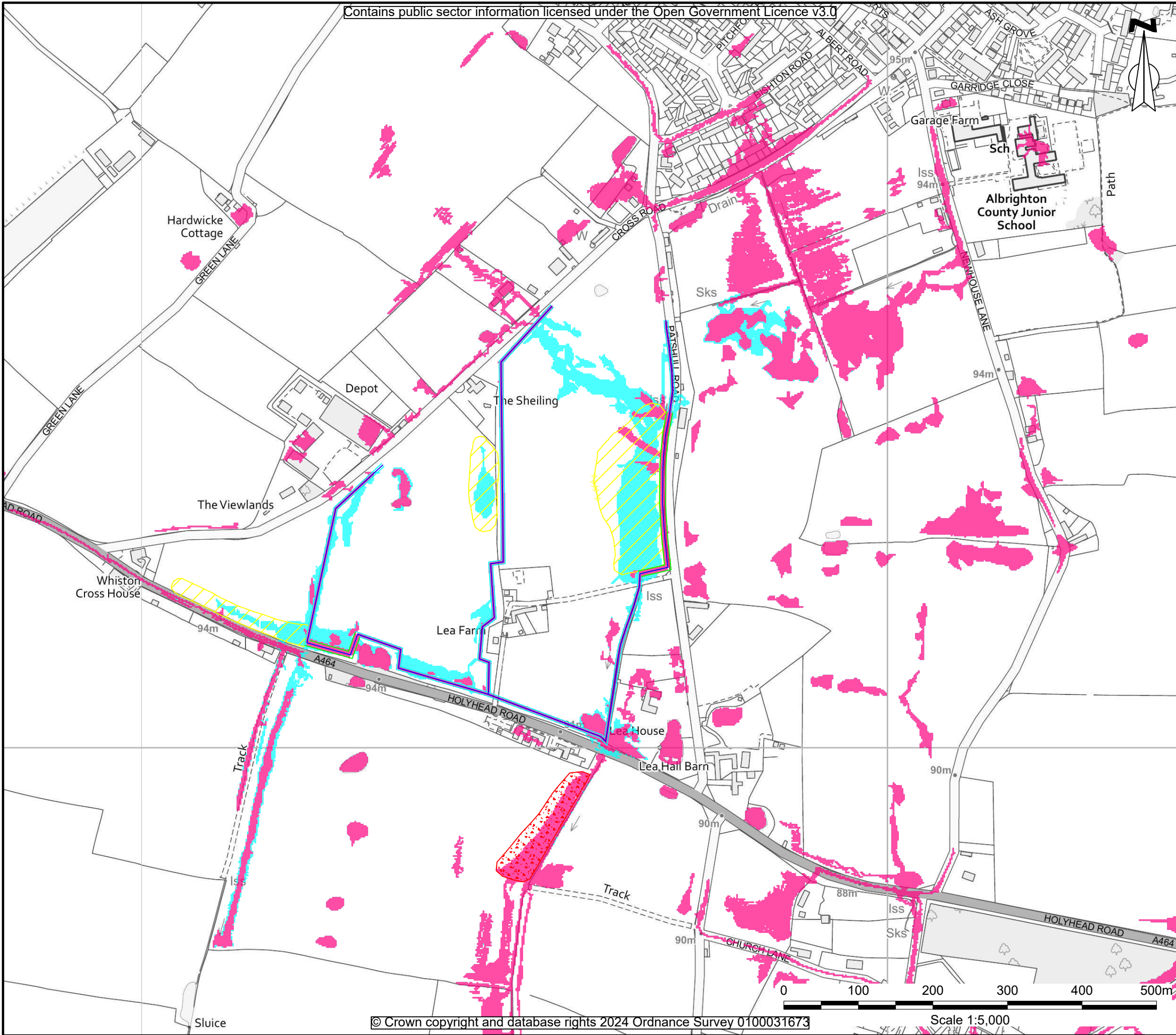




- KEY:**
- 1000-Year (Run 001 - Baseline)
 - 1000-Year (Run 017 - Proposed)
 - Watercourse Alignment
 - Watercourse Banks (5.0m Width)
 - Land Reinforcement (8.0m Width)
 - Land Reinforcement
 - Land Lowering (-0.50m)

P01	22/11/24	Issued for comment / approval	HDR	HDR	DA
Rev	Date	Description	DRA	CHK	APP

Project
Albrighton South

Client
Boningale Developments Ltd

Drawing Title
Rain on Grid Modelled Outlines (Baseline vs Proposed - Site)

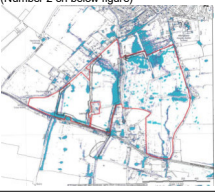
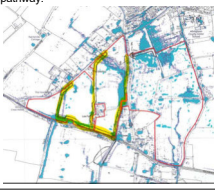
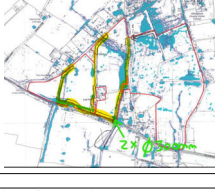
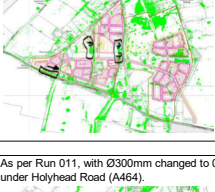
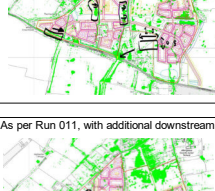
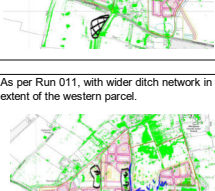
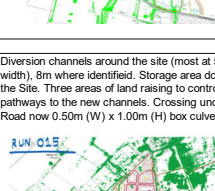
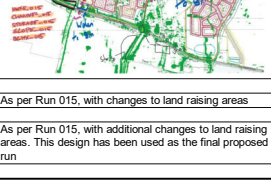
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DWG No. SHF710011-ENZ-XX-XX-DR-Y-0004	Revision P01
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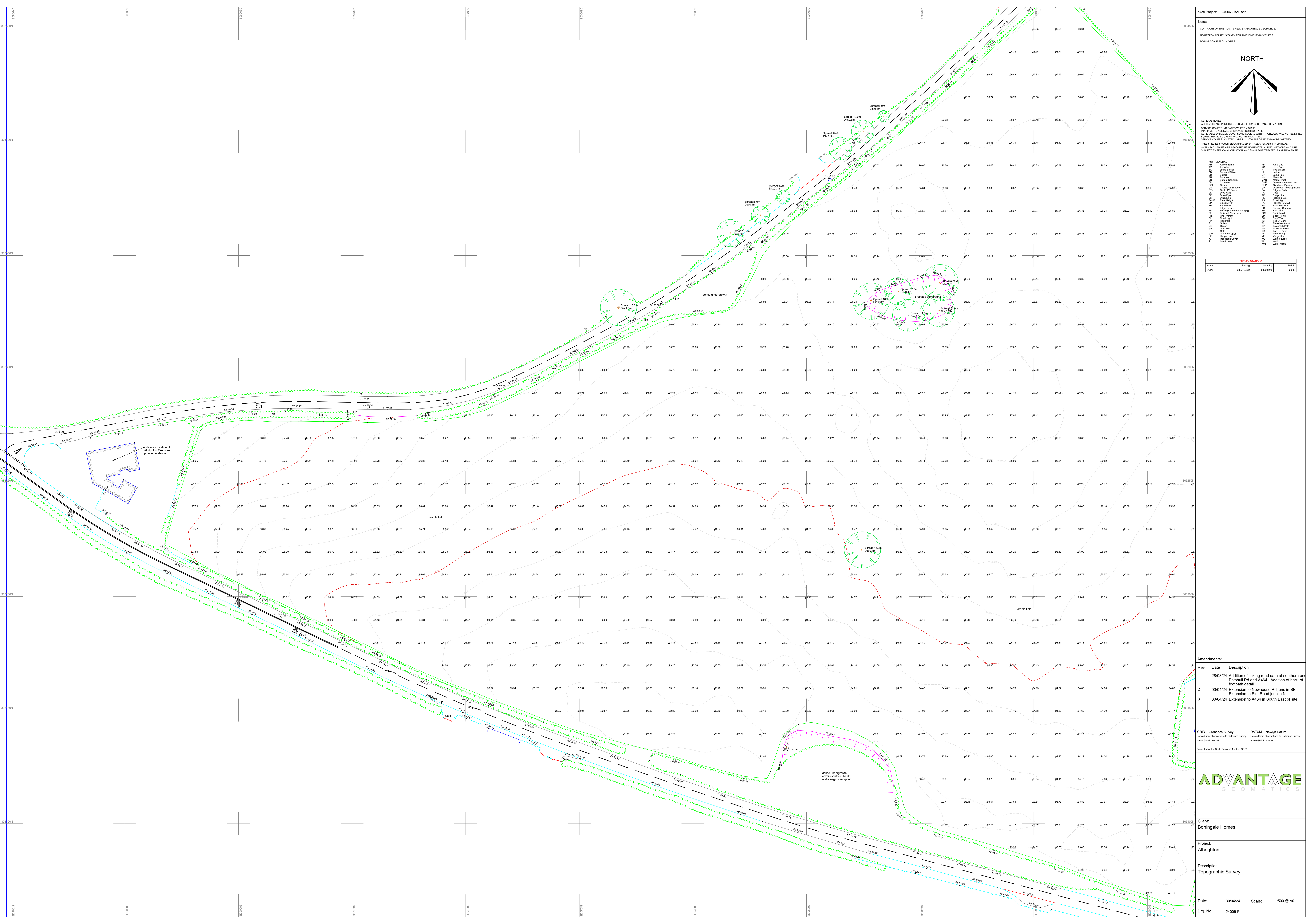
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Appendix 1 - Model Files and Modelling Log

River/Catchment Name		ALBrighton - Direct Rainfall Modeling									
Code		ALB									
Modeller		Helena Du-Roe									
Reviewer		Helena Du-Roe									
Model Version		1.0.1									
Model Run ID	Scenario Description	Setup	Run	Return Period	TUFLOW Control File	Geometry Control File	Boundary Condition control file	Boundary Conditions Database	Estry Control File	Stability/ Health	Mannings
001	Baseline Model Run	Yes	Yes	30	ALB ~e~ 001.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 001.ecf	OK	ALB_001.tmf
001	Baseline Model Run	Yes	Yes	100	ALB ~e~ 001.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 001.ecf	OK	ALB_001.tmf
001	Baseline Model Run	Yes	Yes	1000	ALB ~e~ 001.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 001.ecf	OK	ALB_001.tmf
001	Baseline Model Run	Yes	Yes	30 + 35%	ALB ~e~ 001.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 001.ecf	OK	ALB_001.tmf
001	Baseline Model Run	Yes	Yes	100 + 40%	ALB ~e~ 001.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 001.ecf	OK	ALB_001.tmf
002	Baseline Model Run (Using LIDAR for the Site and not topographic survey (as per Run 001))	Yes	Yes	30	ALB ~e~ 002.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 002.ecf	OK	ALB_001.tmf
002	Baseline Model Run (Using LIDAR for the Site and not topographic survey (as per Run 001))	Yes	Yes	100	ALB ~e~ 002.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 002.ecf	OK	ALB_001.tmf
002	Baseline Model Run (Using LIDAR for the Site and not topographic survey (as per Run 001))	Yes	Yes	1000	ALB ~e~ 002.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 002.ecf	OK	ALB_001.tmf
002	Baseline Model Run (Using LIDAR for the Site and not topographic survey (as per Run 001))	Yes	Yes	30 + 35%	ALB ~e~ 002.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 002.ecf	OK	ALB_001.tmf
002	Baseline Model Run (Using LIDAR for the Site and not topographic survey (as per Run 001))	Yes	Yes	100 + 40%	ALB ~e~ 002.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 002.ecf	OK	ALB_001.tmf
003	Extend watercourse near Lea House northwards (and widen the ditch) to intercept more of the flow pathway	Yes	Yes	1000	ALB ~e~ 003.tcf	ALB_003.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 003.ecf	OK	ALB_001.tmf
004	Extend watercourse near Lea House northwards (and widen the ditch) to intercept more of the flow pathway. Increase culvert size to increase capacity	Yes	Yes	1000	ALB ~e~ 004.tcf	ALB_004.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 004.ecf	OK	ALB_001.tmf
005	Extend watercourse near Lea House northwards (and widen the ditch) to intercept more of the flow pathway. Increase culvert size to increase capacity. Create contoured storage area downstream of the Site within the wider land ownership	Yes	Yes	1000	ALB ~e~ 005.tcf	ALB_005.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 005.ecf	OK	ALB_001.tmf
006	Baseline model run with nominal Ø600mm culvert from north of the Site to south outside the boundary	Yes	Yes	1000	ALB ~e~ 006.tcf	ALB_001.tgc	ALB_006.tbc	bc_dbase.csv	ALB ~e~ 006.ecf	OK	ALB_001.tmf
007	Create a ditch network in the western extent of the Site (Number 2 on below figure) 	Yes	Yes	1000	ALB ~e~ 007.tcf	ALB_001.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 007.ecf	OK	ALB_001.tmf
008	Create a ditch network in the western extent of the Site (as per the discussed sketch in Run 007). 5m width of channel. Small change to move a section of the ditch northwards to intercept more of the surface water flow pathway. 	Yes	Yes	1000	ALB ~e~ 008.tcf	ALB_008.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 008.ecf	OK	ALB_001.tmf
009	Same as Run 008, with a small portion of landscaping to encourage area of ponding to watercourse. 	Yes	Yes	1000	ALB ~e~ 009.tcf	ALB_009.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 009.ecf	OK	ALB_001.tmf
010	As per Run 008, with 2'Ø300mm circular culverts under Holyhead Road (A464). 	Yes	Yes	1000	ALB ~e~ 010.tcf	ALB_008.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 010.ecf	OK	ALB_001.tmf
011	As per Run 008, with changes to slope area to guide surface water to channel. 	Yes	Yes	1000	ALB ~e~ 011.tcf	ALB_011.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 011.ecf	OK	ALB_001.tmf
012	As per Run 011, with Ø300mm changed to 0.5*1.0m under Holyhead Road (A464). 	Yes	Yes	1000	ALB ~e~ 012.tcf	ALB_008.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 012.ecf	OK	ALB_001.tmf
013	As per Run 011, with additional downstream storage. 	Yes	Yes	1000	ALB ~e~ 013.tcf	ALB_013.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 013.ecf	OK	ALB_001.tmf
014	As per Run 011, with wider ditch network in the eastern extent of the western parcel. 	Yes	Yes	1000	ALB ~e~ 014.tcf	ALB_014.tgc	ALB_001.tbc	bc_dbase.csv	ALB ~e~ 014.ecf	OK	ALB_001.tmf
015	Diversion channels around the site (most at 5m bed width), 8m where identified. Storage area downstream of the Site. Three areas of land raising to control the flow pathways to the new channels. Crossing under Holyhead Road now 0.50m (W) x 1.00m (H) box culvert.  	Yes	Yes	1000	ALB ~e~ 015.tcf	ALB_015.tgc	ALB_015.tbc	bc_dbase.csv	ALB ~e~ 015.ecf	OK	ALB_001.tmf
016	As per Run 015, with changes to land raising areas	Yes	Yes	1000	ALB ~e~ 016.tcf	ALB_016.tgc	ALB_015.tbc	bc_dbase.csv	ALB ~e~ 016.ecf	OK	ALB_001.tmf
017	As per Run 015, with additional changes to land raising areas. This design has been used as the final proposed run	Yes	Yes	1000	ALB ~e~ 017.tcf	ALB_017.tgc	ALB_017.tbc	bc_dbase.csv	ALB ~e~ 017.ecf	OK	ALB_001.tmf

Appendix 2 - Topographical Survey



Project: 24006 - BAL.sdb

Notes:

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No responsibility is taken for amendments by others.
Do not scale from copies.

NORTH

GENERAL NOTES:

ALL LEVELS ARE IN METRES DERIVED FROM GPS TRANSFORMATION.

SERVICE COVERS INDICATED WHERE VISIBLE.

PROPOSED SERVICE COVERS ARE SHOWN WITHIN HOUSING WILL NOT BE LIFTED.

SERVICES COVERS WILL NOT BE INDICATED.

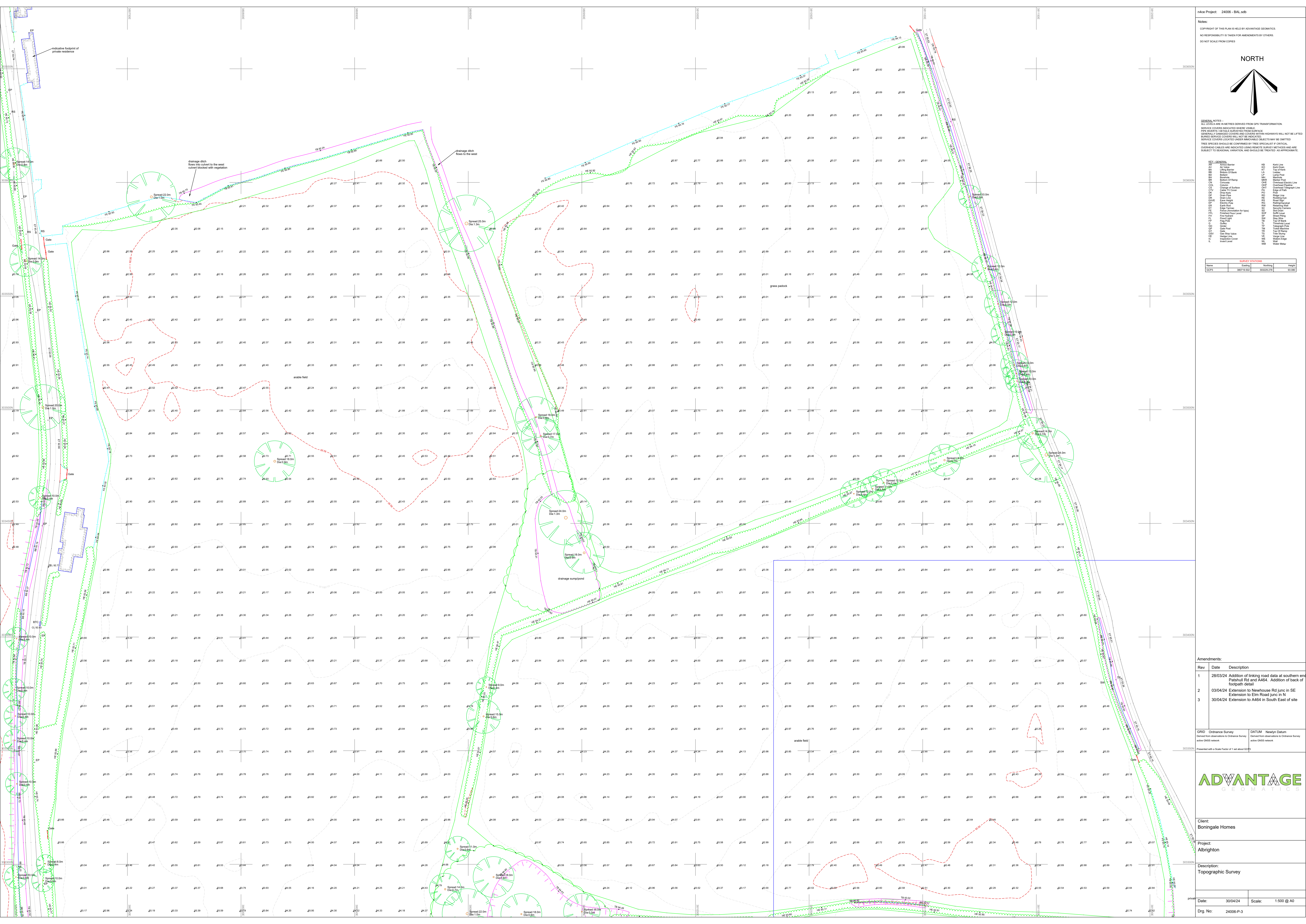
SERVICES COVERS LOCATED UNDER PROPOSED OBJECTS MAY BE OMITTED.

THREE SPECIES SHOULD BE CONFIRMED BY TREE SPECIALIST IF CRITICAL.

OVERHEAD CABLES ARE INDICATED USING ANNOTATE SURVEY METHODS AND ARE SUBJECT TO SEASONAL VARIATION, AND SHOULD BE TREATED AS APPROXIMATE.

KEY - GENERAL

AB	Arable Barrier	KB	Knot Line
AD	Asphalt Driveway	KD	Knot Driveway
AE	Asphalt Driveway	LA	Line of Access
BE	Bottom of Bank	LB	Line of Bank
BS	Bottom of Slope	LS	Line of Slope
CB	Change of Bank	MS	Manhole
CC	Change of Surface	MSF	Manhole Foul
CD	Change of Surface	MSL	Manhole Sewer
CE	Change of Surface	MSL	Manhole Sewer
CF	Change of Surface	MSL	Manhole Sewer
CG	Change of Surface	MSL	Manhole Sewer
CH	Change of Surface	MSL	Manhole Sewer
CI	Change of Surface	MSL	Manhole Sewer
CJ	Change of Surface	MSL	Manhole Sewer
CK	Change of Surface	MSL	Manhole Sewer
CL	Change of Surface	MSL	Manhole Sewer
CM	Change of Surface	MSL	Manhole Sewer
CN	Change of Surface	MSL	Manhole Sewer
CO	Change of Surface	MSL	Manhole Sewer
CP	Change of Surface	MSL	Manhole Sewer
CQ	Change of Surface	MSL	Manhole Sewer
CR	Change of Surface	MSL	Manhole Sewer
CS	Change of Surface	MSL	Manhole Sewer
CT	Change of Surface	MSL	Manhole Sewer
CU	Change of Surface	MSL	Manhole Sewer
CV	Change of Surface	MSL	Manhole Sewer
CW	Change of Surface	MSL	Manhole Sewer
CX	Change of Surface	MSL	Manhole Sewer
CY	Change of Surface	MSL	Manhole Sewer
CZ	Change of Surface	MSL	Manhole Sewer
DA	Drainage Area	DA	Drainage Area
DB	Drainage Area	DA	Drainage Area
DC	Drainage Area	DA	Drainage Area
DD	Drainage Area	DA	Drainage Area
DE	Drainage Area	DA	Drainage Area
DF	Drainage Area	DA	Drainage Area
DG	Drainage Area	DA	Drainage Area
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ED	Edge of Area	EA	Edge of Area
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EJ	Edge of Area	EA	Edge of Area
EK	Edge of Area	EA	Edge of Area
EL	Edge of Area	EA	Edge of Area
EM	Edge of Area	EA	Edge of Area
EN	Edge of Area	EA	Edge of Area
EO	Edge of Area	EA	Edge of Area
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EQ	Edge of Area	EA	Edge of Area
ER	Edge of Area	EA	Edge of Area
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ET	Edge of Area	EA	Edge of Area
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EV	Edge of Area	EA	Edge of Area
EW	Edge of Area	EA	Edge of Area
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EZ	Edge of Area	EA	Edge of Area
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FC	Fence Line	FA	Fence Line
FD	Fence Line	FA	Fence Line
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FF	Fence Line	FA	Fence Line
FG	Fence Line	FA	Fence Line
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FI	Fence Line	FA	Fence Line
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NV	North Arrow	NA	North Arrow
NW	North Arrow	NA	North Arrow
NX	North Arrow	NA	North Arrow
NY	North Arrow	NA	North Arrow
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OB	Obstacle	OA	Obstacle
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OD	Obstacle	OA	Obstacle
OE	Obstacle	OA	Obstacle
OF	Obstacle	OA	Obstacle
OG	Obstacle	OA	Obstacle
OH	Obstacle	OA	Obstacle
OI	Obstacle	OA	Obstacle
OJ	Obstacle	OA	Obstacle
OK	Obstacle	OA	Obstacle
OL	Obstacle	OA	Obstacle
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OX	Obstacle	OA	Obstacle
OY	Obstacle	OA	Obstacle
OZ	Obstacle	OA	Obstacle
PA	Pipe	PA	Pipe
PB	Pipe	PA	Pipe
PC	Pipe	PA	Pipe
PD	Pipe	PA	Pipe
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PH	Pipe	PA	Pipe
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PM	Pipe	PA	Pipe
PN	Pipe	PA	Pipe
PO	Pipe	PA	Pipe
PP	Pipe	PA	Pipe
PQ	Pipe	PA	Pipe
PR	Pipe	PA	Pipe
PS	Pipe	PA	Pipe
PT	Pipe	PA	Pipe
PU	Pipe	PA	Pipe
PV	Pipe	PA	Pipe
PW	Pipe	PA	Pipe
PX	Pipe	PA	Pipe
PY	Pipe	PA	Pipe
PZ	Pipe	PA	Pipe
QA	Quarry	QA	Quarry
QB	Quarry	QA	Quarry
QC	Quarry	QA	Quarry
QD	Quarry	QA	Quarry
QE	Quarry	QA	Quarry
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QG	Quarry	QA	Quarry
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QO	Quarry	QA	Quarry
QP	Quarry	QA	Quarry
QQ	Quarry	QA	Quarry
QR	Quarry	QA	Quarry
QS	Quarry	QA	Quarry
QT	Quarry	QA	Quarry
QU	Quarry	QA	Quarry
QV	Quarry		



nice Project: 24006 - BAL.sdb

Notes:
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NORTH

GENERAL NOTES:
ALL LEVELS ARE IN METRES DERIVED FROM GPS TRANSFORMATION.
SERVICE COVERS INDICATED WHERE VISIBLE.
PERMANENT STRUCTURES SURVEYED FROM SURFACE.
GENERAL CONTOUR COVERS ARE INDICATED WITH HYPOMANY WILL NOT BE LIFTED.
SERVED SERVICE COVERS WILL NOT BE INDICATED.
SERVICE COVERS LOCATED UNDER IRREMOVABLE OBJECTS MAY BE OMITTED.
THREE SPECIES SHOULD BE CONFIRMED BY TREE SPECIALIST IF CRITICAL.
OVERHEAD CABLES ARE INDICATED USING REMOTE SURVEY METHODS AND ARE
SUBJECT TO SEASONAL VARIATION, AND SHOULD BE TREATED AS APPROXIMATE.

KEY - GENERAL	
AB	Abutment
AD	Adjoining
AE	Access
AF	Accession
AG	Accession
AH	Accession
AI	Accession
AL	Accession
AM	Accession
AN	Accession
AO	Accession
AP	Accession
AR	Accession
AS	Accession
AT	Accession
AV	Accession
AW	Accession
AX	Accession
AY	Accession
AZ	Accession
BA	Accession
BB	Accession
BC	Accession
BD	Accession
BE	Accession
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BU	Accession
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BX	Accession
BY	Accession
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ZP	Accession
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ZV	Accession
ZW	Accession
ZX	Accession
ZY	Accession
ZZ	Accession

SURVEY STATIONS			
Name	Easting	Northing	Height
SCPS	30719.00	30329.00	80.00

Amendments:		
Rev	Date	Description
1	28/03/24	Addition of linking road data at southern end of Palsbury Rd and A464. Addition of back of footpath detail
2	03/04/24	Extension to Newhouse Rd junc in SE
3	30/04/24	Extension to Elm Road junc in N

GRID: Ordnance Survey Derived from observations to Ordnance Survey active OSMS network	D
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NORTH

GENERAL NOTES -

ALL LEVELS ARE IN METRES DERIVED FROM GPS TRANSFORMATION.

SERVICE COVERS INDICATED WHERE VISIBLE.

PIPE INVERTS (NOTABLE) DERIVED FROM SURFACE.

GENERALLY DAMAGED COVERS AND COVERS WITH HIGHWAYS WILL NOT BE LIFTED.

BURNED SERVICE COVERS WILL NOT BE INDICATED.

IF ANY COVERS MAY BE OMITTED.

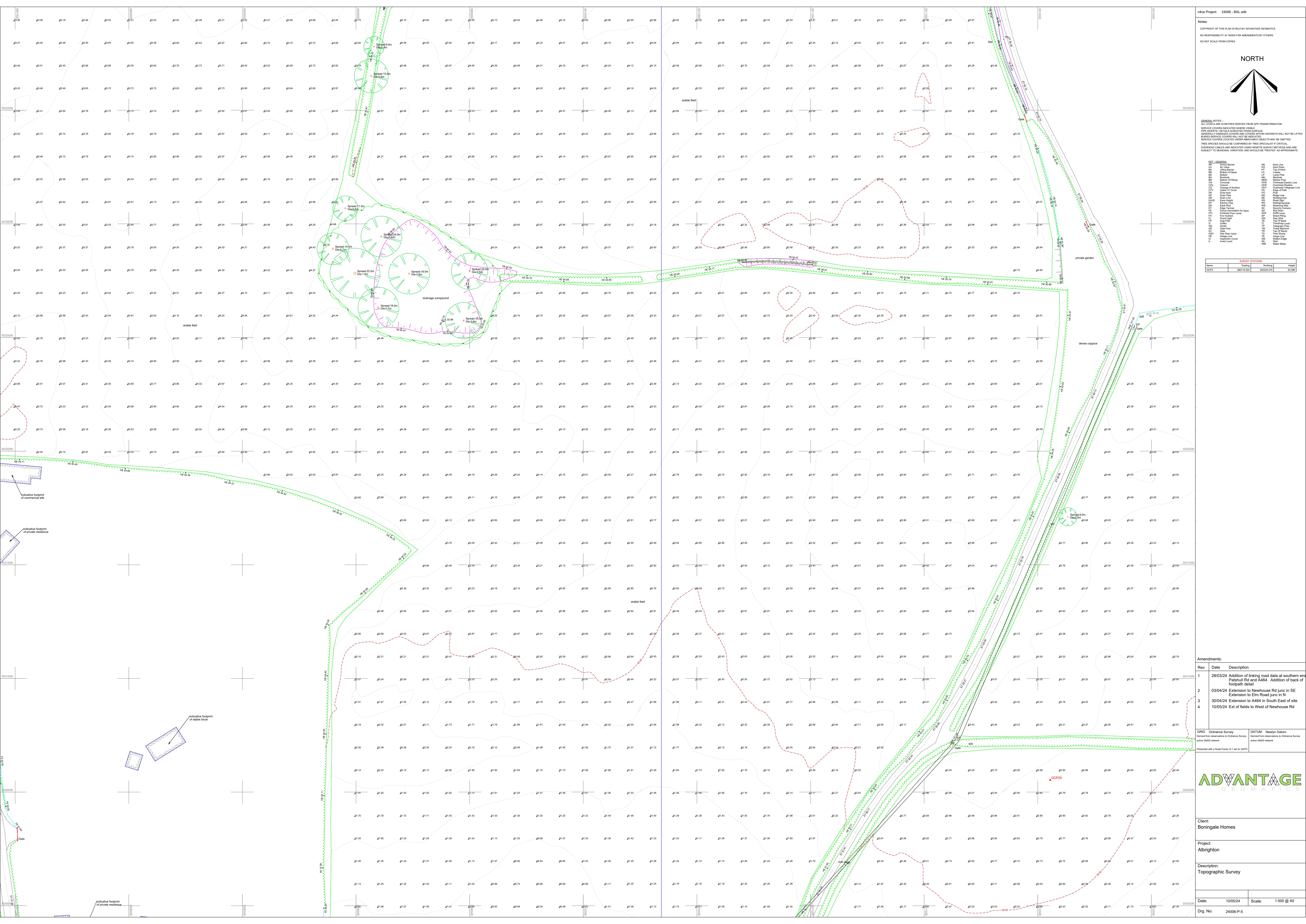
SERVICE COVERS LOCATED IN OTHER REMOTE AREAS MAY BE OBTAINED.

THIS SPECIES SHOULD BE CONFIRMED BY WITHIN-SURVEY CRITICAL.

OVERHEAD CABLES ARE INDICATED USING REMOTE SURVEY METHODS AND ARE SUBJECT TO SEASONAL VARIATION, AND SHOULD BE TREATED AS APPROXIMATE.

KEY - GENERAL

AB	Access Barrier	KB	Kerb Line
AD	Adverse Slope	KD	Kerb Drain
BA	Brick Runway	KT	Top of Kerb
BB	Bottom of Bank	LA	Landmark
BC	Boulder	LB	Level Point
BD	Bottom of Bank	MB	Manhole
BE	Bottom of Bank	MD	Manhole
CA	Channel	ME	Overhead (Back) Line
CB	Channel	MF	Overhead (Front) Line
CC	Channel	MM	Overhead (Back) Line
CD	Channel	MT	Overhead (Front) Line
CE	Channel	NU	Overhead (Back) Line
CF	Channel	OV	Overhead (Front) Line
CG	Channel	PD	Overhead (Back) Line
CH	Channel	PE	Overhead (Front) Line
CI	Channel	RF	Right of Way
CJ	Channel	RE	Right of Way
CK	Channel	RS	Right of Way
CL	Channel	SC	Shoulder
CM	Channel	SD	Shoulder
CN	Channel	SE	Shoulder
CO	Channel	SF	Shoulder
CP	Channel	SG	Shoulder
CQ	Channel	SH	Shoulder
CR	Channel	SI	Shoulder
CS	Channel	SL	Shoulder
CT	Channel	SM	Shoulder
CU	Channel	SN	Shoulder
CV	Channel	SO	Shoulder
CW	Channel	SP	Shoulder
CX	Channel	SR	Shoulder
CY	Channel	SS	Shoulder
CZ	Channel	ST	Shoulder
DA	Drain Line	TD	Top of Drain
DB	Drain Line	TE	Top of Drain
DC	Drain Line	TF	Top of Drain
DD	Drain Line	TH	Top of Drain
DE	Drain Line	TI	Top of Drain
DF	Drain Line	TJ	Top of Drain
DG	Drain Line	TK	Top of Drain
DH	Drain Line	TL	Top of Drain
DI	Drain Line	TM	Top of Drain
DJ	Drain Line	TO	Top of Drain
DK	Drain Line	TP	Top of Drain
DL	Drain Line	TQ	Top of Drain
DM	Drain Line	TR	Top of Drain
DN	Drain Line	TS	Top of Drain
DO	Drain Line	TT	Top of Drain
DP	Drain Line	TU	Top of Drain
DQ	Drain Line	TV	Top of Drain
DR	Drain Line	TW	Top of Drain
DS	Drain Line	TX	Top of Drain
DT	Drain Line	TY	Top of Drain
DU	Drain Line	TZ	Top of Drain
DV	Drain Line	UA	Top of Drain
DW	Drain Line	UB	Top of Drain
DX	Drain Line	UC	Top of Drain
DY	Drain Line	UD	Top of Drain
DZ	Drain Line	UE	Top of Drain
EA	Earth Road	UF	Top of Drain
EB	Earth Road	UG	Top of Drain
EC	Earth Road	UH	Top of Drain
ED	Earth Road	UI	Top of Drain
EE	Earth Road	UJ	Top of Drain
EF	Earth Road	UK	Top of Drain
EG	Earth Road	UL	Top of Drain
EH	Earth Road	UM	Top of Drain
EI	Earth Road	UN	Top of Drain
EJ	Earth Road	UO	Top of Drain
EK	Earth Road	UP	Top of Drain
EL	Earth Road	UQ	Top of Drain
EM	Earth Road	UR	Top of Drain
EN	Earth Road	US	Top of Drain
EO	Earth Road	UT	Top of Drain
EP	Earth Road	UU	Top of Drain
EQ	Earth Road	UV	Top of Drain
ER	Earth Road	UW	Top of Drain
ES	Earth Road	UX	Top of Drain
ET	Earth Road	UY	Top of Drain
EU	Earth Road	UZ	Top of Drain
EV	Earth Road	VA	Top of Drain
EW	Earth Road	VB	Top of Drain
EX	Earth Road	VC	Top of Drain
EY	Earth Road	VD	Top of Drain
EZ	Earth Road	VE	Top of Drain
FA	Footpath	VF	Top of Drain
FB	Footpath	VG	Top of Drain
FC	Footpath	VH	Top of Drain
FD	Footpath	VI	Top of Drain
FE	Footpath	VJ	Top of Drain
FF	Footpath	VK	Top of Drain
FG	Footpath	VL	Top of Drain
FH	Footpath	VM	Top of Drain
FI	Footpath	VN	Top of Drain
FJ	Footpath	VO	Top of Drain
FK	Footpath	VP	Top of Drain
FL	Footpath	VQ	Top of Drain
FM	Footpath	VR	Top of Drain



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Notes:

ALL LEVELS ARE IN METRES DERIVED FROM GPS TRANSFORMATION.

SERVICE COVERS INDICATED WHERE VISIBLE.

PROPOSED SERVICE COVERS NOT SHOWN WITHIN BOUNDARY WILL NOT BE LIFTED.

SERVICES COVERS WILL NOT BE INDICATED.

SERVICES COVERS LOCATED UNDER PROPOSED OBJECTS MAY BE OMITTED.

THREE SPECIES SHOULD BE CONFIRMED BY TREE SPECIALIST IF CRITICAL.

OVERHEAD CABLES ARE INDICATED USING INDIATE SURVEY METHODS AND ARE SUBJECT TO SEASONAL VARIATION, AND SHOULD BE TREATED AS APPROXIMATE.

KEY - GENERAL

AB	Arable Barrier	KB	Knot Line
AD	Adjoining	KD	Kent Down
AE	Adjoining	LD	Leam Down
AF	Adjoining	LA	Leam
AG	Adjoining	LB	Leam Bank
BA	Bottom of Bank	LC	Leam Cleeve
BB	Bottom of Bank	LD	Leam Down
BC	Bottom of Bank	LE	Leam Edge
BD	Bottom of Bank	LF	Leam Foot
BE	Bottom of Bank	LG	Leam Gate
BF	Bottom of Bank	LH	Leam Head
CG	Change of Surface	LI	Leam Inlet
CH	Change of Surface	LJ	Leam Junction
CI	Change of Surface	LK	Leam Knot
CL	Change of Surface	LL	Leam Line
CM	Change of Surface	LM	Leam Marsh
CO	Change of Surface	LN	Leam Nook
CP	Change of Surface	LO	Leam Oak
CQ	Change of Surface	LP	Leam Pond
CR	Change of Surface	LQ	Leam Ridge
CS	Change of Surface	LR	Leam Road
CT	Change of Surface	LS	Leam Side
CU	Change of Surface	LT	Leam Top
CV	Change of Surface	LU	Leam Under
CW	Change of Surface	LV	Leam Vane
CX	Change of Surface	LW	Leam Water
CY	Change of Surface	LX	Leam Wood
CZ	Change of Surface	LY	Leam Yard
DA	Drainage	LA	Leam Line
DB	Drainage	LB	Leam Bank
DC	Drainage	LC	Leam Cleeve
DD	Drainage	LD	Leam Down
DE	Drainage	LE	Leam Edge
DF	Drainage	LF	Leam Foot
DG	Drainage	LG	Leam Gate
DH	Drainage	LH	Leam Head
DI	Drainage	LI	Leam Inlet
DJ	Drainage	LJ	Leam Junction
DK	Drainage	LK	Leam Knot
DL	Drainage	LL	Leam Line
DM	Drainage	LM	Leam Marsh
DN	Drainage	LN	Leam Nook
DO	Drainage	LO	Leam Oak
DP	Drainage	LP	Leam Pond
DQ	Drainage	LQ	Leam Ridge
DR	Drainage	LR	Leam Road
DS	Drainage	LS	Leam Side
DT	Drainage	LT	Leam Top
DU	Drainage	LU	Leam Under
DV	Drainage	LV	Leam Vane
DW	Drainage	LW	Leam Water
DX	Drainage	LX	Leam Wood
DY	Drainage	LY	Leam Yard
DZ	Drainage	LA	Leam Line

Name	Eastings	Northing	Height
GP20	300719.00	300229.00	30.00

Amendments:

Rev	Date	Description
1	28/03/24	Addition of linking road data at southern end of Palsbury Rd and A464. Addition of back of footpath detail
2	03/04/24	Extension to Newhouse Rd junction in SE
3	30/04/24	Extension to Elm Road junction in N
4	10/05/24	Ext of fields to West of Newhouse Rd

GRID: Ordnance Survey
Derived from observations to Ordnance Survey active OSMS network

DATUM: Newlyn Datum
Derived from observations to Ordnance Survey active OSMS network

Presented with a Scale Factor of 1 set on GCS

Client:
Boringale Homes

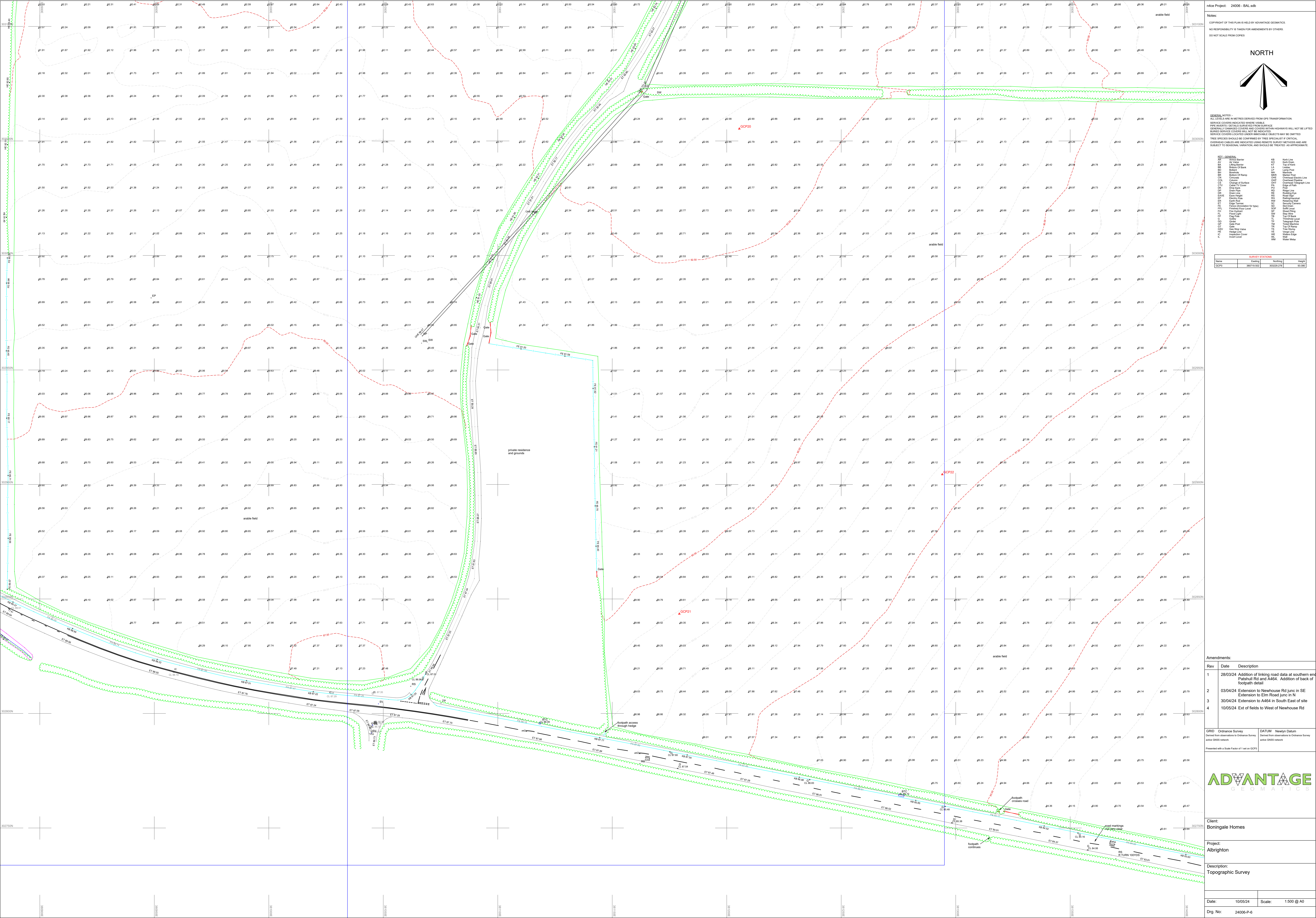
Project:
Albrighton

Description:
Topographic Survey

Date: 10/05/24
Scale: 1:500 @ A0

Dwg No: 24006-P-5





Client: Boringale Homes

Project: Albrighton

Description: Topographic Survey

Date: 10/05/24

Scale: 1:500 @ A0

Drp No: 24006-P-6

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Notes:

ALL LEVELS ARE IN METRES DERIVED FROM GPS TRANSFORMATION.

SERVICE COVERS INDICATED WHERE VISIBLE.

PROPOSED LINES ARE BASED ON THE SURFACE.

GENERAL CONTOUR LINES AND COVERS WITHIN 100MM WILL NOT BE REPLICATED.

SUBSIDED SERVICE COVERS WILL NOT BE INDICATED.

SERVICE COVERS LOCATED UNDER IRREMOVABLE OBJECTS MAY BE OMITTED.

THESE SPECIES SHOULD BE CONFIRMED BY THE SPECIALIST AT CRITICAL.

OVERHEAD CABLES ARE INDICATED USING ANNOTATE SURVEY METHODS AND ARE SUBJECT TO SEASONAL VARIATION, AND SHOULD BE TREATED AS APPROXIMATE.

KEY - GENERAL

AB	Abutment	KB	Knot Line
AD	Adjoining	KD	Kiln Drain
AE	Access	LD	Level Drain
AF	Access Road	LA	Level Line
AG	Access Road	LB	Level Line
AH	Access Road	LC	Level Line
AI	Access Road	LD	Level Drain
AK	Access Road	LE	Level Line
AL	Access Road	LF	Level Line
AM	Access Road	LG	Level Line
AN	Access Road	LH	Level Line
AO	Access Road	LI	Level Line
AP	Access Road	LJ	Level Line
AQ	Access Road	LK	Level Line
AR	Access Road	LL	Level Line
AS	Access Road	LM	Level Line
AT	Access Road	LN	Level Line
AV	Access Road	LO	Level Line
AW	Access Road	LP	Level Line
AX	Access Road	LQ	Level Line
AY	Access Road	LR	Level Line
AZ	Access Road	LS	Level Line
BA	Access Road	LT	Level Line
BB	Access Road	LU	Level Line
BC	Access Road	LV	Level Line
BD	Access Road	LW	Level Line
BE	Access Road	LX	Level Line
BF	Access Road	LY	Level Line
BG	Access Road	LZ	Level Line
BH	Access Road	MA	Access Road
BI	Access Road	MB	Access Road
BJ	Access Road	MC	Access Road
BK	Access Road	MD	Access Road
BL	Access Road	ME	Access Road
BM	Access Road	MF	Access Road
BN	Access Road	MG	Access Road
BO	Access Road	MH	Access Road
BP	Access Road	MI	Access Road
BQ	Access Road	MJ	Access Road
BR	Access Road	MK	Access Road
BS	Access Road	ML	Access Road
BT	Access Road	MM	Access Road
BU	Access Road	MN	Access Road
BV	Access Road	MO	Access Road
BW	Access Road	MP	Access Road
BX	Access Road	MQ	Access Road
BY	Access Road	MR	Access Road
BZ	Access Road	MS	Access Road
CA	Access Road	MT	Access Road
CB	Access Road	MU	Access Road
CC	Access Road	MV	Access Road
CD	Access Road	MW	Access Road
CE	Access Road	MX	Access Road
CF	Access Road	MY	Access Road
CG	Access Road	MZ	Access Road
CH	Access Road	NA	Access Road
CI	Access Road	NB	Access Road
CJ	Access Road	NC	Access Road
CK	Access Road	ND	Access Road
CL	Access Road	NE	Access Road
CM	Access Road	NF	Access Road
CN	Access Road	NG	Access Road
CO	Access Road	NH	Access Road
CP	Access Road	NI	Access Road
CQ	Access Road	NJ	Access Road
CR	Access Road	NK	Access Road
CS	Access Road	NL	Access Road
CT	Access Road	NM	Access Road
CU	Access Road	NO	Access Road
CV	Access Road	NP	Access Road
CW	Access Road	NQ	Access Road
CX	Access Road	NR	Access Road
CY	Access Road	NS	Access Road
CZ	Access Road	NT	Access Road
DA	Access Road	NU	Access Road
DB	Access Road	NV	Access Road
DC	Access Road	NW	Access Road
DD	Access Road	NX	Access Road
DE	Access Road	NY	Access Road
DF	Access Road	NZ	Access Road
DE	Access Road	NA	Access Road
DF	Access Road	NB	Access Road
DE	Access Road	NC	Access Road
DF	Access Road	ND	Access Road
DE	Access Road	NE	Access Road
DF	Access Road	NF	Access Road
DE	Access Road	NG	Access Road
DF	Access Road	NH	Access Road
DE	Access Road	NI	Access Road
DF	Access Road	NJ	Access Road
DE	Access Road	NK	Access Road
DF	Access Road	NL	Access Road
DE	Access Road	NM	Access Road
DF	Access Road	NO	Access Road
DE	Access Road	NP	Access Road
DF	Access Road	NQ	Access Road
DE	Access Road	NR	Access Road
DF	Access Road	NS	Access Road
DE	Access Road	NT	Access Road
DF	Access Road	NU	Access Road
DE	Access Road	NV	Access Road
DF	Access Road	NW	Access Road
DE	Access Road	NX	Access Road
DF	Access Road	NY	Access Road
DE	Access Road	NZ	Access Road

Amendments:

Rev	Date	Description
1	28/03/24	Addition of linking road data at southern end of Palsbury Rd and A464. Addition of back of footpath detail
2	03/04/24	Extension to Newhouse Rd junction in SE
3	30/04/24	Extension to Elm Road junction in N
4	10/05/24	Ext of fields to West of Newhouse Rd

GRID: Ordnance Survey

DATUM: Newlyn Datum

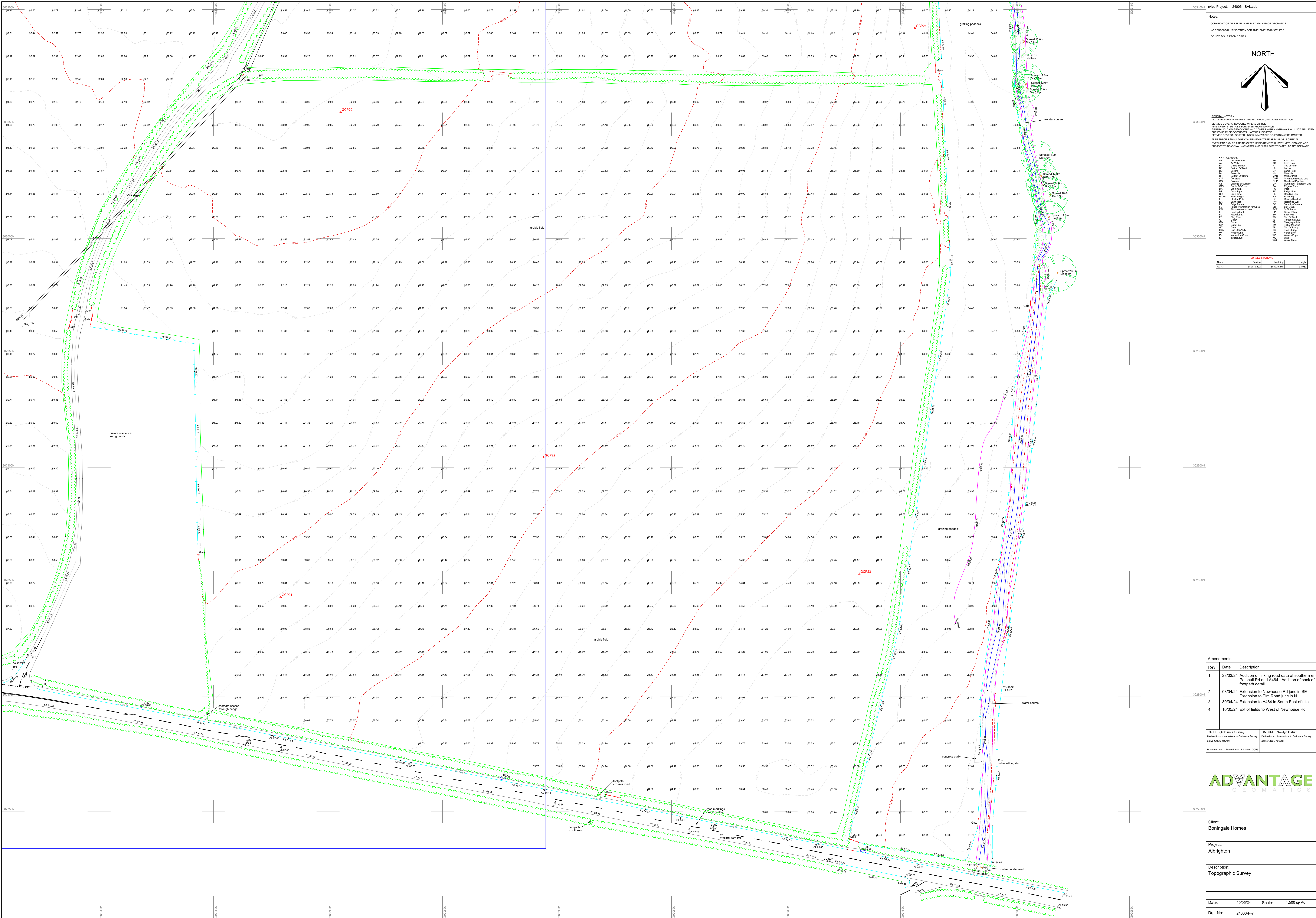
Derived from observations to Ordnance Survey active GNSS network

Derived from observations to Ordnance Survey active GNSS network

Presented with a Scale Factor of 1 set on OGCPS

ADVANTAGE

GEOMATICS



Appendix 3 - ReFH2 Calculations

UK Design Flood Estimation

Generated on 04 November 2024 09:38:15 by helena.duroe
Printed from the ReFH2 Flood Modelling software package, version 4.0.8560.23190

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site detailsChecksum: A9BB-8E3C

Site name: Adjusted_FEH_Catchment_Descriptors_380500_302550_v5_0_1

Easting: 380500

Northing: 302550

Country: England, Wales or Northern Ireland

Catchment Area (km²): 0.73

Using plot scale calculations: No

Model: 2.3

Site description:None

Model run: 30 year

Summary of results

Rainfall - FEH22 (mm):	46.17	Total runoff (ML):	6.23
Total Rainfall (mm):	30.23	Total flow (ML):	22.06
Peak Rainfall (mm):	8.22	Peak flow (m³/s):	0.39

Parameters

Where the user has overridden a system-generated value, this original value is shown in square brackets after the value used.
* Indicates that the user locked the duration/timestep

Rainfall parameters (Rainfall - FEH22)

Name	Value	User-defined?
Duration (hh:mm:ss)	04:30:00	No
Timestep (hh:mm:ss)	00:30:00	No
SCF (Seasonal correction factor)	0.67	No
ARF (Areal reduction factor)	0.98	No
Seasonality	Winter	No

Loss model parameters

Name	Value	User-defined?
Cini (mm)	101.05	No
Cmax (mm)	411.13	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	2.78	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m ³ /s)	0.02	No
BL (hr)	33.37	No
BR	2.54	No

Urbanisation parameters

Name	Value	User-defined?
Sewer capacity (m ³ /s)	0	No
Exporting drained area (km ²)	0	No
Urban area (km ²)	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m³/s)	Net Rain (mm)	Runoff (m³/s)	Baseflow (m³/s)	Total Flow (m³/s)
00:00:00	0.864	0.000	0.213	0.000	0.018	0.018
00:30:00	1.621	0.000	0.405	0.001	0.018	0.019
01:00:00	3.013	0.000	0.770	0.004	0.018	0.022
01:30:00	5.505	0.000	1.463	0.013	0.018	0.031
02:00:00	8.220	0.000	2.323	0.031	0.019	0.050
02:30:00	5.505	0.000	1.647	0.065	0.020	0.085
03:00:00	3.013	0.000	0.933	0.116	0.023	0.139
03:30:00	1.621	0.000	0.511	0.175	0.028	0.203
04:00:00	0.864	0.000	0.275	0.234	0.036	0.270
04:30:00	0.000	0.000	0.000	0.287	0.045	0.332
05:00:00	0.000	0.000	0.000	0.321	0.056	0.377
05:30:00	0.000	0.000	0.000	0.327	0.067	0.394
06:00:00	0.000	0.000	0.000	0.310	0.078	0.389
06:30:00	0.000	0.000	0.000	0.281	0.088	0.369
07:00:00	0.000	0.000	0.000	0.245	0.097	0.342
07:30:00	0.000	0.000	0.000	0.209	0.104	0.313
08:00:00	0.000	0.000	0.000	0.177	0.110	0.286
08:30:00	0.000	0.000	0.000	0.150	0.114	0.264
09:00:00	0.000	0.000	0.000	0.127	0.118	0.245
09:30:00	0.000	0.000	0.000	0.107	0.120	0.227
10:00:00	0.000	0.000	0.000	0.088	0.122	0.210
10:30:00	0.000	0.000	0.000	0.069	0.123	0.192
11:00:00	0.000	0.000	0.000	0.051	0.124	0.175
11:30:00	0.000	0.000	0.000	0.034	0.124	0.158
12:00:00	0.000	0.000	0.000	0.020	0.123	0.143
12:30:00	0.000	0.000	0.000	0.010	0.122	0.132
13:00:00	0.000	0.000	0.000	0.004	0.120	0.124
13:30:00	0.000	0.000	0.000	0.002	0.118	0.120
14:00:00	0.000	0.000	0.000	0.000	0.117	0.117
14:30:00	0.000	0.000	0.000	0.000	0.115	0.115
15:00:00	0.000	0.000	0.000	0.000	0.113	0.113
15:30:00	0.000	0.000	0.000	0.000	0.112	0.112
16:00:00	0.000	0.000	0.000	0.000	0.110	0.110
16:30:00	0.000	0.000	0.000	0.000	0.108	0.108
17:00:00	0.000	0.000	0.000	0.000	0.107	0.107

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
17:30:00	0.000	0.000	0.000	0.000	0.105	0.105
18:00:00	0.000	0.000	0.000	0.000	0.104	0.104
18:30:00	0.000	0.000	0.000	0.000	0.102	0.102
19:00:00	0.000	0.000	0.000	0.000	0.100	0.100
19:30:00	0.000	0.000	0.000	0.000	0.099	0.099
20:00:00	0.000	0.000	0.000	0.000	0.097	0.097
20:30:00	0.000	0.000	0.000	0.000	0.096	0.096
21:00:00	0.000	0.000	0.000	0.000	0.095	0.095
21:30:00	0.000	0.000	0.000	0.000	0.093	0.093
22:00:00	0.000	0.000	0.000	0.000	0.092	0.092
22:30:00	0.000	0.000	0.000	0.000	0.090	0.090
23:00:00	0.000	0.000	0.000	0.000	0.089	0.089
23:30:00	0.000	0.000	0.000	0.000	0.088	0.088
24:00:00	0.000	0.000	0.000	0.000	0.086	0.086
24:30:00	0.000	0.000	0.000	0.000	0.085	0.085
25:00:00	0.000	0.000	0.000	0.000	0.084	0.084
25:30:00	0.000	0.000	0.000	0.000	0.083	0.083
26:00:00	0.000	0.000	0.000	0.000	0.081	0.081
26:30:00	0.000	0.000	0.000	0.000	0.080	0.080
27:00:00	0.000	0.000	0.000	0.000	0.079	0.079
27:30:00	0.000	0.000	0.000	0.000	0.078	0.078
28:00:00	0.000	0.000	0.000	0.000	0.077	0.077
28:30:00	0.000	0.000	0.000	0.000	0.076	0.076
29:00:00	0.000	0.000	0.000	0.000	0.074	0.074
29:30:00	0.000	0.000	0.000	0.000	0.073	0.073
30:00:00	0.000	0.000	0.000	0.000	0.072	0.072
30:30:00	0.000	0.000	0.000	0.000	0.071	0.071
31:00:00	0.000	0.000	0.000	0.000	0.070	0.070
31:30:00	0.000	0.000	0.000	0.000	0.069	0.069
32:00:00	0.000	0.000	0.000	0.000	0.068	0.068
32:30:00	0.000	0.000	0.000	0.000	0.067	0.067
33:00:00	0.000	0.000	0.000	0.000	0.066	0.066
33:30:00	0.000	0.000	0.000	0.000	0.065	0.065
34:00:00	0.000	0.000	0.000	0.000	0.064	0.064
34:30:00	0.000	0.000	0.000	0.000	0.063	0.063
35:00:00	0.000	0.000	0.000	0.000	0.062	0.062

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
35:30:00	0.000	0.000	0.000	0.000	0.061	0.061
36:00:00	0.000	0.000	0.000	0.000	0.060	0.060
36:30:00	0.000	0.000	0.000	0.000	0.059	0.059
37:00:00	0.000	0.000	0.000	0.000	0.059	0.059
37:30:00	0.000	0.000	0.000	0.000	0.058	0.058
38:00:00	0.000	0.000	0.000	0.000	0.057	0.057
38:30:00	0.000	0.000	0.000	0.000	0.056	0.056
39:00:00	0.000	0.000	0.000	0.000	0.055	0.055
39:30:00	0.000	0.000	0.000	0.000	0.054	0.054
40:00:00	0.000	0.000	0.000	0.000	0.054	0.054
40:30:00	0.000	0.000	0.000	0.000	0.053	0.053
41:00:00	0.000	0.000	0.000	0.000	0.052	0.052
41:30:00	0.000	0.000	0.000	0.000	0.051	0.051
42:00:00	0.000	0.000	0.000	0.000	0.050	0.050
42:30:00	0.000	0.000	0.000	0.000	0.050	0.050
43:00:00	0.000	0.000	0.000	0.000	0.049	0.049
43:30:00	0.000	0.000	0.000	0.000	0.048	0.048
44:00:00	0.000	0.000	0.000	0.000	0.047	0.047
44:30:00	0.000	0.000	0.000	0.000	0.047	0.047
45:00:00	0.000	0.000	0.000	0.000	0.046	0.046
45:30:00	0.000	0.000	0.000	0.000	0.045	0.045
46:00:00	0.000	0.000	0.000	0.000	0.045	0.045
46:30:00	0.000	0.000	0.000	0.000	0.044	0.044
47:00:00	0.000	0.000	0.000	0.000	0.043	0.043
47:30:00	0.000	0.000	0.000	0.000	0.043	0.043
48:00:00	0.000	0.000	0.000	0.000	0.042	0.042
48:30:00	0.000	0.000	0.000	0.000	0.041	0.041
49:00:00	0.000	0.000	0.000	0.000	0.041	0.041
49:30:00	0.000	0.000	0.000	0.000	0.040	0.040
50:00:00	0.000	0.000	0.000	0.000	0.040	0.040
50:30:00	0.000	0.000	0.000	0.000	0.039	0.039
51:00:00	0.000	0.000	0.000	0.000	0.039	0.039
51:30:00	0.000	0.000	0.000	0.000	0.038	0.038
52:00:00	0.000	0.000	0.000	0.000	0.037	0.037
52:30:00	0.000	0.000	0.000	0.000	0.037	0.037
53:00:00	0.000	0.000	0.000	0.000	0.036	0.036

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
53:30:00	0.000	0.000	0.000	0.000	0.036	0.036
54:00:00	0.000	0.000	0.000	0.000	0.035	0.035
54:30:00	0.000	0.000	0.000	0.000	0.035	0.035
55:00:00	0.000	0.000	0.000	0.000	0.034	0.034
55:30:00	0.000	0.000	0.000	0.000	0.034	0.034
56:00:00	0.000	0.000	0.000	0.000	0.033	0.033
56:30:00	0.000	0.000	0.000	0.000	0.033	0.033
57:00:00	0.000	0.000	0.000	0.000	0.032	0.032
57:30:00	0.000	0.000	0.000	0.000	0.032	0.032
58:00:00	0.000	0.000	0.000	0.000	0.031	0.031
58:30:00	0.000	0.000	0.000	0.000	0.031	0.031
59:00:00	0.000	0.000	0.000	0.000	0.030	0.030
59:30:00	0.000	0.000	0.000	0.000	0.030	0.030
60:00:00	0.000	0.000	0.000	0.000	0.029	0.029
60:30:00	0.000	0.000	0.000	0.000	0.029	0.029
61:00:00	0.000	0.000	0.000	0.000	0.029	0.029
61:30:00	0.000	0.000	0.000	0.000	0.028	0.028
62:00:00	0.000	0.000	0.000	0.000	0.028	0.028
62:30:00	0.000	0.000	0.000	0.000	0.027	0.027
63:00:00	0.000	0.000	0.000	0.000	0.027	0.027
63:30:00	0.000	0.000	0.000	0.000	0.026	0.026
64:00:00	0.000	0.000	0.000	0.000	0.026	0.026
64:30:00	0.000	0.000	0.000	0.000	0.026	0.026
65:00:00	0.000	0.000	0.000	0.000	0.025	0.025
65:30:00	0.000	0.000	0.000	0.000	0.025	0.025
66:00:00	0.000	0.000	0.000	0.000	0.025	0.025
66:30:00	0.000	0.000	0.000	0.000	0.024	0.024
67:00:00	0.000	0.000	0.000	0.000	0.024	0.024
67:30:00	0.000	0.000	0.000	0.000	0.023	0.023
68:00:00	0.000	0.000	0.000	0.000	0.023	0.023
68:30:00	0.000	0.000	0.000	0.000	0.023	0.023
69:00:00	0.000	0.000	0.000	0.000	0.022	0.022
69:30:00	0.000	0.000	0.000	0.000	0.022	0.022
70:00:00	0.000	0.000	0.000	0.000	0.022	0.022
70:30:00	0.000	0.000	0.000	0.000	0.021	0.021
71:00:00	0.000	0.000	0.000	0.000	0.021	0.021

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
71:30:00	0.000	0.000	0.000	0.000	0.021	0.021
72:00:00	0.000	0.000	0.000	0.000	0.021	0.021
72:30:00	0.000	0.000	0.000	0.000	0.020	0.020
73:00:00	0.000	0.000	0.000	0.000	0.020	0.020
73:30:00	0.000	0.000	0.000	0.000	0.020	0.020
74:00:00	0.000	0.000	0.000	0.000	0.019	0.019
74:30:00	0.000	0.000	0.000	0.000	0.019	0.019
75:00:00	0.000	0.000	0.000	0.000	0.019	0.019
75:30:00	0.000	0.000	0.000	0.000	0.018	0.018

Appendix

Catchment descriptors

Name	Value	User-defined value used?
Area (km ²)	0.73	No
ALTBAR	96	No
ASPBAR	148	No
ASPVAR	0.79	No
BFIHOST	0.52	No
BFIHOST19	0.5	No
DPLBAR (km)	0.85	No
DPSBAR (mkm ⁻¹)	15.4	No
FARL	1	No
LDP	1.63	No
PROPWET	0.31	No
RMED1H	10.5	No
RMED1D	28.2	No
RMED2D	34.8	No
SAAR (mm)	682	No
SAAR4170 (mm)	698	No
SPRHOST	32.9	No
Urbext2000	0	No
Urbext1990	0	No
URBCONC	0	No
URBLOC	0	No
DDF parameter C	-0.03	No
DDF parameter D1	0.33	No
DDF parameter D2	0.31	No
DDF parameter D3	0.37	No
DDF parameter E	0.31	No
DDF parameter F	2.38	No
DDF parameter C (1km grid value)	-0.03	No
DDF parameter D1 (1km grid value)	0.33	No
DDF parameter D2 (1km grid value)	0.3	No
DDF parameter D3 (1km grid value)	0.37	No
DDF parameter E (1km grid value)	0.31	No
DDF parameter F (1km grid value)	2.38	No

UK Design Flood Estimation

Generated on 04 November 2024 09:39:43 by helena.duroe
Printed from the ReFH2 Flood Modelling software package, version 4.0.8560.23190

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site detailsChecksum: A9BB-8E3C

Site name: Adjusted_FEH_Catchment_Descriptors_380500_302550_v5_0_1

Easting: 380500

Northing: 302550

Country: England, Wales or Northern Ireland

Catchment Area (km²): 0.73

Using plot scale calculations: No

Model: 2.3

Site description:None

Model run: 100 year

Summary of results

Rainfall - FEH22 (mm):	58.05	Total runoff (ML):	8.09
Total Rainfall (mm):	38.01	Total flow (ML):	27.73
Peak Rainfall (mm):	10.34	Peak flow (m³/s):	0.50

Parameters

Where the user has overridden a system-generated value, this original value is shown in square brackets after the value used.
* Indicates that the user locked the duration/timestep

Rainfall parameters (Rainfall - FEH22)

Name	Value	User-defined?
Duration (hh:mm:ss)	04:30:00	No
Timestep (hh:mm:ss)	00:30:00	No
SCF (Seasonal correction factor)	0.67	No
ARF (Areal reduction factor)	0.98	No
Seasonality	Winter	No

Loss model parameters

Name	Value	User-defined?
Cini (mm)	101.05	No
Cmax (mm)	411.13	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	2.78	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m ³ /s)	0.02	No
BL (hr)	33.37	No
BR	2.42	No

Urbanisation parameters

Name	Value	User-defined?
Sewer capacity (m ³ /s)	0	No
Exporting drained area (km ²)	0	No
Urban area (km ²)	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m³/s)	Net Rain (mm)	Runoff (m³/s)	Baseflow (m³/s)	Total Flow (m³/s)
00:00:00	1.086	0.000	0.268	0.000	0.018	0.018
00:30:00	2.038	0.000	0.511	0.001	0.018	0.019
01:00:00	3.789	0.000	0.978	0.006	0.018	0.024
01:30:00	6.922	0.000	1.876	0.016	0.018	0.034
02:00:00	10.336	0.000	3.018	0.039	0.019	0.058
02:30:00	6.922	0.000	2.167	0.083	0.021	0.104
03:00:00	3.789	0.000	1.235	0.148	0.025	0.173
03:30:00	2.038	0.000	0.679	0.225	0.031	0.256
04:00:00	1.086	0.000	0.366	0.302	0.040	0.342
04:30:00	0.000	0.000	0.000	0.371	0.052	0.423
05:00:00	0.000	0.000	0.000	0.417	0.065	0.482
05:30:00	0.000	0.000	0.000	0.425	0.079	0.505
06:00:00	0.000	0.000	0.000	0.404	0.093	0.497
06:30:00	0.000	0.000	0.000	0.366	0.106	0.472
07:00:00	0.000	0.000	0.000	0.320	0.116	0.437
07:30:00	0.000	0.000	0.000	0.273	0.125	0.398
08:00:00	0.000	0.000	0.000	0.231	0.132	0.363
08:30:00	0.000	0.000	0.000	0.196	0.138	0.334
09:00:00	0.000	0.000	0.000	0.166	0.143	0.309
09:30:00	0.000	0.000	0.000	0.140	0.146	0.286
10:00:00	0.000	0.000	0.000	0.115	0.148	0.263
10:30:00	0.000	0.000	0.000	0.090	0.150	0.240
11:00:00	0.000	0.000	0.000	0.067	0.151	0.218
11:30:00	0.000	0.000	0.000	0.045	0.150	0.196
12:00:00	0.000	0.000	0.000	0.027	0.149	0.176
12:30:00	0.000	0.000	0.000	0.013	0.148	0.161
13:00:00	0.000	0.000	0.000	0.006	0.146	0.152
13:30:00	0.000	0.000	0.000	0.002	0.144	0.146
14:00:00	0.000	0.000	0.000	0.000	0.142	0.142
14:30:00	0.000	0.000	0.000	0.000	0.140	0.140
15:00:00	0.000	0.000	0.000	0.000	0.138	0.138
15:30:00	0.000	0.000	0.000	0.000	0.136	0.136
16:00:00	0.000	0.000	0.000	0.000	0.134	0.134
16:30:00	0.000	0.000	0.000	0.000	0.132	0.132
17:00:00	0.000	0.000	0.000	0.000	0.130	0.130

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
17:30:00	0.000	0.000	0.000	0.000	0.128	0.128
18:00:00	0.000	0.000	0.000	0.000	0.126	0.126
18:30:00	0.000	0.000	0.000	0.000	0.124	0.124
19:00:00	0.000	0.000	0.000	0.000	0.122	0.122
19:30:00	0.000	0.000	0.000	0.000	0.120	0.120
20:00:00	0.000	0.000	0.000	0.000	0.119	0.119
20:30:00	0.000	0.000	0.000	0.000	0.117	0.117
21:00:00	0.000	0.000	0.000	0.000	0.115	0.115
21:30:00	0.000	0.000	0.000	0.000	0.113	0.113
22:00:00	0.000	0.000	0.000	0.000	0.112	0.112
22:30:00	0.000	0.000	0.000	0.000	0.110	0.110
23:00:00	0.000	0.000	0.000	0.000	0.108	0.108
23:30:00	0.000	0.000	0.000	0.000	0.107	0.107
24:00:00	0.000	0.000	0.000	0.000	0.105	0.105
24:30:00	0.000	0.000	0.000	0.000	0.104	0.104
25:00:00	0.000	0.000	0.000	0.000	0.102	0.102
25:30:00	0.000	0.000	0.000	0.000	0.101	0.101
26:00:00	0.000	0.000	0.000	0.000	0.099	0.099
26:30:00	0.000	0.000	0.000	0.000	0.098	0.098
27:00:00	0.000	0.000	0.000	0.000	0.096	0.096
27:30:00	0.000	0.000	0.000	0.000	0.095	0.095
28:00:00	0.000	0.000	0.000	0.000	0.093	0.093
28:30:00	0.000	0.000	0.000	0.000	0.092	0.092
29:00:00	0.000	0.000	0.000	0.000	0.091	0.091
29:30:00	0.000	0.000	0.000	0.000	0.089	0.089
30:00:00	0.000	0.000	0.000	0.000	0.088	0.088
30:30:00	0.000	0.000	0.000	0.000	0.087	0.087
31:00:00	0.000	0.000	0.000	0.000	0.085	0.085
31:30:00	0.000	0.000	0.000	0.000	0.084	0.084
32:00:00	0.000	0.000	0.000	0.000	0.083	0.083
32:30:00	0.000	0.000	0.000	0.000	0.082	0.082
33:00:00	0.000	0.000	0.000	0.000	0.080	0.080
33:30:00	0.000	0.000	0.000	0.000	0.079	0.079
34:00:00	0.000	0.000	0.000	0.000	0.078	0.078
34:30:00	0.000	0.000	0.000	0.000	0.077	0.077
35:00:00	0.000	0.000	0.000	0.000	0.076	0.076

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
35:30:00	0.000	0.000	0.000	0.000	0.075	0.075
36:00:00	0.000	0.000	0.000	0.000	0.073	0.073
36:30:00	0.000	0.000	0.000	0.000	0.072	0.072
37:00:00	0.000	0.000	0.000	0.000	0.071	0.071
37:30:00	0.000	0.000	0.000	0.000	0.070	0.070
38:00:00	0.000	0.000	0.000	0.000	0.069	0.069
38:30:00	0.000	0.000	0.000	0.000	0.068	0.068
39:00:00	0.000	0.000	0.000	0.000	0.067	0.067
39:30:00	0.000	0.000	0.000	0.000	0.066	0.066
40:00:00	0.000	0.000	0.000	0.000	0.065	0.065
40:30:00	0.000	0.000	0.000	0.000	0.064	0.064
41:00:00	0.000	0.000	0.000	0.000	0.063	0.063
41:30:00	0.000	0.000	0.000	0.000	0.062	0.062
42:00:00	0.000	0.000	0.000	0.000	0.061	0.061
42:30:00	0.000	0.000	0.000	0.000	0.060	0.060
43:00:00	0.000	0.000	0.000	0.000	0.060	0.060
43:30:00	0.000	0.000	0.000	0.000	0.059	0.059
44:00:00	0.000	0.000	0.000	0.000	0.058	0.058
44:30:00	0.000	0.000	0.000	0.000	0.057	0.057
45:00:00	0.000	0.000	0.000	0.000	0.056	0.056
45:30:00	0.000	0.000	0.000	0.000	0.055	0.055
46:00:00	0.000	0.000	0.000	0.000	0.054	0.054
46:30:00	0.000	0.000	0.000	0.000	0.054	0.054
47:00:00	0.000	0.000	0.000	0.000	0.053	0.053
47:30:00	0.000	0.000	0.000	0.000	0.052	0.052
48:00:00	0.000	0.000	0.000	0.000	0.051	0.051
48:30:00	0.000	0.000	0.000	0.000	0.050	0.050
49:00:00	0.000	0.000	0.000	0.000	0.050	0.050
49:30:00	0.000	0.000	0.000	0.000	0.049	0.049
50:00:00	0.000	0.000	0.000	0.000	0.048	0.048
50:30:00	0.000	0.000	0.000	0.000	0.048	0.048
51:00:00	0.000	0.000	0.000	0.000	0.047	0.047
51:30:00	0.000	0.000	0.000	0.000	0.046	0.046
52:00:00	0.000	0.000	0.000	0.000	0.045	0.045
52:30:00	0.000	0.000	0.000	0.000	0.045	0.045
53:00:00	0.000	0.000	0.000	0.000	0.044	0.044

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
53:30:00	0.000	0.000	0.000	0.000	0.043	0.043
54:00:00	0.000	0.000	0.000	0.000	0.043	0.043
54:30:00	0.000	0.000	0.000	0.000	0.042	0.042
55:00:00	0.000	0.000	0.000	0.000	0.042	0.042
55:30:00	0.000	0.000	0.000	0.000	0.041	0.041
56:00:00	0.000	0.000	0.000	0.000	0.040	0.040
56:30:00	0.000	0.000	0.000	0.000	0.040	0.040
57:00:00	0.000	0.000	0.000	0.000	0.039	0.039
57:30:00	0.000	0.000	0.000	0.000	0.039	0.039
58:00:00	0.000	0.000	0.000	0.000	0.038	0.038
58:30:00	0.000	0.000	0.000	0.000	0.037	0.037
59:00:00	0.000	0.000	0.000	0.000	0.037	0.037
59:30:00	0.000	0.000	0.000	0.000	0.036	0.036
60:00:00	0.000	0.000	0.000	0.000	0.036	0.036
60:30:00	0.000	0.000	0.000	0.000	0.035	0.035
61:00:00	0.000	0.000	0.000	0.000	0.035	0.035
61:30:00	0.000	0.000	0.000	0.000	0.034	0.034
62:00:00	0.000	0.000	0.000	0.000	0.034	0.034
62:30:00	0.000	0.000	0.000	0.000	0.033	0.033
63:00:00	0.000	0.000	0.000	0.000	0.033	0.033
63:30:00	0.000	0.000	0.000	0.000	0.032	0.032
64:00:00	0.000	0.000	0.000	0.000	0.032	0.032
64:30:00	0.000	0.000	0.000	0.000	0.031	0.031
65:00:00	0.000	0.000	0.000	0.000	0.031	0.031
65:30:00	0.000	0.000	0.000	0.000	0.030	0.030
66:00:00	0.000	0.000	0.000	0.000	0.030	0.030
66:30:00	0.000	0.000	0.000	0.000	0.029	0.029
67:00:00	0.000	0.000	0.000	0.000	0.029	0.029
67:30:00	0.000	0.000	0.000	0.000	0.029	0.029
68:00:00	0.000	0.000	0.000	0.000	0.028	0.028
68:30:00	0.000	0.000	0.000	0.000	0.028	0.028
69:00:00	0.000	0.000	0.000	0.000	0.027	0.027
69:30:00	0.000	0.000	0.000	0.000	0.027	0.027
70:00:00	0.000	0.000	0.000	0.000	0.027	0.027
70:30:00	0.000	0.000	0.000	0.000	0.026	0.026
71:00:00	0.000	0.000	0.000	0.000	0.026	0.026

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
71:30:00	0.000	0.000	0.000	0.000	0.025	0.025
72:00:00	0.000	0.000	0.000	0.000	0.025	0.025
72:30:00	0.000	0.000	0.000	0.000	0.025	0.025
73:00:00	0.000	0.000	0.000	0.000	0.024	0.024
73:30:00	0.000	0.000	0.000	0.000	0.024	0.024
74:00:00	0.000	0.000	0.000	0.000	0.024	0.024
74:30:00	0.000	0.000	0.000	0.000	0.023	0.023
75:00:00	0.000	0.000	0.000	0.000	0.023	0.023
75:30:00	0.000	0.000	0.000	0.000	0.022	0.022
76:00:00	0.000	0.000	0.000	0.000	0.022	0.022
76:30:00	0.000	0.000	0.000	0.000	0.022	0.022
77:00:00	0.000	0.000	0.000	0.000	0.021	0.021
77:30:00	0.000	0.000	0.000	0.000	0.021	0.021
78:00:00	0.000	0.000	0.000	0.000	0.021	0.021
78:30:00	0.000	0.000	0.000	0.000	0.021	0.021
79:00:00	0.000	0.000	0.000	0.000	0.020	0.020
79:30:00	0.000	0.000	0.000	0.000	0.020	0.020
80:00:00	0.000	0.000	0.000	0.000	0.020	0.020
80:30:00	0.000	0.000	0.000	0.000	0.019	0.019
81:00:00	0.000	0.000	0.000	0.000	0.019	0.019
81:30:00	0.000	0.000	0.000	0.000	0.019	0.019
82:00:00	0.000	0.000	0.000	0.000	0.018	0.018

Appendix

Catchment descriptors

Name	Value	User-defined value used?
Area (km ²)	0.73	No
ALTBAR	96	No
ASPBAR	148	No
ASPVAR	0.79	No
BFIHOST	0.52	No
BFIHOST19	0.5	No
DPLBAR (km)	0.85	No
DPSBAR (mkm ⁻¹)	15.4	No
FARL	1	No
LDP	1.63	No
PROPWET	0.31	No
RMED1H	10.5	No
RMED1D	28.2	No
RMED2D	34.8	No
SAAR (mm)	682	No
SAAR4170 (mm)	698	No
SPRHOST	32.9	No
Urbext2000	0	No
Urbext1990	0	No
URBCONC	0	No
URBLOC	0	No
DDF parameter C	-0.03	No
DDF parameter D1	0.33	No
DDF parameter D2	0.31	No
DDF parameter D3	0.37	No
DDF parameter E	0.31	No
DDF parameter F	2.38	No
DDF parameter C (1km grid value)	-0.03	No
DDF parameter D1 (1km grid value)	0.33	No
DDF parameter D2 (1km grid value)	0.3	No
DDF parameter D3 (1km grid value)	0.37	No
DDF parameter E (1km grid value)	0.31	No
DDF parameter F (1km grid value)	2.38	No

UK Design Flood Estimation

Generated on 04 November 2024 09:39:59 by helena.duroe
Printed from the ReFH2 Flood Modelling software package, version 4.0.8560.23190

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site detailsChecksum: A9BB-8E3C

Site name: Adjusted_FEH_Catchment_Descriptors_380500_302550_v5_0_1

Easting: 380500

Northing: 302550

Country: England, Wales or Northern Ireland

Catchment Area (km²): 0.73

Using plot scale calculations: No

Model: 2.3

Site description:None

Model run: 1000 year

Summary of results

Rainfall - FEH22 (mm):	88.86	Total runoff (ML):	13.43
Total Rainfall (mm):	58.18	Total flow (ML):	42.43
Peak Rainfall (mm):	15.82	Peak flow (m³/s):	0.82

Parameters

Where the user has overridden a system-generated value, this original value is shown in square brackets after the value used.
* Indicates that the user locked the duration/timestep

Rainfall parameters (Rainfall - FEH22)

Name	Value	User-defined?
Duration (hh:mm:ss)	04:30:00	No
Timestep (hh:mm:ss)	00:30:00	No
SCF (Seasonal correction factor)	0.67	No
ARF (Areal reduction factor)	0.98	No
Seasonality	Winter	No

Loss model parameters

Name	Value	User-defined?
Cini (mm)	101.05	No
Cmax (mm)	411.13	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	2.78	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m ³ /s)	0.02	No
BL (hr)	33.37	No
BR	2.16	No

Urbanisation parameters

Name	Value	User-defined?
Sewer capacity (m ³ /s)	0	No
Exporting drained area (km ²)	0	No
Urban area (km ²)	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m³/s)	Net Rain (mm)	Runoff (m³/s)	Baseflow (m³/s)	Total Flow (m³/s)
00:00:00	1.663	0.000	0.412	0.000	0.018	0.018
00:30:00	3.119	0.000	0.791	0.002	0.018	0.020
01:00:00	5.800	0.000	1.534	0.009	0.018	0.027
01:30:00	10.595	0.000	3.013	0.025	0.018	0.044
02:00:00	15.822	0.000	5.008	0.061	0.019	0.081
02:30:00	10.595	0.000	3.694	0.132	0.022	0.154
03:00:00	5.800	0.000	2.138	0.238	0.028	0.266
03:30:00	3.119	0.000	1.184	0.364	0.037	0.401
04:00:00	1.663	0.000	0.641	0.494	0.050	0.544
04:30:00	0.000	0.000	0.000	0.610	0.067	0.677
05:00:00	0.000	0.000	0.000	0.689	0.087	0.777
05:30:00	0.000	0.000	0.000	0.707	0.108	0.815
06:00:00	0.000	0.000	0.000	0.675	0.129	0.804
06:30:00	0.000	0.000	0.000	0.613	0.148	0.760
07:00:00	0.000	0.000	0.000	0.537	0.164	0.700
07:30:00	0.000	0.000	0.000	0.457	0.177	0.634
08:00:00	0.000	0.000	0.000	0.387	0.188	0.575
08:30:00	0.000	0.000	0.000	0.328	0.197	0.525
09:00:00	0.000	0.000	0.000	0.279	0.204	0.483
09:30:00	0.000	0.000	0.000	0.234	0.209	0.443
10:00:00	0.000	0.000	0.000	0.193	0.213	0.405
10:30:00	0.000	0.000	0.000	0.152	0.215	0.367
11:00:00	0.000	0.000	0.000	0.113	0.216	0.330
11:30:00	0.000	0.000	0.000	0.077	0.216	0.293
12:00:00	0.000	0.000	0.000	0.046	0.215	0.260
12:30:00	0.000	0.000	0.000	0.023	0.213	0.236
13:00:00	0.000	0.000	0.000	0.010	0.210	0.220
13:30:00	0.000	0.000	0.000	0.004	0.207	0.211
14:00:00	0.000	0.000	0.000	0.001	0.204	0.205
14:30:00	0.000	0.000	0.000	0.000	0.201	0.201
15:00:00	0.000	0.000	0.000	0.000	0.198	0.198
15:30:00	0.000	0.000	0.000	0.000	0.195	0.195
16:00:00	0.000	0.000	0.000	0.000	0.192	0.192
16:30:00	0.000	0.000	0.000	0.000	0.189	0.189
17:00:00	0.000	0.000	0.000	0.000	0.187	0.187

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
17:30:00	0.000	0.000	0.000	0.000	0.184	0.184
18:00:00	0.000	0.000	0.000	0.000	0.181	0.181
18:30:00	0.000	0.000	0.000	0.000	0.178	0.178
19:00:00	0.000	0.000	0.000	0.000	0.176	0.176
19:30:00	0.000	0.000	0.000	0.000	0.173	0.173
20:00:00	0.000	0.000	0.000	0.000	0.171	0.171
20:30:00	0.000	0.000	0.000	0.000	0.168	0.168
21:00:00	0.000	0.000	0.000	0.000	0.166	0.166
21:30:00	0.000	0.000	0.000	0.000	0.163	0.163
22:00:00	0.000	0.000	0.000	0.000	0.161	0.161
22:30:00	0.000	0.000	0.000	0.000	0.158	0.158
23:00:00	0.000	0.000	0.000	0.000	0.156	0.156
23:30:00	0.000	0.000	0.000	0.000	0.154	0.154
24:00:00	0.000	0.000	0.000	0.000	0.151	0.151
24:30:00	0.000	0.000	0.000	0.000	0.149	0.149
25:00:00	0.000	0.000	0.000	0.000	0.147	0.147
25:30:00	0.000	0.000	0.000	0.000	0.145	0.145
26:00:00	0.000	0.000	0.000	0.000	0.142	0.142
26:30:00	0.000	0.000	0.000	0.000	0.140	0.140
27:00:00	0.000	0.000	0.000	0.000	0.138	0.138
27:30:00	0.000	0.000	0.000	0.000	0.136	0.136
28:00:00	0.000	0.000	0.000	0.000	0.134	0.134
28:30:00	0.000	0.000	0.000	0.000	0.132	0.132
29:00:00	0.000	0.000	0.000	0.000	0.130	0.130
29:30:00	0.000	0.000	0.000	0.000	0.128	0.128
30:00:00	0.000	0.000	0.000	0.000	0.126	0.126
30:30:00	0.000	0.000	0.000	0.000	0.125	0.125
31:00:00	0.000	0.000	0.000	0.000	0.123	0.123
31:30:00	0.000	0.000	0.000	0.000	0.121	0.121
32:00:00	0.000	0.000	0.000	0.000	0.119	0.119
32:30:00	0.000	0.000	0.000	0.000	0.117	0.117
33:00:00	0.000	0.000	0.000	0.000	0.116	0.116
33:30:00	0.000	0.000	0.000	0.000	0.114	0.114
34:00:00	0.000	0.000	0.000	0.000	0.112	0.112
34:30:00	0.000	0.000	0.000	0.000	0.110	0.110
35:00:00	0.000	0.000	0.000	0.000	0.109	0.109