

A47 North Tuddenham to Easton Dualling

Scheme Number: TR010038

Volume 6

6.3 Environmental Statement Appendices

**Appendix 13.1 - Flood Risk Assessment,
Part 2 of 2**

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

March 2021

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

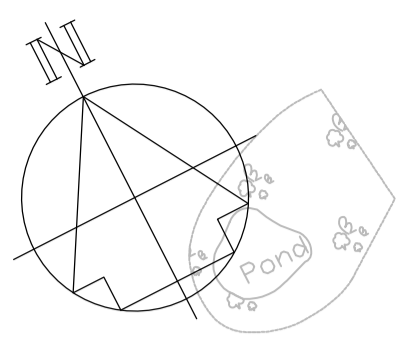
The A47 North Tuddenham to Easton
Development Consent Order 202[x]

ENVIRONMENTAL STATEMENT APPENDICES
Appendix 13.1 - Flood Risk Assessment,
Part 2 of 2

Regulation Number:	5(2)(a)
Planning Inspectorate Scheme Reference	TR010038
Application Document Reference	TR010038/APP/6.3
BIM Document Reference	HE551489-GTY-EWE-000-RP-LE-30002
Author:	A47 North Tuddenham to Easton Dualling Project Team, Highways England

Version	Date	Status of Version
Rev 0	March 2021	Application Issue

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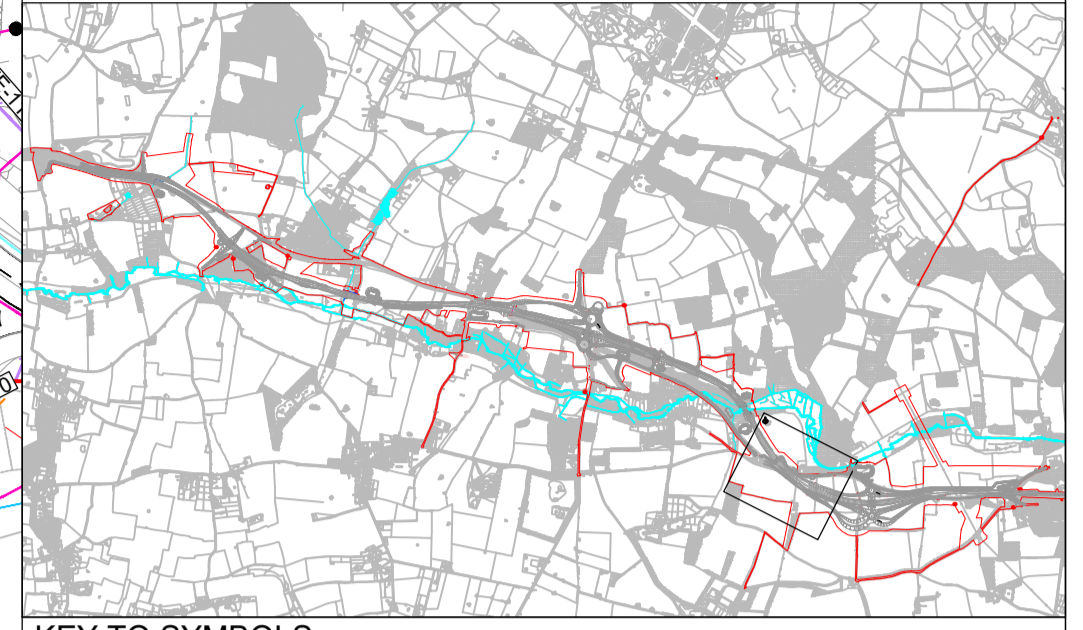
IMPORTANT

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

TO BE READ IN CONJUNCTION WITH HAZARD REGISTER
DOC. REF: HE551489-GTY-GHS-000-HS-ZZ-30002.

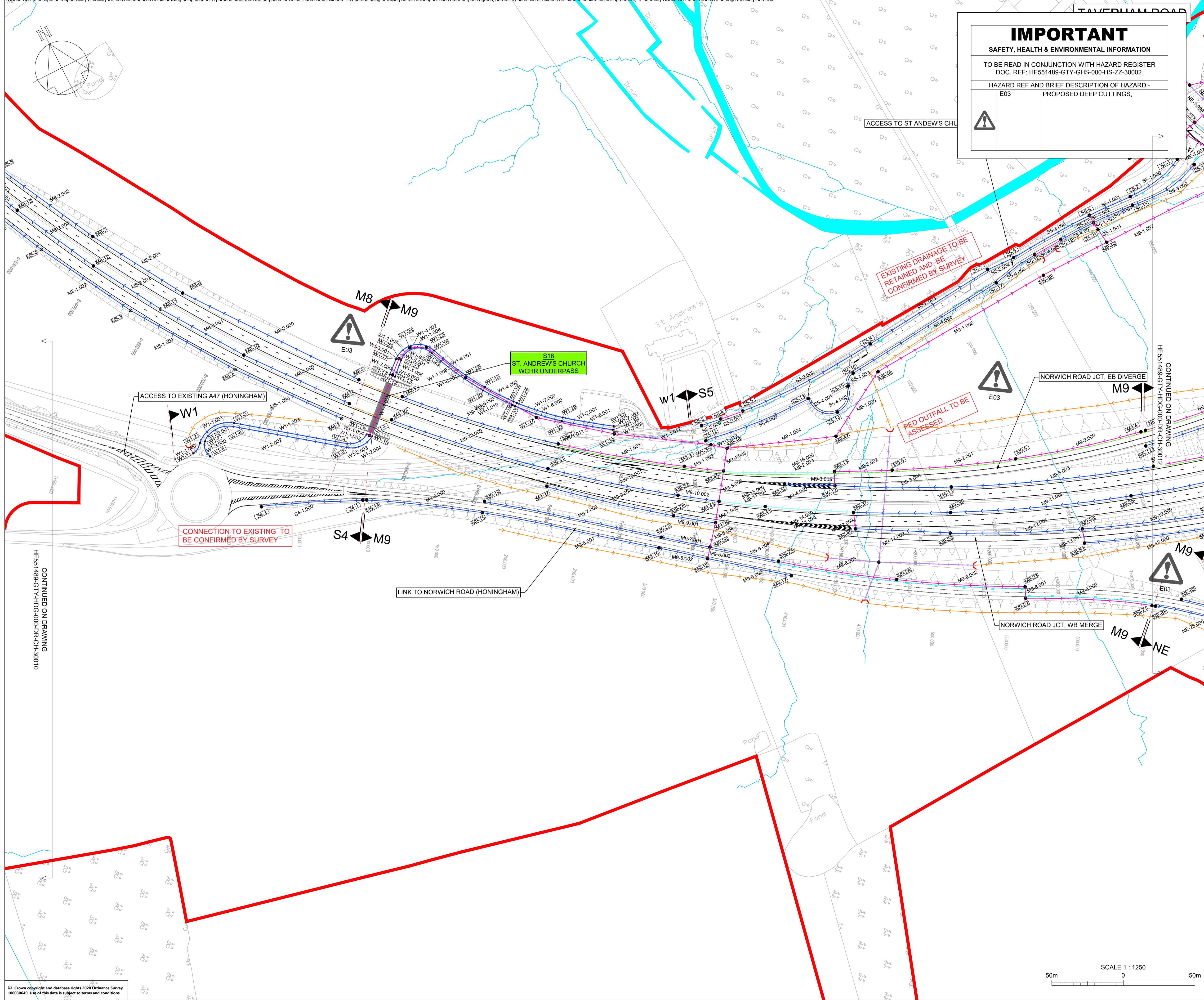
HAZARD REF AND BRIEF DESCRIPTION OF HAZARD:-	
E03	PROPOSED DEEP CUTTINGS.

- NOTES**
- ALL DIMENSIONS ARE IN METRES (m) UNLESS OTHERWISE STATED.
 - THIS DRAWING SHALL ONLY BE USED FOR THE DESIGN ELEMENT STATED IN THE DRAWING TITLE.
 - DRAWINGS ARE TO BE READ IN COLOUR.



KEY TO SYMBOLS

Combined Drain	Kerb & Gully
Carrier Drain	Manhole/Catchpit
Filter & Lower Carrier Drains	Headwall
Narrow Filter/Fin Drain	PED Cross Drain
Oversized Pipes for Attenuation	DCO Boundary
Drainage Ditch for over the edge provision	Existing Surface water bodies
PED Ditches (natural catchment)	Existing Overland Flow Pathways
PED Filter drains	Culverts
Combined Kerb Drain	Chamber Reference
Deck Drainage	Pipe Reference
	NE-1.000
	Network Marker Point
	NE



REV	DATE	REVISION NOTE	ORG	CHKD	APPD
P01	14/11/19	DESIGN FIX A	BR	BR	BR
P02	19/11/19	DESIGN FIX A UPDATE	BR	BR	BR
P03	29/04/20	DESIGN UPDATED FOR DESIGN FIX B	SG	JM	JM
P04	18/09/20	INTERIM DFC ISSUE	SG	JM	BA
P05	30/11/20	DESIGN FIX C	SG	JMcC	Bart
P06	01/02/21	UPDATED FOR SGAR 3	KMcC	JMcC	MMur
C01	01/02/21	UPDATED FOR SGAR 3	KMcC	JMcC	MMur

DESIGNER

SWECO

CONTRACTOR

GallifordTry

CLIENT

**highways
england**

PROJECT TITLE

A47 NORTH TUDDENHAM TO EASTON DUALLING

PROJECT STAGE

PCF STAGE 3

DRAWING TITLE

**DRAINAGE LAYOUT PLANS
SHEET 11 OF 14**

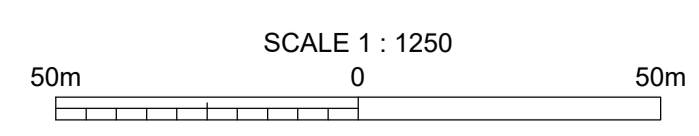
SUITABILITY

AUTHORISED AS STAGE 3 COMPLETED

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:1250	A3	C01

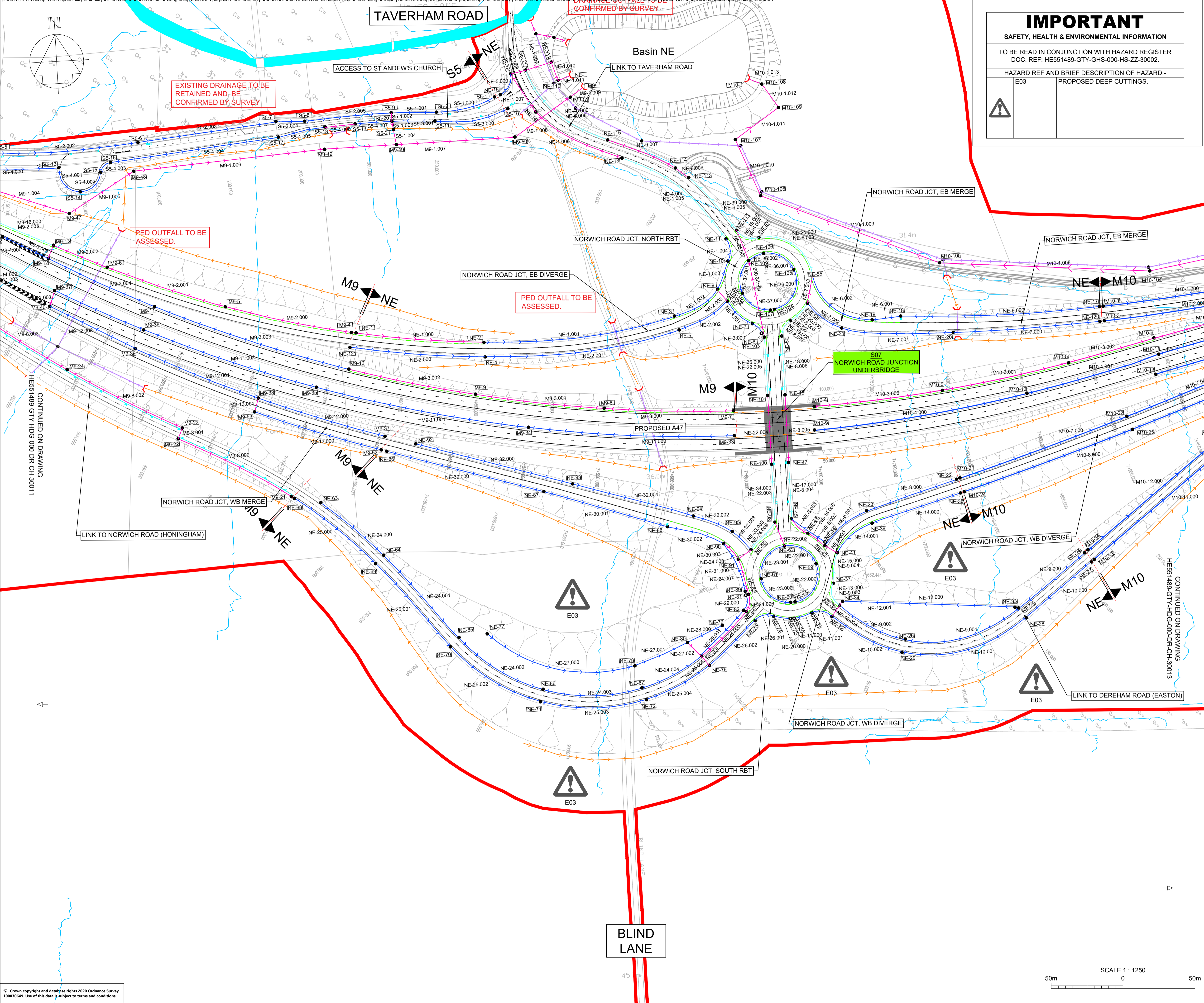
DRAWING NUMBER

HE551489-GTY-HDG-000-DR-CH-30011



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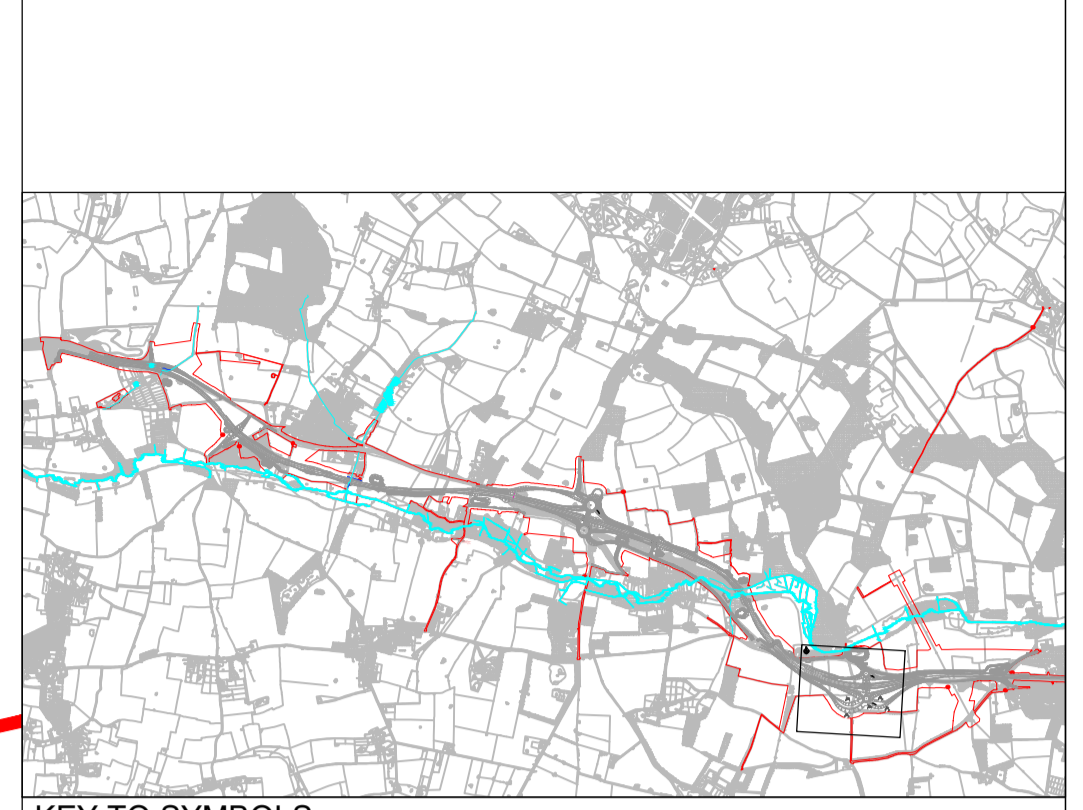
IMPORTANT

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

TO BE READ IN CONJUNCTION WITH HAZARD REGISTER
DOC. REF: HE551489-GTY-GHS-000-HS-ZZ-30002.

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NO.	DATE	REVISION	BY	CHECKED	APPD
P01	14/11/19	DESIGN FIX A	BR	BR	BR
P02	19/11/19	DESIGN FIX A UPDATE	BR	BR	BR
P03	29/04/20	DESIGN UPDATED FOR DESIGN FIX B	SG	JM	JM
P04	18/09/20	INTERIM DFC ISSUE	SG	JM	BA
P05	30/11/20	DESIGN FIX C	SG	JMcC	Bart
P06	01/02/21	UPDATED FOR SGAR 3	KMcC	JMcC	MMur
C01	01/02/21	UPDATED FOR SGAR 3	KMcC	JMcC	MMur
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER

CONTRACTOR

CLIENT



PROJECT TITLE
A47 NORTH TUDDENHAM TO EASTON DUALLING

PROJECT STAGE
PCF STAGE 3

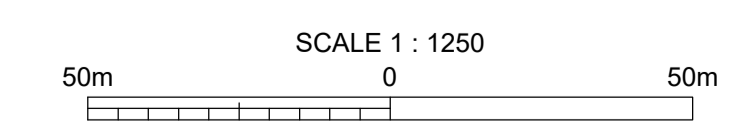
DRAWING TITLE
DRAINAGE LAYOUT PLANS SHEET 12 OF 14

SUITABILITY
AUTHORISED AS STAGE 3 COMPLETED

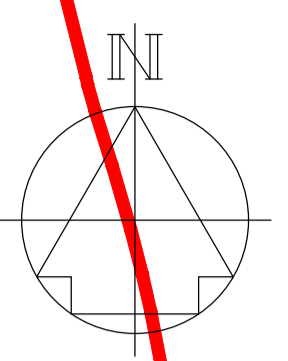
SHEET SIZE	SCALE	STATUS	REVISION
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DRAWING NUMBER
HE551489-GTY-HDG-000-DR-CH-30012

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IMPORTANT

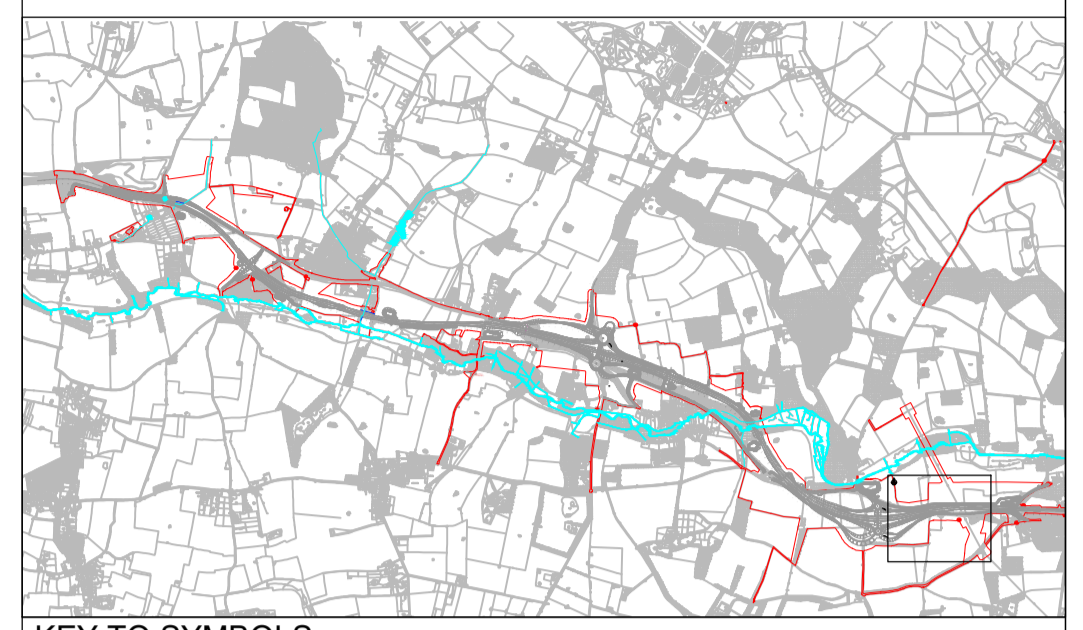
SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

TO BE READ IN CONJUNCTION WITH HAZARD REGISTER
DOC. REF: HE551489-GTY-GHS-000-HS-ZZ-30002.

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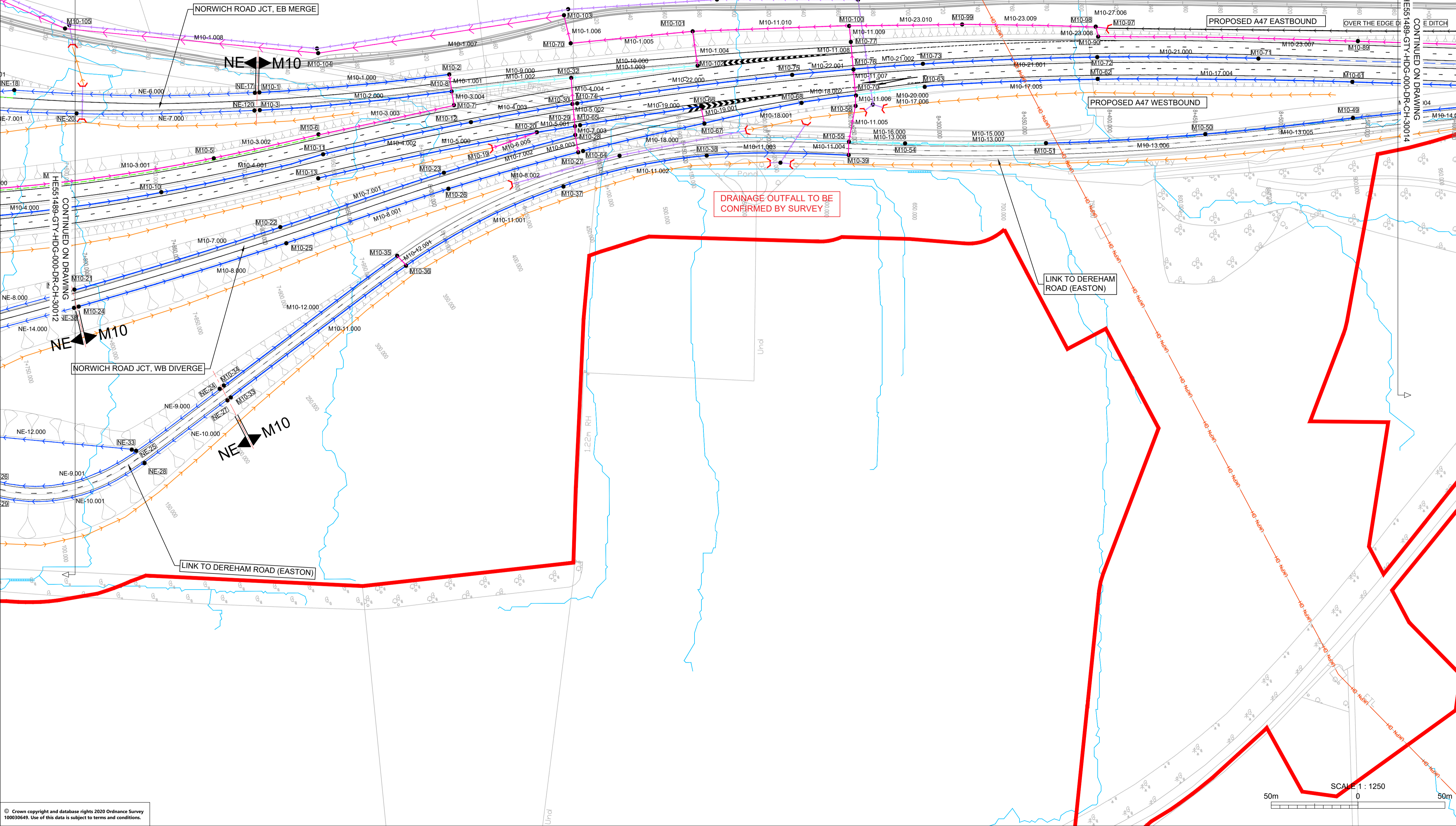
J14	HIGH VOLTAGE O/H CABLE.
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KEY TO SYMBOLS

Combined Drain	Kerb & Gully
Carrier Drain	Manhole/Catchpit
Filter & Lower Carrier Drains	Headwall
Narrow Filter/Fin Drain	PED Cross Drain
Oversized Pipes for Attenuation	DCO Boundary
Drainage Ditch for over the edge provision	Existing Surface water bodies
PED Ditches (natural catchment)	Existing Overland Flow Pathways
PED Filter drains	Culverts
Combined Kerb Drain	Chamber Reference
Deck Drainage	NE-1
	Pipe Reference
	NE-1.000
	Network Marker Point
	NE



REV	DATE	REVISION NOTE	ORG	CHKD	APPD
P01	14/11/19	DESIGN FIX A	BR	BR	BR
P02	19/11/19	DESIGN FIX A UPDATE	BR	BR	BR
P03	29/04/20	DESIGN UPDATED FOR DESIGN FIX B	SG	JM	JM
P04	18/09/20	INTERIM DFC ISSUE	SG	JM	BA
P05	30/11/20	DESIGN FIX C	SG	JMcC	BArt
P06	01/02/21	UPDATED FOR SGAR 3	KMcC	JMcC	MMur
C01	01/02/21	UPDATED FOR SGAR 3	KMcC	JMcC	MMur

DESIGNER

SWECO

CONTRACTOR

GallifordTry

CLIENT

**highways
england**

PROJECT TITLE

A47 NORTH TUDDENHAM TO EASTON DUALLING

PROJECT STAGE

PCF STAGE 3

DRAWING TITLE

**DRAINAGE LAYOUT PLANS
SHEET 13 OF 14**

SUITABILITY

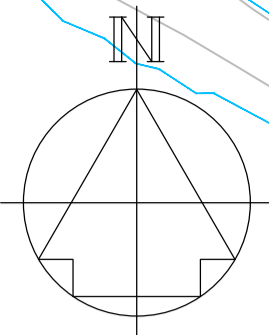
AUTHORISED AS STAGE 3 COMPLETED

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:1250	A3	C01

DRAWING NUMBER

HE551489-GTY-HDG-000-DR-CH-30013

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IMPORTANT

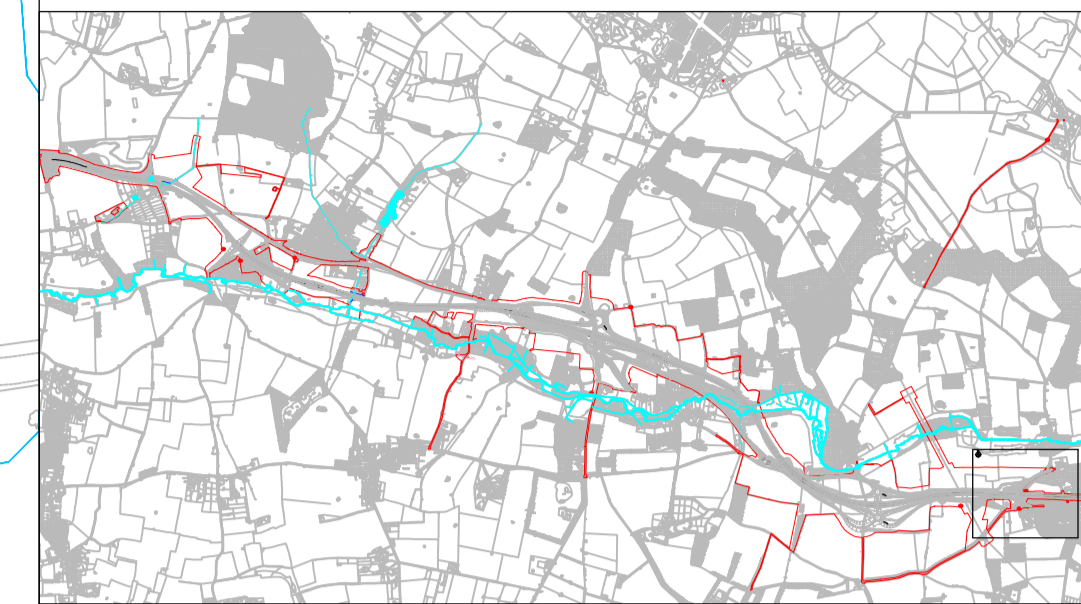
SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

TO BE READ IN CONJUNCTION WITH HAZARD REGISTER
DOC. REF: HE551489-GTY-GHS-000-HS-ZZ-30002.

HAZARD REF AND BRIEF DESCRIPTION OF HAZARD:-

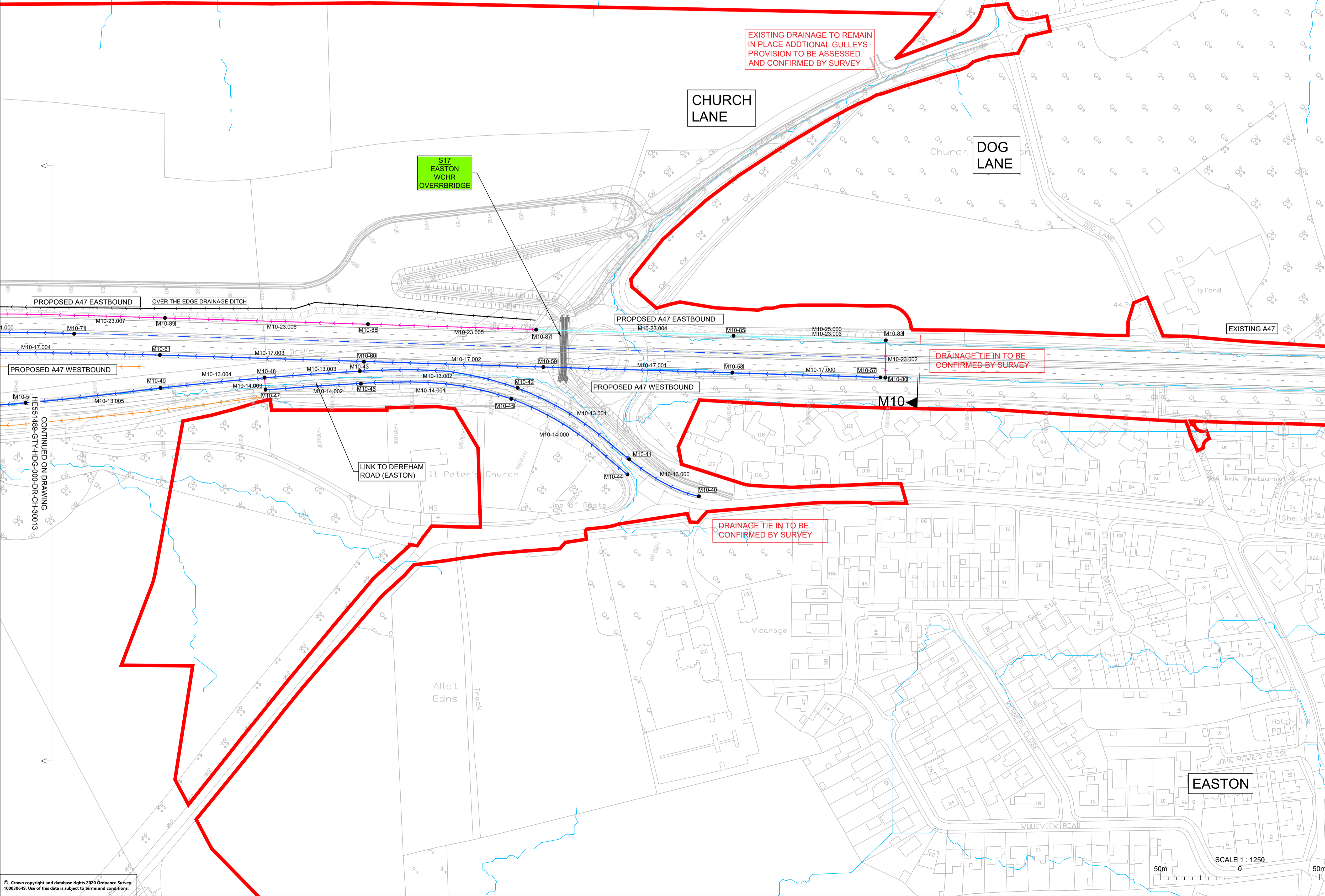
HAZARD IDENTIFICATION AND ASSESSMENT SHALL BE UPDATED THROUGHOUT DESIGN PHASES AND COMMUNICATED AS NECESSARY ON DESIGN DOCUMENTS.

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Deck Drainage	Pipe Reference
	NE-1.000
	Network Marker Point
	NE



REV	DATE	REVISION NOTE	ORG	CHKD	APPD
P01	14/11/19	DESIGN FIX A	BR	BR	BR
P02	19/11/19	DESIGN FIX A UPDATE	BR	BR	BR
P03	29/04/20	DESIGN UPDATED FOR DESIGN FIX B	SG	JM	JM
P04	18/09/20	INTERIM DFC ISSUE	SG	JM	BA
P05	30/11/20	DESIGN FIX C	SG	JMcC	BArt
P06	01/02/21	UPDATED FOR SGAR 3	KMcC	JMcC	MMur
C01	01/02/21	UPDATED FOR SGAR 3	KMcC	JMcC	MMur

DESIGNER

SWECO

CONTRACTOR

GallifordTry

CLIENT

highways england

PROJECT TITLE

A47 NORTH TUDDENHAM TO EASTON DUALLING

PROJECT STAGE

PCF STAGE 3

DRAWING TITLE

DRAINAGE LAYOUT PLANS SHEET 14 OF 14

SUITABILITY

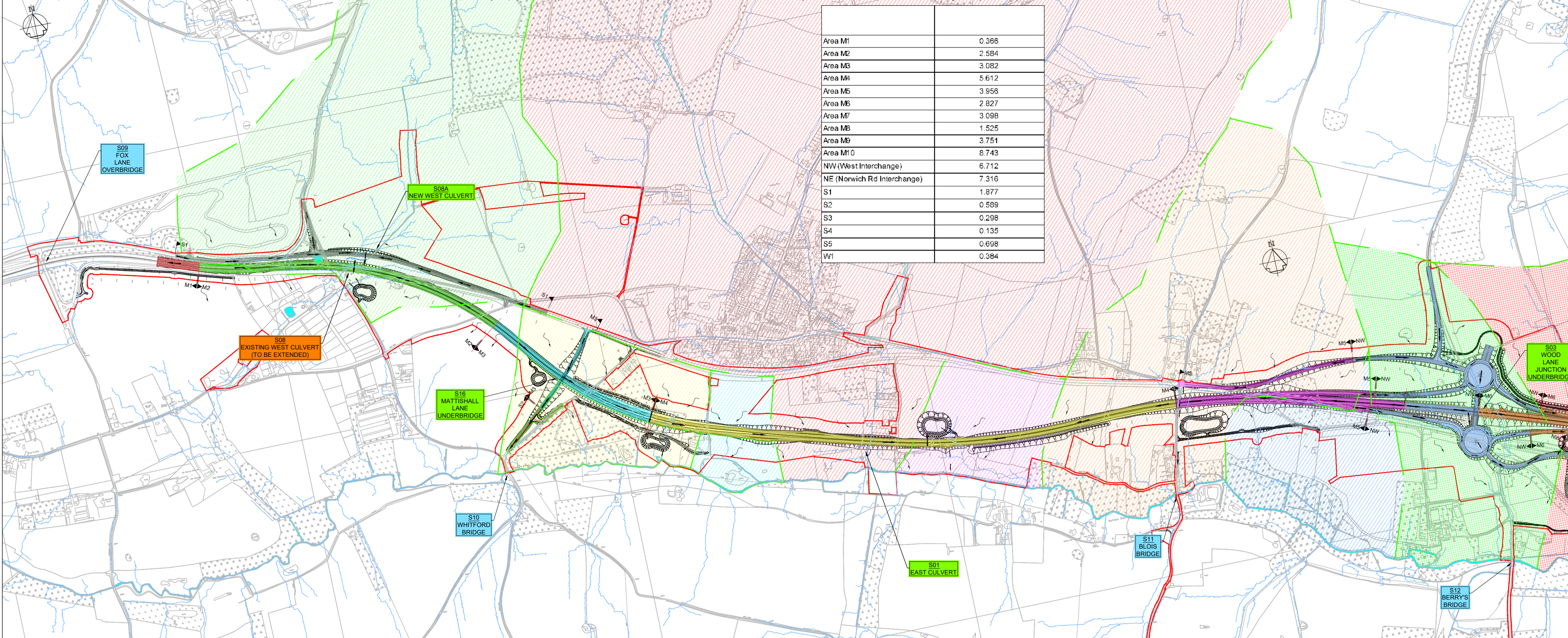
AUTHORISED AS STAGE 3 COMPLETED

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DRAWING NUMBER

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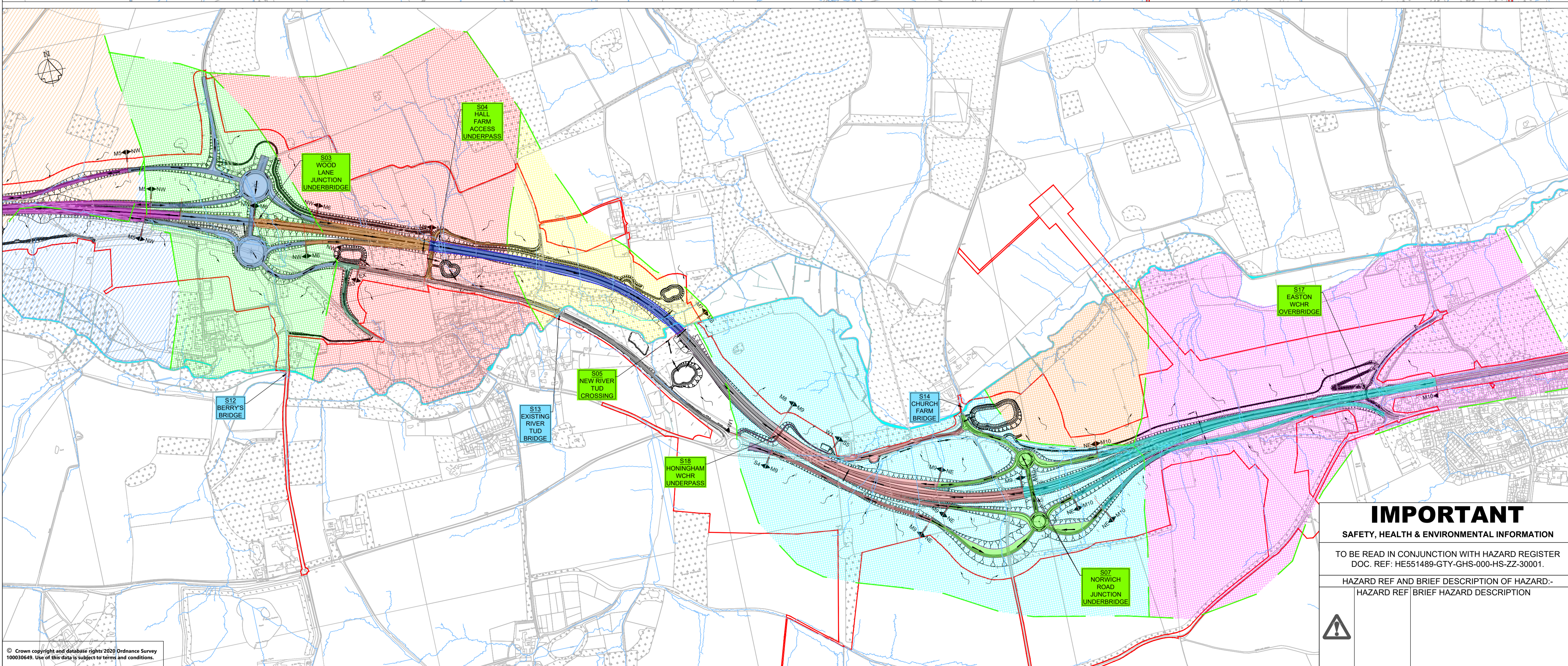


Area M1	0.366
Area M2	2.584
Area M3	3.082
Area M4	5.612
Area M5	3.956
Area M6	2.827
Area M7	3.098
Area M8	1.525
Area M9	3.751
Area M10	8.743
NW (West Interchange)	6.712
NE (Norwich Rd Interchange)	7.316
S1	1.877
S2	0.589
S3	0.298
S4	0.135
S5	0.698
W1	0.384

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KEY TO SYMBOLS

M1	NATURAL CATCHMENT A & A1
M2	NATURAL CATCHMENT B
M3	NATURAL CATCHMENT C
M4	NATURAL CATCHMENT D
M5	NATURAL CATCHMENT E
M6	NATURAL CATCHMENT F
M7	NATURAL CATCHMENT G
M8	NATURAL CATCHMENT H
M9	NATURAL CATCHMENT I
M10	NATURAL CATCHMENT J
NW	NATURAL CATCHMENT K
NE	NATURAL CATCHMENT L
S1	NATURAL CATCHMENT M
S2	NATURAL CATCHMENT N
S3	NATURAL CATCHMENT O
S4	NATURAL CATCHMENT P
S5	NATURAL CATCHMENT Q
W1	NATURAL CATCHMENT R
DCO BOUNDARY	DIRECTION OF SURFACE WATER DRAINAGE FLOW
EXISTING WATERCOURSES /BODIES	DIRECTION OF OVERLAND FLOW
	NETWORK INDICATORS
	OVERLAND FLOW PATH



P01	15/06/20	FOR INFORMATION	MW	JM	JM
P02	30/11/20	DESIGN FIX C	SG	JMcC	BAI
P03	22/02/21	ISSUED FOR SGAR 3	SG	JMcC	JMcC
P04	22/02/21	ISSUED FOR SGAR 3	SG	JMcC	JMcC
C01	22/02/21	ISSUED FOR SGAR 3	SG	JMcC	JMcC
REV	DATE	REVISION NOTE	ORG	CHKD	APPD

DESIGNER

SWECO

CONTRACTOR

GallifordTry

CLIENT

highways england

PROJECT TITLE

A47 NORTH TUDDENHAM TO EASTON DUALLING

PROJECT STAGE

PCF STAGE 3

DRAWING TITLE

DRAINAGE CATCHMENT PLAN

IMPORTANT

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

TO BE READ IN CONJUNCTION WITH HAZARD REGISTER DOC. REF: HE551489-GTY-GHS-000-HS-ZZ-30001.

HAZARD REF AND BRIEF DESCRIPTION OF HAZARD:-
HAZARD REF: BRIEF HAZARD DESCRIPTION

SUITABILITY

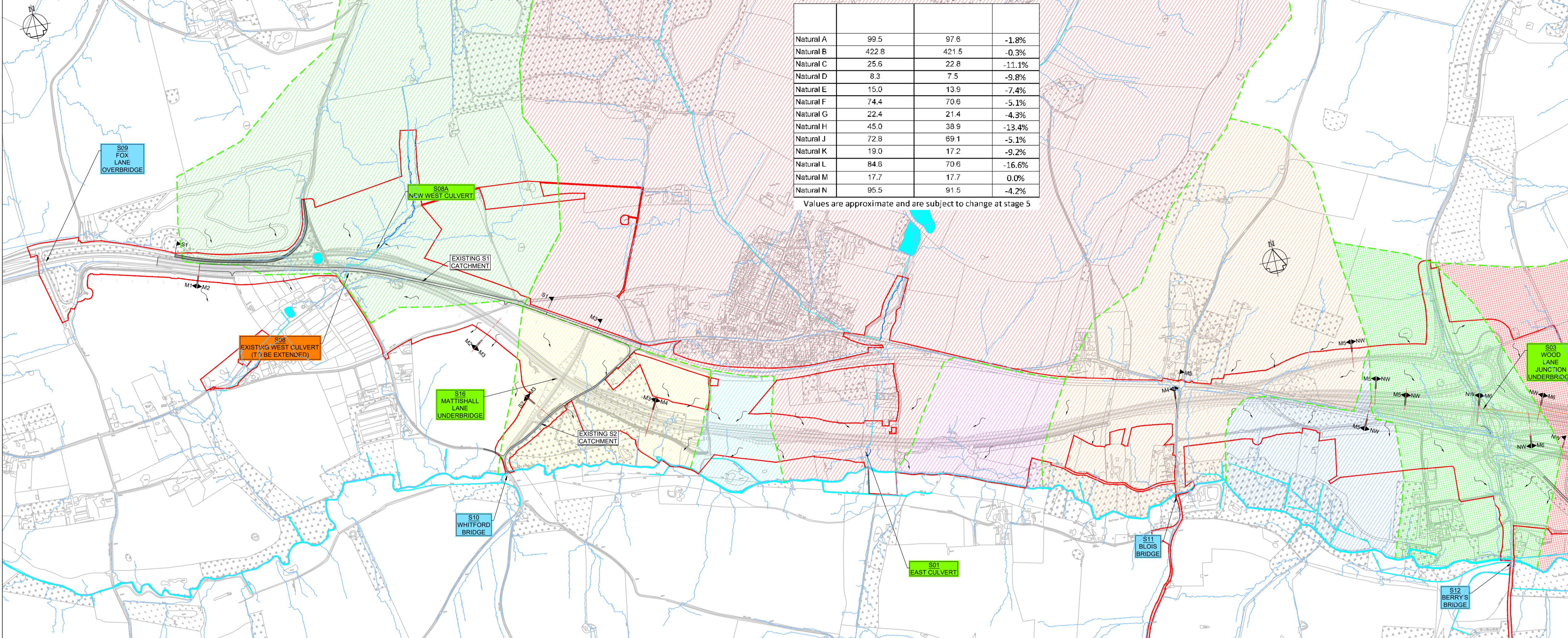
AUTHORISED AS STAGE 3 COMPLETED

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:7500	A3	C01

DRAWING NUMBER

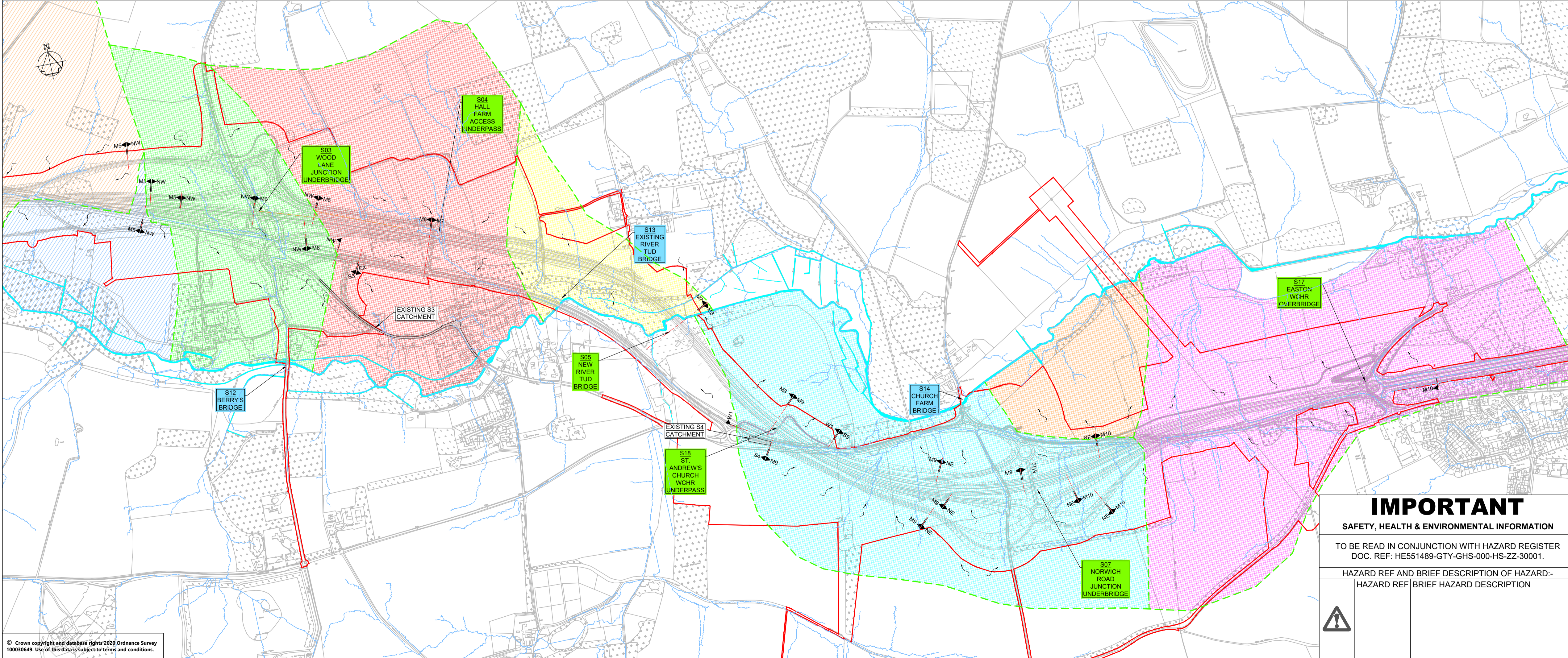
HE551489-GTY-HDG-000-DR-CH-30016

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Natural A	99.5	97.6	-1.8%
Natural B	422.8	421.5	-0.3%
Natural C	25.6	22.8	-11.1%
Natural D	8.3	7.5	-9.8%
Natural E	15.0	13.9	-7.4%
Natural F	74.4	70.6	-5.1%
Natural G	22.4	21.4	-4.3%
Natural H	45.0	38.9	-13.4%
Natural J	72.8	69.1	-5.1%
Natural K	19.0	17.2	-9.2%
Natural L	84.6	70.6	-16.6%
Natural M	17.7	17.7	0.0%
Natural N	95.5	91.5	-4.2%

Values are approximate and are subject to change at stage 5



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KEY TO SYMBOLS

NATURAL CATCHMENT A		NATURAL CATCHMENT K	
NATURAL CATCHMENT B		NATURAL CATCHMENT L	
NATURAL CATCHMENT C		NATURAL CATCHMENT M	
NATURAL CATCHMENT D		NATURAL CATCHMENT N	
NATURAL CATCHMENT E		OVERLAND FLOW	
NATURAL CATCHMENT F		NETWORK INDICATORS	
NATURAL CATCHMENT G		DCO BOUNDARY	
NATURAL CATCHMENT H		OVERLAND FLOW PATHS	
NATURAL CATCHMENT J		EXISTING SIDE ROAD CATCHMENTS	

REV	DATE	REVISION NOTE	ORG	CHKD	APPD
P01	22/02/21	ISSUED FOR SGAR 3	SG	JMcC	JMcC
C01	22/02/21	ISSUED FOR SGAR 3	SG	JMcC	JMcC

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SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 NORTH TUDDENHAM TO EASTON DUALLING

PROJECT STAGE
PCF STAGE 3

DRAWING TITLE
EXISTING CATCHMENT PLAN

IMPORTANT
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DOC. REF: HE551489-GTY-GHS-000-HS-ZZ-30001.
HAZARD REF AND BRIEF DESCRIPTION OF HAZARD:
HAZARD REF: BRIEF HAZARD DESCRIPTION

SUITABILITY
AUTHORISED AS STAGE 3 COMPLETED

SHEET SIZE	SCALE	STATUS	REVISION
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DRAWING NUMBER
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