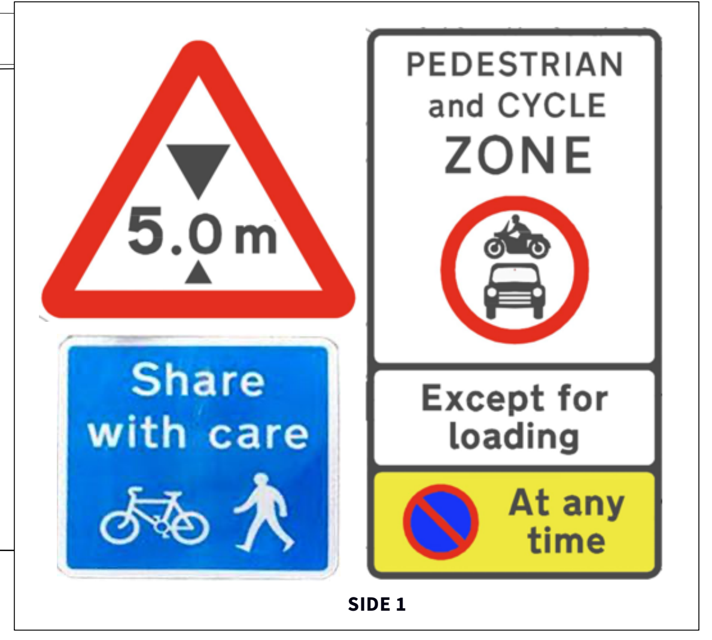
SAFETY SIGNAGE LAYOUT - SP / SP4

TYPICAL CONTROL BOX - CB

TYPICAL ACCESS INDICATOR COLUMN - IC



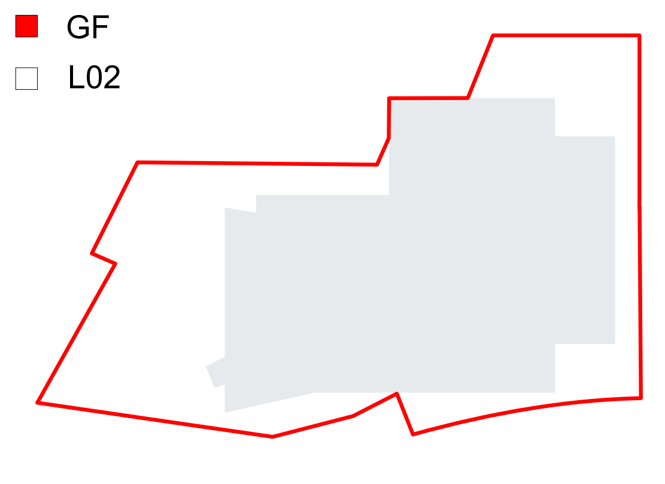
SP2



SP3

NOTES:
1. Do not scale from this drawing.
2. Always work to noted dimensions.
3. All dimensions are in millimetres unless otherwise stated.
4. All setting out, levels andE dimensions to be agreed on site.
5. The dimensions of all materials must be checked on site before being laid out.
6. This drawing must be read with the relevant specification clauses and detail drawings.
7. Order of construction and setting out to be agreed on site.

LOCATION PLAN



NOTE:

Proposed Levels are indicative only and subject to change once landscape design proposals have been developed.

Safety

The automatic bollard system adheres to a risk assessment level 3 European directive, the bollard system gained full type approval from the Highways Agency in 1998. The requirements of a safety system to control this category of risk assessment are as follows (extract from section 7 of EN954-1).

“Safety devices and control systems as a minimum must be designed, selected and assembled to meet the operational requirements of design limits and influence of the process materials and other external influences. The complete safety control system shall be designed so that any single fault shall not lead to the loss of the safety function and, where practical, the single fault shall be detected. This now calls for
not only redundancy in the interface but also in the input devices, pointing to dual channel systems”.

The ATG Bollard Safety System complies with the EN954-1 and as such you can rest assured that your bollard system meets the highest safety standards available.

Emergency Services

Every system has a manual over ride located on the side of the control cabinet but one cabinet is within the builiding.. The emergency services can fit their own lock / padlock if ATG Access’s standard locking system is not acceptable. When unlocked the side panel can be opened and the override button pressed to automatically drive the bollards down. The system would then require re-setting once the emergency had cleared.

Power Fail

In the event of a power fail the bollards will automatically lower into the ground under a fault condition. Once power is restored the system will have to be manually reset in a safe and controlled manner.

Revision	Date	Description	Drawn	Apprvd.
S4-C09	20-03-23	1. central RHS intercom adjusted 100mm. 2. southern LHS intercom position adjusted. 3. central bollard signage split into 2 single-sided signs. 4. southern bollard induction loops adjusted	TF	AM
S4-C08	10-03-23	Intercoms and signage locations adjusted. Induction loop ducting updated in line with ATG/BH info	TF	AM
S4-C07	10-01-23	central bollards rotated and moved closer togethr, central indicator column moved & signage relocated and changed to double sided.	AM	AM
S4-C06	21-12-22	specification of equipment updated	AM	AM
S2-P16	30-11-22	B2 specification updated	AM	AM
S2-P15	22-11-22	B2 specification updated	TF	AM
S2-P14	10-11-22	for internal coordination	AM	AM
S2-P13	09-11-22	for internal coordination	AM	AM
S4-C05	07-10-22	'client confirmation' note omitted from key	TF	AM
S4-C04	15-09-22	southern bollard control box shown (error)	TF	AM
S4-C03	01-09-22	SP2/SP3/Induction loops added to key	TF	AM
D4-C02	31-08-22	for construction	TF	AM
S2-P12	18-08-22	1. B2 bollard locations / specification updated 2. RB1/RB3 locations updated. 3. RB2 omitted.	AM	AM
D4-C01	27-06-22	1. Bollard added to SIM and Ordsall Chord 2. spacing adjusted in line with suppliers info	AM	AM

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Client MCC

Project Factory

Drg Title Bollard Arrangement
Ground Floor

Created on	Created by	Approved by
13-03-19	TF	AM

Scale	Size	Workstage
1:250	A1	Stage 5

Drg No.	Suitability	Revision
MF-PLA-XX-GF-DR-L-10-4002	S4	C09

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