

Note: All water levels taken w/b 04th Nov 2019

[illegible]

xxx	xxx	xxx	xxx/xx/xx
Rev.	Description	Initials	Date

**Geoff Perry
Associates Limited**

The Sheddery,
28 Edgworth Road,
Aldershot,
Wokingham
RG23 3BH

3P

SURVEYING

☎ 01222 744 030
✉ enquiries@geoffperryassociates.co.uk

Client:
Redrow Homes Ltd

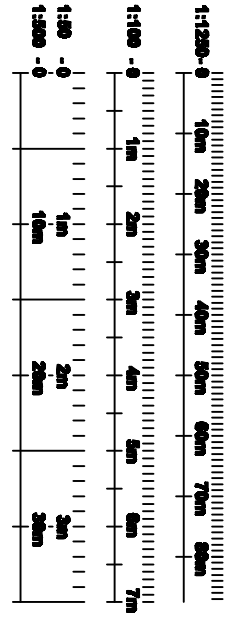
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Burbage**

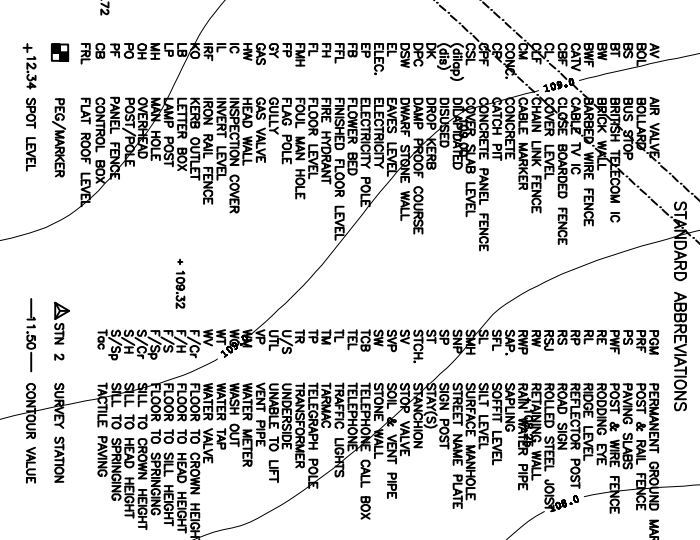
Site Survey
Sheet 2 of 4

Date: Nov 2019 Scale: 1:500 @ A0
Drawn by: ICP Checked by: XXX

Job No.	Drp No
S 219	1067

Scale Check



[illegible]

**Geoff Perry
Associates Limited**

3P

The Broadway,
28 Ridgeway Road,
Macclesfield,
Cheshire,
M13 9BH

SURVEYING

t: 01622 744 000
e: enquiries@geoffperry.co.uk

Redrow Homes Ltd

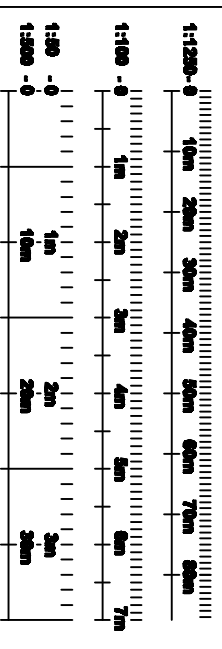
**Coventry Road
Burbage**

Site Survey
Sheet 4 of 4

Date: Nov 2019 Scale: 1:500 @ A0
 Drawn by: ICP Checked by: XXX

Job No.	Drug No.
S 219	1067

Scale Check:



[illegible][illegible]

A.2 Quality assessment

The topographic survey data for the site was compared with 1m LiDAR data flown in 2011 and 2m LiDAR data flown in 2003 (where 1m LiDAR data were not available) downloaded on 17 August 2020 from Defra's data service website². Results are shown in Figure A-1.

Figure A-1: Quality assessment (topographic survey minus LiDAR)

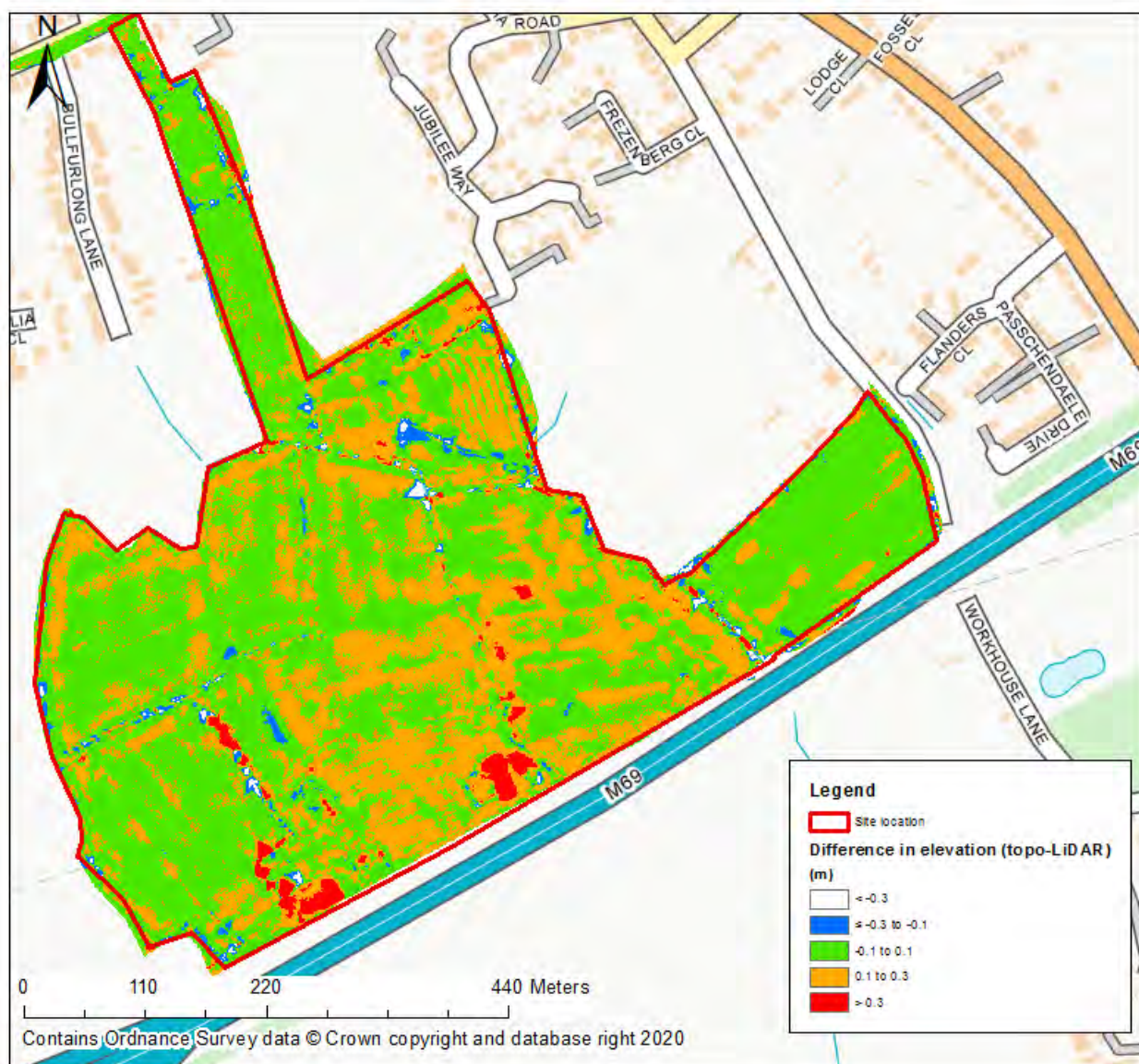
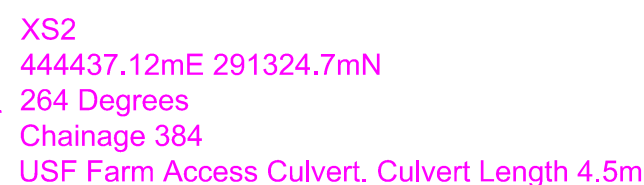
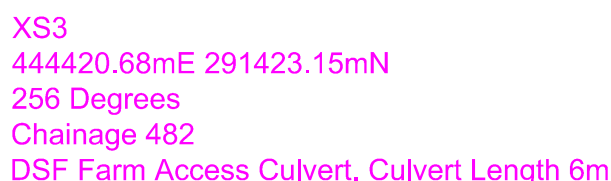
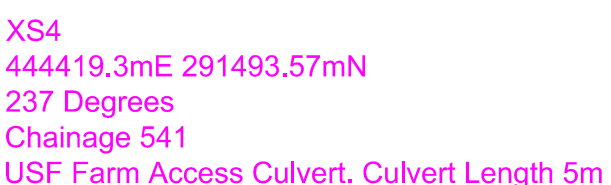
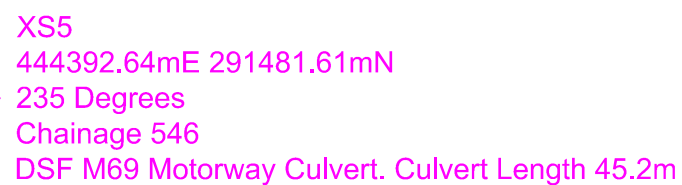
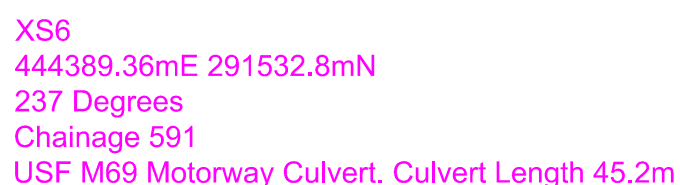
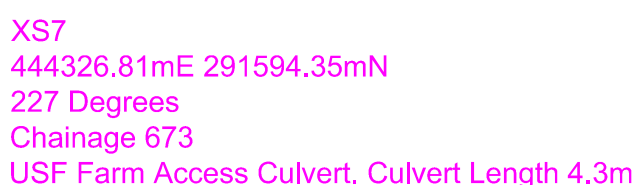
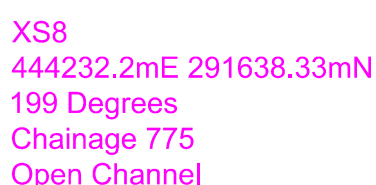
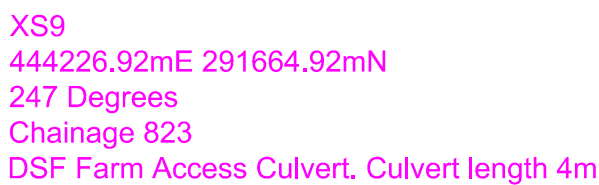
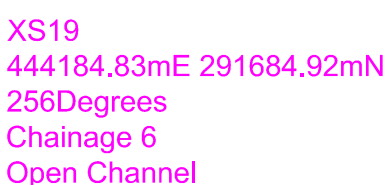
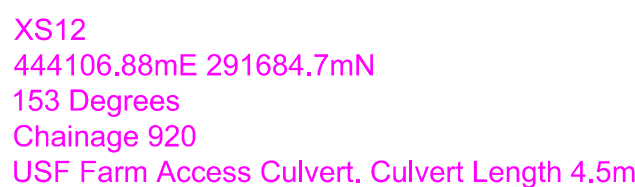
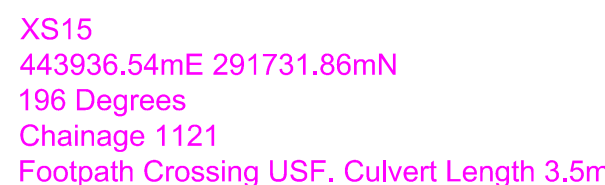
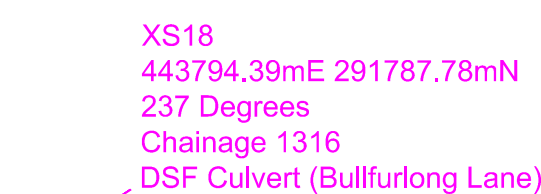


Figure A-1 shows a good match between the topographic survey levels and LiDAR data. Differences in elevation exceeding 0.3m can be observed however these are areas which contain a lot of dense vegetation which affect LiDAR readings.

As a result, both datasets were used in the model.

² <https://environment.data.gov.uk/>

B Channel Survey Data



Chainage starts at Pond / Lake
(No further information)



Notes

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Whilst every effort has been made to identify all above ground details, it should be noted that some items may have been obscured at time of survey.

Below ground drainage information as been visually inspected from the surface and should therefore be treated as approximate only.

Where this survey has been carried out for the purpose of enabling trackside drainage design. The position of any running rail has been surveyed in line with a general topographic survey and should not be used for the purpose of track design.

All dimensions to be checked on site prior to design and construction.

Legend

BAR VALVE	AV	WATER TAP	TAP
BELL	BD	TEMPORARY BENCH MARK	TBM
BENCH	BS	TELEPHONE CALL BOX	TCB
BUS STOP	BS	TELEPHONE POST	TEL
BUT INSPECTION COVER	BT	THRESHOLD LEVEL	TEL
CEILING	CE	TRAFFIC LIGHT	TOL
CABLE TV INSPECTION COVER	CTV	TOP OF WALL	TOW
CANAL	CA	TELEGRAPH POLE	TP
DOWN PIPE	DP	UNABLE TO LIFT	UTL
DROPPED KERB	DK	VENT PIPE	VP
EXTRINSIC CONTROL BOX	EX	RAIL WELD	WE
EXTINCTOR MANHOLE	EM	WATER METER	WM
ELECTRICITY MANHOLE	EP	WASHOUT	WO
EARTH ROD	ER		
FINISHED FLOOR LEVEL	FL		
FIRE HYDRANT	FH	SURVEY STATION	△ GCS1
FORK WATER	FW		
GULLY	GU		
GATE POST	GP	BUSHES	
GAS VALVE	GV		
INSULATED JOINT LOCK	IJL		
INSPECTION COVER	IC	HEDGES	
INVERT LEVEL	IL		
KERB OUTLET	KO	TREES	
LANDFILL	LF		Height Scales (Spread to scales)
LIGHTING BIN	LB		
MANHOLE	MK		
MILE POST	MP		
ROOFING EYE	RE		
POLE	PO		
RIDGE HEIGHT	RH	GATE	
ROAD NAMEPLATE	RN		
ROAD SIGN	RS	SECURITY FENCE	
STUMP	SP	OVERHEAD CABLES	
SCOFF LEVEL	SL	FOUL WATER	
SIGNAL POST	SP	DEAD MAN	
LOW LEVEL	LL	UG POWER LINE	
SIGNALS AND TELECOMS POST	STC	STORM WATER	
SIGNALS AND TELECOMS POST	STC	WATER MAN	
SIGN POST	SP		
STOP	ST		
STOP VALVE	SV		
STAY	SV		
STORM WATER	SW		

Control Table

Station	Description	Eastings	Northings	Height

Grid and Datum

Grid: OS National Grid **Datum:** Ordnance Datum Newlyn
Survey related to Ordnance Survey National Grid (OSGB36) via GPS and the OS Active Network.
A National Grid (OSGB36) coordinate has been established on site via Transformation OSTN15 and Geoid Model OSGM15, a further OS coordinate was used to orientate the survey to Ordnance Grid.
No scale factor has been applied to the survey

Title:

WATERCOURSE SURVEY AT
BURBAGE FIELDS FARM
(Key Plan)

Client:

JBA CONSULTING
The Library
St. Philip's Courtyard
Coleshill
Warwickshire B46 3AD



**Grantham Coates
Surveys Ltd**

Land - Engineering - Building Surveyors

2 Arden Court, Arden Road, Alcester
Warwickshire, B49 6HN

Tel: 01789 764420

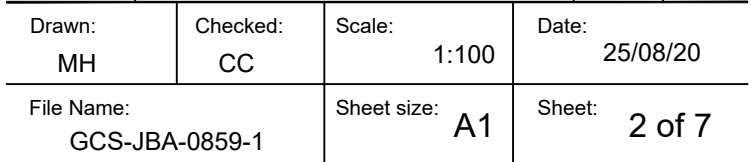
THE SURVEY ASSOCIATION
FULL MEMBER

Drawing No:	GCS/JBA/0859/1	Rev:	-
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Date:	Notes:	Name:	Rev:

Drawn: MH	Checked: CC	Scale: 1:1250	Date: 25/08/20
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Legend

[illegible]

Control Table

[illegible]

Grid and Datum

Grid: *OS National Grid* **Datum:** *Ordnance Datum Newlyn*
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No scale factor has been applied to the survey

Title:

WATERCOURSE SURVEY AT BURBAGE FIELDS FARM (Cross Sections)

Client:

JBA CONSULTING
The Library
St. Philip's Courtyard
Coleshill
Warwickshire B46 3AD



**Grantham Coates
Surveys Ltd**

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2 Arden Court, Arden Road, Alcester
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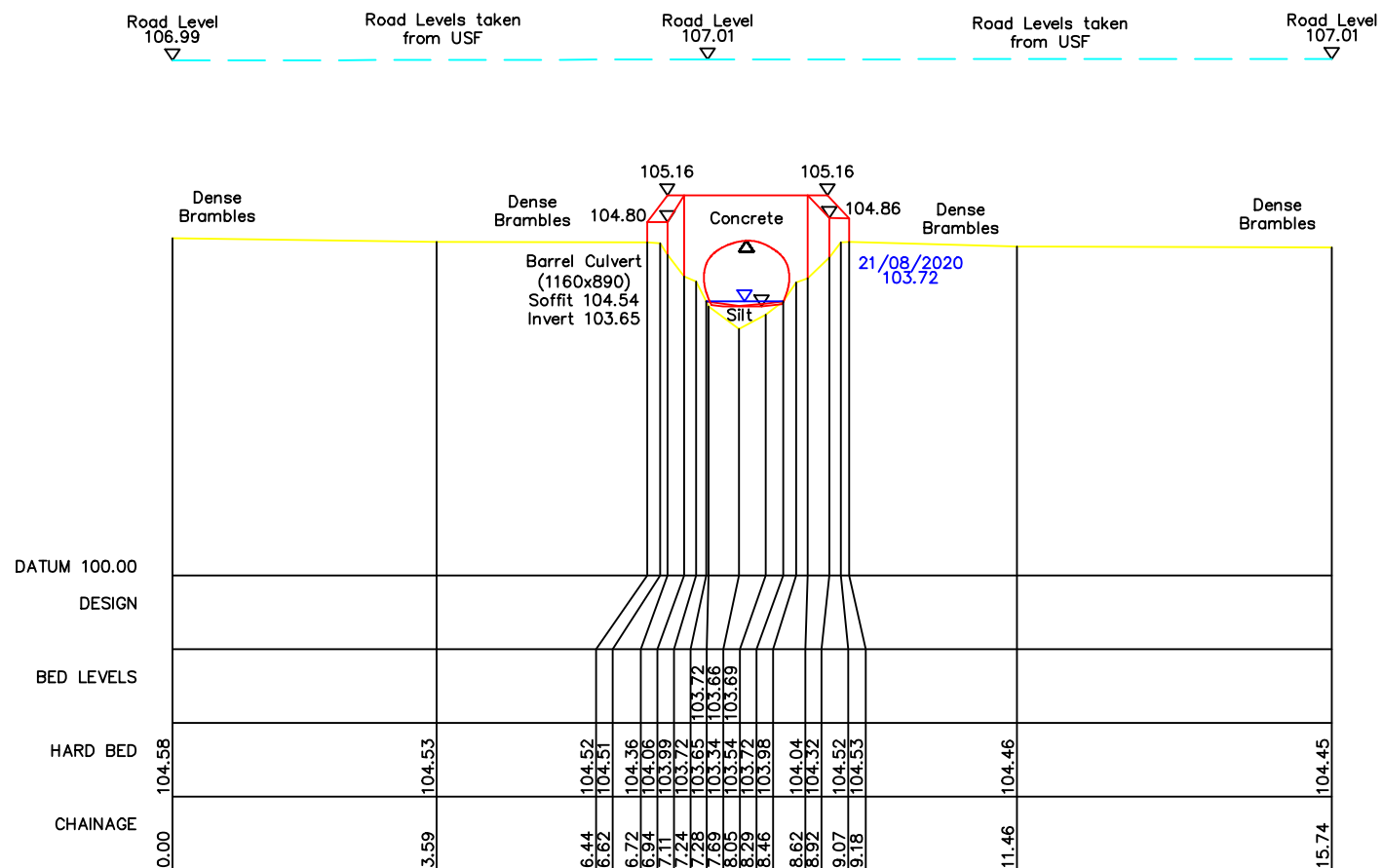
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Web Site: www.gcsurveys.co.uk



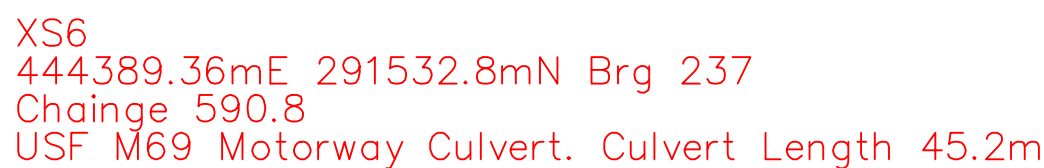
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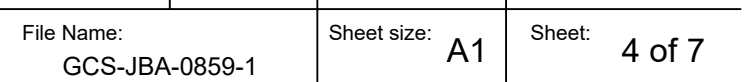
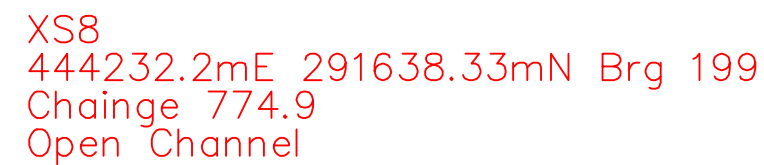
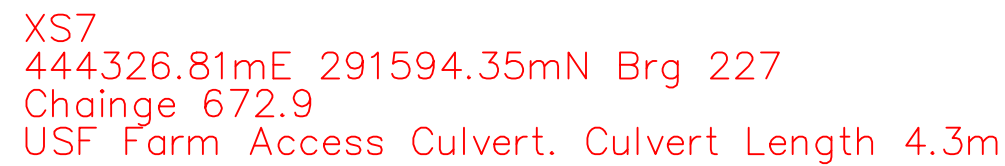
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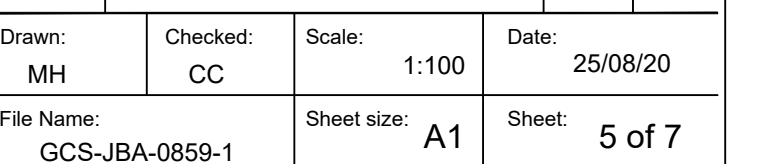
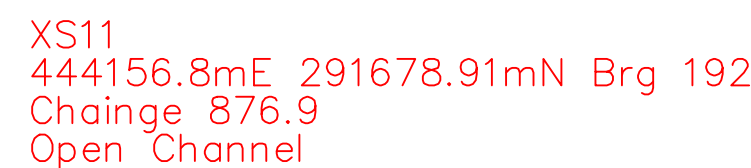
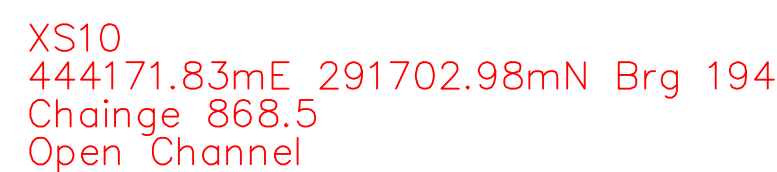
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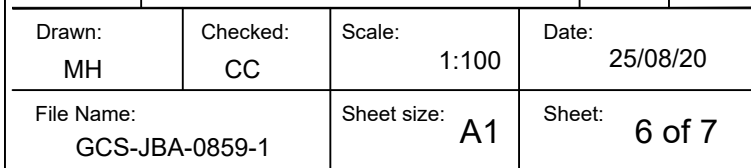
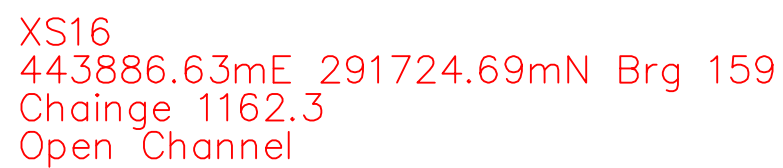


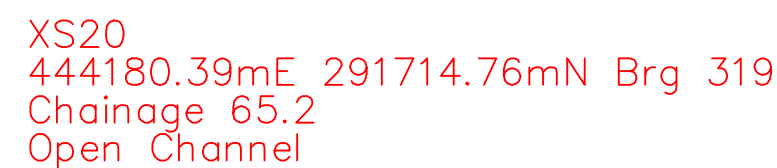
XS5
444392.64mE 291481.61mN Brg 235
Change 545.6
DSF M69 Motorway Culvert. Culvert Length 45.2m











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Legend

AIR VALVE	AV	WATER TAP	TAP
BOLLARD	BD	TEMPORARY BENCH MARK	TBM
BOUNDARY	BO	TELEPHONE CALL BOX	TCL
BUS STOP	BS	TELEPHONE POST	TCP
BT INSPECTION COVER	BT	THRESHOLD LEVEL	THL
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EAVES HANG	EH	WATER METER	WM
ELECTRICITY MANHOLE	EM	WASHOUT	WO
ELECTRICITY POLE	EP		
ERD ROD	ER		
FINISHED FLOOR LEVEL	FFL		
FIRE HYDRANT	FH	SURVEY STATION	SGS1
FOUL WATER	FW		
GULLY	GY		
GAS POST	GP	BUSHES	
GAS VALVE	GV		
INSULATED BLOCK JOINT	IBJ		
INSPECTION COVER	IC		
INVERT LEVEL	IL	HEDGES	
KERB OUTLET	KO		
LAMPPOST	LP		
LITTER BIN	LB		
MARKER	MA	TREES	
MILE POST	MP	Height Species (Spread to scale)	
POST	PO		
ROOFSIDE EYE	RE		
RIDGE HEIGHT	RH		
ROAD NAMEPLATE	RNA		
ROAD SIGN	RS		
SECURITY FENCE	SF		
STUMP	SP		
SUPPLIY LEVEL	SL		
SIGNAL POST	SIG		
RAIL SLEEPER	SLP		
SIGNALS AND TELECOMS BOX	STB		
SIGNALS AND TELECOMS CABLE	STC		
SIGNALS AND TELECOMS POST	STP		
SIGN POST	SN		
SOFT	SO		
STOP VALVE	SV		
STAY	ST		
STORM WATER	SW		

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File Name: GCS-JBA-0859-1				Sheet size: A1		Sheet: 7 of 7			

C Key Modelled Structures

C.1 Bullfurlong Lane Culvert

Included in model? (state reason if not):	No (upstream end of model)
Model label:	UNN 1316
Type:	Circular concrete culvert
How has structure been modelled?	The structure was not represented in the model

Culvert outlet, looking upstream.



C.2 Footpath Crossing, Culvert

Included in model? (state reason if not):	Yes					
Model label:	UNN_1121					
Type:	Concrete pipes					
How has structure been modelled?	These pipes were modelled as a circular conduit units using Flood Modeller. Overtopping of the weir was represented within the 1D domain using a spill unit.					
	UNN_1121	RIVER	SECTION			
	UNN_1121	JUNCTION	OPEN	UNN_1121Cui	UNN_1121Su	
	UNN_1121Cui	CULVERT	INLET	UNN_1121CUu	UNN_1121	
	UNN_1121CUu	CONDUIT	CIRCULAR			
	UNN_1121Cud	CONDUIT	CIRCULAR			
	UNN_1121Cud	CULVERT	OUTLET	UNN_1121CUo		UNN_1118
	UNN_1121Su	SPILL		UNN_1121Sd		
	UNN_1121CUo	JUNCTION	OPEN	UNN_1118	UNN_1121Sd	
	UNN_1118	RIVER	SECTION			