A27 Arundel Bypass
Scheme Assessment Report

Appendix A - Environmental Drawings

October 2020

SOUTH DOWNS NATIONAL PARK

Slindon Conservation Area

Inset Map 3

Walberton Village Conservation Area

Inset Map 1

Arundel Conservation Area

Inset Map 2 Shown on Figure 6-3

Burpham and Wepham Conservation Area

Warningcamp Conservation Area

Lyminster Conservation Area

1003736 1005894 1005895 1005865 1012177

1248085 1027927 1414107 1248165 1278045 1248164 1248259 1277991 1012500

1027936 1353713 1247969

1275024 1274639 1221999 1222238 1274881 1274588 1222534 1274555 1222535 1222465 1222198 1221993 1274877 1222002 1222510 1222533 1221998

1353714 1034405 1027603 1027599 1027602 1027600 1027601 1027597 1027596 1027598

1221996 1021459

1222201 1274878 1274880 1222209 1274879 1221995 1222219

1234219 1027606

1274882 1222494 1222525 1222000 1222506 1222003 1222527 1222529 1222004 1274883 1222530 1221998 1274630 1237843 1222532 1237622 1222001 1237619 1237844 1274629 1222531

1221915 1221728 1221956 1221725 1221721 1224929

KEY:

- 1KM STUDY AREA
- SOUTH DOWNS NATIONAL PARK
- SCHEDULED MONUMENT
- CONSERVATION AREAS
- REGISTERED PARKS AND GARDEN
- LISTED BUILDING GRADE I
- LISTED BUILDING GRADE II*
- LISTED BUILDING GRADE II
- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1

DO NOT SCALE

Kilometres 0 1

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

WSP House
70 Chancery Lane
London
WC2A 1AF
Tel: +44 (0)20 7314 5000
www.wsp.com

Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 6-1:
DESIGNATED HERITAGE ASSET
LOCATION PLAN
OVERVIEW

Scale	Drawn	Checked	Approved	Authorised
1:25,000	AS	JB	PA	PA

Original Size	Date	Date	Date	Date
A3	24/04/20	24/04/20	24/04/20	24/04/20

Drawing Number: HE551523-WSP-GEN-SWI-GI-DR-0002 (Project | Originator | Volume | Location | Type | Role | Number)

Project Ref. No.: 70052558

Revision: P02

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\EAR\Cultural Heritage\HE551523-WSP-GEN-SWI-GI-DR-0002_P01_DesignatedAssets_Overview.mxd; Plotted by: UKAXS091 Date: Apr 24, 2020 - 03:57PM

MWS2312 only contained within box

SOUTH DOWNS NATIONAL PARK

MWS14385 only contained within box

Inset Map 1 Shown on Figure 6-4

MWS2689
MWS2285
MWS2286
MWS8596
MWS14420
MWS14422
MWS12742
MWS4696
MWS4692
MWS4693
DWS8132
MWS5681
MWS13516
MWS12752
MWS12751
MWS14385
MWS14031
DWS8130
MWS2200
MWS14423
MWS14421
MWS5937
DWS8131
MWS2313
MWS2352
MWS9411
MWS2339
MWS6978
MWS2338
MWS9411
MWS4192
MWS4191
DWS8478
MWS2301
MWS2354
MWS4186
MWS11901
MWS12754
MWS8118
DWS8481
MWS2991
MWS13741
MWS7066
MWS12758
MWS12762
MWS12761
MWS12763
MWS12757
MWS12764
MWS4224
DWS8482
MWS13185
DSW8148
MWS7536
MWS4223

Kilometres
0
1
DO NOT SCALE

KEY:
- 200M STUDY AREA
- SOUTH DOWNS NATIONAL PARK
- NON-DESIGNATED HERITAGE ASSET (POINT)
- NON-DESIGNATED HERITAGE ASSET (LINE)
- NON-DESIGNATED HERITAGE ASSET (AREA)
- ARCHAEOLOGICAL NOTIFICATION AREA
- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL
Suitability: S0

WSP House
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Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

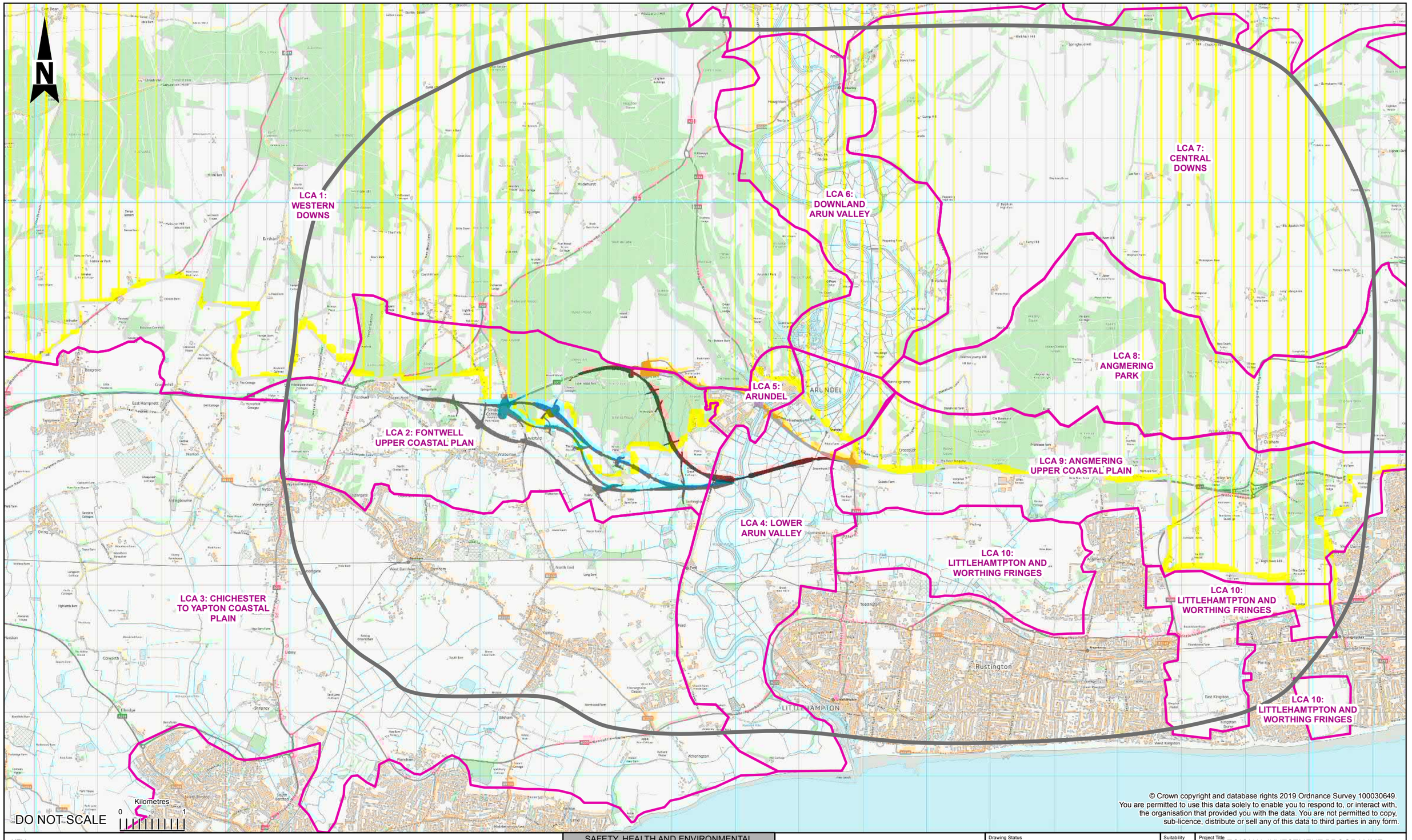
Drawing Title: FIGURE 6-2:
NON - DESIGNATED HERITAGE ASSET
LOCATION PLAN
OVERVIEW

Scale	Drawn	Checked	Approved	Authorised
1:20,000	AS	JB	PA	PA
Original Size: A3	Date: 20/02/20	Date: 20/02/20	Date: 20/02/20	Date: 20/02/20

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0003

Project Ref. No.: 70052558
Revision: P02

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\EAR\Cultural Heritage\HE551523-WSP-GEN-SWI-GI-DR-0003_P01_NonDesignatedAssets_Overview.mxd: Plotted by: UKAXS091 Date: Feb 20, 2020 - 09:26AM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- VISUAL STUDY AREA
- LANDSCAPE CHARACTER AREAS (LCA)
- SOUTH DOWNS NATIONAL PARK

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 7-2: LANDSCAPE CHARACTER AREAS

Scale	Drawn	Checked	Aproved	Authorised
1:55,000	AS	KM	MD	PA
Original Size	**Date**	**Date**	**Date**	**Date**
A3	10/07/19	10/07/19	10/07/19	10/07/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0296

Project Ref. No.: 70052558

Revision: P01

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SEE PROPOSED VIEWPOINT LOCATION (2 OF 2)

South Downs Way

Monarch's Way

ARUNDEL

LITTLEHAMPTON

Kilometres

0 1.5

DO NOT SCALE

KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- VIEWPOINT
- VIDUAL STUDY AREA
- LONG DISTANCE FOOTPATH
- PUBLIC RIGHT OF WAY
- CONSERVATION AREA
- SCHEDULED MONUMENT
- SOUTH DOWNS NATIONAL PARK
- CONTOURS (10M INTERVALS)

Preliminary Corridor variants are provided for your consideration; however, it should be noted that sifting of the Corridor variants has not yet been signed off and are subject to change. The naming conventions for Corridor options and variants have yet to be agreed and are also subject to change. The Corridor variants as shown include the working width for each variant, which may be subject to change as the design develops.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).
Construction
Maintenance / Cleaning
Use
Decommissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 7-9: PROPOSED VIEWPOINT LOCATIONS (1 OF 2)

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Client: Working on behalf of highways england

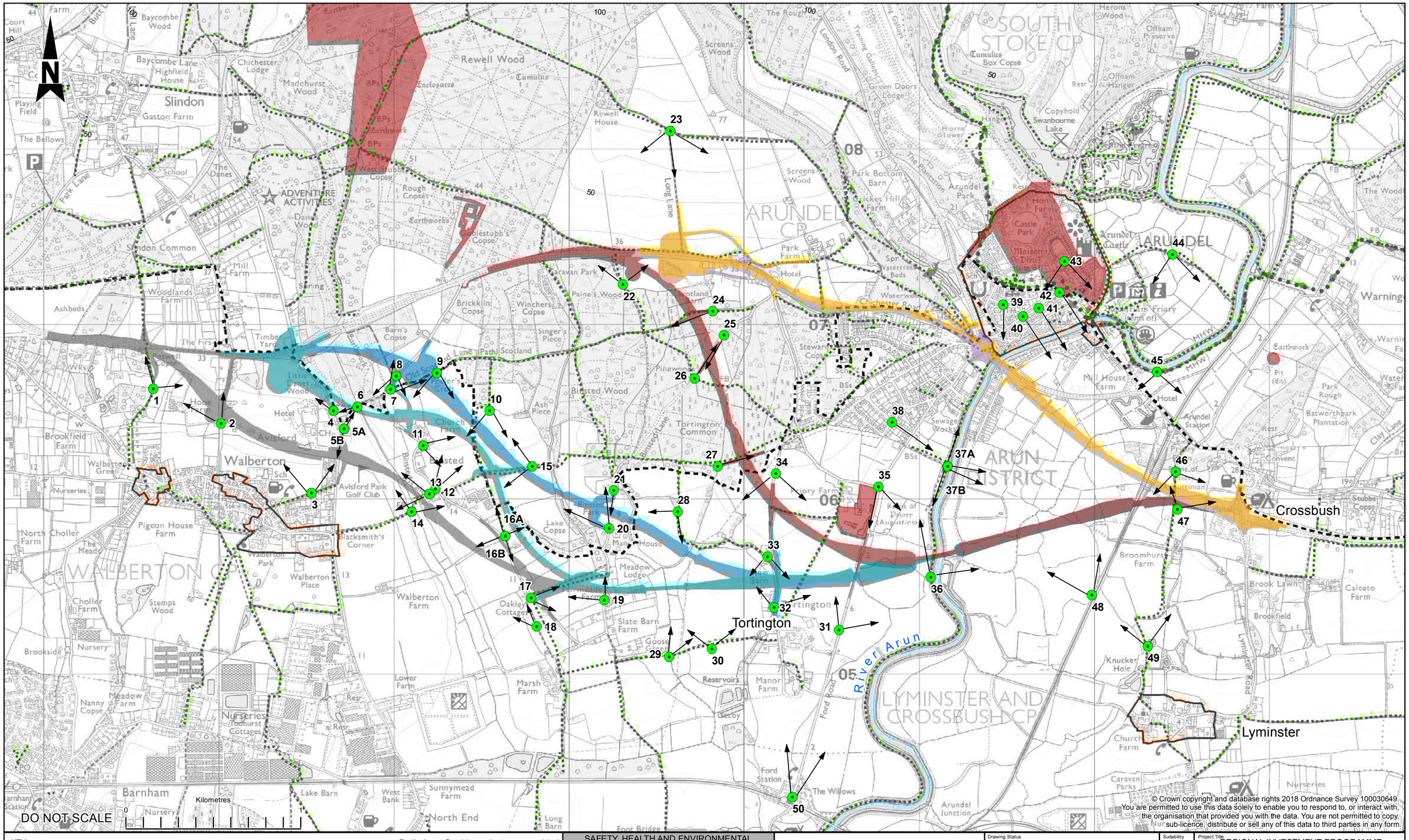
Scale	Drawn	Checked	Approved	Authorised
1:55,000	AS	KM	MD	PA
Original Size	Date	Date	Date	Date
A3	10/07/19	10/07/19	10/07/19	10/07/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0072

Project Ref. No: 70052558

Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\EAR\Landscape\HE551523-WSP-GEN-SWI-GI-DR-0072_P01_Viewpoints_1of2.mxd: Plotted by: UKAXS091 Date: Jul 10, 2019 - 02:40PM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- VIEWPOINTS
- LONG DISTANCE FOOTPATH
- PUBLIC RIGHT OF WAY
- CONSERVATION AREA
- SCHEDULED MONUMENT
- SOUTH DOWNS NATIONAL PARK
- CONTOURS (10M INTERVALS)

Preliminary Corridor variants are provided for your consideration; however, it should be noted that sifting of the Corridor variants has not yet been signed off and are subject to change. The naming conventions for Corridor options and variants have yet to be agreed and are also subject to change. The Corridor variants as shown include the working width for each variant, which may be subject to change as the design develops.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).
Construction
Maintenance / Cleaning
Use
Decommissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL
Suitability: S0

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 7-10: PROPOSED VIEWPOINT LOCATIONS (2 OF2)

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Client: Working on behalf of highways england

Scale	Drawn	Checked	Approved	Authorised
1:20,000	AS	KM	MD	PA
Original Size	Date	Date	Date	Date
A3	10/07/19	10/07/19	10/07/19	10/07/19

Drawing Number: Project | Originator | Volume
HE551523-WSP-GEN-SWI-GI-DR-0067
Location | Type | Role | Number

Project Ref. No.: 70052558
Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\EAR\Landscape\HE551523-WSP-GEN-SWI-GI-DR-0067_P01_Viewpoints_2of2.mxd: Plotted by: UKAXS091 Date: Jul 10, 2019 - 02:16PM

Ebernoe Common (SAC)

The Mens (SAC)

Singleton and Cocking Tunnels (SAC)

Arun Valley (SAC, SPA, Ramsar)

Duncton to Bignor Escarpment (SAC)

Solent and Dorset Coast (pSPA)

DO NOT SCALE

Kilometres 0 10

KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 10KM STUDY AREA
- 30KM STUDY AREA
- SPECIAL AREA OF CONSERVATION
- RAMSAR SITE
- SPECIAL PROTECTION AREA
- POTENTIAL SPECIAL PROTECTION AREA
- SPECIAL PROTECTION AREA

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: WORK IN PROGRESS

Suitability: S0

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Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 8-1:
INTERNATIONAL STATUTORY DESIGNATED SITES

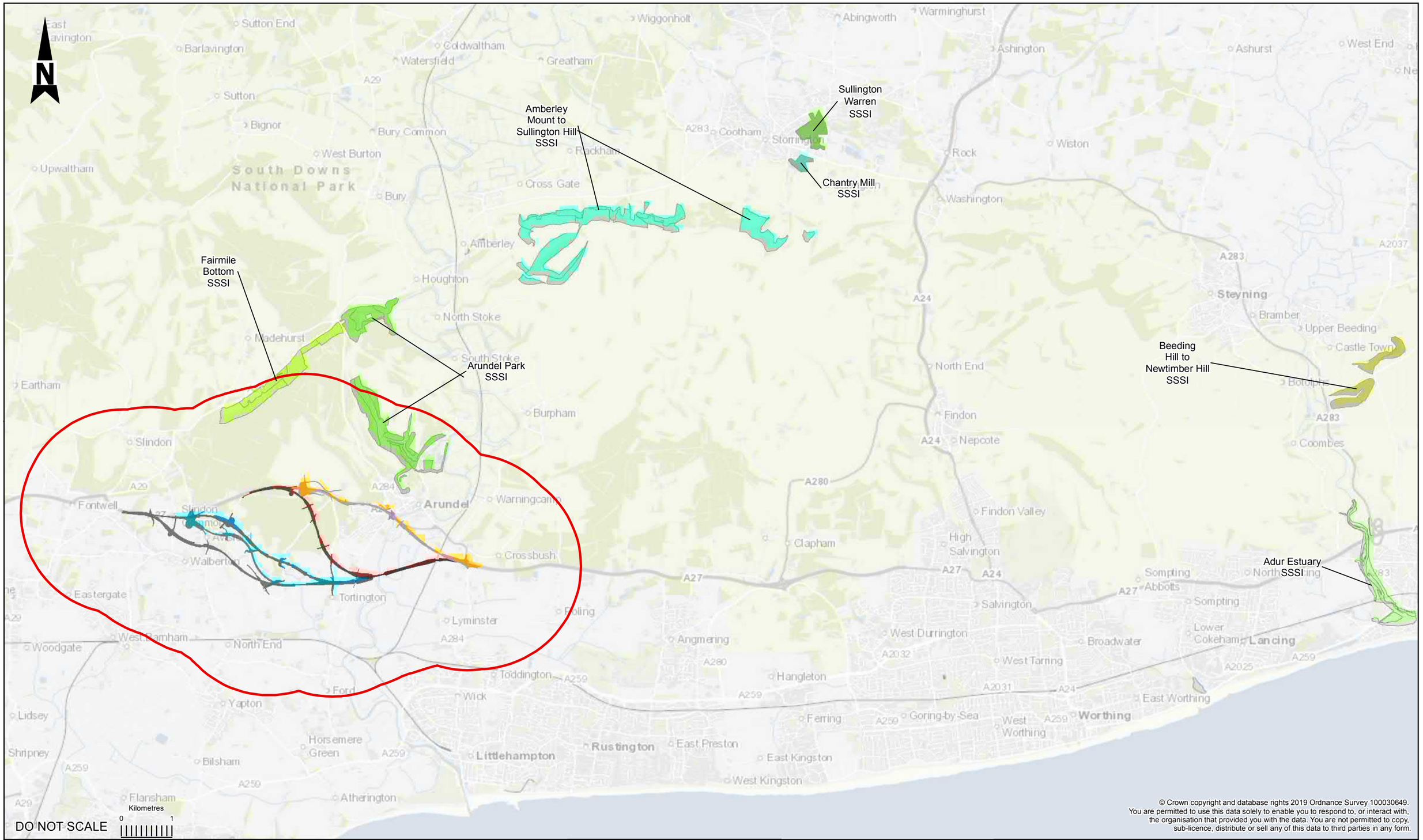
Scale	Drawn	Checked	Approved	Authorised
1:145,000	AS	RG	MD	PA
Original Size: A3	Date: 26/06/19	Date: 26/06/19	Date: 26/06/19	Date: 26/06/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0240

Project Ref. No.: 70052558

Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\Environment\Designated Sites\HE551523-WSP-GEN-SWI-GI-DR-0240_P01_International_Statutory_Designated_Sites.mxd: Plotted by: UKAXS091 Date: Jun 26, 2019 - 09:41AM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 2KM STUDY AREA

SITE OF SPECIAL SCIENTIFIC INTEREST

- ADUR ESTUARY
- AMBERLEY MOUNT TO SULLINGTON HILL
- ARUNDEL PARK
- BEEDING HILL TO NEWTIMBER HILL
- CHANTRY MILL
- FAIRMILE BOTTOM
- SULLINGTON WARREN

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decommissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL
Suitability: S0

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Tel: +44 (0)20 7314 5000
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Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

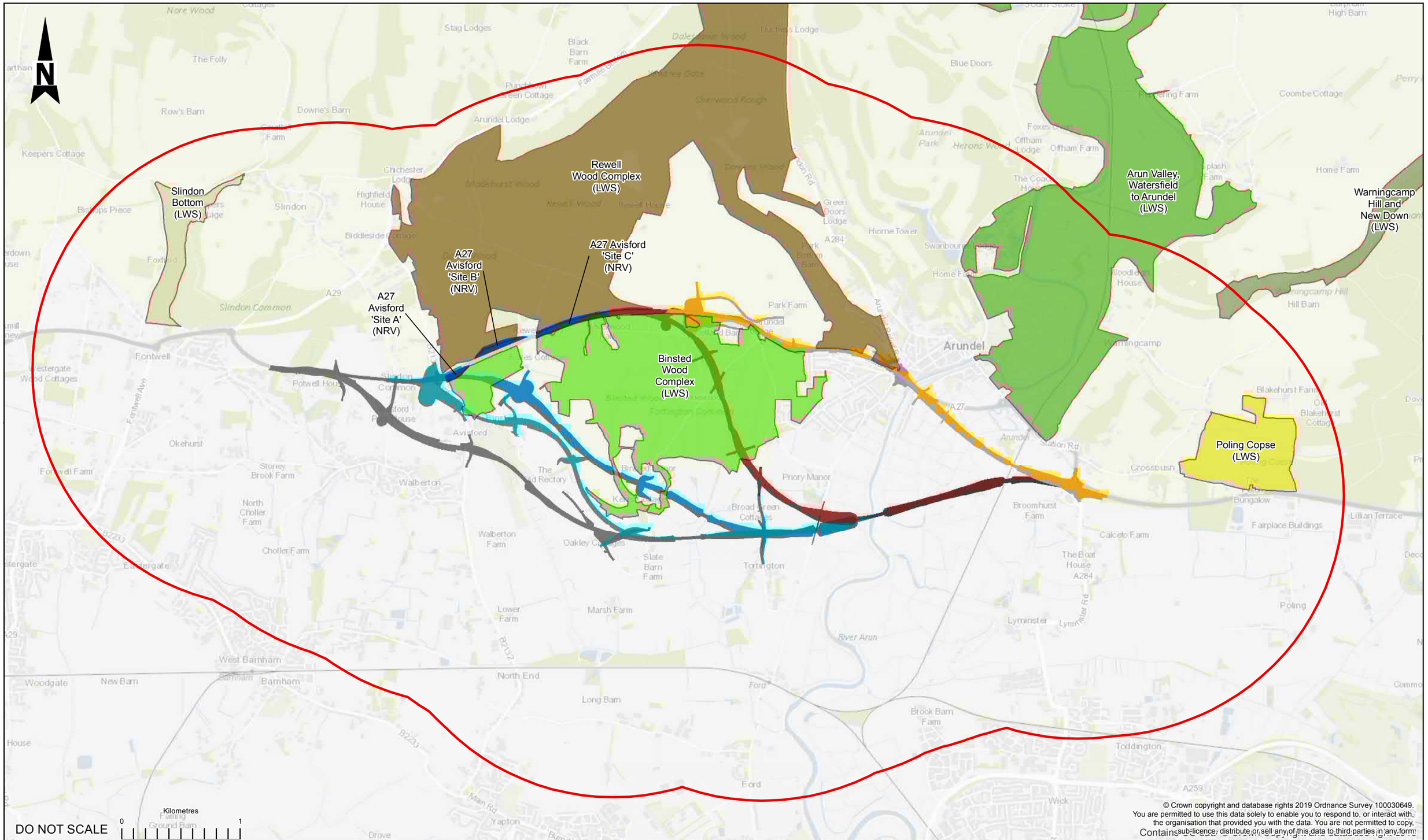
Drawing Title: FIGURE 8-2:
NATIONAL STATUTORY DESIGNATED SITES

Scale	Drawn	Checked	Approved	Author
1:70,000	AS	RG	MD	PA
Original Size: A3	Date: 26/06/19	Date: 26/06/19	Date: 26/06/19	Date: 26/06/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0239

Project Ref. No.: 70052558
Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\Environment\Designated Sites\HE551523-WSP-GEN-SWI-GI-DR-0239_P01_National_Statutory_Designated_Sites.mxd: Plotted by: UKAXS091 Date: Jun 26, 2019 - 09:30AM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 2KM STUDY AREA

NON-STATUTORY DESIGNATED SITE

- ARUN VALLEY, WATERSFIELD TO ARUNDEL (LWS)
- BINSTED WOOD COMPLEX (LWS)
- POLING COPSE (LWS)
- REWELL WOOD COMPLEX (LWS)
- SLINDON BOTTOM (LWS)
- WARNINGCAMP HILL AND NEW DOWN (LWS)
- AVISFORD SITES (NRV)

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL
Suitability: S0

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Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

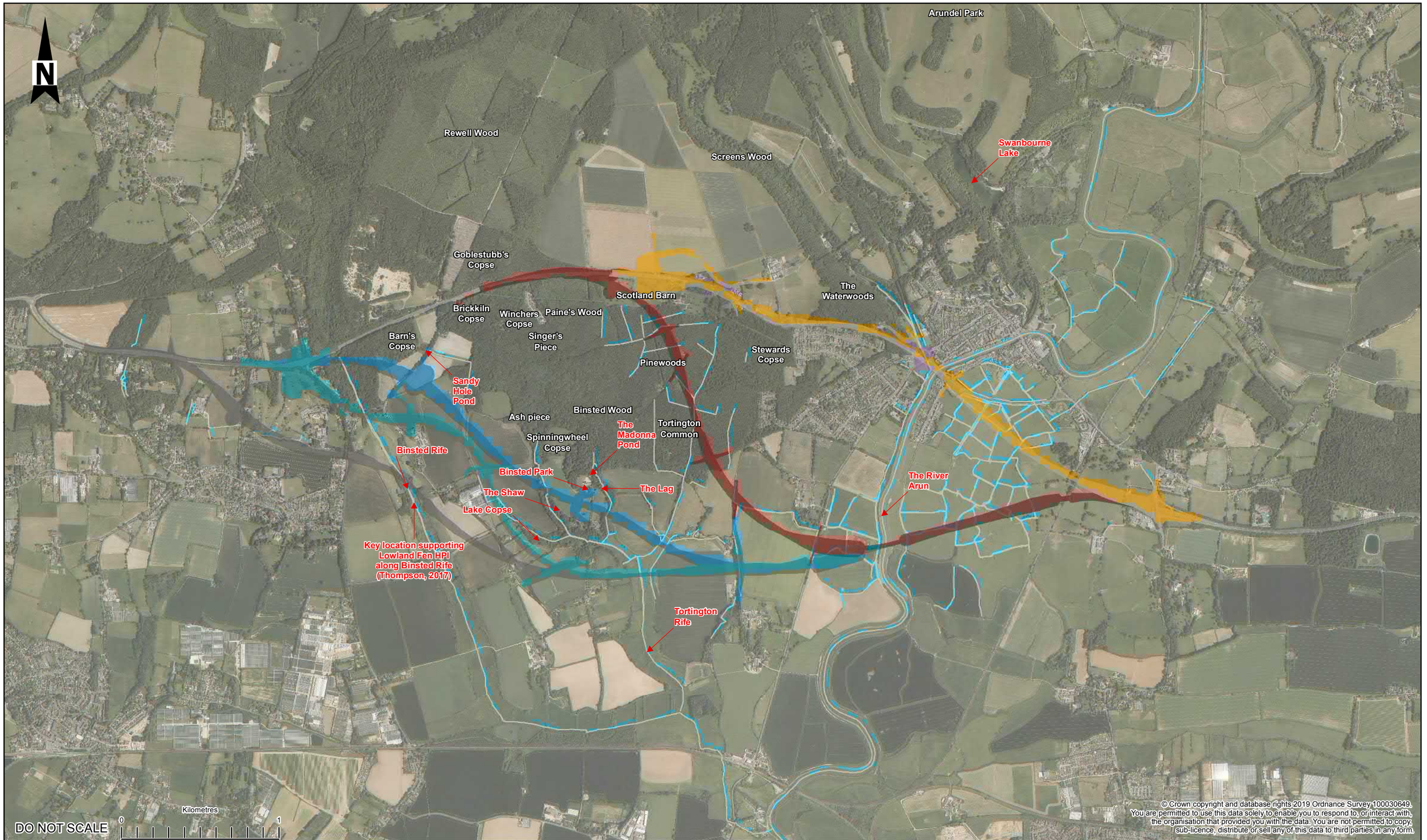
Drawing Title: FIGURE 8-3: NON-STATUTORY DESIGNATED SITES

Scale	Drawn	Checked	Approved	Author
1:30,000	AS	RG	MD	PA

Original Size	Date	Date	Date	Date
A3	26/06/19	26/06/19	26/06/19	26/06/19

Drawing Number: HE551523-WSP-GEN-SWI-GI-DR-0242
Project | Originator | Volume | Location | Type | Role | Number
Project Ref. No.: 70052558
Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\Environment\Designated Sites\HE551523-WSP-GEN-SWI-GI-DR-0242_P01_Non_Statutory_Designated_Sites.mxd: Plotted by: UKAXS091 Date: Jun 26, 2019 - 09:49AM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- WATERCOURSES

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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www.wsp.com

Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 8-4:
BIODIVERSITY - NAMES

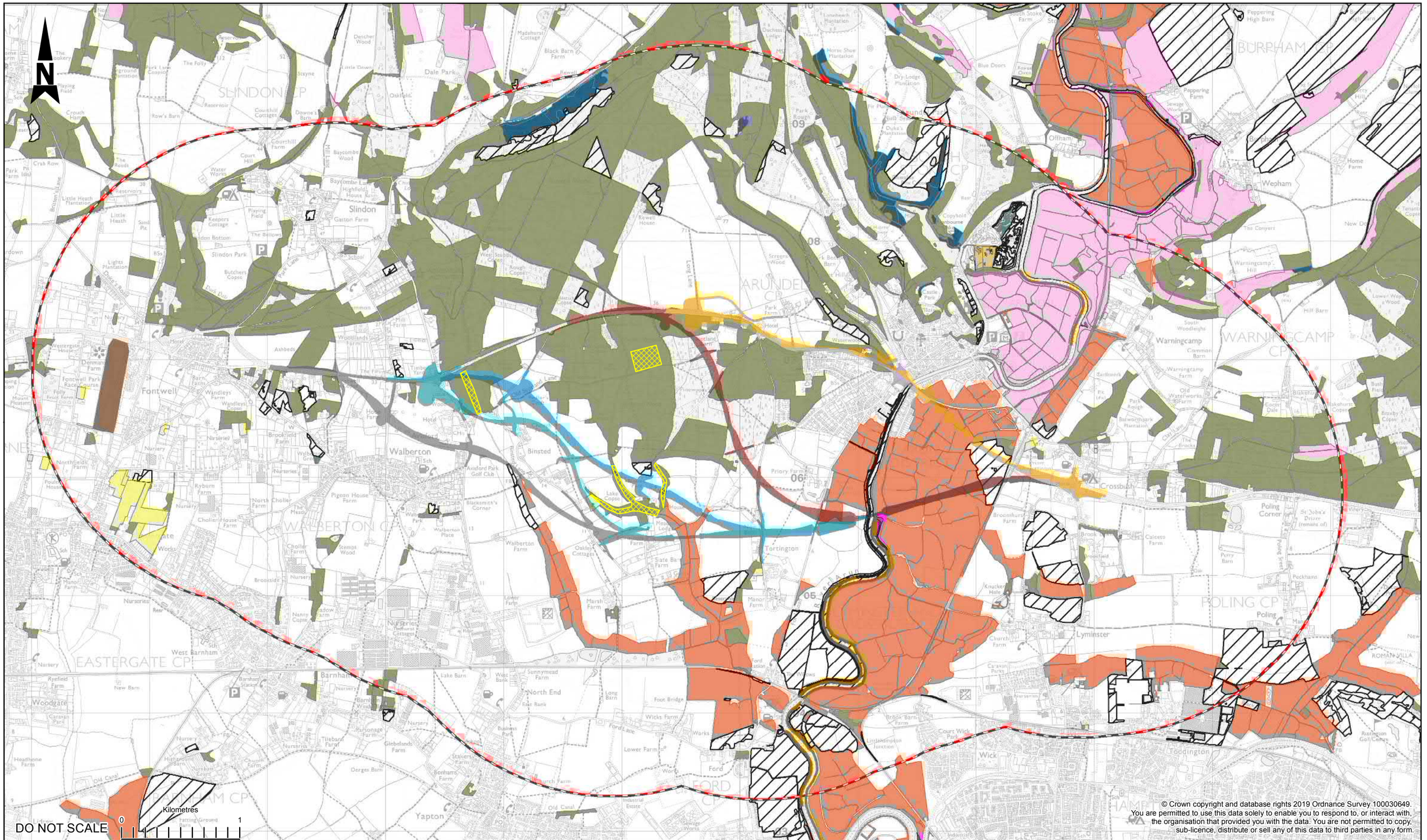
Scale	Drawn	Checked	Approved	Authorised
1:22,500	AS	RG	MD	PA
Original Size	**Date**	**Date**	**Date**	**Date**
A3	26/06/19	26/06/19	26/06/19	26/06/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0243

Project Ref. No.: 70052558

Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\Environment\Designated Sites\HE551523-WSP-GEN-SWI-GI-DR-0243_P01_Ecology_Place_Names.mxd: Plotted by: UKAXS091 Date: Jun 26, 2019 - 09:50AM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 2KM STUDY AREA

PRIORITY HABITAT INVENTORY

- COASTAL AND FLOODPLAIN GRAZING MARSH
- COASTAL SALTMARSH
- DECIDUOUS WOODLAND
- GOOD QUALITY SEMI-IMPROVED GRASSLAND
- LOWLAND CALCAREOUS GRASSLAND
- LOWLAND FENS
- LOWLAND HEATHLAND
- LOWLAND MEADOWS
- MUDFLATS
- REEDBEDS
- TRADITIONAL ORCHARD
- NO MAIN HABITAT BUT ADDITIONAL HABITATS
- WET WOODLAND HPI (BASED ON HIGHWAYS ENGLAND NVC SURVEYS)

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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Tel: +44 (0)20 7314 5000
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Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 8-5:
NATURAL ENGLAND HABITAT OF PRINCIPAL IMPORTANCE

Scale	Drawn	Checked	Approved	Author
1:30,000	AS	RG	MD	PA
Original Size: A3	Date: 26/06/19	Date: 26/06/19	Date: 26/06/19	Date: 26/06/19

Drawing Number: HE551523-WSP-GEN-SWI-GI-DR-0244
(Project | Originator | Volume | Location | Type | Role | Number)

Project Ref. No.: 70052558

Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\Environment\Designated Sites\HE551523-WSP-GEN-SWI-GI-DR-0244_P01_Priority_Habitat_Inventory.mxd: Plotted by: UKAXS091 Date: Jun 26, 2019 - 09:52AM

KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 2KM STUDY AREA

ANCIENT WOODLAND INVENTORY

- ANCIENT SEMI-NATURAL WOODLAND
- PLANTATION ON ANCIENT WOODLAND SITE
- OTHER WOODLAND

HABITAT OF PRINCIPAL IMPORTANCE

- WOOD PASTURE AND PARKLAND

DO NOT SCALE

Kilometres 0 1

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 8-6:
ANCIENT WOODLAND AND WOOD PASTURE AND PARKLAND AND HPI

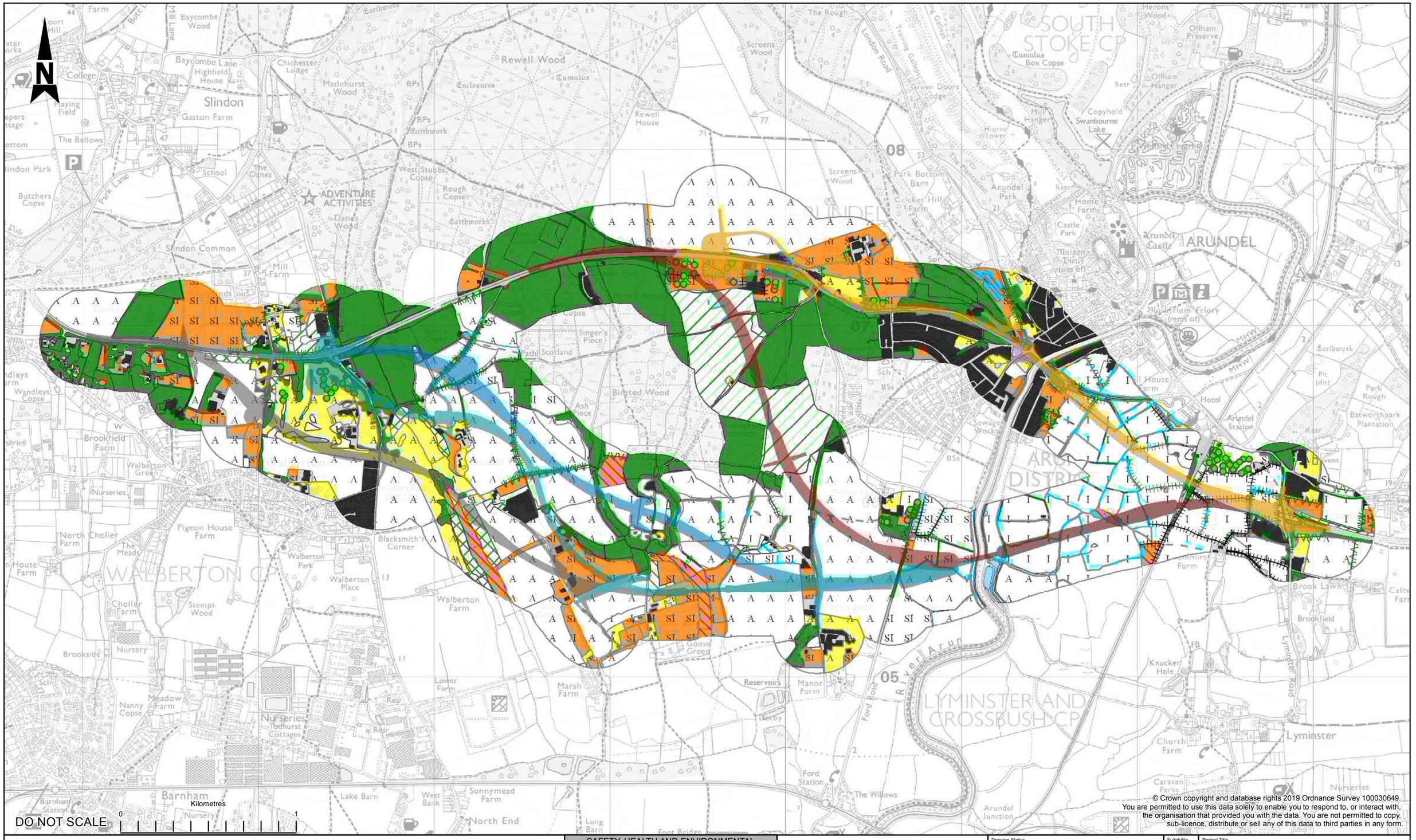
Scale	Drawn	Checked	Approved	Authorised
1:30,000	AS	RG	MD	PA
Original Size	**Date**	**Date**	**Date**	**Date**
A3	26/06/19	26/06/19	26/06/19	26/06/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0245

Project Ref. No.: 70052558

Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\Environment\Designated Sites\HE551523-WSP-GEN-SWI-GI-DR-0245_P01_Ancient_Woodland_Inventory.mxd: Plotted by: UKAXS091 Date: Jun 26, 2019 - 09:55AM



key

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1

HABITAT TYPE

- DEFUNCT HEDGE - NATIVE SPECIES-RICH
- DEFUNCT HEDGE - SPECIES-POOR
- DRY DITCH
- FENCE
- HEDGE WITH TREES - NATIVE SPECIES-RICH
- HEDGE WITH TREES - SPECIES-POOR
- INTACT HEDGE - NATIVE SPECIES-RICH
- INTACT HEDGE - SPECIES-POOR
- RUNNING WATER
- RUNNING WATER - EUTROPHIC
- BROADLEAVED WOODLAND - SEMI-NATURAL
- BROADLEAVED WOODLAND - PLANTATION
- MIXED WOODLAND - SEMI-NATURAL
- MIXED WOODLAND - PLANTATION
- SCRUB - DENSE/CONTINUOUS
- SCRUB - SCATTERED
- BROADLEAVED PARKLAND/SCATTERED TREES
- NEUTRAL GRASSLAND - UNIMPROVED
- NEUTRAL GRASSLAND - SEMI-IMPROVED
- IMPROVED GRASSLAND
- MARSH/MARSHY GRASSLAND
- POOR SEMI-IMPROVED GRASSLAND
- BRACKEN - CONTINUOUS
- OTHER TALL HERB AND FERN - RUDERAL
- FEN - VALLEY MIRE
- SWAMP
- MARGINAL AND INUNDATION - INUNDATION VEGETATION
- STANDING WATER
- STANDING WATER - EUTROPHIC
- SALTMARSH - SCATTERED PLANTS
- HARD STANDING
- CULTIVATED/DISTURBED LAND - ARABLE
- CULTIVATED/DISTURBED LAND - AMENITY GRASSLAND
- CULTIVATED/DISTURBED LAND - EPHEMERAL/SHORT PERENNIAL
- INTRODUCED SHRUB
- BUILDINGS
- BARE GROUND
- OTHER HABITAT
- SCATTERED TREES

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decommissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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A27 ARUNDEL BYPASS

Drawing Title: FIGURE 8-7:
PHASE 1 HABITAT

Scale	Drawn	Checked	Approved	Authorised
1:20,000	CF	RG	MD	PA
Original Size	**Date**	**Date**	**Date**	**Date**
A3	26/06/19	26/06/19	26/06/19	26/06/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0234

Project Ref. No.: 70052558

Revision: P01

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Landfill WD27/018
Arundel Arboretum
Historical brick works
Historical clay pit
Historical chalk pit
Natural Cavity
Electrical Substation
Canada Road
Landfill WD27/110
Landfill WD27/223
Electrical Substation
Ford Road
Historical gasworks
Arundel Railway station
Historical Sewage works
and Ironworks
Vehicle Park
Fuel retail
Service station
Carwash
Arundel Valley Railway
DO NOT SCALE
Kilometres
0
1

KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 250M STUDY AREA
- HISTORICAL LANDFILL SITES
- NATURAL CAVITY

Data source: Environment Agency (https://data.gov.uk/dataset/17edf94f-6de3-4034-b66b-004ebd0dd010/historic-landfill-sites)

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL
Suitability: S0

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Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

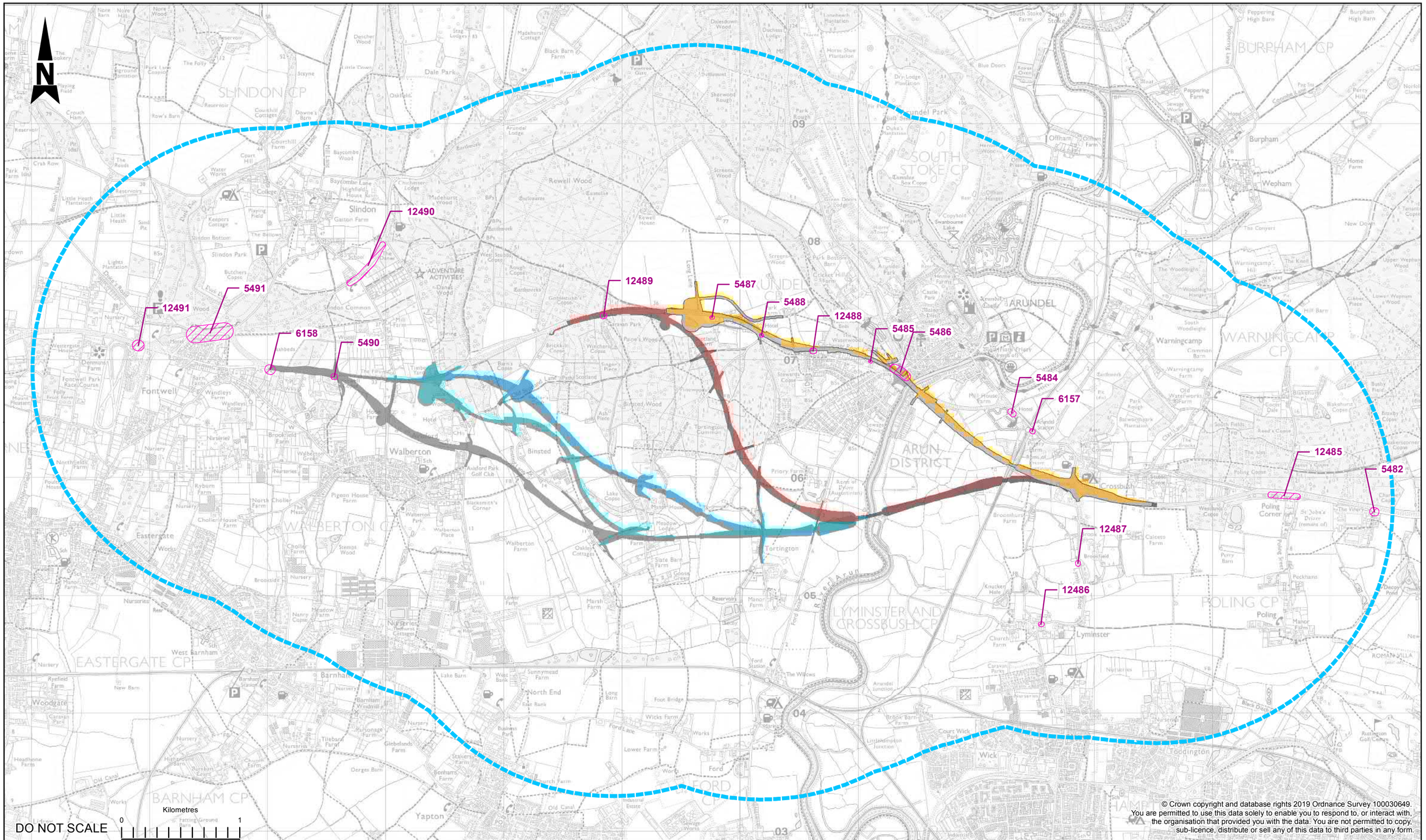
Drawing Title: FIGURE 9-1:
SOILS AND GEOLOGY
CONSTRAINTS

Scale	Drawn	Checked	Approved	Authorised
1:20,500	AS	AM	MD	PA
Original Size: A3	Date: 27/06/19	Date: 27/06/19	Date: 27/06/19	Date: 27/06/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0255

Project Ref. No.: 70052558
Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\Environment\Contaminated_Land\HE551523-WSP-GEN-SWI-GI-DR-0255_P01_Contaminated_Land_Constraints.mxd: Plotted by: UKAXS091 Date: Jun 27, 2019 - 04:53PM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- STUDY AREA
- NOISE IMPORTANT AREAS

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 11-1:
STUDY AREA AND NOISE IMPORTANT AREAS

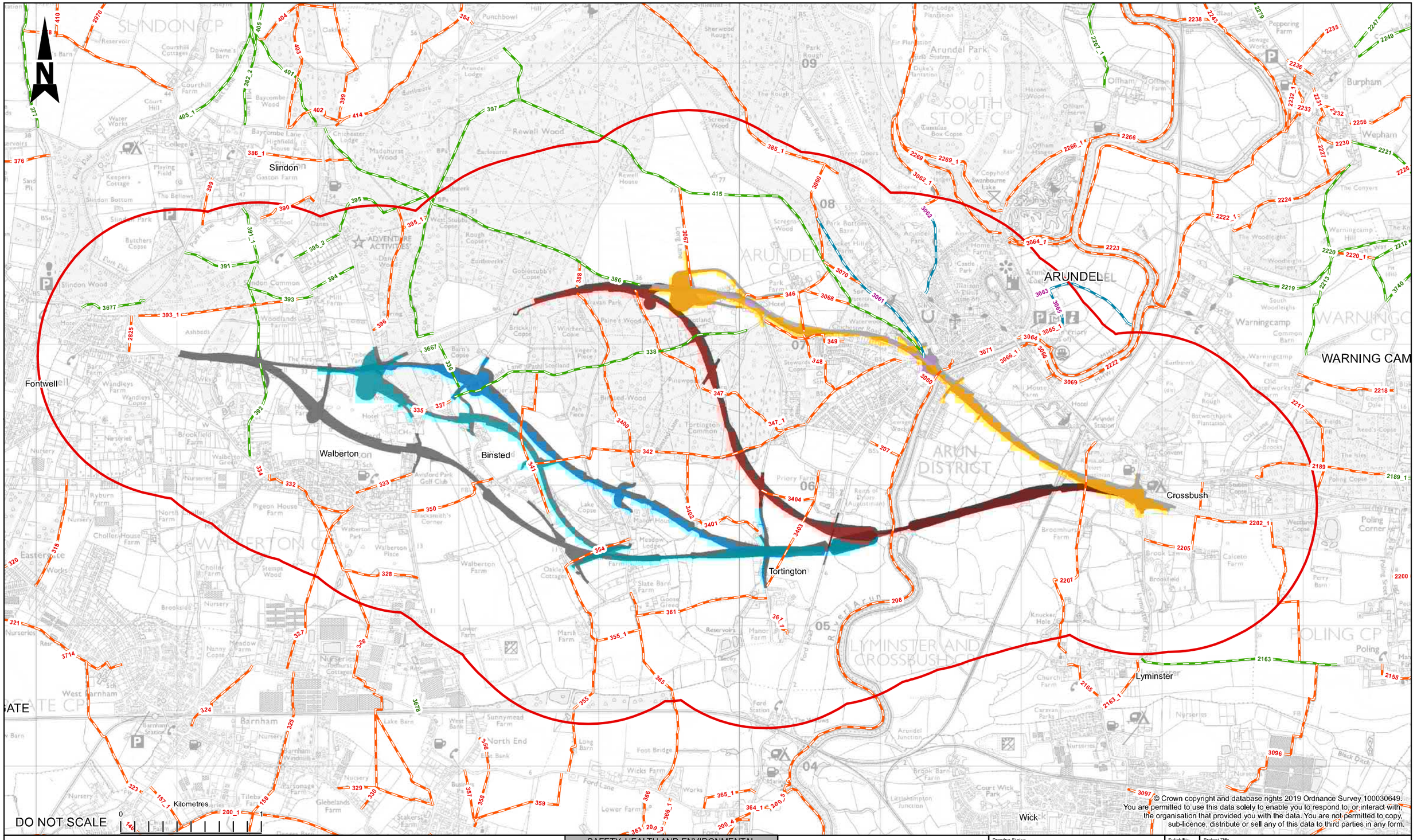
Scale	Drawn	Checked	Approved	Authorised
1:30,000	AS	SF	MD	PA
Original Size	**Date**	**Date**	**Date**	**Date**
A3	20/05/19	20/05/19	20/05/19	20/05/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0369

Project Ref. No.: 70052558

Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\Environment\Noise\HE551523-WSP-GEN-SWI-GI-DR-0369_P01_Study_Area_and_NIAs.mxd: Plotted by: UKAXS091 Date: May 20, 2019 - 02:29PM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 1 KILOMETRE POPULATION AND HEALTH STUDY AREA

PUBLIC RIGHTS OF WAY

- BRIDLEWAY
- FOOTPATH
- RESTRICTED BYWAY

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 12-1:
PUBLIC RIGHTS OF WAY

Scale	Drawn	Checked	Approved	Authorised
1:25,000	AS	RM	MD	PA
Original Size: A3	Date: 02/07/19	Date: 02/07/19	Date: 02/07/19	Date: 02/07/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0376

Project Ref. No.: 70052558

Revision: P01

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\EAR\HE551523-WSP-GEN-SWI-GI-DR-0376_P01_Population_and_Health_Receptors_PRoW_IDs.mxd: Plotted by: UKAXS091 Date: Jul 02, 2019 - 12:41PM

OLD TIMBERS,SHELLBRIDGE ROAD,SLINDON COMMON, ARUNDEL,BN18 0LT

57A,CHICHESTER ROAD,ARUNDEL, BN18 0AD

56A,CHICHESTER ROAD,ARUNDEL, BN18 0AD

55,CHICHESTER ROAD,ARUNDEL, BN18 0AD

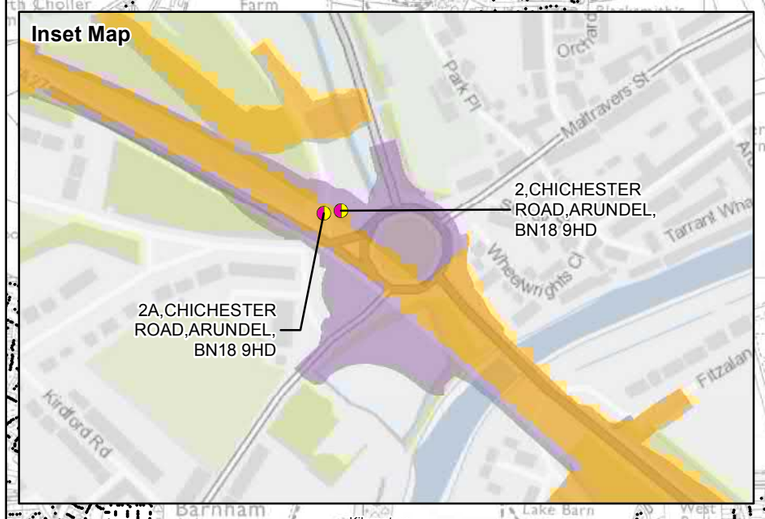
2,CHICHESTER ROAD,ARUNDEL, BN18 9HD

2A,CHICHESTER ROAD,ARUNDEL, BN18 9HD

LAKE COPSE, BINSTED,ARUNDEL, BN18 0LJ

TORTINGTON HOUSE, TORTINGTON, ARUNDEL,BN18 0BG

Inset Map



DO NOT SCALE

Kilometres

0 1

KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- RESIDENTIAL PROPERTIES

PROPERTIES AFFECTED BY OPTION FOOTPRINTS

- OPTION 1V5
- OPTION 1V5/OPTION 1V9
- OPTION 1V9
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decommissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 12-3:
RESIDENTIAL PROPERTIES
FOR PERMANENT ACQUISITION

Scale	Drawn	Checked	Approved	Authorised
1:18,000	AS	SC	PA	PA
Original Size: A3	Date: 13/08/19	Date: 13/08/19	Date: 13/08/19	Date: 13/08/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0545

Project Ref. No.: 70052558

Revision: P01

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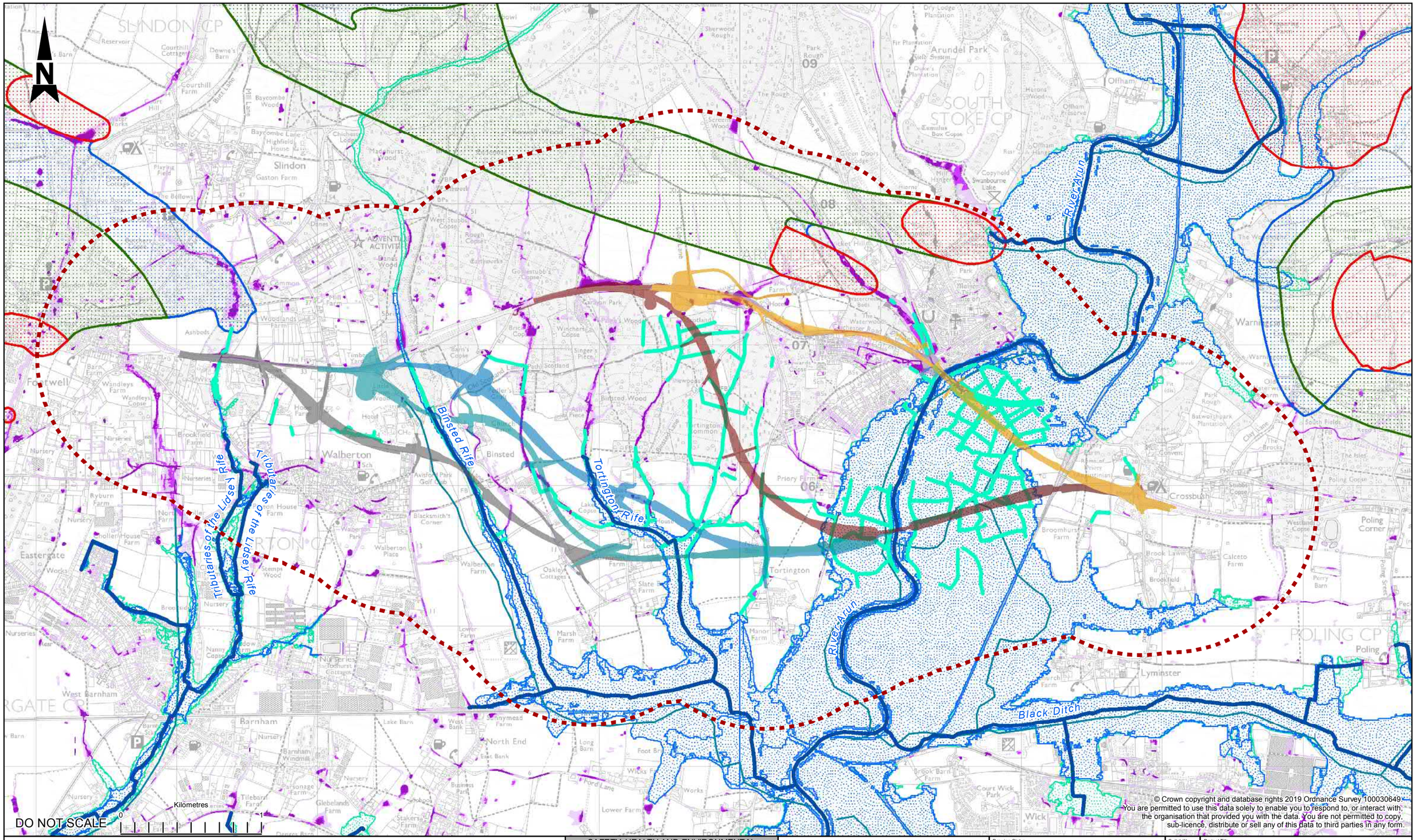

KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 1KM WATER CONSTRAINTS STUDY

RIVERS

- MAIN RIVERS
- ORDINARY WATERCOURSES
- SURVEYED WATERCOURSES, SEE CHAPTER 8: BIODIVERSITY

FLOOD ZONES

- ENVIRONMENT AGENCY - FLOOD ZONE
- ENVIRONMENT AGENCY - FLOOD ZONE

RISK OF FLOODING FROM SURFACE WATER

- HIGH (PROBABILITY OF OCCURRENCE 1 IN 30 YEARS)
- MEDIUM (PROBABILITY OF OCCURRENCE BETWEEN 1 IN 30 YEARS AND 1 IN 100 YEARS)
- LOW (PROBABILITY OF OCCURRENCE BETWEEN 1 IN 100 YEARS AND 1 IN 1,000 YEARS)

GROUNDWATER SOURCE PROTECTION ZONES

- ZONE I - INNER PROTECTION ZONE
- ZONE II - OUTER PROTECTION ZONE
- ZONE III - TOTAL CATCHMENT

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

Maintenance / Cleaning

Use

Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL

Drawing Title: FIGURE 13-1
WATER CONSTRAINTS MAP
ALL VARIANTS

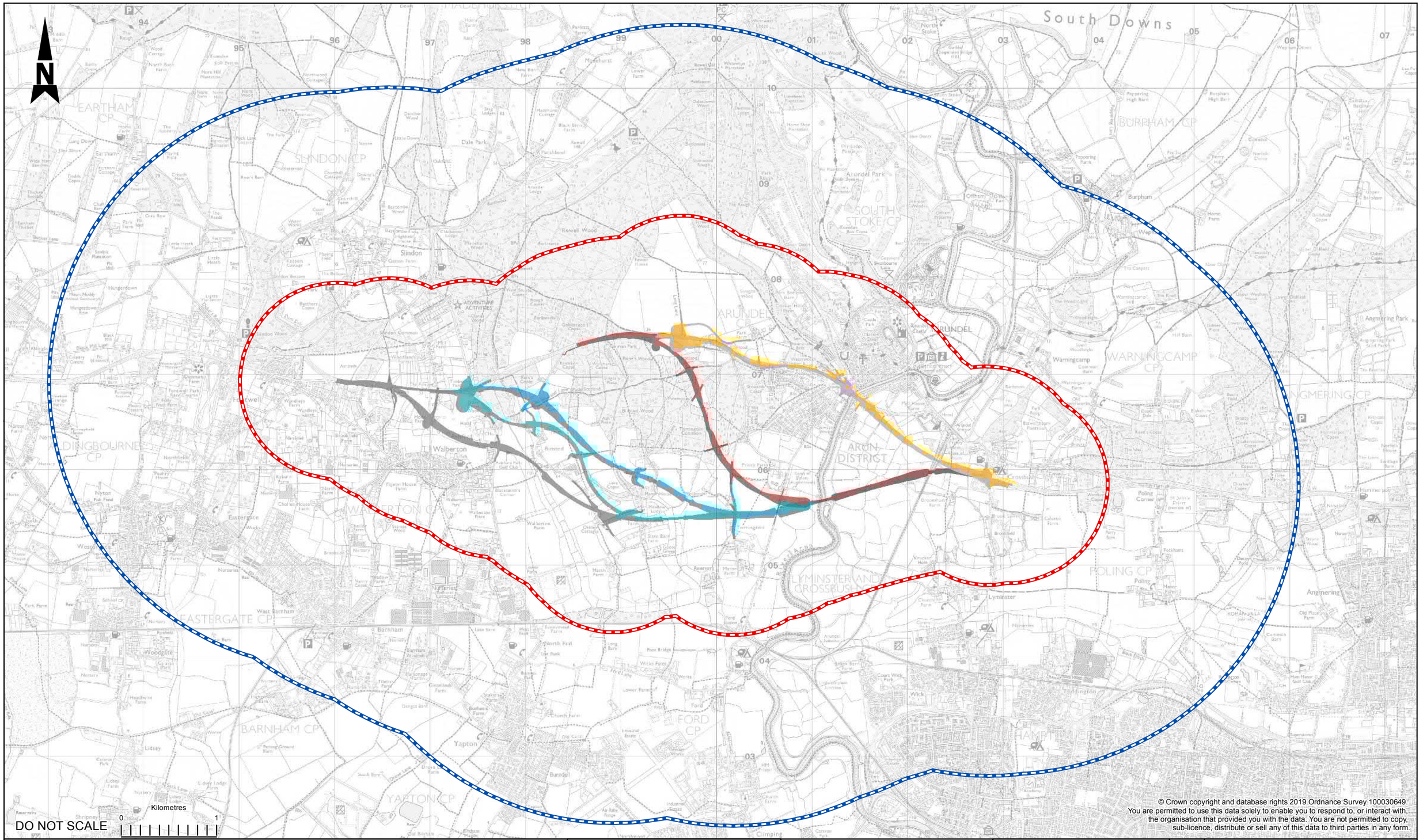
Scale	Drawn	Checked	Aproved	Authorised
1:25,000	AS	LM	MD	PA
Original Size	**Date**	**Date**	**Date**	**Date**
A3	27/01/20	27/01/20	27/01/20	27/01/20

Drawing Number: HE551523-WSP-GEN-SWI-GI-DR-0163 (Project | Originator | Volume | Location | Type | Role | Number)

Project Ref. No.: 70052558

Revision: P02

Path: \\uk.wspgroup.com\central data\Projects\700525xx\70052558 - CDF A27 AB Further Consultation\02 WIP\GI GIS\Mxd\EAR\HE551523-WSP-GEN-SWI-GI-DR-0163_P01_WaterConstraints_All_Variants.mxd: Plotted by: UKAXS091 Date: Jan 27, 2020 - 03:14PM



KEY:

- OPTION 1V5
- OPTION 1V9
- OPTION 3V1
- OPTION 4/5AV1
- OPTION 4/5AV2
- OPTION 5BV1
- 1KM STUDY AREA
- 3KM STUDY AREA

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATON
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).
Construction
Maintenance / Cleaning
Use
Decomissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
P01.1	---	First Issue	---	---	---

Drawing Status: FINAL

Suitability: S0

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Client: Working on behalf of highways england

Project Title: REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

Drawing Title: FIGURE 16-1:
MAJOR EVENTS STUDY AREA

Scale	Drawn	Checked	Approved	Authorised
1:37,000	AS	CC	MD	PA
Original Size	**Date**	**Date**	**Date**	**Date**
A3	01/08/19	01/08/19	01/08/19	01/08/19

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
HE551523-WSP-GEN-SWI-GI-DR-0235

Project Ref. No.: 70052558

Revision: P03

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A27 Arundel Bypass Scheme Assessment Report

Appendix B - Initial Sifting Criteria

October 2020

Assessment Criteria Used for Initial Sifting

Scheme Objective	NNNPS Policy	Legislation	Criteria	Initial Sifting Metric
Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Para 2, 2.2, 2.6, 2.9, 2.10, 2.22, 2.23 5.151, 5.152		Increases link capacity and traffic volumes on the A27	Increases link capacity and traffic volumes on the A27
			Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction
Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Para 2, 2.2, 2.22, 2.27		A27 journey time close to free-flow conditions	A27 journey time close to free-flow conditions
			Achieve mile-a-minute speeds along the corridor	Achieve mile-a-minute speeds along the corridor
			Overall reduction in journey time and delay across the wider road network	Overall reduction in journey time and delay across the wider road network
			Reduce volume of traffic on local roads	Reduce volume of traffic on local roads
			Improve journey time reliability	Improve journey time reliability
			Reduction in total travel distance	Reduction in total travel distance
			A27 Junctions function within operational capacity under peak traffic conditions	A27 Junctions function within operational capacity under peak traffic conditions
Improve the safety of travelers along the A27 and consequently the wider local road network	NNNPS Para 2, 2.9, 2.13, 2.24, 4.66		Reduce no. of collisions on A27	Reduce no. of collisions on A27

Scheme Objective	NNNPS Policy	Legislation	Criteria	Initial Sifting Metric
			Reduce total number of collisions	Reduce total number of collisions
Improve accessibility for all users to local services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		Reduce highway severance effect for walking, cycling and horse riding	Reduce highway severance effect for walking, cycling and horse riding
			Improve multi-modal journey times to key services and facilities	Improve multi-modal journey times to key services and facilities
Respect the South Downs National Park and its special qualities in our decision making			Reduce traffic volumes on the A29 and A283 route through the SDNP	Reduced traffic volumes on the A29 and A283 route through the SDNP
	NNNPS Para 5.150 - 5.158 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		Avoid development within the South Downs National Park except in exceptional circumstances where it can be demonstrated that it is in the public interest following assessment.	Reduced area of development within the South Downs National Park
Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Para 5.194 and 5.195		Avoid significant adverse impacts on health and quality of life resulting from noise, mitigate and minimise adverse impacts resulting from noise, and contribute improvements where possible.	Reduce noise impacts
	NNNPS Para 3.8, 5.9 -5.13	Meeting the air quality policies to comply with the Government's carbon budgets and the European Union's air quality limit values, including the Air Quality Directive.	Mitigate the air quality impact of the scheme, and address areas of poor air quality having undertaken assessment.	Reduce air quality impacts

Scheme Objective	NNNPS Policy	Legislation	Criteria	Initial Sifting Metric
	NNNPS Para 5.92-5.97, 5.99 - 5.109- Flood risk NNNPS Para 5.224 - 5.227 - Water quality and resources	Meeting water environment policy objectives and legislative requirements, including the; Water Framework Directive 2000/60/EC; Groundwater Directive (2006/118/EC); Floods and Water Management Act 2010; Environment Agency Groundwater Protection Guides (2017); Environmental Permitting (England and Wales) Regulations 2010; and Land Drainage Act 1991.	Not to increase flood risk elsewhere, and seek to avoid, limit and reduce flood risk to the infrastructure, taking account of surface water flood issues and climate change, and develop a flood resilient and resistant project. Mitigate adverse effects on the water environment.	Reduce water environment impacts
	NNNPS Para -5.149 -5.157 Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	Meeting landscape and townscape related policy objectives and legislative requirements, including the; National Parks and Access to the Countryside Act 1949; Environment Act 1995; Countryside and Rights of Way Act 2000; and Natural Environment and Rural Communities Act 2006.	Avoid or minimise harm to the landscape. Avoid development within nationally designated areas except in exceptional circumstances where it can be demonstrated that it is in the public interest following assessment.	Reduce landscape impacts

Scheme Objective	NNNPS Policy	Legislation	Criteria	Initial Sifting Metric
	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para. 4.22–4.25 and 5.23-5.26Protection of other habitats and species, biodiversity and ecological conservation.	Meeting policy objectives and legislative requirements for ecology, including the; Wild Birds Directive 2009/147/EC; Habitats Directive 92/43/EEC; Water Framework Directive 2000/60/EC; Environmental Impact Assessment Directive 2011/92/EU; Conservation of Habitats and Species Regulations 2017; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; Natural Environment and Rural Communities Act 2006; National Parks and Access to the Countryside Act 1949; Protection of Badgers Act 1992; and Hedgerow Regulations 1997	Avoid adverse effects on SSSIs, ancient woodland, veteran trees, and mitigate any adverse aspects of the development. Take opportunities to conserve and enhance biodiversity or geological conservation interests.	Reduce ecology impacts
	NNNPS Para 5.128-5.138 - The historic environment (designated heritage assets)	Meeting policy objectives and legislative requirements for preserving cultural heritage, including the Ancient Monuments and Archaeological Areas Act 1979; the Planning (Listed Buildings and Conservation Areas) Act 1990.	Avoid substantial harm to or total loss of significance of designated heritage assets unless it can be demonstrated that the substantial harm or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm or that the criteria in paragraph 5.133 of the NNNPS apply.	Reduce cultural heritage impacts

Scheme Objective	NNNPS Policy	Legislation	Criteria	Initial Sifting Metric
Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered			Reduce the impacts on people and communities	Reduce the impacts on people and communities
		Meeting policy objectives and legislative requirements, including the; National Parks and Access to the Countryside Act 1949; Environment Act 1995; Countryside and Rights of Way Act 2000; Natural Environment and Rural Communities Act 2006	Reduce the impacts on townscape	Reduce the impacts on townscape
			Improve journey quality	Improved journey quality

A27 Arundel Bypass Scheme Assessment Report

Appendix C - Results of Pairwise Assessment for Initial Sifting

October 2020

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Variant 7	Variant 9	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Variant 7	Variant 9	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Variant 7 is considered to be optimal, due to the higher speed limit / improved journey time relative to Variant 9
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Introduction of an at grade junction means that for both variants achieving mile a minute speeds would not be possible. Variant 7 is considered to be optimal, due to the higher speed limit / improved journey time relative to Variant 9
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Total travel time for V9 is expected to be greater than V7, due to sections of lower speed limit (40mph). Not clear the extent of difference at time of sifting process. Variant 7 is considered to be optimal, due to the higher speed limit / improved journey time relative to Variant 9
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants. The difference in speed limits between the variants would not be expected to result in a material change in transfer of traffic from local roads with the difference variants.
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Improvement in journey time and reduction in collisions provides a route with greater reliability for both variants. There is considered to be no material difference in performance between variants
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	2	Side road connections retained to the A27, including with the hospital and with the residential area to the South of Arundel. This may result in some reduction in travel distance.
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	The performance in both variants for the at grade junction at Ford Road means there is considered to be no material difference in performance between variants. The form of layout will operate close to or at capacity, and therefore with risk of operational issues under peak conditions
					Overall a slight preference for Variant 7. The advantages of Variant 7 relate to the higher operational speed limit.

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Variant 7	Variant 9	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		2	1	The standard of Variant 9 is more urban than rural, so features including the retention of side roads may be associated with a higher rate of accidents. In addition, a slightly lower volume of traffic may transfer from lower standard routes to the improved A27.
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		2	1	Variant 7 is considered to be optimal in terms of total collision reduction due to the slightly higher standard of road, and the likely slightly higher transfer of traffic from lower order roads
					Overall there is a slighlt preference for Variant 7 in terms of safety of travellers due to the high standard of the design and because of slightly higher expected transfer of traffic from the local road network.

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Variant 7	Variant 9	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	Both variants have similar affects of reducing severance on existing A27 between Ford Road and Crossbush. Both introduce formal crossings at Ford Road but over a signigicantly longer route. West of Ford Road both variants have similar negative impact on serverence through widening the existing A27 from single to dual carriageway. There is considered to be no material difference in performance between variants.
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants. Both have similar junction arrangements Junction arrangements providing full vehicular accessibility, although eastbound access to the A27 at Ford Road is not direct, and via the existing A27 route. Variant 7 has the benefit of providing alternative direct access to Community Hospital.
					Overall both variants are not well aligned with the project objectives on accessibility.

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Variant 7	Variant 9	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	There is considered to be no material difference in performance between variants. Drop in flows expected to be similar
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	2	Variant 9 has lower direct footprint within the SDNP (12Ha compared to 15Ha)
					Variant 9 is preferred due to the lower footprint with the SDNP.

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Variant 7	Variant 9	Notes
Noise	NNNPS Para 5.195		2	1	
Air quality	NNNPS Para 5.13		1	1	There is considered to be no material difference in performance between variants
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	1	There is considered to be no material difference in performance between variants. Both have similar impacts on the River Arun Flood zone.
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Variant 9 is preferred due to the slightly lower impact on woodland.
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		1	2	Variant 9 is preferred due to the reduced impact on ancient woodland (about 1 hectare less).
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	1	There is considerd to be no material difference in performance between variants
					Overall Variant 9 is preferred as having lower impacts for landscape and ecology

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Variant 7	Variant 9	Notes
People and Communities			1	2	
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Variant 9 is preferred due to the slightly lower vertical profile. However the difference in marginal
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Disruption			1	2	Variant 9 is prefered as it is more likely that the existing A27 could be retained open during construction leading to less disruption.

	Variant 7	Variant 9	Notes
Overall	1	2	The benefits of variant 7 relate to the difference in speed limit and the higher design standard adopted. Variant 9 has lower environmental impacts on key receptors including ancient woodland and the SDNP which are given significant weight due to the level of protection given in the NNNPS. Variant 9 is also likely to be less disruptive to customers during construction. Variant 9 is therefore preferred for further assessment. These include a minimum SSD of 120m which is 3 steps below desirable minimum, horizontal curves of 360m minimum which is 3 steps below desirable minimum, sag curves of a minimum k of 20 which is 2 steps below desirable minimum and reduced cross section standard (equivalent to an all-purpose urban dual carriageway).

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 6	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	Overall there is little difference between variants in terms of assessment criteria.
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	Overall there is little difference between variants in terms of assessment criteria.
					Overall there is little difference between the variants as both have similar junction strategies interms of connection to the existing A27.

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 6	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Overall there is little difference between variants in terms of assessment criteria.
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Overall there is little difference between variants in terms of assessment criteria.
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Variant 3 is preferred as overall it has a greater reduction in journey times but the difference is marginal
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Overall there is little difference between variants in terms of assessment criteria.
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Overall there is little difference between variants in terms of assessment criteria.
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Overall there is little difference between variants in terms of assessment criteria. Variant 6 results in a lack of savings in travel distances due to lack of new provision for A284 movement. Variant 3 results in longest travel distance due to limited slip provision at Ford Rd and Crossbush junctions, and relocation of Ford Rd slip roads to tie in with Causeway junction results in lengthening of local movements.
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	2	The overall difference between the two variants is small. However the introduction of a fourth arm at Causeway roundabout will add pressure to this junction, despite the reduction of the strategic through movement. Variant 6 is therefore preferred however design development would be expected to resolve any issues with Variant 3.
					Overall there is little difference between the variants as both have similar junction strategies interms of connection to the existing A27.

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 6	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	Overall there is little difference between variants in terms of assessment criteria.
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	Overall there is little difference between variants in terms of assessment criteria.
					Overall there is little difference between variants in terms of assessment criteria.

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 6	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	Overall there is little difference between variants in terms of assessment criteria.
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	Overall there is little difference between variants in terms of assessment criteria.
					Overall there is little difference between variants. Absence of slip roads at Ford Road Roundabout may contribute to an increase in some local vehicular journey times, including buses. Journey times for walking and cycling within Arundel improved due to grade separation and removal of traffic on existing A27

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 6	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	No clear variant is differentiated
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		2	1	Variant 3 is preferred due to small area within SDNP (15.74ha compared to 16.90ha SDNP).
					Overall there is little difference between variants. Variant 3 is preferred due to its smaller direct impact on the SDNP.

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 6	Notes
Noise	NNNPS Para 5.195		1	1	No clear variant is differentiated
Air quality	NNNPS Para 5.13		1	1	No clear variant is differentiated
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	2	Variant 3 has greater footprint within Arun Floodplain requiring greater compensation.
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Variant 6 has the advantage of lower impact on the landscape of the Arun floodplain due to the schemes smaller footprint
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		2	1	Variant 3 has the advantage of less impact on ancient woodland and veteran/notable trees. Variant 6 has the advantage of lower impact on other receptors due to lower impact on floodplain. Greater weight is given to ancient woodland and veteran trees due to protection provided by NNNPS.
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	1	No clear variant is differentiated
					Variant 3 is preferred due to lower impact on ancient woodland and veteran trees. Greater impact on the floodplain can be more easiliy mitigated

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 6	Notes
People and Communities			2	1	Focus on number of properties within 40 to 100m of the scheme. Variant 3 has the advantage of having marginally fewer properties within this range (232 compared to 266)
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	2	1	Variant 3 has the advantage of less impact on the townscape of Arundel due to small footprint at the Ford Road area
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	1	Overall there is little difference between variants in terms of assessment criteria.
Disruption			1	2	Variant 6 is preferred due to potential to use the new slip roads at Ford Road for temporary diversion of existing A27. But both have significant level difference with existing carriageway west of Ford Road which could result in extensive road closures.
					Variant 6 is likely to result in less disruption during construction. However the benefit of variant 6 is during construction phase only. Variant 6 would have a greater impact on townscape of Arundel. Therefore Variant 3 is preferred.

	Variant 3	Variant 6	Notes
Selected Variant	2	1	Evidence presented showed limited difference between these variants for most of the Scheme objectives. Variant 3 was preferred as overall it performed better in respect of the environmental Scheme objectives to deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design and compliance with the NNNPS. Variant 3 also performs better in relation to impact on communities due to lower impact on Townscape. Though this is balanced by greater disruption during construction.

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 4	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	2	Variant 4 preferred providing the highest flows captured on the main line without any extended routing due to removal of access.
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	2	Variant 4 preferred as A284 north-south movement would use the bypass and full accessibility for local trips is provided.
					Variant 4 has the advantage of providing access at Ford Road junction from local road network to the A27. This means more traffic would be diverted from the existing A27 to the Scheme improving performance against the scheme objective

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 4	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Overall Variant 4 has the greater reduction in journey time but not sufficient to differentiate.
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Little difference between variants in terms of assessment criteria. However Variant 4 has a smaller impact on Ford Road and Yapton Lane due to providing all movement access at the Ford Road Junction
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	2	The overall difference between the two variants is small. However Variant 4 has the advantage of providing the greatest total reduction in travel distance.
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	2	The overall difference between the two variants is small. However the introduction of a fourth arm at Causeway roundabout will add pressure to this junction, despite the reduction of the strategic through movement. Variant 4 is therefore preferred however design development would be expected to resolve any issues with Variant 3
					Overall there is little difference in overall performance for the project objective. Variant 3 is perferred for impact on local road network and variant 4 preferred for impact on existing A27.

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 4	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	Little difference between variants in terms of assessment criteria.
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	Little difference between variants in terms of assessment criteria.
					Overall there is little difference between variants.

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 4	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	All Option 1 variants as there is no clear differentiation between them in terms of the effect of the highway changes on severance.
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	2	Variant 4 has the advantage of providing the greatest accessibility for journeys with a local origin or destination due to provision of road access. Greatest positive effect on reducing the volume of traffic near Arundel railway station.
					Overall there is little difference in overall performance for the project objective. Advantages of variant 4 relate to provision of a full movement junction at both Ford Road and Crossbush Junction

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 4	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	No clear variant is differentiated. All provide reductions in traffic through the SDNP, to varying degrees on different sections of road.
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		2	1	Variant 3 has the advantage of 1.2ha less landtake within the SDNP
					Variant 3 has the advantage of less landtake within the SNDP.

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 4	Notes
Noise	NNNPS Para 5.195		1	1	No clear variant is differentiated
Air quality	NNNPS Para 5.13		1	1	No clear variant is differentiated
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	2	Variant 3 has greater footprint within Arun Floodplain requiring greater compensation.
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Variant 4 has the advantage of lower impact on the landscape of the Arun floodplain due to the schemes smaller footprint.
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		2	1	Variant 3 has the advantage of less impact on ancient woodland by 0.36 Ha and less impact on veteran/notable trees. Variant 4 has the advantage of lower impact on other receptors due to lower impact on floodplain. Greater weight is given to ancient woodland and veteran trees due to protection provided by NNNPS
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	1	No clear variant is differentiated
					Overall there is little to differentiate between variants. The advantages of variant 3 relate to reduced impact west of Ford Road including ancient woodland and direct impact on the SDNP but has a greater impact on the Arun floodplain,

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 4	Notes
People and Communities			2	1	Focus on number of properties within 40 to 100m of the scheme. Variant 3 has the advantage of having marginally fewer properties within this range (232 compared to 255)
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	2	1	Variant 3 has the advantage of less impact on the townscape of Arundel due to small footprint at the Ford Road area.
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	2	Variant 4 is preferred as this variant would result in shorter journeys for local trips accessing the A27 at Arundel due to full movement junction at Ford Road.
Disruption			1	1	Variant 4 has advantage of the potential to use the new slip roads at Ford Road for temporary diversion of existing A27. However Variant 4 would require a longer construction duration due to the additioanl work at the River Arun. Both have significant level difference with existing carriageway west of Ford Road which could result in extensive road closures.
					Variant 3 is preferred due to the lower impact on the townscapse of Arundel. Both variants would result in significant disruption during construction.

	Variant 3	Variant 4	Notes
Selected Variant	1	1	Overall there is little to differentiate between these two variants. The advantages of Variant 3 relate to reduced impact west of Ford Road including ancient woodland and direct impact on the SDNP which are given greater weight due to protection provided in the NNNPS. Variant 3 however has a greater impact on the Arun floodplain requiring greater compensation. Variant 4 advantages relate to provision of all movement junctions at Ford Road and Crossbush. The pairwise assessment led to the conclusion that both variants should be progressed and considered against Variant 5 to help identify the best performing variant.

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Variant 4	Variant 5	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		2	1	Variant 4 has the highest increase in traffic flows compared to variant 5.
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		2	1	Variant 4 has the highest increase in traffic flows compared to variant 5.
					Variant 4 is preferred. Advantages of Variant 4 relate to A284 through traffic diverting to the new bypass by provision of all movement junctions at Ford Road and Crossbush.

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Variant 4	Variant 5	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Variant 4 has the advantage of the greatest total benefit in journey time and delay saving. The advantage relates to provision of a junction at Ford Road
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	2	Little to differentiate between options but by not providing a junction at Ford Road Variant 5 has the advantage of slighty more reduction in flow on Ford Road and Yapton Lane.
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Variant 4 is preferred due to greatest total reduction in travel time. The advantage relates to provision of full movement junction at Ford Road
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little to differentiate between variants.
					Variant 4 is preferred. Advantages relate to provision of an all movement junction at Ford Road

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Variant 4	Variant 5	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	Little to differentiate between variants. Variant 5 would less junctions on the A27 and therefore could be expected to have an overall better performance.
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	Little to differentiate between variants.
					Overall there is little to differentiate between the variants.

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Variant 4	Variant 5	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is no clear differentiation between variants
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		2	1	Variant 4 is preferred due to greater accessibility provided by junction at Ford Road. Including public transport. Variant 5 retains existing A27 Relief road (Ford Road to Causeway) for public transport access to Arundel Station.
					Overall there is little to differentiate between the variants. Variant 4 is marginally preferred. Advantages are gained through providion of a junction at Ford Road.

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Variant 4	Variant 5	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	No clear variant is differentiated
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	2	Variant 5 has the advantage of a lower footprint in the SDNP (157 Ha compared to 169 Ha)
					Variant 5 is preferred due to lower footprint within the SDNP

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Variant 4	Variant 5	Notes
Noise	NNNPS Para 5.195		1	1	No clear variant is differentiated
Air quality	NNNPS Para 5.13		1	1	No clear variant is differentiated
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	2	Variant 5 would have the smaller development area within the flood plain of the River Arun.
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Variant 5 would have a small development area compared to Variant 4
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		1	2	Variant 5 would have a lower impact on ancient woodland (34Ha compared to 42Ha)
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	1	No clear variant is differentiated
					Variant 5 achieves the project objective more closely than variant 4. The advantages are related to not providing a junction at Ford Road,

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Variant 4	Variant 5	Notes
People and Communities			1	2	Focus on number of properties within 40 to 100m of the scheme. Variant 5 has the advantage of having marginally fewer properties within this range 237 compared to 266)
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Variant 5 would have a small development area compared to Variant 4 within Arundel townscape
Improved journey quality	NNNPS Para 2, 2.9, 4.66		2	1	Variant 4 has advantage of the greatest improvement in journey quality due to provision of access at Ford Road minimises local journey length.
Disruption			1	1	Variant 4 has advantage of the potential to use the new slip roads at Ford Road for temporary diversion of existing A27. However Variant 4 would require a longer construction duration due to the additioanl work at the River Arun. Both have significant level difference with existing carriageway west of Ford Road which could result in extensive road closures.
					Variant 5 is preferred due to the lower impact on the townscape of Arundel. Both variants would result in significant disruption during construction.

	Variant 4	Variant 5	Notes
Selected Variant	1	2	Overall there is little to differentiate between these two variants in terms of achieving the scheme objectives. The advantages of variant 5 relate to reduced impact west of Ford Road including ancient woodland and direct impact on the SDNP which are given greater weight due to protection provided in the NNNPS. Variant 5 also performs better in relation to communities due to a lower impact on the Arundel townscape, though both would have significant disruption during construction.

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 5	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	2	Variant 5 is preferred as has advantage of greater increase in traffic on the A27 due to provision of west facing slip roads at Crossbush junction.
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	2	Variant 5 is preferred as more traffic diverts from existing A27 due to provision of west facing slip roads at Crossbush junction
					Variant 5 is preferred. Advantages relate to provision of west facing slip roads at Crossbush compared to provision at the Causeway Roundabout.

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 5	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Variant 3 has a marginal advantage due to provision of local access at Causeway roundabout.
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	Little difference between variants in terms of assessment criteria.
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	2	Variant 5 is preferred as no junction is provided at Ford Road or Causeway
					Overall there is little to differentiate between variants

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 5	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	Little difference between variants in terms of assessment criteria.
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	Little difference between variants in terms of assessment criteria.
					Overall there is little to differentiate between variants

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 5	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	Overall little to differentiate between variants.
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	Overall little to differentiate between variants.
					Overall little to differentiate between variants.

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 5	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	Overall little to differentiate between variants.
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	Both variants have similar direct footprints within the SDNP
					Overall little to differentiate between variants.

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 5	Notes
Noise	NNNPS Para 5.195		1	1	No clear variant is differentiated
Air quality	NNNPS Para 5.13		1	1	No clear variant is differentiated
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	2	Variant 5 would have less impact on River Arun floodplain
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Variant 5 has a lower footprint than Variant 3 within the Arun floodplain. Both variants have similar amounts of direct impact on ancient woodland.
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		1	2	Variant 5 has a lower footprint than Variant 3 within the Arun floodplain.
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	1	No clear variant is differentiated
					Overall variant 5 is preferrred due to lower impact on the Arun floodplain.

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Variant 3	Variant 5	Notes
People and Communities			1	1	Focus on number of properties within 40 to 100m of the scheme. There is no material difference between the variants (232 compared to 237)
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	1	No clear variant is differentiated
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	1	Little difference between variants in terms of assessment criteria. Provision of a west facing slip roads at the Causeway is seen not to provide a benefit over provision at Crossbush.
Disruption			1	1	Both variants have the same challenges for construction west of Ford Road which could lead to significant levels of disruption due to the need for road closures.
					Overall there is little to differenitate between variants.

	Variant 3	Variant 5	Notes
Selected Variant	1	2	Overall there is little to differentiate between variants. Variant 5 is preferred due to its better environmental performance for ecology, water environmental and landscape primarily because of a lower impact on the River Arun floodplain area.

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 2	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 2	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 2	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 2	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 2	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	There is considered to be no material difference in performance between variants
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		2	1	Green 1 is preferred due to lower landtake but the difference is marginal (5.8Ha compared to 7.6Ha)
					Green 1 is preferred based on the smaller footprint in the SDNP. However the difference is marginal.

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 2	Notes
Noise	NNNPS Para 5.195		1	1	Not considered key differentiator given level of assessment available at this time.
Air quality	NNNPS Para 5.13		1	1	Not considered key differentiator given level of assessment available at this time.
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	1	Not considered key differentiator given level of assessment available at this time.
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	2	1	Green 1 has a lower alignment so is preferable as less visually intrusive
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		1	2	Green 2 allows for provision of structures with appropriate clearance for bats (evidence that such structures would be successful would be required) Green 2 takes greater land take from woodland, ancient trees and wood pasture.
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	1	Not considered key differentiator given level of assessment available at this time.
					Overall there if little to differentiate between the two route choices.

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 2	Notes
People and Communities			1	1	Not considered key differentiator given level of assessment available at this time.
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	1	Not considered key differentiator given level of assessment available at this time.
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Disruption			1	1	Both would result in similar levels of disruption.
					No significant difference between variants

	Green 1	Green 2	Notes
Overall	2	1	Overall there is little to differentiate between the two route choices. Green 1 is preferred due to the lower impact on landscape. Green 2 does not show any reduction in severance to bat movements compared to Green 1.

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 3	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 3	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 3	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 3	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
					Green 3 is preferred as FP 3401 is not affected

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 3	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	There is considered to be no material difference in performance between variants
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		2	1	Green 1 is preferred due to lower landtake but the difference is marginal (5.8Ha compared to 6.28Ha)
					Green 1 is preferred due to lower landtake but the difference is marginal (5.8Ha compared to 6.28Ha)

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 3	Notes
Noise	NNNPS Para 5.195		1	1	There is considered to be no material difference in performance between variants
Air quality	NNNPS Para 5.13		1	1	There is considered to be no material difference in performance between variants
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	1	There is considered to be no material difference in performance between variants
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Green 3 preferred, sits better in landscape in that location
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		1	2	Green 3 would be expected to have less impact on bat movements and mitigation is likely to be more successful
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		2	1	Green 1 is preferred as it has less impact on the setting of Grade 2 listed building (Morley's Croft (listed Grade II) and Meadow Lodge (listed Grade II)). Difference is marginal.
					Green 3 is prefered due to lower impact on protected bat species.

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Green 1	Green 3	Notes
People and Communities			1	1	No significant differences (67 properties within 200m of Green 1 compared to 66 properties within 200m of Green 2).
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	1	There is considered to be no material difference in performance between variants
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Disruption			1	1	Both would result in similar levels of disruption.
					No significant difference between variants

	Green 1	Green 3	Notes
Overall	1	2	The advantage of Green 3 is that it marginally reduces impacts on bat movements but has the disadvantage that the route would be moved closer to two listed buildings. There is no material difference identified in the impact on people and communities. The level of protection given in legislation and the NNNPS to ancient woodland and the bat species means significant weight has been given to those factors in selecting Green 3 over Green 1.

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Green 3	Green 4	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Green 3	Green 4	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Green 3	Green 4	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Green 3	Green 4	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
					Overall there is little to differentiate between the two routes. Green 3 is preferred as it would have a lower impact on FP 341 and 342

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Green 3	Green 4	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	There is considered to be no material difference in performance between variants
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	2	Green 4 is preferred due to lower landtake but the difference is marginal (6.28Ha compared to 1.29Ha)
					Green 4 is preferred due to lower landtake but the difference is marginal (6.28Ha compared to 1.29Ha)

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Green 3	Green 4	Notes
Noise	NNNPS Para 5.195		1	1	There is considered to be no material difference in performance between variants
Air quality	NNNPS Para 5.13		1	1	There is considered to be no material difference in performance between variants
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	2	1	Green 3 would require less mitigation for impact on Tortington Rife Flood zone. A longer viaduct structure would be required with Green 4.
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Green 4 is preferred with respect to landscape (avoids Binsted Park and woodland), but worse visual impact as the route is brought closer to properties. On balance Green 4 is preferred due to weight given to SDNP.
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		1	2	Green 3 is likely to result in higher magnitude impacts on the following feature types compared to variant Green 4: Binsted Wood Complex LWS, Ancient Woodland, Ancient and veteran trees, Bats, Badger, Hazel dormouse and Terrestrial inverts. Variants Green 4 is likely to result in higher magnitude impacts on the following feature types compared to variants Green 3: Hedgerow HPI, watercourses and wetland wildlife and water vole. On balance variant Green 3 is likely to be result in impacts on more importance nature conservation features and are least compliant with National Planning Policy than is variant Green 4.
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	2	Green 4 would bring the route closure to two grade 2 listed buildings
					Green 4 is preferred due to lower footprint within the SDNP and due to lower impact on Binsted Wood Complex LWS, Ancient Woodland, Ancient and veteran trees and bats.

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Green 3	Green 4	Notes
People and Communities			2	1	Green 3 is preferred due to lower number of properties within 200m of the route (66 compared to 75)
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	1	There is considered to be no material difference in performance between variants
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Disruption			1	1	Both would result in similar levels of disruption.
					Green 3 is preferred due to the lower number of properties within 200m of the route.

	Green 3	Green 4	Notes
Overall	1	2	Green 4 is preferred due to the lower footprint within the SDNP and due to lower ancient woodland take, Ancient/Veteran tree take and bat habitat loss than other variants. However, it has a higher impact on hedgerow and traditional orchards. The level of protection given in legislation and the NNNPS to ancient woodland and the bat species means significant weight has been given to those factors in selecting Green 4. Green 3 performs better in relation to communities.

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Black	Blue	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Black	Blue	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Black	Blue	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Black	Blue	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
					Blue route is preferred advantage relates to marginally a lower impact on the public rights of way network.

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Black	Blue	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	There is considered to be no material difference in performance between variants
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants (9.4Ha compared to 9.5Ha)

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Black	Blue	Notes
Noise	NNNPS Para 5.195		1	1	There is considered to be no material difference in performance between variants
Air quality	NNNPS Para 5.13		1	1	There is considered to be no material difference in performance between variants
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	1	There is considered to be no material difference in performance between variants
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Blue route preferred to black route because of smaller footprint, lack of structures, disruption of field patterns and shift of noise closer to current alignment.
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		1	2	Blue route preferred due to lower landtake within ancient woodland (4.4Ha compared to 4.8Ha). Both routes impact protected bat species equally. Blue route retains wet woodland.
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	2	Blue route is preferred due to lower impact on setting of Impact on setting of Royal Oak Inn (listed Grade II).
					Blue route is preferred due to lower impact on ancient woodland but the difference is marginal.

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Black	Blue	Notes
People and Communities			1	2	Marginally higher number of properties between 100m and 200m from the route centre line (24 compared to 32).
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	1	There is considered to be no material difference in performance between variants
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Disruption			1	1	No material difference between variants. Both largely off line.
					Blue is marginally prefered due to lower impact on people and communities

	Black	Blue	Notes
Overall	2	1	Overall there is little to differentiate the route options based on the scheme objectives. The engineering assessment for the Blue route shows that a significant reduction in horizontal alignment is required which would require an enforced speed limit of 50mph. Though the Blue route results in less ancient woodland loss the difference is small and the calculations for the Black route have included for an embankment across Binsted Rife and not a viaduct. The Black route would allow animals including bats and dormouse to cross under the A27.

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Orange 1 (PRA)	Black	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	there is considered to be no material difference in performance between variants
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	there is considered to be no material difference in performance between variants
					there is considered to be no material difference in performance between variants

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Orange 1 (PRA)	Black	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	there is considered to be no material difference in performance between variants
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	there is considered to be no material difference in performance between variants
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Orange 1 is preferred as it has the lowest travel time. Advantage relates to provision of all movement grade separated junction with direct links to local road network. The advantage is marginal.
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance overall. Each variant is expected to reduce flows on local roads
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Orange 1 is preferred as it has the lowest travel distance of all the variants. Advantage relates to provision of all movement grade separated junction with direct links to local road network. The advantage is marginal
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		2	1	Orange 1 is preferred as it has the highest operational capacity. Though advantage is marginal
					Overall Orange 1 is marginally preferred. Advantages relate to provision of all movement junction with direct links to the local road network.

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Orange 1 (PRA)	Black	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
					Overall Orange 1 is preferred due to improved journey quality

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Orange 1 (PRA)	Black	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
					Orange 1 route is preferred as it provides greater connections between local roads and local roads and A27.

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Orange 1 (PRA)	Black	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	There is considered to be no material difference in performance between variants
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	Black route is preferred due to slight reduction in footprint within the SDNP (10 Ha compared to 9.4 Ha) but difference is marginal
					Overall there is little to differentiate between the two route.

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Orange 1 (PRA)	Black	Notes
Noise	NNNPS Para 5.195		1	1	There is considered to be no material difference in performance between variants
Air quality	NNNPS Para 5.13		1	1	There is considered to be no material difference in performance between variants
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	1	There is considered to be no material difference in performance between variants
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Marginally preferred due to smaller scale of junction but located outside of woodland
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran trees NNNPS Para.35, 4.22– 4.25 and 5.27 - Protection of other habitats and species		1	2	Black route impacts 4.8Ha of AW compared to 5.8Ha. Provision of viaduct at Binsted Rife may have lower impact on movement.
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		1	1	There is considered to be no material difference in performance between variants
					Black route is preferred due to lower impact on AW. Provision of viaduct at Binsted Rife would result in lower severence.

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Orange 1 (PRA)	Black	Notes
People and Communities			2	1	Marginaly preferred. Between 100m and 200m of the centre line black route has 32 propeties compared to 25. No difference within 40m which is considered more important for sensitivity to impact.
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	1	There is considered to be no material difference in performance between variants
Improved journey quality	NNNPS Para 2, 2.9, 4.66		2	1	Orange 1 is preferred as it would have lower driver stress and reduction in fear of accidents. Advantage relates to the junction layout and links to local road network.
Disruption			1	2	Black is preferred as it involves less online working due to the change in junction layout.
					Orange 2 is marginally preferred due to lower impact on people and communities.

	Orange 1 (PRA)	Black	Notes
Overall	1	2	There is little to differentiate between the two variants. Black route is preferred due to lower impact on ancient woodland and SDNP. Black route also performed marginally better for landscape due to the smaller scale of the junction. The design for the black route included for the use of a viaduct to span Binsted Rife to reduce the impact on ancient woodland (see Table 3). However, the calculations for ancient woodland loss and area within the SDNP with the viaduct were not available at the time of the pairwise assessment workshop. The pairwise assessment was made using figures calculated assuming an embankment which due to the greater footprint required would overstate the amount of land take within the ancient woodland and SDNP. Including the viaduct would reduce further the ancient woodland loss and area within the SDNP further for the Black route

Key for Pairwise	Variant A	Variant B
No material differnce between variant A and Variant B	1	1
Variant A prefered to variant B	2	1
Variant B preferred to variant A	1	2

Scheme objective - Improve capacity of the A27 whilst supporting local planning authorities to manage the impact of planned economic growth	NNNPS Policy Test	NNNPS Legislation Test	Black	Red	Notes
Increases link capacity and traffic volumes on the A27	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
Extent to which scheme removes traffic from existing route between Ford Road Roundabout and Crossbush Junction	NNNPS Para 2, 2.2, 2.6, 2.9, 2.22, 5.151, 5.152		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Reduce congestion, reduce travel time and improve journey time reliability along the A27	NNNPS Policy Test	NNNPS Legislation Test	Black	Red	Notes
A27 journey time close to free-flow conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Achieve mile-a-minute speeds along the corridor	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Overall reduction in journey time and delay across the wider road network	NNNPS Para 2, 2.2, 2.22, 2.27		1	2	Red route preferred. The advantage is marginaly and relates to the location of the junction at Yapton Lane. With Black route the junction to the east results in some journeys becoming longer in distance e.g. A27 west to Yapton Lane south.
Reduce volume of traffic on local roads	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Improve journey time reliability	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
Reduction in total travel distance	NNNPS Para 2, 2.2, 2.22, 2.27		1	1	There is considered to be no material difference in performance between variants
A27 Junctions function within operational capacity under peak traffic conditions	NNNPS Para 2, 2.2, 2.22, 2.27		1	2	Red route is preferred. However further design development could resolve any issues with black route
					Red route is preferred. Advantage is related to the location of the junction at Yapton Lane.

Scheme objective - Improve the safety of travellers along the A27 and consequently the wider local road network	NNNPS Policy Test	NNNPS Legislation Test	Black	Red	Notes
Reduce no. of collisions on A27	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
Reduce total number of collisions	NNNPS Para 2, 2.9, 4.66		1	1	There is considered to be no material difference in performance between variants
					There is considered to be no material difference in performance between variants

Scheme objective - Improve accessibility for all users to local services and facilities	NNNPS Policy Test	NNNPS Legislation Test	Black	Red	Notes
Reduce highway severance effect for walking, cycling and horse riding	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
Improve multi-modal journey times to key services and facilities	NNNPS Para 2, 2.2, 2.6, 2.9		1	1	There is considered to be no material difference in performance between variants
					Red route is preferred. Advantage is related to the location of the junction at Yapton Lane.

Scheme objective - Respect the South Downs National Park and its special qualities in our decision making	NNNPS Policy Test	NNNPS Legislation Test	Black	Red	Notes
Reduced traffic volumes on the A29 and A283 route through the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	1	There is considered to be no material difference in performance between variants
Development area within the SDNP	NNNNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty		1	2	Red route is preferred due to lower footprint in the SDNP (3.4Ha compared to 9.4Ha)
					Red route is preferred due to lower footprint in the SDNP (3.4Ha compared to 9.4Ha)

Scheme objective - Deliver a scheme that minimises environmental impact and seeks to protect and enhance the quality of the surrounding environment through its high-quality design.	NNNPS Policy Test	NNNPS Legislation Test	Black	Red	Notes
Noise	NNNPS Para 5.195		1	1	There is considered to be no material difference in performance between variants
Air quality	NNNPS Para 5.13		1	1	There is considered to be no material difference in performance between variants
Water Environment	NNNPS Para 5.99 & 5.108- Flood risk NNNPS Para 5.227 - Water quality and resources	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) Floods and Water Management Act 2010 Environment Agency Groundwater Protection Guides (2017) Environmental Permitting (England and Wales) Regulations 2010 Land Drainage Act 1991	1	1	There is considered to be no material difference in performance between variants
Landscape	NNNPS Para -5.151 & 5.152 - Nationally designated areas: National Parks, the Broads & Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	2	Red is preferred but marginal as it impacts less on trees and field patterns and characterisation but it moves route closer to views of properties and less opportunity to mitigate for example viaduct across Binsted Rife.
Ecology	NNNPS Para 5.29 - Sites of Special Scientific Interest (includes National Nature Reserves) NNNPS Para 5.32 - Irreplaceable habitats including Ancient Woodland and veteran		1	2	Red is a strong preference, outperforms black on a number of metrics. Significant less bats and hazel dormouse impacts. Ancient woodland landtake 1.2Ha (Red route) compared to 4.8Ha (black route). Also significantly lower than all others.
Cultural heritage	NNNPS Para 5.133 - The historic environment (designated heritage assets)		2	1	Red impacts on three Grade II listed buildings Avisford Park Hotel, Church Hotel. Settings will be difficult to mitigate for example Avisford Park Hotel to Avisford Lodge
					Red route is preferred due to lower impacts on protected species and on Ancient woodland.

Scheme objective - Throughout the design and delivery stages, the scheme should ensure that customers and communities are fully considered.	NNNPS Policy Test	NNNPS Legislation Test	Black	Red	Notes
People and Communities			2	1	Red route has 21 properties within 40m of the centreline of the route compared to 6 with the black route
Townscape		National Parks and Access to the Countryside Act 1949 Environment Act 1995 Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006	1	1	There is considered to be no material difference in performance between variants
Improved journey quality	NNNPS Para 2, 2.9, 4.66		1	2	Red is preferred as it would have lower driver stress and reduction in fear of accidents. Advantage relates to the junction location, layout and links to local road network.
Disruption			2	1	Black route is preferred as involves more off line works. Red route requires diversion of Yapton Lane and temporary diversion of existing A27 to construct the junction.
					Black route is preferred due to lower impact on people and communities and because of lower disruption during construction.

	Black	Red	Notes
Overall	1	2	The Red route was selected as it has a significantly lower impact on ancient woodland and bats. As well as reducing the direct footprint within the SDNP. The level of protection given in legislation and the NNNPS to ancient woodland, bat species and the SDNP means significant weight has been given to those factors in selecting the Red route. The Red route also results in shorter diversion for local traffic and greater connectivity to the local road network. The Red route performs the worst of all variants for cultural heritage due to impact on three Grade 2 listed properties. The Red route also performs the worst for all variants for customers and communities due to proximity to properties and impact on property and businesses as well as greater disruption during construction.