
Appendix B: Landscape and Visual Constraints

South Wokingham Distributor Road Options Appraisal – Landscape and Visual Technical Note

May 2014

Introduction

This study appraises the likely significant landscape and visual effects in relation to 3 aspects of the proposed South Wokingham Distributor Road scheme. The 3 aspects of the scheme include:

- Three proposed route options for the Proposed South Wokingham Distributor Road: Route Option A (including Route Option A Alternative Links A1, A2 and A3), Route Option B (including Route Option B Alternative Link B1) and Route Option C (including Route Option C Alternative Link C1);
- Six Local Study Areas where improved access across the railway is proposed; and
- Proposed improvements to Waterloo Road / Peacock Lane (Route D).

Figures A1a 'Environmental Constraints' and A1b 'Aerial Photography View' present the 3 aspects of the scheme in relation to environmental designations and general context in relation to the surrounding area. Figure A5 specifically relates to the study area of the Waterloo Road / Peacock Lane improvements.

These 3 aspects to the scheme are described in further detail below:

Proposed South Wokingham Distributor Route Options

- Route Option A – Route Option A starts at the A321 Finchampstead Road at the junction with Oakley Drive. It runs approximately west to east, immediately south of the railway and ends just North of the railway line, approximately 300m east of the crossing of Waterloo Road. The proposed route will cross Emm Brook, Public Rights of Way 9 and 10, Easthampstead Road and Waterloo Road.
- Route Option B – Route Option B begins in the same location as Route Option A, on the A321 Finchampstead Road at the junction with Oakley Drive, and runs broadly east, diverting south round the existing detention pond. The route also ends in the same location as Route Option A, just north of the railway line, and crosses the Emm Brook, Public Rights of Way 9 and 10, Easthampstead Road and Waterloo Road.
- Route Option C – This route runs broadly west to east, south of Route Options A and B. It also begins in the same location, on the A321 Finchampstead Road at the junction with Oakley Drive. Route Option C ends north of the railway, in the same location as Route Options A, B and the alternatives. Route Option C crosses the Emm Brook east of Chapel Green, Public Rights of Way 9 and 10, Ludgrove School private access, Heathlands Road, Easthampstead Road and Waterloo Road.

Alternative Alignments in relation to the Route Options

- Route Option A Alternative Link 1 – A link between Route Option B and Route Option A at Knoll Farm. This link provides an alternative route for Route Option A which does not require land from Knoll Farm.
- Route Option A Alternative Link 2 - Link between Route Option A and Route Option B to the west of the existing detention pond. This link provides an alternative route for Route Option A to the south of the detention pond which enables the Easthampstead Road junction to be located further south at the proposed Route Option B Easthampstead Road crossing.
- Route Option A Alternative Link 3 - Link between Route Option A and Route Option B. This link provides an alternative route from Route Option A passing through the existing detention pond to the proposed Route Option B Easthampstead Road crossing.

- Route Option B Alternative Link B1 –This link provides an alternative more southern and straight alignment for Route Option B east of Tesco which does not require land acquisition from Knoll Farm.
- Route Option C Alternative Link C1- Link between Route Option C to the south of the existing detention pond to Easthampstead Road, traveling down Easthampstead Road to re-join Route Option C. This link provides an alternative route for Route Option C to access Easthampstead Road which avoids the Ludgrove School private access and Heathlands Road crossings.

Local Study Areas

Six local study areas (A to F) have also been considered within this note and are identified on Figure A1b.

Footbridges across the railway are proposed at each location. These are likely to have steps and lifts/ramps to provide disabled access. For the purpose of this assessment, at each local study area potential constraints within the highway boundary for minimum of 150m north of the railway and 150m radius south of the railway have been identified.

- Local Study Area A is centred over the A321 Finchampstead Road, over the roundabout intersection with Oakley Drive, and is approximately 140m long.
- Local Study Area B is centred at the Knoll Farm, to the south of Gipsy Lane, and is approximately 60m long.
- Local Study Area C is centred at an existing footbridge over the railway line, to the south of Gipsy Lane, to the east of Local Study Area B, and is approximately 60m long.
- Local Study Area D is centred on the Easthampstead Road Level Crossing, and is approximately 70m in length.
- Local Study Area E is centred over the Waterloo Road Level Crossing, and is approximately 80m in length.
- Local Study Area F is approximately 340m in length, at the point of the South Wokingham Distributor Road roadbridge over the railway line, from below to a point approximately 150m north of the railway line.

Waterloo Road / Peacock Lane Proposed Improvements (Route D)

The proposed improvements commences on the corner of Waterloo Road, just north of the woodland parcel to the west, and continues east along Waterloo Road and Peacock Lane until its cessation approximately 300m east of Easthampstead Park. All works are due to be completed within the highway boundary with the exception of works at the junction between Waterloo Road, Old Wokingham Road and Peacock Lane, where some additional land would likely be needed to the south west.

Definitions

Given the relative proximity of the proposed distributor road routes, six local study areas and improvements to Waterloo Road / Peacock Lane, which share some of the same existing baseline, they are herein collectively termed '**the overall study area**'. Where there are differences, they will be referred to as Route Option A, Route Option A Alternative Link A1, A2, or A3, Route Option B, Route Option B Alternative Link B1, Route Option C, Route Option C Alternative Link C1, Local Study Area (A – F) or Waterloo Road / Peacock Lane improvements respectively.

In relation to the three route options where they share the same existing baseline, they will herein be referred to as '**the Site**'.

The term '**Local Study Areas**' will be used to refer to the six areas where work is proposed to improve access across the railway.

The advice presented within the summary of constraints at the end of this technical note must be considered both generic and preliminary at this stage and will need updating when more information becomes available regarding the likely infrastructure scenarios. For ease of reading, the constraints identified within this technical

note are colour coded in relation to a 'traffic light system' according to their significance on the scheme. Below identifies the colour coding:

- **Red** – Constraint to Development.
- **Amber** – Constraint to Planning/Major Cost Implication
- **Green** – Manageable constraint through scheme adaptation/mitigation measures/surveys (some cost implications).

Text left in black is not considered to represent any form of constraint and provides background information and/or recommendations to further avoid environmental impacts and/or to enhance the existing environment.

Methodology

A desk based review of existing information in the public domain was undertaken in order to identify existing potentially sensitive landscape receptors within or adjacent to the Overall Study Area including landscape features, landscape character, and potentially sensitive visual receptors which may constitute a constraint to the proposed works. The desk based review included review of existing information including aerial photographs and ordnance survey maps.

The study area for the purposes of this constraints review has been generally defined as a 1 km radius from the centre of the Site for statutory designated site searches, and 500m radius search area for listed buildings (due to their more contained setting).

The report is broadly based on the methodology set out in the following best practice guidance documents:

- *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition. The Landscape Institute and Institute of Environmental Management and Assessment (2013); and
- Interim Advice Note 135/10 *Landscape and Visual Effects Assessment*. The Highways Agency (2010).

The landscape and visual baseline study has also been undertaken with reference to the 'Landscape' sub-objective from the Department for Transport WebTAG Environmental objective (TAG Unit 3.3.7) since the proposed routes lie within a predominantly rural context.

Desk Study

Route Options

Topography and Hydrology

Route Options A, B and C ('the Site') are all located within a semi-rural context, lying at around 50m Above Ordnance Datum (AOD) at the western end and rising to almost 70m AOD at the eastern extent beyond Waterloo Crossing.

A number of ponds, ditches and streams are located throughout the Site, primarily associated with adjacent highways and development (balancing ponds). All of the proposed road alignments are shown as crossing the Emm Brook at various points along their alignment. A review of implications of these crossings and alignment on the Emm Brook from an ecological perspective are outlined in the Ecology Technical Note, with the hydrological implications outlined in the Water Environment Technical Note. However, the Brook contributes to the local character of the Site.

Land Use of the Site and Surrounding Areas

Route Options A, B and C are all primarily located within agricultural land, with sections of the proposed routes crossing over existing roads. Electricity pylons, scattered farmsteads and paddocks are also located within the

Site. There are hedgerows, trees and small copses through which the routes pass, including sections of trees protected by Tree Preservation Orders (TPOs) (see Figure A1a). To the north of all the Sites lies the railway line with the eastern extent of Wokingham town beyond. To the west lies the western extent of Wokingham town and Bracknell and to the south, beyond Ludgrove, is an agricultural landscape of scattered farmsteads, access roads and woodland, with further towns and villages beyond. To the east, lies further agricultural land and the built form of Bracknell.

Cultural Context

Although none of the proposed routes will directly impact upon any listed buildings, their significance in terms of landscape is defined in relation to their setting. According to English Heritage's *Conservation Principles, Policies and Guidance* (2008) new development should, 'aspire to the quality of design and execution related to its setting in order to be valued now and in the future as a means of demanding respect for the significance of a place in its setting'.

The listed buildings located within 500m of Route Option A/ Route Option A Alternative Link A1; A2 and A3; within 500m of Route Option B and Route Option B Alternative Link B1 and listed buildings located within 500m of Route Option C and Route Option C Alternative Link C1 are outlined in the table below.

Table 1: Listed buildings within 500m of the Site

Route Options affected	Name	Address	Grade
A; B; C	Lock's House	Waterloo Road	II*
A; B; C	Lock's Barn	Waterloo Road	II
A; B; C; C1	Britton's Farmhouse	Waterloo Road	II
A; B; C; C1	Barn at Britton's Farm approximately 25 metres north east	Waterloo Road	II
A; A1; B; B1; C	Henry Lucas Hospital and Attached Water Pumps	Chapel Green	I
A; A1; B; B1; C	Garden Wall at Lucas Hospital	Chapel Green, Luckley Road	II
A; A1; B; B1; C	Outbuildings At Lucas Hospital	Chapel Green	II*
A; B; B1; C	The Duke's Head Public House	Denmark Street	II
A	The Lord Raglan Public House	30 Denmark Street	II
A	The Crispin Public House	43 and 45 Denmark Street	II
A		47 and 49 Denmark Street	II
A		51 and 53 Denmark Street	II
A; A1; B; B1; C	Southbrook	68 Finchampstead Road	II
A; A1; A2; B; B1; C	7, South Drive		II
A; A2; A3; B; C; C1	Wood's Farm	Easthampstead Road	II
B; C1	Pearce's Farmhouse	Easthampstead Road	II
B; C; C1	Barn Approximately 10 Metres North West Of Pearce's Farmhouse	Easthampstead Road	II
B; C; C1	Granary Approximately 8 Metres North West Of Pearce's Farmhouse	Easthampstead Road	II
B; C; C1	The Garden House	Holme Green	II
C; C1	Holme Grange School	Holme Green	II

There is one conservation area within 1 km of the Site, namely Wokingham Town Centre Conservation Area, approximately 80m to the north of Route Option A. There is no Conservation Area appraisal currently available for this conservation area.

There are no Scheduled Ancient Monuments or Registered parks and gardens located within 2km of the Site. Archaeological sites are covered in the Historic Environment Technical Note.

Designated Nature Conservation Sites

There is one Site of Special Scientific Interest located within 2km of the Site, namely Wykery Copse, located approximately 2km to the north-east of the Site. There are no other national statutory designated nature conservation sites within 2km of the Site and there are no Local Nature Reserves (LNRs) within 1km of the Site. Information on non-statutory wildlife sites are covered in the Ecology Technical Note.

Landscape Designations

There are no national parks, country parks, Areas of Outstanding Natural Beauty (AONBs) or similar statutory landscape designated sites within 2km of the Site.

There are no designated Sites of Urban Landscape Value, Areas of Special Landscape Importance or Sites or Areas of Special Character within 1km of the Site.

Public Rights of Way

There are a number of public rights of way within and surrounding the Site, as outlined in the table below.

Table 2: PROW within 500m of the Site

Route Options affected	PROW type	PROW number	Distance and direction from site
A; A3; B; C and C1	Footpath	5	40m south of Route Option A; 365m south-east of Route Option A3; adjacent to Route Option B; and adjacent to Route Option C and C1.
A, A1; A2; A3; B; B1 and C	Footpath	10	Crosses Route Options A, A1; B; B1 and C; 400m west of Route Option A2; 500m west of Route Option A3
A and B	Footpath	20 (Cockpit)	395m to the north of Route Option A; 430m to the north of Route Option B;
A; A1; B; B1 and C	Footpath	21 (Luckley Path)	375m north of Route Option A; 450m north of Route Option A1; and 420m north of Route Option B; 470m to the north of Route Option B1; 470m to the north of Route Option C;
A; B and C	Footpath	23	400m to the north-west of Route Option A; B and C
A; A1; A2; B; B1 and C	Footpath	24	Crosses or adjacent to Route Options A; A1; B; B1 and C; and 455m north-west of Route Option A2.
A; A1; B; B1 and C	Footpath	25	Crosses or adjacent to Route Option B; B1; and C; 10m south of Route Option A; and 250m south-west of Route Option A1
A; B and C	Byway	26 (Clay Lane)	150m north of Route Option A; and 265m north-west of the eastern extent of Route Option B and C
B1 and C	Byway	28	440m south of Route Option B1; 300m south of Route Option C
A; B; C and C1.	Byway	30	335m south-east of Route Option A 300m south-east of Route Option B; 285m south-east of Route Option C and 365m south-east of Route Option C1.

Permissive Paths and Public Open Space

There are no permissive paths or areas of open space that contain permissive paths within 500m of the Site.

Vegetation within the Site

Route Option A crosses a hedgerow / line of trees and enters an area of pasture and on through a patch of trees with scattered scrub. As it approaches the railway line, it runs approximately parallel to the track, through pasture, a patch of scattered trees with buildings and their associated gardens, further pasture and a small parcel of woodland. It then crosses through agricultural land, Easthampstead Road, further agricultural land with hedgerows and a few scattered trees and then crosses Waterloo Road. The route then swings north through arable land and hedgerows to its endpoint north of the railway line.

Route Option A Alternative Link A1 connects the western end of Route Option B passing to the south of Knoll Farm, before connecting up with the line of Route Option A in agricultural land adjacent to the railway line. It passes through slightly fewer trees than Route Option A.

Route Option A Alternative Link A2 leaves Route Option A in agricultural land adjacent to the railway line (just to the east of where option A1 joins Option A). It travels in a short southerly direction across agricultural land to join Option B as it skirts around the south of the detention pond. It then follows the alignment of Route Option B across Easthampstead Road. This longer route crosses slightly more hedgerows than Route Option A.

Route Option A Alternative Link A3 leaves Route Option A in agricultural land adjacent to the railway line (just to the east of where option A2 leaves Route Option A). It travels in a largely straight, easterly direction across the detention pond to again join Route Option B at the Easthampstead Road crossing. This route crosses through a similar number of hedgerows and vegetation to Route Option A.

Route Option B crosses a hedgerow / line of trees and enters an area of pasture and on through a patch of trees with scattered scrub. It then passes through pasture and scrub, with scattered trees and patches of woodland before crossing a further hedgerow into agricultural land. The route then swings around the existing detention pond adjacent to Easthampstead Road through more pasture and agricultural land, after which it crosses further agricultural land, hedgerows, a few scattered trees and then Waterloo Road, beyond which it also swings north through arable land and hedgerows to its endpoint north of the railway.

Route Option B Alternative Link B1 connects the western end of the route at Finchampstead Road in a more southern and straight alignment. It crosses through fewer areas of trees than Route Option B.

Route Option C also runs broadly west to east, crosses a line of trees / hedgerow several times and some pasture. It also crosses an access track, runs through a building and the associated gardens, and scattered trees. It then runs through further pasture, along a parcel of woodland, across an access track several times, and through agricultural land before crossing Ludgrove road, further agricultural land, gardens and hedgerows either side of Heathlands Road, further grassland and tree belts to Easthampstead Road. It then crosses large agricultural fields edged with hedgerows, as well as Waterloo Road, before ending its route north of the railway,

Route Option C Alternative Link C1 diverts from Route Option C at the detention pond, where it remains north of Ludgrove road and instead crosses agricultural land in a shorter alignment to reach Easthampstead Road. It then follows the existing alignment of Easthampstead Road southwards to the junction with Route Option C south of Heathlands Road. This route directly crosses fewer hedgerows and tree groups, but runs alongside more tree lines than Route Option C.

Ancient Woodland

There are two blocks of ancient woodland within 1km of the Site, see Figure A1a, located to the east of all Route Options. The two blocks are outlined in the table below:

Table 3: Ancient woodland within 1 km of the Site

Route Options affected	Name	Description	Distance from Site
A, B and C	Big Wood	Planted ancient woodland sites (PAWS)	365m east
A, B and C	Big Wood	Ancient Semi-Natural Woodland (ASNW)	900m east

Tree Preservation Orders

There are a number of Tree Preservation Orders (TPOs) identified within or immediately adjacent to the Site, as shown in Figure A4 (Environmental Constraints Plan) and as outlined below:

- Route Option A and A1 contains approximately 6 area or individual TPOs within the route corridor (including a 15m buffer);
- Route Options A2, A3, B and B1 contain approximately 7 area or individual TPOs within the route corridor (including a 15m buffer);
- Route Option C contains approximately 11 area or individual TPOs within the route corridor (including a 15m buffer), including the large block of Broadleaved Semi-natural woodland north of Ludgrove School (a Local Wildlife Site); and
- Route Option C1 contains approximately 12 area or individual TPOs within the route corridor including the large block of Broadleaved Semi-natural woodland north of Ludgrove School.

Landscape Character

The study of Landscape Character is undertaken at different scales, with each larger scale adding greater detail onto the previous layer. Natural England has undertaken to characterise these areas of similar landscape character, resulting in the creation of National Character Areas (NCAs), which were updated in 2005.

There are a total of 159 NCAs and the Site falls into Countryside Character Volume 7: *South East and London*. Route Options A, A1 and A3 and the northern sections of Route Options B, B1, A2 and C all fall into within National Character Area 115: *Thames Valley*, with the southern sections of Route Options B, B1, A2, C and C2 (where the routes fall south of the detention pond) falling into National Character Area 129: *Thames Basin Heaths*.

The Thames Valley is a wedge-shaped area improvements from Reading to include the Bracknell, Slough, Windsor areas, the Colne Valley and the south-west London fringes. The key characteristics of the Thames Valley Character Area include the following:

- Hydrological floodplain of the River Thames, which as a landscape feature provides unity to the large areas of fragmented poor agricultural land;
- The western Thames valley which is wide and flat with the river barely discernible, occupying only a small part of the wider geological floodplain;
- Woodlands which characterise the north-western part of the Character Area, extending up to the southern edge of the Chiltern Hills;
- Within the south of the Character Area, the open Thames floodplain dominates with its associated flat grazing land becoming characterised by a number of formal historic landscapes on higher ground such as Windsor Park; and
- Towards London within the east of the Character Area, urban influences dominate with a dense network of roads including the M25 corridor, Heathrow Airport, railway lines, golf courses, pylon lines, reservoirs, extensive mineral extraction and numerous flooded gravel pits.

The Thames Basin Heaths comprise a distinct area of commonly unenclosed heathland and coniferous forestry developed on the acidic soils in the west of the Thames Basin. The key characteristics of the Thames Basin Heaths Character Area include the following:

- Particularly diverse landscape unified by the high incidence of heathland and coniferous forestry, the open unenclosed nature of which is unusual within the context of the south-east region;
- Heavily populated and developed area characterised by large towns plus numerous smaller settlements along transport corridors interspersed by open land;
- Important occupation area from Mesolithic to modern times based on exploitation of the rivers with numerous Prehistoric, Roman and medieval settlements, the latter of which extended along valley bottoms;

- Fragmented but often connected blocks of largely neglected remnant heathland as a result of early agricultural clearances and widespread development, with most heath retained on large commons or as Ministry of Defence training areas;
- The western part of the area is fairly well-wooded with grazed pasture but retains a heathy character due to the dominance of oak/birch/bracken/pine and remnant heath on small unimproved pockets of land;
- Variety and contrast is given by the wide grazed floodplain, drainage ditches, restored gravel workings and lush wetland vegetation associated with the Kennet Valley;
- Cultivated farmland and pasture is typically enclosed within small and irregularly shaped fields divided by hedgerows with small areas of wood and heath heavily used for horse grazing; and
- Large tracts of coniferous plantations or mixed wood with beech and birch are typical of much of the area, with significant areas of ancient woodland in the west.

The Site lies on the boundary of the two character areas and exhibits characteristics of both. To gain a more detailed understanding of the local character, Wokingham Borough Council (WBC) have undertaken their own character assessment, adopted as a Supplementary Planning Document (SPD) on 29th April 2004. The SPD characterises the landscape into a series of 14 landscape types and 30 character areas with a detailed description of each.

The Site falls entirely within character area N1: Holme Green Pastoral Sandy Lowland, the key characteristics of which include the following:

- Shelving to gently undulating landform underlain by a sandy geology;
- An agricultural landscape defined predominantly by pastoral farming contained within medium-sized and geometrically shaped fields and largely divided by post and wire and rough timber fencing. Speciality farms, including 'Pick Your Own', Christmas trees and unusual breeds such as ostrich and guinea fowl farms;
- Small scale 'hobby' farming including a number of equestrian paddocks and exercising areas bound by often unkempt fencing and supported by temporary-looking facilities such as caravans and sheds;
- Presence of small businesses indicates economic diversification aside from agriculture;
- Scrubby vegetation including wooded tributaries, shelterbelts with gorse, bramble and bracken;
- Dispersed settlement including large manors being used as educational establishments and hamlets;
- Recreational value in the form of a golf course and numerous footpaths and bridleways;
- A landscape evoking a generally peaceful character;
- Views of the southern fringes of Wokingham with some areas of land providing an important break between Finchampstead and Wokingham; and
- Pine clumps are a locally distinctive feature forming the approach to Wokingham.

The landscape of the Site displays many of these characteristics, including agricultural pasture fields, mixed field uses, mixed vegetation, and presence of footpaths.

Visual Context

There are a number of visual receptors within or adjacent to the Site, the primary ones being identified as follows:

- Users of Easthampstead Road; Waterloo Road; Finchampstead Road; and Oakley Drive;
- Residents along/ off Easthampstead Road; Waterloo Road; Finchampstead Road; Oakley Drive; Gipsy Lane; Heathlands Road; Ludgrove; and Chapel Green;
- Residents and visitors to Lucas's Hospital; Wood's Farm; Britton's Farm Peace's Farm; and Locks Farm listed buildings;
- Residents and visitors to the Knoll Farm; Chapel Green Cottages; White Horse pub (Easthampstead Road) and residents within Chapel green and north of Long Patch;
- Users of adjacent public rights of way network;

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- Users of the mainline railway line; and
 - Staff, pupils, workers and visitors to Ludgrove School.

Local Study Areas

Given the likely small-scale nature of the proposed works in the Local Study Areas, landscape and visual receptors and constraints are considered in relation to designations within or immediately adjacent to each Local Study Area Site only.

Local Study Area A

The key Landscape Constraints are as follows:

- Two TPO areas – one to the north-east of the study area and one to the south;
- Presence of mature vegetation, including trees; and
- Public Right of Way (footpath number 5) located to the east of the proposed works.

The key Visual Constraints are as follows:

- Residents and travellers along/ off Finchampstead Road to the south and north;
- Workers and visitors to Wokingham Industrial Estate to the west
- Workers and visitors to Tesco supermarket to the east
- Residents and travellers along/ off Oakley Drive to the north-west; and
- Users of footpath 5 to the east.

Local Study Area B

The key Landscape Constraints are as follows:

- Presence of mature vegetation, including trees.

The key Visual Constraints are as follows:

- Users of the mainline railway;
- Residents and travellers along/ off Gypsy Lane to the north; and
- Residents and visitors to properties around the Knoll Farm.

Local Study Area C

The key Landscape Constraints are as follows:

- One TPO on the south-east section of the proposed works; and
- Presence of mature vegetation, including trees (not covered by TPOs).

The key Visual Constraints are as follows:

- Users of the mainline railway;
- Residents and travellers along/ off Gypsy Lane to the north;
- Residents and visitors to properties around the Knoll Farm; and
- Users of footpath 10 to the east.

Local Study Area D

The key Landscape Constraints are as follows:

- TPOs on the southern section of the proposed works; and
- Presence of mature vegetation, including trees (not covered by TPOs).

The key Visual Constraints are as follows:

- Users of the mainline railway;
- Residents and travellers along/ off Easthampstead Road; and
- Residents off Waterloo Crescent.

Local Study Area E

The key Landscape Constraints are as follows:

- TPOs on the south-western section of the proposed works;
- Public Right of Way (byway number 26) located to the north of Local Study Area E; and
- Presence of mature vegetation, including trees (not covered by TPOs).

The key Visual Constraints are as follows:

- Users of the mainline railway;
- Residents and travellers along/ off Waterloo Road; and
- Users of byway 26 to the north.

Local Study Area F

The key Landscape Constraints are as follows:

- Two TPO areas, one on the western section and to the west of the proposed works and one on the northern section and to the north of the study area;
- Presence of mature vegetation, including hedgerows and trees (not covered by TPOs); and
- Presence of electricity pylons.

The key Visual Constraints are as follows:

- Users of the mainline railway.

Waterloo Road / Peacock Lane Improvements

The key Landscape Constraints are as follows:

- TPO areas to the western section of the study area along Waterloo Road/ Holme Green junction and one individual TPO located to the west of Oakwood Youth Challenge Centre along Waterloo Road;
- Setting of two listed buildings to the south (Lock's House and Locks Farm);
- Public Right of Way (byway number 30) located to the west of the of the proposed works;
- Presence of mature vegetation, including hedgerows and trees (not covered by TPOs); and
- Location of Big Wood Ancient Woodland (replanted) to the north of Waterloo Road.

The key Visual Constraints are as follows:

- Residents and travellers along/ off Waterloo Road;
- Users of byway 30 to the west;
- Residents and visitors to Big Wood Lodge and Big Wood House;
- Staff, workers and visitors to the Oakwood Youth Challenge Centre; and
- Residents and visitors to Lock's Farm and Lock's House listed buildings.

Summary of Landscape and Visual Constraints

General Constraints relating to All Route Options

The following constraints are applicable to all three Route Options (Route Options A, Route Option A Alternative Link A1/ A2/ A3, Route Option B, Route Option B Alternative Link B1, Route Option C and Route Option C Alternative Link C1):

- Potential adverse effect on local landscape character (including tranquillity and lighting) through a change in land use from one of a more tranquil, rural, agricultural nature with trees and hedgerows to one of noisy, active, built form. Encroachment of built form beyond the southern fringe of Wokingham, currently contained by the railway line;
- Potential alteration in local topography if the road is built on embankment or in cutting at any point;
- All route options and their alternatives pass close to, or within the setting of listed buildings, including the Grade II* Lock's House on Waterloo Road and Grade I Henry Lucas Hospital at chapel Green. The Site currently provides an agricultural and largely rural setting for the listed buildings which is also likely to provide some intervisibility due to proximity (within 500m). All the Options therefore have the potential to adversely affect the setting of some listed buildings;
- Potential change in visual amenity for travellers along Easthampstead Road; Waterloo Road; Finchampstead Road; and Oakley Drive;
- Potential loss of visual amenity for residents along/ off Easthampstead Road; Waterloo Road; Finchampstead Road; and Oakley Drive;
- Potential loss of visual amenity for users of the immediate public rights of way network, in particular footpaths 5, 10, 24 and 25. The footpaths will have to be diverted over/ under/ across or round the proposed road alignment;
- Potential loss of visual amenity for users of the wider public rights of way network, including footpaths 20 and 23 and Byways 26, 28 and 30;
- There will be a loss of some mature trees and sections of hedgerow, including trees protected by TPOs. The routes may potentially impinge upon the character and quality of Big Wood ancient woodland; and
- Potential adverse effect on the landscape characteristics and quality of the Wokingham N1 landscape character area.

Route Specific Constraints

Option A and Route Option A Alternative Link A1

- Potential change in the setting of 15 listed buildings, including the Grade I Henry Lucas Hospital and Grade II* Lock's House and Outbuildings At Lucas Hospital;
- Potential change in character, number and quality of the six area or individual TPOs within the route corridor;
- Potential change in visual amenity for travellers along Gypsy Lane;
- Potential change in visual amenity for residents along/ off Gypsy Lane
- Potential change in visual amenity for residents and visitors to the Knoll Farm;
- Potential change in visual amenity for users of footpath 21; and
- Potential change in visual amenity for users of and workers on the mainline railway line.

Route Option A Alternative Link A2 and A3 and Option B and Route Option B Alternative Link B1

- Potential change in the setting of 15 listed buildings including the Grade I Henry Lucas Hospital and Grade II* Lock's House and Outbuildings At Lucas Hospital;
- Potential change in character, number and quality of the seven area or individual TPOs within the route corridor;
- Potential change in visual amenity for travellers along Chapel Green;
- Potential change in visual amenity for residents along/ off Chapel Green; and
- Potential change in visual amenity for residents, workers and visitors to the Knoll Farm.

Option C and Route Option C Alternative Link C1

- Potential change in the setting of 15 listed buildings including the Grade I Henry Lucas Hospital and Grade II* Lock's House and Outbuildings At Lucas Hospital
- Potential change in character, number and quality of up to 12 area or individual TPOs within the route corridor;
- Potential change in visual amenity for travellers along Heathlands Road; Ludgrove; and Chapel Green;
- Potential change in visual amenity for residents along/ off Heathlands Road; Ludgrove; and Chapel Green;
- Potential change in visual amenity for residents, workers and visitors to Lucas's Hospital; Wood's Farm; Britton's Farm Peace's Farm; and Locks Farm listed buildings;
- Potential change in visual amenity for residents, workers and visitors to Chapel Green Cottages; White Horse pub (Easthampstead Road) and residents within Chapel green and north of Long Patch;
- Potential change in visual amenity for travellers along Chapel green and north of Long Patch; and
- Potential change in visual amenity for staff, pupils, workers and visitors to Ludgrove School.

Local Study Areas

Local Study Area A

- Potential change in character, number and quality of the two TPO areas within the location of the proposed works;
- Potential change in the character and quality of existing mature vegetation, including trees;
- Potential change in route/ access of Public Right of Way (footpath number 5) located to the east of Local Study Area A;
- Potential change in visual amenity for residents and travellers along/ off Finchampstead Road to the south and north;
- Potential change in visual amenity for workers and visitors to Wokingham Industrial Estate to the west;
- Potential change in visual amenity for workers and visitors to Tesco supermarket to the east;
- Potential change in visual amenity for residents and travellers along/ off Oakley Drive to the north-west; and
- Potential change in visual amenity for users of footpath 5 to the east.

Local Study Area B

- Potential change in the character and quality of existing mature vegetation, including trees;
- Potential change in visual amenity for users of and workers on the mainline railway;
- Potential change in visual amenity for residents and travellers along/ off Gypsy Lane to the north; and
- Potential change in visual amenity for residents, workers and visitors to properties around Knoll Farm

Local Study Area C

- Potential change in character, number and quality of the TPO on the south-east section of the Local Study Area;
- Potential change in the character and quality of existing mature vegetation, including trees;
- Potential change in visual amenity for users of and workers on the mainline railway;
- Potential change in visual amenity for residents and travellers along/ off Gypsy Lane to the north;
- Potential change in visual amenity for residents, workers and visitors to properties around Knoll Farm; and
- Potential change in visual amenity for users of footpath 10 to the east.

Local Study Area D

- Potential change in character, number and quality of the TPOs on the southern section of the Local Study Area;
- Potential change in the character and quality of existing mature vegetation, including trees (not covered by TPOs);
- Potential change in visual amenity for users of and workers on the mainline railway;
- Potential change in visual amenity for residents and travellers along/ off Easthampstead Road; and
- Potential change in visual amenity for residents off Waterloo Crescent.

Local Study Area E

- Potential change in character, number and quality of TPOs on the south-western section of the Local Study Area;
- Potential change in route/ access of Public Right of Way (byway number 26) located to the north of Local Study Area E;
- Potential change in the character and quality of existing mature vegetation, including trees (not covered by TPOs);
- Potential change in visual amenity for users of and workers on the mainline railway;
- Potential change in visual amenity for residents and travellers along/ off Waterloo Road; and
- Potential change in visual amenity for users of byway 26 to the north.

Local Study Area F

- Potential change in character, number and quality of the two TPO areas on the western section and northern section of the Local Study Area;
- Potential change in the character and quality of existing mature vegetation, including trees (not covered by TPOs); and
- Potential change in visual amenity for users of and workers on the mainline railway;

Waterloo Road / Peacock Lane Improvements (Route D)

- Potential change in character, number and quality of the TPO areas to the western section of the study area along Waterloo Road/ Holme Green junction and one individual TPO located to the west of Oakwood Youth Challenge Centre along Waterloo Road;
- Potential change in the setting of two listed buildings to the south (Lock's House and Locks Farm);
- Potential change in route/ access of Public Right of Way (byway number 30) located to the west of the of the Study Area;

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- Potential change in the character and quality of existing mature vegetation, including hedgerows and trees (not covered by TPOs);
 - Potential change in the character, quality or setting of Big Wood Ancient Woodland;
 - Potential change in visual amenity for residents and travellers along/ off Waterloo Road;
 - Potential change in visual amenity for users of byway 30 to the west;
 - Potential change in visual amenity for residents and visitors to Big Wood Lodge and Big Wood House;
 - Potential change in visual amenity for staff, workers and visitors to the Oakwood Youth Challenge Centre; and
 - Potential change in visual amenity for residents, workers and visitors to Lock's Farm and Lock's House listed buildings.

Construction

The loss or change in visual amenity and local landscape character for the receptors identified above are likely to be greater during the construction phase than the operational phase for all options due to the presence of construction traffic, plant, materials and temporary signage and lighting and the need for works such as vegetation clearance and earthworks. Control of lighting through a CEMP, minimising artificial lighting during construction, completion of the works in as short a timescale as possible, retaining trees and hedgerows where possible; and completion of the works in summer when trees are in leaf and daylight working reduces the need for artificial lighting would all help to reduce adverse landscape and visual effects.

Operation

If the operational roads are lit, potential adverse changes in the night time lit environment may be experienced, although these would be minimised by the implementation of an appropriate and sensitive lighting strategy. Increased traffic may also be discernible for surrounding visual receptors, particularly where the proposed route is more distant (and hence more distinct) from existing highways.

Recommendations

The key constraints relate to the loss of open/ agricultural countryside; the loss of trees, particularly those covered by TPOs; infringement of existing PROW; and location in the context of the setting of listed buildings.

It should also be noted that a number of issues such as lighting, noise and the loss and replacement of vegetation are applicable to a number of technical areas and therefore consideration of these interrelationships should be considered going forward, particularly in relation to potential mitigation measures.

The following recommendations are therefore provided for consideration which may help to reduce the magnitude of any adverse effects on landscape and visual receptors.

Mitigation relating to All Route Options

- Retention of mature trees with review of road alignment to avoid high value trees. A tree survey to BS5837: 2012 standard is recommended to determine the location and value of the tree resource. At the planning stage, an arboricultural implications assessment and methodology statement should be provided to outline the protection and mitigation measures for the trees during construction;
- Permission from the Local Planning Authority (LPA) is required for any works to TPOs. Early consultation with the LPA is recommended undertaken to determine potential mitigation or compensation measures for potential loss of trees;
- Survey of hedgerows to determine whether any fall within the Hedgerow Regulations specification;

- For all the options considered, mitigation planting, including replacement of trees lost, will help to reduce adverse effects on local landscape character and visual amenity;
- Footpath diversion orders would be required for alterations to footpaths (either temporary or permanent) and options for mitigation determined, such as new routes or suitable crossings. These designs should be discussed and agreed with the LPA;
- Reducing the amount of artificial lighting, retaining trees, and replacement and additional tree planting would help to reduce adverse effects on the setting of nearby listed buildings;
- The final agreed road alignment or options should be accompanied by a landscape design plan to indicate proposed planting. This should include native trees and shrubs to help mitigate any trees or hedgerow lost as a result of the proposed works; and
- Lighting should be in keeping with the existing road network or preferably remain un-lit to limit adverse effects on local landscape character and setting.

The proximity of the Site to nearby residences will allow some clear views of all the options from these receptors.

As the wider landscape is generally gently undulating with good tree cover, the Site is not likely to be very visible from the wider countryside, being generally well screened with hedgerows and trees.

If tree planting and hedgerows are incorporated along all route options together with a sensitive lighting design, it is anticipated that the impact upon the setting of identified listed buildings can generally be mitigated.

Any development on Site is likely to change the existing Site vegetation and character, although there may be opportunity to integrate tree planting and/or hedgerow to contribute to the landscape fabric of the Site.

The existing public rights of way running through the Site offer the potential to be enhanced and to further contribute to the Wokingham non-vehicular network.

Mitigation relating to Local Study Areas and Waterloo Road / Peacock Lane Improvements

- Retention of mature trees adjacent to the proposed works. A tree survey to BS5837: 2012 standard is recommended to determine the location and value of the tree resource. At the planning stage, an arboricultural implications assessment and methodology statement should be provided to outline the protection and mitigation measures for retained/ adjacent trees during construction;
- Permission from the Local Planning Authority (LPA) is required for any works to TPOs. Early consultation with the LPA is recommended undertaken to determine potential mitigation or compensation measures for potential loss of trees;
- Survey of hedgerows (primarily for Local Study Area F) to determine whether any fall within the Hedgerow Regulations specification; and
- Reducing the amount of artificial lighting, retaining trees and replacement tree planting where possible, particularly of any high-value trees lost (with mature trees replaced with specimen trees) would help to reduce adverse effects on local landscape character and visual amenity in relation to Local Study Areas B to E. Larger areas of trees lost should be replaced by new tree planting in greater numbers than those lost;
- Consideration of suitable hoardings, minimising the visual clutter associated with construction and undertaking the construction works in summer when surrounding trees are in leaf would all help to reduce adverse visual effects of construction works. Mitigation during construction would be particularly important due to the visibility of the works by adjacent residential receptors;
- In relation to Local Study Areas B to E, construction of any tall or large access ramps or built form should be assessed for visual effects once detailed designs are known; and
- Consideration of the use of local artists to enliven built structures that are not able to be screened or the use of materials in muted colours to reduce the visual intrusion of the structures proposed at Local Study Areas B to E would potentially reduce adverse visual effects.

The proximity of the Site to nearby residences will allow some clear views of all the options from these receptors, particularly as the works are likely to be elevated over the railway. However, as the wider landscape is generally gently undulating with good tree cover, the Local Study Areas and Waterloo Road / Peacock Lane Improvements are not likely to be very visible from the wider countryside, being generally well screened with hedgerows and trees.