

# Cambridge South Infrastructure Enhancements

## The Inclusion of Structural Vegetation within the LVIA

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## Introduction

- 1.1 The anticipated retention and/or loss of trees, tree belts and woodland (structural vegetation) as a result of the Development (and the mitigation associated with this) were factors within the assessment of effects upon landscape character and visual amenity, as set out within the Landscape & Visual Impact Assessment (LVIA) that formed part of the ES **(NR16 Chapter 13)**.

## Baseline

- 2.1 The baseline section of the LVIA identifies the landscape character and visual context of the site and its surrounds.
- 2.2 The character areas that have been identified in Cambridge City Council's (CCiC), 'Cambridge Inner Green Belt Boundary Study (2015)' (CIGBBS), being the most up to date and detailed published landscape character assessment for this area available, are used as the landscape character receptors to the development. The location of these character areas is shown on Figure 13.4.

### Landscape Character Baseline

- 2.3 The contribution that the existing structural vegetation (shown on the mapping on **Appendix 13.1 Figure 13.6**) make to these character areas is identified in the following paragraphs of the LVIA:
- **13.3.48 (bullet 7):** Character Area TCA 6A includes the "*Sporadic belts and lines of immature, and occasional mature trees bound the CBC's edge with the railway. More mature belts exist along the edge of the educational establishments north of the CBC.*"
  - **13.3.50 (bullet 7):** Character Area 9.2 includes the "*The gently mounded low landforms along the east of the park parallel with the railway partially support blocks and belts of immature native trees and shrubs (planted between 2014-2017 as part of the S106 agreement connected with the outline planning approval of the CBC) dominated by hawthorn, holly and hornbeam. These slightly reduce, but do not diminish, the abrupt change in character between the park and the CBC*"
  - **13.3.51 (bullet 4):** Character Areas 10.2 & 10.3 include the "*occasional dense belts of trees/scrub separating fields*".
- 2.4 The key valued characteristics of these character areas was brought up to date by our own field work (as identified in **paragraph 13.3.12** and **paragraph 1.2.1 of Appendix 13.2: LVIA Methodology**) in preparation of the LVIA.
- 2.5 The up to date characteristics of these character areas upon which the Development may bring about potential significant adverse landscape effects have been identified and are set out in **Table 13.9**. In terms of existing structural vegetation this includes:
- **CIGBBS Character Area 9.1:** "*Sporadic scrubby vegetation at the margins of the field where it abuts the railway and Hobson's Brook*", and "*denser tree and scrub vegetation (some of it semi-native in nature) is found along the western and southern edges of the area, where it abuts the rear of the A1301 ribbon conurbation and Great Shelford*"
  - **CIGBBS Character Area 9.2:** "*Mixture of tree lines surrounding playing field and pitches, scrubby margins to water courses and blocks of native trees and shrubs along the transport routes that criss-cross the area – becoming more informal in*"

*nature to the south” and “The clear sense of enclosure created by the raised crossings over the railway, tree belts and blocks, by the façade of Clay Farm’s east side and by the visually domineering built form of the CBC accentuates the area’s form as a green corridor into Cambridge.”*

- **CIGBBS Character Area 10.2 and 10.3:** *“Large arable fieldscape with parcels separated by the occasional dense belts of trees/scrub. Notable tree blocks include Nine Wells and those upon the ridge of White Hill.”*

### *Visual Amenity Baseline*

- 2.6 As set out in the methodology described in **Appendix 13.2 paragraph 1.2.1**, an understanding of the contribution that the existing structural vegetation has to the visual experience of people in and around the Site was developed through:
- *“visits to the site and publicly accessible areas across the study area i.e. public open spaces, Public Rights of Way (PRoW) and highways at different times of year, and during the day and after dark..”* and
  - *“determining the area over which the development will be visible was established through creation of a Zone of Theoretical Visibility (ZTV)”* – see **Appendix 13.1 Figure 13.2**
- 2.7 The visual amenity receptors that the LVIA considered the Development may bring about potential significant adverse landscape effects upon are (as set out in **Table 13-10** of the LVIA):
- Users of National Cycle Route 11,
  - Users of PRoW 39/46, 39/47, 198/1, 198/2, and 212/3
  - Users of permissive paths 0073, 0156 and 0123
  - Users of the publicly accessible open spaces of Hobson Park, More’s Meadow, Magog Down and Nine Wells Nature Reserve
  - Users of the railway on its approach to Cambridge
  - Residents of Clay Farm neighbourhood
- 2.8 The number and location of representative viewpoints which would be used to help define the impact of the Development upon these visual receptors were agreed with Greater Cambridge Shared Planning as set out in **Table 13-3 Summary of Consultation**.

### *The Development*

- 3.1 The components of the Development upon which the LVIA is based in relation to existing structural vegetation are shown on the **Land Use and Landscape Parameter Plan** as ‘*Existing key structural vegetation retained or reinstated*’, and are supported by the Indicative Landscape Plans (**NR 13**).
- 3.2 Landscape and visual impact mitigation measures in relation to existing structural vegetation is set out in **paragraphs 13.4.17 to 13.4.25**. This includes:
- Paragraph 13.4.17:**
- *1) Avoidance of excessive temporary land take during construction to allow for the retention of as much of the existing native tree, scrub and hedge vegetation and*

*grassland as possible to reduce adverse effects upon sensitive elements that contribute to local landscape character*

- *3) Avoidance of excessive temporary land take during construction by using existing maintenance tracks as haul / construction access routes to reduce adverse effects upon sensitive elements, such as trees, scrub, hedgerow and grassland that contribute to local landscape character*
- *8) The careful lifting, temporary heeling in, protection and management of those areas of existing immature native tree and shrub planting within Hobson's Park, the ARA and the site of the proposed RSC, that which would be displaced by the construction and operation of the proposed Development, in readiness for either replating in the same location or nearby upon completion of construction.*
- *9) Protection of remaining tree and shrub vegetation which would be under threat from damage during construction with temporary fencing to BS5837:2012 so avoid adverse effects upon sensitive elements that contribute to landscape character.*
- *10) Reinstatement of tree and shrub planting, hedge vegetation, grass seeding that would be displaced by the proposed Development (and which cannot be lifted, stored and replanted, or which fails to thrive after being lifted, stored and replanted) with new replacement planting/seeding that is equivalent to the species mix, density and initial plant sizes of that which is lost, located near to their previous positions, as shown on the Land Use & Landscape Parameter Plan.*

**Paragraph 13.4.20:**

- *1) The selection of species and species mixes for new planting would favour a predominance that are native to the UK, indigenous to the area, are already thriving on site and within the surrounding area, contain pollinator varieties, are reasonably adaptable to climate change and resilient to the relatively high water table.*

**Paragraph 13.4.23:**

- *9) Retention of as much of the native tree and shrub block in north-east corner of Hobson's Park (Land Use & Landscape Parameter Plan and 3.7I & 3.8A), given that this is the most mature of those along the eastern edge of the park, despite the fact that this may mean short section of steep landform between it and the surrounding landform leading to the station entrance.*
- *10) Bolstering of the existing belts of native tree and shrub planting with new habitat (Land Use & Landscape Parameter Plan and 3.7P & 3.7Q) that is similar to these in form, density and species mix.*

**Paragraph 13.4.24:**

- *1) Setting back of the RSC from the edge of the triangular plot to allow the establishment of native tree and shrub vegetation planting between it and adjoining land, and the creation of suitable riparian habitat along Hobson' Brook (Land Use & Landscape Parameter Plan and 3.9P).*
- *2) Creation of an area of native tree and shrub planting (including new and compensatory hedgerow) and species rich grassland upon the western half of the site of Compound CC1 (east of the railway, and south of Addenbrookes Road and Nine Wells Bridge) upon completion of the works (Land Use & Landscape Parameter Plan.*
- *3) Creation of an new publicly accessible open space of grassland, scattered scrub/tree copses, ponds and riparian habitat on the 'exchange land' south of Hobson's Brook (Land Use & Landscape Parameter Plan and 3.9P).*

**Paragraph 13.4.25:**

- *1) Retention and/or replacement of the belts of tree planting along the railway edge of those completed CBC developments west of FCA (Land Use & Landscape Parameter Plan and 3.8A).*

### The Assessment:

- 4.1 The left hand columns of the tables in **Appendix 13.3** defines the sensitivity of the landscape character receptors and the visual amenity receptors.
- 4.2 The central columns of the tables in **Appendix 13.3** describe the magnitude of change upon these brought about both during the construction and operational phases of the Development. With regards to existing structural vegetation this includes a description of the scale, geographic extent, duration and reversibility of the:
  - loss of structural vegetation throughout including in the non-cumulative impact assessment on character areas 9.1, 9.2 and 10.2/10.3, and on viewpoints 01 and 02 (it was considered that the loss of structural vegetation would not have an material impact on visual receptors at viewpoints 03, 04, 05 & 06),
  - proposed compensatory structural vegetation planting, and
  - other structural vegetation planting to mitigate for the effects of aspects of Development's the built form.
- 4.3 When the sensitivity of the receptors is combined with the magnitude of change an assessment of the significance of effect is made. The result of the assessment are set out in detail in the right hand column of **Appendix 13.3** and summarised in **Section 13.5** of the LVIA.
- 4.4 Whilst there were found to be some adverse effects relating to the impact of the Development upon the landscape character and visual amenity receptors, which the loss of existing structural vegetation contributed to, none of the effects were found to be significantly adverse.

### Review of the LVIA by Greater Cambridge Shared Planning:

- 5.1 **CCiC** at **paragraph 39** of their Statement of Case (**E11**), considered that the LVIA has been carried out in accordance with the relevant guidance set out in 'Guidelines for Landscape and Visual Impact Assessment, Third Edition' (GLVIA3) and that it is '*proportionate and appropriate*'. CCiC also confirmed that it '*agrees to a large extent with the findings and conclusions of the assessment in relation to both the landscape character and visual impacts. However, as with the Green Belt mitigation, the findings and conclusions of the LVIA are partly reliant on the successful mitigation through the landscape proposals, which will be secured through conditions and rely on high quality implementation.*'

Specific consideration the effect on visual amenity resulting from the potential loss of trees along the boundary of Long Road Sixth Form College with the Railway during the operation of the Development

6.1 Table:

| Visual Amenity Receptors                         | Receptor Sensitivity  | Anticipated magnitude of change   | Significance of Effect                                | Further considerations.  |
|--|---|---|---|--|
| <b>Users of the Long Road Sixth Form College</b> | <b>Low:</b><br>People engaged in outdoor sport/recreation which does not involve or depend upon appreciation of views of the landscape. Views experienced by receptors have little/no recognised value. The public are unlikely to visit to experience the views available. | <b>Small:</b><br>The loss of one of the two lines of trees along this one edge of the Long Road Sixth Form College playing fields would not materially alter the visual experience of users here.<br><br>Whilst they would experience slightly clearer views of trains passing occasionally along the railway, for the majority of the time and for the majority of the year the outlook along this edge of the playing fields would remain vegetated by virtue of the remaining trees and understorey vegetation and the existing trees and scrub on the opposite side of the railway.<br><br>The change brought about the loss of trees would constitute only a small part of the overall view from the playing fields and subsequently the change would not alter the balance and make-up of their visual experience as a whole. | <b>Minor / Moderate</b><br><br><b>NOT SIGNIFICANT</b> | As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.<br><br>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further. |

| Visual Amenity Receptors                           | Receptor Sensitivity   | Anticipated magnitude of change  | Significance of Effect                                | Further considerations.  |
|--|--|--|---|--|
| <b>Users of the St Marys School Playing Fields</b> | <b>Low:</b><br>People engaged in outdoor sport/recreation which does not involve or depend upon appreciation of views of the landscape. Views experienced by receptors have little/no recognised value. The public are unlikely to visit to experience the views available.                          | <b>Very Small:</b><br>The trees in question are only visible from the southern end of the playing fields due to the presence of an existing tree belt between them and the railway north of this.<br><br>Whilst users of the playing fields would experience slightly clearer views into the grounds of the Long Road Sixth Form College as a result of the tree loss, this is not considered to be a deterioration in amenity as users would be familiar with the sight of a landscape such as this anyhow.<br><br>Subsequently, the tree loss would not noticeably alter the visual experience of users of the St Marys School playing fields. | <b>Minor</b><br><br><b>NOT SIGNIFICANT</b>            | As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.<br><br>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further. |
| <b>Users of the PRow 39/46</b>                     | <b>Moderate:</b><br>People engaged in outdoor recreation, whose attention/interest is likely to be focused on the landscape or particular views. Views experienced by receptors, whilst they may be valued locally, are not widely-known. The views experienced have no strong cultural association. | <b>Very Small:</b><br>The trees are visible from the very eastern end of the PRow only.<br><br>From this point they constitute only a very small part of the overall views available, given: the distance they are away (approx. 470m at their closest); intervening landform, fencing and other vegetation; and the broadness of the available views here.<br><br>The loss of one of the two lines of trees would be barely discernible given these factors and because remaining trees vegetation would remain visible behind this.<br><br>Subsequently, the tree loss would not noticeably alter the visual experience of users.              | <b>Minor / Moderate</b><br><br><b>NOT SIGNIFICANT</b> | As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.<br><br>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further. |

| Visual Amenity Receptors          | Receptor Sensitivity  | Anticipated magnitude of change   | Significance of Effect                                | Further considerations.  |
|-----------------------------------|---|---|---|--|
| <b>Users of the NCN Route 11,</b> | <b>Moderate:</b><br>People engaged in outdoor recreation, whose attention/interest is not directly linked to the landscape or particular views<br>Views experienced by receptors, whilst they may be valued locally, are not widely-known. The views experienced have no strong cultural association. | <b>Small:</b><br>The trees are only visible from short sections of this path: i.e. along the stretches that follow the Cambridge Guided Busway (CGB) Spur between Hobsons Park and the Active Recreation Area and along the (CGB) between PRoW 39/46 and St Mary's School Playing Fields.<br><br>The tree loss would be noticeable but the change would be limited to a small proportion of the overall views available.<br><br>The retention of the existing second tree line means that the overall balance and make-up of the visual experience as a whole would not alter markedly. | <b>Moderate / Minor</b><br><br><b>NOT SIGNIFICANT</b> | As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.<br><br>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further. |



| Visual Amenity Receptors      | Receptor Sensitivity   | Anticipated magnitude of change  | Significance of Effect | Further considerations.  |
|-------------------------------|--|--|------------------------|--|
| <b>Users of Hobson's Park</b> | <p><b>Moderate:</b><br/>People engaged in outdoor recreation, whose attention/interest is likely to be focused on the landscape or particular views. Views experienced by receptors, whilst they may be valued locally, are not widely-known. The views experienced have no strong cultural association.</p> | <p><b>Very Small:</b><br/>The existing trees are visible in views from only the very north-west section of the park, and intervening vegetation and landforms limit views to the top part of the crowns of the trees only.</p> <p>The loss of the closest of the lines of trees would create slightly clearer views into the playing fields and to the educational buildings of the Sixth Form College. The remaining tree line would, however, still provide the sense of a treed area in views from the park in this direction.</p> <p>In addition, glimpses of such buildings through vegetation are not unfamiliar to the users of the park given the presence of the Cambridge Biomedical Campus to the immediate east.</p> <p>Subsequently, the tree loss would be just noticeable but the change would be limited to a very small proportion of the overall views available. The retention of the existing second tree line and the familiarity of users to the kind of views created, means that the overall balance and make-up of the visual experience as a whole would not alter markedly.</p> | <b>NOT SIGNIFICANT</b> | <p>As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.</p> <p>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further</p> |

| Visual Amenity Receptors                         | Receptor Sensitivity   | Anticipated magnitude of change   | Significance of Effect                                       | Further considerations.   |
|--|--|---|--|---|
| <b>Users of the Active Recreation Area (ARA)</b> | <b>Moderate:</b><br>People engaged in outdoor recreation, whose attention/interest is likely to be focused on the landscape or particular views. Views experienced by receptors, whilst they may be valued locally, are not widely-known. The views experienced have no strong cultural association. | <p><b>Small:</b><br/>The existing trees are visible in views to the north-east from most parts of this area of public open space only.</p> <p>The loss of the closest of the lines of trees would create slightly clearer views into the playing fields and to the educational buildings of the Sixth Form College. Such views are, however, not unfamiliar to the users of the ARA given the presence of the St Mary's School Playing Fields to the immediate north, and the Cambridge Biomedical Campus to the immediate east. The remaining tree line and its understorey vegetation would still provide the sense of a treed area.</p> <p>The tree loss would be noticeable but the change would be limited to a small proportion of the overall views available. The retention of the existing second tree line and the familiarity of users to views means that the overall balance and make-up of the visual experience as a whole would not alter markedly.</p> | <p><b>Moderate / Minor</b></p> <p><b>NOT SIGNIFICANT</b></p> | <p>As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.</p> <p>As the existing immature vegetation in the ARA also establishes the significance of effect would also reduce.</p> <p>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further</p> |

| Visual Amenity Receptors  | Receptor Sensitivity   | Anticipated magnitude of change   | Significance of Effect                                | Further considerations.   |
|---|--|---|---|---|
| <b>Users of the Cambridge Guided Busway (CGB)</b>                 | <b>Moderate:</b><br>Travellers on road, rail, or other transport routes. Views experienced by receptors, whilst they may be valued locally, are not widely-known. The views experienced have no strong cultural association. | <b>Very Small:</b><br>The trees are only visible from short sections of the CGB: i.e. along the CGB Spur that lies between Hobsons Park and the Active Recreation Area, and between PRow 39/46 and St Mary's School Playing Fields.<br><br>The tree loss would be noticeable but the change would be limited to a small proportion of the overall views available.<br><br>In addition, users of the CGB view the landscape at speed and so the effect that tree loss would have on them would be less than those moving through the landscape on foot or cycle.<br><br>The retention of the existing second tree line means that the overall balance and make-up of the visual experience as a whole would not alter markedly.          | <b>Minor / Moderate</b><br><br><b>NOT SIGNIFICANT</b> | As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.<br><br>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further |
| <b>Users of the railway on its approach to and from Cambridge</b> | <b>Moderate:</b><br>Travellers on road, rail, or other transport routes. Views experienced by receptors, whilst they may be valued locally, are not widely-known. The views experienced have no strong cultural association. | <b>Very Small:</b><br>Users of the railway on its approach to and from Cambridge would have sight of the area of trees for a relatively small period of time, and on one side of their views from the train only.<br><br>The loss of one line of the existing trees would reveal slightly clearer views into the playing fields and educational buildings of the Sixth Form College. Such views are, however, not unfamiliar to the users along this stretch of the railway, nor are they considered discordant in this geographic context.<br><br>Subsequently, the tree loss would and not markedly alter the balance and make-up of the visual experience as a whole and would constitute only a minor component of available views, | <b>Minor / Moderate</b><br><br><b>NOT SIGNIFICANT</b> | As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.<br><br>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further |

| Visual Amenity Receptors                            | Receptor Sensitivity  | Anticipated magnitude of change   | Significance of Effect                                | Further considerations.   |
|---|---|---|---|---|
| <b>Residents of Clay Farm neighbourhood</b>         | <b>Moderate:</b><br>Communities where views contribute moderately to the landscape/townscape setting enjoyed by residents; Views experienced by receptors, whilst they may be valued locally, are not widely-known. The views experienced have no strong cultural association.                              | <b>Negligible:</b><br>The trees are only visible from the houses, paths and open spaces at the very eastern side of the neighbourhood.<br><br>From these places the existing trees only constitute only a very small part of the overall views available, given: the distance they are away (approx. 540m at their closest); intervening landform (including the embankment of the CGB Spur) and other vegetation; and the broadness of the available views here.<br><br>The loss of one of the two lines of trees would be barely discernible given these factors and because remaining trees vegetation would remain visible behind this.<br><br>Subsequently, the tree loss would have a negligible magnitude of change the visual experience of the residents of Clay Farm. | <b>Minor</b><br><br><b>NOT SIGNIFICANT</b>            | As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.<br><br>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further |
| <b>Users of the E2 European Long Distance Route</b> | <b>Moderate:</b><br>People engaged in outdoor recreation, whose attention/interest is likely to be focused on the landscape or particular views.<br><br>Views experienced by receptors, whilst they may be valued locally, are not widely-known. The views experienced have no strong cultural association. | <b>Negligible:</b><br>The trees are only visible from a very short section of this path: i.e. from the Long Road bridge over the railway. Beyond the bridge views to them are not possible due to intervening vegetation and buildings. The height of the bridge's brick parapet further limits views to just glimpses of the tops of the trees' crowns.<br><br>The retention of the existing second tree line means that vegetation would remain a visual presence in these glimpses.<br><br>Subsequently the overall balance and make-up of the visual experience as a whole would not alter markedly and the tree loss would have a negligible magnitude of change the visual experience.  | <b>Moderate / Minor</b><br><br><b>NOT SIGNIFICANT</b> | As the proposed replacement tree and understorey planting establishes the significance of effect would reduce.<br><br>Should a reduced length of the tree line require removal to construct the Development (as indicated in the further exploration of the schemes constructability) the overall significance of effect would be reduced further |