

- NOTES
1. This drawing depicts a typical outstation layout for a ducted communications cable network.
 2. Access steps to cabinets not shown. See TA 77 (DMRB 9.5.1) Chapter 10 for criteria.
 3. Safety barriers and highway boundary fence omitted for clarity.

This drawing was generated on computer and must not be manually updated

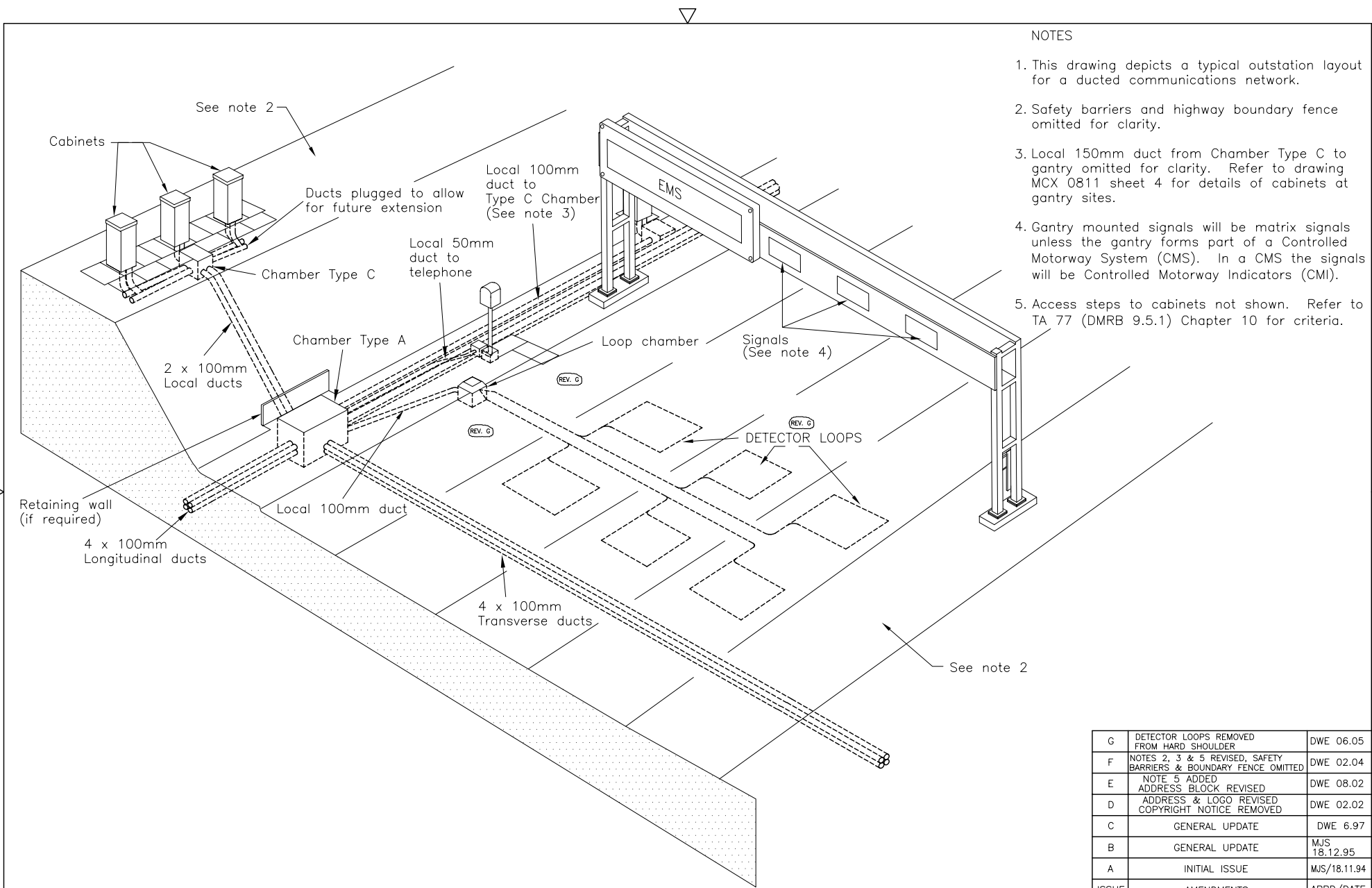
HIGHWAY CONSTRUCTION DETAILS

TITLE
 INSTALLATION DRAWING NMCS (DUCTED CABLE)
 NETWORK DESIGN
 TYPICAL OUTSTATION LAYOUT (POST SIGNALS)

ORIGINAL DRAWING SIZE: 297 x 420
 ALL DIMENSIONS ARE IN MM
 TOLERANCE ± UNLESS OTHERWISE STATED
 THIRD ANGLE PROJECTION DO NOT SCALE

G	DETECTOR LOOPS REMOVED FROM HARD SHOULDER	DWE 06.05
F	NOTE 3 ADDED, NOTE 2 REV, SAFETY BARRIERS & BOUNDARY FENCE OMITTED	DWE 02.04
E	NOTE 2 ADDED, ADDRESS BLOCK REVISED	DWE 08.02
D	ADDRESS & LOGO REVISED, COPYRIGHT NOTICE REMOVED	DWE 02.02
C	GENERAL UPDATE	DWE 6.97
B	GENERAL UPDATE	MJS 18.12.95
A	INITIAL ISSUE	MJS 18.11.94
ISSUE	AMENDMENTS	APPD/DATE
DRN	R.H.H.	CHKD R.E.S.
DATE	12.10.94	DATE 12.10.94
DRG. NO.	MCX 0800	
		SCALE N.T.S.
		SHT. NO. 1/3

REV. G



- NOTES
1. This drawing depicts a typical outstation layout for a ducted communications network.
 2. Safety barriers and highway boundary fence omitted for clarity.
 3. Local 150mm duct from Chamber Type C to gantry omitted for clarity. Refer to drawing MCX 0811 sheet 4 for details of cabinets at gantry sites.
 4. Gantry mounted signals will be matrix signals unless the gantry forms part of a Controlled Motorway System (CMS). In a CMS the signals will be Controlled Motorway Indicators (CMI).
 5. Access steps to cabinets not shown. Refer to TA 77 (DMRB 9.5.1) Chapter 10 for criteria.

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

TITLE
 INSTALLATION DRAWING NMCS (DUCTED CABLE)
 NETWORK DESIGN
 TYPICAL OUTSTATION LAYOUT (GANTRY SIGNAL)

ORIGINAL DRAWING SIZE: 297 x 420
 ALL DIMENSIONS ARE IN MM
 TOLERANCE ± UNLESS OTHERWISE STATED
 THIRD ANGLE PROJECTION DO NOT SCALE

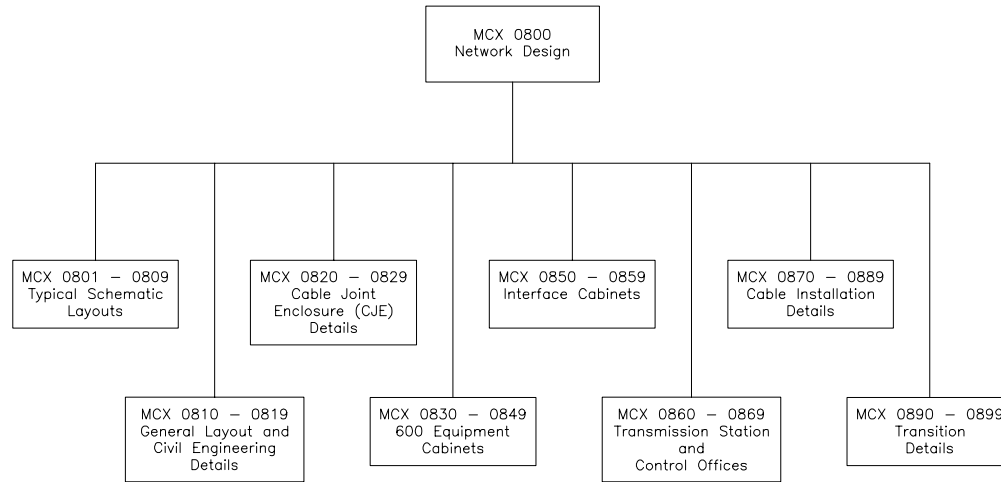
G	DETECTOR LOOPS REMOVED FROM HARD SHOULDER	DWE 06.05
F	NOTES 2, 3 & 5 REVISED, SAFETY BARRIERS & BOUNDARY FENCE OMITTED	DWE 02.04
E	NOTE 5 ADDED ADDRESS BLOCK REVISED	DWE 08.02
D	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
C	GENERAL UPDATE	DWE 6.97
B	GENERAL UPDATE	MJS 18.12.95
A	INITIAL ISSUE	MJS/18.11.94
ISSUE	AMENDMENTS	APPD/DATE
DRN	R.H.H.	CHKD R.E.S.
DATE	12.10.94	DATE 12.10.94
DRG. NO.	MCX 0800	
		SHT. NO. 2/3

(REV. G)

NOTE

1. The MCX 0800 Series details the installation requirements for a ducted communications cable network.
2. Fabrication details for items of hardware such as termination frames are detailed on the MCX 0900 Series of drawings.

REV. B



REV. B

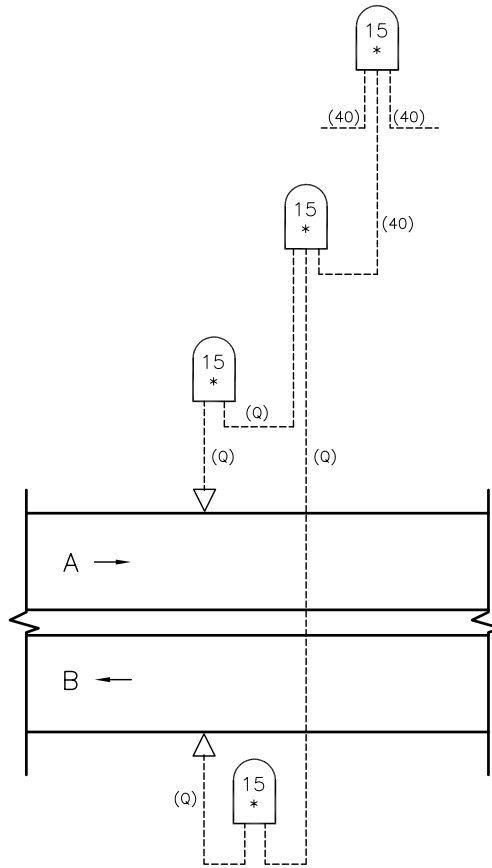
This drawing was generated on computer and must not be manually updated

E	NOTE 3 DELETED ADDRESS BLOCK REVISED	DWE 08.02
D	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
C	GENERAL UPDATE	DWE 6.97
B	GENERAL UPDATE	MJS 18.12.95
A	INITIAL ISSUE	MJS/18.11.94
ISSUE	AMENDMENTS	APPD/DATE

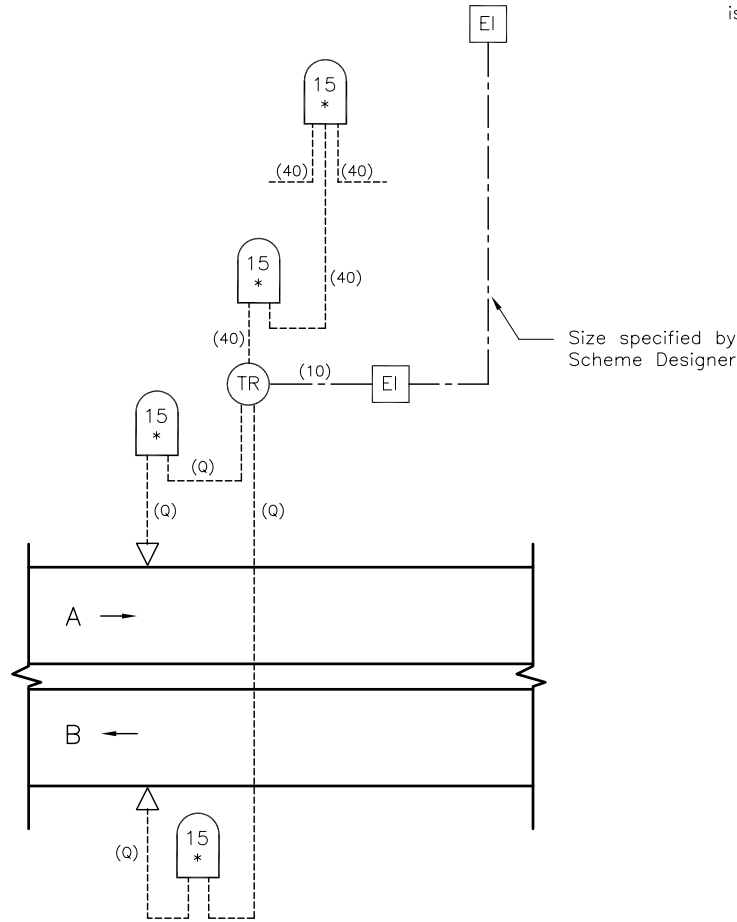
HIGHWAY CONSTRUCTION DETAILS	TITLE INSTALLATION DRAWING NMCS (DUCTED CABLE) NETWORK DESIGN MCX 0800 SERIES DRAWINGS	ORIGINAL DRAWING SIZE: 297 x 420	DRN R.H.H.	CHKD R.E.S.	SCALE	
		ALL DIMENSIONS ARE IN MM	DATE 12.10.94	DATE 12.10.94	N.T.S.	
		TOLERANCE ± UNLESS OTHERWISE STATED	DRG. NO.	MCX 0800		SHT. NO.
		THIRD ANGLE PROJECTION DO NOT SCALE				3 of 3

NOTES

1. Refer to MCX 0131 for key to symbols.
2. CJE on longitudinal pair cable may be a 15-1, 15-2, 15-3 or 15-4.
3. Layout (ii) only applies where the Responder is within 250m of the telephone site.



(i) TELEPHONE ONLY SITE



(ii) TELEPHONE RESPONDER SITE

(REV. H)

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

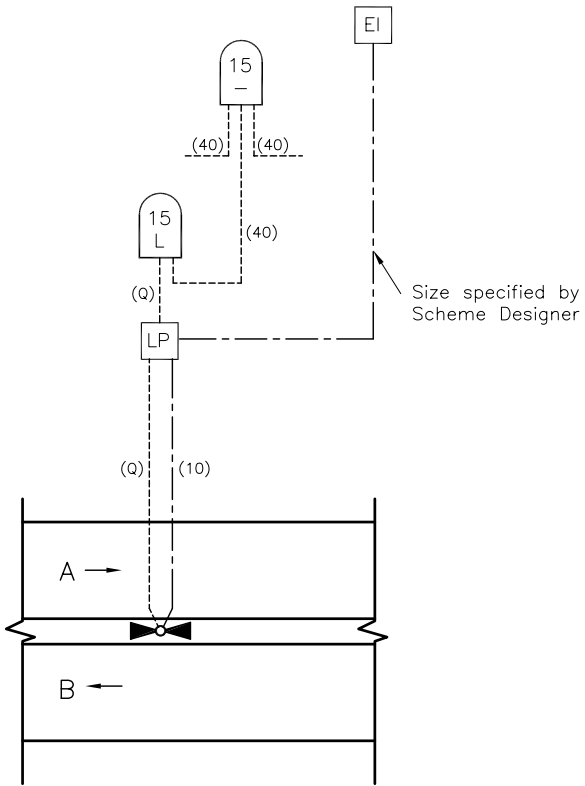
TITLE: INSTALLATION DRAWING NMCS (DUCTED CABLE)
SCHEMATIC LAYOUT
EMERGENCY TELEPHONE SITES

ORIGINAL DRAWING SIZE: 297 x 420
ALL DIMENSIONS ARE IN MM
TOLERANCE ± UNLESS OTHERWISE STATED
THIRD ANGLE PROJECTION DO NOT SCALE

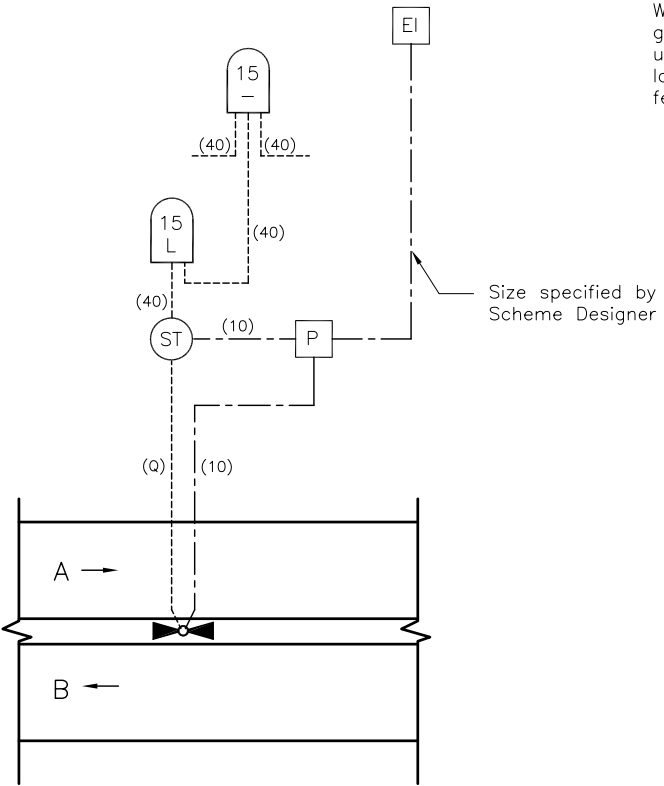
H	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
G	NOTES REVISED	DWE 01/02
F	SHEET 1 MADE HISTORICAL WAS SHT 2 OF 6, SYMBOLS REV.	DWE 8.99
E	TITLE BLOCK UPDATE	DWE 6.97
D	NOTE 3 CORRECTED	MJS 18.12.95
C	TELEPHONE ISOLATION ADDED	MJS 8.8.95
B	NOTE ON POWER CABLE ADDED	MJS 21.12.94
A	INITIAL ISSUE	MJS 18.11.94
ISSUE	AMENDMENTS	APPD/DATE
DRN	R.H.H.	CHKD R.E.S.
DATE	12.10.94	DATE 12.10.94
DRG. NO.	MCX 0801	
		SCALE N.T.S.
		SHT. NO. 1 OF 5

NOTES

1. Refer to MCX 0131 for key to symbols.
2. CJE on longitudinal pair cable may be a 15-1, 15-2, 15-3 or 15-4.
3. Layout (ii) only applies where the Transponder is within 50m of the Signal site. The signal will be connected to port 2 (local) of the ST. Where the signals are less than 150m, but greater than 50m from an ST, layout (ii) is used with the addition of a 609P cabinet local to the signal. The 609P cabinet will be fed directly from the relevant EI supply cabinet.



(i) SIGNAL ONLY SITE



(ii) SIGNAL TRANSPONDER SITE

(REV. H)

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

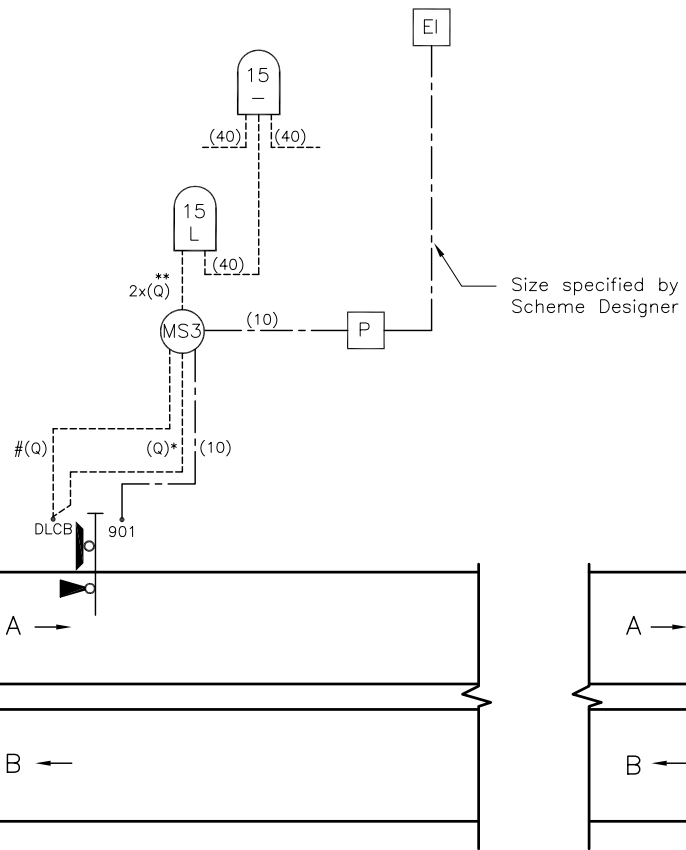
TITLE: INSTALLATION DRAWING NMCS (DUCTED CABLE)
SCHEMATIC LAYOUT
POST MOUNTED SIGNAL SITES

ORIGINAL DRAWING SIZE: 297 x 420
ALL DIMENSIONS ARE IN MM
TOLERANCE ± UNLESS OTHERWISE STATED
THIRD ANGLE PROJECTION DO NOT SCALE

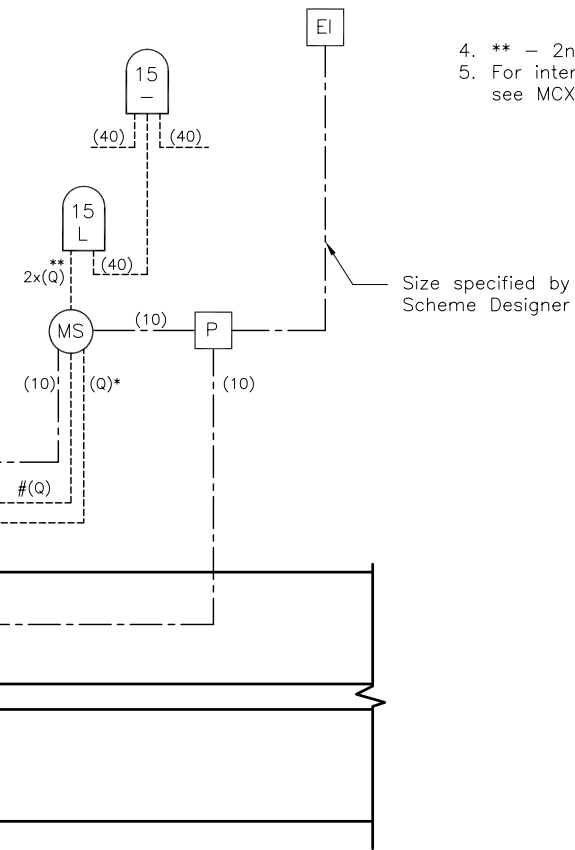
H	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
G	NOTES REVISED	DWE 01/02
F	WAS SHT 3 OF 6 SYMBOLS REVISED	DWE 8.99
E	TITLE BLOCK UPDATE	DWE 6.97
D	NOTE 4 ADDED	MJS 18.12.95
C	NOTE 3 EXPANDED CABLING FROM ST TO SIGNAL AMMENDED	MJS 8.8.95
B	NOTES ON POWER CABLE ADDED	MJS 21.12.94
A	INITIAL ISSUE	MJS 18.11.94
ISSUE	AMENDMENTS	APPD/DATE
DRN	R.H.H.	CHKD R.E.S.
DATE	12.10.94	DATE 12.10.94
DRG. NO.	MCX 0801	
		SCALE N.T.S.
		SHT. NO. 2 of 5

NOTES

1. Refer to MCX 0131 for key to symbols.
2. CJE on longitudinal pair cable may be a 15-1, 15-2, 15-3 or 15-4.
3. Quad cables are routed from the Message Sign/MS3 cabinet to the DLCB 9905 on the gantry/cantilever:
- MS3/Message Sign Control
* - NMCS2 RS485 Control
4. ** - 2nd quad for 'stand alone' control.
5. For interconnections between equipment on gantries see MCX 0142.



(i) MOTORWAY SIGNAL MARK 3 SITE



(ii) GANTRY SIGNAL SITE

H	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06	
G	NOTES REVISED	DWE 01/02	
F	WAS SHEET 4 OF 6 SYMBOLS REVISED	DWE 8.99	
E	REFERENCE TO NON ARMOURED CABLES ON GANTRIES DELETED, GENERAL UPDATE	DWE 7.97	
D	POWER CABLE SIZE AMENDED	MJS 18.12.95	
C	NOTE 4 ADDED, QUAD CABLING AMENDED	MJS 8.8.95	
B	NOTES ON POWER CABLE ADDED	MJS 21.12.94	
A	INITIAL ISSUE	MJS 18.11.94	
ISSUE	AMENDMENTS	APPD/DATE	
DRN	R.H.H.	CHKD R.E.S.	SCALE
DATE	12.10.94	DATE 12.10.94	N.T.S.
DRG. NO.	MCX 0801		SHT. NO.
			3 of 5

(REV. H)

This drawing was generated on computer and must not be manually updated

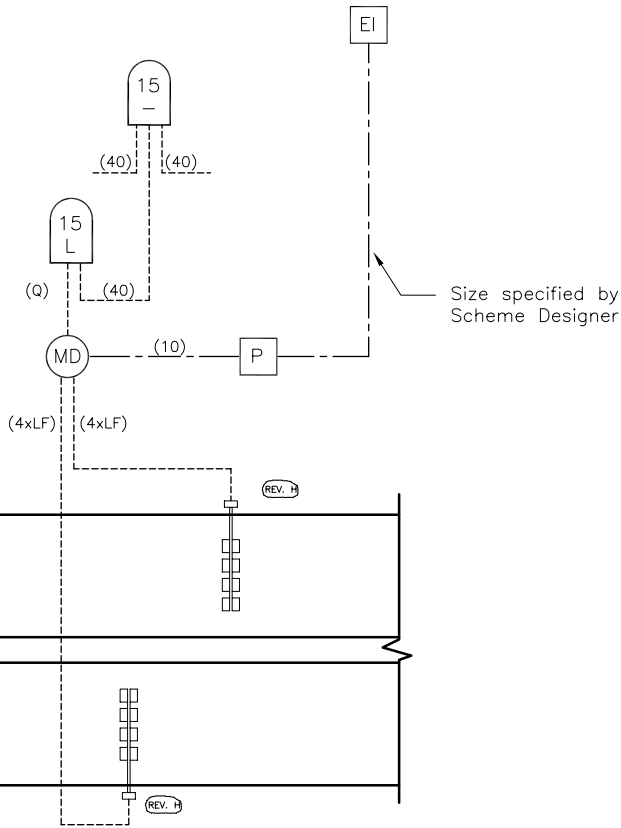
HIGHWAY CONSTRUCTION DETAILS

TITLE
INSTALLATION DRAWING NMCS (DUCTED CABLE)
SCHEMATIC LAYOUT
GANTRY AND CANTILEVER SITES

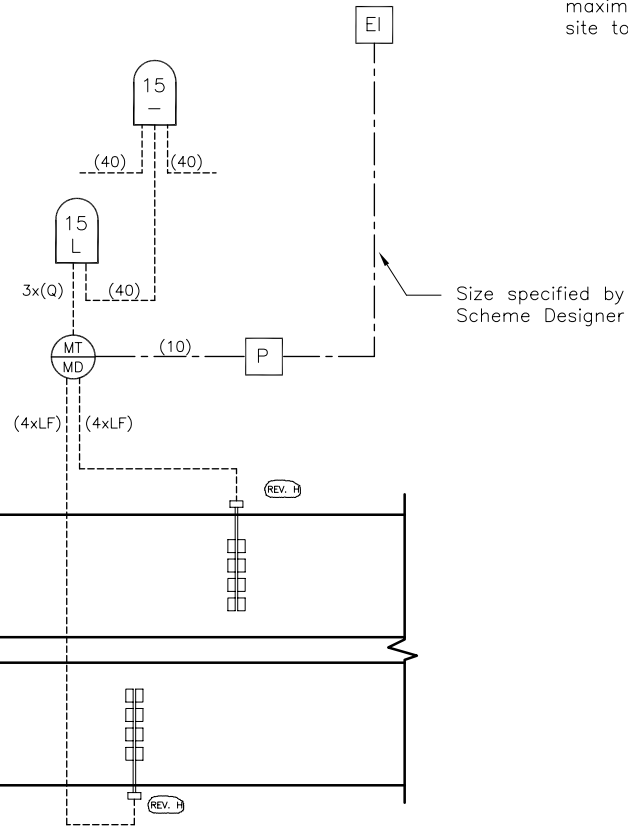
ORIGINAL DRAWING SIZE: 297 x 420
ALL DIMENSIONS ARE IN MM
TOLERANCE ± UNLESS OTHERWISE STATED
THIRD ANGLE PROJECTION DO NOT SCALE

NOTES

1. Refer to MCX 0131 for key to symbols.
2. CJE on longitudinal pair cable may be a 15-1, 15-2, 15-3 or 15-4.
3. Layout (ii) only applies when the Detector Loop site can be located at a MT site. The maximum length of loop feeder cable from loop site to Detector is 200m.



(i) LOOP SITE (4 LANE) (REV. H)



(ii) LOOP AND MIDAS TRANSPONDER SITE (4 LANE) (REV. H)

H	DETECTOR LOOPS REMOVED FROM HARD SHOULDER	DWE 06.05
G	NOTES REVISED	DWE 01.02
F	WAS SHT 5 OF 6, SYMBOLS REV.	DWE 8.99
E	TITLE BLOCK UPDATED	DWE 6.97
D	POWER CABLE SIZE AMENDED	MJS 18.12.95
C	EI ADDED	MJS 8.8.95
B	NOTES ON POWER CABLE ADDED	MJS 21.12.94
A	INITIAL ISSUE	MJS 18.11.94
ISSUE	AMENDMENTS	APPD/DATE
DRN	RHH	CHKD RES
DATE	12.10.94	DATE
DRG. NO.	MCX 0801	
		SHT. NO.
		4/5

HIGHWAY CONSTRUCTION DETAILS

TITLE
 INSTALLATION DRAWING NMCS (DUCTED CABLE)
 SCHEMATIC LAYOUT
 MIDAS SITES

ORIGINAL DRAWING SIZE: 297 x 420
 ALL DIMENSIONS ARE IN MM
 TOLERANCE ± UNLESS OTHERWISE STATED
 THIRD ANGLE PROJECTION DO NOT SCALE

DRN RHH
 DATE 12.10.94
 CHKD RES
 DATE 12.10.94
 SCALE
 NTS
 SHT. NO.
 4/5

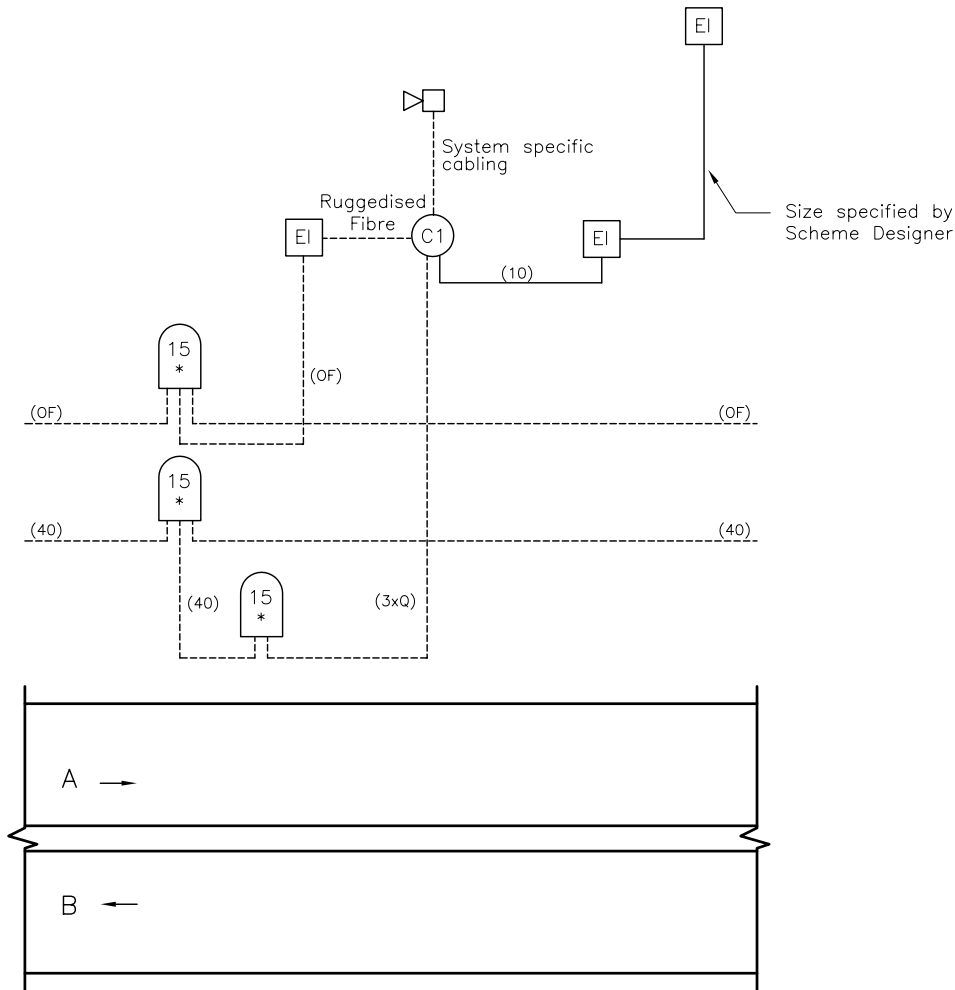
(REV. H)

This drawing was generated on computer and must not be manually updated

(REV. H)

NOTES

1. Refer to MCX 0131 for key to symbols.
2. CJE on longitudinal pair cable may be a 15-1, 15-2, 15-3 or 15-4.



(REV. 1)

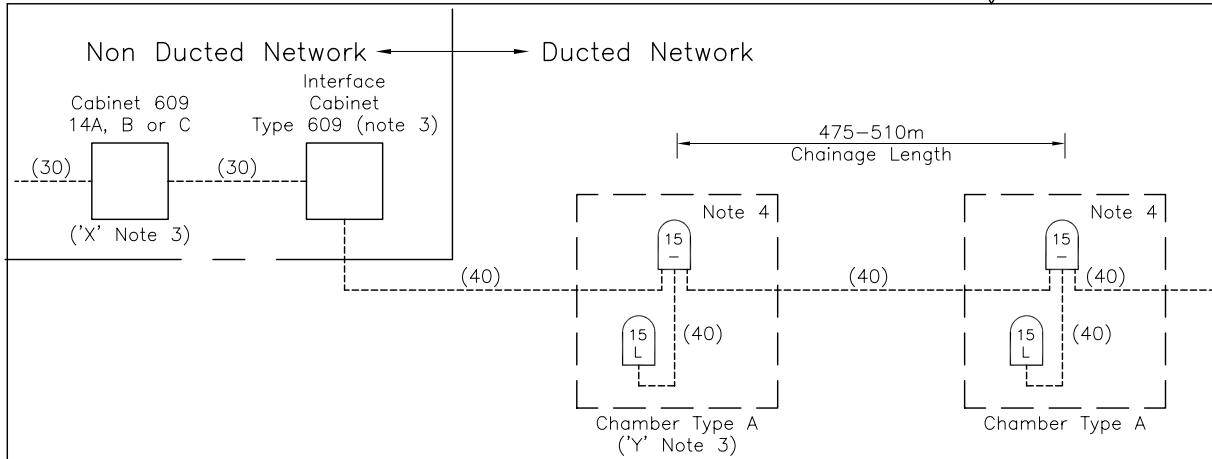
This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

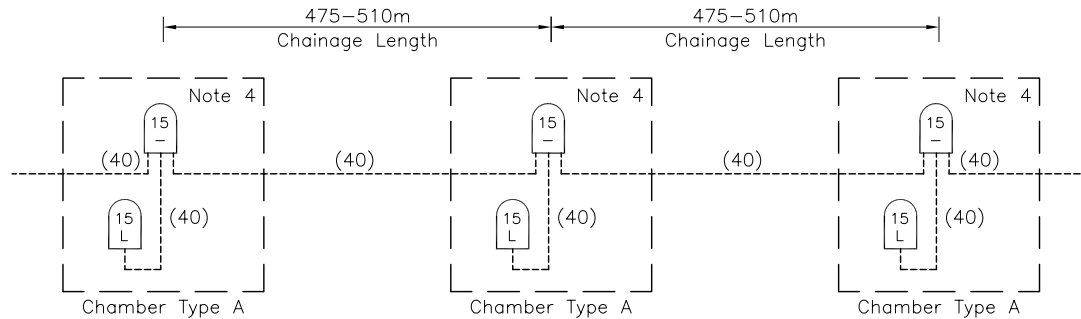
TITLE
INSTALLATION DRAWING NMCS (DUCTED CABLE)
SCHEMATIC LAYOUT
CCTV SITES

ORIGINAL DRAWING SIZE: 297 x 420
ALL DIMENSIONS ARE IN MM
TOLERANCE ± UNLESS OTHERWISE STATED
THIRD ANGLE PROJECTION DO NOT SCALE

H	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
G	NOTES REVISED	DWE 01/02
F	WAS SHT 6 OF 6, SYMBOLS REV.	DWE 8.99
E	TITLE BLOCK AMENDED	DWE 6.97
D	POWER CABLE SIZE AMENDED	MJS 18.12.95
C	CABLING AMENDED	MJS 8.8.95
B	NOTES ON POWER CABLE ADDED	MJS 21.12.94
A	INITIAL ISSUE	MJS 18.11.94
ISSUE	AMENDMENTS	APPD/DATE
DRN	R.H.H.	CHKD R.E.S.
DATE	12.10.94	DATE 12.10.94
DRG. NO.	MCX 0801	
		SCALE N.T.S.
		SH. NO. 5 of 5



a) Interface between ducted and non ducted networks



b) Arrangement when non ducted network is upgraded

NOTE

1. This drawing details the arrangements required to interface between ducted and non ducted networks – Detail a) applies.
2. When the non ducted network is upgraded to a ducted network, the 40 pair link cable is removed and the ducted network becomes continuous as shown on Detail b).
3. Interface cabinet is detailed on MCX 0851. The cable in this cabinet is unloaded. For the purposes of loading design, this cabinet is ignored, the cable length is taken from X to Y.
4. Cable Joint Enclosures are Types 15-1, 15-2, 15-3 or 15-4 as appropriate to the loading design.
5. Copper communications cable is supplied in nominal 550m and 1100m drum lengths. Optic fibre cable is supplied in nominal 1100m and 2060m drum lengths. The Scheme Designer shall take these lengths into account when determining chainage lengths between chambers.

(REV. F)

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS	TITLE INSTALLATION DRAWING NMCS (DUCTED CABLE) INTERFACE WITH NON DUCTED NETWORK GENERAL ARRANGEMENT	ORIGINAL DRAWING SIZE: 297 x 420	DRN R.H.H.	CHKD R.E.S.	SCALE
		ALL DIMENSIONS ARE IN MM	DATE 12.10.94	DATE 12.10.94	N.T.S.
		TOLERANCE ± UNLESS OTHERWISE STATED	DRG. NO. MCX 0802		SHT. NO.
		THIRD ANGLE PROJECTION DO NOT SCALE			1 of 1

F	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
E	NOTE 5 REVISED	DWE 01/02
D	NOTE 5 ADDED, DIMS NOTE REV.	DWE 8.99
C	GENERAL UPDATE	DWE 6.97
B	GENERAL UPDATE	MJS 18.12.95
A	INITIAL ISSUE	MJS 18.11.94
ISSUE	AMENDMENTS	APPD/DATE

MCX 0803 – 0809
NOT USED