

REPORT N° 70020874

SUDBURY WESTERN RELIEF ROAD

ENVIRONMENTAL STUDIES AND SURVEY
REPORT

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ENVIRONMENTAL STUDIES AND SURVEY REPORT

Suffolk County Council

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1 WSP | Parsons Brinckerhoff was previously commissioned by Suffolk County Council (SCC) in 2015 to complete a high level desk based review of the 2003 alignment in light of current selection criteria, with consideration of any changes to legislation and guidance, statutory designations, and other environmental constraints that may have arisen since the original route appraisal was undertaken. WSP | Parsons Brinckerhoff was also instructed to propose an alternative route that could be analysed further from an environmental and transport planning perspective.
- 1.1.2 The results of the review showed that the main land use and environmental constraints in the Sudbury area have not altered significantly since 2003, and that biodiversity, landscape and heritage features still remain the key constraints. However, for the majority of environmental constraints, environmental assessment / appraisal methodologies have been significantly updated or superseded by new policies.
- 1.1.3 Also due to the high level of the assessment undertaken as part of the review a worst-case scenario has been assumed. The review recommended that further studies and surveys are undertaken for the topics which have been determined to be the key constraints namely ecology, landscape and cultural heritage.
- 1.1.4 WSP | Parsons Brinckerhoff has subsequently been commissioned by SCC to undertake these further studies and surveys. In addition further desk studies have been undertaken to determine agricultural land classification of agricultural land and the Public Right of Way network in the study area.

1.2 STUDY AREA

- 1.2.1 The proposed study area for the environmental studies and surveys is based on the red line boundary in Appendix A.
- 1.2.2 Discussions with SCC concluded that the Western Relief Road study area should be based around the 2003 alignment, and also to allow enough flexibility to support other route options. Therefore an indicative study area (Appendix A) has been plotted where route options are likely to be drawn.

2 ECOLOGY

2.1 SCOPE OF WORKS

- 2.1.1 An extended Phase 1 habitat survey of land within the study area has been undertaken. The survey has excluded residential properties (which are unlikely to be directly affected by the project).
- 2.1.2 Habitats present within the survey area have been mapped in line with standard methods (JNCC, 2010) and indicative botanical species list for each habitat recorded. The survey was extended to scope the potential for protected species and species of conservation concern to be present. Target notes have been made to record information relating to features and habitats of note (where these are too small to map), and photographs provided for all main habitat types to provide a visual record of conditions.
- 2.1.3 The detailed methodology and results of the survey are reported in the Extended Phase 1 Habitat Survey Report (WSP | Parsons Brinckerhoff, November 2016) contained in Appendix B.
- 2.1.4 The report provides a discussion of biodiversity legislation and planning policies relevant to the scheme and provides preliminary recommendations as to how potential issues may be overcome. Recommendations on further survey and assessment will include options for ecological enhancement for consideration.
- 2.1.5 A summary of the conclusions and recommendations from the report are provided below.

2.2 CONCLUSIONS & RECOMMENDATIONS

- 2.2.1 A preliminary desk study was undertaken using freely available data. It confirmed that three internationally designated Special Protection Areas (SPAs), two of which are also designated Ramsar Wetlands of International Importance, occur within 25km of the study area, although they are all at least 23km away. They are all primarily designated on the basis of internationally significant bird populations. One Local Nature Reserve (LNR) (the Railway Walks LNR) occurs within the study area and one LNR (the Sudbury Common Lands) is adjacent. One area of ancient woodland (Brundon Wood) occurs within the study area.
- 2.2.2 The study area totalled approximately 400ha. The most abundant habitats recorded were arable and improved / semi-improved grasslands. An extensive network of hedgerows is present. The River Stour, associated tributaries including Belchamp Brook and floodplain habitats are located in the north of the study area. A number of woodlands also occur including plantations and semi-natural woodland, notably Brundon Wood, which is listed on the Ancient Woodland Inventory. Some small areas of unimproved and semi-improved grassland are present and the notable plant species Deptford Pink *Dianthus armeria* was recorded within the study area.
- 2.2.3 Brundon Wood is unlikely to be directly affected by a proposed Relief Road, but unavoidable impacts to ecologically valuable habitats are likely to occur including to watercourses and hedgerows. A number of further ecological surveys are outlined within this report which will be required in order to characterise the potential impacts of a proposed Relief Road and inform detailed recommendations for avoidance, mitigation and compensation where appropriate.
- 2.2.4 It is not considered likely that a proposed Relief Road will result in a Likely Significant Effect upon the internationally designated sites given the significant separating distance. However, it is recommended that SCC is consulted to confirm agreement with this conclusion.

2.2.5 Preliminary avoidance and mitigation measures are provided in the report in Appendix B. The key points include:

- The more valuable habitats should be avoided where possible including watercourses, woodland and hedgerows.
- Sensitive design will be crucial to avoid significant negative effects upon the River Stour and associated habitats. A Water Framework Directive Assessment is likely to be required to be in consultation with the Environment Agency. Effects on riparian habitats (including marginal vegetation and floodplains) should be avoided as far as is possible. The bridge deck should be sufficiently high above the water to allow flying animals to pass underneath unobstructed. A drainage strategy that avoids surface water drainage entering watercourses without appropriate attenuation will be required.
- One of the most significant negative effects upon ecology associated with a proposed Relief Road is likely to be associated with habitat fragmentation. Consideration should be given to how this can be minimised in the design, such as by the construction of a habitat bridge, fauna tunnels and bat crossing points.
- A sensitive lighting strategy will be required. Key recommendations include keeping lighting to a minimum and avoiding and/or mitigating light spill particularly with respect to watercourses, trees, hedgerows and woodlands. Appropriate types of lighting should be used, avoiding lights that emit UV and/ or blue/ white spectrum light.

2.2.6 Some residual impacts upon habitats of ecological importance are likely to be unavoidable, in which case compensation measures are likely to be required. These could include:

- Undertaking river enhancement and restoration works such as: (a) introducing habitat features that increase flow diversity; and (b) undertaking engineering works that re-naturalise riparian habitats and / or reconnect flood plain habitats with the river channel.
- A variety of habitats could be created adjacent to the new road such as ponds, species rich grasslands and areas of shrub planting.
- Habitat management and enhancement measures of retained habitats could be devised and implemented, such as coppicing of woodlands or creation of wetland habitats.

3 LANDSCAPE

3.1 SCOPE OF WORKS

- 3.1.1 A desk study and site survey has been undertaken to establish the landscape character and sensitivity of the Western Relief Road study area. The detailed methodology and results of the survey are reported in the Landscape Survey Report (WSP | Parsons Brinckerhoff, October 2016) contained in Appendix C.
- 3.1.2 A zone of visual influence (ZVI) for the Western Relief Road study area has been established. This was determined using a computer generated ZVI which was then verified through site work. The ZVI has included the road at ground level plus 5m for high vehicles plus 15m for lighting columns. The ZVI has formed the study area for the landscape and visual impact baseline / assessment described below.
- 3.1.3 The landscape survey has identified highly sensitive areas / features / elements that pertain to the Gainsborough Landscape as well as those described in the 'Historic Landscape Study for the Dedham Vale and Stour Valley Project – Managing a Masterpiece'.
- 3.1.4 A Landscape Context plan has been produced identifying landscape and other relevant statutory designations and public rights of way.
- 3.1.5 The baseline landscape character descriptions and sensitivity collated to inform the Technical Note prepared in September 2015 has been updated with information contained within Natural England's National Character Areas (published ~2012), the SCC's web-based landscape character assessment (produced 2011) and any other relevant local Land Character Areas.
- 3.1.6 The site survey has also identified highly sensitive visual receptors and baseline photographs that have been taken from key locations.
- 3.1.7 The site survey has also established typical landscape elements (woodland species, hedge species and management etc.) that would form the basis for mitigation and identified key areas and opportunities for further mitigation.
- 3.1.8 A summary of the conclusions and recommendations from the report are provided below.

CONCLUSIONS & RECOMMENDATIONS

- 3.1.9 The report has concluded that the landscape of the study area is of high value and has high sensitivity and susceptibility to change, which is recognised through landscape designations including Special Landscape Area and the Stour Valley Project Area. The landscape has strong historic and cultural associations relating to the Sudbury Common Lands, Gainsborough's paintings and Sudbury Conservation Area. Furthermore, the high value and quality of the landscape in the southern part of the study area is acknowledged by the proposed extension to the Dedham Vale Area of Outstanding Natural Beauty (AONB) westwards to the southern edge of Sudbury and the A131 road.
- 3.1.10 The AONB boundary extension has not been approved, at the time of writing this report. However it is advisable to consider the special qualities of the AONB and its setting when developing the design. It is likely that some aspects of a proposed Relief Road including large-scale disturbance, reduced tranquillity, visual impact, raised earthworks etc. could not be mitigated fully.

- 3.1.11 The study area is located within the Rolling Valley Farmlands landscape character area which is characterised by gentle valley sides with some complex and steep slopes, much of the agricultural landscape retains its historic field pattern. High levels of tranquillity prevail throughout.
- 3.1.12 Development in this valley side landscape is likely to have a significant visual impact and could adversely affect the character of the landscape, including that of the adjoining valley floor. Due to the undulating topography there is the potential for a Relief Road, including traffic and lighting, to be visible on the skyline.
- 3.1.13 Extensive woodland and hedgerow planting with locally occurring native species of trees and shrubs would be appropriate mitigation in this landscape.

4 CULTURAL HERITAGE

4.1 SCOPE OF WORKS

- 4.1.1 Constraints plans have been produced illustrating both designated and non-designated heritage assets. Designated assets have been recorded up to 2km from the red line boundary and non-designated assets up to 200m from the red line boundary. Designated assets falling within the ZVI beyond 2km have also been presented. The search for designated assets has utilised the National Heritage List for England (NHLE) and non-designated assets will be recorded from the Suffolk Historic Environment Record (HER).
- 4.1.2 Designated assets include world heritage sites, scheduled monuments, listed buildings (all grades), conservation areas, registered parks and gardens and registered historic battlefields. Non-designated assets of demonstrably equal importance to designated assets have also been included. Non-designated heritage assets include archaeological earthworks, below-ground remains and locally listed buildings and structures. Areas of archaeological sensitivity and historic landscapes (where known) have also been included.
- 4.1.3 The detailed methodology and results of the survey are reported in the Historic Environmental Constraints Report (WSP | Parsons Brinckerhoff, December 2016) contained in Appendix D.
- 4.1.4 A summary of the conclusions and recommendations from the report are provided below.

CONCLUSIONS & RECOMMENDATIONS

- 4.1.5 The report has identified that a total of five scheduled monuments, 11 Grade I, 16 Grade II* and 326 Grade II Listed Buildings are present in the outer study area (2km). Three conservation areas and two historic landscapes were also identified.
- 4.1.6 None of these assets would be physically affected by a Relief Road, however the settings of the following assets are expected to be harmed as a result of a Relief Road:
- the scheduled site of a Romano-British villa (SM1005969),
 - the Grade II* listed Ballingdon Hall (1037550) and Brundon Hall (1037518), and
 - the Grade II Listed Rodbridge House (1198067), Barns at Rodbridge House (1396596), a barn (1123294), Brundon Mill (1037517), Brundon Hall Cottages (1351341), Borley Mill (1123285), Borley Hall (1123284), outbuilding at Borley Hall (1306432), The Old Vicarage (1337893), Archway/stables (1123292), gatepiers, gates and railings to Auberries (1306419), K6 telephone kiosk (1431001), Borley Lodge (1306436), outbuilding at Borley Lodge Farm (1234827), Barn at Borley Lodge Farm (1275932), Woodburn (1169662), Rose Tree Cottage (1169659), Eyston Hall (1123314), Glebe Cottage (1123288) and Blacksmiths Cottage (1169645).

- 4.1.7 The setting of Sudbury Conservation Area and the two historic landscapes which comprise the Valley Meadowlands and Rolling Valley Farmlands are also likely to be harmed as a result of a Relief Road. However the setting of Sudbury Conservation Area and the listed buildings within would benefit from the reduced flows of traffic passing through the centre of Sudbury as a result of a Relief Road. Further study is required of Sudbury Town Centre to understand this beneficial impact.
- 4.1.8 The non-designated heritage assets identified range from the Prehistoric to the Modern period.
- 4.1.9 Below-ground archaeological remains associated with these assets are likely to be subject to significant harm resulting from ground disturbance relating to construction works. In addition, this archaeological evidence suggests that there is the potential for unknown assets from the Prehistoric to the Modern period to be present within the study area.
- 4.1.10 Current policy ¹draws a distinction between archaeological remains of national importance and other remains considered to be of lesser significance. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments, protected wreck sites, battlefields, Grade I and II* listed buildings and Grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional. Those perceived to be of international or national importance may require preservation in situ (avoidance).
- 4.1.11 The National Planning Policy Framework (NPPF) (paragraph 132) states that substantial harm to or loss of a Grade II listed building, park or garden should be exceptional. Therefore the preferred mitigation for harm to these assets is avoidance where possible.
- 4.1.12 Those of lesser significance may undergo recording (intrusive), where Regional / County or Local / Borough significance can be demonstrated. Furthermore, paragraph 5.8.9 of the NPPF cites the requirement for the evaluation of assets where their significance is not fully understood.

BELOW-GROUND ARCHAEOLOGICAL REMAINS

- 4.1.13 The full extent and exact location of archaeological remains and potential remains is unknown and so preservation through avoidance by design is not feasible at this stage. It is suggested that a programme of investigation including geophysical survey followed by targeted archaeological trial trenching is undertaken across the extent of the Relief Road once the alignment has been selected, to determine the extent, depth, function, chronology and relative significance of any archaeological deposits present. If necessary this will serve to inform a mitigation strategy for a final stage of more detailed archaeological investigation of significant remains

SETTING

- 4.1.14 Historic England (2015) guidelines for mitigation of the impact of a development on the setting of a heritage asset suggest that in the first instance impacts are best mitigated for either by relocation of the development or changes to its design. Where relocation of the proposed development is not possible, good design alone may be capable of reducing the harm. The guidelines also consider that the protection and enhancement of setting is intimately linked to landscape design considerations, including the degree of conscious design or fortuitous beauty and the consequent visual harmony or congruity of development.

¹ NPPF, DCLG 2012

4.1.15 At this stage no detailed mitigation has been presented as this is pending a detailed assessment of the significance of the settings which should be undertaken in accordance with Steps 2 and 3 of Historic England guidance².

² Historic England 2015 The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning

5 AGRICULTURAL LAND CLASSIFICATION

AGRICULTURAL LAND CLASSIFICATION

- 5.1.1 The majority of the Western Relief Road study area comprises mostly Grade 3 agricultural land with some areas Grade 2 (refer to Appendix E), which is defined, in accordance with the Agricultural Land Classification (England and Wales) (MAFF, 1988), as:
- *Grade 2 - very good quality agricultural land*: Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
 - *Grade 3 - good to moderate quality agricultural land*: Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
- 5.1.2 An area of Grade 2 agricultural land covers a small area of the study area at Armsey Farm on the A131 Ballingdon Hill, as well as a larger area covering land from Sandy Lane across Kitchen Hill and Sudbury Road, further north to Smeetham Hall Lane and Finch Hill. The land bordering Sudbury urban area and adjacent to the River Stour Valley is classified as Grade 3 value land.
- 5.1.3 The Best and Most Versatile (BMV) land is defined in Annex 2 of the National Planning Policy Framework (NPPF) as land which is most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. Consultation with Natural England is required on all applications where the loss of BMV land is 20 hectares or more.

6 PUBLIC RIGHTS OF WAY

6.1.1 A well-developed network of Public Rights of Ways (PRoWs) lies within the Stour Valley (refer to Appendix F and Figure 1.2 in the Landscape Survey report in Appendix C).

6.1.2 Recreational Routes within the study area include:

- The Stour Valley Path and St Edmunds Way which runs broadly parallel with the study area.
- The Valley Walk, which follows the disused railway line between Rodbridge Corner on the southern edge of Long Melford and Sudbury Station. It is managed by Sudbury Common Lands Charity.
- The Gainsborough Trail, a circular route approximately 20km around the Sudbury area where the artist Thomas Gainsborough was born. It includes part of The Valley Trail.
- Meadow Walk, a 5km section of the Gainsborough Trail, along the disused railway line between Brundon and the centre of Sudbury which includes long views over the historic grazing marshes that have often been depicted in paintings by local artists.

6.1.3 A Sustrans traffic free cycle route (NCR 13) follows the route of The Valley Walk along the disused railway line.

A bridleway runs along Brundon Lane, crosses over the Valley Line Walk and then turns to the west across the border into Essex, running parallel with the Belchamp Brook, which is a tributary of the River Stour. This is a well-used route by local equestrians who led a campaign to officially designate the route as an official bridleway in 2013. It is listed as Bridleway 1779 along Brundon Lane, changing to Bridleway 1784 as it crosses over into the county of Essex. There is also a footpath which runs from Brundon, south west across the study area to Finch Hill and Smeetham Hall Lane, stopping at the border with Essex. It has a footpath number of 1781, and measures approximately 1.7km. The study area crosses these rights of way in the central northern section. The bridleway and the footpath are used by locals but are not as popular as the other PRoWs discussed. However, the construction and operation of the Relief Road would cause disruption and change to these routes.

7 CONCLUSIONS

- 7.1.1 Further environmental studies and surveys have been undertaken for the topics which have been determined to be the key constraints to a Western Relief Road namely ecology, landscape and cultural heritage.

ECOLOGY

- 7.1.2 A number of potential ecological constraints to a Western Relief Road have been identified. Whilst the survey has identified some important ecological features and provides baseline data necessary to inform preliminary avoidance, mitigation and compensation measures, further ecological surveys are required to characterise the likely ecological Impacts and inform the requirements, extent, nature and scope of a potential mitigation strategy. Careful design of a relief road, particularly with respect to the River Stour and associated habitats will be crucial in avoiding and minimising significant adverse effects upon biodiversity.
- 7.1.3 Some residual impacts upon biodiversity arising from a relief road are likely to be unavoidable, in which case compensation measures will be required.

LANDSCAPE

- 7.1.4 The landscape of the study area is of high value and has high sensitivity and susceptibility to change, which is recognised through landscape designations including Special Landscape Area and the Stour Valley Project Area. The landscape has strong historic and cultural associations relating to the Sudbury Common Lands, Gainsborough's paintings and Sudbury Conservation Area. Furthermore, the high value and quality of the landscape in the southern part of the study area is acknowledged by the proposed extension to the Dedham Vale Area of Outstanding Natural Beauty (AONB) westwards to the southern edge of Sudbury and the A131 road.
- 7.1.5 The AONB boundary extension has not been approved, at the time of writing this report. However it is advisable to consider the special qualities of the AONB and its setting when developing the design. It is likely that some aspects of a proposed Relief Road including large-scale disturbance, reduced tranquillity, visual impact, raised earthworks etc. could not be mitigated fully.
- 7.1.6 The study area lies within the Rolling Valley Farmlands landscape character area which is characterised by gentle valley sides with some complex and steep slopes, much of the agricultural landscape retains its historic field pattern. High levels of tranquillity prevail throughout.
- 7.1.7 Development in this valley side landscape is likely to have a significant visual impact and could adversely affect the character of the landscape, including that of the adjoining valley floor. Due to the undulating topography there is the potential for the project, including traffic and lighting, to be visible on the skyline.
- 7.1.8 Extensive woodland and hedgerow planting with locally occurring native species of trees and shrubs would be appropriate mitigation in this landscape.

HISTORIC ENVIRONMENT

- 7.1.9 Groundworks for a relief road are likely to impact on regionally important below-ground remains located in the area. Other than agricultural ploughing the study area for the Western Relief Road has not been subject to previous disturbance, and therefore there is potential for the remains of these assets to survive below ground. Although there has been little archaeological fieldwork in the local area, from the presence of such assets as mentioned above suggests potential archaeological remains to survive within the study area.
- 7.1.1 A relief road is not likely to have a physical impact on any of the Scheduled Monuments or Listed buildings present in the study area. However a relief road is likely to have an adverse impact on the setting of designated assets within the study area
- 7.1.2 The setting assessment undertaken in the Historic Environment report concludes that a relief road is likely to have a positive effect on upon the experience of Sudbury Conservation Area due to an expected reduction in congestion and associated noise and fume pollutants.
- 7.1.3 The negative impact on the historic environment outside the conservation area however is considered to be adverse and will far outweigh those positive effects outlined above. This is with particular emphasis on the setting of the two historical landscapes in the study area which comprise the Valley Meadowlands and Rolling Valley Farmland. A relief road would traverse through these landscapes which are historically associated with nationally important artists such as Constable and Gainsborough. A relief road would also create new land divisions, and will introduce new patterns of movement, noise and possible lighting that will interrupt the current tranquil and timeless rural settings.

Historic England (2015) guidelines for mitigation of the impact of a development on the setting of a heritage asset suggest that in the first instance impacts are best mitigated for either by relocation of the development or changes to its design. Where relocation of the proposed development is not possible, good design alone may be capable of reducing the harm. The guidelines also consider that the protection and enhancement of setting is intimately linked to landscape design considerations, including the degree of conscious design or fortuitous beauty and the consequent visual harmony or congruity of development.