



Green Park Interchange, Reading

CCTV Functional Specification

On behalf of **Reading Borough Council**

Project Ref: 36382/2005 | Rev: 03 | Date: March 2017

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Document Control Sheet

Project Name: Green Park Interchange, Reading

Project Ref: 36382/2005

Report Title: CCTV Functional Specification

Doc Ref: 02

Date: March 2017

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For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved
01	22/03/2018	Dwg reference revised	SK	SK	
02	23/06/2020	RBC comments prior to Construction Issue	SK	SK	RM
03	23/07/2020	Construction Issue	SK	SK	RM
04	04/12/2020	Power arrangement revised	SK	SK	RM

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1 Specification

1.1 Introduction

- 1.1.1 The interchange car park and approach to station entrance were identified as key areas for CCTV coverage.
- 1.1.2 The proposed CCTV locations have therefore been selected to provide coverage of these areas.

1.2 Roles and Responsibilities

- 1.2.1 The Council's CCTV contact for this Contract is:

Wayne Frost
Reading Borough Council
Civic Centre
Reading
Berkshire
RG1 2LU

Email: Wayne.Frost@reading.gov.uk
Tel: 0118 9374370

- 1.2.2 The Main Contractor shall be responsible for liaison with RBC's CCTV contact at regular intervals during the installation to achieve approval of elements of the installation as the works progress. This liaison shall be done in conjunction with the Engineer.
- 1.2.3 Where there is reference to the Specialist CCTV Contractor, this shall be read in the context of the Main Contractor employing a Specialist CCTV Contractor for the CCTV elements of the works. The obligations placed on the Specialist CCTV Contractor shall be the responsibility of the Main Contractor under the contract.
- 1.2.4 In addition to the general requirement placed on the Specialist CCTV Contractor for the delivery of this contract, special attention should be drawn to the following:-
 - The design shall be checked by the Specialist CCTV Contractor to ensure the system shall meet the requirements for the equipment to be installed.
 - The Main Contractor shall ensure there is liaison with all suppliers under the contract to ensure compatibility through all elements of the design.

1.3 CCTV Poles

- 1.3.1 The poles that are to be installed shall be WEC 8 metre poles with cabinet (black) bases with sufficient space to house all required equipment and with a wind down trolley head to allow access for mounting and maintenance of the cameras at ground level. The suggested model is a CBTP8.
- 1.3.2 The wind down mechanism should be operable by a single operator. Poles shall be installed in accordance with the Manufacturer's instructions. Appendix A includes the WEC installation guide and the Main Contractor is to use the correct detail for the 8metre pole.as set out in the document based on the pole type, location and height.

- 1.3.3 It is the Main Contractor's responsibility to ensure that once the pole has been installed that the surrounding area is repaired to an acceptable standard.
- 1.3.4 At each pole power to the base of the pole, in the form of a twin fused socket, shall be provided.

1.4 Camera Requirements

- 1.4.1 The Specialist CCTV Contractor will be required to:
- Supply and Install 2no 1080P IP PTZ Dome Cameras on brackets fixed to a 8m trolley head cabinet based poles as shown on drawing **36382/2011/1300/03**.
 - Supply and install 1 fixed view 1080 IP dome camera on the 8m trolley head cabinet based pole as shown on drawing 36382/2011/1300/03 to cover all the whole of the at grade parking area. It should be noted that this can be the same as the main camera but fixed view.
- 1.4.2 The PTZ cameras will be capable of:
- Full 1080P resolution
 - Full Pan, Tilt, Zoom functionality with a minimum of 30 times zoom
 - Multiple programmable privacy zones
 - Use for identification purposes at a maximum range not less than 200m. This shall be in accordance with the Home Office Scientific Development Branch, CCTV Operational Requirements Manual - Version 5.0, which requires that a 1.64 – 1.76m tall individual should occupy at least 38% of the screen height when zoomed in to the individual at this range.
 - Function in low light levels without the need for additional illumination.
 - The ability to store pre-set positions
 - The ability to have their Pan, Tilt, Zoom, Store Pre-set, Go to Pre-set, Iris, Focus, Auto-Iris and Auto-Focus functions controlled from the existing Tyco Mosaic CCTV In-station.
- 1.4.3 The CCTV camera equipment shall be suitable for external use with a minimum ingress protection rating of IP56.
- 1.4.4 The Specialist CCTV Contractor will be responsible for all brackets and power supplies required by the CCTV equipment to fix to the column.
- 1.4.5 The Predator by 360 vision camera is an example of a product that meets this requirement and would be acceptable to RBC. Equivalent products would also be acceptable, if agreed with RBC in advance of purchase. The cameras shall use Power of Ethernet (PoE) for both power and communication. The Specialist CCTV Contractor is to make all provisions for the installation, set up and commissioning of the PoE link from each camera to the RBC cctv cabinet.

1.5 Local Image Recording

- 1.5.1 Each CCTV camera shall have the capability to provide local recording. This recording facility must have the capacity to record a minimum of 14 days' worth of full resolution footage before it becomes necessary to overwrite data.

1.6 Communication Links

- 1.6.1 Each CCTV camera shall use IP based communication. The communication for the CCTV camera shall be provided from a central BT FTTC line. The arrangements of the provision of the main BT line shall be undertaken by RBC.]
- 1.6.2 A separate cabinet is to be provided to house the CCTV networking equipment and PoE adapters for the cameras. The cabinet will house a Vigor 2865 VDSL router. The router shall be connected to the BT communications line and cabinet. The location of the cabinets can be seen in drawing 36382/2011/1300/02
- 1.6.3 The PoE converter and the router is to then be connected. A schematic of this cabinet can be found in Appendix B.
- 1.6.4 All of these arrangements of providing the equipment, cabling in the RBC CCTV cabinet, cabling between the BT cabinet the RBC CCTV cabinet and the CCTV columns shall be undertaken by the Specialist CCTV Contractor.
- 1.6.5 Power and a distribution board is also to be provided in the cabinet to give power to the PoE and router as per 36382-2011-1400-01.

1.7 LV Supply and Associated Feeder Pillar

- 1.7.1 The Main Contractor shall be responsible for all arrangements for the supply of power to the CCTV installations as shown in electrical design drawing 36382-2011-1400-01

1.8 At the CCTV Control Room

- 1.8.1 The specialist CCTV contractor will be required to arrange for any required configuration of the Tyco Mosaic system to allow the connection of the new CCTV cameras.
- 1.8.2 It will be the responsibility of the Specialist CCTV Contractor to provide any information required by Tyco for this configuration to be completed.
- 1.8.3 The Specialist CCTV Contractor shall also configure the supplied and installed equipment as directed by Tyco.

1.9 Protocol Types

- 1.9.1 The Specialist CCTV Contractor is free to select any make of camera that meets the specification.
- 1.9.2 The Tyco Mosaic system utilises dvtel's Latitude NVMS. The Specialist CCTV Contractor is to ensure that the supplied CCTV camera is compatible with the RBC existing back office Tyco Mosaic CCTV system. Any proposed camera must be approved by RBC/Stantec prior to ordering.

1.10 Tyco Contact

To allow the compatibility of the cameras to be checked or if there are technical queries regarding the current existing CCTV system the current supplier's details are below,

Stephen Dimon
Strategic Account Manager
Integrated Solutions

Email: Stephen.Dimon@jci.com
Mob: 07715 546 097

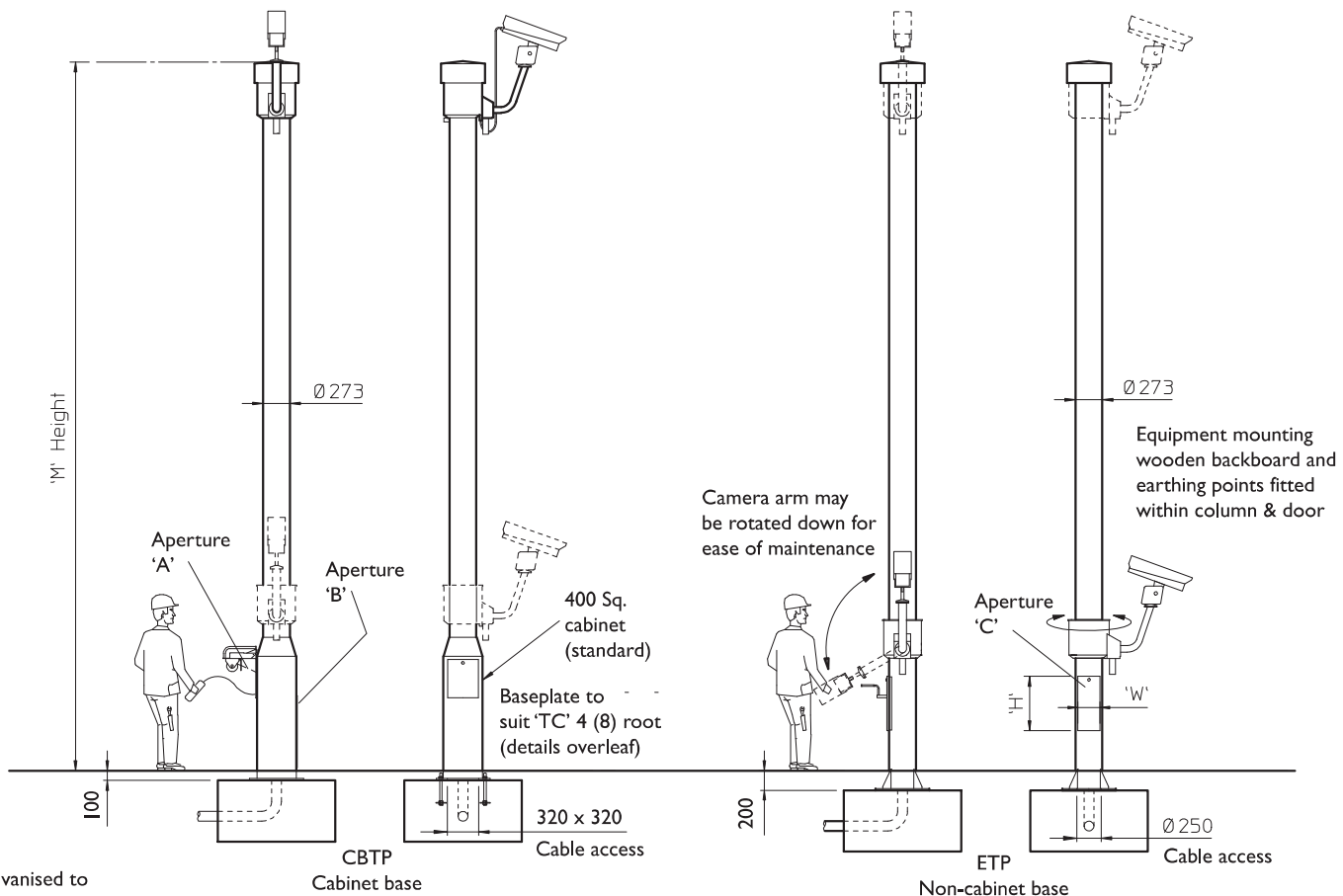
Appendix A – WEC Installation Guide

Technical Specification

Model Ref.	'M' Height	Baseplate Option	HxW Winch aperture 'A'	HxW Equip. aperture 'B'	HxW Winch aperture 'C'	Maximum equip cap'ty	Weight Kgs
CBTP6	6 metres	4 Bolt	n/a	746x312	546x204	25Kg.	411Kg.
ETP6		4 Bolt	390x312	n/a	n/a	25Kg.	391Kg.
CBTP8	8 metres	4 Bolt	n/a	746x312	546x204	25Kg.	491Kg.
ETP8		4 Bolt	390x312	n/a	n/a	25Kg.	471Kg.
CBTP10	10 metres	8 Bolt	n/a	746x312	546x204	25Kg.	573Kg.
ETP10		8 Bolt	390x312	n/a	n/a	25Kg.	553Kg.
CBTP12	12 metres	8 Bolt	n/a	746x312	546x204	25Kg.	659Kg.
ETP12		8 Bolt	390x312	n/a	n/a	25Kg.	639Kg.
CBTP14	14 metres	8 Bolt	n/a	746x312	546x204	25Kg.	715Kg.
ETP14		8 Bolt	390x312	n/a	n/a	25Kg.	695Kg.
CBTP15	15 metres	8 Bolt	n/a	746x312	546x204	25Kg.	780Kg.
ETP15		8 Bolt	390x312	n/a	n/a	25Kg.	760Kg.

All dimensions in mm unless otherwise stated

The trolley pole product range has the option of built-in or transferable winches, either electrically operated or hand operated gear winch



Options & Accessories

Enlarged cabinet (standard 400 Sq.)
 All pan/tilt, dome, fixed camera mount bracketry
 Double door access (partitioned cabinet)
 Cable management system up to 12 metres
 On-site erecting service onto a prepared base
 4 point high security door
 Paint to BS4800 & RAL colours
 Tamperproof micro-switches for cabinet door

Product Ref & Ordering Information

Product Ref & Ordering Information

CB (E) TP 8 nn

Cabinet Based Column

Non-Cabinet Base

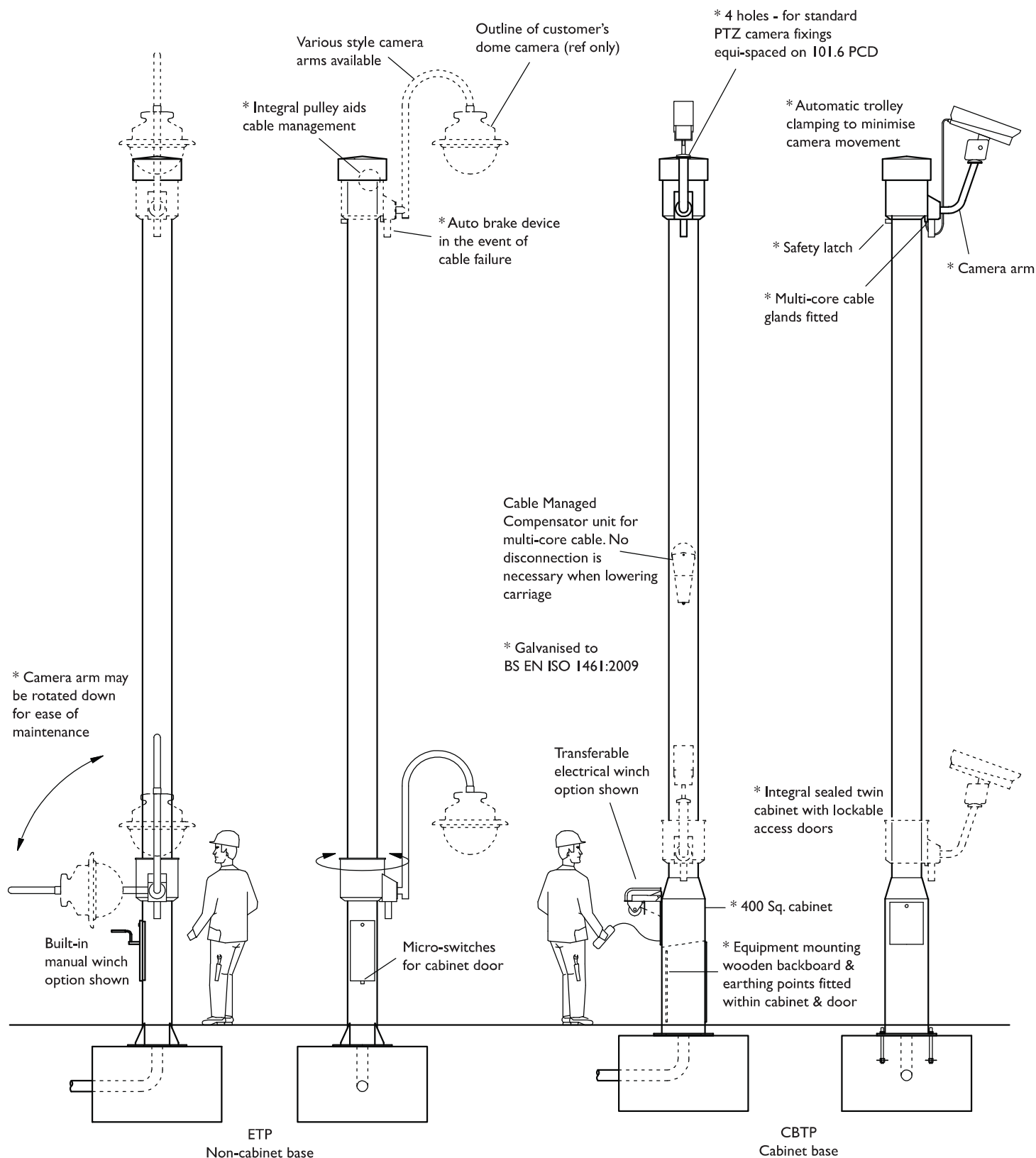
Trolley Pole

Column Height in Metres

Winch Option

see overleaf for range

Cabinet Based & Economy Trolley Pole ETP and CBTP Accessories



All items marked with * are fitted as standard
See Features and Options sheet overleaf for full details

The trolley pole product range has the option of built-in or transferable winches, with either electrically operated or hand operated gear winch

Options for CBTP & ETP Range

HT	Transferable manual winch
HB	Manual winch built into column
EH	Spare winch handle
CM	Cable management
500	Enlarged cabinet size of 500mm Sq.
2C	Separate compartments in cabinet
EDK	Spare cabinet door keys
PKT	Alternative 'pocket' type root fixing
ET	Transferable electric winch (Pat.No. 0019862.2)
EBA	Electric winch built into column
PS	Spare pendant for EBR
110V	110V transformer for EBA or EBR

General Options for CBTP & ETP Range

- Cable management system - fitting compensator & customer free issue cable
- High security door
- Vault type door (4 point locking)
- 500 cabinet base (CBTP only)
- On-site erecting service onto a prepared base
- Painting finishes in BS4800 and RAL colours
- Swept dome adaptors for dome type cameras
- Tamperproof micro-switched for cabinet door

Full Cable Management

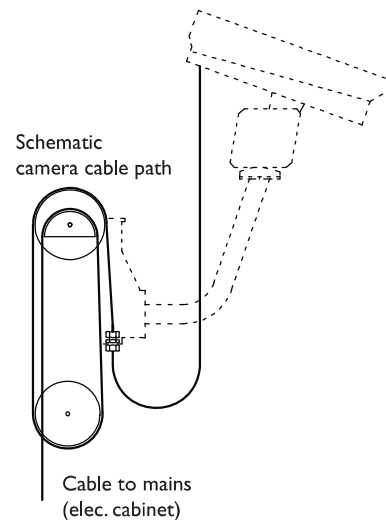
WEC offer full cable management within the trolley pole up to 12 metres. This feature eliminates the need to disconnect the camera multi-core cable, when the camera is lowered to the maintenance position.

Delivery and Erection

WEC offers a full delivery and column erecting service onto a prepared concrete base, anywhere within the UK.

Delivery and Placement

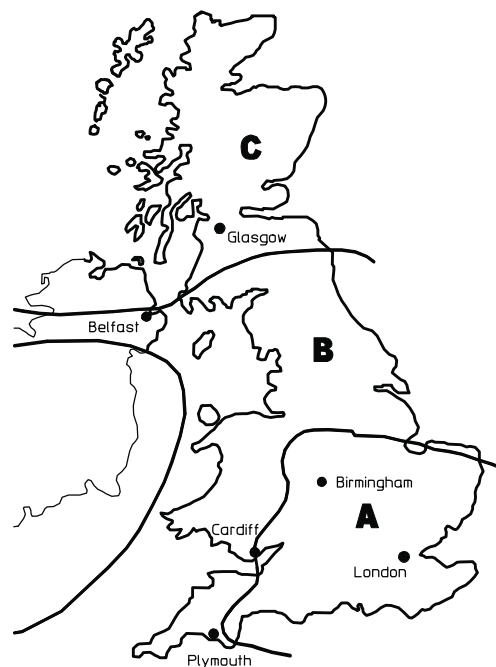
WEC offers a full project management level of delivery and installation. Despite not carrying out the civil work, we offer advice on optimum site location, concrete base sizes (standard and specials), along with placement of pole onto concrete plinth through to commissioning on site.



Base and Windload Specification

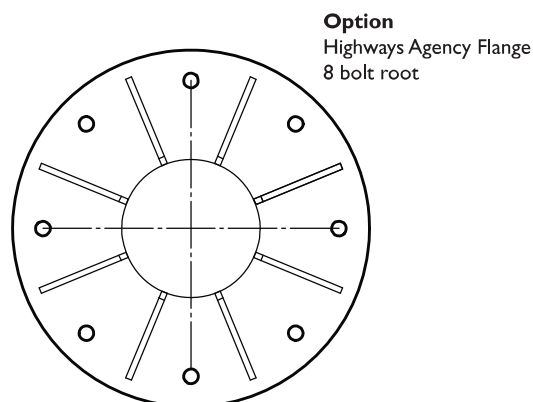
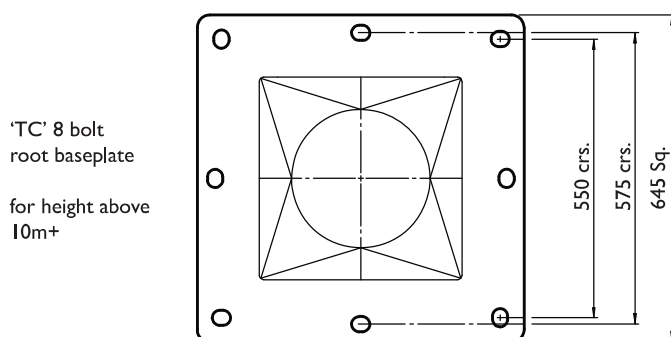
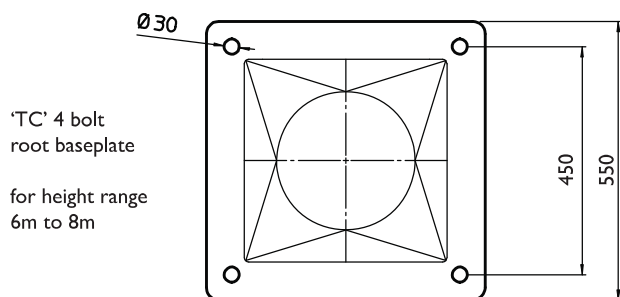
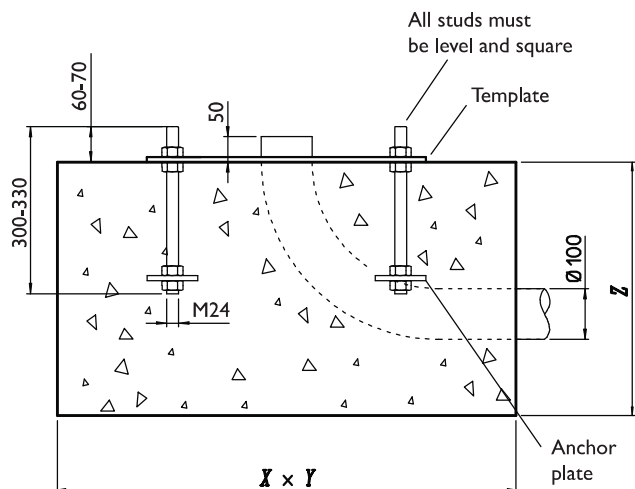
Concrete Foundation Table X x Y x Z							
Model Ref	Height	Area of Country			Area of Town		
		A	B	C	A	B	C
CBTP6 ETP6	6m	1.1x1.1x 0.55m Dp.	1.2x1.2x 0.6m Dp.	1.3x1.3x 0.65m Dp.	1.1x1.1x 0.55m Dp.	1.2x1.2x 0.6m Dp.	1.2x1.2x 0.6m Dp.
CBTP8 ETP8	8m	1.4x1.4x 0.7m Dp.	1.5x1.5x 0.75m Dp.	1.5x1.5x 0.75m Dp.	1.3x1.3x 0.65m Dp.	1.3x1.3x 0.65m Dp.	1.4x1.4x 0.7m Dp.
CBTP10 ETP10	10m	1.5x1.5x 0.75m Dp.	1.6x1.6x 0.8m Dp.	1.7x1.7x 0.85m Dp.	1.4x1.4x 0.7m Dp.	1.5x1.5x 0.75m Dp.	1.6x1.6x 0.8m Dp.
CBTP12 ETP12	12m	1.7x1.7x 0.85m Dp.	1.8x1.8x 0.9m Dp.	1.9x1.9x 0.95m Dp.	1.6x1.6x 0.8m Dp.	1.7x1.7x 0.85m Dp.	1.8x1.8x 0.9m Dp.
CBTP14 ETP14	14m	1.9x1.9x 0.95m Dp.	2.0x2.0x 1.0m Dp.	2.1x2.1x 1.05m Dp.	1.8x1.8x 0.9m Dp.	1.9x1.9x 0.95m Dp.	2.0x2.0x 1.0m Dp.
CBTP15 ETP15	15m	2.0x2.0x 1.0m Dp.	2.1x2.1x 1.05m Dp.	2.2x2.2x 1.1m Dp.	1.9x1.9x 0.95m Dp.	2.0x2.0x 1.0m Dp.	2.1x2.1x 1.05m Dp.

A minimum soil bearing pressure of 75 KN/m² is assumed



Installation Method

1. From the map, select location of installation
2. Excavate as per recommended area and depth
3. Assemble root base as shown in fig. 1
4. Insert root base into the hole ensuring that it is level and that the four studs protrude 60-70mm above the concrete foundation
5. Fit the cable duct if routing via the interior of the column. A plastic pipe of approximately 100mm outside diameter is recommended for this. Ensure this protrudes through the template by 50mm minimum.
6. Pour concrete ensuring that it is a mix of C35 to table 6 BS 8110 and then tamp down well
7. Fit the setting template over the four protruding studs, double-checking that they are level and that clear access can be gained to the cable duct if it is being used
8. Leave the concrete to cure for a minimum of 72 hours prior to attempting to erect the column
9. When fitting the column, ensure that the concrete base is in complete contact with the underside of the column and grout accordingly. Torque the nuts to 230-270 Nm (175-200 fl. lb.)
10. When the column has been fitted, protect the studs with a suitable protective coating. Denzo tape or similar is recommended for this



Appendix B – RBC CCTV Cabinet

