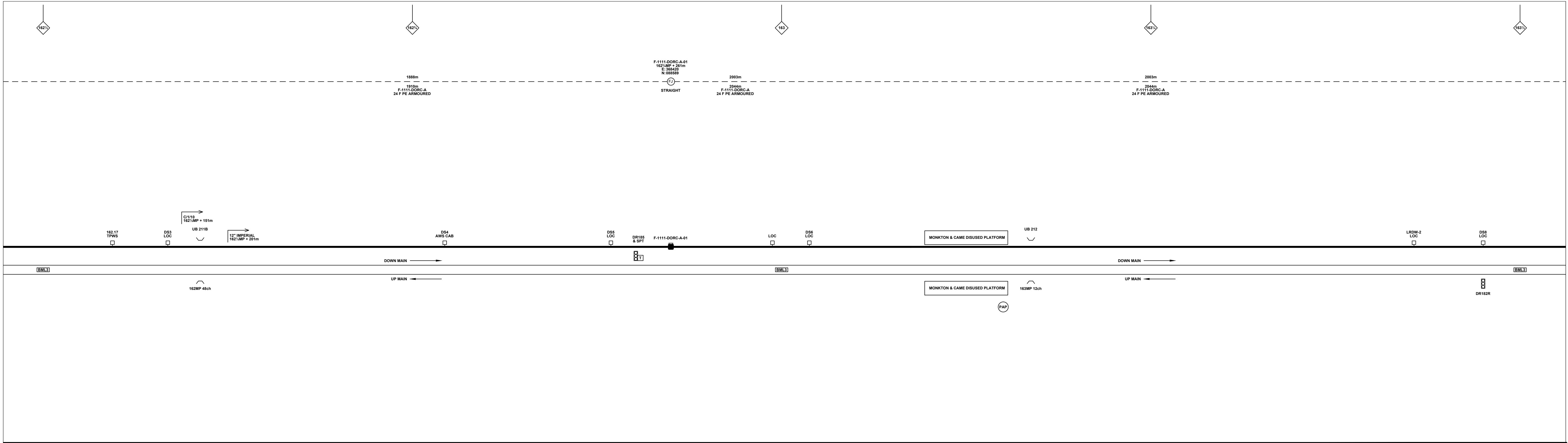


<p>Legend</p> <p>Cabinet and Verts: DC, A, B</p> <p>Cabinet with Regenerator and Verts: DC, A, B</p> <p>KEY: Proposed Fibre & Civils Elements are shown in RED, Proposed Copper Elements are shown in BLUE, Proposed Screening Elements are shown in MAGENTA, All Recoveries are shown in GREEN.</p>	<p>Copper Joint: (C-J)</p> <p>Fibre Joint: (F-J)</p> <p>Screening Conductor Joint with/without Earth: (S-J)</p> <p>1988m Cable - Type Identified by FTN Code: F-DIDC-RGAC-A</p> <p>2034m Cable - Type Identified by FTN Code: F-DIDC-RGAC-A</p> <p>Manhole: (M)</p> <p>Mid Length Sheath Gap Fibre: ()</p> <p>Sheath Gap Copper: ()</p> <p>Signal Box: (SB)</p> <p>Electrical Control Room: (ECR)</p> <p>Manhole details: Cross-To be used, Filled-In use, Clear-Empty</p> <p>Tunnel: (T)</p>	<p>FTN Core Node: (F)</p> <p>Core Node with GSM-R Colocated: (F)</p> <p>FTN Access Node: (F)</p> <p>FTN Access Node with GSM-R Colocated: (F)</p> <p>Screen Joint Routeworks: (S)</p> <p>Copper Joint Routeworks: (C)</p> <p>Cabinet Routeworks: (R)</p> <p>Fibre Joint Routeworks: (F)</p> <p>Overbridge: (OB)</p> <p>Underbridge: (UB)</p> <p>Earth Farm: (EF)</p> <p>Signal: (S)</p> <p>MLNT: (MLNT)</p> <p>Mile Post: (MP)</p> <p>Engineer's Line Reference: (ELR)</p> <p>Platform: (P)</p> <p>Telephone: (T)</p> <p>Crossing: (C)</p> <p>Gantry: (G)</p> <p>Cable Pull: (CP)</p> <p>AC Stanchion: (AS)</p> <p>Gas Line: (GAS)</p> <p>HV Cable: (HV)</p> <p>LV Cable: (LV)</p> <p>Sewer: (SEW)</p> <p>Telecoms: (TEL)</p> <p>Water: (W)</p>																			
<p>ndc consultants</p> <p>Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000</p>	<p>Contractor(s):</p> <p>As-Built</p> <p>ELR & Mileage: BML2, BML3</p>	<table border="1"> <tr> <td>Designed</td> <td>Adam Bourne</td> <td>Sign.</td> <td>Chris Tappenden</td> <td>Date</td> <td>19/10/2010</td> </tr> <tr> <td>Checked</td> <td>Joe Winter</td> <td>Sign.</td> <td>Chris Tappenden</td> <td>Date</td> <td>19/10/2010</td> </tr> <tr> <td>Approved</td> <td>Chris Tappenden</td> <td>Sign.</td> <td></td> <td>Date</td> <td>19/10/2010</td> </tr> </table> <p>Drawing Title: FTN / GSM-R Project Stage 2 As-Built</p> <p>Drawing Title: Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)</p>	Designed	Adam Bourne	Sign.	Chris Tappenden	Date	19/10/2010	Checked	Joe Winter	Sign.	Chris Tappenden	Date	19/10/2010	Approved	Chris Tappenden	Sign.		Date	19/10/2010	<p>Alternative Reference: See Layout Tab A3 Sheets 1 and 2</p> <p>Drawing Number: NTPOLDORCIGA001</p> <p>Sheet: 1 of 3</p> <p>Revision: C</p>
Designed	Adam Bourne	Sign.	Chris Tappenden	Date	19/10/2010																
Checked	Joe Winter	Sign.	Chris Tappenden	Date	19/10/2010																
Approved	Chris Tappenden	Sign.		Date	19/10/2010																





Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Manhole	Underbridge	Vehicle Access Point	Mile Post	Gantry	HV Cable
KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN	Screening Conductor Joint with/without Earth	Status - as per Key Below	Manhole	FTN Access Node	Mid Length Sheath Gap Fibre	Tunnel	Pedestrian Access Point	Platform	LV Cable	Sewer
	Existing Fibre Cable	Existing Copper Cable	Sheath Gap Copper	FTN Access Node with GSM-R Colocated	Earth Farm	Buffer Stop	Telephone	Cable Pull	Telecoms	Water

Manhole details:
Cross-To be used Filled-In use Clear-Empty

Notes

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	25/01/13	Stage 2 As-Built	SC	RP	CT
AB1	11/01/11	As-Built Drawing	EZ	BW	CT
B	22/11/10	Amendments As Per Network Rail Design Review	JW	SF	CT
A	19/10/10	Redrafted from NTPOSLD1111DORC001A.dwg	AB	JW	CT

Contractor(s)

ndc consultants
Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **As-Built**

Scale(s): ELR & Mileage
BML2, BML3

Designed	Adam Bourne	Sign.	Chris Tappenden	Date	19/10/2010
Checked	Joe Winter	Sign.	Chris Tappenden	Date	19/10/2010
Approved	Chris Tappenden	Sign.	Chris Tappenden	Date	19/10/2010

Project: **FTN / GSM-R Project Stage 2 As-Built**

Drawing Title: **Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)**

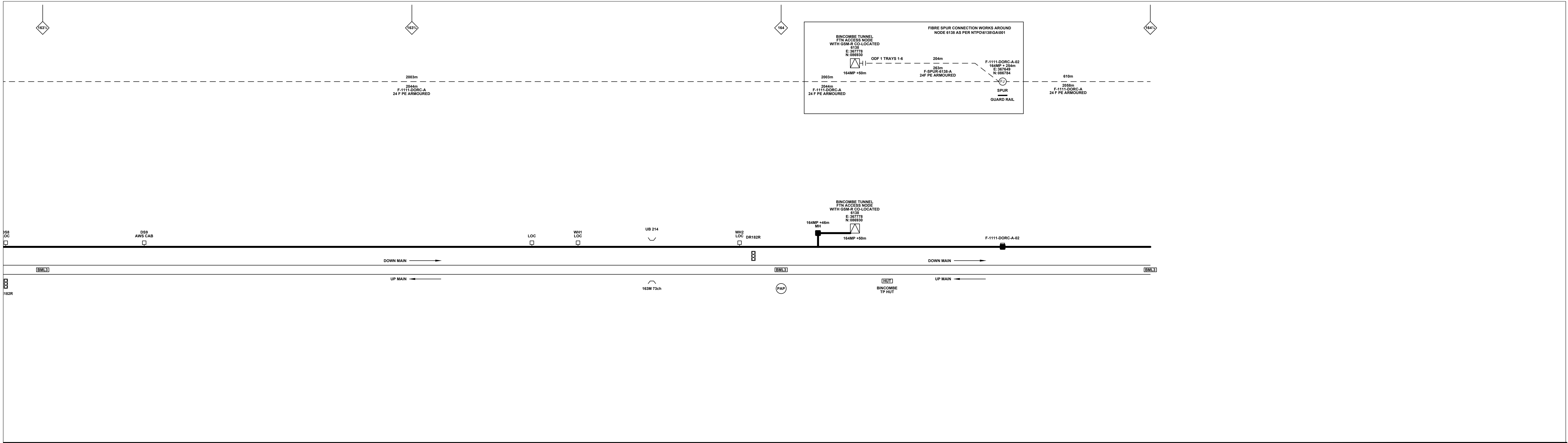
Network Rail

FTN/GSM-R Project
Tournament House
Pardington
London
W2 1HA

Alternative Reference: See Layout Tab A3 Sheets 3 and 4

Drawing Number: **NTPO\SLD\6138\DORC\001**

Sheet: **2 of 3**
Revision: **C**



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	Overbridge	Signal	MLNT Engineer's Line Reference	Crossing	Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Manhole	Underbridge	VAP Vehicle Access Point	Mile Post	Gantry	HV Cable
KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN	Screening Conductor Joint with/without Earth	Status - as per Key Below	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Sheath Gap Copper	Tunnel	PAP Pedestrian Access Point	Platform	Telecoms	LV Cable
	Existing Fibre Cable	Existing Copper Cable	Existing Screen Cable	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Earth Farm	Buffer Stop	Telephone	Cable Pull	Water	AC Stanchion

Notes

C	25/01/13	Stage 2 As-Built	SC	RP	CT
AB1	11/01/11	As-Built Drawing	EZ	BW	CT
B	22/11/10	Amendments As Per Network Rail Design Review	JW	SF	CT
A	19/10/10	Redrafted from NTPOSLD1111DORC001A.dwg	AB	JW	CT
Rev	Date	Description of Revisions	Drawn	Chkd	Appr

Contractor(s)

ndc consultants
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As-Built

NTS

ELR & Mileage
BML2, BML3

Designed	Adam Bourne	Sign.	Chris Tappenden	Date	19/10/2010
Drawn	Adam Bourne	Sign.	Chris Tappenden	Date	19/10/2010
Checked	Joe Winter	Sign.	Chris Tappenden	Date	19/10/2010
Approved	Chris Tappenden	Sign.	Chris Tappenden	Date	19/10/2010

Project: FTN / GSM-R Project Stage 2 As-Built

Drawing Title: Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)

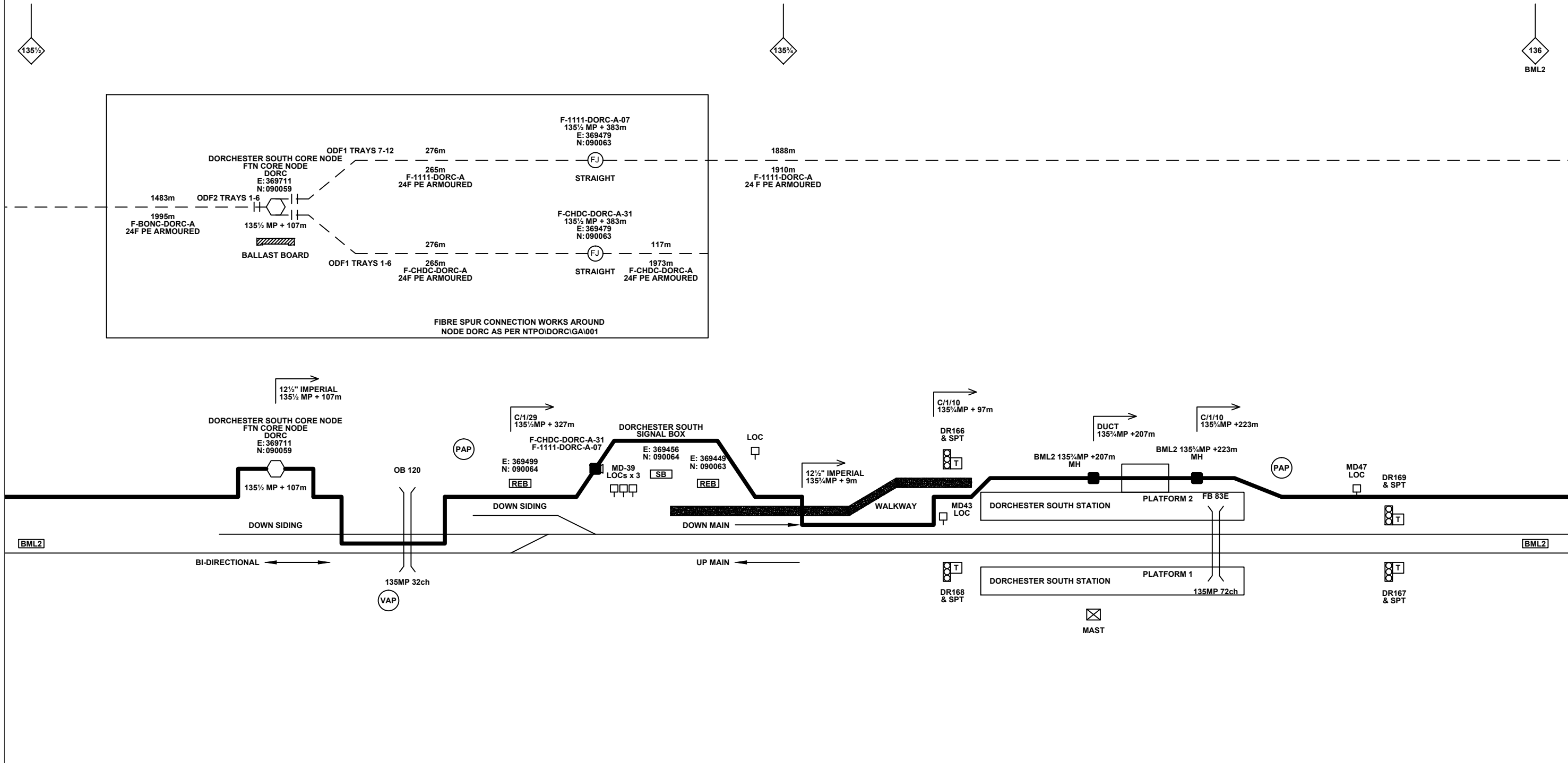
Network Rail

FTN/GSM-R Project
Tournament House
Pardington
Leicester
LE12 7HA

Alternative Reference: See Layout Tab A3 Sheets 5 and 6

Drawing Number: NTP0\SLD\6138\DORC\001

Sheet: 3 of 3
Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	GAS — GAS — Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Underbridge	Vehicle Access Point	Mile Post	Gantry	HV — HV — HV Cable
KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN	Screening Conductor Joint with/without Earth	Status - as per Key Below	Manhole	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used, Filled-In use, Clear-Empty	Pedestrian Access Point	Platform	SEW — SEW — Sewer	TEL — TEL — Telecoms
All Existing Elements are shown in BLACK	Existing Fibre Cable	Existing Copper Cable	Mid Length Sheath Gap Fibre	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Tunnel	Earth Farm	AC Stanchion	W — W — Water	Cable Pull

Notes

C	25/01/13	Stage 2 As-Built	SC	RP	CT
ABI	11/01/11	As-Built Drawing	EZ	BW	CT
B	22/11/10	Amendments As Per Network Rail Design Review	JW	SF	CT
A	19/10/10	Redrafted from NTPOSLD1111DORC001A.dwg	AB	JW	CT
Rev	Date	Description of Revisions	Drawn	Chkd	Appr

Contractor(s)

ndc consultants
Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **As-Built**

Scale(s): NTS, ELR & Mileage, BML2, BML3

Designed	Sign.	Date
Drawn	Adam Bourne	19/10/2010
Checked	Joe Winter	19/10/2010
Approved	Chris Tappenden	19/10/2010
Project: FTN / GSM-R Project Stage 2 As-Built		
Drawing Title: Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)		

Network Rail

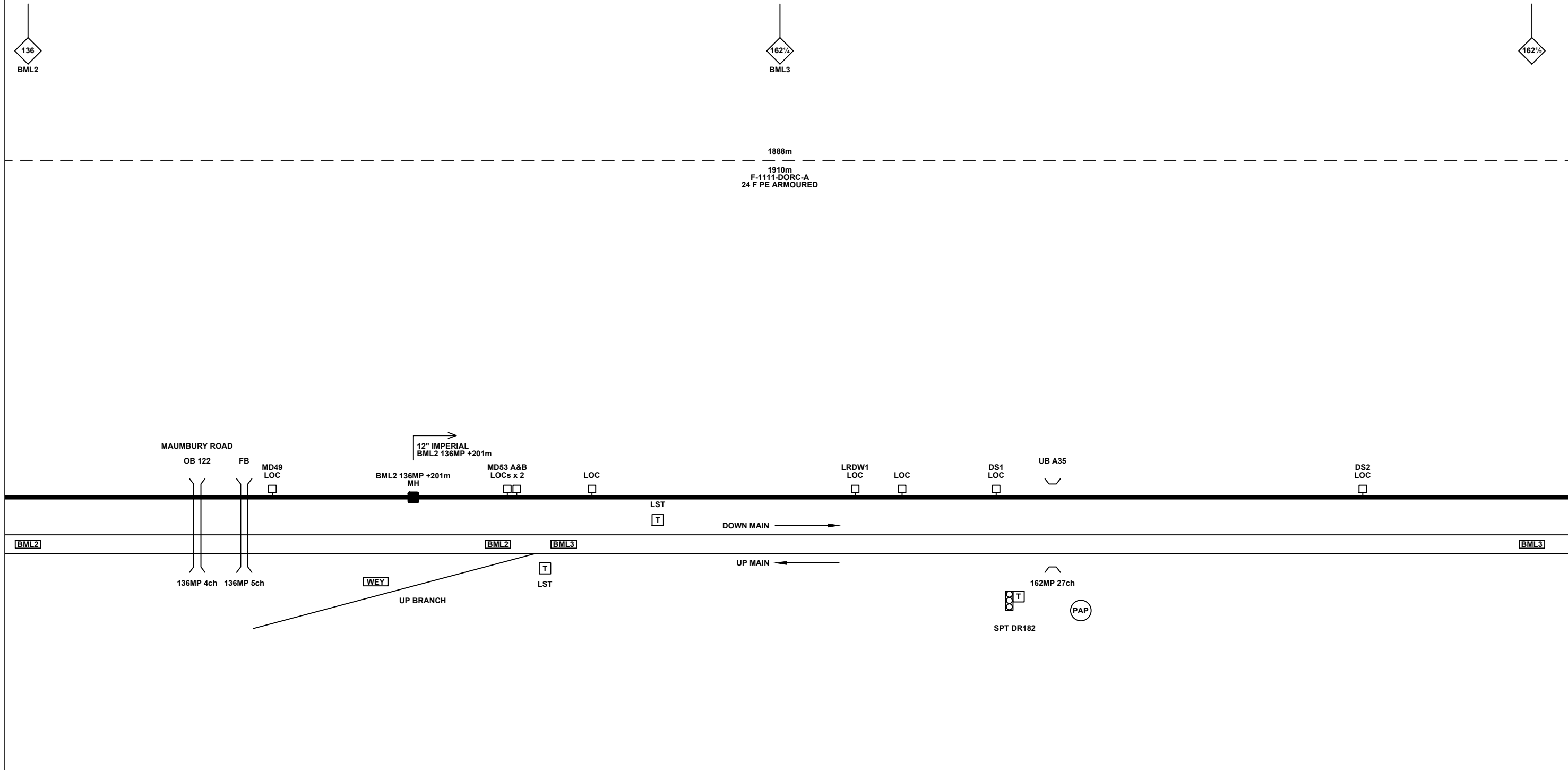
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 1

Drawing Number: NTPO\SLD\6138\DORC\001

Sheet: 1 of 6

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	GAS — GAS — Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Underbridge	Vehicle Access Point	Mile Post	Gantry	HV — HV — HV Cable
KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN	Screening Conductor Joint with/without Earth	Manhole	Manhole	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used, Filled-In use, Clear-Empty	Pedestrian Access Point	Platform	W — W — Water	Cable Pull
	2034m F-DIDC-RGAC-A	Status - as per Key Below	Mid Length Sheath Gap Fibre	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Tunnel	Earth Farm	Buffer Stop	Telephone	AC Stanchion

Notes

C	25/01/13	Stage 2 As-Built	SC	RP	CT
ABI	11/01/11	As-Built Drawing	EZ	BW	CT
B	22/11/10	Amendments As Per Network Rail Design Review	JW	SF	CT
A	19/10/10	Redrafted from NTPOSLD1111DORC001A.dwg	AB	JW	CT
Rev	Date	Description of Revisions	Drawn	Chkd	Appr

Contractor(s)

ndc consultants
Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **As-Built**

Scale(s): NTS

ELR & Mileage: BML2, BML3

Designed	Sign.	Date
Drawn	Adam Bourne	19/10/2010
Checked	Joe Winter	19/10/2010
Approved	Chris Tappenden	19/10/2010
Project	FTN / GSM-R Project Stage 2 As-Built	
Drawing Title	Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)	

Network Rail

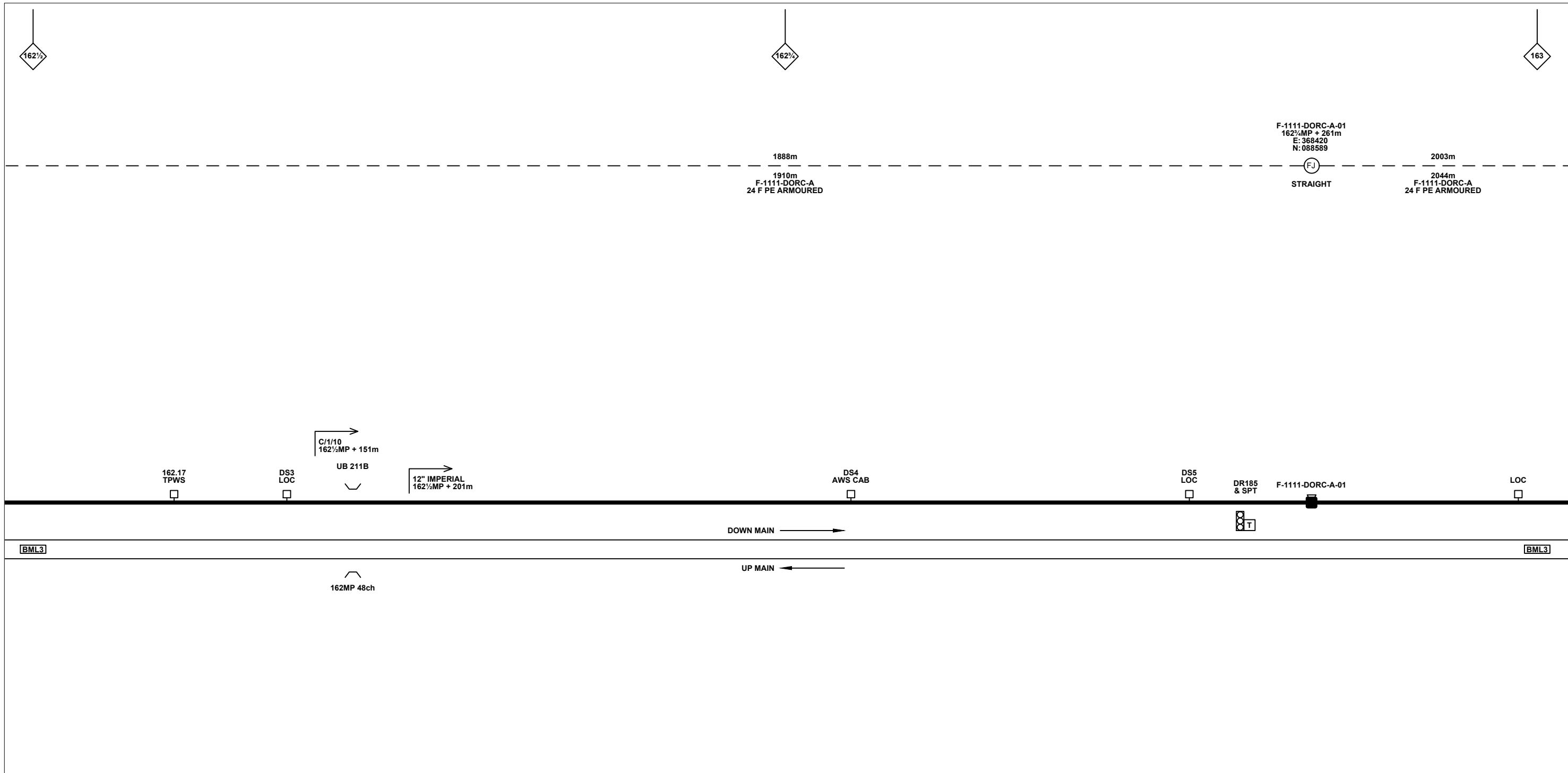
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 1

Drawing Number: NTPO\SLD\6138\DORC\001

Sheet: 2 of 6

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	Engineer's Line Reference	Crossing	GAS — GAS — Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Underbridge	Vehicle Access Point	Mile Post	Gantry	HV — HV — HV Cable
KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN	Screening Conductor Joint with/without Earth	Manhole	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used, Filled-In use, Clear-Empty	Pedestrian Access Point	Platform	TEL — TEL — Telecoms	v — v — Water
	Status - as per Key Below	Sheath Gap Copper	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Tunnel	Earth Farm	Buffer Stop	Telephone	Cable Pull	AC Stanchion

Notes

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	25/01/13	Stage 2 As-Built	SC	RP	CT
ABI	11/01/11	As-Built Drawing	EZ	BW	CT
B	22/11/10	Amendments As Per Network Rail Design Review	JW	SF	CT
A	19/10/10	Redrafted from NTPOSLD1111DORC001A.dwg	AB	JW	CT

Contractor(s)

ndc consultants
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Status: **As-Built**

Scale(s): NTS, BML2, BML3

Designed	Sign.	Date
Drawn	Adam Bourne	19/10/2010
Checked	Joe Winter	19/10/2010
Approved	Chris Tappenden	19/10/2010
Project: FTN / GSM-R Project Stage 2 As-Built		
Drawing Title: Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)		

Network Rail

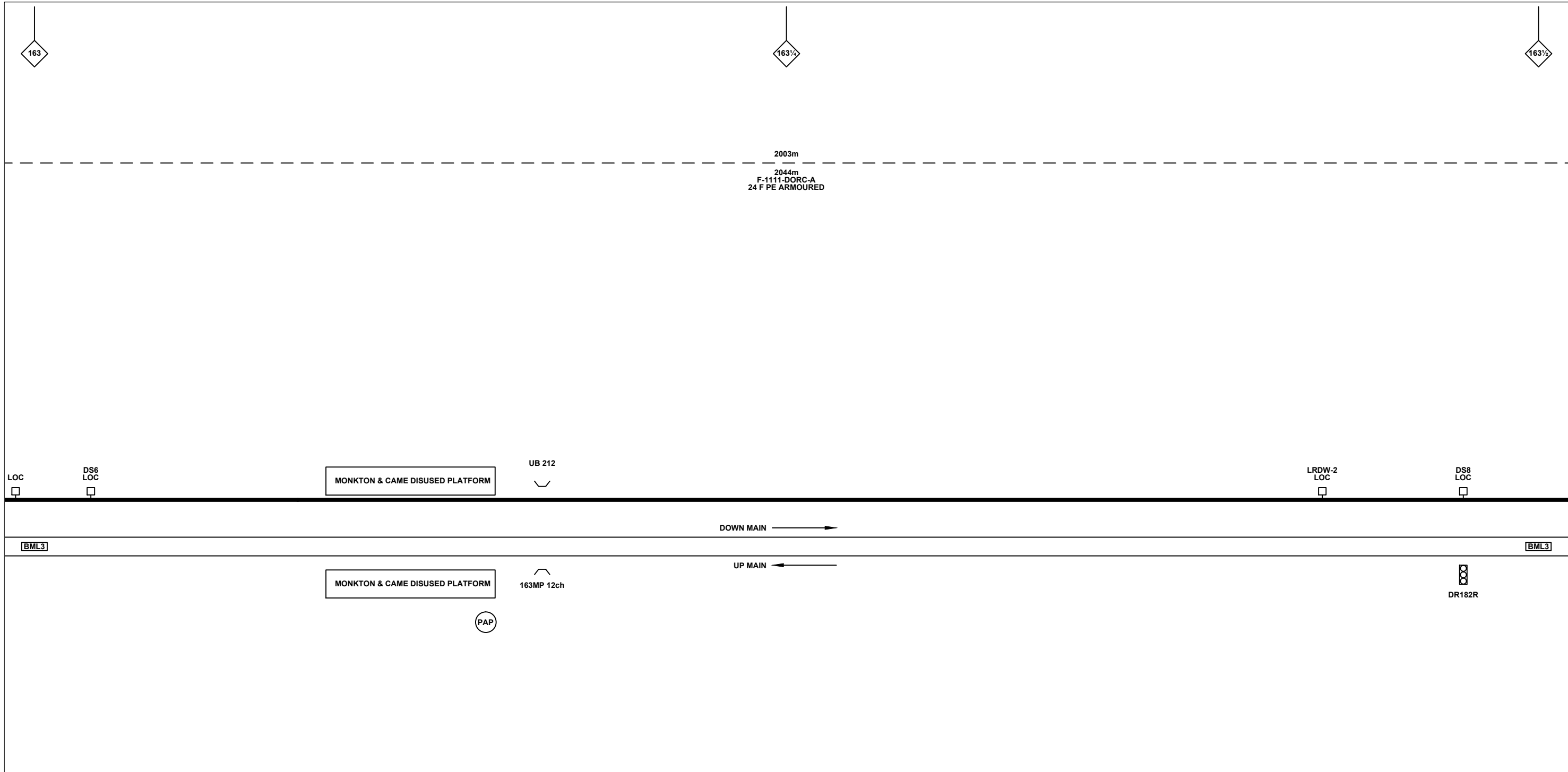
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 2

Drawing Number: NTPO\SLD\6138\DORC\001

Sheet: 3 of 6

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Manhole details: Cross-To be used, Filled-In use, Clear-Empty	Overbridge	Signal	MLN1 Engineer's Line Reference	Crossing	GAS Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Manhole	Underbridge	VAP Vehicle Access Point	Mile Post	Gantry	HV HV Cable
KEY: Proposed Fibre & Civils Elements are shown in RED, Proposed Copper Elements are shown in BLUE, Proposed Screening Elements are shown in MAGENTA, All Recoveries are shown in GREEN.	Screening Conductor Joint with/without Earth	Status - as per Key Below	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Sheath Gap Copper	Tunnel	PAP Pedestrian Access Point	Platform	Water	Cable Pull
	1988m Cable	2034m F-DIDC-RGAC-A Cable	Manhole	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Earth Farm	Buffer Stop	Telephone	AC Stanchion		

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	25/01/13	Stage 2 As-Built	SC	RP	CT
ABI	11/01/11	As-Built Drawing	EZ	BW	CT
B	22/11/10	Amendments As Per Network Rail Design Review	JW	SF	CT
A	19/10/10	Redrafted from NTPOSLD1111DORC001A.dwg	AB	JW	CT

Contractor(s)

ndc consultants
Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **As-Built**

Scale(s): NTS

ELR & Mileage: BML2, BML3

Designed	Sign.	Date
Drawn	Adam Bourne	19/10/2010
Checked	Joe Winter	19/10/2010
Approved	Chris Tappenden	19/10/2010
Project: FTN / GSM-R Project Stage 2 As-Built		
Drawing Title: Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)		

Network Rail

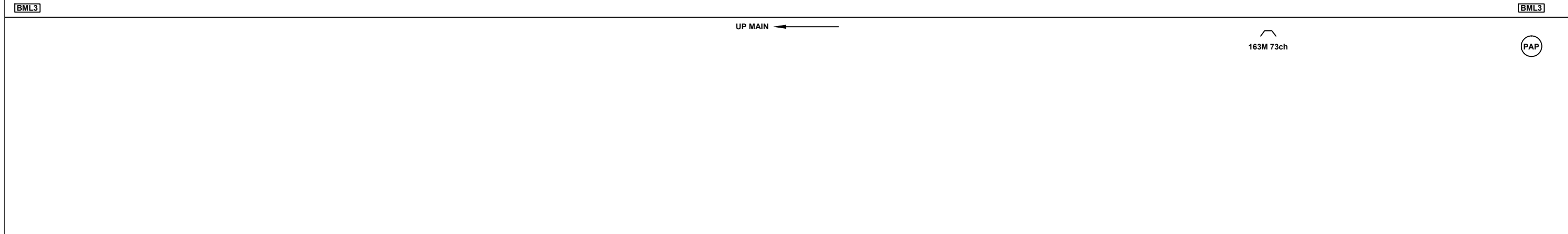
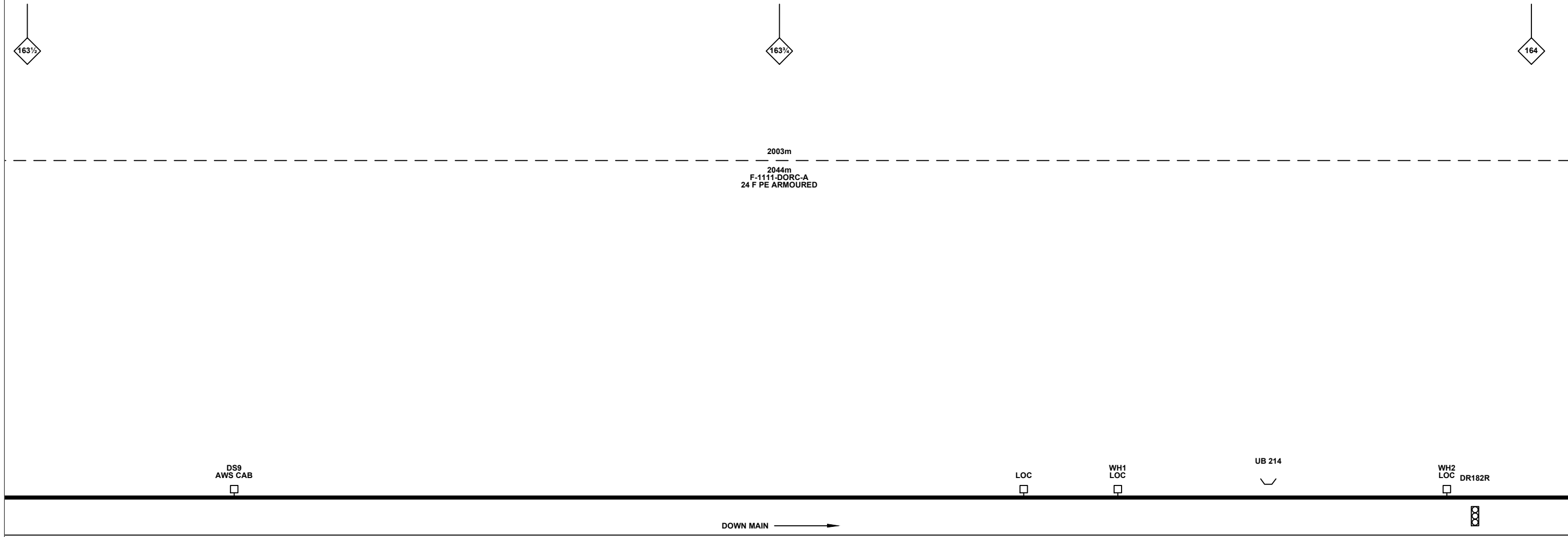
FTN/GSM-R Project
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Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 2

Drawing Number: NTPO\SLD\6138\DORC\001

Sheet: 4 of 6

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	Overbridge	Signal	MLN1	Engineer's Line Reference	Crossing	GAS — GAS — Gas Line	
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Manhole	Underbridge	VAP	Vehicle Access Point	Mile Post	Gantry	HV — HV — HV Cable	
KEY	Screening Conductor Joint with/without Earth	Status - as per Key Below	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Sheath Gap Copper	Tunnel	PAP	Pedestrian Access Point	Platform	W — W — Water	Cable Pull	AC Stanchion
	1988m	2034m F-DIDC-RGAC-A	Manhole	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Earth Farm	Buffer Stop	Telephone	Copper Blue Fibre Red Screen Green				

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
C	25/01/13	Stage 2 As-Built	SC	RP	CT
ABI	11/01/11	As-Built Drawing	EZ	BW	CT
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A	19/10/10	Redrafted from NTPOSLD1111DORC001A.dwg	AB	JW	CT

Contractor(s)

ndc consultants
Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **As-Built**

Scale(s): NTS

ELR & Mileage: BML2, BML3

Designed	Sign.	Date
Drawn	Adam Bourne	19/10/2010
Checked	Joe Winter	19/10/2010
Approved	Chris Tappenden	19/10/2010
Project: FTN / GSM-R Project Stage 2 As-Built		
Drawing Title: Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)		

Network Rail

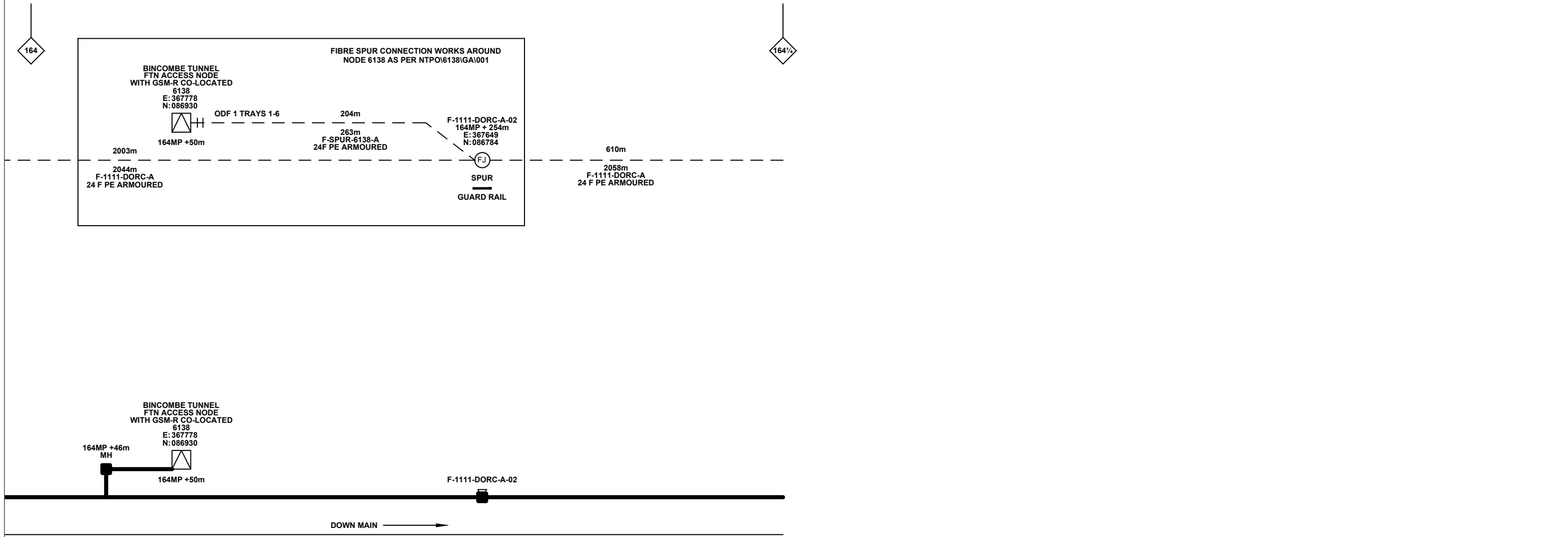
FTN/GSM-R Project
Tournament House
Paddington
London
W2 1HA

Alternative Reference: See Layout Tab 841 x 297 Sheet 3

Drawing Number: NTPO\SLD\6138\DORC\001

Sheet: 5 of 6

Revision: C



Legend

Cabinet and Verts	Copper Joint	Trough Duct Cable Tray	Signal Box	FTN Core Node	Screen Joint Routeworks	Overbridge	Signal	MLN1 Engineer's Line Reference	Crossing	GAS Gas Line
Cabinet with Regenerator and Verts	Fibre Joint	Cable - Type Identified by FTN Code	Electrical Control Room	Core Node with GSM-R Colocated	Copper Joint Routeworks	Manhole	Underbridge	VAP Vehicle Access Point	Gantry	HV HV Cable
KEY Proposed Fibre & Civils Elements are shown in RED Proposed Copper Elements are shown in BLUE Proposed Screening Elements are shown in MAGENTA All Recoveries are shown in GREEN	Screening Conductor Joint with/without Earth	Status - as per Key Below	Mid Length Sheath Gap Fibre	FTN Access Node	Cabinet Routeworks	Manhole details: Cross-To be used Filled-In use Clear-Empty	PAP Pedestrian Access Point	Platform	SEW Sewer	LV LV Cable
	Existing Fibre Cable	Existing Copper Cable	Sheath Gap Copper	FTN Access Node with GSM-R Colocated	Fibre Joint Routeworks	Tunnel	Earth Farm	Telephone	Water	Cable Pull

Notes

C	25/01/13	Stage 2 As-Built	SC	RP	CT
ABI	11/01/11	As-Built Drawing	EZ	BW	CT
B	22/11/10	Amendments As Per Network Rail Design Review	JW	SF	CT
A	19/10/10	Redrafted from NTPOSLD1111DORC001A.dwg	AB	JW	CT
Rev	Date	Description of Revisions	Drawn	Chkd	Appr

Contractor(s)

ndc consultants
Unit 4 Apex Park, Wainwright Road, Worcester, Worcestershire, WR4 9FN. Tel: 01905 756000

Status: **As-Built**

Scale(s): NTS, ELR & Mileage, BML2, BML3

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Checked	Joe Winter	19/10/2010
Approved	Chris Tappenden	19/10/2010
Project	FTN / GSM-R Project Stage 2 As-Built	
Drawing Title	Bincombe Tunnel (6138) to Dorchester South Core Node (DORC)	

Network Rail

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Alternative Reference: See Layout Tab 841 x 297 Sheet 3

Drawing Number: NTPO\SLD\6138\DORC\001

Sheet: 6 of 6

Revision: C