

East West Rail Alliance

Haul Road Traffic Signals: A1 Compound / Bicester Road, Launton, Oxfordshire

VOLUME 2 - WORKS INFORMATION

APPENDIX 500 SERIES

East West rail Alliance

24 February 2020

Notice

This document and its contents have been prepared and are intended solely as information for East West rail Alliance and use in relation to the Off-Line Haul Road Junctions Detailed Traffic Signal Design for A1 compound

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This document has 6 pages including the cover.

Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
Rev 1.0	For Technical Review	MJF	SRH			Feb 2020

Client signoff

Client	East West Rail Alliance
Project	Off-Line Haul Road Junctions / A1 Compound
Job number	5187843
Client signature / date	

Appendix 5/2: SERVICE DUCT REQUIREMENTS

1 Traffic Signal Ducts

1.1 Drawing Set

Reference should be made of the following drawing set for the scheme specific design requirements:

Table 5/2.1 Scheme Specific Design Drawings

Drawing Title	Drawing Number
Access to Compound A1 Traffic Signal Layout	133735_2A-EWR-OXD-CC_A1-DR-CH-002101

Table 5/2.2 Standard Detail Drawings

Drawing Title	Drawing Number
Standard Detail Access chamber installation in unmade ground	TSCADSTD_ATK-HTS_Chamber_DR_D_0006
Standard Detail Carriageway Loop Tail Box	TSCADSTD-ATK-HTS-Loopbox-DR-D-0001
Standard Detail Retention Socket Foundation detail	TSCADSTD-ATK-HTS-Socket-DR-D-0001
Standard Detail traffic Signal Controller Plinth Foundation Detail	TSCADSTD-ATK-HTS-Plinth-DR-D-0001
Standard Detail Typical feeder Pillar and Foundation Detail	TSCADSTD-ATK-HTS-FEEDER-DR-D-0001

- 1.2 The use of thin wall, plastic modular systems will NOT be permitted. All chambers shall be of twin wall construction, with a 12mm LDPE integrated base, with a moulded sump and soak away hole. Covers and Frames shall be fitted, conforming to EN124 standard and be Class B125 (12.5 tonnes) rating minimum. Composite covers with extra deep galvanised steel raising frames; unless D400 (40 tonnes) type covers and frames are specified on the scheme drawings. All frames shall be secured to the chamber by means of bolts. All covers shall be clearly embossed with the words "Traffic Signals". Where D400 type covers are specified, the associated chamber shall have a 150mm backfill around the chamber using ST4 concrete. Where B125 type covers are specified, the associated chamber may have a backfill around the chamber of suitable material instead of ST4 concrete. In unmade verges all Covers and Frames shall have a ST4 concrete surround formed from wood shuttering to extend 300mm from each side and 150mm deep.
- 1.3 Ducts shall be H.D.P.E / M.D.P.E, smooth inner bore, a minimum 5mm wall thickness and orange in colour, with an internal diameter of 100mm and clearly marked "TRAFFIC SIGNALS" in white lettering at ONE metre intervals. Ducting to carriageway loop connection chambers shall be H.D.P.E. / M.D.P.E. smooth inner bore, a minimum 5mm wall thickness and orange in colour, with an internal diameter of 50mm and clearly marked "TRAFFIC SIGNALS" in white lettering at ONE metre intervals.
- 1.4 Traffic signal poles shall be installed with a pole retention system. This system shall utilise a cast steel or ductile iron top section and an integrated duct bend that has a bottom cable entry with a 360-degree swivel to enable duct access from any direction. It shall also have a non-rotation device integral to its construction.
- 1.5 The traffic signal controller shall be installed with a vented cabinet plinth incorporating a base seal free cable gland tray and underground access chamber.
- 1.6 Carriageway Loop Boxes shall be installed in the carriageway and connected to a traffic signals access chamber in the adjacent footway or verge by a 50mm duct as shown in the traffic signals duct drawing.
- 1.7 No preformed bends shall be permitted along the duct runs.
- 1.8 Corrugated ducting will NOT be permitted on site without the prior written approval of the Traffic Signal Design Engineer.
- 1.9 All 100mm ducting shall be proven, by the Contractor passing a 90mm mandrel through the whole length of the completed ducting.
- 1.10 All ducts shall be fitted with nylon draw-strings between access chambers and shall be flushed clear, using compressed air, prior to installation of traffic signal cables.
- 1.11 Ducts shown on the drawings for the use of traffic signal cables shall not be used to carry any other type of service.
- 1.12 The minimum cover for ducts laid in the carriageway shall be 750mm. The ducts shall be bedded in accordance with manufacturers' recommendations.
- 1.13 The minimum cover for ducts laid in the footway/verge shall be 450mm. The ducts shall be bedded in accordance with manufacturers' recommendations.
- 1.14 If there is any dispute on the bedding required then the full bedding requirements of manufacturers' recommendations shall apply.
- 1.15 The location of all new ducts, chambers, retention sockets, carriageway loop tail boxes and cabinet bases to be accurately shown on the Contractors As-Built drawings.
- 1.16 The Contractor shall take particular care when working in the vicinity of existing statutory undertakers (SU) ducting and apparatus. Protection shall be provided, and disturbance minimised. SU representatives shall be given adequate prior notice, should any excavation, moving or backfilling or their service ducts or other apparatus be required. The Contractor shall comply with the Special Requirements of the affected SU companies.

Bill of Quantities

Item No.	Description	Unit	Quantity
1	Traffic signal Pole Retention Socket for 114mm diameter, low access signal pole, RS115 type, 740mm overall depth, duck foot bend.	no	4
2	Traffic signal Pole Retention Socket for 165mm diameter, low access, hinged signal pole, RS168 type, 1.0m overall depth, duck foot bend	no	2
3	100mm external / 94mm internal diameter traffic signal duct, ORANGE.	mtr	350
4	63mm external / 50mm internal diameter traffic signal duct, ORANGE	mtr	10
5	600mm x 450mm traffic signal access chamber, twin-walled, modular construction, Stakka Box type, 900mm depth with metal frame and non-slip composite cover	no	5
6	4500mm x 300mm traffic signal access chamber, twin-walled, modular construction, Stakka Box type, 600mm depth with metal frame and non-slip composite cover	no	8
7	Carriageway loop tail box 150mm x 150mm installed to specification	no	22
8	Install supplied raised traffic signal controller base	Item	1
9	Install supplied traffic signal feeder / isolation pillar	Item	1

PLEASE NOTE THAT THESE item QUANTITIES AND CABLE LENGTHS ARE INDICATIVE ONLY AND THE ACTUAL VALUES MAY VARY AND ARE TO BE ESTABLISHED AND AGREED WITH EWR ON FINAL MEASURE.

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