

High Speed Rail (London – West Midlands) Act 2017

HS2 Ltd

Warwick District Council

A46 Kenilworth Bypass Overbridge

Schedule 17 Plans and Specifications Written Statement for Information

HS2 Consents Register Reference No. WAC.PS.10059

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1 Introduction

1.1 Background Information

Table 1: Schedule 17 Address Details and Description of Works

Site	Details
Schem e	High Speed Two
Applicant	High Speed Two (HS2) Limited
Applicant Address	c/o Agent: Balfour Beatty Vinci IM House South Drive Coleshill Manor Coleshill West Midlands B46 1DF
Site Address	The works are located between; X (Easting): 431686 Y (Northing): 272850 and X (Easting): 431577 and Y (Northing): 272577
Description	Plans and Specifications submission (or other Schedule 17 consent type) under Schedule 17 to the High-Speed Rail (London – West Midlands) Act 2017 for works comprising: Construction of the A46 Kenilworth Bypass Overbridge, a triple span integral structure approximately 50m long and 40m wide. Earthworks: Highways embankment with a maximum height of 7.8m. Highways: Reinstatement of the A46 highways including provision for one extra lane on each direction for potentia future usage. Fencing: Vehicle restraint system (VRS).

1.2 Terms of Reference

- 1.2.1 This Written Statement is compiled in accordance with the High Speed Two (HS2)
 Phase 1 Planning Memorandum¹ and Planning Forum Notes (PFNs)² as required by
 the planning regime established under Schedule 17 of the High Speed Rail (London
 West Midlands) Act 2017 ('the Act')³.
- 1.2.2 This statement provides Warwick District Council with information to assist with the determination of the Plans and Specifications submission under Schedule 17, in relation to the above description of works.
- 1.2.3 The information in this Written Statement is provided for information to assist in determining the request for approval. It is not for approval.

1.3 Introduction to High Speed 2

- 1.3.1 HS2 is a new high speed railway network that will connect major cities in Britain. It will bring significant benefits for inter-urban rail travellers through increased capacity and improved connectivity between London, the Midlands and the North. It will release capacity on the existing rail network and so provide opportunities to improve existing commuter, regional passenger and freight services.
- 1.3.2 Phase One of HS2 will provide a dedicated high speed rail service between London, Birmingham and the West Midlands. It will extend for approximately 230km (143 miles). Just north of Lichfield, high speed trains will join the West Coast Main Line for journeys to and from Manchester, the North West and Scotland.
- 1.3.3 For further information on HS2 and the route through Warwick District Council please refer to the Planning Context Report for Warwick District Council, deposited with the Council by HS2 Ltd.

1.4 High Speed Rail (London – West Midlands) Act 2017

1.4.1 The Act⁴ provides powers for the construction and operation of Phase 1 of High Speed Two. HS2 Ltd is the nominated undertaker in relation to the works subject to this Plans and Specifications submission.

Document Reference: 1MC08-BBV_MSD-PL-REP-NS01_NL03-100092 - C01

 $[\]underline{\text{https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/593594/Planning_Memorand_um.pdf}$

² https://www.gov.uk/government/publications/hs2-phase-one-planning-forum-notes-for-local-authorities

³ https://www.legislation.gov.uk/ukpga/2017/7/schedule/17/enacted

⁴ https://www.legislation.gov.uk/ukpga/2017/7/contents/enacted

1.4.2 Section 20 to the Act grants deemed planning permission for the works authorised by it, subject to the conditions set out in Schedule 17. Schedule 17 includes conditions requiring the following matters to be approved or agreed by the relevant LPA.

Construction arrangements (including large goods vehicle routes);

Plans and specifications;

Bringing into use requests; and

Site restoration schemes.

- 1.4.3 This is therefore a different planning regime to that which usually applies in England (i.e. the Town and Country Planning Act) and is different in terms of the nature of submissions and the issues that the LPAs can have regard to, in determining requests for approval.
- 1.4.4 Schedule 17 of the Act sets out the grounds on which the LPA may impose conditions on approvals, or refuse requests for approval.
- 1.4.5 This Written Statement includes information supporting the Plans and Specifications submission in relation to the matters outlined in Table 2 below.

Table 2: Schedule 17 Plans and Specifications Submission Details

Site	Details
Plans and Specifications (permanent works)	Construction of the A46 Kenilworth Bypass Overbridge, a triple span integral overbridge approximately 50m long and 40m wide Earthworks: Highways embankment with a maximum height of 7.8m. Highways: Reinstatement of the A46 highways including provision for one extra lane on each direction for potential future usage. Fencing: Vehicle restraint system (VRS).

1.4.6 The works to which this application relates, and the cumulative impact of the works in conjunction with other HS2 development, have been assessed and are compliant with paragraph 1.1.3 (bullet point 2) of the HS2 Phase 1 Environmental Minimum Requirements General Principles⁵.

⁵

 $[\]underline{\text{https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/618074/General_principles.p.df}$

1.5 Code of Construction Practice

- 1.5.1 HS2 Ltd as the nominated undertaker is contractually bound to comply with the controls set out in the Environmental Minimum Requirements (EMRs)⁶. The EMRs include the HS2 Code of Construction Practice (CoCP).
- 1.5.2 The works subject to this request for approval of Plans and Specifications will be undertaken in accordance with the Code of Construction Practice, and with the Class Approval issued by the Secretary of State (March 2017)⁷.

1.6 Schedule 17 Statutory Guidance

1.6.1 The Schedule 17 Statutory Guidance issued by the Secretary of State (April 2021)⁸ provides guidance to all planning authorities determining requests for approval under Schedule 17 to the Act. Paragraph 20 of the Statutory Guidance states that planning authorities should not through the exercise of Schedule 17 seek to modify controls already in place such as the Environmental Minimum Requirements, other controls in the Act such as those under Schedule 4 or 33, or existing legislation.

1.7 Structure of Written Statement

1.7.1 This Written Statement is structured as follows:

A description of the location and main characteristics of the area in which the works will be carried out is provided in **Section 2**

Section 3 describes the main works being undertaken in the area, as set out in Schedule 1 of the Act, and those that are the subject of this Schedule 17 Plans and Specifications submission

The design approach and rationale for the works which are the subject of this Schedule 17 Plans and Specifications submission are described in **Section 4**

Section 5 summarises the pre-submission consultations that were undertaken, including a list of the consultees, dates, attendees at meetings and a brief summary of the outcome of these discussions

⁶ https://www.gov.uk/government/publications/environmental-minimum-requirements

¹ https://www.gov.uk/government/publications/high-speed-rail-london-west-midlands-act-2017-class-approval

⁸ https://www.gov.uk/government/publications/high-speed-rail-london-to-west-midlands-act-2017-schedule-17-statutory-guidance/high-speed-rail-london-west-midlands-act-2017-schedule-17-statutory-guidance

A high-level programme for the works and how they fit into the wider programme for other works in the area, as set out in Schedule 1 of the Act, is provided in **Section 6** and

Section 7 identifies any other main consents, or known forthcoming consents associated with the works

2 Site Location and Characteristics

2.1 Site Location

- 2.1.1 The asset lies between the settlements of Stoneleigh and Kenilworth and provides a transport link between Kenilworth and the city of Coventry. The asset carries the existing A46 main road and is set is a relatively rural location to the north of Stoneleigh Business Park and south of the Kenilworth Golf Course. Broadleaved and mixed plantation woodland border the north west and south east of the asset. A mixture of arable and improved grassland lies to the north west and south east of the asset in the wider area.
- 2.1.2 The asset is not located within, or within a 0.5km radius of, any ecological statutory designated sites There are no non-statutory designated sites within the asset boundary. The closest non-statutory designated site is a tributary of the River Avon Local Wildlife Site (LWS) located 0.2km south of the asset. Three Ecosites border the asset; Crewe Farm Ecosite (56/37) immediately east, Kingswood Farm House Ecosite (91/37) immediately west and Parkland near Kenilworth Ecosite (32/37) immediately west.
- 2.1.3 There are two potential Local Wildlife Sites (pLWS) and three Ecosites within a 0.5km radius of the asset. These comprise Glasshouse Wood pLWS 0.2km south, Kings Wood Ecosite (75/37) 0.4km east, and Stoneleigh Park pLWS 0.5km south east. Glasshouse Wood and Stoneleigh Park are also Ecosites (20/37 and 06/37).
- 2.1.4 Ecosites and pLWS are not formally designated sites. However, they have been identified as having the potential to contain important ecological features that may be a material consideration. Although these sites were not referenced in the Environmental Statement (ES)⁹, the habitats for which they are identified were assessed under the HS2 environmental baseline. They may be priority habitats.
- 2.1.5 The closest area of ancient woodland is Nr Stoneleigh Wood ancient and seminatural woodland (ASNW) located 0.4km south east of the asset.
- 2.1.6 There are no designated heritage assets within the site boundary of the works described in this written statement and no designated heritage assets in close proximity that would be impacted as a result of the work described.

Document Reference: 1MC08-BBV_MSD-PL-REP-NS01_NL03-100092 - C01

⁹ HS2 (2013). London – West Midlands Environmental Statement. Volume 2. Community Forum Area report. CFA 18. Stoneleigh, Kenilworth and Burton Green.

2.1.7 There are no non-designated heritage assets within the site boundary. The following non-designated heritage assets reported impacts from the works described in this written statement:

Kingswood boundaries (STN104), approximately 10m to the west of the asset:

Kingswood Farmhouse (STN036), approximately 100m to the north-west of the asset:

Crewe Farm boundary (STN103), approximately 100m to the east of the asset;

Romano-British settlement, Crewe Farm (STN031), approximately 150m to the south of the asset; and

Crewe Farmhouse (STN033), approximately 350m to the south of the asset.

2.1.8 The impacts on these and/or their setting are described in the HS2 Phase One Environmental Statement Volume 5: cultural heritage, CFA 18 impact assessment tables: Stoneleigh, Kenilworth and Burton Green (Ref: volume 5 appendix CH-003-018, ES 3.5.2.18.6).

2.2 Surrounding Highway Network

2.2.1 The A46 is a triple carriageway highway connecting the A444 which lies approximately 3.6km to the north east of the asset to Stratford Road/ the B4463 which lie 11.5km to the south west. The asset lies approximately 900m to the south west of the junction with Stoneleigh Road.

3 Description of the Works

3.1 Introduction

- 3.1.1 This Written Statement supports the Schedule 17 submission for the approval of plans and specifications for A46 Kenilworth Bypass Overbridge, in between the settlements of Stoneleigh and Kenilworth.
- 3.1.2 The Plans and Specifications submitted for approval are listed in the pro-forma accompanying the application. A summary of the proposed works for approval is provided in Section 3.2 below.
- 3.1.3 Section 3.3 summarises the indicative mitigation relevant to the works being submitted in accordance with paragraph 7.5.2 of the Planning Memorandum.
- 3.1.4 Sections 3.4 3.6 provide information on other aspects of the works to assist in understanding the context of planned construction methodology and how EMR controls apply to the works being submitted for approval. The information in Sections 3.4- 3.6 is not for approval under Schedule 17.

3.2 Works for Approval

3.2.1 The relevant scheduled works as set out under Schedule 1 of the Act to which this Schedule 17 submission relates are:

County of Warwickshire, District of Stratford-on-Avon, Parishes of Long Itchington and Ufton, District of Warwick, Parishes of Offchurch, Cubbington, Weston under Wetherly, Stoneleigh, Kenilworth and Burton Green, Metropolitan Borough of Solihull, Parish of Berkswell—

Work No. 2/168A - A temporary diversion of the A46 Kenilworth Bypass commencing at a point 10 metres north-east of the bridge carrying that road over Crew Lane and terminating at a point 815 metres north-east of its commencement; Work No. 2/169 - A realignment of the A46 Kenilworth Bypass commencing at a point 10 metres north-east of the bridge carrying that road over Crew Lane and terminating at a point 800 metres north-east of its commencement. Work No. 2/169 includes a bridge over Work No. 2/146.

3.2.2 The works submitted for approval comprise:

Structures: Construction of the A46 Kenilworth Bypass Overbridge Earthworks: Highways embankment with a maximum height of 7.8m

Highways: reinstatement of the A46 highways including provision for one extra lane on each direction for potential future usage Fencing: Vehicle restraint system (VRS).

3.2.3 Adjacent works in this area that are also subject to a Schedule 17 submission are outlined in Table 3 below.

Table 3: Other Schedule 17 submissions for works in the surrounding area

Asset Name	HS2 Reference Number	Local Authority Submission Reference Number
Glasshouse Wood Cutting (to the north and south)	000001127	N/a

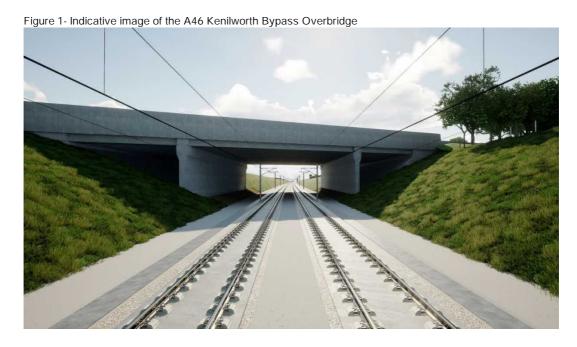
Buildings and/or structures

- 3.2.4 The proposed works comprise of a triple span integral box overbridge structure with precast beams and shallow foundations. The structure carries the A46 (National Highways) over HS2 (Glasshouse Wood Cutting). The overall length of the bridge is approximately 50m, including side spans, and has a skew of 20.5 degrees and approximate width of 40m between the internal faces of the parapets.
- 3.2.5 The overbridge will be a jack box structure cast offline and pushed to its final position. The box comprises:

precast prestressed beams with an in-situ reinforced concrete deck slab cast in-situ pier walls cast an in-situ base slab cast in-situ inclined ground slabs cast in situ inclined wingwalls off the back of the abutment access opening for inspection of the lateral walls and concrete piers

- 3.2.6 The construction of the overbridge structure would involve relocation or realignment of several existing utilities some of which would be diverted through the overbridge.
- 3.2.7 The structure has parapets on either side along the entire length of the overbridge. The parapets are approximately 3.5m high and therefore does not follow the HS2 Common Design Element (CDE) in terms of its height. The parapet geometry has been amended to meet the updated national highway standards for containment levels whilst also incorporating HS2 system safety and security requirements. The parapet now includes a device to deflect errant vehicles back towards the carriageway. This angled feature at the bottom on the inner face could be used as a

- toe-hold, and as such the parapet has had to increase in height. Given the increase in height, the top has now been splayed to reduce the sense of containment for users of the bridge.
- 3.2.8 Whilst due to their height and the splayed top these pre-cast parapets are not Common Design Elements (CDE), the designs have been carefully considered to fulfil the requirements whilst employing the architectural language of the CDE parapets. The parapet unit types included in the application have passed the crash testing required to meet the H4A containment level needed for all vehicular bridges passing over HS2.
- 3.2.9 The parapet unit types included in the application have passed the crash testing required to meet the H4A containment level needed for all vehicular bridges passing over HS2. The parapets will be precast concrete finish F3.
- 3.2.10 The pier will be concrete F2 finish and will be constructed in-situ. The pier comprise Common Design Elements agreed by the Phase 1 Planning Forum on 26th November 2020 Planning Forum Note (PFN 15).



Earthworks

3.2.11 This asset includes earthworks on either side of the highway to carry the A46 Kenilworth Bypass Overbridge across the rail alignment within Glasshouse Wood Cutting (subject to a separate consent). The earthworks will be laid on top of a dig and replace area and backfilled between structure and temporary excavation.

3.2.12 The embankments generally have a slope gradient of 1V:2.5H, except at the overbridge where they steepen to 1V:2H for short sections to tie in with Glasshouse Wood Cutting. The length of embankment is approximately 115m in the northwest, north-east and south-east quadrants, and approximately 155m in the southwest quadrant. The maximum height of the embankment is 7.8m.

Fences and walls

- 3.2.13 A vehicle restraint system is also proposed leading up to and away from the bridge measuring approximately 850mm in height. The vehicle restraint system is a N2 steel post and beam barrier that will connect to the parapets on both sides.
- 3.2.14 The security and boundary fence for this asset is included as part of the adjacent Glasshouse Wood Cutting asset (to be consented separately). There is a section of National Highways (NH) fencing that will have to be removed during construction and it will be reinstated according to NH requirements.

3.3 Indicative Mitigation

- 3.3.1 The Planning Memorandum (paragraph 7.5.2) states: 'When designs of HS2 works are submitted for approval, the nominated undertaker shall, where reasonably necessary for the proper consideration of the design proposed, provide an indication or outline of the appropriate mitigation measures (if any) which it intends to submit subsequently under paragraphs 9 or 12 of the Planning Conditions Schedule...' and '.... While not material to approvals under paragraph 2 or 3, this information will provide reassurance in advance of the request for approval under paragraph 9 that the mitigation is appropriate, and will present an opportunity to raise concerns.'
- Details of the indicative mitigation relevant to the design proposed in this application are shown on the following drawings:

General Arrangement Plan – 1MC08-BBV_MSD-PL-DGA-NS01_NL03-140601; and

Landscape and Environmental Masterplan – 1MC08-BBV_MSD-PL-DGA-NS01_NL03-140604

- 3.3.3 The Council's views on the indicative mitigation have been requested separately to this application.
- 3.3.4 Details of planting and soft landscaping do not require approval of plans and specifications under paragraphs 2 or 3 of Schedule 17.

3.3.5 The mitigation will comprise part of the overall mitigation scheme in relation to the scheduled works listed in section 3.2 above.

Landscape

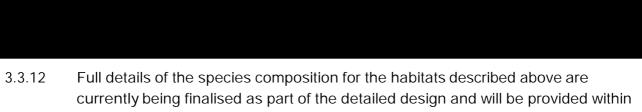
3.3.6 Landscape mitigation includes proposed road embankments at circa 1:2.5 gradient, sown with low maintenance grassland for ease of maintenance on steep slopes. All other planting is associated with the Glasshouse Wood Cutting asset through which the A46 bisects. Planting within Glasshouse Wood Cutting, near to the A46 overbridge comprises native woodland, shrub and hedgerow using species characteristic of the local area. Climate change impacts have been considered during species selection along with impacts associated with pest and diseases.

Ecology

- 3.3.7 The baseline habitats recorded in the ES¹⁰ within the asset boundary were dominated by hardstanding (i.e. the existing A46 Kenilworth Bypass) bordered by areas of broadleaved plantation and mixed plantation woodland. Hedgerows (some of which are important under the Hedgerows Regulations 1997) lie immediately north and south of the asset. Construction of the asset will require the partial loss of the mixed plantation woodland. Mitigation associated with the asset will comprise the retention of important hedgerows bordering Kenilworth Golf Course and the A46. Further habitat creation will be associated with the adjacent Glasshouse Wood Cutting asset.
- 3.3.8 Three Ecosites immediately border the asset; Crewe Farm Ecosite (56/37) immediately east, Kingswood Farm House Ecosite (91/37) and Parkland near Kenilworth Ecosite (32/37) both immediately west of the asset. Ecosites and pLWS are not formally designated sites. However, they have been identified as having the potential to contain important ecological features that may be a material consideration at planning. Although these sites were not referenced in the ES, the habitats for which they are identified were assessed under the HS2 environmental baseline. They may be priority habitats. Mitigation for impacts on these sites is associated with the adjacent Glasshouse Wood Cutting asset.
- 3.3.9 Bat activity surveys in this area have recorded low activity levels from common species. One confirmed common pipistrelle (*Pipistrellus pipistrellus*) roost located immediately north of the asset has been lost to facilitate the works. Mitigation will be provided in the form of bat box installation and woodland, woodland edge and hedgerow planting in the adjacent Glasshouse Wood Cutting to provide suitable habitat for bats and to direct bats to safe crossing points under the raised River Avon and Finham Brook viaducts in the wider area.

¹⁰ HS2 (2013). London – West Midlands Environmental Statement. Vol. 2 Community Forum Area report. CFA 18 – Stoneleigh, Kenilworth and Burton Green.

3.3.10 Great crested newt (GCN – *Triturus cristatus*) is present in the area surrounding the asset. Mitigation including aquatic and terrestrial habitat creation will be provided in the adjacent Glasshouse Wood Cutting asset.



- currently being finalised as part of the detailed design and will be provided within the Ecology Site Management Plans (ESMP) and planting mix and soil schedules. The ESMP includes details on the objective of the landscape and ecology habitat creation and the mitigation function of the proposed habitat creation. The ESMP description below is submitted for information only at this point as it is not for approval until 'Bringing Into Use.'
- 3.3.13 Once produced, the ESMP will include:

Site information

Aims and objectives, including the ecology and landscape receptor, the objectives of the habitat creation and mitigation function, the performance indicator, interim and end target, and the ESMP monitoring duration Establishment phase maintenance measures

Management measures linking to the Landscape Maintenance, Management and Monitoring Plan (LMMMP)

Monitoring of ecological habitat creation and ecological features and Supporting information including responsibilities, record of stakeholder engagement, and document references

Built Heritage

3.3.14 Kingswood Farmhouse (STN036) reports a moderate adverse significant effect in the ES due to changes in its setting, partially caused by the visual appearance of the A46 Kenilworth Road Overbridge. Woodland planting will be used to mitigate as far as possible this visual intrusion, screening much of the overbridge in views to the southeast from Kingswood Farmhouse. This can be seen on the Landscape and Environmental Masterplan (1MC08-BBV_MSD-PL-DGA-NS01_NL03-140604).

Archaeology

3.3.15 No design mitigation is required, based on the findings of the Early Work Contractors' archaeological investigations. Details of archaeological investigation undertaken to enable construction works can be found in section 3.5.7.

Noise

3.3.16 A noise demonstration report (NDR) for the Stoneleigh to Canley area that incorporates the A46 Kenilworth Bypass Overbridge, 1MC08-BBV_MSD-EV-REP-NS01_NL03-100088, has been produced to accompany the Schedule 17 application and includes the following information:

A description of the mitigation options considered to control noise Plans showing the surrounding environment and receptor positions Details of the methodology used in predicting noise levels Assumptions relating to the acoustic performance of rolling stock and track and

Tables setting out the predicted levels of operational noise at all individual receptors where the lowest observable adverse effect level (LOAEL) is likely to be exceeded

- 3.3.17 The NDR outlines the noise impact assessment related to the Proposed Scheme and discusses the noise mitigation strategy and associated noise impacts at receptors in line with Planning Forum Notes 10 and 14.
- 3.3.18 The report demonstrates that no mitigation with the specific purpose of controlling airborne noise is required in relation to this asset.

3.4 Construction Method

- 3.4.1 This section summarises the general construction methodology and the main temporary works arrangements. The arrangements described may alter, are for information and background only and do not form part of this request for approval.
- 3.4.2 The A46 box structure will be constructed offline to minimise impact on the strategic road network, before being jacked into place under a 10 day blockade. The outline construction sequence is detailed below:

Offline Activities (South of A46)

Divert and protect existing services (if required)

Verge hardening and installation of temporary vehicle restraint system on southbound verge

Remove topsoil and excavate area for offline box construction

Temporary diversion of Vodafone service under guide raft

Construct temporary guide raft

Construct base slab for box structure

Construct inclined wingwalls and piers for box structure Install precast beams for box, including permanent formwork Install bridge parapets and cast deck and Waterproof structure

Offline Activities (North of A46)

Divert and protect existing services (if required)

Verge hardening and installation of temporary vehicle restraint system on southbound verge

Remove topsoil and excavate area for offline UTX diversion

Divert existing Western Power Distribution 11kV & STW Main 500mm dia.

pipe within under track crossing trench and

Reinstate under track crossing, crossing and prepare box jack reception pit

Online Highway Works (in advance of possession).

Divert and protect existing services (if required)

Install temporary vehicle restraint system to protect verge

Strip topsoil from embankment slopes

Construct localised embankment widening

Install drainage culverts, pipes and headwalls and

Instal kerbs, signage and road restraint system

Works During Possession

Remove existing central reserve barrier

Remove existing pavement

Excavate down to formation

Jack box structure into position

Backfill behind sloping walls and install transition slabs

Complete installation of parapets and transitions and

Reinstate carriageway

- 3.4.3 The temporary construction compound that will manage the construction of the assets will be the A46 Kenilworth Bypass Overbridge Main Compound.
- 3.4.4 Approval has been obtained from the highway authority for Light Goods Vehicles (LGV)/ Heavy Goods Vehicles (HGV) routes.

3.5 Historic Environment

3.5.1 As set out within the HS2 Heritage Memorandum (part of the HS2 Environmental Minimum Requirements), a route-wide generic written scheme of investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) has been prepared in consultation with Historic England (HE) and the local planning authorities along the route. It sets out the research framework and general principles for design, evaluation, investigation, recording, analysis, reporting and archive deposition to be adopted for the design development and construction.

The HS2 Heritage Memorandum also sets out how the historic environment (including heritage assets and their setting) will be addressed during design. The HS2 Environmental Memorandum sets out the approach to landscape and visual mitigation which takes account of the historic environment.

Archaeological Summary Statement

- 3.5.3 The arrangements for the management of archaeology during construction are not a matter for approval under Schedule 17.
- 3.5.4 Following the guidance of the ES and HERDS the area has undergone archaeological trial trenching and mitigation by the Early Works Contractors (EWC). The final trial trenching report for this area has been produced (Document Number: 1EW04 LMJEV-REP-NS01_NL03-029014).
- 3.5.5 Trial trenching within the area of the site recorded archaeological features, including a number of gully features. No dating evidence was recovered from the features. These undated features have been interpreted as potentially relating to early drainage systems associated with Romano-British or Anglo-Saxon occupation, but there is no datable evidence to support this postulation.
- 3.5.6 Trench 79, to the south of the asset, contained an urned cremation grave and two pits, dated to the Anglo-Saxon period. It was noted that the dating of the cremation to the Early Anglo-Saxon period have the potential to contribute to the following HERDS objectives KC30, KC32 and KC100. As such, further mitigation in the form of test pitting was carried out in the area surrounding Trench 79 (Document Number: 1EW04-LMJ_WEX-EV-REP-NS01_NL03-029014). The test pitting did not record any archaeological features or deposits. However, artefacts were recovered from the soil including worked flints and modern material.
- 3.5.7 No further archaeological works are required in this area to mitigate the works described in this written statement.
- 3.5.8 The unexpected finds procedure (1MC08-BBV_MSD-EV-PRO-N000-100001) will be employed to mitigate any unexpected archaeology that has not previously been recorded by EWC.

Built Heritage

3.5.9 The HS2 Heritage Memorandum also sets out how the historic environment (including heritage assets and their setting) will be addressed during design. The HS2 Environmental Memorandum sets out the approach to landscape and visual mitigation which takes account of the historic environment.

3.5.10 Kingswood Farmhouse (STN036) reports a moderate adverse significant effect in the ES due to changes in its setting, partially caused by the visual appearance of the A46 Kenilworth Road overbridge. Woodland planting will be used to mitigate as far as possible this visual intrusion, screening much of the overbridge in views to the southeast from Kingswood Farmhouse. This is shown on the Landscape and Environmental Masterplan (1MC08-BBV_MSD-PL-DGA-NS01_NL03-140604).

3.6 Environmental Management During Construction

- 3.6.1 The Environmental Memorandum (part of the HS2 Environmental Minimum Requirements) sets out the arrangements for the management of environmental issues during construction and the Code of Construction Practice (CoCP) sets out specific details and working practices that apply. The CoCP is supported by Local Environmental Management Plans (LEMPs) which include specific measures by topic, relevant to each relevant local authority area. The LEMP relevant to the works subject to this Schedule 17 submission is High Speed Rail (London-West Midlands) Local Environmental Management Plan Warwick District Council (December 2017 and can be found here: ES Report (publishing.service.gov.uk).
- 3.6.2 Environmental management arrangements during construction do not form part of this request for approval of Plans and Specifications under Schedule 17.

4 Design Approach and Rationale

4.1 Introduction

- 4.1.1 All HS2 developments have been designed to the highest standard. The HS2 Design Vision considers three core design principles: People, Place and Time. The A46 Kenilworth Bypass Overbridge has been subject to design refinement, assuring that it produces minimal negative impact. Mitigation measures outlined in Section 3.3 of this Written Statement highlight how the proposal will be integrated into the landscape to preserve the quality of the local environment and landscape.
- 4.1.2 The A46 Kenilworth Bypass Overbridge is a road bridge that reinstates the A46 as it crosses over the HS2 railway tracks. The new carriageway will generally be at the same line and level as existing. The structure consists of a concrete box structure with three spans that will be jacked into position during a temporary closure of the road. The proposed design includes National Highways future provision for widening by an additional lane in each direction on the structure.

4.2 Key Design Considerations

Design Constraints

4.2.1 The following constraints have influenced the proposed design of the A46 Kenilworth Overbridge and associated works:

The main design constraint for this asset was the requirement to minimise traffic disruption on the A46 Highway.

The requirement for a road closure to enable construction of the overbridge and the design solution for a 10-days road closure which was subsequently agreed with National Highways.

The requirement to divert or relocate several existing utilities.

Design Evolution Since Final Preliminary Design

- 4.2.2 This section explains the changes from the Final Preliminary Design (FPD) (the design used for the ES assessment.
- 4.2.3 At FPD the structural form for the overbridge was not specified. An initial sift process was carried out through a series of qualitative value engineering workshops with scoring based on multiple design criteria including whole life costing.

- 4.2.4 At first consolidation, design had been started based on a top-down construction method but following discussions between HS2, BBV and National Highways regarding traffic management, BBV proposed a jacked box solution that has received an agreement from National Highways.
- 4.2.5 HS2 then instructed BBV to change the consolidation design to develop the jacked box option as it appears to be the only solution compatible with National Highways' expectations in terms of traffic management. This solution was highly rated in the sift report as it minimises traffic disruption during construction and risks during the road closure.
- 4.2.6 The proposed design is the result of direct engagement with National Highways. The short closure period acceptable to National Highways ultimately dictated the implementation of the jack box design solution.
- 4.2.7 Warwickshire County Council, Stoneleigh Park Estate, Severn Trent Water, Western Power Distribution, Vodafone and the Kenilworth Golf Course have been consulted during the scheme design and consolidation. National Highways' main concern is the diversion of utilities that were not already in the carriageway through the overbridge, but BBV is currently trying to resolve this. Warwickshire County Council require the road closure of the A46 not to coincide with the road closure of Dalehouse Lane due to local road network operational capacity.



Options Considered

- 4.2.8 At the consolidation stage of design (1.0), the overbridge was developed as a cast in situ top-down structure. Three bridge forms were considered at the first consolidation design. However, these design options all involved several months of road closure during construction which was not considered acceptable by National Highways.
- 4.2.9 Further design options were considered with the aim of minimising disruption on the A46 and reducing the duration of the road closure keeping it to a 10-day blockade.
- 4.2.10 Following discussions with National Highways, a jacked box solution was proposed as it was the only solution that was compatible with National Highways expectations in terms of traffic management. The jack box structure would be cast offline and pushed to its final position. A single span and triple span jacked box design solution was considered viable. Further analysis of the two options was undertaken against the 10 days road closure requirement and potential risks during the push to its final position. The analysis identified the triple span jacked box solution as the preferred option to bring forward.

Selected Option

4.2.11 Following engagement with National Highways, an updated consolidation design (2.0) was agreed with a triple-span jack box solution. This was the only viable option which reduces the road closure duration to the agreed 10 days blockade.

4.3 Consideration against the relevant grounds for refusal under Schedule 17

4.3.1 As set out in section 3 above, the proposed development includes a range of activities for which approval of Plans and Specifications is required, in line with Schedule 17 of the HS2 Act. These activities fall into the following categories:

Building works
Earthworks
Fences and walls

Buildings and/or Structures

4.3.2 As detailed in Section 3 above, a bridge structure – A46 Kenilworth Bypass Overbridge is proposed.

4.3.3 Possible grounds for refusal relating to buildings and/or structures are set out in Section 2 of Schedule 17. An assessment of the proposed development against these grounds is set out in Table 4 below:

Table 4: Possible grounds for refusal relating to building works

That the design or external appearance of the works ought to, and could reasonably, be modified— (i) to preserve the local environment or local amenity,

Possible Grounds for Refusal

Assessment of Proposed Development

The overbridge is required in this vicinity to allow the existing A46 Kenilworth Highway to cross over the proposed rail alignment that is within Glasshouse Wood Cutting. This will maintain the connectivity of the A46 highway.

The design of the overbridge structure has been through an extensive design development process to ensure a carefully considered high quality design. Highways England, Warwickshire County Council, Stoneleigh Park Estate, Severn Trent Water, Western Power Distribution, Vodafone and the Kenilworth Golf Course have been consulted during the scheme design and consolidation.

As detailed above (in the design constraints section), a key consideration for this asset was traffic management and minimising disruptions on the A46. Following discussions with Highways England, the selected design option – jacked box option – was found to be the only solution compatible with National Highway expectations in terms of traffic management. This solution was highly rated in the sift report as it minimises traffic disruption during constructio and risks during the road closure.

The design of the overbridge generally adheres to the HS2 design vision principles aligning with the common architectural language of the HS2 works. The parapet geometry has been amended to meet the updated Natior Highway standards for containment level whilst incorporating HS2 system safety and security requirements.

The parapet now includes a device to deflect errant vehicles back towards the carriageway. This angled feature at the bottom on the inner face could be used as a toe-hold, and so the parapet has had to increase in height. The top is now splayed to reduce the sense of containment for users of the bridge. Therefore, the parapet is non-CDE complaint in terms of height and the design of the splayer top. However, the design of the structure adopts CDE architectural language in terms of utilising a simple pallet of materials, keeping heights and the scale of physical development to the minimum required, and ensuring that appropriate landscape mitigation is undertaken to provic long-term screening.

	It is considered that there is no reason that the design or
	external appearance of the overbridge ought to, or could reasonably, be modified to better preserve the local environment or local amenity.
(ii) to prevent or reduce prejudicial effects on road safety or on the free flow of traffic in the local area, or	The proposed overbridge will carry a public highway an therefore will have impacts on road safety and the free flow of traffic.
	The design of the structure has been governed by minimising the disruption of the A46 Highway and ensuring road safety during the road closure. The design was developed in discussions with National Highways. The overbridge and reinstatement of the A46 will be constructed on the existing alignment, a road closure therefore be required. The main closure required to insthe structure is anticipated to last approximately 10 days.
	The A46 box structure will be constructed offline to minimise impact on the strategic road network, being jacked into place under a 10 day blockac. The selected design is the only solution that minimises t disruption during construction and risks during the closure.
	The proposed design also includes Highways England future provision for widening by an additional lane in e direction on the structure. The agreement between National Highways and HS2 for future proofing is that permanent structure will contain an additional lane in each direction.
	Vehicle Restraint Systems are proposed leading up to ε away from the overbridge. The vehicle restraint sys are a safety measure to deflect errant vehicles back towards the carriageway.
(iii) to preserve a site of archaeological or historic interest or nature conservation value.	As set out in Section 3.3 the proposed development is not located in a particularly sensitive area with regards to historic interest or nature conservation.
	Kingswood Farmhouse (STN036) reports a moderate adverse significant effect in the ES due to changes in its setting, partially caused by the visual appearance of the A46 Kenilworth Road overbridge. Woodland planting will be used to mitigate as far as possible this visual intrusion, screening much of the overbridge in views to the southeast from Kingswood Farmhouse. Therefore, the overbridge structure is not considered like to significantly impact heritage assets in the vicinity.
That the development ought to, and could reasonably, be carried out	The proposed development relates to a Scheduled Work with a defined limit of deviation. There is no opportunity
elsewhere within the development's	locate the bridge elsewhere while remaining within this
permitted limits.	permitted Limit of Deviation.

Earthworks

- 4.3.4 As detailed in Section 3 above, highways earthworks are required on either side of the proposed overbridge.
- 4.3.5 Possible grounds for refusal relating to earthworks are set out in Section 3 of Schedule 17. An assessment of the proposed development against these grounds is set out below in Table 5:

Table 5: Possible grounds for refusal relating to earthworks

Possible Ground for Refusal	Assessment of Proposed Development
That the design or external appearance of the works ought to, and could reasonably, be modified — (a) to preserve the local environment or local amenity,	Highway earthworks are required on either side of the proposed overbridge in this location to enable the highway realignment to cross over the railway tracks. The footprint and gradients of the proposed earthworks are a function of the heights required to meet engineering requirements and the extent of Act limits in the location. The design does all that is practicable to preserve and enhance the local environment and local amenity. The proposed earthworks tie in with the existing road with the verge
	narrowing down to the existing verge width at the end of the work area. Landscape planting is used on the embankment to as far as possible integrate the proposed works into the local landscape and surrounding context. Therefore, it is considered there is no reason that these earthworks ought to, or could reasonably be, modified to preserve the local environment or local amenity.
(b) to prevent or reduce prejudicial effects on road safety or on the free flow of traffic in the local area, or	The proposed earthwork carries the A46 which is a public highway over the HS2 railway tracks. Construction of the asset will require an approximately 10-day closure of the A46 road, but this is identified as the least disruptive design solution. Vehicle Restraint Systems are proposed on
	either side of the highway. The vehicle restraint systems are a safety measure to deflect errant vehicles back towards the carriageway.
(c) to preserve a site of archaeological or historic interest or nature conservation value.	As set out in Section 3.3 the proposed development is not located in a particularly sensitive area with regards to historic interest or nature conservation.

Possible Ground for Refusal	Assessment of Proposed Development
	Kingswood Farmhouse (STN036) reports a moderate adverse significant effect in the ES due to changes in its setting, partially caused by the visual appearance of the A46 Kenilworth Road overbridge. Woodland planting will be used to mitigate as far as possible this visual intrusion, screening much of the overbridge in views to the southeast from Kingswood Farmhouse. Therefore, the overbridge structure is not considered likely to significantly impact heritage assets in the vicinity.
If the development does not form part of a scheduled work, that the development ought to, and could reasonably, be carried out elsewhere within the development's permittec limits.	The location of the highway earthworks is determined by the location of the A46 Kenilworth Overbridge which relates to a Scheduled Work that cannot be located elsewhere. The location of the earthworks elsewhere within the development's permitted limits is therefore not an applicable consideration.

Fences and walls

- 4.3.6 As detailed in Section 3 above, Vehicle Restraint Systems, which is considered a fence for Schedule 17, are proposed on either side of the overbridge.
- 4.3.7 Possible grounds for refusal relating to fences and walls are set out in Section 3 of Schedule 17. An assessment of the proposed development against these grounds is set out below in Table 6:

Table 6: Possible grounds for refusal relating to fences and walls

Possible Ground for Refusal	Assessment of Proposed Development
That the development ought to, and could reasonably, be carried out elsewhere within the development's permitted limits.	The location of the vehicle restraint system is determined by the location of the A46 Kenilworth Overbridge which relates to a Scheduled Work that cannot be located elsewhere.
	The vehicle restraint system is positioned at this location as a safety barrier to prevent vehicles accidently going off the highway and into the rail tracks.

Possible Ground for Refusal	Assessment of Proposed Development
	The presence of the vehicle restraint system is an absolute requirement in the interest of public safety and therefore there is no opportunity for it to be located elsewhere within the development's permitted limits.

4.4 Conclusion

4.4.1 In conclusion, there is no reason why the proposed option for the A46 Kenilworth Bypass Overbridge ought to or could reasonably be modified. The design has been developed in accordance with Information Paper - D1: Design Policy11 and whilst the design of development should be sympathetic to local context, environment, and social setting, it must also meet the objectives of maintenance and cost/quality decisions and provide the best value to funders.

¹¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672265/D1 - _Design_Policy_v1.8.pdf

5 Pre-submission Consultation

5.1.1 Pre-submission consultation with the Local Planning Authority, statutory consultees and other relevant stakeholders is summarised in Table 7 below.

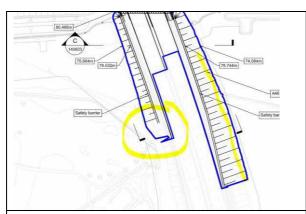
Table 7: Pre-submission Consultation with LPA and Statutory Consultees

Consultee Name	Consultation Date	Method of Consultation / Attended by	Summary of Consultation Outcome
Kenilworth Golf Club	Various meetings: 15/05/2018 08/08/2018 30/10/2018 11/08/2020 03/11/2020 11/02/2021 19/02/2021 19/03/2021 02/06/2021 20/07/2021 15/10/2021 12/11/2021 18/02/2022	Attended by Kenilworth Golf Club, HS2, BBV, D.JV.	The A46 highway alignment is next to the Golf club in the north west section. Potential interface. Planting and Landscape were discussed.
Highways England now National Highways	25/11/2020	Attended by Highways England, now National Highways, BBV, HS2.	New consolidation design to consider jacked box.
Highways England now National Highways	18/03/2021	Highways England, now National Highways, BBV, HS2.	Utilities UTX diversions and requirements confirmed. Further discussions on drainage solutions.
Woodland Trust, Warwickshire County Council	08/09/2022	Meeting with presentation attended by DJV, BBV, Jack Taylor from Woodland Trust, David Lowe from Warwickshire County Council.	Reviewed the mitigation proposals alongside the Glasshouse assets and discussion included opportunities to promote connectivity east to west through the asset. Ongoing.
Freys sinet	21/07/2022 – 04/01/2023	Attended by Freyssinet, BBV, D.W.	Discussion around the detailed design of the A46 Kenilworth Bypass Overbridge.

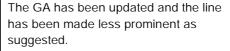
Consultee Name	Consultation Date	Method of Consultation / Attended by	Summary of Consultation Outcome
Vodafone	20/05/2021 27/05/2021	Attended by Vodafone, BBV, D.V.	Discussions around necessary cable diversions.
Warwickshire County Council	08/09/2022	WCC, BBV, DJV, Lead Campaigner Ancient Woodland at the Woodland Trust	Mammal Passage – no mitigation measures recommended at Consolidation. However, local authority want additional mammal passages. This cannot be incorporated in the design, a separate passage may be required. Discussion ongoing. Raised again during Stakeholder Engagement Session for Glasshouse wood held on the 08/09/2022. Warwickshire County Council concerned about the current bottle neck created between A46 and Stareton Road and are pushing for at least space under the overbridge for passage of species. DJV exploring as part of the stakeholder engagement process.
Consents – WCC Highways	08/12/2021	Attended by WCC, DJV, HS2 and Warwickshire Police	Dalehouse Lane proposed speed reduction from 50mph to 40mph. Three metre widths either side of the refuge and buff surfacing included. Works do not affect the permanent HS2 works.

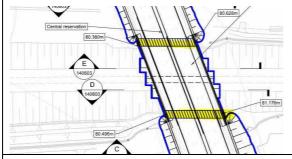
Consultee Name	Consultation Date	Method of Consultation / Attended by	Summary of Consultation Outcome
Warwick District Council	05/04/2023	Letter / email	Draft Schedule 17 submitted to WDC for pre-application consultation.
	15/09/2023	Letter / email	Pre-application consultation responses received from WDC.

Table 8: Comments Raised by WDC During Pre-Application and the Applicant's Response WDC Comment Applicant Response The sections and elevations would benefit from Drawings updated. A description of the description of vehicle barrier materiel (i.e. 'steel materials of the vehicle restraint system is now included in the section and post and rail') Outer edge of parapets would benefit from elevation drawings and the outer edge heavier linework to make it obvious where they of the parapet has been updated as end, as the transition panels may be a confusing suggested. element for the un-initiated to understand (example below). The proposed earthworks need to be shown to tie The GA drawing has been updated to in with those of the existing road. show that the earthworks tie in with that of the existing road. The verges narrow down to existing verge width at the end of the works area.



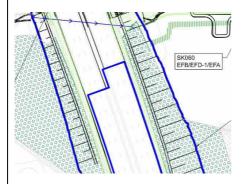
Could possibly remove bridge abutment lines to avoid confusion to others looking at drawing, or a least make the lines far less prominent.





General hatch alignment on drawing needs amending. Planting (hedges and grass) overlap maintenance access track. Showing landscape hatching over the asset where it is on the ground below it appears to be causing confusion with consultants. When landscape proposals are below an asset could the asset be greyed, or proposals clearly labelled to be the embankment planting below.

The LEMP is provided for information and is not for approval at this stage. The LEMP is a draft document and an updated and final LEMP (with a more accurate hatch alignment) will be submitted at the BIU stage.



Drawing number 1MC08-BBV_MSD-PL-DGA-NS01_NL03-140604 shows (indicatively) that there is a green verge that spans the bridge except for a central portion immediately above the line. I welcome this double width of greening of the

There is no green verge proposed on the bridge. This was a hatching / draughting error on the LEMP rather than any intention to provide green verges on the bridge. There are green

bridge but would like to see it extended across th entire bridge. This would enable smaller species to cross the railway line. However, if the routes were to encourage larger species movement (e.g. deer and badger) then I would suggest there is a physical separation in the form of a fence between the carriageway and bridge parapets. However, I am encourage and supportive of this approach if complete green verge is created either side of the carriageway. May I recommend a further plan or cross section drawing of the bridge deck to illustrate how these green verges will be accommodated within the bridge. I also support the written statement directing species to the Finham and Avon Viaducts as these are safer place to cross the line for larger mammals. Appropriate to acknowledge comments in table of response within the pre-application submission of the WS and advise that the landscape design is to be finalised and agreed as part of a schedule 17 BIU application. Note earlier comments on LEMP which appears to be adding to the confusion here so worthy of a written response.

verges at each side on approaches to the bridge but this switches to concrete with asphalt surface on the bridge as required for drainage purposes. Drainage on the bridge is critical for durability of the structure and avoidance of water damage. However, provision of a green verge on the bridge would require special drainage provisions which are not currently included in the asset design. The LEMP (drawing ref: 1MC08-BBV_MSD-PL-DGA-NS01_NL03-140604) has been amended to show that there i no green verge proposed on the bridge Work on the LEMP is ongoing and is provided for information. An updated and final LEMP will be submitted at the BIU stage.

6 Construction Programme

6.1.1 A high level programme for the works subject to this submission and how they fit into the overall programme for other works in the area is contained in Table 9. The programme for works on site may vary from the indicative dates shown.

Table 9: Proposed Programme and Sequence of Works

Anticipated Start on Site Date (quarter/year)	Activity	Estimated Completion of Works (quarter/year)
Q1 2021	Site Mobilisation	Q1 2023
Q3 2022	Offline excavation south	Q1 2023
Q2 2023	Offline excavation north	Q2 2023
Q2 2023	Guide Raft construction	Q3 2023
Q2 2023	Divert STW Main & WPD 11kV	Q3 2023
Q4 2023	Construct base slab	Q1 2024
Q1 2024	Construct sloping walls	Q2 2024

Anticipated Start on Site Date (quarter/year)	Activity	Estimated Completion of Works (quarter/year)
Q3 2024	Install precast beams	Q3 2024
Q3 2024	Install parapets and deck waterproofing	Q3 2024
Q2 2024	Construct embankment widenings	Q4 2024
Q3 2024	Install permanent drainage and highway works	Q4 2024
Q1 2025	Road closure: 10-day possession	Q1 2025
Q1 2025	Realign utilities through permanent structure	Q2 2025

7 Other Consents

7.1.1 Other main consents likely to be required for the works are summarised in Table 10 below. Consent requirements may alter during design development and further consents not identified in may be required.

Table 10: Other Consent Requirements

Consent	Works Requiring Consent
HS2 Act, Schedule 33, Part 5	Permanent, temporary works or operations that are like to affect the flow, level or quality of main rivers, associated floodplains and groundwater.
HS2 Act, Schedule 17	Glasshouse Wood Cutting
HS2 Act, Schedule 17, Bringing into use	A46 Kenilworth Bypass Overbridge
HS2 Act, Schedule 4	Consent will be sought for any permanent and or temporary works or operations associated with the A46 Kenilworth Bypass (National Highways). Details of the specific consents required is to be confirmed.