

# Infrastructure and Development Select Committee

Date: **Wednesday 18 January 2023**  
Time: **10am**  
Venue: **Council Chamber, County Hall, Norwich**

**Persons attending the meeting are requested to turn off mobile phones.**

## Membership:

Cllr James Bensly (Chair)  
Cllr Vic Thomson (Vice Chair)

|                                |                               |
|--------------------------------|-------------------------------|
| Cllr Steffan Aquarone (Spokes) | Cllr Chrissie Rumsby (Spokes) |
| Cllr David Bills               | Cllr Robert Savage            |
| Cllr Claire Bowes              | Cllr Barry Stone              |
| Cllr Chris Dawson              | Cllr Maxine Webb              |
| Cllr Jim Moriarty (Spokes)     | Cllr Tony White               |
| Cllr William Richmond          |                               |

**For further details and general enquiries about this Agenda please contact the  
Committee Services Officer, Nicola Ledain:  
email [committees@norfolk.gov.uk](mailto:committees@norfolk.gov.uk)**

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## A g e n d a

### 1 To receive apologies and details of any substitute members attending

### 2 Minutes

To confirm the minutes of the meeting held on 16 November 2022.

Page 5

### 3 Members to Declare any Interests

If you have a **Disclosable Pecuniary Interest** in a matter to be considered at the meeting and that interest is on your Register of Interests you must not speak or vote on the matter.

If you have a **Disclosable Pecuniary Interest** in a matter to be considered at the meeting and that interest is not on your Register of Interests you must declare that interest at the meeting and not speak or vote on the matter

In either case you may remain in the room where the meeting is taking place. If you consider that it would be inappropriate in the circumstances to remain in the room, you may leave the room while the matter is dealt with.

If you do not have a Disclosable Pecuniary Interest you may nevertheless have an **Other Interest** in a matter to be discussed if it affects, to a greater extent than others in your division

- Your wellbeing or financial position, or
- that of your family or close friends
- Any body -
  - Exercising functions of a public nature.
  - Directed to charitable purposes; or
  - One of whose principal purposes includes the influence of public opinion or policy (including any political party or trade union);

Of which you are in a position of general control or management.

If that is the case then you must declare such an interest but can speak and vote on the matter.

### 4 To receive any items of business which the Chairman decides should be considered as a matter of urgency

## 5 Public Question Time

Fifteen minutes for questions from members of the public of which due notice has been given. Please note that all questions must be received by the Committee Team (committees@norfolk.gov.uk) by **5pm Thursday 12 January 2023**. For guidance on submitting a public question please visit <https://www.norfolk.gov.uk/what-we-do-and-how-we-work/councillors-meetings-decisions-and-elections/committees-agendas-and-recent-decisions/ask-a-question-to-a-committee>

## 6 Local Member Issues/Questions

Fifteen minutes for local member to raise issues of concern of which due notice has been given. Please note that all questions must be received by the Committee Team (committees@norfolk.gov.uk) by **5pm Thursday 12 January 2023**.

## 7 Development of the NCC Herbicide Policy

Report by the Executive Director of Community and Environmental Services

**Page 14**

## 8 Greenways to Greenspaces - Green Travel and Green Networks along our Highways Corridors

Report by the Executive Director of Community and Environmental Services

**Page 158**

## 9 Adult Learning Annual Plan

Report by the Executive Director of Community and Environmental Services

**Page 282**

## 10 Forward Work Programme

Report by the Executive Director of Community and Environmental Services

**Page 314**

### Group Meetings:

|                   |        |
|-------------------|--------|
| Conservative      | 9:15am |
| Labour            | 9:00am |
| Liberal Democrats | 9:00am |

Tom McCabe  
Head of Paid Service  
Norfolk County Council  
County Hall  
Martineau Lane  
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Date Agenda Published: Tuesday 10 January 2023



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# Infrastructure and Development Select Committee

**Minutes of the Meeting Held on Wednesday 16 November 2022**

**10.00am, held at County Hall, Norwich**

**Present:**

Cllr James Bensly – Chair

Cllr Brian Watkins  
Cllr Chris Dawson  
Cllr Jim Moriarty  
Cllr William Richmond

Cllr Brenda Jones  
Cllr Barry Stone  
Cllr Brian Long  
Cllr Maxine Webb  
Cllr Tony White

**Also Present:**

|                 |   |
|-----------------|---|
| Titus Adam      | Head of Strategic Finance, Finance and Commercial Services                            |
| Grahame Bygrave | Director of Highways, Transport and Waste, Community and Environmental Services (CES) |
| Ian Gregory     | Better Parking Strategy Manager, CES  |
| Matt Hayward    | Lead Project Manager, CES   |
| Joel Hull       | Assistant Director, Waste and Water Management, CES                                   |
| John Jones      | Head of Environment, CES  |
| Nicola Ledain   | Committee Officer, Democratic Services  |
| Tom McCabe      | Executive Director, CES   |
| Kate Murrell    | Waste Reduction and Recycling Manager, CES  |
| Philip Payne    | Norfolk Constabulary  |
| Karl Rands      | Assistant Director, Highway Services, CES   |
| Sarah Rhoden    | Director of Community Learning and Information CES                                    |

## **1. Apologies and substitutions**

- 1.1 Apologies were received from Cllr Steffan Aquarone, Cllr Vic Thomson and Cllr Chrissie Rumsby, substituted by Cllr Brian Watkins, Cllr Brian Long and Cllr Brenda Jones respectively. Apologies were also received from Cllr David Bills and Cllr Claire Bowes.
- 1.2 Cabinet Members Cllr Andrew Jamieson, Cllr Martin Wilby and Cllr Eric Vardy had also sent their apologies.
- 1.3 Following apologies from the Vice Chair, Cllr Vic Thomson, the Committee elected Cllr Tony White as Vice Chair for the meeting,

## **2. Minutes**

- 2.1 The minutes of the meeting held on 26 September 2022 were agreed as a true record and signed by the Chair.

### **3. Declarations of Interest**

- 3.1 Cllr Maxine Webb declared an 'other' interest as she was a Norfolk County Council representative on Norfolk Local Access Forum which was being discussed at item 10.

### **4. Items of Urgent Business**

- 4.1 There were no items of urgent business.
- 4.2 The Chairman took the opportunity at this point in the meeting to thank the Leader of the Council, Andrew Proctor for allowing the collaborative working that had been ongoing regarding scrutiny that had referred to at the last meeting. He also thanked the Chairman of the Scrutiny Committee, Cllr Steve Morphew and informed the Committee that there had been some productive work going on which also included Cllr Steffan Aquerone and Cllr Jamie Osbourn. He added that Scrutiny Committee would be looking at water management at their next meeting and encouraged fellow members of the Committee to have a look at the agenda and attend the meeting. The Executive Director added that the report would be titled 'Flood and Water Management' where the Committee would be reviewing the work of the Norfolk Flood Alliance, and it was hoped that the Chairman of the Norfolk Flood Alliance would be present at the meeting. Members were invited to attend with the opportunity of asking questions in advance. It was a pertinent subject as winter approached.

### **5. Public Question Time**

- 5.1 There were no public questions received.

### **6. Local Member Issues / Questions**

- 6.1 There were no local Member issues or questions received.

### **7. Strategic and Financial Planning 2023-24**

- 7.1 The Committee received the annexed report which provided details of the saving proposals identified to date for 2023-24 Budget setting. This was intended to support the Select Committee's discussion of the specific proposals and enabled the Committee to provide its feedback and input to a future meeting of Cabinet and thereby to inform budget decisions. The report formed an important part of the process of developing the 2023-24 Budget, representing a key opportunity for the Select Committee to provide its views on priorities and the budget proposals for the services within its remit.
- 7.2 In introducing the report, the Head of Strategic Finance highlighted that this was the opportunity for Committee members to engage in the budget process either by commenting on the proposals that were outlined in the report, or by suggesting proposals that could be worked through. He also added that the Government's Autumn Statement was due the day after the Committee meeting and then due later in December the provisional Local Government Settlement, both of which would reveal the levels of funding for the council for the next year and would have material impact on the proposals.
- 7.3 The following points were noted in response to questions by the Committee;

- 7.3.1 The Head of Strategic Finance explained the process of the budget consultation and how it was being advertised and publicised to the general public. It was predominantly being advertised through the website, but also libraries and other outlets. With regards to particular saving proposals regarding recycling centres, this would be advertised within the recycling centres as well as the generic other places.
- 7.3.2 The Committee heard that the Department for Transport were evaluating all Transport for Cities projects around the country including those Transport for Norwich projects themselves. With regards to timescales of when they would report and where the report could be found, more information would be shared with members when it was known.
- 7.3.3 Members expressed concern at the savings proposal regarding the removal of subsidy for the library service and how this would significantly have implications for the learning experience of the county's children. Officers explained that this was the balance that Full Council would have to make and there were similar challenges across the spectrum of the council. The Strategic Review would hopefully provide savings but as part of the overall savings and the budget as a whole. If it wasn't found in that, it would have to be found elsewhere in the budget.
- 7.2.4 The Government's Autumn Statement, released tomorrow could indicate that council's would be able to increase their share of council tax by 5% and this would be useful to offset some of those proposed savings, but there still had not been a long term formula found for the health and social care which members felt was widely accepted to be underfunded.
- 7.2.5 It was suggested that a standing item of commercialisation within the remit of the Committee could be considered at regular meetings. Income received from any commercial opportunity would mean that in future less savings would have to be realised.
- 7.2.6 The savings proposals figure of £270k relating to the recycling centres had been based on the reduction of hours available in the service and those hours across the service. There was currently a mix of agency staff and directly employed staff so it was uncertain how this would affect the staff until the outcome of the consultation.
- 7.2.7 The £157k proposed saving for the Museum Service seemed quite a high amount yet considering it wouldn't affect the service as outlined in the report. Members were concerned that this service and the library service were both widely used by the more disadvantaged and vulnerable members of the community, both being a generally free service. The Museum Service was funded by a third from the council, one third arts council, and one third from income such as admission fees where applicable. Officers explained that it was about balancing the thin line between the services and that hard decisions would have to be made in order to provide a balanced budget.
- 7.2.8 The Director for Highways, Transport and Waste reassured the Committee that there were no changes planned for the grass cutting routines throughout the year ensuring the visibility was there at junctions. The item mentioned in the report was regarding weedkilling treatments on the network which would be reducing from two treatments to one per year. This provided a better outcome for the environment but still ensured that the treatment was carried out.

7.2.9 The Chairman highlighted the hardship support fund. The Director of Community Learning and Information reported that £7.9 million had been ringfenced from October to March to specifically support some hardship interventions. This money was made from some funding from Government and some additional funding from NCC. This was the third six-month period in a row that a support package had been put together. In summary, the fund supported cost of living for those families on low income through food vouchers, which equated to £3.6 million and had supported 33k children. It had continued to fund the Norfolk Assistant Scheme which helped via a number of ways and it provided additional funding to District Councils for emergency support. NCC were also working with Norfolk Community Foundation to provide help for harder to reach groups and libraries were continuing with the 'Warm Spaces' initiative and continued to provide hygiene and warm and well packs. They were also working with the voluntary sector to establish and maintain more food banks.

7.3.1 The Select Committee;

1. Having considered the latest Budget and Medium Term Financial Strategy position, **NOTED** in particular the emerging risks and uncertainties within the Council's planning position.
2. Considered and commented on the savings proposals for 2023-24 as set out in appendix 1 of the report, which fell within the Committee's remit.
3. **NOTED** the significant budget gap which remained to be closed for 2023-24 and in this context commented on any areas they would recommend exploring for savings development in relation to the services within the Select Committee's remit, in order to provide further input to the 2023-24 budget process and inform the final package of savings proposals put forward to Cabinet later in the year. The Committee **CONSIDERED** savings opportunities under the following headings:
  - a. New initiatives which would deliver savings
  - b. Activities which could be ceased in order to deliver a saving
  - c. Activities which the Council should seek to maintain at the current level as far as possible
  - d. Commercialisation opportunities.

## 8. Review of Speed Management Strategy

8.1 The Select Committee received the report which included the latest version of The Norfolk Speed Management Strategy (NSMS). The NSMS was an important policy document that provided a local, countywide strategic direction and guidance on how speed was safely managed on Norfolk's roads. It was based on central government guidance and aligned to other local policies and strategies. Recently there had been a marked increase in local, community-based involvement, resulting in the expansion or introduction of several NCC initiatives. For these reasons, a review had been necessary to capture these changes and latest approaches.

8.2 The following points were noted in response to questions from the Committee:

8.2.1 The Speed Management Strategy would be communicated to the wider public and Parish Councils once it had been approved by Cabinet. The comments made by members of the Infrastructure and Development Committee would be taken into consideration before the report was considered by Cabinet.

- 8.2.2 The Norfolk School Street initiative started with several schools in September 2022 so was still in the early stages. A report would be brought to Committee in March 2023 containing details of that trial. Data and information were still being collated. Once that report had been considered, proposals for the future of the initiative could be considered.
- 8.2.3 The Committee heard that the Road Safety Community Fund which was launched last year in West Norfolk had been successful and had received many bids. North Norfolk, Great Yarmouth and Broadland were the next areas for bids to be submitted for, followed by Breckland and South Norfolk, followed by the city centre areas in the final year. These were for projects up to £10k and members were encouraged to discuss any projects now with highways engineers and their parish councils.
- 8.2.4 The Committee heard that the camera vans had been increased in capacity by two which were on the road to predominantly target traffic behaviour on minor parish roads. The Constabulary had an overarching priority to keep the road network free from congestion, and to keep them flowing safely.
- 8.2.5 The priorities mentioned in the introduction from the Cabinet Member were suggested that they were in the wrong order and could be re-considered.
- 8.2.6 The definition relating to the locations of 20mph speed limits referred to on page 80 was concerning for some members of the Committee. It referred to 20mph speed limits being considered in larger villages or those with heavy usage rather than smaller villages. The Executive Director explained that speed limits were set appropriately so the driver behaved accordingly. If too many 20mph speed limits were put into place it questioned if these and higher speed limit would be ignored, especially as 1400 people had been killed in the UK up to June 2021. The onus was always on the driver to drive and behave on the road sensibly.
- 8.2.7 Where the effectiveness of the road signage needed to be boosted, painted road marking roundell's had been carried out where appropriate and necessary. Officers could look at further locations and would consider these on a case by case basis.
- 8.2.8 It wasn't just rural locations that speeding traffic occurred and there had been various instances of speeding observed within the city areas.
- 8.2.9 Officers agreed to consider if the budget reserves could be used for other road safety projects.
- 8.2.10 It was a fairly easy process to get involved in local Community Speedwatch Team's or to set one up. There was also a process in place where speeding offenders would receive a letter from the Speedwatch team. The Committee heard that enforcement from the police would always happen if there was significant non-compliance with speed limits. However, there was a problem with evidencing that non-compliance and this was where Speedwatch teams could assist.
- 8.2.11 The Committee asked if reference to the 'Stockholm Declaration', could be made in the report. The declaration stated that 20mph limits should be used where vulnerable road users and vehicles mixed except where higher speed limits were deemed safe. This will be considered,

- 8.2.12 Members asked if on page 89, the emphasis of the sentence relating to taking the needs of the communities into consideration when changing a speed limit, could be changed to make sure that it took local needs as a high priority.
- 8.3 Having **REVIEWED** the revised Norfolk Speed Management Strategy, the Select Committee **COMMENTED** accordingly as detailed above.

## 9. Waste Services Review

- 9.1 The Select Committee received the report which provided an overview and update on the services delivered by the County Council in its role as the Waste Disposal Authority for Norfolk. This role included the provision of recycling centres, the disposal of residual waste, and making payments to the District, City and Borough Councils to help support the costs of the recycling services that they delivered.
- 9.2 Further to the report, the Assistant Director, Waste and Water Management highlighted that waste levels had begun to reduce towards pre-covid levels which equated to approximately 15,000k tonnes less residual waste this year than allowed for. Payments made to District, Borough and City Councils for the recycling they carried out had also reduced due to the volume they had been collecting reducing, particularly the reduced garden waste due to the dry, hot summer that had occurred earlier in the year. With reference to new recycling centres, a new proposed centre at Wymondham was planned and the public engagement process went live earlier this year to inform the final planning application process.
- 9.3 The following points were noted in response to questions from the Committee:
- 9.3.1 Following an analysis undertaken earlier in the year on the composite of residual waste and recycling, there appeared to be higher levels of rigid plastics, paper and glass in residual waste in different areas. As a result, there would be targeted and focused messages being distributed in these areas to try and reduce those levels.
- 9.3.2 Commercial businesses were offered usage of the recycling centre Monday to Friday with charges set to cover the costs and provide a local convenient and competitive option.
- 9.3.3 Although recycling rates were returning to pre-covid levels, members noted that they still appeared to be below the rates of 2016/17. Officers explained that recycling rates include garden waste and that 2017 weather patterns generated exceptionally high garden waste levels which then reduced in following years. However, there were still actions being taken to further increase the recycling levels, such as an additional 30,000 households receiving food waste collections in Broadland, targeted messaging regarding recycling in the residual waste, and the initiatives being carried out directly by the County Council to reduce overall the amount of waste.
- 9.3.4 Members noted that the average family wasted over £700 per year by throwing away food waste which was a worrying figure and welcomed the Food Savvy initiatives highlighted in the report. The waste composition analysis undertaken was able to reveal how much food waste was going into residual waste which in turn gave a benchmark figure to aim for. National research and Norfolk research was carried out to understand who was throwing away the most food. Food Savvy could measure how much engagement and interest there was in initiatives such as the food cooking workshops, and the interaction in community events that were happening. Food

Savvy was continuing and continually being built upon. There would shortly be a report published on the website regarding the progression of the initiative over the past year.

- 9.3.5 There was a set charge for the disposal of DIY type construction and demolition waste at the recycling centres, but operatives were not able to weigh the material and therefore had to assess the charge visually. The charges had been made as simple as possible and were there to recover costs not to make a profit.
- 9.3.6 Legislation allowed payments to community groups that collect waste from having a recycling bank on their premises and also gain income from selling that recycling on. The County Council makes these payments as recycling credits in lieu of the saved costs that it would have had to pick up from disposing of that material as wastes.
- 9.3.7 When the County Council entered into the most recent waste contracts in 2021, there was an arrangement with Suffolk County Council that it would incinerate some of Norfolk's waste. This was an update to a long-standing arrangement. There had also been a new contract arrangement with a new company Veolia which would incinerate waste in Bedfordshire.
- 9.3.8 Fly-tipping on private land was included in the fly-tipping rates in the report as long as it had been reported. Officers were currently working with Country Land and Business Association to encourage landowners to report fly-tipping.
- 9.3.8 The budget savings proposed currently being consulted on included recycling centres closing on a Wednesday and Officers explained that this approach had been working in Suffolk for a while. With regards to the arrangement with commercial businesses, they would still have a clear offering of being able to use the centres which could be factored into their routine. The arrangement had been set up for those small, local businesses which offered them a competitive and convenient way to dispose of waste. If the pricing arrangement were to go too high for the commercial and it was the same type of waste that a household could dispose of, there would then be an increase in household waste and a decrease of commercial waste. It was noted that getting the optimum pricing point was key and it was a matter that was being intensely scrutinised currently by Officers.
- 9.3.9 Officers reported that there would be some changes nationally on waste policy and it was advised that local waste policies should be revised once those national changes were known.
- 9.3.10 The Chair highlighted that the public consultation regarding the Wymondham recycling centre was live on the County Council website as well as at Meadowhall Community Centre in the vicinity of Wymondham.
- 9.3 The Select Committee;
1. **NOTED** and **COMMENTED** on the review including the County Council's current waste policies.
  2. In accordance with the County Council's second Waste Policy **REVIEWED** the arrangements outside Norfolk for the '*incineration of waste or fuel derived from waste*' set out in section 6.4.2 of the report.

## 10. Progress with delivering Norfolk Access Improvement Plan (NAIP)

- 10.1 The Select Committee received the report which provided an update on progress with delivering the NAIP. The report also covered advice offered by the Norfolk Local Access Forum ([www.norfolk.gov.uk/nlaf](http://www.norfolk.gov.uk/nlaf)) to the Council on key issues to ensure delivery of the NAIP. The Norfolk Local Access Forum was an independent forum which advises Norfolk County Council and other organisations on ways to improve public access to Norfolk's countryside.
- 10.2 Members noted the request from the Norfolk Local Access Forum for increased resources to be considered for public rights of way maintenance and the processing of Definitive Map Modification Order claims. Officers agreed that they could work through this request to see if it was viable and could feed into the budget discussions.
- 10.3 The decrease in public satisfaction levels regarding public rights of way had been because of usage for those with disabilities and overgrown routes. There had been significant improvements made to the rights of way for those with disabilities with various projects having been completed with external funding applied for. The 'Monument' project was enabling those with dementia and their carers to access the public rights of way through a number of events and initiatives and the team were currently working with Gressenhall Museum to be able to access their ground via a type of 4x4 mobility scooter. The team were also working with contractor to ensure that the overgrowth was being dealt with. Lockdown had caused a large amount of overgrowth on the network but this had been rectified over a couple of seasons.
- 10.4 A part of the North Norfolk Coastal Paths had recently been closed temporarily for urgent repairs. This had been done as a precautionary measure due to health and safety risk. As it was also a protected environment, NCC were working closely with Natural England regarding the repairs. Closures were kept to a minimum and only when there was a public safety risk.
- 10.5 The Norfolk Trails website advertised and highlighted those trails which had been access tested and were more suitable for those with mobility difficulties. The trails team were also working with Active Norfolk on their Every Move Scheme which would also identify suitable routes on their interactive map.
- 10.6 Members acknowledged that in experience they have had in their divisions, any improvements made to any public rights of way had always been carried out with disability access in mind. It was also acknowledged that the team did amazing work with a limited budget to maintain some great assets that Norfolk had and they should be congratulated.
- 10.7 Officers explained that Pathmakers was a charity that sat alongside the Norfolk Local Access Forum which were able to apply for funding which neither NCC as a Local Authority or the Norfolk Local Access Forum were able to do.
- 10.8 The Committee heard sponsorship of trails were being looked at, and following the Platinum Jubilee in the summer, some trails now had business sponsorship which would help maintain and develop those trails.
- 10.9 The Select Committee **CONSIDERED**;  
1. Officers' ongoing work to deliver the Norfolk Access Improvement Plan (NAIP) which was presented in two monitoring reports (March 2022 (Appendix 1 of the report) and September 2022 (Appendix 2 of the report) and processes which were in place to monitor the plan.



2. Advice from the Norfolk Local Access Forum (NLAF) regarding the need for increased resources for public rights of way maintenance and processing of Definitive Map Modification Order (DMMO) claims, detailed in Appendix 3 of the report.

## 11. Forward Work Programme

- 11.1 The Select Committee received the report by the Executive Director of Community and Environmental Services which set out the Forward Work Programme for the Committee to enable the Committee to review and shape.
- 11.2 It was suggested that an initial report would be brought to Committee setting out how consultations with local planning authorities were dealt with. This would then lead the Committee if they wanted to further examine the matter.
- 11.3 It was suggested that commercialisation opportunities within the remit of the Committee could be regularly looked into. This would be considered by the officers.
- 11.4 Having reviewed the report, the Select Committee **AGREED** the Forward Work Programme set out in Appendix A and **AGREED** the suggested items for the programme as discussed.

The meeting closed at 1.10pm

Chair



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# **Infrastructure and Development Select Committee**

**Item No: 7**

**Report Title: Development of the NCC Herbicide Policy**

**Date of Meeting: 18<sup>th</sup> January 2023**

**Responsible Cabinet Member: Cllr Eric Vardy** (Cabinet Member for Environment & Waste)

**Responsible Director: Tom McCabe, Executive Director of Community and Environmental Services**

## **Executive Summary**

It was agreed that NCC would develop a Glyphosate Policy (referred to as the Policy in this report) to apply to all departments (and third party contractors) that use herbicides, which would include measures on how the use of glyphosate-based herbicides will be minimised to achieve the necessary result across the NCC estate [I &D Committee 17<sup>th</sup> November 2021] with progress reported in March 2022 [I&D Committee 16<sup>th</sup> March 2022].

An officer-led Working Group with membership drawn from: County Farms; Highways; Environment Team; Children's Services; Corporate Property Services; Closed Landfill Team; and contractors Norse TFM has developed the Policy.

Recognising that advice was needed to produce the Policy, a consultant was appointed with specialist knowledge of the subject area to assist with development of the Policy.

The Glyphosate Policy is an important element to support the delivery of the Council's Environmental Policy [www.norfolk.gov.uk/environmentpolicy](http://www.norfolk.gov.uk/environmentpolicy) by improving the resilience of nature corridors for wildlife and delivery of the Council's Pollinator Action Plan.

The future weed management methods adopted will seek to minimise the amount of glyphosate used and will contribute towards the NCC targets set for achieving net zero carbon by 2030.

## **Recommendations / Action Required**

The Select Committee is asked to:

1. **Recommend the NCC Glyphosate Policy to the Cabinet (Appendix A)**
2. **Consider the Operational Plan (appended for information only - Appendix D)**

## 1. Background and Purpose

- 1.1 Concerns over the use of glyphosate-based herbicides to control weed growth have been mounting nationally, with glyphosate linked in some reports to health issues in those exposed to it over prolonged periods of time.  
<https://usrtk.org/pesticides/glyphosate-health-concerns/>
- 1.2 The pressure group Wild Justice has called for action by local authorities to reduce their use of glyphosate-based herbicides and develop alternatives, to reduce the adverse impact of glyphosate on nature and people  
<https://wildjustice.org.uk/general/glyphosate-use-by-local-authorities/>
- 1.3 Glyphosate is the active substance in many herbicide brands. It is a non-selective, systemic organophosphate herbicide effective in killing plants including those considered to be nuisance weeds. Herbicide products containing glyphosate used by NCC include: Roundup; Trustee Amenity; Rosate 360.  
<https://www.hse.gov.uk/pesticides/using-pesticides/general/glyphosate-faqs.htm>
- 1.4 In the EU glyphosate use is approved until 15th December 2022 and is fully approved by the UK government as an active ingredient for plant protection products until the end of 2025. It will almost certainly be brought forward for re-approval in that year by manufacturers involved. Its approval and monitoring is overseen by the Chemicals Regulation Division of the Health and Safety Executive (HSE). The authorisation and review process for all pesticides is undertaken by committees of scientific experts. It is they who have deemed glyphosate safe for use.
- 1.5 NCC has a legal duty to follow the Code of Practice for Using Plant Protection Products which applies to all professional users of these products.  
<https://www.hse.gov.uk/pesticides/using-pesticides/codes-of-practice/code-of-practice-for-using-plant-protection-products.htm>
- 1.6 In its weed control programmes across all its directly managed land, NCC used 5,700 kg (or litres) of Plant Protection Products (PPP) containing glyphosate in 2021. Such products were predominantly used by NCC Highways in the control of vegetation in transport infrastructure. Other NCC use is for control of vegetation in hard surfaces in NCC owned properties, essential management of

invasive weeds and keeping safe and clean utility areas such as landfill sites. They are also used by NCC through contract with Norse TFM Grounds, for controlling unwanted vegetation which may create a health and safety risk on sites such as schools, care homes, libraries, fire stations and playing fields. Aside from that, direct use by NCC is minimal such as control of weeds in tree grilles in hard surfaces and targeted control of tree stump re-growth to restore and maintain biodiversity or to prevent the spread of invasive non-native tree species.

- 1.7 Glyphosate is used on County Farms by tenants, but this is not under the direct control of NCC. NCC is in a position to offer guidance and support to these tenants in helping to achieve policy objectives in terms of glyphosate use and commits to provide such advice when the new Policy has been adopted.
- 1.8 Regarding schools, the position with respect to academy schools is more complex due to the arm's length relationship with NCC. Such institutions are tenants of NCC under lease agreements and, as such, the Academy Trusts have direct responsibility for weed management on their sites. Children's Services do influence how weeds are controlled and managed but academies do not have to act on this and can specify their own requirements, as well as use their caretaking staff for such tasks as hand weeding.
- 1.9 A report was brought to the Infrastructure and Development Committee on 17<sup>th</sup> November 2021  
<https://norfolkcc.cmis.uk.com/norfolkcc/CalendarofMeetings/tabid/128/ctl/ViewMeetingPublic/mid/496/Meeting/1872/Committee/171/SelectedTab/Documents/Default.aspx> on developing a Policy for the use of glyphosate-based herbicides by NCC. It was agreed that the Policy would apply to all NCC departments which use herbicides and would include measures on how the use of glyphosate-based herbicides would be minimised to achieve the necessary result across the NCC estate. The Policy would set out in what circumstances continued use of glyphosate would be permitted and its use optimised, where it would never be used, and how the Council (and third parties) would adopt alternative measures to control vegetation. Development of the Policy would be through an officer-led Working Group with membership drawn from: County Farms; NCC Highways; Environment Team; Children's Services; Corporate Property Services; Close Landfill and Norse TFM Grounds (principal contractors).
- 1.10 Loss of flowering plants including many species considered weeds (e.g. dandelions) affects the amount and quality of flowering resources available to pollinators such as bees. As part of its published Environmental Policy [www.norfolk.gov.uk/environmentpolicy](http://www.norfolk.gov.uk/environmentpolicy) which sets out how NCC will improve Norfolk's environment and respond to the climate concerns, the Council is developing many new approaches. Better quality habitat on road verges for foraging and nesting for pollinators and other wildlife is a key aim of the policy

and NCC has developed a Pollinator Action Plan which was brought to the Infrastructure and Development Committee on 14<sup>th</sup> July 2021 as part of the Greenways to Greenspaces report  
<https://norfolkcc.cmis.uk.com/norfolkcc/CalendarofMeetings/tabid/128/ctl/ViewMeetingPublic/mid/496/Meeting/1870/Committee/171/Default.aspx> Reduced use of glyphosate-based herbicides to benefit pollinators (for example) is critical to this approach.

- 1.11 The NCC Glyphosate Policy Working Group was established, and first met on 11<sup>th</sup> January 2022 to discuss development of the Policy. The Working Group agreed that: (i) specialist advice and expertise on glyphosate was needed to inform production of the Policy (ii) that the Policy should draw on existing knowledge within NCC regarding trials on the use of alternative approaches and further trials would be developed where necessary (iii) differing approaches would be required for each department to take account of current practices within their sector and the potential for change (iv) a longer timescale than initially envisaged was required for production of the Policy to provide time to enlist specialist advice and ensure the Policy was robust and comprehensive (v) the Policy must support delivery of the Council's Environmental Policy and Pollinator Action Plan.
- 1.12 It was agreed that the Policy would set out in what circumstances continued use of glyphosate would be permitted and its use optimised, where it would never be used and where alternative measures would be used. It applies to NCC departments, and third parties contracted to the Council. It gives equal significance to the following three areas: safety; environmental protection and nature recovery; weed control.
- 1.13 Progress was reported to the Infrastructure and Development Committee in March 2022 and a revised timescale for production of the Policy and consultant (specialist) resource required, agreed.  
<https://norfolkcc.cmis.uk.com/norfolkcc/CalendarofMeetings/tabid/128/ctl/ViewMeetingPublic/mid/496/Meeting/1874/Committee/171/SelectedTab/Documents/Default.aspx>

| <b>What</b>                 | <b>When</b>           | <b>Milestones</b>  | <b>Consultant resource estimate (days)</b> |
|-----------------------------|-----------------------|--------------------|--|
| Appoint Consultant          | 1/2/2022 to 31/3/2022 |                    |  |
| WP1 Audit current practices | 1/3/2022 to 31/5/2022 | Sign off 31/5/2022 | 6  |

| <b>What</b>   | <b>When</b>            | <b>Milestones</b>            | <b>Consultant resource estimate (days)</b> |
|---|------------------------|------------------------------|--|
| WP2 Research into alternatives; site visits programme | 1/4/2022 to 30/9/2022  | Sign off by 30/9/2022        | 6  |
| WP3 Recording system                                  | 1/4/2022 to 30/9/2022  | Sign off by 30/9/2022        | 2  |
| WP4 Alignment with Environmental Policy               | 1/4/2022 to 30/9/2022  | Sign off by 30/9/2022        | 3  |
| Progress meetings                                     | 1/4/2022 to 28/2/2023  |                              | 5  |
| Write NCC Glyphosate Policy                           | 1/9/2022 to 31/10/2022 | Policy drafted by 31/10/2022 | 8  |
| Progress report to I and D Committee                  |                        | January 2023                 |  |
| Cabinet Report and NCC adoption of the Policy         |                        | February 2023                |  |

- 1.14 The Working Group developed a brief (Appendix B) for the recruitment of the specialist consultant with suitable qualifications who would work with the Working Group to provide impartial, independent advice on development of the Policy. The brief includes full explanation of the areas of work involved (Work Packages WPs) as follows: WP1: Auditing current practices regarding NCC use of glyphosate; WP2: Research into alternatives; WP3: Development of an NCC recording/monitoring system for glyphosate; WP4: Alignment of the Policy with NCC Environmental Policies.
- 1.15 The following organisations and individuals were approached for help with finding an appropriate independent consultant: Environment Agency; Forestry Commission; UEA; Risk and Policy Analysts Ltd., John Innes Centre; Centre for Ecology and Hydrology; Rothamsted Research; Pesticide Action Network. Ultimately, the brief was sent to 3 consultants, leading to the appointment of John Moverley (JMM Solutions) <https://johnmsolutions.weebly.com/> in April 2022. John and his colleague Steve Hewitt have been invaluable to the

project, driving progress with the Work Packages, and authoring reports for the Working Group's approval.

- 1.16 Working Group meetings have been held on July 13<sup>th</sup>; May 24<sup>th</sup>; 9<sup>th</sup> September, with other meetings held with officers as necessary (the consultants set up many one-to-one meetings as part of fact finding and Work Package development and reporting).
- 1.17 A meeting was held with the Wild Ken Hill farm in West Norfolk and NCC Rural Estates on July 18<sup>th</sup> 2022 to explore Wild Ken Hill's approach towards reducing reliance on glyphosate. Across the NCC County Farm Estate, glyphosate is used by tenants widely, but this falls outside the scope of the NCC Glyphosate Policy as tenants make their own decisions about their farming approaches. However, NCC is in a position to offer guidance and support to these tenants in helping to achieve policy objectives in terms of glyphosate use and to learn from the Wild Ken Hill farming operation. A site visit / learning opportunity to Wild Ken Hill for the Working Group and County Farm tenant farmers has also taken place this November.
- 1.18 Work package reports (see Appendix C) have been produced and reported to the Working Group by the consultants in line with the Timeline agreed for the work and the Draft Policy was completed on 2<sup>nd</sup> September 2022.
- 1.19 Higher Tier Managers at NCC were briefed throughout, and a special meeting was held on the draft Policy document on 9<sup>th</sup> September 2022.

## 2. Proposal

The Committee is asked to recommend the NCC Glyphosate Policy (Appendix A) developed by the Working Group (supported by the specialist consultants), which includes key actions to be implemented in the NCC approach to weed management, to Cabinet. The Policy will be taken to NCC Cabinet on January 30th 2023.

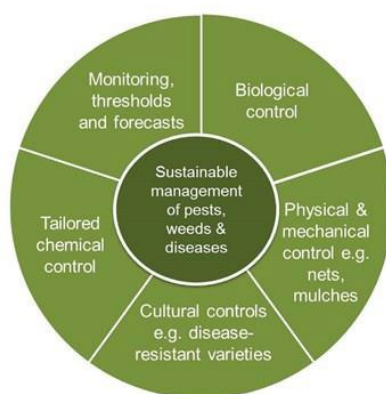
The Committee is also asked to consider the Operational Plan to establish the NCC Glyphosate Policy (appended for information only - see **Appendix D**) which has been drafted by the Working Group (see Section 6). This will remain an officer working document.

- 2.1 The NCC Glyphosate Policy includes a Statement with 7 key principles:
  - Key principle 1. In managing weeds, the Council will always take an integrated approach and ensure, where glyphosate products are used, that use is minimised and targeted to achieve agreed levels of weed management for given situations.

- Key principle 2. The Council will regularly review new methods of weed management as they become available, with a view to adopting these, where they offer a viable alternative to glyphosate use.
- Key principle 3. NCC minimise or avoid use of glyphosate-based products wherever possible and will clearly state areas where glyphosate products should not be used.
- Key principle 4. Where glyphosate products are used, the Council will ensure full compliance with all legal requirements, maintain detailed and accurate records of pesticide applications and ensure staff managers, specifiers and operators, and appointed contractors are fully trained, up to date and competent.
- Key principle 5. NCC will ensure all future contracts and, where possible, existing contracts, are consistent with the Council's policy on glyphosate products.
- Key principle 6. NCC will use whatever mechanisms are available, to ensure that third parties maintaining council owned land, comply with the council's policy especially in terms of them demonstrating that they operate to the UK Amenity Standard, or in the case of farmed land, the Farm Assured Standard.
- Key principle 7. Where NCC does not directly manage the land it owns as, for example, County Farms and school academies, it will ensure that, as far as possible, the principles of this policy are upheld through regular engagement and through the provision of support and advice where relevant.

2.2 The draft NCC Glyphosate Policy recommends 8 key actions (see draft NCC Glyphosate Policy section VIII for full details) which can be summarised as follows:

- Key action A: Integrated Approach to Weed Management. The Policy establishes a requirement for each department within NCC in addressing situations and areas where weed control is required and needed, to have in place a written **Integrated Weed Management Plan (IWM)**. It should be



*Representation of what an integrated approach means*

available for inspection when required. NCC will adopt a consistent approach to producing such plans across all departments and areas involved based upon



the principles and requirements established. It will also establish a central record of the integrated management plans adopted by individual departments with responsibilities which include weed control. The Policy includes further details on the IWM approach in addition to approaches to be adopted to determine weediness levels and decision making. The Amenity Forum has produced a template for creating an IWM plan.

- Key action B. Operator certification and equipment testing. Where herbicides are to be used, all personnel handling and applying them, whether directly employed, or as contractors, to be fully trained in their use and their spraying equipment maintained
- Key action C. Assurance schemes. For contractors to be members of an approved assurance scheme to demonstrate professionalism in the use of herbicides
- Key action D. Training and CPD. To establish an NCC Continuing Professional Development Programme (CPD) for all staff involved in the use of Plant Protection Products and those managing, specifying or procuring products for such programmes. Includes the fundamentals of IWM.
- Key action E. Recording and monitoring of glyphosate use. To record total amounts of glyphosate used by both contractors and NCC directly. Additionally, to make a record of, and centrally monitor the adoption of integrated weed management plans and identifying considerations that have been made towards impact on people, water and environment (biodiversity) and to make all information available publicly
- Key action F. County Farms. To provide guidance and access to training for County Farm tenants (where there is no direct NCC land management responsibility) to enable them to achieve the objectives of the Glyphosate Policy
- Key action G. School academies. To communicate the NCC Glyphosate Policy to school academies (where there is no direct NCC responsibility for their sites other than academy playing fields) to enable them to achieve the objectives of the Glyphosate Policy
- Key action H. Communication strategy – external and internal. To develop a communications strategy to ensure the NCC Glyphosate Policy and NCCs approach to weed management is understood internally and externally.

### **3. Impact of the Proposal**

- 3.1 The NCC Policy for the use of glyphosate-based herbicides enables the Council to deliver the NCC Environmental Policy ([www.norfolk.gov.uk/environmentpolicy](http://www.norfolk.gov.uk/environmentpolicy)), which includes a carbon net zero pledge by 2030, improvement of nature corridors for wildlife and delivery of the Council's Pollinator Action Plan. Additionally it will help the Council in its role as Lead Authority in the development of Norfolk's Local Nature Recovery Strategy (LNRS) <https://www.gov.uk/government/publications/nature-recovery-network/nature-recovery-network> .

Operational actions will be required to take forward the Policy which will require resourcing. The key operational actions are summarised for information only below (and in Appendix D). The Operational Plan will remain an officer working document.

- Agree and roll out a standard format and approach to developing integrated weed management plans (IWM Plans), which allows each department to adjust it to meet their specific needs, such as the case for highways; (for further details on the process already underway please see 3.4).
- Create a centralised filing system for the IWM Plans and other record keeping.
- Develop and roll out new tender documents for the appointment of external contractors employed to use glyphosate to include wording to ensure they are members of an approved scheme (such as Amenity Assured) and sign up to the requirements of the NCC Glyphosate Policy.
- Agree the methodology for calculating carbon emissions associated with glyphosate use and for demonstrating how other Environmental Policy targets are being met.
- Develop a public-facing dashboard for monitoring and recording, agreeing data and information fields that will form a data pipeline.
- Develop a template for use by NCC departments to capture information to feed into the dashboard.
- Establish a programme for initial training events and annual refresher programmes for all who make decisions concerning the use of herbicides, listening to departments' needs. Develop training for County Farm tenants who wish to upskill in regenerative agriculture to reduce reliance on glyphosate. Develop training on the NCC glyphosate Policy for school academies which lease NCC land.
- Establish a procedure for monitoring equipment testing and inspection.
- Developing and implementing a communications strategy.

3.2 Please see Section 6 of this report for resourcing needed to address the key operational actions above.

3.3 The Policy will lead to a reduction in officer time required to respond to Freedom of Information requests concerning the use of herbicides by the Council.

3.4 Creation of initial departmental initial Integrated Weed Management (IWM) Plans was conducted in early November 2022. The consultant met with the team leaders for four NCC departments who have responsibility for weed management, namely Highways, Environment - Non-Native species initiative, Environment – Arboriculture and Woodland and Closed Landfill. Work undertaken included communicating and answering questions on the principles of the Integrated Weed Management Plan that considers the range of techniques available for weed management including mechanical, thermal, cultural, biological and plant protection products as well as strategies to prevent

excessive weed growth in terms of design and day to day management. The consultant, with the team leaders, then explored the steps to be taken in creating an IWM plan for their own particular situations as follows:

- Understanding the background situation
- Understanding the desired outcomes
- Identifying the weed presence that needs to be managed
- What they are
- Where they are (e.g. weed map)
- Determining where weeds can be tolerated
- Designing out the need for weed control
- Designing a treatment plan for each area/zone within the weed map.
- Monitoring, recording and reporting on weed control performance
- Communicating actions and expectations
- Reviewing, adapting and improving the created Integrated Management Plan for weed management
- The consultant then in conjunction with the departments drafted individual plans for review and edit.

## **4. Evidence and Reasons for Decision**

4.1 Please see background

## **5. Alternative Options**

5.1 The Council could decide not to adopt the Glyphosate Policy. However, this is not proposed as it will not address the potential issues and benefits set out in this report.

## **6. Financial Implications**

6.1 Departmental costs associated with current practices of weed management by NCC are estimated to be:

- Highways existing costs of £10,000 per annum
- Environment Team less than £1,000 per annum
- Closed Landfill less than £1,000 per annum
- Arboriculture: less than £1,000 per annum

6.2 Implementing the Policy through the suite of operational actions presented in 3.2 (and appended for information only - see Appendix D) will provide many time and resource savings in the long term. Responses to freedom of information requests will be simplified through the centralised monitoring and recording dashboard and responses to legal challenges can be managed more effectively.

### **Start up/ initial actions resource estimate**

| <b>Action</b>   | <b>Staff time</b><br>d= department<br>c= NCC central resource |
|---|---|
| Agree a standard format (template)* and approach to developing IWM plans. Departments create initial <b>Integrated Weed Management (IWM) Plans</b> . Please see 3.4 for details of the work underway/ completed). | consultant 3 days<br>d = 6 days<br>c = 2 days                 |
| Create a central filing system for IWM plans and other record keeping   | c = 1 day   |
| Create and roll out new tender documents for the appointment of external contractors using glyphosate   | c, d = 5 days   |
| Develop the methodology for estimating carbon emissions associated with glyphosate use and for demonstrating how other Environmental Policy targets are being met.  | c (d) = 3 days  |
| Develop a public-facing dashboard, agreeing data and information fields that will form the data pipeline.   | c (d) = 10 days (possibly more)                               |
| Develop a template for use by NCC departments to capture information to feed into the dashboard and including a declaration that requirements of the NCC Glyphosate Policy are being met.                         | c (d) = 3 days  |
| Establish a programme for initial training events for NCC departments, County Farm tenants and school academies. Initial training event(s) take place   | consultant(s) = 5 days<br>c (d) = 9 days                      |
| Establish procedures to record operator training in the use of herbicides and to register equipment testing. Each department populates its own baseline register to a standard format                             | c = 1 day (for template)<br>d = time already required         |
| Develop and implement a communications strategy for internal and external audiences   | c (d) = 10 days   |
|   | TOTAL 50 days (NCC) and 9 days (consultant(s))                |

\* Standard Integrated Weed Management Template (Appendix E)

### **Annual resource estimate needed after start up**

| Ongoing costs of contracts per annum                     | Highways: £10,000<br><br>Arboriculture: £1,000 (or £3,000 if glyphosate eliminated completely)<br><br>Environment Team: less than £1,000<br><br>Closed Landfill: less than £1,000 |
|--|---|
| <b>Action</b>  | <b>Staff time</b><br>d= department<br>c= NCC central resource   |
| Annual review of department IWM Plans by NCC departments | d = 3 days  |

|  |  |
|--|--|
| Maintain the centralised filing system for IWM plans and other records                                 | c, d = ongoing, 0.5 days per month = 6 days    |
| Maintain registers of equipment testing  | d = ongoing, already required                  |
| Maintain registers of operator training  | d = ongoing, already required                  |
| Maintain the public-facing dashboard.  | c = ongoing, 0.5 days per month = 6 days       |
| Departments complete an annual return and declaration capturing information to feed into the dashboard | d = 3 days                                     |
| Run annual training events for NCC departments, County Farm tenants and school academies               | Consultant(s) = 3 days<br>c (d) = 4 days       |
| Roll out messaging   | c (d) = 0.5 days per month = 6 days            |
|  | TOTAL 28 days (NCC) and 3 days (consultant(s)) |

## 7. Resource Implications

### 7.1 Staff:

Staff capacity and consultant resources will be required to develop operational actions to deliver the Policy: please refer to Section 6 above.

For the Highways Service, it is not considered that additional resource would be required to deliver the new policy. However, it should be noted that NCC are currently consulting with Norfolk's residents on whether to reduce the number of weed treatments on the highway network from 2 to 1 treatments which may result in a higher number of customer contacts (complaints) from residents. Should a reduction be taken forward, this may have an impact on the Area Teams who will need to inspect, respond, and consider whether any further action is required.

### 7.2 Property:

None arising from this report

### 7.3 IT:

There will be implications for IT for development of a monitoring dashboard (as part of the operational actions arising from adoption of the Policy) – please refer to Section 6 above

## 8. Other Implications

### 8.1 Legal Implications:

NPLaw have been involved throughout to ensure that we have expert input into the legal aspects of the Policy. The Policy will help NCC manage the risk of legal action more effectively.

### 8.2 Human Rights Implications:

None arising from this report

**8.3 Equality Impact Assessment (EqIA) (this must be included):**

Please see section 9.1

**8.4 Data Protection Impact Assessments (DPIA):**

None arising from this report

**8.5 Health and Safety implications (where appropriate):**

Health and Safety aspects will be in line with current practice.

**8.6 Sustainability implications (where appropriate):**

Development of the Policy will be beneficial for the long-term sustainability of Norfolk's environment and biodiversity

**8.7 Any Other Implications:**

None arising from this report

## **9. Risk Implications / Assessment**

- 9.1 An impact assessment of adopting/ implementing the Policy is included in section IX of the draft NCC Glyphosate Policy. Four considerations are presented including : (i) Risk Impact Assessment (compliance and Governance) where the adverse impact is assessed as LOW; (ii) Financial Impact Assessment where the adverse impact is assessed as LOW although it is noted that the approach taken will not necessarily provide the least cost solution in money terms alone but the most cost beneficial in terms of delivering on an approach providing safe, healthy and sustainable spaces fit for purpose and taken full consideration of the environmental impact, based upon existing NCC commitments including carbon targets (iii) Equalities impact assessment where the adverse impact is assessed as MEDIUM-LOW (iv) Sustainability Impact Assessment where the adverse impact as expected to be LOW.

## **10. Recommendations**

The Select Committee is asked to:

- 1. Recommend the NCC Glyphosate Policy to the Cabinet (Appendix A)**
- 2. Consider the Operational Plan (appended for information only - Appendix D)**

## **11. Background Papers**

- 11.1 Norfolk County Council Environmental Policy – available [here](http://www.norfolk.gov.uk/environmentpolicy)  
[www.norfolk.gov.uk/environmentpolicy](http://www.norfolk.gov.uk/environmentpolicy)

**Officer Contact**

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Appendix A NCC Glyphosate Policy

Appendix B Brief for recruitment of Consultant

Appendix C Workpackages 1 to 4 reports

Appendix D Workpackage (5) Operational Plan (for information only)

Appendix E IWM Plan Template



If you need this report in large print, audio, braille, alternative format or in a different language please contact 0344 800 8020 or 0344 800 8011 (textphone) and we will do our best to help.



**GLYPHOSATE POLICY DOCUMENT**

**26 pages in the document**

**Dated: 20<sup>th</sup> September 2022**



## CONTENTS

- I. Background
- II. Summary of work undertaken to create this policy document
- III. Key goals
- IV. Summary of the outcomes from work and research leading to the construction of this policy
- V. Glyphosate policy statement
- VI. Responsibilities
- VII. Procedures
- VIII. Key actions to be implemented in the NCC approach to weed management
  - A. Integrated Approach to Weed Management and its application (IWM)
  - B. Operator certification and equipment testing
  - C. Providing assurance of professionalism and quality of operations
  - D. Training and continuing professional development (CPD)
  - E. Recording and monitoring glyphosate use across NCC
  - F. County Farms & land not directly managed by NCC
  - G. School Academies
  - H. Communication strategy – external and internal
- IX. Impact assessment of implementing the policy
  - A. Risk impact assessment - compliance and governance
  - B. Financial impact assessment
  - C. Equalities impact assessment
  - D. Sustainability impact assessment
- X. Appendices
  - 1. Representation of what an integrated approach means
  - 2. Example of the approaches to be adopted in determining weediness levels
  - 3. An example of the decision-making process to be followed in creating integrated management plans for specific situations
  - 4. Legislation specifically relating to weeds and their management
  - 5. Training and health & safety for operatives using Pesticides
  - 6. Key principles of the NCC Policy Statement

## **I. Background**

This document sets out the Norfolk County Council Policy regarding the use of glyphosate based herbicides for weed control on land owned and managed by it. It establishes the circumstances where continued use will be permitted, within an integrated approach to weed management. It also establishes the measures that will be taken to protect the environment, ensure safety of operations and optimise its use, where applied, to provide appropriate weed control, producing safe spaces fit for purpose. It applies to all Norfolk County Council (NCC) departments and to third parties contracted to the Council.

## **II. Summary of work undertaken to create this policy document**

In developing this policy, a number of detailed work streams were undertaken as summarised below. The project was led by a working group which included representatives from the departments within NCC which currently have responsibilities for weed control, namely the Environment Team, the Corporate Property Team, County Farms, Children's Services, Highways, Closed Landfill and Norse TFM Grounds as principal contractors. The work was supported by external specialist consultants.

Work Package 1: Audit of current practices within NCC in terms of weed control

Work Package 2: Research into current practice within other councils and agencies, with a particular focus on alternative approaches taken and their advantages and disadvantages

Work Package 3: Establishing an appropriate recording system across NCC

Work Package 4: Ensuring alignment of the policy with other environmental policies and strategies adopted, and being developed, by NCC

All of these work streams have led to the production of this policy. Written reports have been produced summarising the outcomes of each work package, which at each stage were fully discussed and developed into agreed actions by the NCC Cross Department Working Group established for this project

## **III. Key Goals**

The NCC Policy for the use of glyphosate seeks to give particular attention to the following four areas:

- Safety to practitioners, people and society in the use of glyphosate products across the Council's operations;
- Environmental protection and nature recovery, ensuring future use of glyphosate products will be balanced against the Council's work to maintain and improve Norfolk's environment
- Establishing how weed control will be managed to lead to reduced reliance on glyphosate products whilst ensuring safe and sustainable spaces fit for purpose and meeting community expectations.
- Carbon footprint, ensuring approaches to weed control take fully into account carbon emissions and meeting agreed NCC targets in this respect

#### **IV. Summary of key outcomes from work and research programmes listed in Section II of this report, and leading to the construction of this glyphosate policy**

- In its weed control programmes across all its directly managed land and amenity spaces, NCC in 2021 used approximately 5700 kgs, or litres, of plant protection products containing glyphosate. Such products are predominantly used by the Highways Department in terms of controlling vegetation on roads, streets, pavements and associated areas. Other NCC use is for essential management of invasive weeds and keeping safe and clean utility areas such as landfill sites. They are also used by NCC, through contract with Norse TFM Grounds, for controlling unwanted vegetation which may create a health and safety risk on sites such as care homes, libraries, fire stations and playing fields. Aside from that, direct use by NCC is minimal. Glyphosate is used on County Farms by tenants but this is not under the direct control of NCC. NCC is in a position to offer guidance and support to these tenants in helping to achieve policy objectives in terms of glyphosate use.
- The position with respect to academy schools is slightly complex. Such institutions are tenants of NCC under lease agreements and, as such, the Academy Trusts have direct responsibility for weed management on their sites. Children's Services do influence how weeds are controlled and managed but the academy does not have to act on this and can specify their own requirements, as well as use their caretaking staff for such tasks as hand weeding.
- Plant protection products incorporating glyphosate, used by NCC, are all approved and authorised for use. Glyphosate is fully approved by government as an active ingredient for plant protection products in the UK until the end of 2025. It will almost certainly be brought forward for re-approval in that year by manufacturers involved. Its approval and monitoring is overseen by the Chemicals Regulation Division (CRD) of the Health and Safety Executive (HSE). The authorisation and review process for all pesticides is undertaken by committees of scientific experts. It is they who have deemed glyphosate safe for use.
- All the research and evidence gathered in this project, looking at use across similar organisations in Great Britain, indicates that glyphosate frequently remains the most effective and economic solution to weed management, especially on hard surfaces and for invasive weed control. It also often has least impact in terms of carbon emissions compared with many alternatives.
- However, the overall aim, set out in this policy, must be to minimise use of glyphosate going forward. This can best be achieved by:
  - Adopting a fully integrated approach to weed management and planning for specific situations by applying a consistent method for use by decision makers. This will fully consider desired outcomes, investigate how these can best be achieved and ensure all actions are co-ordinated to minimise weed growth or problems, and allow the most appropriate programme of cultural, chemical and non-chemical treatment to create the outcome sought.
  - Agreeing clearly at the outset, within such integrated planning, how weed control programmes fit within NCC's declared approaches to achieving better quality habitats on areas such as grass verges for foraging and nesting pollinators, and how this can best be balanced with other factors such as public safety
  - Ensuring as a requirement that decisions take full account of the key environmental commitments and in particular the statements listed overleaf which seek to:

- (i) Protect and enhance the environment
- (ii) Champion sustainable development and resource efficiency
- (iii) Set stringent environmental targets
- (iv) Go beyond the expectations of national government, (regarding national 'net zero' carbon)

All of which must be set in the context of ensuring spaces are maintained in a safe and healthy condition and fit for purpose. In creating weed management plans, a suitable check against these commitments will be needed to ensure, as much as possible, actions taken are not counter to them.

- Ensuring that the glyphosate policy specifically states, in its policy statement (see later), that use of glyphosate products in school grounds should be restricted to exceptional circumstances and where health and safety could be compromised if such action were not taken. Wherever possible, any such applications should take place outside the school day or in holiday times with suitable warning signs displayed and access to areas restricted, after treatment, for at least the required period stipulated on the glyphosate product label. A similar approach will need to be stated for areas of special scientific interest or areas designated as protected.
- Adopting approaches to enable pollinators and other biodiversity are protected as much as possible in carrying out weed management activities. This will require, where glyphosate products are used, due consideration to timing of applications. To contribute to the achievement of the pollinator action plan, the glyphosate policy should be sympathetic to the needs of pollinators and ensure that weed management activities are planned with all due consideration.
- Continuing to ensure that all responsible for applying plant protection products are fully trained and certificated and checks are in place to ensure that equipment used is tested to meet legal requirements. For equipment where such legal requirements do not exist, such as knapsacks, an agreed NCC process should be in place for regular inspection supported by appropriate fully documented central recording and monitoring.
- Only using contractors who can demonstrate that they operate to best practice and legal requirements by being members of an approved assurance scheme, recognised by the UK Amenity Standard. This will give assurance that they have schemes of continuing professional development (CPD) in place for their operators and managers and are fully up to date with current practices.
- Establishing an appropriate training and CPD programme within NCC for all involved in procuring, specifying, managing or operating weed control programmes. Such a CPD programme will vary in terms of content for each target group.
- Ensuring an appropriate easily understand method is in place for recording glyphosate use, and ensuring proper record is in place to both meet statutory requirements and also clearly demonstrate that a thorough and detailed approach has been taken in determining appropriate weed management approaches. This should also be linked to the existing council dash board monitoring greenhouse gas (carbon) emissions and progression to carbon targets. These actions will not only increase awareness across all departments in NCC but also ensure accurate responses to requests by the public as they arise.
- Communicating throughout NCC, and externally, the agreed policy on glyphosate use, set in the context of weed management across all managed NCC sites. In terms

of external communication to the public, this will involve explaining why weed management is required and how choices are made to achieve this. Also, it can seek to give re-assurance that approaches taken are always implemented by appropriately trained and approved operators fully committed to producing safe, healthy and sustainable spaces minimising environmental impact but ensuring such spaces are fit for purpose and meet community expectations.

- By taking the approach above, the policy will address safety to practitioners, people and society and minimise impact on the environment by:
  - Establishing appropriate training, procedures and communication planning relating to the use of glyphosate across the Council's operations
  - Enabling the correct balance to be achieved, ensuring proper and effective weed management in the context of environmental protection and nature recovery, consistent with strategies and policies already in existence and being developed.
  - Allowing proper management of weed management within integrated approaches designed to minimise the need for control and, as such, to minimise glyphosate use.

## **V. Glyphosate Policy Statement**

Norfolk County Council is committed to minimising the use of herbicides, including those containing glyphosate, to control weeds or other undesirable plant species on its managed land, whilst still maintaining safe and healthy spaces fit for purpose and appropriate use by its communities.

This policy document summarises the approach to be taken by the Council to weed management to achieve desired outcomes in the most effective manner, whilst minimising environmental impact and without any compromise on issues of public safety. The policy also takes full account with the objectives and strategies set out in both the NCC Pollinator Strategy and Environment Policy as well as in both the developing Norfolk and Suffolk 25 year Environment Plan and Nature Recovery Strategies.

The Council will only use authorised and fully approved glyphosate products. It will meet all legal requirements in its application, as well as other checks being undertaken when employing third parties, seeking to ensure best practice throughout all operations. In a range of situations such as highways and the control of invasive weeds, glyphosate products currently continue to provide the most longer lasting and cost effective solution and often have the lowest environmental impact, certainly in terms of carbon emissions. However, in its aim to minimise its use of herbicides including glyphosate products, the Council will employ a fully integrated management approach. This involves defining clearly, for each specific situation, the desired outcome and looking at all ways of minimising weed problems by design and cultural management. Where control is needed, it requires identification of the correct combination of methods to be employed to achieve this desired outcome. It requires co-ordination across departments in terms of operations and strategies with appropriate on-going training in a consistent and co-ordinated manner.

Other than for areas designated as sites of special scientific interest, this document does not specifically state situations where glyphosate products should not be used as this will be identified in the integrated management planning process, a core action in implementation of the policy. However, in its use of glyphosate products, particular areas requiring special consideration will include schools and playing fields. In terms of operations on schools grounds under NCC control, the use of glyphosate products will be restricted to exceptional circumstances and where health and

safety could be compromised if such action were not taken. Wherever possible, any such applications should take place outside the school day, or in holiday times, with suitable warning signs displayed and access to areas restricted after treatment for at least the required period stipulated on the glyphosate product label.

Other areas where glyphosate products should not be used is in sites of special scientific interest or areas designated as protected unless absolutely essential. Examples may be walkways through nature areas where weed growth could create pedestrian health and safety issues. Also it may become necessary to use glyphosate products to control unwanted plant growth such as invasives which impact upon other aspects of plant growth and biodiversity. However, such treatment will need appropriate authorisation within a formal control and review process and procedure.

Through adoption of this policy, NCC seeks to produce safe, healthy and fit for purpose spaces whilst providing full assurance to its communities that all approaches used are approved and authorised and all measures are taken to ensure this.

A summary of the key principles embodied in the NCC Policy Statement described in this document is provided at Appendix 6 to this report.

## **VI. Responsibilities**

This Glyphosate Policy, once adopted by the Council, becomes the responsibility of every member of staff working for or on behalf of the Council. This applies not just to personnel who are managing and controlling weeds as part of their day-to-day duties or work programmes, but also to personnel in supervisory, management and administrative roles within the Council. This is to ensure that all staff take, and have a collective responsibility to ensure that, the objectives and outcomes of the policy are delivered in everything NCC does, or is responsible for, regardless of whether or not this relates to weeds and their control or eradication.

The Glyphosate Policy applies to any organisation or any individual who is either contracted to work within any of the sites that the Council is responsible for, or who has consent to undertake any activities within such sites. This applies to any commercial or utility operator who is working within such sites either to undertake statutory or service-related activities or who has been commissioned to work there.

The Policy also places a responsibility on the Council to monitor, review and evaluate its success and that of the various actions agreed under the Policy in terms of managing weeds. This is essential to ensure that:

- a cost-benefit analysis process is regularly undertaken
- any adverse impacts from this policy, and the methods available, are identified and contained or eliminated
- innovative or improved techniques and methods are always given appropriate consideration for inclusion into and application in weed management as they develop and if they meet the criteria for use.

## **VII. Procedures**

When using glyphosate products, the following procedures will be followed:

- Weed control with herbicide will be undertaken to the appropriate specification contained in the contract, related to the desired outcome of weed management agreed for the specific situation involved.
- All herbicides shall be approved by the Chemicals Regulation Division of HSE and used strictly in accordance with the product label and the requirements of UK Plant Protection Products Regulations as well as any advice issued by the Chemicals Regulation Division and the manufacturer
- Herbicides should not be applied during or before weather conditions that would render their use ineffective or result in the contamination of surrounding areas.
- At all times, operations should fully take into account the amount of active pollinators in a given situation and seek to minimise their exposure to the plant protection product where they are at most risk. In terms of spot spraying hard surfaces, the specific risk of potential impact upon pollinators will be identified in drawing up integrated weed management plans. If using glyphosate on green areas, such as around landfill sites, the timing of spray application will be chosen to minimise potential impact upon pollinators.
- Weed spraying within one metre of a water course, or from the top of a river bank, requires Environment Agency notification prior to work starting, using a form, available from the Environment Agency.
- Prior consultation with the Environment Agency will be needed before herbicides are used on filter or French drains which abut or traverse Sites of Special Scientific Interest.
- Where required in a particular situation, the appropriate Authority should be consulted before weed control is undertaken

## **VIII. Key actions to be implemented in the NCC approach to weed management**

This section looks in more detail at the key actions embodied in this policy and to be adopted.

### **A. Integrated Approach to Weed Management and its application (IWM)**

The policy establishes a requirement for each department within NCC, in addressing situations and areas where weed control is required and needed, to have in place a written Integrated Weed Management Plan (IWM). It should be available for inspection when required.

The IWM will cover such items as:

- Is weed control essential and could the need for it be eliminated or minimised by improved management of the site and better planning of its use and requirements?
- If weed management is needed, what level of control is required? Does it need complete weed eradication, such as in treating invasives, or could a certain level of weed infestation be tolerated, for example on certain pavements or roadsides in the county?
- Having established the need for weed control, the plan will review all the various approaches and methods available either as single methods or combinations. These approaches will then be evaluated in terms of cost, effectiveness, safety, health and environmental impact. In assessing effectiveness, one of the measures will relate to the

speed at which weeds re-grow after treatment which will influence the number of treatments needed, and hence the cost and potential environmental impact.

- In creating the plan, it is also important to seek co-ordination of activities across other departments in NCC and the county. In hard surfaces, if the responsibilities for sweeping is held by other bodies outside direct NCC control, discussions should be held to allow the plan to demonstrate how proper co-ordination of activity can best be achieved to optimise outcomes in terms of weed control in the most economic, effective and efficient manner.
- Following this review, an approach will be determined and adopted. If the approach involves the use of plant protection products such as glyphosate, checks will be in place to ensure such product is safely stored meeting legal requirements, and that fully tested and inspected equipment is used by appropriately certificated and trained operatives.
- The plan will also include a method of review, following implementation, and will be updated regularly to take account of developments and innovations

Appendix 1 provides a representation of what is involved in adopting an integrated management approach. The production of integrated management plans will involve different stages, depending upon the situations being addressed, but each plan will have the same components. For example, in maintaining highways in the county, weed control is carried out to limit damage to the fabric of the highway, to mitigate structural damage to the highway infrastructure and to facilitate unobstructed free movement along it, including for safety and visibility reasons. In this case, the most appropriate approach is to develop the integrated management plan annually, prior to the start of the growing season, keeping under review depending upon conditions. If dealing with more specific situations, such as the control of unwanted weeds in say a built up area or close to council buildings, the method of treatment would be selected from the integrated weed management plan in place at the time when action is needed, for deciding upon the best approach to be adopted.

An element within the creation of integrated management plans is the assessment of weediness and what level can or cannot be tolerated. Appendix 2 highlights two situations. The first refers to an approach for adoption in maintaining highways. The second relates to an example from a research project which sought to determine weediness levels in more static paved areas, found for example the curtilage of NCC buildings or the like. It is important to emphasise that this is an illustrative example. Each department in NCC, dealing with aspects of weed management, will need to determine the most appropriate method of assessment and include this within their required integrated management plan.

Appendix 3 provides a flow chart indicating the type of decision making to be addressed in integrated management planning. Once more it is an example and, in implementing this policy, it is worth re-emphasising that it will be important to develop an agreed consistent approach appropriate to the needs of NCC. This approach will then be adopted across all areas of activity.

## **B. Operator certification and equipment testing**

The policy establishes the approach under this heading in the following way:

- Where herbicides are to be used, all personnel handling and applying them, whether directly employed or as contractors, must be fully trained in their use, and hold relevant certification (such as City & Guilds PA1 and PA6A, or Lantra equivalents, with additional qualifications as required to meet specialist situations). They will be required to comply with the conditions



of these certifications and other regulations relating to the use of herbicides, including COSHH and current Codes of Practice, and must always wear the correct personal protective equipment (PPE). It is a requirement that all operations involving the use of herbicides, undertaken by contractors and/or Council staff are covered by a quality assurance scheme recognised by “The UK Amenity Standard” (see next section).

- All herbicide application equipment (sprayers) should be checked, maintained and calibrated on a regular basis; a useful guide is.
  - i. At the start or change of a programme
  - ii. Beginning of the season
  - iii. Moving to a different location
  - iv. Changing product / rate
  - v. Repair or maintenance to sprayer
- All application equipment, except knapsacks and hand-held, must also, as required, possess a certificate demonstrating that it has passed an officially recognised test conducted by a centre approved by the National Sprayer Scheme (NSTS). Equipment, five years old or over, has a legal requirement to be tested, on either a three, five or six yearly basis thereafter, depending on when the most recent test was conducted and the type of equipment. Knapsacks and hand-held equipment will be subject to regular inspection, at least annually, depending upon frequency of use. The results of such inspection will be documented fully and any remedial actions undertaken immediately.
- NCC is on a UK Register established as a result of the Official Controls (Plant Protection Products) Regulations 2020, indicating that they are nationally recognised users of plant protection products. There are requirements within this to ensure safe storage of herbicides. As NCC predominantly uses external contractors, it will be important to establish at the outset of any agreement with them that these contractors are also on the register and have fully approved storage facilities for any plant protection products used.

### **C. Providing assurance of professionalism and quality of operations**

A requirement in this policy relates to ensuring all glyphosate products, or indeed any herbicides used, are applied to the highest professional standards. Key actions for achieving this will be:

- NCC will ensure all weed management programmes are undertaken to the UK Amenity Standard, allowing it to display the logo as and if appropriate on sites within the county. To qualify for the UK Amenity Standard, organisations responsible for weed control, normally contractors in the case of NCC, must be members of an approved and recognised assurance scheme. Given the NCC situation, this is likely to be Amenity Assured, currently overseen by BASIS Registration Limited. In employing contractors, the need to be at this Standard will be paramount, an essential requirement to be specified in tender documents.
- This will give assurance both externally and internally that operations are being undertaken by fully trained professional operators and that, where plant protection products are used either singly or in combination with other non-herbicide methods, that they will be applied efficiently in a targeted manner in line with the NCC policy of minimising use.
- Personnel involved in weed control will exercise due caution before, during and after the application of herbicides, to ensure that their methods of working and handling of plant protection products or equipment does not result in any increased risk of avoidable harm being caused to the environment or public. This includes the safe storage and disposal of any empty containers of herbicides including triple rinsing of used or contaminated equipment or containers (unless prohibited by the label).

#### **D. Training and continuing professional development (CPD)**

The actions in this area will include the following:

- An initial training programme will be implemented by NCC for all whose role involves decisions concerning the use of herbicides, primarily glyphosate based currently. This programme will be targeted on those directly involved in operating, managing, and specifying weed control programmes, as well as including awareness training for those procuring products.
- The training will cover all the key elements considered in establishing this policy with the outcome being staff fully understanding the reasons for, and methods available, for weed control and the fundamentals of integrated management planning. It will also provide key guidance specific to their roles in the process. Any new staff subsequently taking on such responsibilities will undertake this initial training
- Such a programme will be part of an NCC Continuing Professional Development Programme (CPD) developed for all staff involved in the use of plant protection products and those managing, specifying or procuring product for such programmes.
- It is recognised that in the main, NCC uses contractors for weed management operations and their commitment to CPD will be validated by their demonstration of being part of a recognised assurance scheme. Hence this NCC CPD programme will be an annual refresher course suitable for operators, specifiers and those procuring products. The core purpose of the refresher will be to update on policy changes and how they might impact on NCC and individuals. It will also update on any changes in codes of practice or requirements.
- In implementing this CPD programme, external trainers will be used, qualified to deliver relevant training in this area.

#### **E. Recording and Monitoring glyphosate use across NCC**

It is a legal requirement that whenever any herbicides are used, a detailed record will be kept as to the date, time, duration, site, area, target weed(s) and amount and type of chemical used. These records will be fully documented and available for inspection. In the case of NCC, this legal responsibility chiefly rests with the contractors employed but, in this plan, the aim is to capture such information in its total use by contractors and in house.

However NCC will, in addition, make record of, and centrally monitor, the adoption of integrated weed management plans, identifying that all considerations have been made of impact on people, water and the environment whilst delivering the most effective and economic solution and including an estimate of the carbon implications of the approach chosen using a standard methodology.

There is already a NCC dashboard, recording carbon emissions and capture. Data recording as above will link to this dashboard and, based upon this approach, information on glyphosate use will be available in a format suitable for inspection externally and internally.

#### **F. County Farms & land owned but not directly managed by NCC**

Glyphosate may be used in circumstances where, although NCC has land ownership, it does not have direct land management responsibility for determining operations or activities, other than requiring that they meet legal requirements and are within the terms of tenancy agreements. This is certainly the case for County Farms.

However. NCC will ensure this policy is communicated to those involved such as its farm tenants, with a strong request that they apply these principles and actions. Appropriate guidance and access to training will be made available as possible.

## **G. School Academies**

For each situation, NCC leases its land to the Academy Trust including playing fields, car parks and hard surfaces. Normally NCC reserves an access right to the playing field in case of the school closing and other departments wishing to develop this land or the wider site. Decisions relating to weed management approaches and methods are the responsibility of the Academy Trust involved. NCC could seek to enforce the glyphosate policy by adopting changes to the terms of lease agreement. However at this stage, NCC will ensure that this glyphosate policy is communicated to the individual school academy trusts with a strong request that they apply these principles and actions. The approach will be kept under review.

## **H. Communication strategy – external and internal**

Strategies will be adopted and implemented to ensure that this policy and the approach to weed management is understood both internally across all areas of activity within NCC, and externally facing. In public communications, it is important to emphasise the reasons for weed control and decisions taken to achieve the required outcome.

External communication in particular will emphasise the reasons for weed management in maintaining safe and healthy spaces fit for purpose. It will stress NCC's intention to minimise both glyphosate use and its environmental impact. It will also indicate that products used are fully approved and authorised, and applied by fully trained professional operatives. Where they are used, they have been chosen as the most appropriate means of managing weeds in terms of cost and effectiveness as well as least impact on the environment, especially in terms of carbon emissions and meeting commitments within existing NCC strategies and plans.

All personnel handling and applying herbicides in any NCC situation will be aware of the public nature of such sites and the presence of features and factors which could be exposed to potential harm from such products. They should be capable of addressing any public concerns or at least directing them to the appropriate person and will be assisted in this by issue of appropriate written and electronic material.

## **IX. Impact assessment of implementing the policy**

### **A. Risk Impact Assessment - Compliance and Governance**

The adverse impact of adopting this Policy is assessed as LOW. It ensures that the Council is compliant with existing legislation (both EU and UK) and government policy and guidance, as well as able to respond effectively to any new legislation which may emerge and be enacted. It will ensure that the Council is compliant with its own internal policies, especially those regarding improving sustainability, air quality, equalities and health for its residents, its various environmental strategies and commitments and for protecting its staff (and those working on its own behalf) by providing them with a safe working environment.

The Policy also ensures that the Council is fully in control and directing an ongoing commitment to minimising use of glyphosate-based herbicides approved and authorised for use in the UK. It is then able to stand up to scrutiny and challenge from both residents and the wider community if concerns are expressed as to the environmental and health effects of such products. It also enables the Council to demonstrate that it has a robust risk-assessment based action process in place to protect itself and its residents/staff from avoidable legal and financial challenge or liabilities, and to protect its reputation as a responsible public body.

It is important, in assessing methods of weed management, to fully take account of carbon emissions as some non-pesticide methods have high emissions in their operation. Again this policy addresses this.

### **B. Financial Impact Assessment**

Properly evaluating and choosing the right methods and equipment for management of weeds is required through implementing this policy, so that the best, most cost-effective and reliable systems are bought, used and maintained. This supports a LOW adverse financial impact outcome for the Council.

The approach taken will not necessarily provide the least cost solution in money terms alone but the most cost beneficial in terms of delivering on an approach providing safe, healthy and sustainable spaces fit for purpose and taking full consideration of the environmental impact, based upon existing NCC commitments, including carbon targets.

### **C. Equalities Impact Assessment**

Adopting this Policy is likely in some situations to change the tolerance levels for weediness which could both lead to an increased prevalence of weeds in certain places and a potential reduction in the use of plant protection products. These factors could exert a negative or a positive impact on public perception, regardless of gender, age, ethnicity, culture or ability. Such changes in management need to be supported by good public communications to explain what the Council is doing and why.

This Policy will support a MEDIUM-LOW adverse equalities impact.

#### **D. Sustainability Impact Assessment**

Sustainability refers generally to the capacity for the Earth's biosphere and human civilization to co-exist.

**Sustainability** is made up of three main pillars:

- Economy
- Society
- Environment.

These **principles** can be converted to:

- Cost/profit
- People/Operators
- Planet/Environment

Provided the actions set out in this policy are implemented in terms of careful selection, operation, maintenance and monitoring, then the overall adverse impact upon sustainability and the environment is expected to be LOW.

## Appendix 1

### Representation of what an integrated approach means



NCC will adopt a consistent approach to producing such integrated weed management plans across all departments and areas involved, based upon the principles and requirements established. It will also establish a central record of the integrated management plans adopted by individual departments with responsibilities which include weed control.

In seeking to create these integrated plans, recommended reference material is available through two documents prepared by the Amenity Forum.

- Integrated Weed Management in Amenity Spaces **Guidance**
- Creating an Integrated Weed Management Plan for Amenity Spaces **Template**

However it will be important to develop an NCC specific approach fully owned by all involved.

## Appendix 2

### **EXAMPLES OF THE APPROACHES TO BE ADOPTED IN DETERMINING WEEDINESS LEVELS**

This appendix examines two example situations encountered in terms of weed management. In creating the required integrated management plans within NCC, the approach to determining tolerable weediness levels will be applied as appropriate to the various weed management situations encountered and be documented in each plan.

The first situation relates to highways. The second relates to a more specific situation where weeds are being managed, say around NCC maintained buildings.

#### **Situation 1** – Managing highways



Weed treatment is an annual routine maintenance operation on hard surfaced areas of the highway including footways and kerb lines. As such, those responsible for weed management need to establish an integrated management plan prior to the growing season and, in advance of instructing contractors to undertake the work. This will involve decisions being taken on the level of weediness that can be tolerated.

The current approach to this adopted in NCC, and deemed as fit for purpose in line with this policy, is as follows.

Given the length of the footways and kerb lines across the county, an area weed growth level assessment/condition report is made on a countywide basis. During the season, this assessment is updated based upon observations during planned routine highway inspections and, also taking into account an assessment of the number of customer service contacts related to weed growth. As part of this process, the Highways department frequently collates and discusses such area views at management team meetings to establish the level of weed growth and tolerance levels.

This approach is a key determinant in determining treatment start date for the whole of the county and for monitoring and reviewing matters throughout the season, as will be established in the annual integrated management plan. This is not a specific location assessment but a global county assessment, whereby a dynamic and targeted spot treatment can then be undertaken at the most appropriate time, based on the level of weed growth to minimise the impact on highway users whilst protecting the highway asset.

**Situation 2** – Managing weeds in paved areas within a built up environment, such as the curtilage of NCC maintained buildings. The example is based upon work initially undertaken as part of a government funded project looking at weed control on pavements in an urban context. It is for illustration. NCC will develop its own specific approach best suited for purpose in terms of its integrated management plan process, as part of implementing this glyphosate policy.

## Weed Level Scale

### Weediness criteria

Score each criteria and add together to give the weed level

Clump diameter = numerous plants

Rosette diameter = single plant

Length = along any pavement or channel edge

*Slab areas – weeds within pavement rule*

*>30 cm length within pavement area >30 mm height downgrade by 1 classification (i.e. add 3 points total score)*

| Key               |
|-------------------|
| Acceptable        |
| Planning required |
| Unacceptable      |

| Criteria    |                                       |                    | Class | Score | Description   |
|-------------|---------------------------------------|--------------------|-------|-------|---|
| Height (mm) | Clump/rosette diameter or length (mm) | Joint coverage (%) |       |       |   |
| 0-75        | 0-100                                 | 0-20               | 1     | 3     | No or occasional small weeds                                  |
| 75-150      | 100-150                               | 20-30              | 2     | 4-6   | Patchy weed growth some shooting weeds                        |
| 150-200     | 150-200                               | 30-40              | 3     | 7-9   | Numerous weeds many shooting, view annoys or irritates public |
| >200        | >200                                  | >40                | 4     | 10-12 | Numerous large weeds, risk to slip or trip                    |

### Series of photos to accompany a new weed level scale

- Must show extreme of each level to decrease ambiguity

#### Level 2 - Patchy weed growth some shooting weeds



#### Level 3 - Numerous weeds many shooting, view annoys or irritates public





## New Weed Level Scale - example



- Weeds less than 75mm high (1 point)
- Clump/rosette diameter or length – linear length between 150-200mm (3 points)
- Joints covered by approx. 30% (2 points)

### Points total:

6 = Level 2,  
acceptable, **planning**  
**required**

| Level - Points per criteria cell | Tarmac Score | Slab Score | Height (mm) | Clump/rosette diameter, length (mm) | Joint coverage (Slab only) (%) | Description                            |
|----------------------------------|--------------|------------|-------------|-------------------------------------|--------------------------------|--|
| 2                                | 2-3          | 4-6        | 75-150      | 101-150                             | 20-30                          | Patchy weed growth some shooting weeds |

## New Weed Level Scale - example



- Weeds between 75 – 150mm high (2 points)
- Clump/rosette diameter or length – linear length >300mm (4 points)
- Joints covered by approx 25% (2 points)

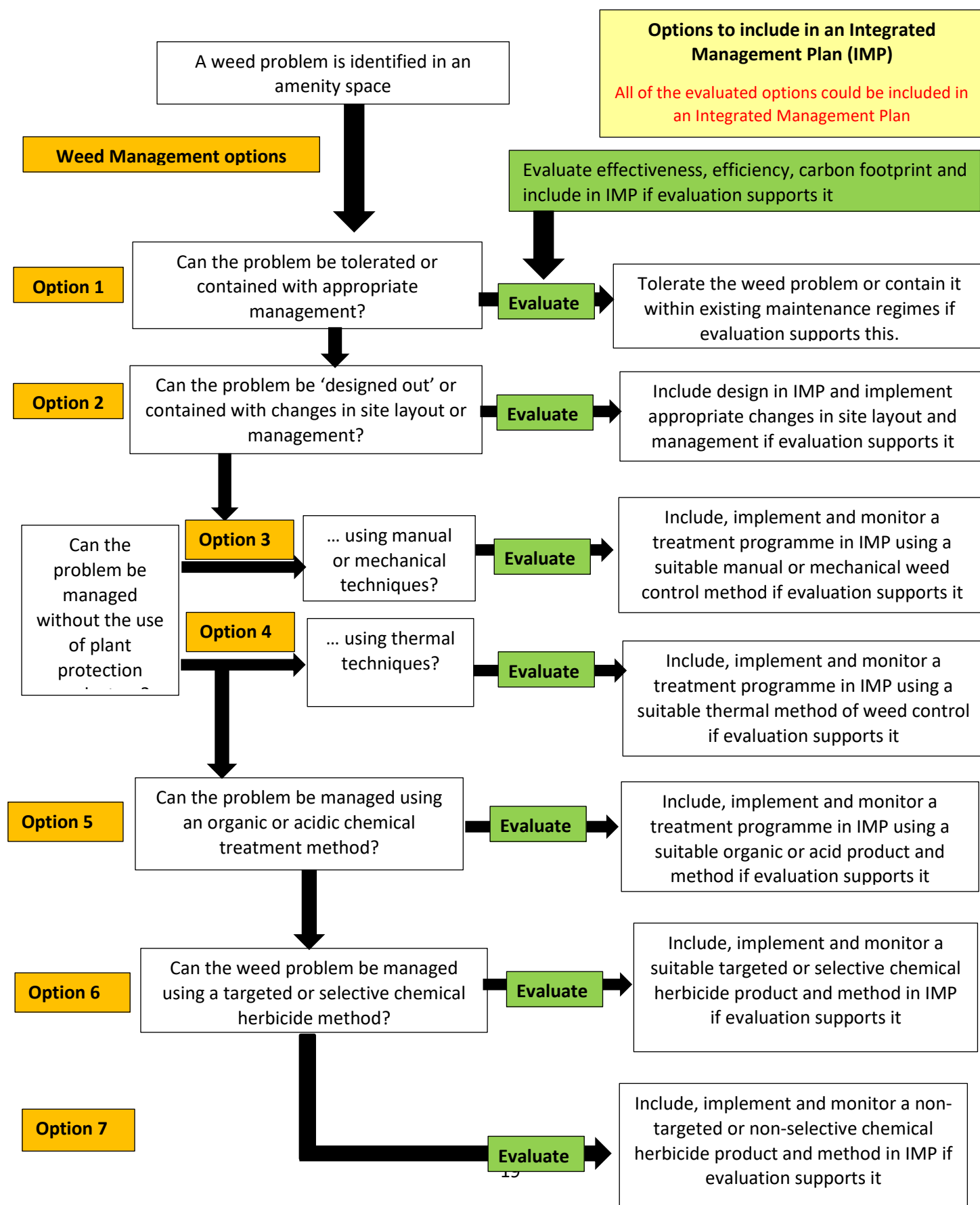
### Points total:

8 = Level 3,  
unacceptable, remedial  
action required

| Level - Points per criteria cell | Tarmac Score | Slab Score | Height (mm) | Clump/rosette diameter, length (mm) | Joint coverage (Slab only) (%) | Description   |
|----------------------------------|--------------|------------|-------------|-------------------------------------|--------------------------------|---|
| 3                                | 5-6          | 7-9        | 150-200     | 150-200                             | 30-40                          | Numerous weeds many shooting, view annoys or irritates public |

### Appendix 3

An example of the decision making process to be followed in creating integrated management plans for specific situations



## **Appendix 4**

### **Legislation Relating to Weeds and their management**

Inevitably the use of herbicides, and the control/eradication of weeds, is dictated and influenced by various forms of legislation or regulations that have either been developed in the UK arising from former EU directives or policy, or which have originated solely within the UK as a response to BREXIT, national and regional policies or issues of concern.

#### **The Weeds Act 1959**

The Weeds Act 1959 empowers the Department of Environment, Food and Rural Affairs (DEFRA) or its subsidiary bodies to serve notice requiring an occupier of land to take action to prevent the spread of certain specified weeds. Action under the Act is pursued by DEFRA specifically when agricultural land is threatened by these specified weeds. DEFRA may also elect to have a third party undertake any necessary action and recover costs from the occupier. Specified weeds under the Weeds Act 1959 are Spear Thistle, Creeping Thistle, Curled Dock, Broadleaved Dock and Common Ragwort.

#### **Wildlife and Countryside Act 1981 (as amended)**

Section 14 of the Wildlife and Countryside Act 1981 makes it an offence, liable to a fine, to plant or otherwise cause to grow in the wild, certain specified weeds. However, it may be a potential defense to prove that all reasonable steps were taken to prevent these plants growing in the wild. Specified weeds under the Act include giant hogweed, Himalayan balsam and Japanese knotweed.

#### **Town and Country Planning Act 1990 (England and Wales)**

Section 215 (England & Wales) empowers local authorities to serve notice on owners or occupiers of land to control weeds that are considered harmful to the amenity of the surrounding area. Failure to take appropriate action may be liable to a fine, or alternatively the local authority may recover costs incurred in employing a third party to take the appropriate action.

#### **EU Sustainable Use Directive 2009 implemented by the Plant Protection Products (Sustainable Use) Regulations 2012 (*Whilst the UK is no longer a member of the EU, in transitional arrangements the UK Government has adopted such measures further to subsequent review in due course*)**

This Directive states that member nations must keep the use of pesticides and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise the risks to human health or the environment from these forms of intervention.

- All users of herbicides to have a certificate of competence
- A continued requirement for anyone who uses a pesticide to take “reasonable precautions” to protect human health and the environment
- A continued obligation to confine pesticide application to the target area
- Continued requirements in relation to storage, handling and disposal
- Specific measures to protect water
- Requirement to minimise use in specific areas (roads, railways, very permeable surfaces or other infrastructure close to surface and groundwater; sealed surfaces with a high risk of run-off to surface water and sewage systems; areas used by the general public or vulnerable groups; in the close vicinity of healthcare facilities; in conservation areas)
- Obligations for the regular inspection of Plant Protection Product Application Equipment by independent NSTS testers
- Requirement for those who purchase products for professional use to ensure the end user holds an appropriate certificate

**Water Framework Directive 2000**

This directive relates to the protection of water-based environments, including groundwater and drinking water. To reduce or remove the risks of polluting such water environments, the directive states that future weed management strategies should adopt an integrated approach in order to deliver the most sustainable control of weeds.

**Glyphosate License**

The current status is that the manufacture and sale of products based on or containing glyphosate will continue to be approved in the UK until December 2025, when further reassessment will be made.

**Control of Pesticide Regulations (COPR) 1986**

This UK regulation requires that all operators who wish to apply pesticides must hold the appropriate statutory 'NPTC' certificates for the various applicators that they intend to use – recognized certificates are issued by City & Guilds and by Lantra Awards.

**Control of Substances Hazardous to Health Regulations (COSHH) 2002**

This is the law that regulates the occupational use of substances hazardous to health within the UK, which all herbicides are classified under. It aims to ensure that the correct control measures are in place to reduce the risk of harm from exposure to hazardous substances. This also covers the correct and safe storage of chemicals, including herbicides

**The Official Controls (Plant Protection Products) Regulations 2020**

These regulations came into force in Great Britain in June 2020 and require all users and all suppliers of professional plant protection products to appear on a GB register overseen by Defra. Those required to register are:

- operators who place PPPs on the market - businesses who produce, manufacture, process, import, distribute and sell professional PPPs, components, and adjuvants
- all other operators, including those who use PPPs in a professional capacity in agricultural, horticultural and amenity situations either directly or using third parties such as contractors.

**Provision and Use of Work Equipment Regulations 1998 (PUWER)**

These Regulations, often abbreviated to PUWER, place responsibilities on businesses and organisations whose employees use work equipment, whether owned by them or not.

PUWER requires that equipment provided for use at work is:

- suitable for the intended use
- safe for use, maintained in a safe condition and inspected to ensure it is correctly installed and does not subsequently deteriorate
- used only by people who have received adequate information, instruction and training
- accompanied by suitable health and safety measures, such as protective devices and controls. These will normally include guarding, emergency stop devices, adequate means of isolation from sources of energy, clearly visible markings and warning devices
- used in accordance with specific requirements for mobile work equipment.

## Appendix 5

### Training and Health & Safety for Operatives Using Pesticides

#### 1. Requirement for users of plant protection products (pesticides) authorised for professional use to have a specified certificate (formerly certificate of competence)

Users of professional pesticide products are required to hold a certificate showing they have sufficient knowledge of the subjects listed for their use (these certificates are called a specified certificate, formerly a certificate of competence). Previous certificates of competence remain valid under the legislation. A list of recognised specified certificates is available on the HSE pesticides website.

Everyone who uses pesticides professionally should have received adequate training in using pesticides safely and be skilled in the job they are carrying out as well as holding a specified certificate. This applies to:

- users, operators and technicians (including contractors);
- managers;
- employers;
- self-employed people; and
- people who give instruction to others on how to use pesticides.

Guidance on the safe use of plant protection products exists in the **Codes of Practice** for Using Plant Protection Products. A new Code of Practice is expected later in 2022. In the meantime, there is guidance available for those affected by the Regulations on the HSE website. Although some of the underlying legislative framework has changed, the general guidance contained in the Code remains appropriate. If there is any inconsistency between the Code and the HSE guidance, the advice in the HSE guidance takes precedence.

Under the previous UK legislation governing pesticide use, those born before 31 December 1964 who used an agricultural product on their own or their employer's land were exempt from the requirement to hold a certificate of competence. This was known as a **grandfather rights exemption**. This exemption was withdrawn on 26 November 2015, after which everyone who purchases a professional product must ensure that the intended end user holds a recognised specified certificate.

#### 2. Training Requirements

Before using a pesticide, the need for training in the subjects set out below is established by HSE. The key elements are included in the proposed initial training programme and continuing professional development scheme to be established by NCC as part of this policy.

- a. All relevant legislation regarding pesticides and their use.
- b. The existence and risks of illegal (counterfeit) plant protection products, and the methods to identify such products.
- c. The hazards and risks associated with pesticides, and how to identify and control them, in particular:
  - I. risks to humans (operators, residents, bystanders, people entering treated areas and those handling or eating treated items) and how factors such as smoking exacerbate these risks;
  - II. symptoms of pesticide poisoning and first aid measures;
  - III. risks to non-target plants, beneficial insects, wildlife, biodiversity, water and the environment in general.

- d. Understanding integrated pest management strategies and techniques, biological pest control methods, information on the general principles and sector-specific guidelines for integrated pest management.
- e. Initiation to comparative assessment at user level to help professional users make the most appropriate choices on pesticides with the least side effects on human health, non-target organisms, water and the wider environment among all authorised products for a given pest problem, in a given situation.
- f. Measures to minimise risks to humans, non-target organisms, water and the wider environment: safe working practices for storing, handling and mixing pesticides, and disposing of empty packaging, other contaminated materials and surplus pesticides (including tank mixes), whether in concentrate or dilute form; recommended way to control operator exposure (personal protective equipment).
- g. Risk-based approaches to applying pesticides which take into account the local water extraction variables such as climate, soil and crop types.
- h. Procedures for preparing pesticide application equipment for work, including its calibration, and for its operation with minimum risks to the user, other humans, non-target animal and plant species, biodiversity and the environment, including water resources.
- i. Use of pesticide application equipment and its maintenance, and specific spraying techniques (e.g. low-volume spraying and low-drift nozzles), as well as the objectives of the technical check of sprayers in use and ways to improve spray quality. Specific risks linked to use of handheld pesticide application equipment or knapsack sprayers and the relevant risk management measures.
- j. Emergency action to protect human health, the environment including water resources in case of accidental spillage and contamination and extreme weather events that would result in pesticide leaching risks.
- k. Special care in protection areas established under Articles 6 and 7 of Directive 2000/60/EC, (Requirements for sales of pesticides; Information and awareness-raising)
- l. Health monitoring and access facilities to report on any incidents or suspected incidents.
- m. Record keeping of any use of pesticides, in accordance with the relevant legislation.

### **3. A requirement for anyone who uses a pesticide to take “reasonable precautions” to protect human health or the environment**

When using a pesticide product, authorised for professional use, it would help a user to meet the requirement to take “reasonable precautions” if he or she identified the most appropriate method (or combination of methods) of control, chose the product/method of control that minimised risks and the amount of pesticide applied whilst achieving an appropriate degree of control. They should then identify and mitigate any risks following practices that are consistent with those detailed in the Code of Practice and the guidance on the HSE pesticides website.

In the case of non-professional products following instructions on use and disposal of the product in accordance with instructions on the product label would help a user comply with the requirement to take “reasonable precautions”.

### **4. A continued obligation to confine pesticide application to the target area**

Users are required to confine pesticide applications to the land, structure or other material intended to be treated. Enforcement action may be taken against users, for example, who directly overspray a watercourse or spray in inappropriate weather conditions causing a risk of adverse effects on people or the environment adjacent to the treated area.

## **5. Requirements in relation to storage, handling and disposal**

There is a requirement to take reasonable precautions to ensure that: storage, handling and disposal of products, their remnants (old products and unused tank mixes) and packaging; and cleaning of equipment do not endanger human health, water or the wider environment. When handling, storing or disposing of products taking the following steps would help in satisfying the requirement to take “reasonable precautions”-

- in the case of non-professional products, following instructions on storage and disposal of the product in accordance with instructions on the product label.
- in the case of professional products, identifying and mitigating any risks; and following good filling, storage and disposal practice such as that detailed in the Code of Practice.

## **6. Specific measures to protect water**

There is a requirement to give preference to particular types of products where: the use of a product represents a risk to the aquatic environment and/or drinking water supplies; and there is more than one product authorised for a particular situation. The legislation provides that, so far as is reasonably practicable, preference should be given to products not classified as dangerous for the aquatic environment and not containing priority hazardous substances. Priority hazardous substances are listed in Annex II of [Directive 2008/105/EC](#) (link to external website).

Many factors (product toxicity, mobility, user practice, application of risk mitigation, method of application, condition of machinery, crop or situation, topography, soil type and weather) will determine whether use of a pesticide presents a risk to the aquatic environment or drinking water supplies. It is important, however, that users and advisors assess all risks (human health and the environment) and do not afford a disproportionate emphasis to any particular area. For example, it would not be appropriate to give preference to a product that may be assessed as posing less of a risk to the aquatic environment, if use of the alternative product posed a substantially greater risk to human health.

## **7. Requirement to minimise use in specific areas**

There is also a requirement to ensure that the amount of pesticide used and the frequency of use is as low as reasonably practicable where products are used in a number of specific areas. These areas are: roads, railways, very permeable surfaces or other infrastructure, close to surface water and groundwater; sealed surfaces with a high risk of run-off to surface water and sewage systems; areas used by the general public or vulnerable groups; in the close vicinity of healthcare facilities; in conservation areas; and areas which will be used by or accessible to amenity workers. ('Sealed surfaces', in practice, means surfaces that do not allow liquid to pass through them, e.g. tarmac. "Capped soil" is not a sealed surface.)

Users need to take into account the appropriate level of pest, weed or disease control necessary in particular situations when deciding their control strategy. For example, the control strategy required for a football pitch in a public park may differ from that on the greens of a championship golf course. Given that needs will differ and that the level of pest, weed and disease control and local risks can vary official guidance does not specify the level of control and consequently what constitutes an appropriate amount or frequency of use, for all circumstances which might arise.

## **8. Using pesticides without a Specified Certificate?**

If you need to have a specified certificate to do your job, but you do not have one yet, you must be working under the direct supervision of someone who has the necessary certificate (because you are undergoing training to obtain a specified certificate).

If you are supervising someone who does not have a certificate, you should be able to see and hear the person doing the job to supervise them. You should be able to see the person doing all parts of the job, including:

- preparing and mixing the pesticide;
- filling equipment and making sure the dose levels are correct (calibrating);
- applying the pesticide; and
- cleaning equipment and disposing of washings, leftover pesticides and the containers.

## **9. Continuing professional development (CPD)**

Once you have achieved a specified certificate, it is important (and a requirement of the Amenity Standard) that you continue to develop your technical knowledge and practical skills in using pesticides. You should make sure that you keep your training up to date and that you know the latest information on how to protect human health, wildlife, other plants and creatures you don't intend to treat, water and the environment.

You should keep a record of all the training you receive. It is the easiest way for you to prove that you have the necessary training, knowledge and skills.

You can get evidence of your continuing professional development by being a member of:

- the BASIS Amenity Training Register or the National Register of Sprayer Operators (if you use pesticides); and
- the BASIS Professional Register (if you sell or supply pesticides).

You will need the appropriate specified certificates to join these registers. To continue to be a member, you will need to attend a sufficient number of appropriate training events and conferences, in line with the terms of each scheme



## **APPENDIX 6**

### **SUMMARY OF KEY PRINCIPLES FROM THE NCC POLICY**

1. In managing weeds, the Council will always take an integrated approach and ensure, especially where glyphosate products are used, that use is minimised and targeted to achieve agreed levels of weed management for given situations
2. The Council will regularly review new methods of weed management as they become available, with a view to trialling these where they offer a viable alternative to glyphosate use but do not compromise other objectives in terms of health and safety, the environment and the NCC commitment to meeting carbon targets.
3. NCC will not use Glyphosate based products wherever possible and will clearly state areas where glyphosate products should not be used
4. Where glyphosate products are used, the Council will ensure full compliance with all legal requirements, maintain detailed and accurate records of pesticide applications and ensure staff managers, specifiers and operators, and appointed contractors, are fully trained, up to date and competent.
5. NCC will ensure all future contracts and, where possible, existing contracts, are consistent with the council's policy on glyphosate products
6. NCC will use whatever mechanisms are available, to ensure that third parties maintaining council owned land, comply with the council's policy especially in terms of them demonstrating that they operate to the UK Amenity Standard
7. Where NCC does not directly manage the land it owns as, for example, county farms and school academies, it will ensure that, as far as possible, the principles of this policy are upheld.

## Brief for Consultant (NCC Glyphosate Policy)

### Background

NCC has been approached by individuals and campaign groups (Freedom of Information requests) calling for a coherent policy on its use of glyphosate for weed control. Some local authorities are moving away from the use of glyphosate-based herbicides both to help with nature recovery programmes and to address health concern issues <https://www.pan-uk.org/pesticide-free-towns-success-stories/>.

The Council's Infrastructure and Development committee noted at their meeting in [November 2021](#) that the Council would develop a Policy for the use of glyphosate-based herbicides which will set out in what circumstances continued use of glyphosate will be permitted (and its use optimised); where it will never be used; and where alternative measures should be used. The Policy will apply to NCC departments and third parties contracted to the Council.

The NCC Policy for the use of glyphosate will give equal significance to the following three areas:

- Safety: how NCC will address safety to practitioners, people and society through a refreshed approach to the use of glyphosate across the Council's operations;
- Environmental protection and nature recovery: how any future use of glyphosate will be balanced against the Council's work to improve Norfolk's environment;
- Weed control: how weed control will be managed to lead to reduced reliance on glyphosate.

NCC has a broad portfolio as a County Council. Glyphosate is currently used across a range of departments with widely varying functions: Corporate Property Team; County Farms; Children's Services; Highways; Environment Team. Across the sector glyphosate is still widely used because it is legal, it is inexpensive, and it is effective at controlling weeds.

In agriculture also, glyphosate is currently still widely used in the UK and it does support some climate objectives e.g. reducing the need for ploughing, reducing CO2 emissions and minimising soil erosion. The Soil Association's Farming for Change report, however, sets out a vision to phase out pesticides and maintain biodiversity whilst providing a sufficient and healthy diet for a growing population. <https://www.soilassociation.org/causes-campaigns/reducing-pesticides/>.

In the EU glyphosate use is approved until 15<sup>th</sup> December 2022.

As part of its published Environmental Policy <https://www.norfolk.gov.uk/environmentpolicy> which sets out how NCC will improve Norfolk's environment and respond to the climate concerns, the Council is developing many new approaches. Better quality habitat on road verges for foraging and nesting pollinators and other wildlife is a key aim of the policy and NCC has developed a Pollinator Action Plan to address this. Reduced use of glyphosate-based herbicides is critical to this approach.

Additionally, NCC continues to align Norfolk County Council's nature recovery strategy with the Government's 25-year Environment Plan and key themes within the Environment Bill in order to ensure an enhanced state of preparedness for the further devolution of responsibility toward resource efficiency, biodiversity, waste reduction and air and water quality. A Norfolk and Suffolk 25 Year Environment Plan is being developed led by NCC and Suffolk County Council and the Norfolk and Suffolk Local Nature Recovery Partnership.

### Working arrangements

1. It has been agreed that the NCC Glyphosate Policy will be developed by an NCC Officer-led group drawn from officers from 5 departments: Corporate Property Team; County Farms; Children's Services; Highways; Environment Team and a **Working Group** has been established for this purpose. Work will be coordinated by Environment Team.
2. Recognising that NCC officers don't have all the necessary breadth of knowledge or expertise in glyphosate, the Working Group will receive additional input in the form of an external Consultant specialist who will be employed for up to 30 days (with possible extension to 40 days). An indication of consultant resource required (number of days) is given in the timeline below.
3. Sign off for the Policy lies with NCC Cabinet
4. Progress reports will be produced at regular intervals and as Workpackages conclude (see Workplan below) for the following: the NCC Head of Environment; NCC Member Oversight Group for the Environmental Policy; NCC Infrastructure and Development Select Committee; NCC Cabinet.
5. Indicative Timeline (will be modified as necessary as work gets underway)

Workpackage (WP) descriptions are given under the Workplan section below.

| What  | When                   | Milestones                   | Consultant resource (days) |
|---|------------------------|------------------------------|----------------------------|
| Appoint Consultant                                    | 1/2/2022 to 31/3/2022  |                              |                            |
| WP1 Audit current practices                           | 1/3/2022 to 31/5/2022  | Sign off 31/5/2022           | 6                          |
| WP2 Research into alternatives; site visits programme | 1/4/2022 to 30/9/2022  | Sign off by 30/9/2022        | 6                          |
| WP3 Recording system                                  | 1/4/2022 to 30/9/2022  | Sign off by 30/9/2022        | 2                          |
| WP4 Alignment with Environment Policy                 | 1/4/2022 to 30/9/2022  | Sign off by 30/9/2022        | 3                          |
| Review progress                                       | 1/4/2022 to 28/2/2023  |                              | 5                          |
| Write NCC Glyphosate Policy                           | 1/9/2022 to 31/10/2022 | Policy drafted by 31/10/2022 | 8                          |
| Progress report to I and D Committee                  | 16/11/2022             |                              |                            |
| Cabinet Report and NCC adoption of the Policy         |                        | February 2023                |                            |

6. NCC Environment Team will allocate staff resources as follows for the duration of the work: 0.5 days per week: administrative support; 1 day per month manager input x 2; 1 day per month Head of Environment

## Workplan

### A. Appointment of Consultant

B. Workpackage 1 (WP1): Audit current practices regarding the use of glyphosate by NCC to establish a current usage baseline; establish future approaches to reduce the use of glyphosate for each of the 5 NCC departments which use it.

This WP will establish:

- (i) Where glyphosate is used;
- (ii) How much is used;
- (iii) Where there are opportunities to improve safety for practitioners, people and society
- (iv) Potential harm caused by glyphosate to people and the environment;
- (v) Where there are opportunities to use alternatives to glyphosate
- (vi) Where use of glyphosate will be reduced
- (vii) Potential targets – % decrease in use of glyphosate over 5 years
- (viii) Cost implications

This work will be conducted by the Working Group/ Consultant leading to a report for each department which includes current usage against the range of activities carried out by that department and the potential for a change in approach. This work will be conducted by email and online meetings with the NCC departments. WP2 will assist with WP1

OUTPUT: report

C. Workpackage 2 (WP2): Research background into the use of glyphosate and alternatives

This WP will investigate:

- (i) How/where glyphosate is used by other councils across England and the approaches they are taking to reduce its use;
- (ii) Approaches to improve health and safety for practitioners, people and society;
- (iii) UK legislative changes that are proposed or likely regarding the use of glyphosate including a review of current practice with regard to health and safety;
- (iv) alternative methods of vegetation control that have been tried by NCC and others and whether further NCC trials of alternatives are needed;
- (v) what alternative approaches (real life examples) could be drawn upon, e.g. where regenerative agriculture is being achieved. A programme of site visits/ training / learning opportunities will be developed;
- (vi) cost implications.

This work will be conducted by the Working Group / Consultant and a report will be written. Results will be used to assist with WP1. If it is deemed necessary to conduct further trials into the use of alternatives this will be identified, and trials will be designed and implemented with the Working Group.

WP2 will assist with WP1

WP2 will feed into WP4

This work will be conducted by email and online meetings and site visits

OUTPUT: Report

D. Workpackage 3 (WP3): Investigate how to develop a monitoring and recording system

This WP will investigate development of a recording system to monitor use of glyphosate across NCC departments and where a switch has been made to alternatives. The platform will integrate with a NCC dashboard monitoring the Council's climate change targets to provide a visible account

of progress.

Internal monitoring processes will also be required and are likely to be separate from any public dashboard.

This work will be conducted by the Working Group with input from the wider NCC Environment Team working on the NCC Climate dashboard, and Consultant.

This work will be conducted by email and online meetings

E. Workpackage 4 (WP4): Investigate how to align the Glyphosate Policy with the NCC Environmental Policy and Norfolk and Suffolk 25 Year Environment Plan.

This WP will establish how NCC will ensure that the glyphosate policy aligns with, and can assist with delivery of, its important environmental commitments, including key adopted plans and policies such as: the Council's Environmental Policy; NCC Pollinator Strategy; and commitment to nature recovery through the emerging Norfolk and Suffolk 25 Year Environment Plan [report to NCC Scrutiny committee, 24<sup>th</sup> November 2021].

One of the outputs will be clarity on instances / locations etc. where glyphosate must not be used.

This work will be conducted by the Working Group working with the wider NCC Environment Team (Greenways Team; Natural Norfolk Team; Protected Landscapes Team etc.) and Consultant.

WP4 will assist with WP1

WP2 will feed into WP4

F. Write the NCC Glyphosate Policy

At the conclusion of the investigative work (WP1 to WP4) the Policy will be written.

In outline, the Policy is likely to include:

- (i) Background
- (ii) Approach taken by NCC Departments to reduce use of glyphosate. Table showing current use and expected use over the following 5 years by department. Costed scenarios.
- (iii) Steps taken to support delivery of NCC environmental objectives
- (iv) Steps taken to address safety to practitioners, people and society through a refreshed approach to the use of glyphosate
- (v) A monitoring dashboard;
- (vi) Summary across NCC; clear prescriptions regarding the use of glyphosate and alternatives. (Includes prescriptions for 3<sup>rd</sup> party contractors).

This will be carried out by the Working Group and Consultant

### **Role of the Consultant**

The Consultant will be employed to feed their expertise and knowledge into the Workpackages as described above (although the programme may be adjusted in an iterative way) to: guide and inform the work in an impartial, non biased way, drawing on their extensive experience in the field and examples of best practice developed elsewhere, whilst maintaining the confidentiality of Norfolk County Council's non-public data and information throughout. The Consultant's work is

likely to involve the following activities: desk research; attending online and in person meetings at County Hall (Norwich) and on-site in Norfolk; writing reports submitted as Word documents; producing PowerPoint presentations; responding to emails; and other tasks deemed necessary by NCC to achieve the work.

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## **Glyphosate Project**

### **Summary Report on Workpackage 1 (WP1)**

Audit current practices regarding the use of glyphosate by NCC to establish a current usage baseline; establish future approaches to reduce the use of glyphosate for each of the 5 NCC departments which use it.

**June 28<sup>th</sup> 2022**

## 1. Introduction

This report forms part of a project leading to the development of a policy on the use of glyphosate by Norfolk County Council. In order to achieve this objective, a number of work streams were defined, referred to as Work Packages. This report refers to the first of these and its main objective is to define current use of glyphosate products by different departments in the Council and their current practices in terms of its use. Data collection for WP1 was also designed so that views by different departments on future use and opportunities for different approaches could be obtained, required for future work on this project.

Work Package 2 is being undertaken alongside WP1, and is one in which research is being undertaken on the use of glyphosate and alternative options on a UK wide scale, particularly in terms of local authorities. These two pieces of work brought together are essential in moving towards the creation of the overall policy on glyphosate and the approaches that individual departments might take going forward.

This report on WP1 describes the method used for data collection, a summary of some of the key points which emerged from the overall results obtained and some overall conclusions, feeding into subsequent work packages in the project.

## 2. Methodology

Following discussions with the project work group, a survey form was created and forwarded to key personnel in the different departments, identified as either specifiers/ users or potential specifiers/ users of glyphosate products. The aim was to keep the form as straightforward as possible, whilst at the same time addressing each of the identified areas of enquiry under WP1. The survey was sent out electronically with a set return date. On receiving the returns, some one-to-one discussions were arranged either to clarify comments made or to build upon these to advance the study. Annex 2 to this report (Page 25 onwards) provides a copy of the survey form issued. Each individual return has been stored in separate documentation for use in further work.

## 3. Summary

Annex 1 to this report (page 8 onwards) provides our analysis of key responses received by each department, derived from the survey returns and follow up discussions. It is divided into two sections. The first (Section A) addresses the question of how much product is used, principally where applied and the desired outcomes. Section B addresses the majority of the remaining areas identified in WP1. This leaves five areas, included in WP1 not listed by department in the Annex. It is felt that they link more closely to future work and will provide essential input for these. However a brief summary of responses and conclusions is provided in this document.

### SECTION A

#### a) Glyphosate Product and volume used

Total use of glyphosate products by Norfolk County Council is recorded as 5733 litres. Principally this is in the form of Round Up. A full department breakdown is provided on the next page.



Glyphosate Product Used Identified in the Survey

|                    |                           |                            |
|--------------------|---------------------------|----------------------------|
|                    |                           |                            |
| Environment Team   | Round up ProActive 360g/l | 1.975 litres               |
| Arboriculture Team | Roundup                   | 0.3 litres                 |
|                    | Rosate 360 TF             | 0.875 litres               |
| Closed Landfill    | Round Up ProVantage       | 10 litres                  |
| Highways           | Trustee Amenity 450g/l    | 4,700 litres<br>870 litres |
| County Farms       | N/A                       | N/A                        |
| Norse              | Round Up Pro Active       | 150 litres                 |
|                    | TOTAL                     | 5,733.15 litres            |

## b) Where glyphosate products are used

This of course is defined by the specific areas managed by each department NORSE act as principal external contractor for the Council and, as such, manage all areas defined in the department responses, except for operations undertaken by the Landfill Team on closed landfill sites. This landfill work is undertaken under an agreement with the NCC Environment Team. As such, the Landfill team can be defined as contractors and they have registered separately as users of glyphosate products. Under new legislation, users of plant protection products are required to be on a UK wide register administered by Defra. As such Norfolk County Council has registered as a third party user, not directly applying products themselves but using contractors. NORSE and the Closed Landfill Team (defined in this as contractors) have registered separately.

Uses of products identified in this survey are as expected and clearly only used where there is a need for defined weed control.

## c) Desired Outcome

Responses in this section were variable and resulted in a number of one to one conversations to get a clearer picture. The outcomes included:

- Eradication or control of invasive weeds – a major issue on a national basis and one in which glyphosate products currently remain the only real practical option. This will be referred to in later reports.
- Use by the arboriculture team to inhibit re-growth on tree stumps and to maintain tree corridors to a satisfactory standard in residential areas, linked to public expectations
- Maintaining infrastructure on council sites to ensure safe and healthy operations and environment
- Removing weeds from highway areas, footpaths and public spaces, Current practice here is reported as zero tolerance 'killing all weeds to nothing'. This is an area which warrants further consideration by the Council in establishing the glyphosate policy. Is zero tolerance required for all areas or could some level of weed be acceptable in certain situations?
- NORSE, in their response, referred to their approach to desired outcomes being set by customer requirements – the customer here being the council. It does seem clear that there needs to be more thought given as to how these customer requirements are set. For example, in amenity grass areas such as parks, does the level of weed control need to be the same across all areas? Can some weed tolerance be accepted? In setting customer requirements, is consideration given to all factors involved, including encouraging insects

and bio-diversity. This is again an area which needs further consideration as this project develops towards the overall policy.

## **SECTION B**

### **a) Integrated approach to weed management**

The responses to this question did identify some misunderstanding as to what the term meant. Some see it as defining an approach using alternatives to pesticides. In fact, it is an approach which involves determining desired outcomes for specific areas and then looking at all options, pesticide and non-pesticide, to address the weed issues, before determining the correct combination of these best suited to meet requirements. The methods used will seek to be the most effective and economic whilst minimising impact on the environment.

The various departmental responses identified some use of hand pulling, flailing, cutting and mulching, where appropriate and practical. Use of other mechanical and thermal methods were not listed but appeared in other sections of the survey (see later). All options will need to be considered as to their viability and use in further work stages of this project. What is identified is a need for greater understanding of integrated approaches, as current best practice would be for the creation of integrated plans, something likely to be included in future government policy statements. Again, we will address this in future work stages. Sufficient here to highlight it as a staff training and awareness issue.

### **b) Weed assessments or routine applications**

Historically weed control programmes, especially on hard surfaces, have been regarded as routine applications. Indeed, for street and pavement, for example, often the number of applications, and sometimes the timing, were defined in tenders for external contractors. This situation is changing but the aim of this element of the survey was to determine current approaches across the county remit.

Where answered, the response here was routine application. Again, this would seem to identify an area to be investigated further in this project both in terms of approach and training.

### **c) Weed management methods already being used in conjunction with glyphosate-based PPPs**

Whilst glyphosate products are clearly widely used, use of some other means from time to time were identified. These included mechanical weeding such as brushing, hand pulling and cutting and mulching. Hot foam was used as part of an interreg funded trial by the Environment Team. However, the approach is not currently used due to its cost, perceived effectiveness and impact upon non target species.

A number of departments mentioned biological control which is a developing area but primarily linked to the control of pests.

Again, this section identifies the need for integrated planning and indeed the Landfill Team referred to this specifically in their response.

d) Are weed management activities regularly reviewed?

Some form of review system is generally in place within departments, but the objectives can vary. One response indicated that this review linked to meeting service requirements. Another indicated this as part of survey work. Again, developing the overall glyphosate policy should lead to a more uniform approach to this review process.

e) Have you in recent times given consideration to reviewing your “desired outcomes”, maybe accepting greater levels of weediness on hard surfaces for example?

As with all surveys of this kind, similar questions are asked in slightly different forms to improve the validity of the conclusions and outcomes. The report has already referred to determining desired outcomes as part of integrated planning. Here the specific interest was as to whether any determination of weed cover was assessed as part of weed management programmes. Responses indicated that for invasive weeds and sites under management by the Landfill Team, complete weed control was the aim and likely to remain so. The need to identify tolerance levels and more accurately determine weediness levels was mentioned in at least one response. Again, this is an area identified for further consideration in this project and the final policy emerging.

f) Consideration of the carbon footprint of different methods of weed management

Most organisations, including Councils such as Norfolk, have committed to meeting zero carbon targets. As such, future approaches to weed management need to take this into account. In many ways it has not been the priority previously with the focus on economic and other environmental factors. In fact, a truly sustainable approach needs consideration of all these areas to get the most appropriate outcome. In considering carbon, it is also important to consider the footprint and emissions in a full life cycle assessment. Some current research on this and its findings will be presented in the Work Package 2 report, following our research on the subject.

Responses to this question varied in this survey and are an indication of the need for better analysis of carbon implications going forward. Decisions currently are based upon current practice. The Landfill Team did refer to ‘undertaking as few grass cuts as possible in certain areas for biodiversity gain, carbon emissions and resource’. Overall though it another area which will be a key factor in the further work on this project.

## OTHER AREAS IDENTIFIED FOR CONSIDERATION IN WP1

As stated previously, WP1 identified five other elements in its original design and these were explored in the survey work.

These five areas link more closely to future work and will provide essential input for the policy document. However, the outcome from these questions are covered in this summary below.

a) Opportunities to improve safety for practitioners, people and society

Responses indicate that there is good general awareness and understanding of safety standards and its importance. The survey asked respondents for information on the level and type of training and which of the legally required certificates for spray operators was held. From the responses it can be concluded that all operators applying glyphosate products hold approved and legally required certification. Also, that on-going training is provided although the type, nature and recording of this varies. For example, in the responses, the NORSE and the Closed Landfill team indicated that they

did not attend formal update training but did provide toolbox talks or provided updating in other ways.

Whilst meeting legal requirements, it is suggested that there is a need to ensure consistent best practice levels across the piece. The current UK National Action Plan, relating to weed, pest and disease management, provides guidelines and targets on what is expected and would certainly be referred to if any external inspection of processes was undertaken. It is recommended that, in the policy and plans going forward, ensuring appropriate and recognised continuous professional development (CPD) programmes are in place for both operators and indeed specifiers, should be considered. This will give assurance to the Council that all are up to date with current practice and are meeting requirements and this can be demonstrated if challenged externally. It is suggested that in employing contractors, seeking to ensure that CPD is undertaken by them should be within tenders, in addition to checking that all legal requirements are being met. CPD is an essential element of most assurance schemes (discussed further in WP2).

From the list of plant protection products used, we can conclude that only approved products are used. It is assumed that equipment is tested as required. Testing is a legal requirement for sprayers over five years old where the operator has to be mounted to operate. For hand held sprayers, good practice is for routine checks at least annually.

b) Potential harm caused by glyphosate to people and the environment

This is an area best picked up once WP2 has been completed and full research outcomes are identified. The key factor here is that only professionally approved products are used and recommend rates and methods of application used. This should, it is suggested, if not already be a specifically stated item on council tenders or agreements with other parties to undertake such work.

c) Opportunities to use alternatives to glyphosate products

In the survey two of the questions related to why herbicides were generally used as first choice and, where non herbicide techniques had been used to any extent, why this was so. Whilst there was some variation in response, in terms of the use of herbicides, the highest ranked reasons were that they were the most effective and economic, had more lasting effect and they were the most understood method. In this area though, there was highlighted some lack of information on alternatives and their merits or otherwise. In terms of where non-herbicide approaches had been used, public perception of spraying was cited highest. The other key area was on high risk sites such as water bodies.

These and other responses from questioning in this area will be brought forward to WP2 work where greater understanding of what all the methods are and their relative merits and disadvantages, are being determined. The issue of public perception can also be addressed in this as we work towards the final glyphosate policy.

d) Potential to use reduced levels of glyphosate

This has previously been referred to in this report and forms part of integrated planning. The customer requirement for zero weed tolerance is an area which needs review in certain situations and must form part of future planning within the Council. The contractor responds to customer requirements and, as part of any policy and plan, desired outcomes for different situations needs to be addressed and better defined. This will be a key element in the final policy.

- e) Potential Targets for percentage decrease in glyphosate over 5 years and cost implications

Whilst responses received here are important, this area needs to be more fully addressed once other work streams have been completed. Any recommendations would at this point be based on incomplete evidence and data.

## CONCLUSION

It was very important at the outset to undertake this audit, identifying use and practice and receiving comment from key personnel on the various issues. This was vital in helping to shape future work streams towards creating the policy statement and document. Careful consideration and follow up was involved in designing the survey and eliciting responses but, as described above, the outcomes have created the baseline for further work and, as such, it was essential.

Work has already commenced on WP2 which will provide the research on methods and assess current practice across other organisations, especially local authorities. This will then lead to WP3 which focusses on the development of appropriate and uniform recording and monitoring systems for the use of glyphosate products across the council. This will then move to WP4 seeking to align considerations on the glyphosate policy with the existing Norfolk Environment Policy and the Norfolk and Suffolk 25year Environment Plan. Finally, this leads to creation of the glyphosate policy.

So this is a summary report of WP1 and, by the end of July, the plan is to have report on WP2 at least at draft level.

## ANNEX 1 – SUMMARY OF SURVEY FINDINGS BY DEPARTMENT DRAWN FROM COMPLETED RETURNS & ONE TO ONE DISCUSSIONS

5 NCC departments which use  
Glyphosate products

- (i) Environment
  - (a) Environment Team
  - (b) Arboriculture Team
- (ii) Closed Landfill
- (iii) County Farms
- (iv) Highways
- (v) Norse TFM Grounds

### SECTION A

1. Where Glyphosate products are used
2. Desired outcome
3. Glyphosate Product and volume used

#### Environment Team

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##### 1. Where Glyphosate products are used

Riverbanks – farmland, grassland

Treatment is on plants on the banks where they are growing rooted above the water.

(Glyphosate causes the plant to fragment, and this leads to spreading when in flowing water. So, this type of treatment is not applied to plants in the water.)

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##### 2. Desired outcome

Desired outcome – management/eradication of invasive plant species.

Whether it is “management” of the invasive species or “eradication” depends on the species and impacts. Water Primrose has been eradicated from two known sites, though this was through removal by hand.

The aim is to eradicate Floating Pennywort from two known river sites in Norfolk. Both of these rivers flow into Protected sites within the Broads. It is likely that this could be done with concerted effort as the sites are currently constrained and management work is proving effective.

For much more widespread species like Himalayan Balsam (HB), the objective is to eradicate but realistically it will only be possible to manage the worst of the situation at present. Currently there is a Wensum Catchment HB project taking place with work ongoing to eradicate HB at the highest known points on the river and tributaries to more effectively address the issue further downstream.

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**3. Product and volume used**

Round up ProActive 360g/l  
2016 – 9.3 litres  
2017 – 2 litres  
2018 – 0  
2019 – 0  
2020 – 2.25 litres  
2021 -1.975 litres

(Contractors reports detailing use available)

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## Arboriculture Team

|  |  |
|--|--|
| <b>1. Where Glyphosate products are used</b> | <p>Treating tree stumps to prevent re-growth, where grinding out the stump is not practical</p> <p>Landscape areas within the Highway, normally consisting of tree pits of trees in hard standing, around the bases of planters and in some planting areas. In 2021, this was across 19 sites, including 160 trees (not all hard standing) and numerous planting areas ranging from shrubs to hedgerows and perennial planting.</p> <p>However, many sites would not require any treatment.</p> <p>Also ground preparation and weed control by County Farm tenants for hedge planting on County Farms.</p> |
| <b>2. Desired outcome</b>                    | <p>Prevent re-growth of tree stumps in areas where tree growth will cause an issue e.g. structural damage to house, wall and where re-growth will cause obstruction to the highway or trails network that cannot be managed by routine cutting.</p> <p>And to maintain a tidy and safe highway corridor, these sites are primarily in residential areas and therefore are often subject to public scrutiny.</p>  |
| <b>3. Product and volume used</b>            | <p>Roundup: only occasional use for tree stump treatment</p> <p>Best estimate is 20 stumps per year.<br/>15ml per stump x 20 stumps = 0.3 litres</p> <p>Rosate 360 TF: Based on 2021 figures, 875ml diluted at 125ml per 5L.</p> <p>It would be a very small amount to prevent the tree-growth on a limited number of tree stumps.</p> <p>Visits vary on a site-by-site basis, but no site has more than 3 visits a year (normally February, June and August)</p>  |



**Closed Landfill (– use 2 employed staff)**

|  |   |
|--|---|
| <b>1. Where Glyphosate products are used</b> | <p>On Closed Landfill sites, spot spraying around vulnerable infrastructure in the grassland restored cover (occasionally along lines on vulnerable infrastructure).</p> <p>On Recycling Centres and Waste Transfer Stations on hard standing along paths, kerb lines, around electrical infrastructure.</p> <p>At two historic environment sites, used on gravel car park and paths, on and around the historic lime mortar brickwork.</p> <p>Sites are maintained on behalf of the NCC Environment team as part of agreement. There are landfill and Household Waste Recycling Centre (HWRC) sites in close proximity to these locations so these are maintained at the same time.)</p> <p>Maintenance includes carrying out amenity routine grass cutting and weed control on the sites in accordance with plans created by the environment team</p> |
| <b>2. Desired outcome</b>                    | <p>On closed landfill, keeping dominant perennial and annual weeds around vulnerable infrastructure (pipe and cabling, valves, electric control boxes) under control is a priority so as to not have to cut (mow) close to this infrastructure and reduce risk of damage. This aids usage, monitoring access, visual inspection, and maintenance.</p> <p>On non-landfill sites, to keep access clear, for amenity and around vulnerable infrastructure where cutting would be high risk. Also, in inaccessible areas where cutting is not possible.</p>   |
| <b>3. Product and volume used</b>            | <p>Round Up ProVantage = 7-10 litres pa, 1 to 2 applications</p> <p>Also use the following non-glyphosate products</p> <ul style="list-style-type: none"> <li>• Barrier H hasn't been used yet but will be trialled on Ragwort later this year</li> <li>• Graze On Pro = Approx. 1 litre pa</li> </ul>  |

## Highways

|                                       |  |
|---------------------------------------|--|
| 1. Where Glyphosate products are used | <p>Highway kerb channels, footway surfaces and central reservations</p> <p>The service includes scheduled weed control on the footway, carriageway, Urban Public Rights of Way, public maintained paved areas, and may also include the treatment of invasive and/or noxious weeds on the highway. There is no weed treatment to highway verges. These are subject to grass cutting for safety only.</p>   |
| 2. Desired outcome                    | <p>The expectation will be that there is a certain longevity of the treatment applied so that weed growth is reduced substantially in treated areas. (However there is no specific measure that quantifies “weed growth is reduced substantially in treated areas”)</p> <p>The point of the treatment is to remove the weeds from the footways and carriageway channels etc. to prevent further damage to the asset. The treatment should be effective and reduce/kill the weeds to nothing ideally.</p>   |
| 3. Product and volume used            | <p>Trustee Amenity, a 480 gram per litre product with Glyphosate as the active ingredient</p> <p>Historically Roundup ProVantage was used albeit in lesser quantity. The change to Trustee Amenity was made by the sub-contractor. It is assumed this was on cost / availability grounds.</p> <p>The current contract specifies the contractor “will use a non-residual contact herbicide (Glyphosate) for the scheduled treatment of weeds.” It doesn’t specify a specific product. <i>(Consultant Note: Glyphosate is non-residual, but is NOT a contact herbicide, it is a translocated or systemic herbicide)</i></p> <p>The supplier to the sub-contractor has also confirmed as follows:</p> <p><i>“Looking back through my records we have used Trustee Amenity in Norfolk since 2017.</i></p> <p><i>We use Trustee Amenity because it is not hazard rated (clean label) so just as safe a product as Roundup ProVantage. It also comes in 15lt drums so there is less packaging/container waste compared with using Roundup ProVantage which comes in 5lt containers.”</i></p> <p>Normally only 2 weed spraying treatments are required across the county and takes place in May and August/September each year. Number of cuts required depends on effectiveness and growth and available budgets</p> <p>Each Litre of Trustee Amenity contains 450 grams of Glyphosate. We used 4,700 litres on the 2 treatments in 2021, quantity may vary on the amount of growth present at the time of treating.</p> <p>Norwich City treatment – 435 litres used per treatment in 2021 (870 litres in total)</p> |

**County Farms**

|  |   |
|--|---|
| <b>1. Where Glyphosate products are used</b> | <p>The Department do not use themselves, but the farm tenants will all use various products for growing their crops on their farmland.</p> <p>The tenants are legally able to decide what is required for the growing of their crops and elsewhere on their holdings.</p>   |
| <b>2. Desired outcome</b>                    | <p>All tenants have to have their relevant spray certificates to enable them to use the products on a farm scale as part of required assurance schemes and to meet legislative requirements; if they do not have the relevant training and certificates then they use contractors who do.</p> <p>Farmers only use where absolutely necessary to enable them to grow their crops and have strict rules to follow to meet DEFRA and Environment agency guidelines as well as meet the stringent regulatory schemes such as Basic Payment Scheme (BPS), Red Tractor, Countryside Stewardship, etc.</p> |
| <b>3. Product and volume used</b>            | <p>The tenants are legally able to decide what products they use.</p>   |

**NORSE TFM Grounds (– use up to 10 employed staff)**

|  |  |
|--|--|
| <b>1. Where Glyphosate products are used</b> | <p>Schools,<br/>Care Homes,<br/>Libraries,<br/>Verges,<br/>VPF's,<br/>Hard surfaces,<br/>Amenity grass,<br/>Sports Turf</p>  |
| <b>2. Desired outcome</b>                    | <p>For Glyphosate and Chikara the desired outcome is for weed free areas.</p> <p>For selective weed control, the desired outcome is to remove broad leaved weeds from lawns and sports turf.</p> <p>Sites are not sprayed more than 3 times a year. Spot spraying may take place as and when required but the aim is to keep to the minimum. Finding more practices going forward where the use of pesticide can be minimised is always being considered. Clients require substantially weed free grounds for much of the year however the contractor will keep the frequency to 3 times a year maximum</p> <p>There are NCC sites, school trust sites, Norse care home sites, NDR site, Oakwood care home (private), numerous non contracted village playing field sites, fire stations, libraries).</p> <p>With regard to the requirement of “substantially weed free”, using the Defra ‘weediness’ scale, the level of ‘weediness’ on hard surfaces that would trigger the next spot spraying would be roughly level 3 (Patchy weed growth with some flowering weeds).</p> <p>This does however depend upon customer requirements particularly schools, however with caretakers onsite full time often manual removal is used if the agreed SLA only permits 3 applications a year.</p> |
| <b>3. Product and volume used</b>            | <p>Round Up Pro Active 150ltrs</p> <p>Also use the following non-glyphosate products</p> <ul style="list-style-type: none"> <li>• Chikara 1100grams</li> <li>• Greenor 1tr</li> </ul>  |

## SECTION B

1. Integrated approach to weed management
2. Weed assessments or just routine applications
3. Weed management methods already being used in conjunction with glyphosate-based PPPs
4. Are weed management activities regularly reviewed?
5. Have you in recent times given consideration to reviewing your “desired outcomes”, maybe accepting greater levels of weediness on hard surfaces for example?
6. Consideration of the carbon footprint of different methods of weed management

## ENVIRONMENT

|  |   |
|--|---|
| <b>1. Integrated approach to weed management</b>   | <p>Yes. In the case of Floating Pennywort most is hand pulled with chemical treatment only used when necessary and appropriate/safe to do so.</p> <p>The contractor always aims to minimise use of PPP treatment.</p>   |
| <b>2. Weed assessments or just routine applications</b>  | <p>Manual methods are prioritised with uses of PPP minimised.</p>   |
| <b>3. Weed management methods already being used in conjunction with glyphosate-based PPPs</b> | <p>Hot foam or hot water/steam</p> <p>Mechanical weeding e.g. weed brushing or</p> <p>Biological control/Biopesticides</p> <p>Filling in of pond and replacing with new pond – Crassula</p> <p>Hand pulling, cutting (manual methods) useful and effective for some species when used carefully and regularly over an appropriate length of time e.g. Himalayan Balsam, Floating Pennywort.</p> <p>Hot foam less successful.</p> <p>Biocontrol – JK sap sucking Psyllids not successful at several sites, limited success at other. This was in support of a CABI trial.</p> <p>Biocontrol – HB rust – limited success</p> <p>Hot foam or hot water/steam has been used in the past but not currently.</p> <p>This was a trial during an Interreg funded project – RINSE. The trial was to see if this was effective for treating Crassula helmsii.</p> <p>As stated this approach is not currently used due to cost, effectiveness and the impact on non-target species.</p> |
| <b>4. Are weed management activities regularly reviewed?</b>                                   | <p>Yes. For FP, regular survey is undertaken as part of the control activities.</p> <p>HB surveys are regularly undertaken.</p>   |

|  |   |
|--|---|
| <b>5. Have you in recent times given consideration to reviewing your “desired outcomes”, maybe accepting greater levels of weediness on hard surfaces for example?</b> | <p>Desired outcome for invasives is always eradication but in case of some species such as HB then management is a more realistic outcome given the scale of spread. In the case of Japanese Knotweed, giant Hogweed and FP then eradication at individual sites is definitely the desired outcome.</p> <p>Two known sites of Water Primrose have been completely eradicated and for notifiable species such as this then full eradication will be the desired outcome and will be pursued intensively.</p> |
| <b>6. Consideration of the carbon footprint of different methods of weed management</b>  | <p>No this hasn't been done. Many of these areas are remote so travel to site will be by motor vehicle. However often the FP hand pulling is done from canoes or by walking the river banks so the actual delivery on site is believed to be low carbon footprint.</p>  |
| <b>7. Any other comments</b>   | <p>None at this stage</p>   |

## ARBORICULTURE

|  |   |
|--|---|
| <b>1. Integrated approach to weed management</b>   | No  |
| <b>2. Weed assessments or just routine applications</b>  | No  |
| <b>3. Weed management methods already being used in conjunction with glyphosate-based PPPs</b>   | <p>Hand weeding<br/>Cutting, strimming, flailing, mowing<br/>Mechanical weeding e.g. weed brushing or ripping<br/>Mulch, non-plastic</p> <p>Non plastic mulch (e.g. woodchip, hessian) for weed suppression in new tree and hedge planting has added benefit of water retention (reduces need to water or failure rate) and improves soil condition</p> <p>With tree pits some have been successfully converted to resin bound gravel, and mulch is used to minimise weed growth. It is too early at this stage to say how successful this is, but the assumption is that growth would be less, and therefore require less treatment.</p> |
| <b>4. Are weed management activities regularly reviewed?</b>   | Not formally  |
| <b>5. Have you in recent times given consideration to reviewing your “desired outcomes”, maybe accepting greater levels of weediness on hard surfaces for example?</b> | Yes, the contract is let for a 3 year period with a 2 year extension, so a review is being undertaken to see what can be changed for the next iteration of the contract – this is likely to involve some discussions around acceptable levels of ‘weediness’ etc.   |
| <b>6. Consideration of the carbon footprint of different methods of weed management</b>  | No, not as yet.   |
| <b>7. Any other comments</b>   | None at this stage  |

**CLOSED LANDFILL (– use 2 employed staff)**

|  |  |
|--|--|
| <b>1. Integrated approach to weed management</b>   | <p>Yes, use minimal cutting broadly, with PPP usage confined to places where cutting not safe or feasible.</p> <p>No written plan to date. The current plans on landfill sites include identifying areas of infrastructure where matting can be used as means of controlling weeds and minimising spraying. (Hard wearing plastic matting, heavy-duty membrane.) This is ongoing with a view to installing more where practically feasible and drafting a written plan. Examples include under electrical boxes and valve lines.</p> <p>Sites have been surveyed previously to identify areas of infrastructure where matting can be used. This is limited to areas where matting can be installed and with minimal health and safety risk or manual handling limitations due to weight/size of the infrastructure. Otherwise, alternative methods will continue to be researched appropriate to the other sites such as recycling centres and Historic environment.</p> |
| <b>2. Weed assessments or just routine applications</b>  | <p>Routine and inspection based on height and visibility.</p> <p>6 - 12 inches of growth is a general height limit for the most vulnerable/important infrastructure from ground level.</p> <p>This would present a health and safety risk as visibility would be severely reduced for the inspection and users of the site.</p> <p>Examples include gas/leachate shut off valves, monitoring plugs and electrical cables which are required to be visible at all times as part of the inspection in case of emergencies and to reduce slips/trips and falls and visibility for routine grounds maintenance, monitoring and other contractors</p> <p>Methane gas and leachate is another by-product of landfill</p>   |
| <b>3. Weed management methods already being used in conjunction with glyphosate-based PPPs</b> | <p>Hand weeding<br/>Cutting, strimming, flailing, mowing<br/>Around some infrastructure we are using weed suppressant matting.</p> <p>Cannot use naked flames or hot equipment as landfill sites are DSEAR zones.</p>  |
| <b>4. Are weed management activities regularly reviewed?</b>                                   | <p>Thorough site inspection by staff applying and the rest of the team, through team discussion.</p>   |



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|  |   |
|--|---|
| <b>5. Have you in recent times given consideration to reviewing your “desired outcomes”, maybe accepting greater levels of weediness on hard surfaces for example?</b> | <p>On the landfills work on minimal interference to encourage biodiversity.</p> <p>On the Waste Infrastructure sites need to keep them clear for staff and public access. This has not been reviewed.</p> <p>12 inches or more of growth would most likely cover the most vulnerable infrastructure which would present a risk to staff and the public and other users in the event they are struck or damaged or operated in the event of an emergency shut off. An inspection would also highlight these features are not visible</p> |
| <b>6. Consideration of the carbon footprint of different methods of weed management</b>  | <p>Yes, as few cuts as possible are made for biodiversity gain, carbon emissions and resource.</p>  |
| <b>7. Any other comments</b>   | <p>None at this stage</p>   |

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## HIGHWAYS

|   |  |
|---|--|
| 1. Integrated approach to weed management   | <p>Highways Area Teams advise of areas of noxious varieties so that specific treatment can take place i.e. giant hogweed, Japanese knotweed</p> <p>NCC uses one method of weed management, so there is no integrated approach to weed management, just herbicides and mowing grass verges.</p> <p>NCC have relationships with other authorities, whereby discussions and comparisons in treatment can take place. The contractors also share their experience if they feel there is a suitable and more viable alternative than our current treatment method.</p> <p>The Highway Services Manager recently discussed options with the Corporate Property Team and Environment team and concluded that there no effective mobile replacements identified at this time which are fit for purpose. Hot Foaming of weeds isn't used by any other highway authorities as a mobile solution.</p> |
| 2. Weed assessments or just routine applications  | <p>Routine applications are adopted, but Area Teams do advise if treatment not required</p> <p>The area teams are the four county areas that deal with routine maintenance for Highways. The structure is: Area manager, Highway Engineer, Area Technician and Streetscene Inspector. These teams are frequently out on site in their respective areas so are able to see first-hand whether treatments are required.</p>  |
| 3. Weed management methods already being used in conjunction with glyphosate-based PPPs   | <p>Hand weeding</p> <p>Cutting, strimming, flailing, mowing</p>  |
| 4. Are weed management activities regularly reviewed?   | <p>Area Teams provide a supervisory role of scheduled treatments and raise any concerns about service delivery</p>   |
| 5. Have you in recent times given consideration to reviewing your "desired outcomes", maybe accepting greater levels of weediness on hard surfaces for example? | <p>Consideration is given each year before the instruction is given to begin treatment</p>   |
| 6. Consideration of the carbon footprint of different methods of weed management  | <p>The methods currently used have been the established best practice for a number of years.</p> <p>The other options are not seen to be as effective at treating the weeds.</p> <p>In terms of CO<sub>2</sub>, there hasn't been any formal assessments of the alternatives that could be shared.</p>   |

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**7. Any other comments**

Highways has recently looked at other options to glyphosate including Foamstream, but no effective mobile replacement has been identified and is not used by any other highways authority as a mobile operation.

Therefore, the decision is to continue with glyphosate for the time being.

Foamstream where tried by other authorities is principally in designated areas (markets places etc.) mainly by borough and districts.

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## COUNTY FARMS

|   |  |
|---|--|
| 1. Integrated approach to weed management   | N/A  |
| 2. Weed assessments or just routine applications  | N/A  |
| 3. Weed management methods already being used in conjunction with glyphosate-based PPPs   | Hand weeding<br>Cutting, strimming, flailing, mowing<br>Mechanical weeding e.g. weed brushing or ripping<br>Grazing<br>Biological control/Biopesticides<br>Tenants will use various methods of weeding including grazing, mechanical, biological, hand weeding depending on the type of crops grown.   |
| 4. Are weed management activities regularly reviewed?   | N/A  |
| 5. Have you in recent times given consideration to reviewing your “desired outcomes”, maybe accepting greater levels of weediness on hard surfaces for example? | N/A  |
| 6. Consideration of the carbon footprint of different methods of weed management  | Not answered   |
| 7. Any other comments   | Difficult to answer as the land managed is tenanted so it is really up to the tenants to decide what is appropriate for their farm and what they are growing.<br><br>Some will be better than others, but most are aware of the drive to reduce the use of glyphosate and other sprays where possible not only for environmental purposes but also the cost. |

## NORSE TFM Grounds (– use 10 employed staff)

|   |   |
|---|---|
| 1. Integrated approach to weed management   | There would be some hand weeding in newly planted beds,<br><br>Mulching on customer request   |
| 2. Weed assessments or just routine applications  | Routine Applications  |
| 3. Weed management methods already being used in conjunction with glyphosate-based PPPs   | Hand weeding<br>Cutting, strimming, flailing, mowing<br>Mechanical weeding e.g. weed brushing or ripping<br>Mulching<br><br>Different levels of success achieved depending on the environment that they are being used in.  |
| 4. Are weed management activities regularly reviewed?   | Yes   |
| 5. Have you in recent times given consideration to reviewing your “desired outcomes”, maybe accepting greater levels of weediness on hard surfaces for example? | <p>This is driven by the customer requirements which in effect is Norfolk County Council and its various departments. They do not spray any of the sites more than 3 times a year. Spot spraying may take place as and when required but the aim is to keep to a minimum. Finding more practices going forward where the use of pesticide can be limited is always being considered. Clients require substantially weed free grounds for much of the year however as stated plan is to maintain the frequency to 3 times a year max.</p> <p>All the different clients (Schools, Care Homes, Libraries, verges, VPF's) are classed as one, i.e. Norfolk County Council in terms of the “customer requirements”</p> <p>There are NCC sites, school trust sites, Norse care home sites, NDR site, Oakwood care home (private), numerous non contracted village playing field sites, fire stations, libraries.</p> <p><i>Consultant Added Question: With regard to the requirement of “substantially weed free”, please would you advise ideally using the Defra ‘weediness’ scale, the level of ‘weediness’ on hard surfaces that would trigger the next spot spraying?</i></p> <p>The response was level 3 (Patchy weed growth with some flowering weeds). This does depend on customer requirements particularly schools however with caretakers onsite full time often manual removal is used if the agreed SLA only permits 3 applications a year.</p> |

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|   |  |
|---|--|
| <b>6. Consideration of the carbon footprint of different methods of weed management</b> | This will be driven by the customer requirements |
|---|--|

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|                              |                    |
|------------------------------|--------------------|
| <b>7. Any other comments</b> | None at this stage |
|------------------------------|--------------------|

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ANNEX 2 – COPY OF SURVEY FORM

Norfolk County Council Policy on the use of Glyphosate

QUESTIONNAIRE TO BE COMPLETED & RETURNED PLEASE BY 20<sup>th</sup> MAY 2022

*JMM Solutions has been engaged as consultants to work with Norfolk County Council in the development of its policy for the use of glyphosate. As the first stage of this work, it is very important to gather data on current use of plant protection products throughout the Council together with some related information. In doing this, we need your help. Whilst questionnaires can be sometimes quite daunting, obtaining the right baseline data is essential. Thus we do ask for your co-operation. We have set a tight deadline but thank you in advance for your help. Following on from this data collection and analysis, we will be arranging one to one discussions to clarify matters and seek opinion on key issues. The policy that emerges must be your policy and jointly owned. Please make your response under each question in this WORD document. Again thank you.*

CONTACT INFORMATION

Name of person completing this survey questionnaire?

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Job title / role?

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Preferred contact details (email & phone)

Email:

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Phone:

---

Name of person who can be contacted if any follow up is required (name, email, phone)

Name:

---

Email:

---

Phone:

---

overleaf to questions/ .....

USE OF PLANT PROTECTION PRODUCTS

1. Which Department are you answering this questionnaire for?

(✓)

- ☐ Corporate Property Team
- ☐ County Farms
- ☐ Children's Services
- ☐ Highways
- ☐ Environment Team
- ☐ Other (please specify)

2. Which Plant Protection Products (PPPs), that include glyphosate as an active ingredient, are you using?

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3. Which other PPPs are you using?

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4. How much of each PPP are you using annually (on average) by volume or weight? Further information, where applicable, on the number of applications in a year and timing would be very much valued.

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5. Where are you using PPPs containing Glyphosate? (Type and use of surface such as farmland, hard surfaces, amenity grass, sports surfaces etc.)

---

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6. How are you applying PPPs containing glyphosate? (list here the type of surface treated, application equipment and where appropriate number of applications in a year)

| Surface treated | Application equipment | Number of applications<br>per year |
|-----------------|-----------------------|------------------------------------|
|                 |                       |                                    |
|                 |                       |                                    |
|                 |                       |                                    |
|                 |                       |                                    |

#### APPLICATION OF PPPs

7. In using PPPs you will be seeking a “desired outcome”, can you provide a little more information on what the desired outcome is in relation to your choice and use of specific products?

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8. Do you use your employed staff to carry out weed management activities or contractors or a mixture of both?

---

9. If you use your own staff:

- a. How many staff are involved directly in weed management activities?

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- b. How many staff are qualified to apply PPPs by holding specified certificates, for example PA2, PA4, PA6, etc.?

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- c. What further training or continuing professional development do these staff undertake?

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- d. How frequently is this training or updating undertaken?

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10. If you use contractors:

a. How many contracting organisations are involved?

b. Do you specify in detail what activities they are to carry out and when, or do you specify a desired outcome for them to achieve? Examples would be valued here.

11. Do you adopt an integrated approach to weed management? If so, is there an integrated weed management plan in place? How do you evaluate whether there are non-herbicide methods of control available to use in conjunction with PPPs?

12. Do you use weed assessments and/or assess thresholds before herbicide application in any way or do you adopt routine applications?

13. What weed management methods are you using, or have you tried in conjunction with glyphosate-based PPPs?

✓

☐ Hand weeding

☐ Cutting, strimming, flailing, mowing

☐ Hot foam or hot water/steam

☐ Acid

☐ Electrocutation

✓

☐ Mechanical weeding e.g. weed brushing or ripping

☐ Grazing

☐ Flame/infrared weed burner

☐ Biological control/Biopesticides

☐ Other e.g. resurfacing, mulching, replacing annuals with perennial beds, draining, etc. (please state)

Any comment on the relative success of the different options of weed management methods ticked above would be appreciated

---

POLICY & ADVICE

14. Do you monitor and regularly review how effective your weed management activities have been?

---

15. Have you in recent times given consideration to reviewing your “desired outcomes”, maybe accepting greater levels of weediness on hard surfaces for example?

---

16. Do you undertake any financial assessment in using PPPs or other weed management methods? For example, do you consider the consequences of not using PPPs in terms of safety, increase in weediness, visual effects, etc. and whether they outweigh the cost of herbicide application?

---

17. How acutely do you feel the pressures to reduce the use of PPPs, especially those including glyphosate?

---

18. In applying PPPs, do you always consider the need to optimise applications and specific areas to be treated?

---

19. Do you give any consideration to the carbon footprint of different methods of weed management?

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20. If non-herbicide methods of weed management have been used, please indicate the main reasons for their use? (To assist in this task, please select any that apply in the list below and rank these in order of importance with (1) being the most important, (6) being the least important)

1,2,3,  
4,5,6

|  |      |  |
|--|------|--|
|  | Rank | Public perception of spraying herbicides                   |
|  | Rank | Reduced potential operator/public exposure to herbicides   |
|  | Rank | Environmental concern                                      |
|  | Rank | Reduction of risk to water bodies                          |
|  | Rank | Improved control   |
|  | Rank | More appropriate choice given siting of area to be treated |

21. Do you take professional advice from an agronomist or qualified advisor? If so, what form does this take?

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22. Please indicate the degree to which the factors listed below have influenced your department's decision to use herbicides rather than to rely wholly on non-herbicide weed management activities.

|  | Little influence<br>Please tick ✓ |                          |                          | Strong influence<br>Please tick ✓ |                          |
|--|-----------------------------------|--------------------------|--------------------------|-----------------------------------|--------------------------|
|  | 1                                 | 2                        | 3                        | 4                                 | 5                        |
| Herbicide treatment more effective than alternatives       | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Lower cost of herbicide control                            | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Herbicide treatment has a longer lasting effect            | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Herbicide treatment is the easiest method                  | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Always used herbicide treatments                           | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Have not considered non-herbicide control                  | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Herbicide treatment is more environmentally friendly       | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Follow advice from consultant or contractor                | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Limited availability of alternative products or techniques | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |
| Lack of information on alternatives products or techniques | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> |

23. Have you any other comments to make at this point?

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# JMM Solutions

Edgeway House, Brook Lane, Moreton Morrell, Warwick, CV35 9AT

## **Glyphosate Project**

### **Summary Report on Workpackage 2 (WP2): Research background into the use of glyphosate and alternatives**

**[27 pages plus four annexes and an acronym reference sheet]**

**July 2022**

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## CONTENTS

1. Introduction
2. Methodology
3. Main Report
  - a) How/where glyphosate is used by other councils across England and the approaches they are taking to reduce its use
  - b) Approaches to improve health and safety for practitioners, people and society.
  - c) UK legislative changes that are proposed or likely regarding the use of glyphosate including a review of current practice with regard to health and safety.
  - d) Alternative methods of vegetation control that have been tried by councils and whether further NCC trials of alternatives are needed.
  - e) What alternative approaches (real life examples) could be drawn upon, e.g. where regenerative agriculture is being achieved. A programme of site visits/ training / learning opportunities will be developed.
  - f) Cost implications.
4. Executive Summary
5. Next Steps

## ANNEXES

- 1 Some reference material referred to in this report
- 2 Executive Summary - Scottish Government survey on pesticides and adoption of integrated control within local authorities conducted in 2019
- 3 Weediness scale for pavements developed by East Malling researchers as an outcome from the glyphosate project undertaken in Thanet, Kent
- 4 Further Information on glyphosate and human health
- 5 Reference to some acronyms used in the document



## 1. Introduction

This report forms part of a project leading to the development of a policy on the use of glyphosate by Norfolk County Council. In order to achieve this objective, a number of work streams were defined, referred to as Work Packages (WP). This report refers to the second of these (WP2) and its main objective is to undertake research into the use of both glyphosate and alternatives on a UK wide scale, particularly within other local authorities and similar organisations. It builds on the work undertaken in WP1 which looked specifically at such matters as currently operated within relevant departments of Norfolk County Council (NCC).

Work undertaken on both WP1 and WP2, brought together, is essential in moving towards the creation of the overall Council policy on glyphosate and the approaches that NCC take going forward.

This report on WP2 describes the research undertaken, a summary of some of the key points which emerged from this and some overall conclusions feeding into subsequent work packages in this project.

## 2. Methodology

This section of the work identified 6 strands as follows:

- (i) How/where glyphosate is used by other councils across England and the approaches they are taking to reduce its use.
- (ii) Approaches to improve health and safety for practitioners, people and society.
- (iii) UK legislative changes that are proposed or likely regarding the use of glyphosate including a review of current practice with regard to health and safety.
- (iv) Alternative methods of vegetation control that have been tried by councils and whether further NCC trials of alternatives are needed.
- (v) What alternative approaches (real life examples) could be drawn upon, e.g. where regenerative agriculture is being achieved. A programme of site visits/ training / learning opportunities will be developed.
- (vi) Cost implications.

In addressing these issues, we have undertaken the following:

- Desk research of published surveys and related documents
- Individual discussions and correspondence with
  - contractors employed by local authorities for weed management
  - a range of local authorities on their approaches to weed management and current policies
  - individual researchers and research organisations with specialism and interest in this topic
  - Staff within NCC departments who are directly involved in decision making on weed management issues
- Information drawn from discussions with policy makers and from our consultants' previous engagement with, and knowledge of, the topic
- Other case studies and research on alternative approaches

The focus is mainly amenity especially hard surfaces as these are the areas under the direct control of the Norfolk County Council (NCC) and where glyphosate is primarily used. Agricultural land is under tenancies and, as such, the farmers involved are the decision makers in terms of weed, pest and disease management as they need to be able to run viable operations. However in developing the glyphosate policy, it will be important to communicate with the tenants and to offer assistance to them, where appropriate, to help deliver the overall NCC policy objectives across its estate. NCC may wish to offer guidance on alternative approaches and arrange visits where good practice can be shared. This would be led by the Corporate Property Team of NCC but will need to be embedded in the final policy document produced later in this project.

The main report is presented below and at page 25, an executive summary of the key points identified is presented, together with information on next steps in developing the final Policy document.

### **3. Main Report**

This report identifies some key issues and outcomes resulting from the analysis and survey work undertaken. We are grateful to a number of organisations and individuals who agreed to talk to us about the issues relating to their use of glyphosate. In none of these external discussions did we refer to Norfolk County Council as our client but that we were undertaking work relating to glyphosate use nationally within local authorities. Some items discussed below and highlighted inevitably refer to more than one heading.

#### **a) How/where glyphosate is used by other councils across England and the approaches they are taking to reduce its use**

Recently two significant reports have been published which have direct relevance both to this project as a whole and in answering the question above. Whilst the principal interest is in the use of glyphosate across England, we have referred to information from authorities in Scotland which we believe is important and, in many ways, produced more comprehensive data of relevance to this project.

##### **i. UK Survey**

Recently published is a UK Survey of pesticide use in amenity commissioned by the Chemicals regulation Division of the Health and safety Executive. This resulted from surveys undertaken in 2020. Its work covered samples from all sectors including local authorities. The link to the full survey is at <https://pusstats.fera.co.uk/upload/2YcSABXGwhCctyUfx7L5di4ukCOp7Mt2QFW4OaEy.pdf>

A total of 304 organisations responded to the survey, with 197 respondents providing their pesticide usage data for 2020. Four of the 197, three golf courses and one local authority, indicated that they did not use pesticides in 2020. These respondents were not asked in the survey to give reasons for their decision or alternatives being adopted. Data relating to a total of 357 tonnes of product and 133 tonnes of active substance was obtained from those providing pesticide data. Submissions by railway contractors accounted for 40% of the weight of active substances applied, highway contractors 38%, local authorities 17%, lawn care 2%, other contractors 2%, and all other sectors including golf courses, 'other', invasive weed specialists, water companies and amenity grass (including turf growers and sports turf) less than 1%. Herbicides comprised 98% of the total weight

of active substances, disinfectants 1% and adjuvants, fungicides, growth regulators, physical control agents, algicides, insecticides, sulphur and fungicides/insecticides the remaining 1%. Glyphosate, alone or in mixtures, accounted for 90% of the weight of active substances applied, excluding adjuvants.

The following is taken directly from the report in the section specifically relating to local authorities.

*There is a total of 398 local authorities in the UK, some of which have multiple contacts. In order to increase the number of local authorities participating in the survey, 392 local authorities (district councils, county councils and metropolitan boroughs) were directly emailed. In total 407 local authority contacts were made. Many respondents indicated the use of contractors and some very limited information on the percentage of contractor use was collected as emailed data were returned. One difficulty that affected a small number of local authorities was where contractors refused to provide the pesticide data to the local authorities as part of the survey. A greater concern is that the responses from individual local authorities cannot be guaranteed to be 100% of pesticide usage for that local authority. There could be other departments within a local authority contracting or using pesticides over and above those sent by the responding departments.*

The principal five active substances, by weight, used by local authorities submitting data for the 2020 amenity survey, were as follows in kgs:

Glyphosate 21,075  
Glyphosate/sulfosulfuron 483  
Diflufenican/glyphosate 127  
Polyoxyalkylene glycol 100  
Ferrous sulphate 80

General weed control was the main reason given for applying pesticides, accounting for 83% of the weight applied where a reason was given. Invasive weed species, including Japanese knotweed and giant hogweed, comprised 14% of the total. Other weed species specified included bracken and brambles

Further one to one and email research undertaken by JMM Solutions both with councils in England and with principal contractors, specifically chosen for their relevance to this project, confirm that the majority of local authorities are seeking to reduce glyphosate use by adopting a more integrated approach to weed, pest and disease management. However glyphosate use undoubtedly remains a key part of programmes due the stated reasons of its effectiveness, efficiency and cost. Our research identified a number of authorities have made statements of intent to work towards being pesticide free over set periods of time for specific areas that they manage. These generally seemed to arise from active lobbying by campaign bodies. However, as said, the current position seems that most authorities currently use glyphosate products and will continue to do so, albeit seeking to minimise use.

We are aware of two urban authorities who imposed bans on use but then reverted to integrated approaches involving glyphosate use. Also, in 2019, as a result of a local election pledge, Brighton and Hove Council decided to stop using pesticides. This has led to much divided opinion with critics saying that weeds have now grown out of control and caused injuries to people who have slipped on the wet vegetation. The current policy position is that the Council seek to phase out use.

Recently, with adoption of carbon targets, and the fact that herbicide use performs strongly in terms of its carbon emissions compared to current alternatives, this may become a deciding factor in longer term retention of glyphosate use (see later section).

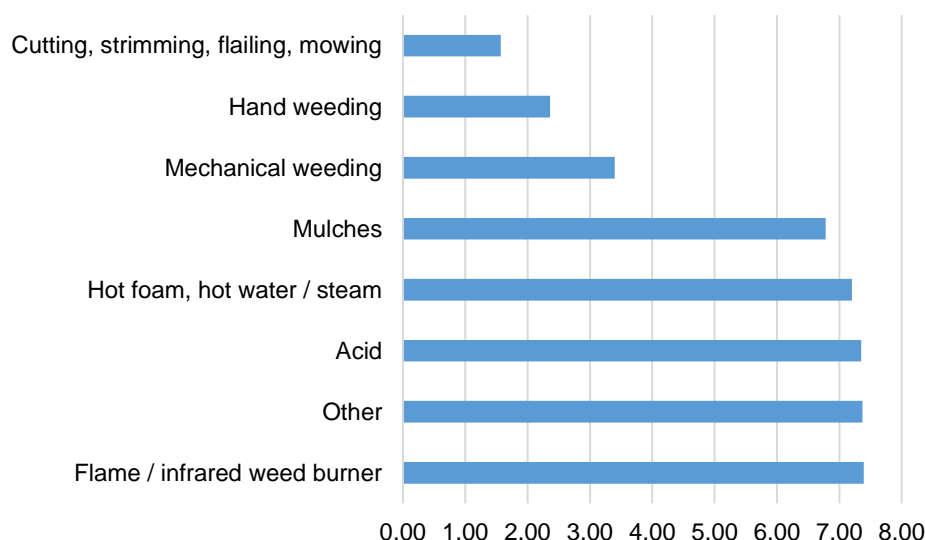
## ii. Scottish Survey

A survey of Scottish Local Authorities was undertaken in 2019. The link to the full report is [Local Authority Integrated Weed Control Survey – 2019 \(www.gov.scot\)](https://www.gov.scot/publications/local-authority-integrated-weed-control-survey-2019/pages/introduction.aspx). This is an official statistics document with the work commissioned and funded by the Scottish Government. As well as looking at pesticide use, it asked questions about the use of alternative strategies and taking an integrated approach to weed control. The executive summary of this report is presented in full at Annex 2. The survey got responses from all but 4 of the 32 local authorities involved and, as such, gives a very good picture of attitudes and practice in weed management policies in the country.

All authorities used glyphosate products for weed management. Three authorities stated that they had prohibited or restricted the use of glyphosate on some surfaces in 2019/20. One further LA stated that they were currently reviewing their future use of glyphosate

In terms of their approaches to weed management, other than using glyphosate products, local authorities were provided with a list of non-herbicide approaches to control and asked to indicate the options used by them, or by a contractor on their behalf, during 2019. Weed control by cutting, strimming, flailing or mowing was most commonly used, followed by hand weeding and then mechanical weeding such as weed brushing or ripping. All other methods were used less frequently and no Authorities reported using electrocution, grazing or biological control to control weeds.

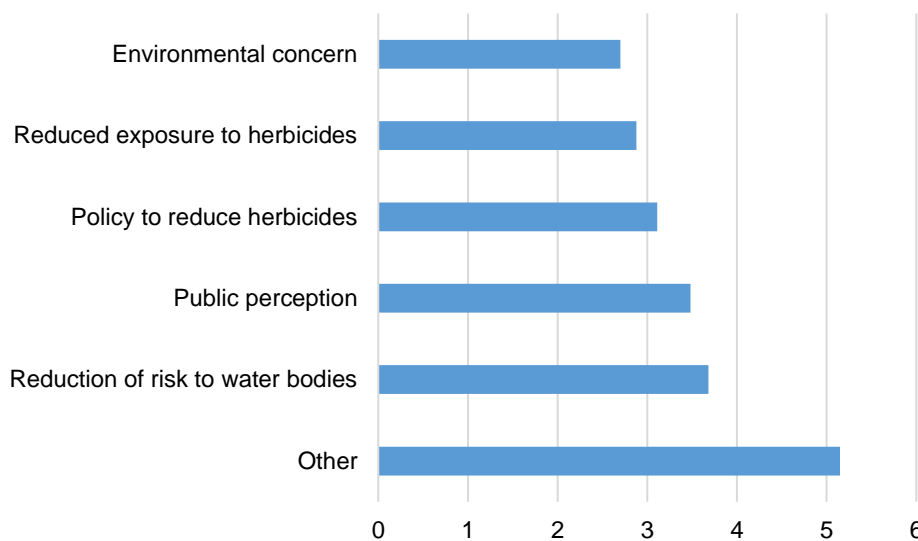
**Mean ranking of use of non-herbicide control measures used by Scottish LAs in 2019**



Other included creation of wildflower areas to reduce the need for weed control.

Where non-herbicide methods of control had been used by LAs, they were asked to rank the main reasons for their use and this is summarised in the table at the top of the next page.

### Mean ranking of reasons Scottish LAs used non-herbicide control measures for in 2019



Other included where herbicide control was not possible and hand weeding was the only option, e.g. in shrub beds where their use would damage ornamental planting. These results very much align with work undertaken in this project under Work Package 1 (WP1).

Key points to emerge from the study as a whole were:

- All the authorities responding stated that they employed some form of integrated control methods in that they combined both chemical and non-chemical techniques in their approaches
- Prevention techniques such as mulching, plant selection and prioritising areas for control were listed.
- Alongside herbicide use, the most common methods used, depending upon areas involved, were cutting, strimming, hand weeding, mowing and brushing.
- All were seeking ways to reduce herbicide use, especially by better targeting and timing of applications.
- The main reasons for continuing to use herbicide were their greater effectiveness over a longer period than alternatives and a lower associated cost.
- Herbicide use was considered important to maintain acceptable visual appearance and protection of infrastructure. Their important use in managing invasive weeds was also ranked highly as also highway maintenance.
- Glyphosate was by weight 99% of total pesticide used.

Following reading the report, we have had some more in-depth discussion with staff in two Scottish authorities who are directly charged with managing amenity areas (referred to more fully in a later section). These discussions re-enforce the findings above. Both are seeking to reduce the use of herbicides and referred to some public and political pressure to do so. However, currently they believe its use remains important and that other methods still do not match its effectiveness and, despite recent significant herbicide price rises, it offers significantly the most economic approach. One had looked to the use of hot foam in certain areas but found it less long lasting in control and, following a recent event he had attended, referred to concerns over the carbon footprint of this approach. His authority were signed up to zero carbon targets and this method scores poorly in terms of energy and water use.

Our conclusions from these surveys and discussions are that glyphosate continues to be an essential part of integrated approaches to weed management. Importantly however, it needs to be considered within an integrated approach, employing methods such as brushing to reduce the occurrence of weeds and thereby ensuring that glyphosate, when used in such programmes, is targeted and its use optimised. Also highlighted is the need to consider weed management programmes taking full account of economic and environmental considerations including carbon emissions.

#### **b) Approaches to improve health and safety for practitioners, people and society**

The following points emerge from our research and from individual discussions with Health and Safety executive (HSE) staff and others related to this topic. Firstly, it is really important to emphasise that, whether application of plant protection products is undertaken in-house or using external contractors, those applying plant protection products are legally required to hold an approved and recognised qualification. Currently approved certification is offered by either City & Guilds or Lantra. They are also expected to be using approved products in full adherence to label and related instructions. This would seem to be generally understood by those directly responsible for weed management in authorities but reporting and authorisation structures can lead to some distancing between such managers and those involved in procurement and tendering. It is important that such legal requirements and indeed best practice is fully communicated and understood by all involved across the organisation involved, in this case NCC.

A recommended way of doing this is to ensure that the local authority, if using an external contractor, make sure the chosen organisation are members of an approved assurance scheme. If they are within amenity operations, an ideal check is to ensure that they are operating to the UK Amenity Standard, something which may become a requirement in future. In agriculture, membership of assurance schemes is part of the Red Tractor requirements. Arising from our discussions, the need for training for specifiers as well as operators emerged as important (something which also links to findings in WP1 of this project). We would also extend a need for specific awareness training to those directly responsible for purchase of plant protection products through procurement procedures and indeed anyone influencing decision making in relation to weed management.

If the authority is applying plant protection products with its own staff, we would suggest that they too should consider being a member of an approved assurance scheme. Recently all users of plant protection products have been required to register formally under the Official Controls (Plant Protection Product) Regulation 2020 (OCR). Norfolk County Council has done this. A question on the registration was to ask about membership of an assurance scheme.

As referred to in the WP1 summary report, there are also legal requirements for the testing of plant protection products application equipment over 5 years old. Any such equipment owned by an organisation must hold a test certificate for its operation if the person responsible needs to be seated on the machine. For hand held equipment such as knapsacks, whilst not a legal requirement, it is strongly recommended that an annual check is made and recorded. The latter is very important if any incident were to occur and be investigated by HSE. There are also potential issues in terms of insurance cover. In Norfolk County Council, operations are almost exclusively undertaken by third parties but it is recommended that the authority does routinely check that such third parties are using tested and inspected equipment as part of its tendering process. Of course the same applies to in house such as the Landfill team in NCC.

A second key factor in terms of health and safety is this commitment to continuing professional development (CPD), to ensure users are fully up to date with changes. As such, they can demonstrate that they are operating at the highest levels of safety and ensuring what they are doing is fit for purpose and also that plant protection products are applied safely and correctly to protect public health and minimise environmental impact. CPD is not a legal requirement under current government policy but is undoubtedly best practice. In agriculture the easiest way of demonstrating commitment to CPD is for users to belong to the Professional Register and for amenity, the Amenity Register. Both schemes are operated by BASIS Registration Limited.

A third factor in terms of health and safety is by ensuring the correct professional advice is sought in determining weed management programmes. In undertaking previous work on this project under WP1, we identified responses such as we operate to client requirements external and internal. The question to be raised here is how these requirements are identified. Are they provided by a trained adviser and/ or as part of an integrated weed management plan based on determining desirable outcomes for specific situations?

Finally, it is worth referring to Environment Agency (EA) studies particularly in their routine and reported measurements of plant protection products in rivers and water courses. We would also refer to a presentation on pesticide issues and water quality from a senior EA officer at the 2021 Amenity Conference available at time of writing at the link <https://www.dropbox.com/s/yif6wztqlpm71o4/Environment%20Agency%20Presentation%20to%20Amenity%20Forum%20Conference%202021.pptx?dl=0>

The overall conclusion from this data is that, whilst glyphosate is one of the more common actives found and, every effort to minimise this is needed, it is not regarded as a serious problem as water companies can relatively easily remove it and in fact it rapidly breaks down in such situations. The health and safety studies undertaken in relation to its authorisation are also relevant here (see next section)

Finally in this section we should and must refer to media and public concerns about glyphosate and strongly advocated by key lobby groups, linked to perceived health factors in particular. The priority here is to focus on facts. Statements such as 'pesticides and chemicals are poisonous' draw headlines but how are they supported by the facts. Chemicals are an everyday part of our lives, indeed they are in the make-up of our bodies and essential for our existence. Also pesticides are subject to an extremely robust approval and review process, far more so than many of the products used by households and stored in kitchen cupboards.

As example of this has been a recent re-emergence of media coverage about glyphosate following release of a study that revealed, in a sample of people volunteering for the trial, traces of glyphosate were found in 80% of urine samples. A headline in a national newspaper on the topic described the



result as disturbing but what are the facts here? The first thing is to emphasise the word detection. The equipment used could detect extremely low levels and information published by other scientists would indicate these are well below levels of concern. Our desk studies could not find any scientific reviews or studies showing glyphosate levels in urine or blood anywhere near those that might suggest a health risk. Indeed glyphosate is readily eliminated from the body and the nature of glyphosate products used as pesticides is for the weed killing effect to be rapidly broken down once applied.

There is also of course the on-going claims about glyphosate and its possible links to cancer. This links to reports some years ago that it could be carcinogenic. All current refereed scientific evidence has not supported a direct link and hence it is a fully approved active for use as a pesticide in most countries in the world. In the UK, it remains an authorised active deemed safe to use and, in the eyes of the various scientific panels of experts, not a carcinogenic threat as will be covered further in the next section of this report.

These comments result from our research of the current situation and evidence (see Annex 4 for further information and sources). As such our conclusion must be that glyphosate used in approved form and applied correctly does not pose a health or safety risk. However it is recognised that these factors undoubtedly are influencing local authorities in considering their approaches to glyphosate use and policy. Whilst certain sections of the public may indeed have reservations about the use of glyphosate, they also wish to see safe and clean amenity areas. It is an interesting balance. It is clearly one of the reasons why it is important for Norfolk County Council to be developing a glyphosate policy and to be able to declare its position on this clearly as well as fully communicate it to residents of the county.

**c) UK legislative changes that are proposed or likely regarding the use of glyphosate including a review of current practice with regard to health and safety**

Use of glyphosate as an active is not due for re-approval in the UK until the end of 2025. On leaving the European Union (EU), the UK adopted transitional approval and review arrangements to give time to develop specific national approval processes. The UK authorities are satisfied that glyphosate is a safe active following review by scientists and other experts but of course will continue to monitor matters especially as they develop in the European Union and elsewhere.

In Europe, the active's current approval runs until the end of 2022. The EU Pesticides legislation requires that the approval of all active substances must be periodically reviewed. This process starts with a scientific assessment by a rapporteur Member State, which is followed by a peer-review process overseen by the European Food Safety Authority (EFSA).

On 10 May 2019, four Member States (France, Hungary, the Netherlands and Sweden) were appointed to act jointly as rapporteurs for the assessment of the next application for renewal of the approval for glyphosate. The four Member States form the Assessment Group on Glyphosate (AGG). The AGG conduct the scientific evaluation of the dossier submitted for the renewal of approval of glyphosate.

On 15 June 2021, the Assessment Group submitted to the European Food Safety Authority (EFSA) and the European Chemicals Agency (ECHA) its assessments in the form of a draft Renewal Assessment Report containing a proposal for harmonised classification and labelling respectively. On 23 September 2021, EFSA and ECHA also launched public consultations on the reports delivered by the AGG. This consultation ended on 22 November 2021.



The assessment group together, with EFSA and ECHA, considered the comments received during the public consultation and the reactions of the Glyphosate Renewal Group (GRG) to them [The GRG is the consortium of companies applying for the renewal of the approval in the EU for the active substance glyphosate in 2022]. Based on an initial analysis of the comments, they requested additional information in accordance with the Regulation governing the renewal process. Given the volume of new information received through the public consultation and the amount of action points identified for action following the evaluation of those comments, the AGG indicated that more time was needed to provide an updated draft renewal assessment report.

On 10 May 2022, EFSA and ECHA announced that, taking into account the later delivery of matters and, in order to complete the peer review process, there will be a delay in delivering the EFSA conclusion, which is now expected in July 2023.

In the meantime ECHA have undertaken a thorough review of the active particularly re-looking at previous carcinogenic concerns and also issues arising from the consultation. They have given a positive assessment for its continued sale. In essence, the process, if based on scientific and related assessments, should lead to the renewal of approval for the active. However, now the final decision will be with the politicians. Given that the current glyphosate approval runs out at the end of December 2022 and the decision on renewal has now been set as July 2023, the process is set for a temporary approval extension until that decision is made. It is emphasised that this is an EU process and whatever its outcome should not affect the current UK approval. Further information on these matters is available at the website [https://food.ec.europa.eu/plants/pesticides/approval-active-substances/renewal-approval/glyphosate/assessment-group\\_en](https://food.ec.europa.eu/plants/pesticides/approval-active-substances/renewal-approval/glyphosate/assessment-group_en)

A significant number of European countries have declared intentions to impose, or have implemented, restrictions on glyphosate. However in almost all cases, applications can be made for derogation to apply to specific situations such as public amenity areas, parks etc. These in effect involve the issue of a licence where those involved in weed management demonstrate there is a need to use such products and it is the optimum solution compared to alternatives, based on effectiveness, economy and environmental impact. As such it is not a full ban but more regulated use. A further consequence of restricting use of approved products such as those containing glyphosate is that it can lead to encouraging illegal use of products which is another factor regulators need to take into account in these matters.

In summary, glyphosate continues to be approved for use in the UK until the end of 2025 and there is no evidence to indicate such a decision will change. We are soon to have published the new UK National Action Plan relating to weed, pest and disease management. This is expected in the autumn of 2022. The Plan will give strong emphasis on the need for integrated approaches to weed, pest and disease management looking to ensure the use of plant protection products is both efficient and effective and part of an overall set of actions defined in an integrated plan.

Pressure will undoubtedly continue to see reduced glyphosate use under a policy of minimisation and targeting and using the active within an integrated management plan. Indeed creating an Integrated Plan (often referred to as IPM) may well become a requirement or, if not, a strong recommendation for authorities such as NCC. Such a plan would set out for specific situations how an organisation will seek to effectively manage weeds, pests and diseases by the optimum combination of methods, chemical and non-chemical, to create safe, healthy spaces fit for purpose and to minimise environmental impact. In such a context, as stated previously, the decision of Norfolk County Council to produce a glyphosate policy is very timely and important.

In concluding this section, it is important to report upon research and work undertaken relating to glyphosate use and pollinators.

There is a relative scarcity of scientifically based studies on this topic compared to many other areas and, where they exist, there is some conflict in terms of outcomes. There is a great deal of opinion on the topic but this is to be expected in what can be an emotional area depending upon which side positions are taken. The studies are also very much bee orientated whereas, as we know, many other pollinators exist and are very important.

Royal Holloway University of London have sought to review matters in terms of meta-analysis of data available, as has the Expert Committee on Pesticides (EPC). The latter was established to provide independent, impartial advice to the government on the science relating to pesticides. It is a key body influencing the pesticide approval process and comprises individuals with a strong scientific background with a range of interests and skills.

In 2019, Lord Jones of Cheltenham raised the question to Defra as to whether the use of glyphosate is consistent with plans to conserve and increase the population of pollinating insects in the UK. The written response by the Minister expressed the view of the EPC and remains the current government position and that of the committee. A key statement in the response is as follows:

*For all pesticides, the Government carries out a thorough assessment of the scientific evidence, drawing on advice from experts in the Health and Safety Executive and the UK Expert Committee on Pesticides. **The current evidence shows that glyphosate pesticides do not carry unacceptable risks to pollinators and can therefore be authorised.** Ministers have acted where the evidence shows an unacceptable impact on bees – for example, with respect to neonicotinoids.*

When applying glyphosate products to hard surfaces, there is strong evidence that flying pollinators such as bees will generally fly away from harm and, in this regard, glyphosate products can prove significantly less harmful than some other methods of weed control such as hot water treatment. Glyphosate applied is absorbed rapidly in the plant and any reaching the soil breaks down relatively quickly. However, in terms of green surfaces, spraying should not take place on pollinator plants when pollinators are active.

There is some evidence that, if ingested by bees, glyphosate products can affect the gut. Again however the evidence is inconclusive. Whilst glyphosate is expected to be innocuous to animals, including bees, because it targets an enzyme only found in plants and microorganisms, bees rely on a specialized gut microbiota that benefits growth and provides defence against pathogens. Most bee gut bacteria contain the enzyme targeted by glyphosate, but vary in whether they possess susceptible versions and, correspondingly, in tolerance to glyphosate. Exposing bees to glyphosate alters the bee gut community and can increase susceptibility to infection by opportunistic pathogens.

However as an example of the conflict of views on this topic, it is interesting to review the views of academics to some research undertaken in 2018 on the impact of glyphosate on honey bees. The research concluded that susceptibility of bees to certain pathogens can increase where glyphosate is ingested. The general view to this was that, whilst most studies indicate dietary exposure to glyphosate has a low toxicity risk to animals and insects, this work does suggest some impact on the microbiome of the gut in honey bees but overall the view appeared to be that more work was needed. Effectively, it appears to say that glyphosate can potentially interfere with the bacteria in the bee gut if ingested in sufficient quantity.

To further complicate matters, the researchers at Royal Holloway who have reviewed studies relating to this topic, reported in the Journal of Applied Ecology, indicate that glyphosate itself is not the problem to bees but the inert ingredients added to the herbicide such as wetting agents or surfactants can create the issues relating to impact on the gut.

So what can we conclude in terms of this in relation to NCC's glyphosate policy and its alignment with other environmental strategies? The HSE are clearly stating that glyphosate products do not pose unacceptable risks to pollinators. However in any policy on glyphosate use, it is important to ensure operators fully take into account the amount of active pollinators in a given situation and seek to minimise their exposure to the plant protection product where they are at most risk.

In terms of hard surfaces, blanket spraying is now prohibited and spot spraying is the norm. In most instances in this situation, it would seem possible to minimise impact on pollinators with assessing this specific risk as an element in drawing up integrated weed management plans. If using glyphosate on green areas such as around landfill sites, the timing of spray application is clearly a key factor. Glyphosate rapidly breaks down on contact with the soil so with appropriate timing of applications when pollinator activity is low, any risks can be minimised. Again this would be part of the weed management planning in such situations.

In taking forward the glyphosate policy, adoption of these key principles can minimise dangers and as such this policy can align with the pollinator strategy and environmental policies already adopted by NCC although this will become clearer once work on WP4 is completed.

**d) alternative methods of vegetation control that have been tried by councils and whether further NCC trials of alternatives are needed**

In this section, we summarise conclusions from our extensive research and individual discussions as well as our assessment of a number of trials conducted, together with their implications for this project. We also refer to particular local authorities situations as examples of the outcome from our discussions with them and consider the views of some principal contractors.

**i. The Thanet Project**

This study was undertaken in co-operation with Kent County Council and ran over a three year period from 2012 to 2015. It researched various methods of weed management on streets and pavements, mainly by adopting different approaches in ten areas of the district of Thanet, chiefly comprising the town of Margate. The project was funded by Defra and managed by the Chemicals Regulation Directorate. It comprised a number of partners including the Environment Agency and a national contractor and was led by East Malling Research Station. The areas chosen were divided into three zones with each receiving one of the following control methods:

- Approved plant protection product use, conventionally applied (normally two applications but the contractor could vary to meet circumstances)
- No plant protection products used – thermal and mechanical methods only
- Integrated approach – the volume equivalent of one plant protection product application, along with a mixture of thermal and mechanical methods

The plant protection product used was glyphosate based.

In the first year the project did not utilise hot foam techniques but did do so in the following two years. This replaced the use of burning techniques identified as a health hazard in residential settings and thus discontinued.

The full report on the research can be found at

<https://www.dropbox.com/s/5ayzk85iir9zq12/Thanet%20Project.pdf?dl=0>

In summary, the final conclusions indicated that the area of no use of glyphosate produced unsatisfactory outcomes and indeed led to public complaints. Indeed some public adopted a do it yourself approach, not to be encouraged, which led to some peaks of glyphosate in run off identified in such areas although, as such, no approved applications of the active were being made by the authority through the trial.

Both the approach utilising reduced glyphosate use combined with mechanical and other means in an integrated way and the conventional glyphosate approach, produced satisfactory outcomes but in financial terms, the integrated was much more expensive in terms of application time and materials, between 8 and 10 times. The project demonstrated that adopting an integrated approach did require careful planning. It also showed that in the glyphosate only approach, if the contractor was not too restricted by specified numbers of applications and could adopt a more flexible approach to applying the quantity of product when most effective, then glyphosate use was both the best economic and effective method and risks of run off and related issues could be minimised..

A further important outcome from the work was the development of a proposed weediness scale which encouraged the authority to think hard about the level of control needed in specific areas and not adopt a blanket approach. Is some level of weed acceptable on pavements and roads in certain specific areas and places? By adopting this desired outcome approach, costs could be reduced and glyphosate application minimised and even more targeted. In the full report, there is illustration of this weediness scale and we are aware that it has been adopted in certain situations within some local authorities and this process of considering levels of weediness that can be tolerated is certainly worth consideration by NCC for implementation in its final glyphosate policy. We are aware that some degree of adoption of this policy has existed in North Yorkshire where in the town of Harrogate for example, a zero tolerance approach was sought linked to the level of tourists and conference delegates that it attracts but in less populated areas some degree of weeds was deemed acceptable. The challenge is deciding the basis for such decision making.

A more detailed explanation of the weediness scale proposed by researchers involved in the Thanet project specifically in terms of pavements is provided at Annex 3 of this report.

## ii. York Study

There has also been an externally moderated trial programme by York Council in specified areas of the city looking at ways of reducing glyphosate use or eliminating altogether. This included using acetic acid and nonanoic acid. In a document, releasing their findings in January 2022, it was stated that they had reviewed the alternatives and concluded they were less effective and/ or the high water volumes and Co2 production was an issue that they could not currently address with options which did not include the use of glyphosate. The overall opinion was products containing glyphosate was still the best option in most situations. It also stated that manual weeding would have the lowest environmental impact, but would need extra staff, vehicles and tools – and could cost an estimated extra £100,000 per annum.

Overleaf is an item extracted from the findings (with apologies for the spelling error identified in this (not ours)!

e) Any further trials

**Principle Treatment**

24. From the limited York trial, glyphosate is the most effective chemical treatment currently available and on performance alone officers would not recommend acetic or nonanoic acid.
25. Additionally acetic acid is not recommend as this has additional health risks to both the applicant and the public. The recommend strength to kill weeds can also burn the skin.
26. For this reason it is recommended that the principle treatment needs to remain as Glyphosate.

**Contract Length**

iii. Cardiff Study

A recent extensive study undertaken in Cardiff has also been brought to our attention. We have also discussed this in some depth with the consultants and others engaged to undertake it on behalf of the council. It has not yet been published and, as such, remains confidential to this project at this stage.

In 2021, Cardiff Council and its contractor trialled three pavement weed control methods across the City of Cardiff to find out how effective and sustainable each method was, as measured against four key criteria including cost, environmental impact, customer satisfaction and quality. Control methods trialled included glyphosate-based herbicide (applied three times per year), acetic acid-based herbicide (applied four times per year) and hot foam herbicide (applied three times per year) It was a development of the Thanet Study but with more of the sustainability, economic and efficacy factors considered.

The following are our conclusions from the summary of outcomes arising from our discussions.

The Efficacy and sustainability results showed that glyphosate was the most sustainable, being cost effective, with low environmental impacts and high customer satisfaction and quality. In contrast, acetic acid delivered intermediate costs and environmental impacts with low customer satisfaction and quality, while hot foam generated high costs and environmental impacts, with mixed customer satisfaction and quality.

Based on cost, environmental, customer and quality criteria (efficacy and sustainability criteria) measured, the trial indicates that the most effective and sustainable weed control method currently available for pavement weed control in the UK involves the use of glyphosate-based herbicide

Some other interesting measurements drawn from this study are shown in the table that we have constructed overleaf:

|                             | Glyphosate | Acetic Acid | Hot Foam |
|-----------------------------|------------|-------------|----------|
| Labour (hours per km)       | 0.16       | 0.23        | 4.89     |
| Product Use (litres per km) | 0.33       | 4.06        | 5.38     |
| Water Use (litres per km)   | 13.0       | 8.44        | 807.23   |
| Fuel Use (litres per km)    | 0.18       | 0.19        | 14.46    |

The results are extremely relevant to Norfolk County Council in helping draw up its glyphosate policy especially in terms of hard surfaces. They bear out most of the findings of the Thanet project in terms of effectiveness of action, with glyphosate producing the best results. This study though looked much more closely at costs and carbon emissions. Again the conventional approach of glyphosate use proved the most effective and economic. However it is in the area of carbon foot printing that approaches utilising glyphosate come out very well indeed. Because they use less water and external energy in application, this mean their carbon footprint is much less. In fact the figures extracted from the report, based upon full life cycle analysis of the environmental impacts of the various approaches, indicate this strongly with, based on these figures, hot foam estimated to be producing 6700 times more carbon emission for a given area of work than glyphosate. Given the UK and council commitments to zero carbon, this is a powerful argument for retention of glyphosate in weed management programmes but again within a planned integrated approach.

iv. Havering Borough Council

In late 2021, officers of Havering Borough Council presented a report to their council members which summarised research that they had undertaken on alternative methods of weed control practised by other authorities and in particular by London authorities. The summary of outcomes can be found at [Appendix 1 - Alternative Weed Control Methods.pdf \(haverling.gov.uk\)](#)

They compared conventional herbicide treatment, hot foam, hot water, electric shock, propane flame gun, manual weeding and strimming. The strong conclusion was that glyphosate based products should continue to be used within the context of minimising its use by targeting correctly and considering where some weed levels could be tolerated rather than fully removed.

v. Surrey Council

This is again a report to their council following a recent trial of control methods for weeds in kerbs and resulting from members' requests to consider alternatives to glyphosate. The following is taken from the published conclusions in relation to the recommendation to continue to use glyphosate.

*Weeds are controlled using environmentally friendly and effective herbicides. When the herbicide is applied to a weed, usually by spraying, it works its way through the plant killing it completely. On contact with soil the herbicide breaks down into harmless substances.*

*The herbicides used in Surrey have a very low toxicity to humans, animals and insects and can be used in areas open to the public and their pets. In areas close to water courses and reservoirs, herbicides are not used.*

*We are committed to exploring alternatives methods of weed control over the coming years. We regularly consult with independent experts for advice on weed control and related issues, to ensure*

*that we are fully up-to-date with changes in legislation, herbicide recommendations and commercial practice*

[Weed control - Surrey County Council \(surreycc.gov.uk\)](http://surreycc.gov.uk)

This particular report highlights the dangers of spraying close to water courses and reservoirs. In Surrey the intention stated is not to use herbicides. However this raises the question of how they might control invasive weed infestations in such areas. From discussion with officers, it appears that this would fit an exceptional category and glyphosate if used would be done so with all required approvals and following carefully monitored practice using trained professional operatives. It is important that this issue is addressed in the NCC Glyphosate Policy document

The studies above and other reports are in the public domain. For other authorities reported in the remaining section of the report, where not in public domain, some anonymity was offered and has been made. A significant number of authorities have been spoken to or corresponded with for this report and below are examples.

vi. Authority A

In 2021, this authority undertook trials on a range of approaches to weed management in the authority. This was a political decision, following discussions within the council in 2020 as to possibility of becoming a “Pesticide free” authority. This led to a paper prepared by officers explaining in detail reasons for the use of herbicides, locations of use and impacts on infrastructure such as highways on not controlling weed growth. Detail on alternatives that had been trialled by colleagues in other authorities, and their success or otherwise were also reported. The following actions were approved by the council prior to start of the trials.

- *To continue to use glyphosate products for 2021 but continually review their use.*
- *Agree to review alternative methods of control and trial such products in 2021.*

The trial work made use of

- Hot foam
- Hot Steam
- New Way spray
- Mankar ultra low volume lance
- Pedestrian Hot air machines.
- Pedestrian wire mechanical sweepers

Looking at the results of the trials and from discussion with officers, the following outcomes and conclusions emerge.

- Herbicide use gave longer lasting impact
- Additional or increased costs for alternative products,
- Increased resources and costs for additional labour and vehicles, including fuel.
- Environmental factors relevant, for example, increased carbon emissions certainly for systems requiring volumes of water and fuel use
- Public disruption, application in busy areas, hoses, foam, hot steam.

Overall conclusion was to continue with herbicide but to take all measures possible to minimise use and target effectively.



## vii. Authority B

Glyphosate based plant protection products remain the main option used in this authority although recently use has been stopped for treating tree bases in most areas. In recent years they have gone from 3 down to 2 cycles for road and kerb spraying and, in 2021, stopped treating tree pits and grass edges that are level with the footpath, these just get mown regularly.

They have trialled pelargonic acid but found it to be more expensive than and not as effective as glyphosate. Techniques such as hot foam, steam/hot water, electricity, thermal (flame) are seen as burning off foliage and having little effect on perennial roots. Some trial work of alternatives is being planned but currently the policy remains to use glyphosate as a key component of the mix for weed management. However the plan is to continue to investigate ways of reducing glyphosate use by better targeting and planning and accepting some level of weeds in specific areas rather than a no weed policy. They report on a 50% reduction in glyphosate use since 2012.

## viii. Summary of points from some other Local Authorities

In other evidence collected from local authorities, the significant number are reviewing their approach to glyphosate use. Whilst a number indicate some individual political pressure to not use the active at all, products containing glyphosate remain the principal component of most weed management programmes. Indeed our review has identified that, where councils have taken a stance not to use herbicides, this has often been reversed in terms of extra costs and also failing to meet public expectations. As stated previously, it is a dilemma, on one hand public in an authority, especially lobby groups, can state concern about herbicide use, but the demand for clean areas of streets, pavements and other amenity areas remain high. So what has become apparent in our discussions is that, whilst there may be media reports of authorities banning pesticide use, it would appear that the normal approach being taken, certainly for weed management, is to continue herbicide use, albeit in as targeted a way as possible and a number of authorities have established reduction targets.

Whilst establishing targets might initially seem appropriate and motivating, the question is at what level to set it? Just looking at reduction on its own without considering all the factors involved in an integrated approach may lead to bad decision making. Season can also have a significant impact on the amount of weed management required. This is why a policy of seeking to minimise use within a planned integrated weed management programme would seem more appropriate.

An interesting set of statistics seen in one local authority relates to complaints from trial areas where they used glyphosate, acetic acid and hot foam techniques, Complaints from acetic acid treated areas were the highest, hot foam second and glyphosate third. Perhaps an indication of the importance placed by the public on clean and safe amenity areas which can over-ride concerns on pesticide use stated strongly by pressure groups.

We have had discussions with a London Local Authority which a couple of years ago decided to change from use of glyphosate to applications of hot foam for weed control. At the outset it was accepted that the approach would be considerably more expensive to give effective control and involved capital purchases and extra running costs. The current policy we understand has reverted to the use of glyphosate, albeit within a more integrated approach.



Indeed all research to date points to authorities considering adopting integrated management approaches arising from a need to more clearly defining policy on the use of plant protection products and ensuring their use is effective and efficient. Fundamental to minimising use of glyphosate, emphasised in our discussions, is the proper co-ordination of regimes such as brushing, planting designs in public areas to minimise weed growth and not adopting a blanket approach to weed management but agreeing desired outcomes for specific areas and designing individual programmes to meet requirements.

A discussion with the manager responsible for parks maintenance in a large city emphasise the above. In addressing weed issues in their parks, they have sought to adopt an integrated management approach. This principally focuses on determining and identifying acceptable levels of weed growth in specific areas linked to the intensity and type of use. There has been more voluntary group involvement and increased training and continuous professional development for staff involved.

Greater consideration to planting and types of plant is given and ensuring new areas of grass are sown or turf laid in the very best conditions. Designing hard landscape features to minimise detritus trapping is also a factor with sweeping regimes fully co-ordinated with other methods used. Looking at the future, a number of areas were discussed and identified as priorities include better timing of operations such as forking/hoeing weeds before they flower and drop seed, and increased density of planting and mulching

In 2019, Brighton Council stated their intention to be pesticide free by 2022 and took action to significantly reduce glyphosate use. In the summer of 2021, this led to some public backlash, widely reported in the media, as to the weediness of public pavements and spaces and damage to infrastructure as well as risk to public safety. This links back to an earlier comment and indicates that when developing a policy, the need to carefully balance the various factors, including taking the public with you, are really important. Whilst public concerns may exist about pesticide use, the same public seek safe and clean amenity areas fit for purpose.

In producing a glyphosate policy for Norfolk, it will be important to gauge correctly public attitudes in the widest sense and define appropriate communication strategies.

ix. Other views from contractors

We have sought the views of contractors and, in particular, national organisations who service local authority and public body amenity space management. They report a very different approach being taken by many local authorities over recent years, moving from a prescribed number and timings of sprays in a season to a more flexible approach setting required outcomes and asking the contractor to manage more directly the programme as required.

Contractors prefer this approach but are still critical of many of the tender processes. Whilst the manager often does put emphasis on assured and professional operations to best practice standards, when it gets to the procurement level, least cost seems to remain the dominant decision making factor on which contractor to choose. This can lead to lower standards and can produce in some instances unprofessional outcomes..

The other factor emerging was that whilst, some contractors see a move to clients not seeking zero weeds in all areas, there still is a way to go in terms of specifying acceptable weediness levels for specific areas involved.

The contractors we interviewed did indicate a willingness to make use of alternatives to herbicide but the fact remains that, even with the recent escalating price for glyphosate, its use still remains the most effective and economic solution.

x. Invasive Weeds

There has been some extensive research on the control of invasive weeds led by Swansea University. They have a major site in Wales which, when acquired, was infested with invasives and, over recent years, they have tried various treatments and set up independent trials. The research is led by Dr. Daniel Jones and he has published the outcomes. In 2020 he gave evidence to a Government Committee established to look at this issue of invasive control. In discussions with Dr. Jones, especially in terms of Japanese Knotweed, some key points to emerge were:

- Good invasive weed management needs the right herbicide, timing and application method
- Herbicides are very effective
- Physical methods are often suggested as “environmentally friendly alternatives” – in his experience, most though don’t work for invasives
- Whatever, do not mow Japanese Knotweed

The research team have looked in some depth at sustainability factors based upon life cycle assessment mentioned also in a later section. They used this approach to consider a number of control strategies for Japanese Knotweed namely:

- Chemical - 6 herbicides tested using 3 application methods (e.g. foliar spray)
- Integrated – digging or cutting before herbicide application
- Physical - geomembrane covering

Assessing these approaches, using the life cycle approach, demonstrated that all foliar spray treatments came top, followed by stem injection, then digging and turning with herbicide spray and finally the physical approach involving the geomembrane covering.

The conclusions to date are that complete eradication of invasives in the UK is now very unlikely but the best control options, both in terms of effectiveness and cost, involve glyphosate and they would suggest this as the most sustainable approach going forward.

xi. Public highways

Within Norfolk County Council, the main use of glyphosate by weight was identified as used by the Highways Department whose responsibilities cover streets and pavements as well as public highways. The current NCC service from the Highways department includes scheduled weed control on the footway, carriageway, Urban Public Rights of Way, public maintained paved areas, and may also include the treatment of invasive and/or noxious weeds on the highway. Current policy is not to weed treat highway verges. These are subject to grass cutting for safety only.

Whilst most of the trial work previously referenced in this report relates to streets and pavements, maintenance of our roads and highways are essential. In looking at this, to two contractors, the question posed was ‘What would you do if glyphosate could not be used on highways?’ The response of one, which effectively summarises both discussions as noted, was as follows:

*It’s a good question and one that needs to be asked. We cannot revert to what was used before, triazines, because they no longer have approval and there is nothing new on the horizon, certainly*

*nothing as safe as glyphosate products. We would therefore have to use existing alternatives which, either rely on heat or ripping out the growth. The problems caused are immense, mainly huge additional cost, carbon foot print, habitat destruction, and, in the case of ripping, potential major infrastructure damage.*

*The scenario is that nature will take over. Starting with footways, access will become impossible as the infrastructure breaks up and the land reverts to scrub. Pedestrians may be forced on to the highway causing obvious safety concerns. There will be drainage problems causing highway flooding as well as hindrance of sight lines, both potentially leading to accidents. The longer the problem is not addressed, the greater the cost of repair and re-establishment of footways and roads that are fit for purpose.*

*On high speed routes safety is going to be the critical factor. To keep them open vegetation must be controlled and this would have to be achieved using mechanical means, mowers strimmers etc. involving huge amounts of diesel, risks to operators working close to fast moving traffic for extended periods, and habitat destruction.*

*Glyphosate is safe and, approved plant protection products containing it, remain the most effective, economic and efficient method for highways.*

Whatever decisions are taken will need to carefully balance public expectations and opinions which do not always align. Re-wilding grass verges for example may seem attractive but it is also vital to retain sight lines and keep people safe. On many of our motorways, there has been a cut back on maintaining vegetation behind the barriers by Highways England, yet in case of emergency, people are advised to stand behind barriers, now impossible in many areas. As said, it is a delicate balance but for NCC going forward, some more specific selection of areas with different acceptable desired outcomes would seem appropriate to seek to achieve reduced glyphosate use. Also consideration to the number of treatments and flexibility in timing windows within specific areas could be appropriate linked to other factors such as sweeping regimes, currently managed separately to the Highways department, and achieving greater co-ordination of all operations influencing the need for weed control.

It is worth noting the situation in other European countries which have restricted the use of glyphosate especially in terms of non-food production situations and mentioned previously. Whilst often termed a ban, there is generally opportunity to apply for derogation for specific situations and challenges. In effect obtaining a licence to spray. As stated above, maintaining highways without some use of glyphosate would be extremely difficult and likely prohibitively expensive.

xii. Sustainability assessments using life cycle measurements

We would reference some previous work in the Netherlands. This sought to compare different methods of weed control based upon a sustainability score taking into account economic and environmental impacts including carbon foot printing. This has more recently been taken forward by further analysis. The results were reported upon in a presentation to the 2022 Amenity Forum conference. This involved looking at the life cycle of different options for weed management and producing a sustainability score based upon the impacts on the economy, society and environment. The full presentation is available at the following link

<https://www.dropbox.com/s/lsj0of9i41l936m/14.%20Am%20forum%20conference%20Autumn%202021%20final.pptx?dl=0>

The sustainability score was calculated using factors in what are referred to as the three pillars of sustainability - economic, society and environment. Each pillar had four measures identified, scored out of 6 each.

Whilst, as with all these studies, some of the calculations are inevitably somewhat subjective, as presented, the following are calculations and comparisons of final sustainability scores for selected methods used on hard surfaces.

|                                  |    |
|----------------------------------|----|
| Physical (hoe, hand weeding etc. | 26 |
| Physical using mechanical means  | 49 |
| Glyphosate                       | 24 |
| Alternatives such as acetic acid | 37 |
| Thermal (flame)                  | 51 |
| Thermal (hot water/ foam)        | 50 |

Interestingly in the Cardiff study referred to previously, these outcomes receive validation.

#### xiii. Concluding Remarks from this research into alternatives

In conclusion, our research and discussions to date indicate that glyphosate remains a core part of weed management programmes in local authorities and, in reports studied, scores well in terms of sustainability factors and certainly carbon emissions. However most organisations, similar to NCC, are seeking to minimise its use and ensure its application is properly targeted and effective. Alternative application methods within trials are seen as more expensive but undoubtedly the need for integrated planning of weed management for specific areas is important and looking at such areas in terms of defining desired outcomes should be encouraged.

#### xiv. Whether further NCC trials of alternatives are needed

A question relating to this project that has been raised is whether further NCC trials of alternatives are needed building on some previous work undertaken. The general conclusion from our research would be that this is not essential given now the range of other such work undertaken nationally and referred to above. It is not clear what extra information would be produced from such additional work.

However there may be some merit in limited local trials linked to gauging public response and attitudes. This would need careful planning so it did not result simply into a pro and anti-glyphosate question or raise concerns simply by it being undertaken. The issue to be addressed is what level of weed management outcomes are required and perhaps how can the public be more informed of approaches. It seems clear that the new UK National Action Plan relating to weed, pest and disease management will strongly advocate integrated approaches to weed management and maybe seek authorities to produce integrated plans. In producing a policy for glyphosate use it would be recommended that this might perform some form of dual role as acting as an integrated management document as well.

- e) what alternative approaches (real life examples) could be drawn upon, e.g. where regenerative agriculture is being achieved. A programme of site visits/ training / learning opportunities will be developed**

There is undoubtedly a need for any organisation implementing weed management programmes to adopt a thorough approach creating programmes linked to desired outcomes. The rise in cost of inputs such as pesticides, fertilisers etc., drives this approach in all situations.

Weed control issues can be minimised in amenity situations by well-defined management planning at all stages. For example, when planning new developments, choice of lay-out and design to minimise weed infestation and problems can be key. An example is using rounded kerb edges wherever possible in built up areas rather than straight edge. This allows effective sweeping and less build-up of detritus on which weed growth thrives. Careful planting choice on amenity areas such as parks can ensure less weed growth issues. For example in Telford, we are aware of re-planting of roundabout features with choice of varieties set at greater density and linked to being more competitive for space than weed plants. It might prove productive in a Norfolk context to consider such factors and see if similar steps could be taken.

Also in considering weed management, it is vital to see this as a continuing exercise of management not just control, when an issue arises. It is recommended that those staff directly involved in weed management decisions or application do receive recognised training and opportunity to visit other local authority situations, to look at alternative approaches to minimise glyphosate use whilst still achieving desired outcomes. Lantra and BASIS Registration as examples offer training and courses including on line which could be considered.

As part of a programme of site visits, it is suggested a visit to Throws Farm in Essex might be beneficial for all involved in or with responsibility for weed, pest and disease management decisions in NCC whether as operators, specifiers, procurers of products, managers and councillors. This site is owned by Origin Amenity and has trials covering agriculture and amenity. It should be possible to arrange such a visit.

There is also merit in increasing understanding of innovative techniques such as genome editing and some interesting developments certainly in agriculture can be seen at the John Innes Centre. Then there is the rapidly developing area of biological control. This has more application in terms of pest and disease management but is an area to be watched. All of this could be part of a CPD programme developed within the overall glyphosate policy.

In terms of agriculture, the Council is less directly involved, in that the decisions are very much those of their tenant farmers and should be so. However, regenerative agriculture is one area being promoted based upon a more environmental approach and it was useful to hear about and discuss this directly with practitioners at Wild Ken Hill. It is seen as a conservation and rehabilitation approach to food and farming systems. It focuses on topsoil regeneration, increasing biodiversity, improving the water cycle, enhancing ecosystem services, supporting bio sequestration, increasing resilience to climate change, and strengthening the health and vitality of farm soil.

In essence it promotes an integrated approach to land management. The issue still is one of balancing economics and other factors and of supplying sufficient food and water for growing populations. At Wild Ken Hill, they would claim maintenance if not increases in farm profitability but this has been achieved over a period of time and very much links to reduced input costs. Whether NCC tenant farmers, many of whom have relatively small holdings, can have this time, or can spread overhead costs in a similar way, is a significant question. Also, how they develop going forward will

largely be based on government policy decisions. However there is a role for NCC to help inform tenants of developments and the overall policy on glyphosate issues as well as support them in changes in approach as they arise.

Whatever glyphosate policy emerges from this project, whilst clearly not being prescriptive in terms of glyphosate use by its tenant farmers, it should set out the Council's objectives in terms of integrated approaches.

In terms of training and site visits etc., is suggested that once the policy on glyphosate is determined, this will provide a better position to decide on the right development programmes for appropriate staff and officers.

#### **f) Cost Implications**

The final heading to be addressed within this particular work stage of the project is cost. This has in many ways been referred to in previous sections. Our general review and analysis of case studies and research clearly indicates that using glyphosate in weed management in amenity situations is the least cost approach.

In this context, as example, readers are referred to the work undertaken by Havering London Borough (referred to previously) which conducted a thorough review of the costs of alternative systems in 2021 using data from other authorities. This is supported by results from other trials and sources, not least the recent Cardiff Study. Even despite the recent increase in glyphosate prices, the conventional treatment of herbicide is undoubtedly the cheapest option.

This was backed up by a study undertaken by Oxford Economics. Whilst some 5 years old, it remains a reference document. The study looked at the impact of a glyphosate ban on the UK economy. The full document can be viewed at [open20170613022800.pdf \(d2rpg8wtqka5kg.cloudfront.net\)](https://open20170613022800.pdf(d2rpg8wtqka5kg.cloudfront.net)) The work was very much agriculture focussed but some calculation of the impact of a glyphosate ban on local authorities was calculated. The outcome was that this could result in an increase in costs to local authorities measured in terms of potential increase to residents. The figure for the UK was an extra £228 million on council tax bills. There have been developments in alternatives since then and the figures need some re-calculation but overall it is clear that glyphosate remains the least cost approach to weed management.

However cost cannot be measured in economic terms alone. There are also the environmental costs. The research indicates that glyphosate products, applied professionally, and to best practice standards can also have lower environmental impact than other methods. For example there is information that, whilst all methods may have impact on insects such as bees, there is evidence cited that bees sprayed with herbicide do often fly away whereas if exposed to hot water, it can kill them instantly. All evidence reviewed and received also demonstrates the high carbon footprint of many alternative approaches compared to herbicides. This is supported by studies from experts in Europe and the UK as part of its re-approval and authorisation. Carbon studies also look carefully at all aspects of life cycle of alternative approaches and once again glyphosate use scores well in this. This has been referred to previously in this report identifying outcomes from life cycle analysis based on methodology developed by researchers in the Netherlands and adopted in the trial work on hard surfaces undertaken in Cardiff and reported at other events.

There is however undoubtedly a need for an integrated approach, to more carefully plan desired outcomes, to co-ordinate approaches to weed management both pesticide and non-pesticide and to

consider ways of better planning at all stages. Such approaches can reduce glyphosate use but still maintain the required outcomes in the most economic manner.

#### 4. Executive Summary of this report

The following are the key points emerging from our research and discussions relating to WP2

- The recent national and UK surveys indicate that local authorities continue to use herbicide for managing weeds; many stating that they seek to employ some form of integrated approaches to optimise use
- Glyphosate products are the principal plant protection products used. At least 90% of total weight or volume
- The majority of authorities seek to reduce herbicide use by better targeting and timing of applications. Essentially this means only applying product to weeds identified at a dose just sufficient to address the problem.
- Key to deciding to use glyphosate products is its longer lasting effect and cost
- Glyphosate remains an approved active and, as such, deemed safe to use if applied professionally by trained and certificated staff who are kept up-dated ideally through membership of a relevant assurance scheme and part of a recognised CPD programme.
- In seeking to improve health and safety for practitioners, people and society, it is important checks are made on contractors or own staff used that they are suitably qualified and certificated. Training for specifiers and those who purchase plant protection products is also identified as very important
- Whilst glyphosate use is deemed safe by the scientific experts and authorisation process, the concerns of sections of the public need to be recognised. This requires good communication and will be an important element of the glyphosate policy developed.
- In Great Britain, glyphosate remains an approved active for use in plant protection products until the end of 2025. Prior to that date, the process for a further extension of approved use will commence.
- The current approval in Europe and experts have recommended its re-approval. However politics involved not likely to be determined until mid-2023. However whatever the decision, it will only have implications for Northern Ireland not Great Britain
- The current approval in the EU runs to the end of 2022 and experts have recommended its re-approval. However a formal decision is not expected until mid-2023. Whatever the decision, it will only have implications for Northern Ireland not Great Britain
- UK National Action Plan, due for release in Autumn 2022, is likely to look to the adoption of integrated management plans by organisations such as NCC
- There is a significant amount of information available on the trialling of alternative methods of weed control by councils. These confirm the conclusions that glyphosate remains the most effective and economic approach. It consistently proves least cost by lower use of inputs such as fuel and labour. It also scores the best in terms of carbon footprint measurement.
- Many authorities are facing pressure to reduce glyphosate use driven by active lobbying from pressure groups and media coverage. This has led to a number of reviews and trials but generally leading to the conclusion above and continued glyphosate use.
- However authorities are looking to minimise glyphosate use and some have set challenging reduction targets. Some have declared pesticide free approaches in certain areas based on acceptance of some weediness.
- Using measures of sustainability and life cycle analysis, glyphosate use emerges as the method with least impact upon the environment.



- Communication with the public is important in the area of weed management. Where they may have some concerns on pesticide use; they largely seek safe and clean spaces. Looking at trial results, we have identified complaints have gone up in areas not treated with glyphosate and, in the Thanet Study cited, glyphosate run off was detected in 'glyphosate free' areas of Margate as residents adopted a do it yourself approach.
- Glyphosate use for the control of invasive weeds remains the most effective and recommended approach as is the case for many aspects of highways maintenance.
- The report identifies a requirement for appropriate training and professional development and an agreed approach to this needs to be defined within NCC. This should apply to operators, managers and specifiers. We will further develop ideas on how this might look and be implemented within the Glyphosate Policy document.
- There is undoubtedly a need for an integrated approach, to more carefully plan desired outcomes, to co-ordinate approaches to weed management both pesticide and non-pesticide and to consider ways of better planning at all stages. Such approaches can reduce glyphosate use but still maintain the required outcomes in the most economic manner.
- There are lessons to be learnt from different approaches such as regenerative agriculture in adopting plans to minimise glyphosate use. Whatever glyphosate policy emerges from this project, whilst clearly not being prescriptive in terms of glyphosate use by its tenant farmers, it should set out the Council's objectives in terms of integrated approaches and ideally seek their involvement.
- Not using glyphosate in weed management within NCC will lead to substantial increases in monetary costs.
- Strong evidence also of increased environmental cost especially in terms of carbon emissions
- The key driver within the policy must be to promote best practice in all aspects of weed, pest and disease management seeking to create safe, healthy and sustainable spaces fit for purpose and minimising environmental impact.

## 5. Next Steps

The work undertaken on Work Packages 1 and 2 have established key priorities and actions to be included in the final Glyphosate Policy document. Work Package 3 (WP3) will focus attention on the development of suitable recording and monitoring systems to identify both use of pesticide in NCC and also other approaches used. This will link to the NCC Dashboard to provide both external and internal monitoring.

Work Package 4 (WP4) will seek to ensure appropriate alignment of the policy with current NCC environmental plans and strategies and identify instances, locations etc. where glyphosate must not be used.

The work on WP3 and WP4 has already commenced and the aim is for its completion in August. Initial drafting of the Policy will commence along similar timelines with an aim of a draft document being available for initial discussion with the working group in early September prior to final drafting. This timescale should allow an appropriate paper to be written by NCC staff to take to the Infrastructure Committee on 16<sup>th</sup> November.

## ANNEX 1

### SOME REFERENCE MATERIAL REFERRED TO IN THIS SUMMARY REPORT

Amenity Forum (2020) – Guidance document on methods of integrated control for weeds and a template for use in decision making

Amenity Forum – Guidance documents available from their website [www.amenityforum.co.uk](http://www.amenityforum.co.uk) with some specific for use by local authorities.

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Harker KN, O'Donovan JT (2013). Recent Weed Control, Weed Management, and Integrated Weed Management. *Weed Technology*

Hillocks RJ (2012). Farming with fewer pesticides: EU pesticide review and resulting challenges for UK agriculture. *Crop Protection*

Jones D, Bruce G, Fowler MS, Law-Cooper R, Graham I, Abel A, Street-Perrott F & Eastwood D (2018). Optimising physiochemical control of invasive Japanese knotweed. *Biological Invasions* 20(8):

Jones D & Eastwood D (2019). Sustainable Control of Invasive Japanese Knotweed. *Outlooks on Pest Management*

Kudsk P & Mathiasen SK (2020). Pesticide regulation in the European Union and the glyphosate controversy. *Weed Science*

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Martelloni L, Frascioni C, Sportelli M, Fontanelli M, Raffaelli M & Peruzzi A (2020). Flaming, Glyphosate, Hot Foam and Nonanoic Acid for Weed Control: A Comparison. *Agronomy*

Scottish Government. Survey undertaken of local authorities in Scotland on the use of pesticides and adoption of integrated approaches 2019 [Local Authority Integrated Weed Control Survey – 2019 \(www.gov.scot\)](http://www.gov.scot)

Weedingtech - Herbicide-free technology for managing green and urban spaces.

## ANNEX 2

**SCOTTISH SURVEY ON PESTICIDES AND ADOPTION OF INTEGRATED CONTROL WITHIN LOCAL  
AUTHORITIES CONDUCTED IN 2019**

Executive Summary of this report

*Of the 32 LAs contacted for the survey, herbicide use data were received from 27 and details of integrated weed management practices from 28. These LAs collectively represent 89 per cent of Scotland's land area and 92 per cent of the population and, as such, provide a robust overview of Scottish LA integrated weed management practices. All responding LAs employed integrated control methods, adopting a combination of herbicide and non-chemical weed control strategies. The most commonly used non-chemical methods employed were mechanical control (cutting, strimming, flailing and mowing as well as weed brushing and ripping), hand weeding and suppressing weed growth with mulches. Almost all respondents (96 per cent) also adopted weed prevention methods to reduce the need for control, including using mulches (93 per cent), replacing annual flower beds with perennial beds to reduce inputs (79 per cent), mapping and targeting areas where most control is needed (36 per cent) and resurfacing areas to reduce the need for control (32 per cent). A range of reasons for using non-chemical approaches were reported, with the main drivers being concern about environmental impacts and a desire to reduce operator and public exposure to herbicides.*

*Where herbicides were applied, all respondents stated that they took steps to reduce their use, primarily by evaluating whether there were alternative non-chemical control measures and by minimising and targeting herbicide use. The main reasons stated for choosing to use herbicides over alternative controls were for control of invasive weeds, maintenance of acceptable visual appearance and protection of infrastructure. Where herbicides were used, they were reported to be more effective over a longer period, with a lower associated cost, than alternatives. Some LAs also reported that there was limited availability of alternative control methods. The surveyed LAs collectively applied 15.2 tonnes of herbicide active substance in 2019. Twelve active substances were used in total and, in common with other amenity use settings, glyphosate is the most widely approved and used herbicide (99 per cent by weight). Three LAs stated that they had prohibited or restricted the use of glyphosate on some surfaces in 2019/20 (during or after the survey data collection period). One further LA stated that they were currently reviewing their future use of glyphosate. Where specified, most herbicide applications were by knapsack sprayer (58 per cent), vehicle mounted boom sprayer (18 per cent) and vehicle mounted lance sprayer (15 per cent). Where specified, 55 per cent of herbicide applications were to hard surfaces, 17 per cent to soft surfaces and 28 per cent to a combination of both. Twenty four respondents (86%) stated that they planned to continue to reduce the amount of herbicide applied in the future and several stated they were currently exploring alternative methods of control*

## ANNEX 3

### WEEDINESS SCALE FOR PAVEMENTS DEVELOPED BY EAST MALLING RESEARCHERS AS AN OUTCOME FROM THE GLYPHOSATE PROJECT UNDERTAKEN IN THANET, KENT

It is important that this is an example which will need development if it were to be applied in NCC situations. Also the work also focussed only on pavements. It was a Defra funded project.

#### Weed Level Scale

##### Weediness criteria

Score each criteria and add together to give the weed level

Clump diameter = numerous plants

Rosette diameter = single plant

Length = along any pavement or channel edge

*Slab areas – weeds within pavement rule*

*>30 cm length within pavement area >30 mm height downgrade by 1 classification (i.e. add 3 points total score)*

| Key               |
|-------------------|
| Acceptable        |
| Planning required |
| Unacceptable      |

| Criteria    |                                       |                    | Class | Score | Description   |
|-------------|---------------------------------------|--------------------|-------|-------|---|
| Height (mm) | Clump/rosette diameter or length (mm) | Joint coverage (%) |       |       |   |
| 0-75        | 0-100                                 | 0-20               | 1     | 3     | No or occasional small weeds                                  |
| 75-150      | 100-150                               | 20-30              | 2     | 4-6   | Patchy weed growth some shooting weeds                        |
| 150-200     | 150-200                               | 30-40              | 3     | 7-9   | Numerous weeds many shooting, view annoys or irritates public |
| >200        | >200                                  | >40                | 4     | 10-12 | Numerous large weeds, risk to slip or trip                    |

#### Series of photos to accompany a new weed level scale

- Must show extreme of each level to decrease ambiguity

##### Level 2 – Patchy weed growth some shooting weeds



##### Level 3 – Numerous weeds many shooting, view annoys or irritates public



## New Weed Level Scale - example



- Weeds less than 75mm high (1 point)
- Clump/rosette diameter or length – linear length between 150-200mm (3 points)
- Joints covered by approx. 30% (2 points)

**Points total:**

6 = Level 2,  
acceptable, **planning**  
**required**

| Level -<br>Points per<br>criteria<br>cell | Tarmac<br>Score | Slab<br>Score | Height<br>(mm) | Clump/rosette<br>diameter, length<br>(mm) | Joint<br>coverage<br>(Slab only)<br>(%) | Description                            |
|---|-----------------|---------------|----------------|---|---|--|
| 2   | 2-3             | 4-6           | 75-150         | 101-150                                   | 20-30                                   | Patchy weed growth some shooting weeds |

## New Weed Level Scale - example



- Weeds between 75 – 150mm high (2 points)
- Clump/rosette diameter or length – linear length >300mm (4 points)
- Joints covered by approx 25% (2 points)

**Points total:**

8 = Level 3,  
unacceptable, remedial  
action required

| Level -<br>Points per<br>criteria<br>cell | Tarmac<br>Score | Slab<br>Score | Height<br>(mm) | Clump/rosette<br>diameter, length<br>(mm) | Joint<br>coverage<br>(Slab only)<br>(%) | Description   |
|---|-----------------|---------------|----------------|---|---|---|
| 3   | 5-6             | 7-9           | 150-200        | 150-200                                   | 30-40                                   | Numerous weeds many shooting, view annoys or irritates public |



## ANNEX 4

## FURTHER INFORMATION ON GLYPHOSATE AND HUMAN HEALTH

When it comes to safety assessments, glyphosate is certainly one of the most extensively tested pesticides on the market. Evaluations have taken place over many years. The conclusions of scientific experts and regulators worldwide, have led to the current position supporting the safety of glyphosate

Regulatory authorities routinely review all approved pesticide products. Most recently, in January 2020, the Environmental Protection Agency in the USA published its Interim Registration Review Decision on glyphosate and concluded *“EPA has thoroughly evaluated potential human health risk associated with exposure to glyphosate and determined that there are no risks to human health from the current registered uses of glyphosate and that glyphosate is not likely to be carcinogenic to humans.”*

<https://www.epa.gov/sites/default/files/2020-01/documents/glyphosate-interim-reg-review-decision-case-num-0178.pdf>

In addition to the evaluation quoted above, the European Food Safety Authority (EFSA), the European Chemicals Agency (ECHA), and the leading health authorities in Germany, Australia, Korea, Canada, New Zealand, Japan, and elsewhere confirm the conclusion that glyphosate-based products are safe when used as directed and that glyphosate does not pose a carcinogenic risk.

<https://www.efsa.europa.eu/en/efsajournal/pub/4302>

[https://www.bfr.bund.de/en/the\\_bfr\\_has\\_finalised\\_its\\_draft\\_report\\_for\\_the\\_re\\_evaluation\\_of\\_glyphosate-188632.html](https://www.bfr.bund.de/en/the_bfr_has_finalised_its_draft_report_for_the_re_evaluation_of_glyphosate-188632.html)

<https://echa.europa.eu/-/glyphosate-not-classified-as-a-carcinogen-by-echa>

We have also noted that a comprehensive epidemiologic study, the independent 2018 National Cancer Institute-supported Agricultural Health Study that followed over 50,000 licensed pesticide applicators for more than 20 years found no association between glyphosate-based herbicides and cancer. The report was published following the decision in 2015 by the International Agency for Research on Cancer to classify glyphosate as "probably carcinogenic to humans".

<https://pubmed.ncbi.nlm.nih.gov/29136183/>

In their statement in 2015, the International Agency for research on cancer, a sub-agency of the World Health Organisation (WHO) presented a classification of glyphosate that was inconsistent with experts and regulatory authorities around the world. The Agency is not a regulatory authority and conducted no independent studies and has also determined beer, meat, cell phones and hot beverages are probably carcinogenic..

Since this statement, regulatory authorities in the United States, Europe, Canada, Korea, Japan, New Zealand and Australia have publicly reaffirmed that glyphosate-based herbicides can be used safely and that glyphosate does not pose a carcinogenic risk as discussed already in this report.

However the discussions have undoubtedly caused concerns and there have been some publicised court cases in the USA brought by operators linked to potential health issues.

In that regard, it is worth citing that for many years, the Agricultural Health Study (AHS) in the USA has monitored health information from approximately 50,000 pesticide applicators. The study on glyphosate is conducted by independent researchers in academia and/or the U.S. government, and publicly funded by the National Cancer Institute, the National Institute of Environmental Health Sciences and the National Institute for Occupational Safety and Health, among others

A study we have referenced was commissioned by the United States government in order to determine the impact of agricultural practices, lifestyle and genetic factors on the health of farmers and their families. In the study, researchers found no association between glyphosate use and cancer.

<https://academic.oup.com/jnci/article/110/5/509/4590280?login=false>

Clearly there is some conflicting evidence amongst the plethora of information available but the conclusions above would seem to summarise current majority opinion.

As mentioned in the main report above, a number of countries, responding to political pressures, have imposed restrictions on the use of glyphosate products. Whilst often cited as bans there are generally restrictions to terms of use and, where such products are determined as the optimum or only solution, applications can be made and licences granted.



## REFERENCE TO SOME ACRONYMS USED IN THE DOCUMENT

|             |  |
|-------------|--|
| <b>AGG</b>  | <b>Assessment Group on Glyphosate</b>  |
| <b>AHS</b>  | <b>US Agricultural Health Study</b>  |
| <b>CPD</b>  | <b>Continuing Professional development</b>                                   |
| <b>CRD</b>  | <b>Chemicals regulations Division of the Health and Safety Executive</b>     |
| <b>EA</b>   | <b>Environment Agency</b>  |
| <b>ECHA</b> | <b>European Chemicals Agency</b>   |
| <b>EFSA</b> | <b>European Food Safety Authority</b>  |
| <b>EPA</b>  | <b>US Environmental Protection Agency</b>                                    |
| <b>EPC</b>  | <b>UK Expert Committee on Pesticides</b>                                     |
| <b>GRG</b>  | <b>Glyphosate renewals Group</b>   |
| <b>HSE</b>  | <b>Health and Safety Executive</b>   |
| <b>NCC</b>  | <b>Norfolk County Council</b>  |
| <b>LA</b>   | <b>Local Authority</b>   |
| <b>OCR</b>  | <b>Official Controls Order (Plant Protection Products) Registration 2020</b> |
| <b>PPP</b>  | <b>Plant Protection Product</b>  |
| <b>WHO</b>  | <b>World Health Organisation</b>   |
| <b>WP</b>   | <b>Work Package - undertaken in the delivery of this project</b>             |

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## **Glyphosate Project**

### **Summary Report on Workpackage 3 (WP3): Investigate how to develop a monitoring and recording system**

[7 pages plus 2 annexes]

**August 2022**

**Telephone: 07496 567472**

### **NCC BRIEF FOR WORK PACKAGE 3**

#### ***Workpackage 3 (WP3): Investigate how to develop a monitoring and recording system***

*This WP will investigate the development of a recording system to monitor use of glyphosate across NCC departments and where a switch has been made to alternatives. The system should be able to integrate with a NCC dashboard monitoring the Council's climate change targets to provide a visible account of progress.*

*Internal monitoring processes will also be required to be developed and are likely to be separate from any public dashboard.*

*This work will be conducted by the Working Group with input from the wider NCC Environment Team working on the NCC Climate dashboard, and Consultant.*

## **CONTENTS**

1. Introduction
2. Integrated Weed Management (IWM) Plans – Data Recording
3. Statutory Data Recording
4. Additional Data Recording
5. Council Dashboard
6. Recommendations

## **ANNEXES**

1. Statutory records required where Plant Protection Products (PPPs) are applied
2. Carbon Emission Recording

## **1. Introduction**

This report forms part of a project leading to the development of a policy on the use of glyphosate by Norfolk County Council. In order to achieve this objective, a number of work streams were defined, referred to as Work Packages (WP). This report refers to the third of these (WP3) and its main objective is to investigate how NCC might develop an appropriate monitoring and recording system for the use of glyphosate across all its departments and where a switch has been made to alternatives.

The NCC intention is that, as much as possible, the platform should integrate with a developing council dashboard monitoring the Council's climate change targets, to provide a visible account of progress. However, internal monitoring processes will also be required and are likely to be separate from any public dashboard.

In preparing this report, summarising our key conclusions, we have engaged in discussions with a range of NCC staff directly involved including those developing the NCC dashboard. It is clear that designing and creating a system, especially if it is to be linked with the dashboard, will involve significant work and is likely to need to be a specific project of work following on from adoption of a council Glyphosate Policy.

This brief summary report linked to the brief set is in essence our recommendations based on all the discussions and work to date. It describes the key requirements for recording statutory information relating to the application of glyphosate plant protection products. As required in the brief, it also seeks to establish the key requirements for recording information (data). This information will enable processes to be developed so that eventually the dashboard system can be populated with all weed management activities. The development of the system will need to be undertaken by NCC staff but the intention in this report is to highlight both the key factors and needs to be addressed and included. There will need to be a public facing system as part of this development.

Work undertaken on the previous two work packages (WP1 and WP2), combined with this work package, and that of WP4 is essential in moving towards the creation of the overall council policy on glyphosate and the approaches that NCC takes going forward.

## **2. Integrated weed management(IWM) plans – Data Recording**

A core requirement emerging from all the work to date on this project is the need for the glyphosate policy statement to commit those responsible for weed management to the production of integrated management plans. The reasons for these and what they involve have been described fully in related documents and as such will not be repeated here. However it is important to emphasise that the creation of an integrated weed management plan helps to determine which weed management approach will deliver the solution in the least impactful way regarding people, water and the environment and provide the desired outcome with due recognition of the costs and carbon impact involved. Where the decision is to use PPPs (herbicides), they must be the right product, at the right time, at the right dose and applied in the right way.

Each department within NCC with responsibility for ensuring that weed management is carried out will need to create an integrated weed management plan for the situations and areas for which they have responsibility. Each plan should consider all the different methods of weed management that could be used in each situation. Measurement of the carbon footprint should be included. The

implementation of the integrated weed management plans should aim to both minimise the use of PPPs as well as choosing the most resource efficient methods, whilst remaining within both budget and weed toleration levels.

So, in designing a monitoring and recording system, it will need to have an agreed procedure to ensure a plan has been created, to allow access to it and a consistent way of checking that the plan has considered its impact on people, water and the environment including carbon emissions, alongside delivering the most effective and economic solution. Each plan can be stored centrally available for access internally and for use in reporting terms.

As will be covered in the next section of this report, in delivering their plans, the department responsible will need to record when each weed management activity takes place, the amount of PPP used and include all the relevant statutory pesticide data alongside the carbon emissions data.

From this information (data), key facts from the integrated management plans will need to be extracted to provide a public facing record. This, in simple terms, will give a brief description of the weed management approach adopted in given situations alongside quantity of PPP used. Ideally both this internal and external recording would feed into the developing council dashboard.

A further factor to be considered is that that departments will need to review the levels of “weediness” that can be tolerated in preparing their plans, which will be recorded. In certain instances, depending upon policy decisions, there may need to be some public consultation to help inform this decision as well as public communication. This again is a key factor to consider in designing and creating the monitoring and recording system.

### **3. Statutory Data Recording**

As already referred to, there is a requirement for statutory records to be kept when PPPs are applied. Currently these exist within departments or are held by contractors. These should be collated centrally, again as part of the central monitoring and recording system.

These statutory records fall under two headings:

- (a) Application technician details (Sprayer operator)
- (b) the Spraying record which details the PPP used, why it was applied, where it was applied, how much was applied and what the weather conditions were at the time.

As part of our work we reviewed the PPP records completed by Norse TFM and the Closed Landfill Teams; both were compliant with the statutory requirement, however, each was recording the data in a slightly different format. To create a central dashboard for glyphosate it will be essential that all contributors submit their data uniformly in the same format.

In Annex 1 to this summary, we have provided the list of data fields required for PPP application recording.

### **4. Additional Data Recording**

Mention has already been made that the system will need to record that integrated management plans are in place and have a consistent method for ensuring they meet the criteria relating to impact

on the environment and effectiveness. There may need to be some form of central sign off for these plans.

If this recording is to be linked to and populate the council carbon dashboard, there will be additional data required and a system adopted to measure the carbon impact of weed management approaches. This is not an easy task. There are systems available for life cycle measurement but whatever is chosen needs to align with existing processes for measurement being adopted in the council's developing dashboard. Given our discussions and analysis, Annex 2 lists some of the specific factors which will be important in developing an appropriate carbon measurement related to weed management.

## **5. Council Dashboard**

The carbon emissions dashboard is a public facing dashboard which collects data from across the County Council estate. This arose from NCC's commitment to making its estate "net zero" carbon emissions by 2030. Clearly the weed management activities are not included in the dashboard and, in discussion with staff responsible for the dashboard construction, it is agreed that this should be possible in meeting the commitments of the Environmental Policy. However, amalgamation of what is required into the current dashboard will take some time.

In order that swifter progress is made, it is recommended that a separate 'dashboard' is created for presenting the "weed management activities", both to show the carbon emissions, but also to show the amounts of glyphosate product being used, and record the data already described in this report in both an internal and public facing form. This work needs to be undertaken and fully owned by NCC staff.

It is recommended that, when the dashboard is being created, that a common recording sheet be extracted for contributors to use for recording all weed management activities as well as statutory data relating to PPPs. Training should also be provided to ensure that all data is in the required format when submitted.

It will be desirable that all departments with responsibilities for weed management activities contribute to the dashboard data requirements and any new recording sheets produced, to ease the transition from current practices to this new procedure.

## **6. Recommendations**

A significant amount of the consultancy work in this element of the glyphosate project has been in staff discussions. We would have hoped to define a more definite pathway for creating the required central monitoring and review system but it soon became clear that this will require significant input from NCC staff as part of a separate co-ordinated project, if it is rightly to be part of the current dashboard approach.

Therefore in delivering our brief here, we have sought to address the key requirements as part of the process of creating the glyphosate policy. Our key recommendations are therefore as follows:

- (i) A simple recording and monitoring system for the use of PPPs, which in this case is primarily glyphosate products, should be created by NCC staff which should include those responsible for the council dashboard

- (ii) Given previous work on this project, a strong element within the Glyphosate Policy will be a requirement for each department within NCC, with responsibility for ensuring that weed management is carried out, to create an integrated weed management plan for the situations in which they are operating. Resulting from this, a recording system needs to be in place to ensure a central record of the same including the following essential items:
  - a. A copy of the plan identifying that all considerations have been made of environmental impact on people, water and the environment whilst delivering the most effective and economic solution.
  - b. A commitment by the manager responsible that operators to be used, if PPPs are applied, whether direct employees or more likely contractors, will be properly trained and meet the recognised assurance standard
  - c. An estimate of the carbon implications of the approach chosen using a standard methodology developed in conjunction with those responsible for the central council dashboard.

A consistent approach to developing integrated weed management plans will be adopted across NCC as part of implementing the glyphosate policy, once agreed. There are some guidance materials available from the Amenity Forum but the NCC approach will be developed internally across departments to meet needs and specific situations.

- (iii) Each department through the season should record when each weed management activity took place based upon the statutory pesticide data (if PPPs are used). The key data is identified at Annex 1 of this summary report. This should be collected using a standard process and fed into the central recording system. Extracted from that can be key data such as total amount used which can be fed into the public domain.
- (iv) It is important that the system records the carbon impact of the approaches selected, both because it is an important factor in the decision process of establishing a plan, but also in terms of meeting NCC environmental targets. Whilst we have sought to identify some of the specific factors to be considered in such a calculation, there is an amount of work involved in creating the system which must involve those with direct responsibility for the current council dashboard.
- (v) As such, we recommend that a working group, drawn from NCC, is established to agree on the system of recording and to implement this.
- (vi) Building on from the above, a separate public facing dashboard should be created for presenting the “weed management activities”, to show, alongside the key data above of total amounts of PPP used etc., the methodology adopted in choosing the weed management approach, and the carbon impact. Indicators that might be used to indicate success in the development of the dashboard include a carbon footprint calculator showing commitment to meeting NCC targets in this area. Also the monitoring of recording sheets used by each department, demonstrating commitment to the policy and its aims and objectives.
- (vii) When the dashboard is being created a recording sheet should be devised for contributors to use for recording all weed management activities as well as statutory data relating to PPPs. Training should also be provided to ensure that all data is in the required format when submitted.



**Statutory Records (data fields) required where Plant Protection Products (PPPs) are applied**

**1. Sprayer Operator Details**

- 1.1 Name
- 1.2 Operator reference (to simplify completion of operator details in Spraying records)
- 1.3 Address
- 1.4 NRoSO or BASIS membership number (Sprayer Operator register)
- 1.5 Qualifications
- 1.6 CPD training (in last year)

**2. Spraying Record**

- 2.1 Date of application
- 2.2 Time of application (start and finish)
- 2.3 Sprayer operator name or reference
- 2.4 Place where application takes place
- 2.5 Spot treatment or blanket spray?
- 2.6 Disease, pest, or weed target
- 2.7 Product used (eg Roundup ProActive) (could be a number of products in each spray)
- 2.8 Active ingredients [name and concentration (e.g. Glyphosate 360 grams/litre)]
- 2.9 Application rate (of Product) (e.g. litres/hectare)
- 2.10 Total product used (e.g. litres)
- 2.11 Number of tanks
- 2.12 Sprayer used
- 2.13 Water Volume (litres/hectare)
- 2.14 Air Temperature
- 2.15 Wind speed
- 2.16 Rain
- 2.17 Light
- 2.18 Observations
- 2.19 Signatures (Operator and Manager)

### **Additional information that will be required for calculating the carbon impact of weed management approaches**

There are many aids available to assist in calculating the carbon footprint of operations. In this case it will be important though to ensure those used align to existing methodology adopted in the council dashboard.

The preferred approach will be to establish “standard carbon emissions” for each weed management activity to make this reporting easy to achieve.

Aside from the standard factors, in calculating for weed management activities measurement, the following will be likely required:

- Power unit (e.g. tractor) powering sprayer

- Tractor horsepower (if used)

- Engine Revolutions per min when spraying

- Fuel use which will include computation of distances travelled

- Water source (mains or extraction)

- Waste – this is an important element for carbon foot print recording. For example, herbicides are mostly supplied in plastic containers, which are manufactured from hydrocarbons and will also need to be disposed of using Licensed Waste Disposal Contractors. The process of collection and disposal will need to be included in the carbon emissions calculations. This element of waste and its disposal will figure across all methods applied and, as such, will need to be captured.

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## **Glyphosate Project**

### **Summary Report on**

### **Workpackage 4 (WP4): Investigate how to align the Glyphosate Policy with the NCC environmental policies**

[12 pages plus 2 annexes]

**August 2022**

**Telephone: 07496 567472**

## **WORK PACKAGE 4**

### Project Brief

Investigate how to align the Glyphosate Policy with the NCC Environmental Policy and Norfolk and Suffolk 25 Year Environment Plan.

This WP will establish how NCC will ensure that the glyphosate policy aligns with, and can assist with delivery of, its important environmental commitments, including key adopted plans and policies such as: the Council's Environmental Policy; NCC Pollinator Strategy; and commitment to nature recovery through the emerging Norfolk and Suffolk 25 Year Environment Plan [report to NCC Scrutiny committee, 24th November 2021].

WP4 will assist with WP1

WP2 will feed into WP4

## CONTENTS

1. Introduction
2. NCC Environmental Policy
  - (i) Protects and enhances the environment
  - (ii) Champions sustainable development and resource efficiency
  - (iii) Sets stringent environmental targets
  - (iv) Goes beyond the expectations of national government, (re national 'net zero' carbon)
3. Key Aims of the Environmental Policy
  - a) Using and managing land sustainably
  - b) Recovering nature and enhancing the beauty of landscapes
  - c) Connecting people with the environment to improve health and wellbeing
  - d) Increasing resource efficiency, and reducing pollution and waste
  - e) Securing clean, healthy, productive and biologically diverse seas and oceans
  - f) Protecting and improving our global environment
4. Norfolk pollinator action plan
5. Integrated weed management plans
6. Places where glyphosate use needs particular attention
7. Summary of actions to be included within the Glyphosate Policy

## ANNEXES

1. Summary of key elements from NCC's Environmental Policy
2. Pollinators and Glyphosate

## **1. Introduction**

This report forms part of a project leading to the development of a policy on the use of glyphosate by Norfolk County Council. In order to achieve this objective, a number of work streams were defined, referred to as Work Packages (WP). This report refers to the fourth of these (WP4) and its main objective is to consider how best to align the Glyphosate Policy with both the NCC Environmental Policy and the Norfolk and Suffolk 25 Year Environment Plan.

It also seeks to establish how NCC can seek to ensure that the glyphosate policy, wherever possible, will assist with delivery of its important environmental commitments, including key adopted plans and policies such as the Council's

- Environmental Policy;
- NCC Pollinator Strategy; and
- The commitment to nature recovery through the emerging Norfolk and Suffolk 25 Year Environment Plan [report to NCC Scrutiny committee, 24th November 2021].

One of the outputs will be to seek clarity on instances / locations etc. where glyphosate must be restricted, or at least used, only in exceptional circumstances.

Work undertaken on the previous three work packages (WP1, WP2 and WP3), combined with this work package, is essential in moving towards the creation of the overall Council policy on glyphosate and the relevant approaches that NCC takes going forward.

Work undertaken in delivering this report has involved a thorough review and analysis of the relevant environmental policies and strategies that NCC has published, as well as discussions with various staff and researching relevant national documents. Arising from this review and related discussions, a summary of what is seen as the key points particularly relevant to glyphosate use are described in this report. The conclusions from our work has allowed us to identify some key actions relevant to the production of the final Glyphosate Policy document.

## **3. NCC Environmental Policy**

The Norfolk Environmental Policy was presented and approved at the full Council meeting on 25 November 2019.

Within this policy there were a number of important environmental commitments made.

We believe that the key environmental commitments can be summarised as follows:

- Ensuring Norfolk's economy is socially inclusive
- Champions innovative and sustainable development.
- Supports investment in green jobs and infrastructure
- Protects and enhances the environment
- Champions resource efficiency
- Sets stringent environmental targets
- Goes beyond the expectations of national government, (re national 'net zero' carbon)
- Aligns with our partners in the region
- Ensuring that the distinctive Norfolk environment is cared for
- Explore new ways to make our countryside and coast accessible
- Obtaining net improvement ('net gain') to biodiversity and habitat creation

Although all are important, at least four of these key commitments are especially relevant for the emerging Glyphosate policy and are covered below:

(i) *Protects and enhances the environment*

One of the key reasons for establishing a policy for glyphosate use in weed management is to ensure that, as much as possible, the environment is protected from the impact of the use of plant protection products (PPPs) such as those containing glyphosate. To help achieve this, we have identified the following key areas which need to be addressed in the final policy.

Firstly, we would expect all operator technicians applying any PPPs to be fully and appropriately qualified with the statutory “specified certificates” and also be up to date with annual CPD training on the latest techniques for safe application.

We would expect that all plant protection product application equipment (sprayers), whether mounted, trailed, or hand-held are regularly maintained, fully functional and calibrated for use and that a proper monitoring system for this is in place. Some sprayers will also need to have the statutory “National Sprayer Testing Scheme” test certificate displayed, (see WP2 report for further information.)

We would expect the environment to be further protected and enhanced through determination and regular review of the level of weed presence (weediness) that will be tolerated in each situation before a control measure such as the use of glyphosate is used.

When glyphosate is used, we would expect only “spot treatment” of individual weeds targeted for control and not a blanket spray across the whole area whether weeds present or not. In any case in certain situations such as hard surfaces, blanket spraying is no longer permitted.

(ii) *Champions sustainable development and resource efficiency*

To properly achieve this, all weed management activities should be part of an “integrated weed management plan” as referred to in previous work package reports. Each integrated management plan should include proper consideration of all the different methods of weed management that could be used in each situation. Assessment of the carbon footprint for each method should be included in such considerations as well as the likely length of time that the chosen control method will remain effective in maintaining the target weed toleration levels.

The implementation of the integrated weed management plans should aim to both minimise the use of PPPs such as glyphosate, as well as choosing the most resource efficient methods whilst remaining within both budget and weed toleration levels. It is recognised that this will always be a difficult balance of issues, hence the need within the final glyphosate policy to require full integrated management plans to be produced taking account of all the various economic, environmental and social factors involved within a sustainable approach.

(iii) *Sets stringent environmental targets*

When selecting the appropriate approach for weed management in given situations, due consideration needs to be given to the Norfolk Environmental Policy goals. This will ensure that whatever approach is taken it seeks to meet the key environmental commitments made by Norfolk County Council as well as remaining within its aims for reducing the use of PPPs and also the achievement of net zero carbon by 2030.

Our summary of the key Norfolk Environmental Policy Goals is:

- Clean air for the population
- Ensuring a clean and plentiful water supply
- Encouraging a thriving plant and wildlife community
- Reducing the risk of harm from environmental hazards such as flooding and drought
- Using resources from nature more sustainably and efficiently
- Enhancing beauty, heritage and engagement with the natural environment
- Mitigating and adapting to climate change
- Minimising waste
- Managing exposure to chemicals
- Enhancing biosecurity

Whilst very challenging we believe that a full and properly considered approach to weed management, which can be established in the NCC Glyphosate Policy, can as much as possible assist in developing these goals.

*(iv) Goes beyond the expectations of national government, (re national 'net zero' carbon)*

When creating the integrated weed management plans and, subsequently following them, it will be important to assess the carbon footprint for each method and important for NCC to agree a standard method for this linked to its existing work on the Carbon dashboard (reference WP3 report). As stated previously, it will also be important to consider the length of time an approach will remain effective linked to agreed weed toleration levels.

The latter is especially relevant as many other approaches to weed management (not using PPP glyphosate) tend to need repeating more frequently than those including PPPs, in order to remain within the weed toleration levels. This makes them more labour intensive and can lead to a higher carbon footprint especially if any motorised vehicle or engine generator is used.

We would expect the weed management methods selected to both minimise the amount of glyphosate used as well as where possible contribute towards the NCC targets set for achieving net zero carbon by 2030.

### **3. Key Aims of the Environmental Policy**

There are six key aims stated within the Norfolk Environmental policy considered briefly below in terms of their relevance to creating the NCC Policy on glyphosate.

*(a) Using and managing land sustainably*

There are a number of strategies within this aim that are put forward within the environmental plan and the one we believe with the most direct relevance to weed management is "achieving a more holistic approach to climate change". This has already been mentioned above related to the expectations of national government, (re national 'net zero' carbon). In any decision on weed management approaches, assessing the carbon footprint and agreeing the appropriate method to do this is an essential requirement.



*(b) Recovering nature and enhancing the beauty of landscapes*

Protecting and recovering nature is an aim of the environmental policy, especially as Norfolk is losing biodiversity, particularly insect populations. A Pollinator Action Plan has been produced as a key element of the environmental strategy. (This report refers to this plan in section 4 below.)

The glyphosate policy will need as much as possible to help maintain the conditions to enable pollinators and other biodiversity to be protected always recognising the need to manage weeds including unwanted plants such as invasives. Again, the adoption of a fully thought-out integrated plan will be essential in seeking to strike the right balance in approach.

Working in collaboration with neighbouring landowners/managers must be an aim as, for example, with rural highway verges to help manage the hedgerow and verge populations of insects, plants and other wildlife and at the same time maintain them in terms of driver and pedestrian safety. Also, for example school academies where the independent trusts are responsible for the land management, the county council (the landlord) must seek to provide proper guidance to influence their weed management activities in relation to its environmental aims.

*(c) Connecting people with the environment to improve health and wellbeing*

Helping people improve their health and wellbeing by using green spaces is a key aim of the environmental policy. This seeks to promote opportunities to enhance health and wellbeing that are available through exposure to the natural environment.

It seeks to encourage children to be close to nature, in and out of school and working with schools to make the most of their green spaces.

It aims to plant more trees to improve biodiversity and as a potential mitigation measure for climate change in appropriate locations.

The glyphosate policy must where possible take full account of these aims and the policy needs to lead to an effective public facing communication strategy balancing what can be public concerns about the use of PPPs against the essential reasons for using them in terms of health and safety and producing spaces fit for purpose. The use of PPPs in areas that children have access to need particular consideration within the glyphosate policy and it should seek to specify clear policy statements relating to this (see Section 6 of this report)

*(d) Increasing resource efficiency, and reducing pollution and waste*

We believe that as far as weed management activities are concerned the key strategies within this aim relate to reducing the environmental footprint created from all operations, as mentioned above in 3(a). This includes the aim to reduce pollution and for us all to enjoy clean air. It re-emphasises the importance of adopting an agreed method for assessing the carbon footprint of weed management approaches.

*(e) Securing clean, healthy, productive and biologically diverse seas and oceans*

The incorrect or poor use of PPPs can lead to run-off that may cause pollution of surface water that could in turn enter the seas and oceans. The glyphosate policy will already be addressing this issue through ensuring that all operator technicians are fully trained and

regularly updated on the latest techniques for safe application, (see 2(i) above) especially in holding the relevant qualifications for using PPPs close to water. Whilst glyphosate can prove less of a problem in terms of water pollution than some other PPPs, given its speed of breakdown, the fact remains that particular care needs to be taken in using any PPP, including glyphosate, close to water and, where possible, it should not be used. However, it is recognised both for health and safety reasons and in controlling invasive weeds, proper and professional use may still remain the most appropriate approach.

*(f) Protecting and improving our global environment*

This aim requires the glyphosate policy to enable the county council to help where possible achieve the Norfolk environmental commitments [see (2) above], including the aim to achieve 'net zero' carbon emissions on NCC estates by 2030. Issues relevant to the glyphosate policy have been included previously relating to this aim.

#### **4. Norfolk pollinator action plan**

The National Pollinator Strategy (NPS) focuses on 5 areas:

- Supporting pollinators on farmland
- Supporting pollinators across towns, cities and the countryside
- Enhancing the response to pest and disease risks
- Raising awareness of what pollinators need to survive and thrive
- Improving evidence on the status of pollinators and the services they provide

Norfolk's Pollinator Action Plan is designed to contribute to the NPS outcomes through having more, bigger, better, joined-up, diverse and high-quality flower-rich habitats (including nesting places and shelter), supporting pollinators across the county.

The aim is for pollinators to be healthy and more resilient to climate change and severe weather events, and which can support the agriculture and tourist economies. It also seeks no further extinctions of known threatened pollinating species and enhance the awareness across a wide range of businesses, other organisations and the public of the essential needs of pollinators.

There is also a commitment to show evidence of actions taken to support pollinators.

The Norfolk Pollinator Action Plan promotes five simple actions:

1. Grow more flowers, shrubs and trees.
2. Let your garden grow wild.
3. Cut your grass less often.
4. Do not disturb insect nests and hibernation spots.
5. Think carefully about whether to use pesticides.

There are four priority areas for the pollinator action plan:

- Strengthening the Evidence base  
Better understanding of trends and impacts on pollination
- Managing our land  
More, better, connected habitat; recovered species
- Sustaining Pollinator health  
Protecting managed and wild populations' health

- Engaging people  
Greater awareness and action across society

Previous work described in work package 2 has given detailed attention to the potential impact of glyphosate use on pollinators and the summary of this is presented at Annex 2 to this report. To contribute to the achievement of this pollinator action plan the glyphosate policy needs to be sympathetic to the needs of pollinators and ensure that weed management activities are planned with all due consideration to the points above.

The principles for achieving this are established in the document in Annex 2 and will be required to be adopted in the Glyphosate Policy.

## **5. Integrated Weed Management Plans**

Many weed problems have a number of possible management/control options such as seeking to design or manage out the problem as much as possible. Where control is required, the choice includes manual, mechanical, thermal, cultural, biological and PPP treatment methods. Again, these issues have been described in some detail in the report for WP2. The creation of a properly constructed integrated weed management plan will help to determine which approach will deliver the solution in the least impactful way regarding people, water and environment whilst delivering the desired outcome and giving due recognition of the costs and environmental impact involved. Wherever the decision is to use PPPs, such as those including glyphosate, they must be the right product, at the right time, at the right dose and applied in the right way. In using PPPs, it is about using the minimum level to achieve the required outcome.

In any case, UK legislation covering the use of PPPs requires all users to assess the options for control measures needed so that PPP use is minimised.

The glyphosate policy must ensure that each department within NCC, with responsibility for ensuring that weed management is carried out, creates an integrated weed management plan for each different type of area they have responsibility for.

Each integrated management plan should include proper consideration of all the different methods of weed management that could be used in each situation. As stated previously, assessment of the carbon footprint for each approach should be included as well as environmental impact and also assessing the likely length of time that following the treatment method the “weediness” will remain within the weed toleration levels.

The implementation of the integrated weed management plans should aim to both minimise the use of PPPs as well as choosing the most resource efficient methods whilst remaining within both budget and weed toleration levels and as far as possible achieving environmental objectives.

Before integrated weed management plans are created it is suggested that a workshop might be held for key personnel across departments with responsibility for creating these plans. This workshop should enable the sharing of ideas and the promotion of the use of integrated approaches to manage weeds, including practical advice on supporting pollinators and delivering environmental aims and objectives.

Integrated weed management plans should be properly communicated with contractors or staff engaged to perform any of the weed management activities during the year.

## **6. Places where glyphosate use needs particular attention**

The Environment team, Children's services, Norse and Property Services all identify children, and particularly schools, as areas where extreme care must be taken regarding the use of any PPP.

The glyphosate policy must therefore take account of this and adopt a specific policy in terms of the use of PPPs in areas where children have access. It should also specify clear boundaries where glyphosate products can and cannot be used and related rules around its use.

Maintained schools are entirely under the responsibility of the County Council (NCC) as far as estate management, including weed control, is concerned. Academies however are tenants of NCC and lease the buildings and land from NCC. Therefore, they can determine their own weed management strategies.

NCC can still influence the academies as their landlord and all academies are expected to use Norse TFM, although they could choose a different contractor if they really insisted, or for certain weed management tasks use their own caretakers who are entirely under the academy control.

Children's Services advise that under recent Freedom of Information requests it has become evident that there is increasing interest in actions taken to keep glyphosate away from school children as much as possible.

From a public relations point of view, Children's Services would be pleased to be able to say that plant protection products containing glyphosate will never be used on any school grounds including the playing fields. However, this has to be balanced with being able to maintain such surfaces in a safe and healthy condition. This can be particularly the case in terms of car parks, where they exist, when weed growth can create slipping and related incidents. In discussion with Children's Services also raised was the number and timing of applications if glyphosate is used.

It is suggested that the glyphosate policy should specifically state that use of glyphosate products in school grounds should be restricted to exceptional circumstances and where health and safety could be compromised if such action were not taken. Wherever possible, any such applications should take place outside the school day or in holiday times with suitable warning signs displayed and access to areas restricted after treatment for at least the required period stipulated on the glyphosate product label.

Other areas where glyphosate products should not be used are in areas of special scientific interest or areas designated as protected. Again, it is suggested that the policy does allow for use though where this can be shown to be essential. Examples may be walkways through nature areas where weed growth could create health and safety issues. Also, it may become necessary to use glyphosate products to control unwanted plant growth such as invasives.

## **7. Actions to be included within the glyphosate policy**

Based on our research and discussions and the items highlighted in this report document, we would identify and summarise the following key actions which need to be addressed in the Glyphosate Policy document.

- (a) The policy must take full account of the key environmental commitments and in particular the statements which seek to
  - (i) Protect and enhances the environment
  - (ii) Champion sustainable development and resource efficiency
  - (iii) Set stringent environmental targets
  - (iv) Go beyond the expectations of national government, (re national 'net zero' carbon)

However, this must be set in the context of ensuring spaces are maintained in a safe and healthy condition and fit for purpose. In creating weed management plans, a suitable check against these commitments will be needed to ensure, as far as possible, that actions taken are not counter to them.

- (b) All operator technicians applying any PPP should be fully and appropriately qualified with the statutory "specified certificates" and also up to date with annual CPD training on the latest techniques for safe application. Also, all plant protection product application equipment (sprayers), whether mounted, trailed, or hand-held should be regularly maintained, fully functional and calibrated for use. Some sprayers will also need to have the statutory "National Sprayer Testing Scheme" test certificate displayed, (see WP2 report for details.)
- (c) When glyphosate is used, it should only be as a "spot treatment" of each individual weed targeted for control and not a blanket spray across the whole area whether weeds are present or not.
- (d) Each NCC department considering weed management operations should be required to produce an integrated management plan subject to agreed approval processes
- (e) The weed management methods selected from the integrated weed management plan should always seek to minimise the amount of glyphosate used as well as taking fully into account the NCC policy of reducing the carbon footprint year on year with the aim of contributing towards the targets set for achieving net zero carbon by 2030.
- (f) The glyphosate policy will need to enable pollinators and other biodiversity to be protected as much as possible in carrying out weed management activities. This will require, where glyphosate products are used, due consideration to timing of applications. To contribute to the achievement of the pollinator action plan, the glyphosate policy should be sympathetic to the needs of pollinators and ensure that weed management activities are planned with all due consideration to the points highlighted in this report.
- (g) The glyphosate policy must take account of public concerns surrounding the use of PPPs in areas where children have access. It needs to establish clear guidance on where such products can be used and under what circumstances. A similar requirement relates to use in nature protected areas.
- (h) The glyphosate policy should aim towards "weed management" rather than control, an approach for managing the weed levels for the benefit of all users considering accessibility, health and safety and fitness for purpose as well as for the benefit of the environment including the soil, the plant communities, the pollinators, other beneficial insects and other animals.

- (i) The glyphosate policy should be set in the context of the Norfolk County Council's environmental commitments [see (2) above].
- (j) Integrated weed management plans referred to in this report should be properly communicated and shared with contractors or staff engaged to perform any of the weed management activities during the year.

## Summary of key elements from NCC's Environmental Policy

This Environmental Policy will guide all the Council's future decision making.

### Key Environmental Commitments

- Norfolk's economy is socially inclusive
- Champions innovative and sustainable development.
- Supports investment in green jobs and infrastructure
- Protects and enhances the environment
- Champions resource efficiency
- Sets stringent environmental targets
- Goes beyond the expectations of national government, (re national 'net zero' carbon)
- Aligns with our partners in the region
- The distinctive Norfolk environment is cared for
- Explore new ways to make our countryside and coast accessible
- Net improvement ('net gain') to biodiversity and habitat creation

### Goals

- Clean air for the population
- Ensuring a clean and plentiful water supply
- Encouraging a thriving plant and wildlife community
- Reducing the risk of harm from environmental hazards such as flooding and drought
- Using resources from nature more sustainably and efficiently
- Presented and approved at Full Council on 25 November 2019.
- Enhancing beauty, heritage and engagement with the natural environment
- Mitigating and adapting to climate change
- Minimising waste
- Managing exposure to chemicals
- Enhancing biosecurity

### Key Policy Aims

1. Using and managing land sustainably
  - A more holistic approach to climate change
  - An 'environmental net gain' principle for housing and infrastructure development
  - Improving soil health
  - Maximise woodland benefits for the environment and our communities
  - Adequate water supply
  - Reducing risks from flooding and coastal erosion
2. Recovering nature and enhancing the beauty of landscapes
  - Protecting and recovering nature
  - Conserving and enhancing natural beauty
  - Respecting nature in how we use water

3. Connecting people with the environment to improve health and wellbeing
  - Improving health and wellbeing (by using green spaces)
  - Encouraging children to be close to nature, in and out of school
  - Greening our towns and cities
  - Planting more trees to improve biodiversity and as mitigation vs climate change
  - County Farms tenants to move to higher level stewardship and greater biodiversity
  - Supporting the community to make sustainable travel choices
    - sustainable public transport
    - cycling and pedestrian improvements within the County
    - sustainable travel on all new developments (planning agreements)
    - integrated transport hubs across the County
    - schemes such as Transforming Cities
4. Increasing resource efficiency, and reducing pollution and waste
  - Maximising resource efficiency and minimising environmental impacts at end of life
    - Achieving zero avoidable plastic waste
    - Reducing the impact of waste generally
    - Improve the management of residual waste
    - Maximise the opportunities for recycling waste
    - Develop an Energy Strategy (greenhouse gases produced, whilst exploring opportunities to generate energy on our own estate)
    - Reduce the environmental footprint created from all operations
    - Reducing pollution
    - Clean air
5. Securing clean, healthy, productive and biologically diverse seas and oceans
  - Offshore areas and coastline are well-managed Marine Protected Areas (MPAs)
6. Protecting and improving our global environment
  - Consequences of the decisions we take can have global significances and local, national and international consequences.
  - Activity will focus on the following:
    - sectors of the community with the greatest carbon footprint
    - work with academia, business community, local authorities and the public
    - support 'clean growth', including the green/renewable energy sector
    - achieving our environmental targets
    - work with our neighbours Suffolk CC and the Broads Authority
    - achieve 'net zero' carbon emissions on our estates and within our wider areas by 2030.



## GLYPHOSATE & POLLINATORS

Following the progress meeting on 5<sup>th</sup> August with members of the Environment Department and JMM Solutions, as agreed, further work has been undertaken by the consultants specifically in relation to the topic of glyphosate use and pollinators. The outcomes from this will be fed into the work involved in WP4 and, as such, the overall glyphosate policy. The work undertaken has involved desk top research and conversations with academics and practitioners. The conclusions are summarised below.

There is a relative scarcity of scientifically based studies on this topic compared with many other areas and, where they exist, there is some conflict in terms of outcomes. There is a great deal of opinion on the topic but this is to be expected in what can be an emotional area depending upon which side positions are taken. The studies are also very much bee orientated whereas, as we know, many other pollinators exist and are very important.

Royal Holloway University of London have sought to review matters in terms of meta-analysis of data available, as has the Expert Committee on Pesticides (EPC). The latter was established to provide independent, impartial advice to the government on the science relating to pesticides. It is a key body influencing the pesticide approval process and comprises individuals with a strong scientific background with a range of interests and skills.

In 2019, Lord Jones of Cheltenham raised the question to Defra as to whether the use of glyphosate is consistent with plans to conserve and increase the population of pollinating insects in the UK. The written response by the Minister expressed the view of the EPC and remains the current government position and that of the committee. The response in full can be found here (<https://www.theyworkforyou.com/wrans/?id=2019-05-13.HL15675.h>) but a key statement is as follows:

*For all pesticides, the Government carries out a thorough assessment of the scientific evidence, drawing on advice from experts in the Health and Safety Executive and the UK Expert Committee on Pesticides. **The current evidence shows that glyphosate pesticides do not carry unacceptable risks to pollinators and can therefore be authorised.** Ministers have acted where the evidence shows an unacceptable impact on bees – for example, with respect to neonicotinoids.*

When applying glyphosate products to hard surfaces, there is strong evidence that flying pollinators such as bees will generally fly away from harm and, with this regard, glyphosate products can prove significantly less harmful than some other methods of weed control such as hot water treatment. Glyphosate applied is absorbed rapidly in the plant and any reaching the soil breaks down relatively quickly. However, in terms of green surfaces, spraying should not take place on pollinator plants when pollinators are active.

There is some evidence that, if ingested by bees, glyphosate products can affect the gut. Again, however the evidence is inconclusive. Whilst glyphosate is expected to be innocuous to animals, including bees, because it targets an enzyme only found in plants and microorganisms, bees rely on a specialised gut microbiota that benefits growth and provides defence against pathogens. Most bee gut bacteria contain the enzyme targeted by glyphosate, but vary in whether they possess susceptible versions and, correspondingly, intolerance to glyphosate. Exposing bees to glyphosate alters the bee gut community and can increase susceptibility to infection by opportunistic pathogens.

However, as an example of the conflict of views on this topic, it is interesting to review the views of academics to some research undertaken in 2018 on the impact of glyphosate on honeybees. The research concluded that susceptibility of bees to certain pathogens can increase where glyphosate is ingested. The general view to this was that, whilst most studies indicate dietary exposure to glyphosate has a low toxicity risk to animals and insects, this work does suggest some impact on the microbiome of the gut in honeybees but overall, the view appeared to be that more work was needed. Effectively, it appears to say that glyphosate can potentially interfere with the bacteria in the bee gut if ingested in sufficient quantity.

To further complicate matters, the researchers at Royal Holloway who have reviewed studies relating to this topic, reported in the Journal of Applied Ecology, that glyphosate itself is not the problem to bees but the inert ingredients added to the herbicide such as wetting agents or surfactants that can create the issues relating to impact on the gut.

So what can we conclude in terms of this in relation to NCC's glyphosate policy and its alignment with other environmental strategies? The HSE is clearly stating that glyphosate products do not pose unacceptable risks to pollinators. However, in any policy on glyphosate use, it is important to ensure operators fully take into account the numbers of active pollinators in a given situation and seek to minimise their exposure to the plant protection product where they are at most risk.

In terms of hard surfaces, blanket spraying is now prohibited and spot spraying is the norm. In most instances in this situation, it would seem possible to minimise impact on pollinators with assessing this specific risk as an element in drawing up integrated weed management plans. If using glyphosate on green areas such as around landfill sites, the timing of spray application is clearly a key factor. Glyphosate rapidly breaks down on contact with the soil so with appropriate timing of applications when pollinator activity is low, any risks can be minimised. Again, this would be part of the weed management planning in such situations.

In taking forward the glyphosate policy, adoption of these key principles can minimise dangers and as such this policy can align with the pollinator action plan and environmental policies already adopted by NCC.

## Appendix D Operational Plan (appended for information only)

Workpackage 5 (Operational Plan) sets out how the key actions embodied in Section VIII of the NCC glyphosate policy will be implemented. This workpackage covers operational actions to establish and maintain the NCC Glyphosate Policy, which are to:

- (i) Create an agreed Integrated Weed Management Plan template for use across NCC departments (consultants to lead) (Key Action A, NCC Glyphosate Policy). Each department will populate its IWM template(s) with copies held in a central storage place. Adoption will be monitored centrally (adoption date; review date). Take up of any new methods that offer a viable alternative to glyphosate use (and do not compromise other objectives in terms of health and safety, the environment and other NCC environmental objectives towards biodiversity or carbon targets) will always be considered and recorded.
- (ii) Develop a centralised filing repository for records and monitoring associated with the Operational Plan (e.g. SharePoint)
- (iii) Amend tender documents for contractors to ensure there is a requirement for them to be members of an assurance scheme approved and recognised by the UK Amenity Standard. (Key Action C NCC Glyphosate Policy)
- (iv) Develop a methodology/ system\* to estimate the carbon emissions associated with glyphosate use and to permit a comparison to be made with the emissions from alternative methods of weed control (such as strimming). \* likely to require data on: area sprayed; glyphosate amount used; footprint associated with the chemical manufacture of glyphosate; distance travelled to site sprayed. Assess how to demonstrate how other Environmental Policy targets are being met. (Key Action E NCC Glyphosate Policy)
- (v) Agree data and information fields that will form a data 'pipeline' for a public-facing information dashboard to present NCC's new approach to minimise the use of glyphosate. A business analytics feasibility study may be required to determine the data pipeline needs. Develop the dashboard as a standalone public report (e.g. PowerBI report) on the NCC website.
- (vi) Develop and roll out a template for NCC departments which use glyphosate, to capture information on implementing the NCC Glyphosate Policy (to an agreed timetable – e.g. annually) which will be held centrally, including:
  - IWM plans developed, adoption date, review date etc;
  - amount of glyphosate used (and use category) by NCC and contractors (this is in addition to the legal record of date, time, duration, site, area, target weeds and amount of chemical used which each department using glyphosate is already required to hold). (Key Action E NCC Glyphosate Policy);
  - an estimate of carbon emissions associated with glyphosate used and other techniques employed, to be made using the system developed (see point (iv) above
  - a declaration that their registers of operator training and equipment testing is up to date; a record of staff who have read and signed up to deliver the NCC Glyphosate Policy / received any training on the Policy;
  - a declaration that tenders for external contractors have been let using revised documentation;
  - a narrative on department savings, contribution to the NCC Environmental Policy, new approaches to weed management, areas of communication that need to be strengthened etc.

- all data fields required for the public dashboard including carbon emissions associated with glyphosate use
- (vii) Develop and deliver a training programme for NCC for all who make decisions concerning the use of herbicides to cover all key elements required to establish and deliver the Policy. Departments will be invited to contribute to development of the programme to ensure it covers what they require.  
Develop and deliver annual 'top up' refresher training. A register of training will be required and all those trained will sign a declaration confirming they have read the NCC Glyphosate Policy) (Key Action D NCC Glyphosate Policy)
- (viii) Develop and roll out training programme for County Farm tenants to ensure they understand the principles of the NCC Glyphosate Policy and have the knowledge to move to regenerative farming methods on their land holdings to reduce reliance on glyphosate. Create record of who has completed training, and those moving to regenerative practices. NCC Estates Team and County Farm tenants will be invited to contribute to the development of the programme to ensure it covers what they require (Key Action F NCC Glyphosate Policy)
- (ix) Develop and roll out messaging/training for school academies which lease NCC land such as playing fields to ensure they understand and adopt the principles of the NCC Glyphosate Policy. Create record of academies which receive messaging (Key Action G NCC Glyphosate Policy)
- (x) Develop registers to record operator (NCC and contractors) certification of training in the use of herbicides and equipment testing (Key Action B NCC Glyphosate Policy). Each department populates and maintains its own register based on a standard format, and signs an annual declaration held centrally confirming their registers are up to date.
- (xi) Develop and roll out a communication strategy for internal and external audiences, emphasising the reasons for weed control and decisions taken to achieve the required outcome (Key Action H, NCC Glyphosate Policy). Potential to link with messaging on goals within the NCC Environmental Policy



## Integrated Weed Management Plan Template

|                            |                 |
|----------------------------|-----------------|
| Organisation:              |                 |
| Responsible person:        | Growing Season: |
| Site this plan relates to: |                 |
| GIS reference:             |                 |

|   |
|---|
| Background situation, i.e. what is this amenity space used for?                                       |
| What outcome(s) you seek to achieve, i.e. what results are required after managing the weed problems? |
| Are any design considerations required, including weed-barriers, mulching, etc                        |
| What weeds are present and where are they?  |

|                    |
|--------------------|
|                    |
| Create a weed map: |
|                    |

|  |            |
|--|------------|
| Identify and consider all options available for weed treatments  |            |
| Option 1   |            |
| Manual <input type="checkbox"/> Mechanical <input type="checkbox"/> Thermal <input type="checkbox"/> Electricity <input type="checkbox"/> Acid <input type="checkbox"/> Herbicide <input type="checkbox"/> | Area/Zone: |
| Detail (including frequency or use / retreatments):  | Risks:     |
| Option 2   |            |
| Manual <input type="checkbox"/> Mechanical <input type="checkbox"/> Thermal <input type="checkbox"/> Electricity <input type="checkbox"/> Acid <input type="checkbox"/> Herbicide <input type="checkbox"/> | Area/Zone: |
| Detail (including frequency or use / retreatments):  | Risks:     |
| Option 3   |            |
| Manual <input type="checkbox"/> Mechanical <input type="checkbox"/> Thermal <input type="checkbox"/> Electricity <input type="checkbox"/> Acid <input type="checkbox"/> Herbicide <input type="checkbox"/> | Area/Zone: |
| Detail (including frequency or use / retreatments):  | Risks:     |
| Option 4   |            |
| Manual <input type="checkbox"/> Mechanical <input type="checkbox"/> Thermal <input type="checkbox"/> Electricity <input type="checkbox"/> Acid <input type="checkbox"/> Herbicide <input type="checkbox"/> | Area/Zone: |
| Detail (including frequency or use / retreatments):  | Risks:     |

## Weed Management Plan

|    |           | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|----|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. | Treatment |     |     |     |     |     |     |     |     |     |     |     |     |
| 2. | Treatment |     |     |     |     |     |     |     |     |     |     |     |     |
| 3. | Treatment |     |     |     |     |     |     |     |     |     |     |     |     |
| 4. | Treatment |     |     |     |     |     |     |     |     |     |     |     |     |
| 5. | Treatment |     |     |     |     |     |     |     |     |     |     |     |     |
| 6. | Treatment |     |     |     |     |     |     |     |     |     |     |     |     |

continued/.....



## Review of integrated Weed Management Plan

| Date | Review notes | Actions |
|------|--------------|---------|
|      |              |         |
|      |              |         |
|      |              |         |
|      |              |         |
|      |              |         |
|      |              |         |

# **Infrastructure and Development Select Committee**

**Item No: 8**

**Report Title: Greenways to Greenspaces - Green Travel and Green Networks along our Highways Corridors**

**Date of Meeting: 18<sup>th</sup> January 2023**

**Responsible Cabinet Member: Cllr Eric Vardy** (Cabinet Member for Environment & Waste)

**Responsible Director: Tom McCabe** (Executive Director, Community & Environmental Services)

## **Executive Summary**

The Greenways to Greenspaces programme bring together the various environment service projects to create, improve and promote Active Travel, Access to the Natural Environment and Nature Recovery and Green Space improvement projects. This report provides an update to the Active Travel (Revenue) programme for 23/24 and the Green Infrastructure (Delivery) programme.

As part of the Greenways to Greenspaces programme, last year NCC committed to:

- Expand the number of Roadside Nature Reserves (RNRs) to 300 reserves by 2024
- Work with Suffolk County Council on a two-county nature recovery demonstrator pilot project for the Norfolk and Suffolk 25 Year Environment Plan for roadside verges as a key component of a connected network of wildlife habitats
- Develop a highways verge management policy

This report details progress made on the above and proposals to develop this work to 2024. Work has started on assessing the quality of our existing Roadside Nature Reserves (RNR's) and prioritising areas for pilot projects for roadside nature recovery. We have researched specific locations for pilots and are ready to develop these for planting this winter. In addition to cutting-led pilots on the wider roadside verge network these results will feed into the emerging Roadside Verge Management Policy.

Combined, these proposals align with Norfolk County Council's Better Together for Norfolk strategy under the strategic priority of a greener more resilient future. This

strategic priority places importance of protecting and enhancing our environment, providing access to quality spaces that can improve mental health of emotional well-being, and improving community resilience.

In addition, this work fulfils NCC's Environmental Policy by meeting the goal of encouraging a thriving plant and wildlife community and supports the key aims of 'using and managing land sustainably', 'recovering nature and enhancing the beauty of landscapes', 'connecting people with the environment to improve health and wellbeing' and 'increasing resource efficiency and reducing pollution and waste'.

## **Action Required**

**The Select Committee is asked to review and comment on the following proposals prior to consideration by Cabinet:**

- 1. A programme to strategically identify new RNR's**
- 2. Implement Roadside Nature Recovery Demonstrator Pilots**
- 3. Increase evidence for the emerging Highways Verge Management Policy**
- 4. Active Travel Programme for 2023/2024**
- 5. Green Infrastructure (Delivery) Programme 2021-2024**

## **1. Background and Purpose**

### **1.1 Nature Recovery and Biodiversity Net Gain**

The Environment Act 2021 was passed in November last year and has at least two key components relevant to this work. Firstly, Norfolk County Council (NCC) has been named the 'Responsible Authority' for delivering the Local Nature Recovery Strategy in Norfolk. This means that NCC will be responsible for managing data streams to evaluate the current state of nature in Norfolk including priority areas and then to evidence any nature recovery because of the strategy. Secondly, the Act brought into law the concept of 'biodiversity net gain' by which any development going through planning will have to demonstrate that it will deliver a biodiversity net gain of 10% as a result.

Combined, these make the case for strong evidence of baseline ecology. Firstly, to demonstrate nature recovery on roadsides as part of the bigger nature recovery picture in Norfolk. Secondly, to consider the option of using any net gain in biodiversity as offsets for nature loss elsewhere due to projects on NCC property.

### **1.2 Information and Scale**

NCC manage circa 6000 miles of roads and verges across the county. It was recognised in the report '[Greenways to Greenspaces \(July 2021\)](#)' the need to change verge management to better use this network for nature and wildlife.

However, the information and scale of such that is both suitable for this work but also the bigger picture of nature recovery and biodiversity net gain means that we have a need to identify ways of streamlining and prioritising information gathering.

NCC has addressed these issues in two ways. We have prioritised by conducting a mapping analysis to establish the road corridors in Norfolk which have the biggest potential for improving connectivity. Proximity features such as designated sites were combined with others with potential but within NCC ownership such as closed landfill sites. Next strategic priorities were overlaid such as proximity to farming clusters, core river valleys and Trails Strategy Schemes. The resulting grids were scored and overlaid with transport corridors and a heatmap was produced showing areas of priority for roadside nature recovery and connectivity (See Appendix 1\_TOW Combined document 04.08.22).

Secondly NCC has recognised that assessing baseline ecology for all roadside verges using traditional methods of in-person ecology surveys is neither feasible nor financially sustainable. As such we have researched methods and technology to strategically identify new RNR's. We are looking to trial a new methodology previously used with success by the University of Lincoln and Lincolnshire County Council using remote data and artificial intelligence (AI) to classify the floral status of roadside verges. In Lincolnshire this methodology has seen an accuracy-rate of 88%.

### **1.3 Roadside Nature Reserves**

Before expanding the current network, it was necessary to review the RNR's already in place and understand their status. This summer, all the existing 110 RNR's were visited by an NCC ecologist, and their status reviewed and updated. All the RNR's in the above priority corridors were surveyed and the results are attached in Appendix 1(TOW Combined document 04.08.22). Many were in a state of decline and required management and maintenance to restore to their best state. This work is currently underway and is due to finish this year.

One consideration for the ecologist was whether the current RNR's could be extended. Of those visited, at least 33 have been identified as definite candidates for this and 12 of these were identified before the Highway cutting regime commenced in May. Therefore, 12 of these sites are now benefiting from a new regime of cutting and collecting which should lead to higher levels of biodiversity over a larger area.

In addition, 14 potential new RNR's have been visited and given current criteria (which is in review to consider including a broader array of habitats) 9 were suitable to become new RNR's.

### **1.4 Nature Recovery Demonstrator Pilots**

Following approval of this programme NCC commissioned a study on how and where nature recovery pilots could take place in Norfolk. The report (attached in Appendix 1) provided an in-depth background and rationale for 5

pilots in Norfolk, based on the priority areas illustrated in 1.2. The research showed how carefully selected locations based on proximity to designated sites, if managed differently could provide large increases in biodiversity net gain. The findings have been shared with Suffolk County Council to utilise the conclusions and principles established to develop pilots in Suffolk. These pilots when implemented will provide learnings and evidence for the feasibility of management changes and their impact on nature recovery and biodiversity net gain.

### **1.5 Verge Management Policy**

Learnings from the RNR work and the Nature Recovery Demonstrator Pilots will contribute to the evidence base for the emerging Verge Management Policy. In addition, a series of pilots based on changes in cutting regimes is proposed along 3 themes. These are:

- a) Parishes already managing cutting regimes on PROW. Can these be expanded so that parishes also manage roadside verges locally. A high level of community involvement should increase awareness of the benefits of reduced-frequency cuts resulting in better outcomes overall.
- b) Rural roads classified as A and B currently receiving 2 cuts and rural roads classified as C and U where timing of cuts will be considered.
- c) Evaluating the different vegetation types (hedgerows, grassland, mature trees etc) and understanding how their management can be changed to increase biodiversity.

The pilots will also consider other practical aspects of cutting such as effective machinery, how best to source labour and efficient and sustainable disposal of arisings. It has been shown that removing the arisings from the site can have a positive effect on biodiversity. We propose to take advantage of research examining using cuttings in new ways to increase the circularity of NCC work and reduce any negative impacts. However, the cost implications to benefits of this will also need to be carefully considered.

### **1.6 Active Travel Programme**

Following the adoption of the Local Transport Plan 4, Norfolk County Council are developing a Cycling and Walking Plan for Norfolk County Council. Norfolk County Council have also brought together the various external revenue funding bids into a single Active Travel Programme behaviour change programme. The Behaviour Change programme look at ways we can encourage more people to walk and cycle and to move shorter trips from private car to walking and cycling.

## **2. Proposal**

### **2.1 A programme of work to strategically identify new RNR's**

From the progress made this year on assessing the quality of current RNR's and adding new ones, it is clear that a new approach is required to reach the target of 300 by 2024. We propose to work with the University of Lincoln to

utilise cutting-edge research and technology to strategically identify potential new RNR's. This will develop and build on recent research and will enable us to target our site-visits to areas with higher potential. The results from the remote imagery analysis will be cross matched with other data such as existing lists of potential new RNR's provided to us from Norfolk Wildlife Trust (circa 50 sites) and those proposed by the public. Also included will be the outputs from the recent Norfolk-wide Local Walking and Cycling Plan. This will ensure that RNR's are considered in locations where there is evidence of high walking and cycling, or where new infrastructure is proposed, thus increasing visibility, enjoyment, and wellbeing for residents.

Planned resource from ecologists, visiting sites identified strategically will provide a higher number of site visits, including accounting for some being unsuitable. The remote-imaging analysis will also provide us with areas of good opportunity for future RNR's which could improve to that status given changes in management. Working with parish councils for those areas identified will be key. In addition, streamlining data input from site visits and analysis by providing the right technology and applications to use on-site will make the current process more efficient.

## **2.2 Implement Roadside Nature Recovery Demonstrator Pilots**

Following the comprehensive research and recommendations on 5 sites identified as having potential to recover nature and improve connectivity we propose to implement a minimum of 5 Nature Recovery Demonstrator Pilots across Norfolk. Some will be those identified in the report, but we also aim to add to these by taking the principles and conclusions reached and applying them to other sites. Also of consideration are sites where natural solutions could be used to alleviate flood risk. Understanding the baseline ecology for any sites so that progress can be measured and monitored is key. Resource to survey sites and those in the vicinity to which we can connect, is required. An important example is that of County Wildlife Sites which are widespread but lack up to date data on status. Working with Norfolk Wildlife Trust we propose to survey those County Wildlife sites identified as being strategically valuable to the pilots and align data with the emerging Local Nature Recovery Strategy.

A programme of landowner engagement is underway to establish feasibility of using private land to link verges to local nature nodes in specific locations. Through partnership with the Norfolk Coast Partnership, we have secured funding for the 4 pilots within Norfolk's Area of Outstanding Natural Beauty (AONB) and are progressing these to plant this winter. The pilots outside these areas will require capital funding to proceed.

## **2.3 Increase evidence for the emerging Highways Verge Management Policy**

To provide a solid evidence-base for the new Highways Verge Management Policy, specific pilot studies are required. These will be of reduced complexity than those used for the Nature Recovery Pilots and will be based on:

- a) Small but significant changes in cutting regimes

- b) Changes in the use of machinery, technology, and labour
- c) The use of the arisings from the cutting.

Crucial in all the verge management work including that for RNR's and nature recovery is community awareness and engagement. Any changes, either implemented at a local or more widespread scale will require a well-developed and considered stakeholder and communications plan to ensure success. In addition, some localised site surveys will be required though the aim is to use remote imagery where possible to assess changes in verge quality.

Any recommendations from the above work will be align with the NCC Pollinator Action Plan to ensure that opportunities to increase pollinators in Norfolk are maximised.

## **2.4 Countywide Local Cycling & Walking Infrastructure Plans (LCWIP)**

LCWIPs are a key strategy which will deliver policy within the adopted Local Transport Plan 4 and help inform the planning of active travel networks across the county, meaning better connectivity for active travel modes as well as cleaner air. LCWIP's for Greater Norwich, King's Lynn and Great Yarmouth were adopted by Cabinet in May 2022. Norfolk County Council (NCC) officers are now working closely with district council officers to complete the Countywide LCWIP by the end of quarter 1 2023.

The Countywide LCWIP will define and prioritise active travel networks and schemes within 20 towns and market towns across the county as well as identifying scheme proposals that will enable the creation of a countywide rural network which links communities with key services. Cycling and walking site audits have been completed by NCC officers for all 20 towns and market towns and preparations are now being made to finalise scheme proposals prior to updating local members and conducting a 6-week period of public engagement in early 2023.

## **2.5 Active Travel Programme for 2023/24**

Following the formation of Active Travel England, Norfolk County Council has submitted a proposal of capability building activities and behaviour change activities to enable modal shift activities to promote active travel across Norfolk County Council. The proposed programme of activity is attached is Appendix 2- Norfolk Active Travel Programme 23\_24.

## **2.6 Green Infrastructure (Delivery) Programme 2021-2024**

To ensure consistency and efficiency of Green Infrastructure Delivery a single programme has been created to manage and deliver again the various external funding and the Capital Maintenance Fund from Norfolk County Council Capital Funding. The Capital Maintenance Fund is to address significant wear, tear and on the Norfolk Trails network following customer reported problem of through inspections from Norfolk County Council trails

officers. An overview of the delivery from 2021/2022, the current programme for 2022/2023 and the proposed programme from 2023/2024 is attached at Appendix 3- Green Infrastructure (Delivery) Programme 2021-2024 I&D 180123.

### 3. Impact of the Proposal

- 3.1 These proposals, alongside other work already underway and planned, demonstrate the County Council's Commitment to an evidence-based strategy for Nature Recovery on the very specific NCC property of roadside verges. The Active Travel programme for 2023/2024 and Green Infrastructure delivery programme will support increased Active Travel in Norfolk and an ongoing investment in Green Infrastructure to ensure improved access to nature across Norfolk.

### 4. Evidence and Reasons for Decision

- 4.1 Please see Section 1, Background and Purpose.

### 5. Alternative Options

- 5.1 Where possible, alternative options have been considered. The above proposals represent the recommended options given current evidence, outlined above.

### 6. Financial Implications

- 6.1 The expected costs for the Roadside Nature Reserves, Demonstrator Pilots and evidence for the Highways Verge Management Policy are as follows:

| Proposal                              | Need  | Amount £'s     |
|---------------------------------------|---|----------------|
| Proposal 1: Programme to expand RNR's | 1 x G grade ecologist for 2 years                   | c.£50,000      |
|                                       | Funding for academic input and strategy development | £20,000        |
|                                       | Technology to streamline site visits                | £1,000         |
| <b>Subtotal</b>                       |   | <b>£71,000</b> |
|                                       |   |                |
| Proposal 2: Implement Roadside Nature | Funding to commission surveys for up to 25          | £30,000        |



|   |   |                 |
|---|---|-----------------|
| Recovery Demonstrator Pilots  | County Wildlife Sites in priority areas in collaboration with Norfolk Wildlife Trust  |                 |
|   | Capital for planting and management of pilot sites  | £15,000         |
| <b>Subtotal</b>   |   | <b>£45,000</b>  |
| Proposal 3: Increase evidence for the emerging Highways Verge Management Policy | 1 x H grade officer for 2 years to research best practice, implement pilots, monitor results, community liaison and communication | £75,838         |
| <b>Subtotal</b>   |   | <b>£75,838</b>  |
|   |   |                 |
| <b>TOTAL</b>  |   | <b>£181,838</b> |

The costs will be met from the existing Environmental Policy Funds. In addition, external funding will be sought where appropriate such as through FiPL funding and the Forestry Commission's Local Authority Treescapes.

- 6.2 The expected costs for the Active Travel and Green Infrastructure (Delivery) Programmes are as follows:

| <b>Proposal</b>                               | <b>Amount £'s</b> | <b>Source</b>   |
|---|-------------------|---|
| Norfolk LCWIP development                     | <b>£319,871</b>   | Following successful funding bid to the Department to Transport                         |
| Active Travel Programme 23/24                 | <b>£657,388</b>   | (Awaiting confirmation of funding from Active Travel England)                           |
| Capital Maintenance Fund 22/23                | <b>£457,589</b>   | NCC funding following approved capital submission approved in Cabinet (1 February 2021) |
| Green Infrastructure (external funding) 22/23 | <b>£1,403,448</b> | Various external funding source (see Appendix 3)  |
| <b>TOTAL</b>                                  | <b>£2,828,296</b> |   |

## 7. Resource Implications

- 7.1 **Staff:** Staff will be required to deliver this work with a particular focus on ecologists, to ground truth strategic work on RNR's, but also to provide expertise on the methodology of all proposals and to monitor results of the pilots.

For the Active Travel and Green Infrastructure Delivery we will use existing staff and increase staffing numbers if additional funding bids are successful.

- 7.2 Property:** These proposals will ensure that NCC is maximising its roadside assets in the most sustainable way, for both communities and nature.
- 7.3 IT:** New hardware will be required for site visits, and it is proposed that some software will be developed internally to ensure the accurate and timely management of data.

## **8. Other Implications**

- 8.1 Legal Implications:** All work and subsequent recommendations will meet NCC's legal requirements for road safety.

- 8.2 Human Rights Implications:** N/A

- 8.3 Equality Impact Assessment (EqIA) (this must be included):**

As part of the Local Cycling and Walking Planning Public Consultation will be undertaken on all the plans. The consultation will seek to engage with groups which have protected characteristics including a specific focus on how the proposed networks will impact users with mobility issues, who are Blind and partially sighted and people who are D/deaf or hearing impaired. A key positive outcome of the Local Cycling and Walking Plans will be proposed improved infrastructure for users with reduced mobility.

When delivering our Active Travel Programme will be proactively work to engage with transport users with protected characteristics for example the E Cycle Extension fund project has purchased electric adapted bikes for users with reduced mobility to use at events.

- 8.4 Data Protection Impact Assessments (DPIA):**

No personal data has been obtained via these workstreams. When this is planned (e.g., when liaising with private landowners) NCC's guidance and processes on data management and protection will be followed.

- 8.5 Health and Safety implications (where appropriate):**

All necessary guidance will be followed, and actions risk assessed where appropriate.

- 8.6 Sustainability implications (where appropriate):**

The proposals will have a positive impact on the environment, both improving our natural environment and increasing reducing the carbon emissions through transport by increasing modal shift to active travel.

## 8.7 Any Other Implications: N/A

## 9. Risk Implications / Assessment

- 9.1 All projects in the above programme are regularly assessed for risk using NCC's risk management policy, processes, and procedures.

## 10. Recommendations

Actions Required:

The Select Committee is asked to note the following activity already underway:

- 1) Strategic RNR expansion using new methodologies
- 2) Feasibility work regarding the use of arisings from roadside verges
- 3) Implementation of Roadside Verge Nature Recover Demonstrator Pilots
- 4) Building the evidence base to work towards a Verge Management Policy
- 5) Active Travel Programme for 2023/2024
- 6) Green Infrastructure (Delivery) Programme 2021-2024

## 11. Background Papers

### 11.1 NCC Pollinator Action Plan

### 11.2 Trees Outside Woodland on the Highway Corridors

### Officer Contact

If you have any questions about matters contained within this paper, please get in touch with:

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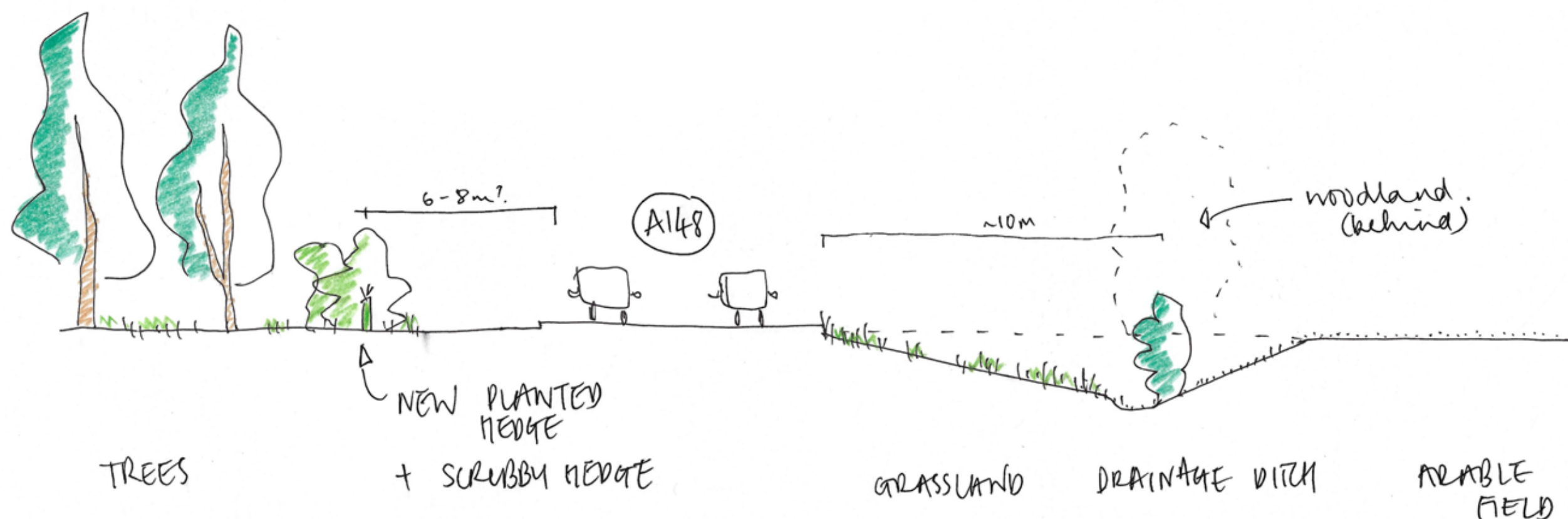
**Email: [charlotte.watts@norfolk.gov.uk](mailto:charlotte.watts@norfolk.gov.uk) / [matthew.hayward2@norfolk.gov.uk](mailto:matthew.hayward2@norfolk.gov.uk)**



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# TREES OUTSIDE WOODLAND ON THE HIGHWAY CORRIDORS

## SITE ANALYSIS SELECTION CRITERIA AND DETAILED DESIGN



*Digg & Co. Studio is a design practice focusing on the intersection between people and wild-life. We undertake landscape architectural and ecological design to help re-frame the story of our time from one of anthropocentric loneliness to one where we are, once again, embedded within our beautiful, natural world.*

Digg & Co. Studio  
Landscape | Ecology | Design



# INTRODUCTION

Norfolk County Council (NCC), through the DEFRA funded Trees Outside of Woodland (TOW) project, has appointed Digg & Co. Studio to survey, analyse and choose five idealised sections of the priority highway corridors of Norfolk, which will then be designed and managed for optimal biodiversity gain.

TOW will tie into wider council collaboration projects looking at transport corridor connectivity through Norfolk and Suffolk, specifically utilising the Norfolk and Suffolk Nature Recovery programme. Identified within this document are threads of workstreams to be delivered under this project. They include:

Review the condition of the highways' estate.

Identify additional Roadside Nature Reserves (RNRs).

Develop a plan for nature connectivity between the highways'

estate, County Wildlife Sites (CWSs) and farmland.

Improve the quality of highways' estate land which is of poor quality for nature.

Working with Highways, amend the management prescriptions for their estate to deliver

Working together with several departments of NCC, and another ecological consultancy, we have arranged the document to follow a process of discovery, analysis, selection, preparation and design of areas of the Norfolk highway estate which could be reconnected to the wider natural landscape through collaboration with neighbouring landowners. At the same time the soft estate of the highways is classified with the UK Habitat Classification and recommended ecological enhancements are put forward.

This document concludes at the end of a conceptual (interim) design piece and makes recommendations for the next phase of detailed design, capital work costs and management costs.

We look forward to hearing your comments and thoughts on this document and welcome the chance to discuss these. Our details are found at the end of the document.

# INTRODUCTION

## Important Wording:

*It has become evident from conversations with engineers, highways managers and ecologists that some of the language used to describe the varying elements of the road networks are commonly misinterpreted due to varying meanings. As a means to interpret correctly here are a few key words, commonly used, and their meanings:*

**Soft Estate:** All the soft landscape elements within the highway corridor boundary.

**Highway Corridor:** The land owned by Norfolk County Council within which are the highway and soft estate.

**Verge:** The flat soft landscape area directly next to the road or carriageway - typically between 1-5m wide.

**Road:** Any highway without a central reservation.

**Carriageway:** A highway with a dual carriageway

**Swale:** A shallow sided depression which carries surface water from nearby hard surfaces. Typically covered in vegetation.

**Embankment:** An Embankment is where the level of the land has been raised to cross a depression, or area of boggy ground.

**Cutting:** A cutting is simply described as where the land has been excavated to allow the road to pass at a lower level than the original ground level.

## Project Vision:

In reviewing project literature we established that this project should highlight the work which has been ongoing to manage, enhance and conserve areas of the highways corridors to date. The following objectives are a merging of these and our visions for the best long term outcomes.

1. Bring the entire soft estate asset on the strategic road networks into Good<sup>1</sup> Ecological Condition by defining the different asset types for suitable future long term maintenance. Bear in mind constraints from main highway use.
2. Ensure sustainable woodland & scrub management on the strategic road network. Enable the establishment of the next generation of trees and shrubs
3. Encourage very high levels of biodiversity through appropriate management interventions.
4. Enhance the sense of place and connection to nature whilst travelling on the strategic road network.
5. Maintain views from the strategic road network into the wider landscape by using design techniques which promote natural connection to outlying landscape.
6. Utilise innovative management techniques to best suit the environment of the strategic road network.
7. Encourage effective connectivity from within and outside the soft estate asset for all wildlife.

*Adapted from Eastern Region Arboricultural Feasibility Study - Kier Highways (2004).*

1. Good Ecological Condition refers to the DEFRA Biodiversity Metric 3.0 condition assessment.

restore lost species  
and plant communities

keep  
maintenance  
simple &  
practical

nest sites and hibernacula

re-connect  
fragmented  
nature

Biodiversity Net-Gain

Lawton  
principles

open corridors of species  
rich grassland beyond  
Roadside Nature Reserves  
(RNR)

trees as biological  
stepping stones

incorporate new  
Environmental Land  
Management Schemes  
(ELMS)

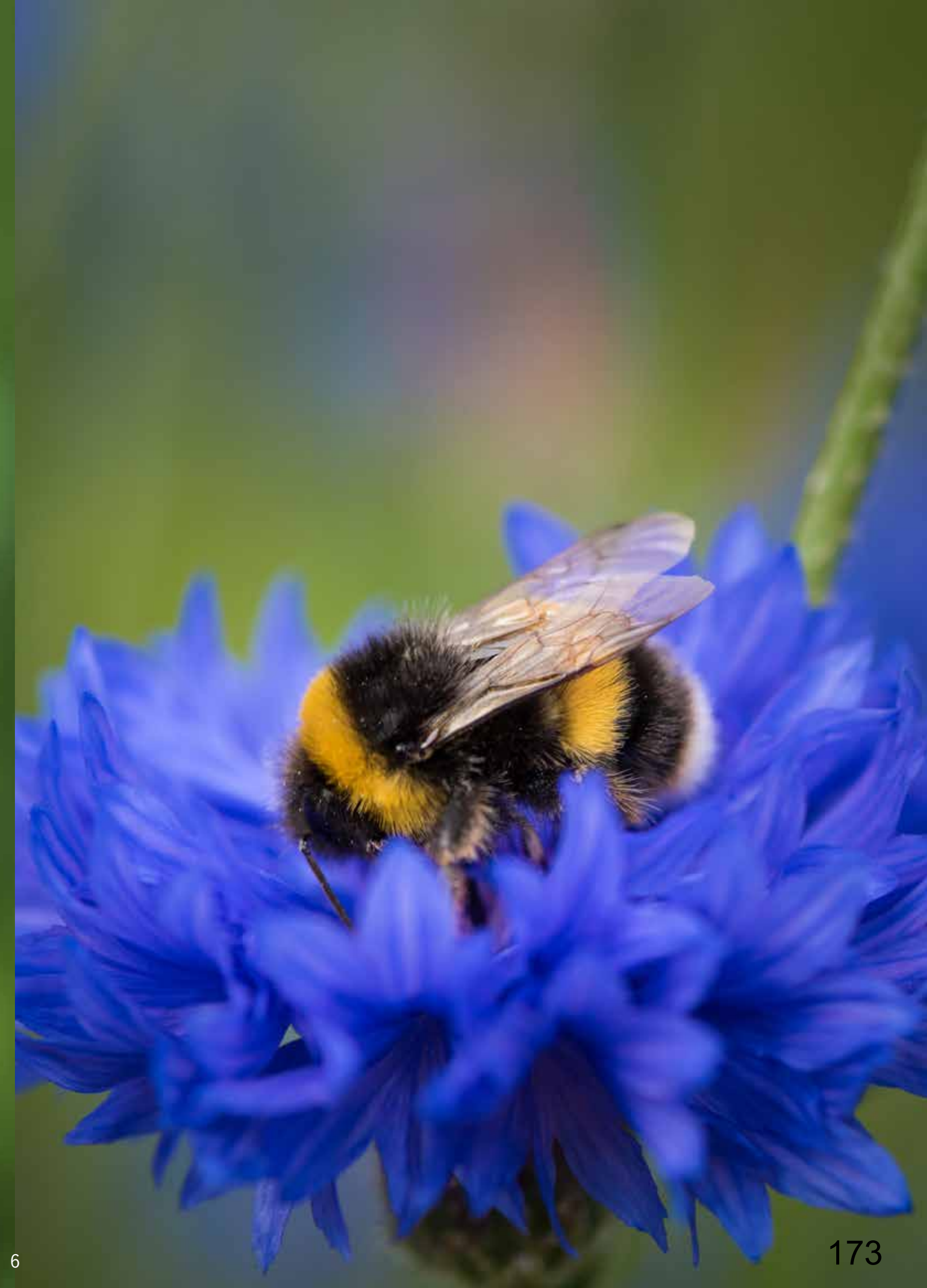
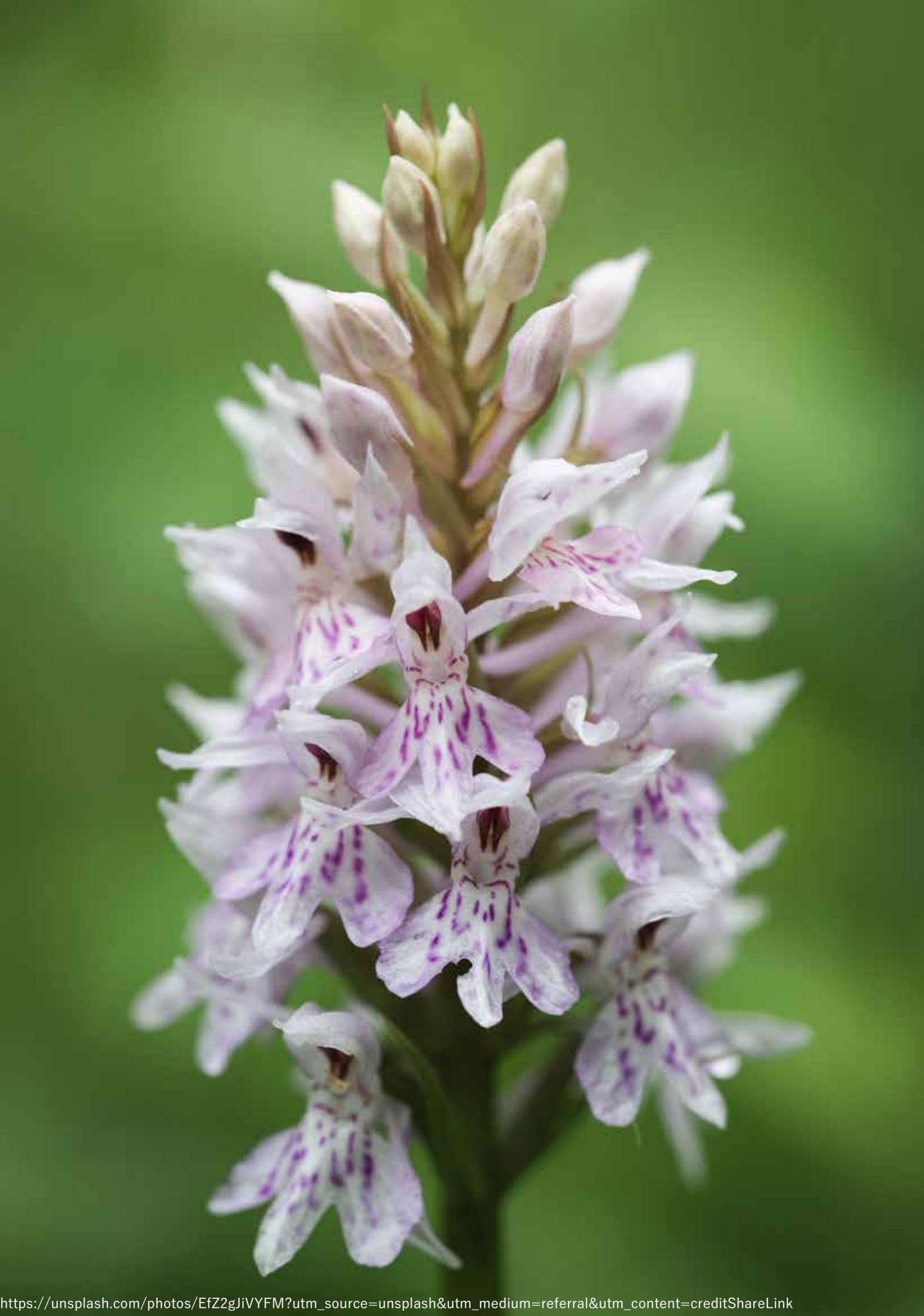
develop design  
principles which  
mitigate risk

winter forage for  
migrants

develop dynamic  
management to allow for  
ecological succession and  
dynamism

fossil fuel  
mitigation





# finding the sites

method & rationale



## OBJECTIVE

The project objectives are to develop five idealised design options to optimise Norfolk's highways corridors for biodiversity through the incorporation of arboricultural features whilst accommodating constraints associated with highway maintenance and safety.

## SITE SELECTION

The project brief provided some direction towards appropriate site situations for each design option, as follows: -

1. Site 1 will be a site with wide highways verges with opportunities for tree planting and new herbaceous habitats on the Norwich Distributor Road;
2. Site 2 will be a typical highways verge with an existing Roadside Nature Reserve (RNR);
3. Site 3 will be a typical highways verge with no RNR, but with opportunities to connect County Wildlife Sites (CWS) or opportunities to develop Trees out of Woodland (TOW) on highway boundaries or on contiguous private land;
4. Site 4 will be a typical highways corridor with little or no species rich grassland or other open habitat, where TOW would be the principal interest that can be built upon or enhanced with the inclusion of incorporating adjacent land; and
5. Site 5 will be a site with a situation similar to those outlined above but with varying topographical situations.

Additionally, Norfolk County Council (NCC) have produced a heat-map of Norfolk, which identifies priority corridors across the county identifying land most suitably placed for nature recovery.

The heat-map draws on the proximity of highways or NCC owned land to significant ecological features, including: designated wildlife sites, ancient woodland, trees and hedgerows, churchyards, closed landfill sites, CAW open access land, b-lines key/ben hubs, b-lines active 1 buffers, IIA, IPA, core river valleys or main rivers, b-lines final buffers, trails strategic schemes and farm clusters.

The heat map, Figure 1, identified three corridors across the county, two of which were used to direct site selection, outlined in green and blue.

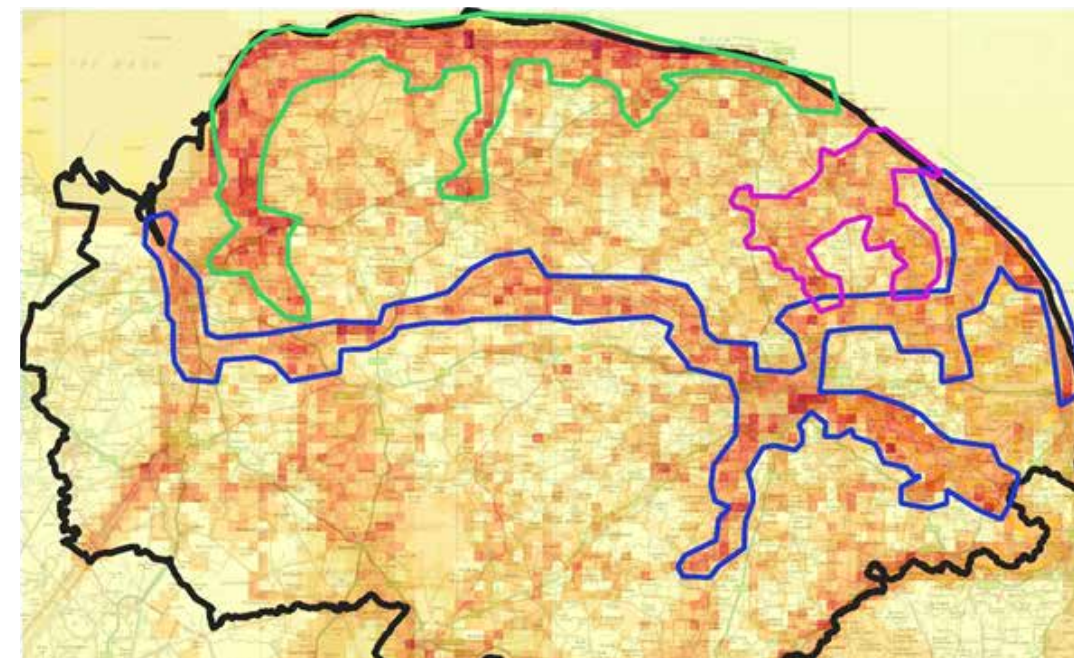


Figure 1. Norfolk Highways Priority Corridors for Nature Recovery

Within the Priority Corridors, site selection initially focused on identifying ten candidate sites through desk-based assessment. The desk study focused on the proximity to designated wildlife sites, particularly RNR and CWS, landscape scale connectivity (or lack of it), proximity to existing woodland, underlying geology, proximity to farm clusters and existing adjacent habitat.

Each of the ten candidate sites were visited on 3rd and 4th February 2022 by Louis Pearson and Toby Diggins to conduct baseline habitat mapping and initial scoping. Habitats within each site were categorised and mapped using the UK Habitat Classification System (Butcher et al. 2020). The general topography of each site was recorded and the site and surrounding landscape were described and photographed.

The survey was constrained by the time of year. During February, many plants are dormant and may not exhibit above ground parts. Where possible plants were identified by their vegetative parts and trees and shrubs were identified by their structure and bud morphology. This is considered to be a significant constraint in confident categorisation of grasslands and other herbaceous habitats, but is not considered to have constrained identification of trees, scrub and woodland habitats. Grasslands have been categorised based on the plant species which were visible but the habitat type may need to be altered following repeat surveys conducted between May and September when most plant species will be visible.

The results of the survey of each of the ten candidate sites are presented with a UK Habitat Classification System map, a description, a topographical cross section and a contextual photograph.

The results of the initial survey informed the selection of the five sites to progress into the final design options. The site selection process focused on exploring the potential opportunities within each site for implementing enhancements for wildlife through integration of new arboricultural features.

The concept of enhancing the highways corridor as a ‘woodland ride’ type habitat or as a ‘wood-pasture’ type habitat was explored at each site, with a view to creating well structured, connecting habitat which would extend along the highway providing a significant resource for wildlife. Opportunities to connect near-by high quality habitats and wildlife sites through enhancements across the landscape using the highway corridor as a well-structured linear feature were also explored.

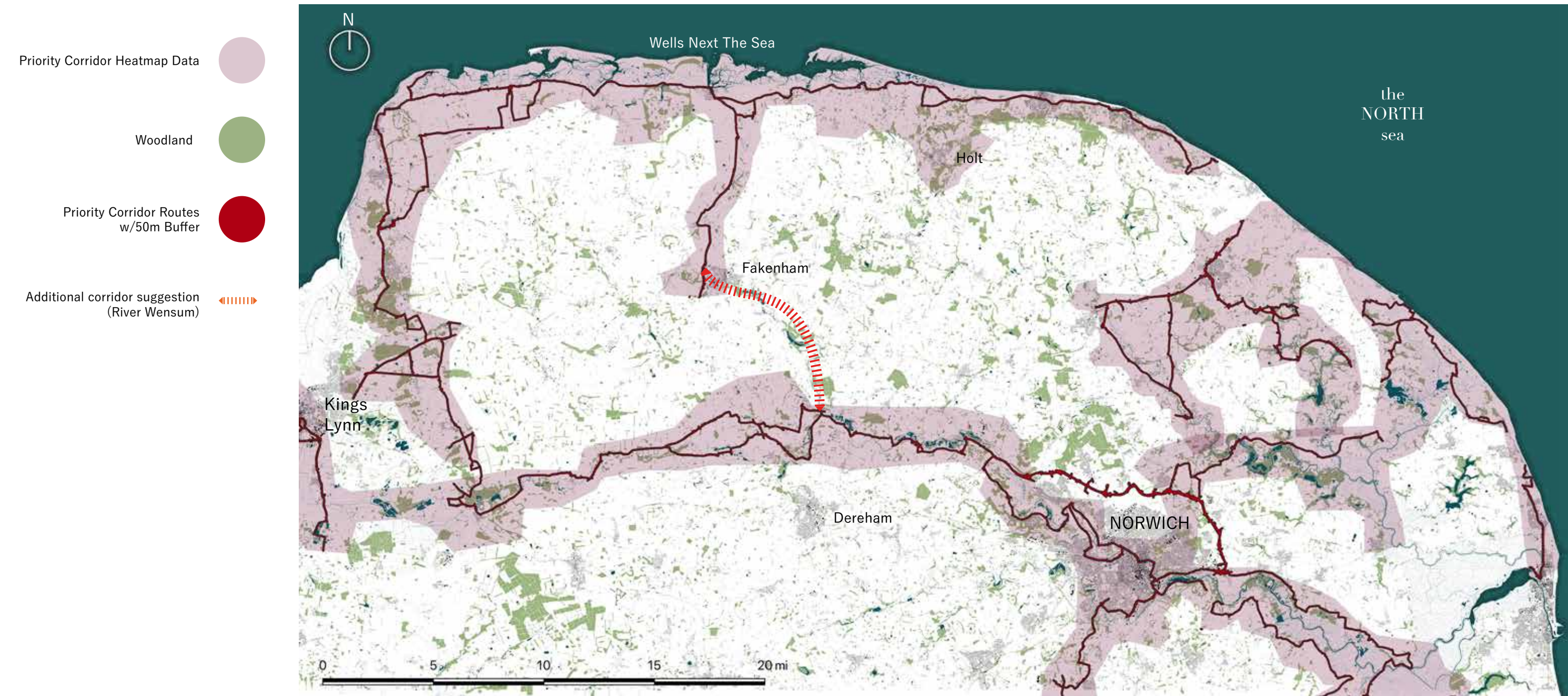
Although features specific to each site were an important aspect of site selection, the adaptability of the five idealised designs was also considered to ensure that the design outcomes will be sufficiently adaptable to be rolled out across the Norfolk highways estate if appropriate. In addition to each site-specific design, more general concepts of highways enhancement have been explored with a view to influencing future highways enhancements and management going forward.

#### REFERENCES

Butcher B, Carey P, Edmonds R, Norton L and Treweek J 2020. The UK Habitat Classification User Manual Version 1.1. <http://www.ukhab.org/>



MAPPING  
Highlighted Corridors



Initially, using data gathered for Norfolk County Council’s ecology team and the Norfolk Biodiversity Information Service, we overlaid the heat map data results (purple) with the Priority road corridors created from this mapping exercise. Principally, a key corridor is maintained, almost unbroken, from King’s Lynn to Lowestoft along the North Norfolk coast and A149. Several linking corridors dive south-west from the coast around Bacton to Norwich, whereupon

the River Wensum becomes a defining corridor feature as it heads West towards King’s Lynn roughly following the B1145 through North Elmham and Brisley. It is just to the East of North Elmham where a further strong ecological corridor could be added to link with the corridor spreading south from Wells-Next-the-Sea through Fakenham and on to join the Norwich to King’s Lynn feature.



MAPPING

Geology and Soils of Norfolk



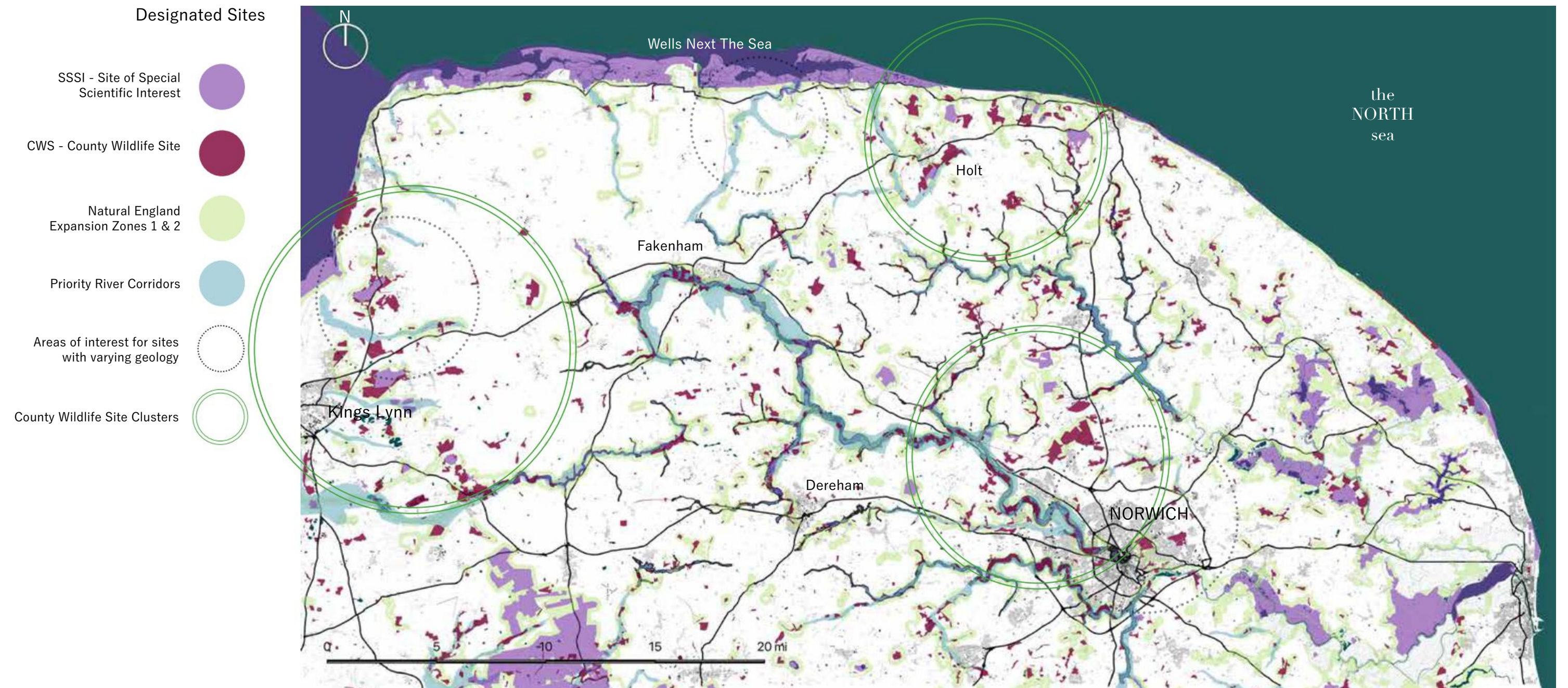
Next we analysed the underlying geology to recognise the variation in Norfolk’s bedrocks. Site selection, in order to have the greatest variance, would therefore need to be spread across the county to encounter more than just the typically alkaline soils respective of underlying calcareous deposits. Evidently site specific variations would occur due to more recent overlying soils. We also highlighted, using the Environment Agency’s flood risk map Zone 2, the

main riparian corridors and floodplains where soil types are typically richer in nutrient, sometimes peaty and will support very different assemblages of plants than is typical from drier, non-alluvial soils. Concurrently, as the circles show, a focus around Norwich to incorporate the Crag Group, as well as a focus from King’s Lynn to Hunstanton will allow for the widest range of soil types to be encountered when on the ground.



# MAPPING

## Expansion Zones and Riverine Corridors



Note: National Nature Reserves, Local Nature Reserves, RAMSAR and AONB designations were omitted due to their overlap with SSSIs or due to lack of sites, therefore, for this project they are ineligible for connection.

With soils and geology explored and by retaining an eye to the heatmapping and key riparian corridors (highlighted in light blue), the next step was to establish if there were additional landscape connections across the spectrum of designated sites. This map highlights both national and county level wildlife designations and explores how there are several clusters of CWSs across the county. Given that one of the areas of interest was to put forward concepts for the re-connection of these isolated wildlife rich pockets, it

allowed for areas of further focus in conjunction with securing soft estate sites which were designated as RNRs, something a map of this scale cannot show. Similarly, this map explored Natural England's Habitat Expansion Zones for national level reference. It was determined that the mapping conducted within the county surpassed this and that the heatmapping exercise, from a landscape connections perspective, was superior. It is interesting to note the overlap between the geology interest areas and these clusters.

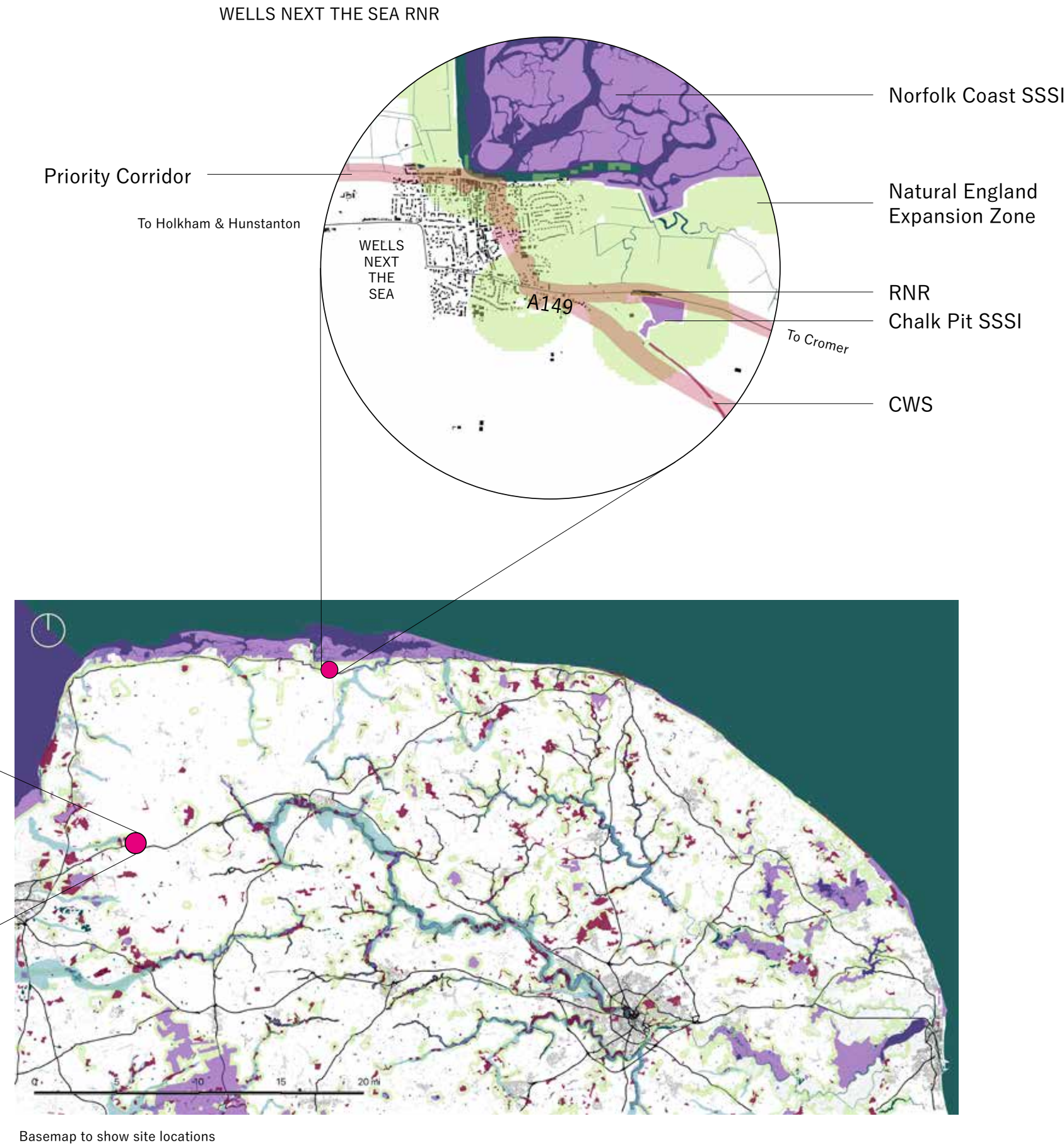
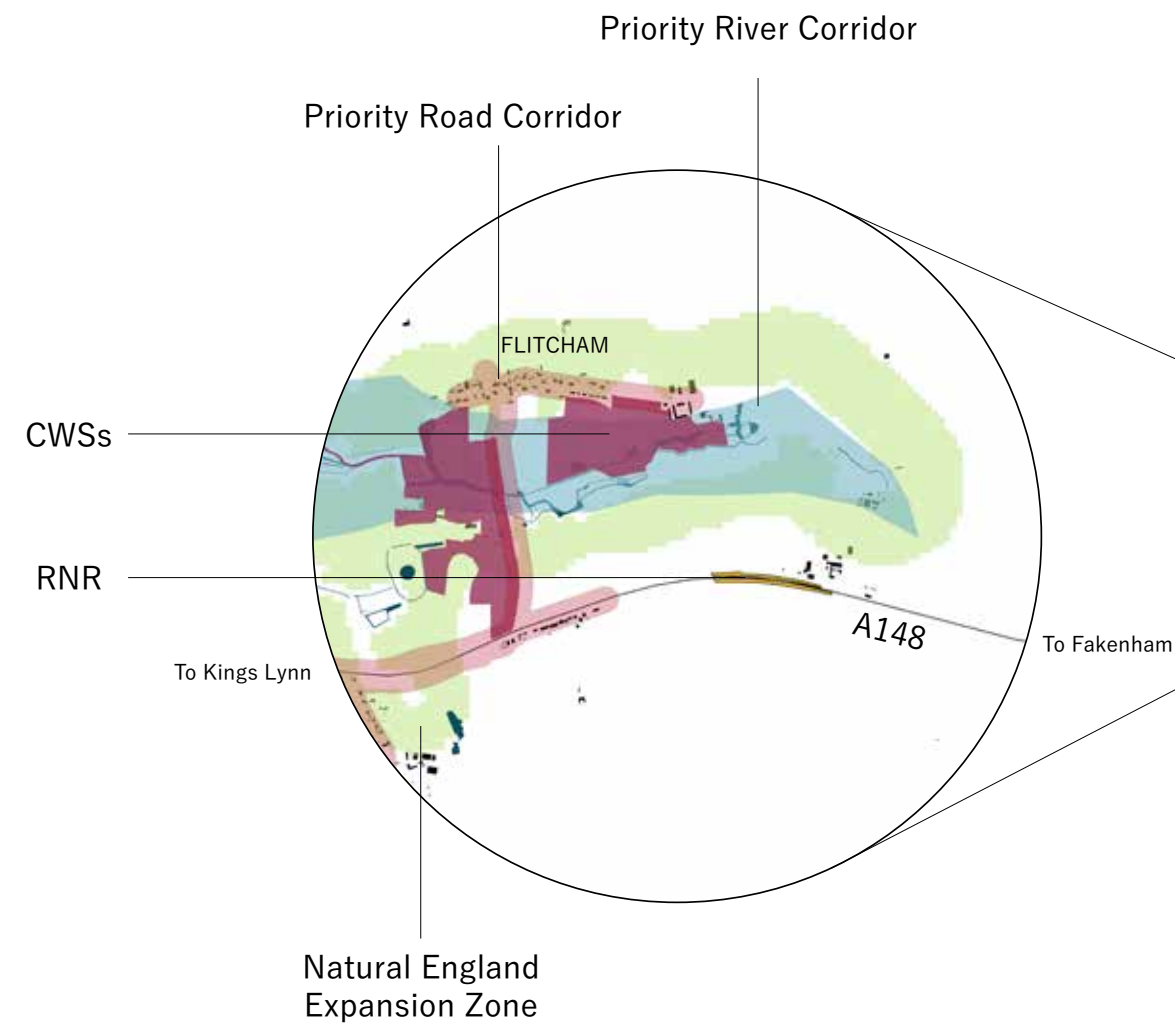


MAPPING

RNRs with CWS Connection

One of the site selection criteria is to look at sites where an existing roadside nature reserve (RNR) can be built upon to create an 'idealised mixed habitat corridor.' Through GIS we have found two sites which represent this criteria, as well as having strong connections to other wildlife features such as SSSIs, CWSs and habitat expansion zones. One lies to the east of Wells Next the Sea with close ties to the Walsingham Railway CWS and coastal designations. Local knowledge also suggests recent wetland expansion to the north of the site on previously grazed fresh marsh.

The second site is south-east of Flitcham village where a collection of designations focus around the river Babingley, wood pasture and parkland along with connection to the priority corridor.

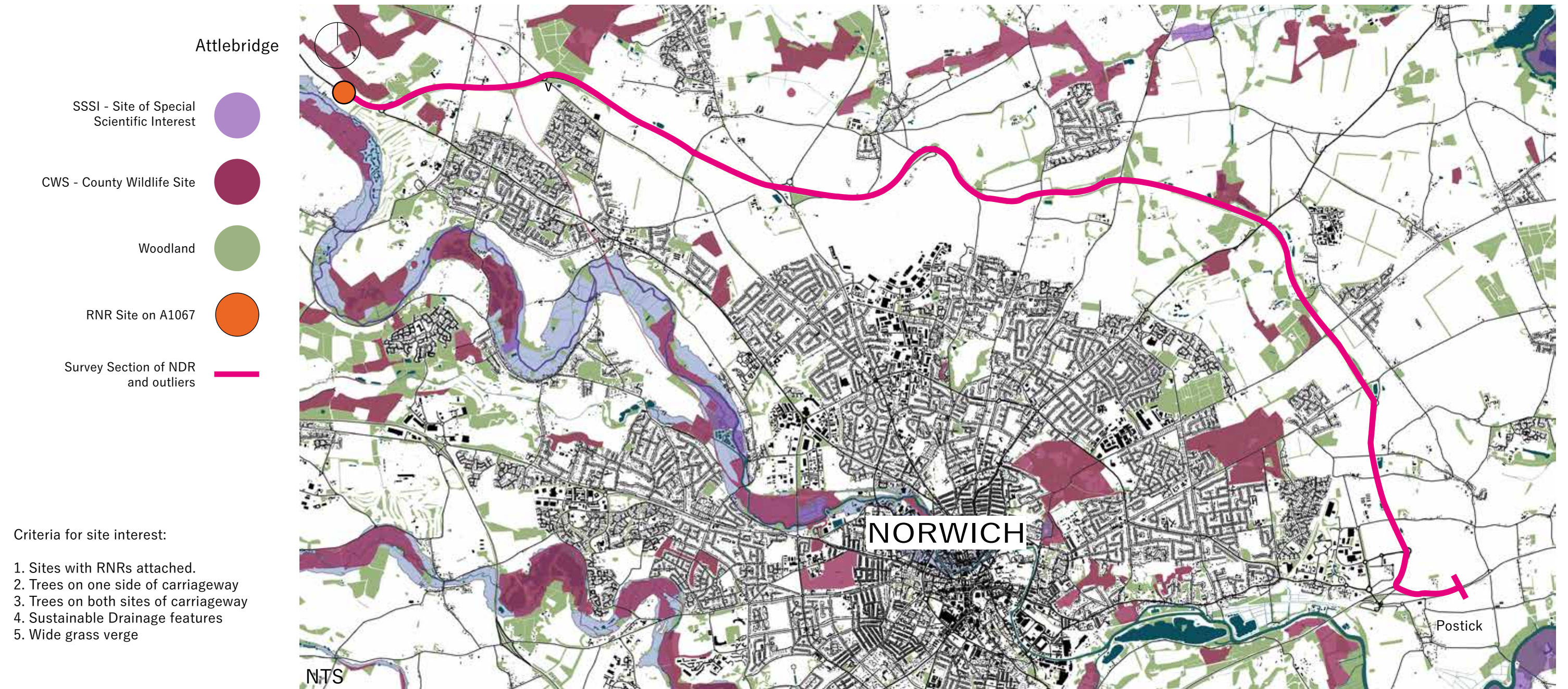


Basemap to show site locations



# MAPPING

## Site Selection on the Norwich Distributor Road



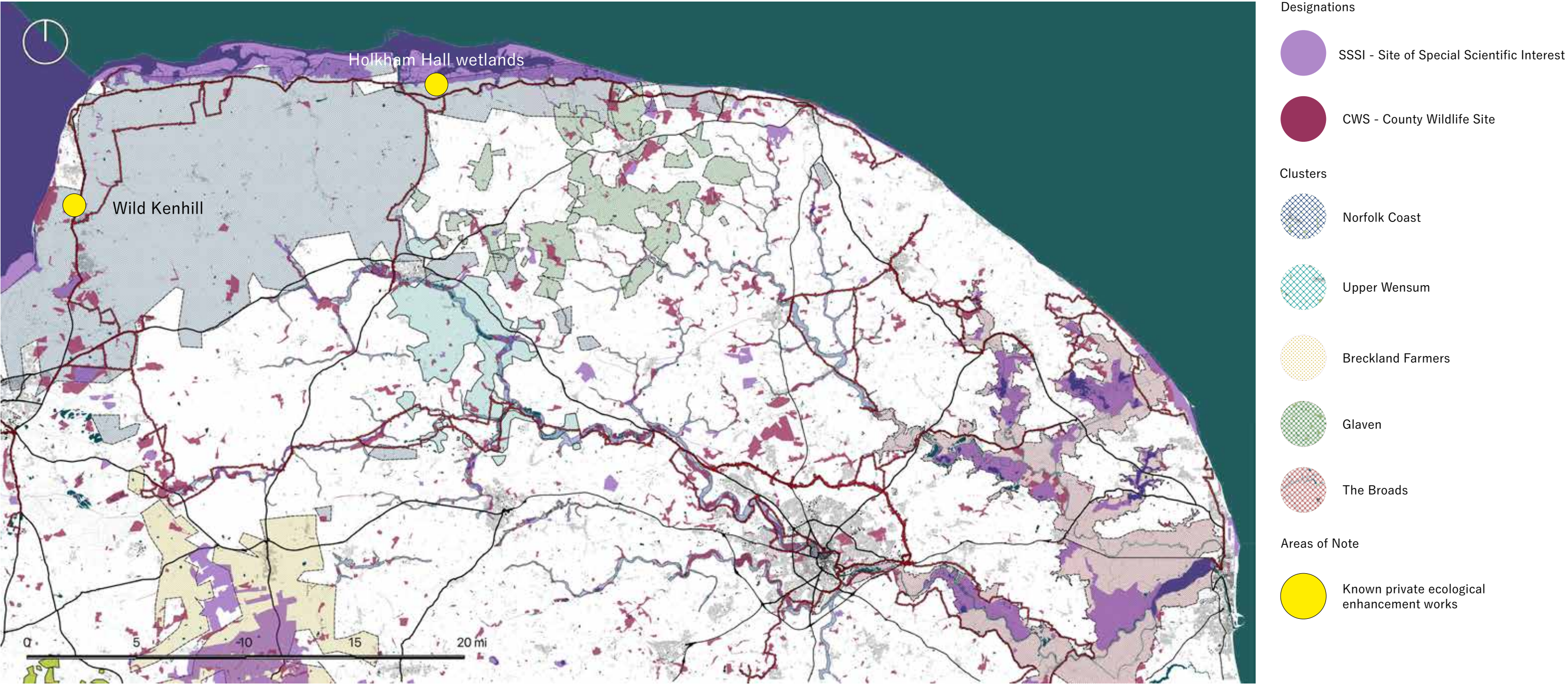
This map shows the Norwich Distributor Road (NDR) from Attlebridge in the west to Postwick in the east. Considering the relative uniformity of landscape connections in this area, it was decided that an initial drive through survey of the entire length of road highlighted was necessary. This was to ascertain features of the highway soft estate which could fulfil the correct criteria within the brief and to locate areas with considerable landscape

interest which could be enhanced, or where further high quality habitat could be created. By way of creating an interlinking and connected workflow, it was decided that the most westerly site would be the RNR just off the NDR (on the A1067) as highlighted.



MAPPING

Existing Farm Clusters



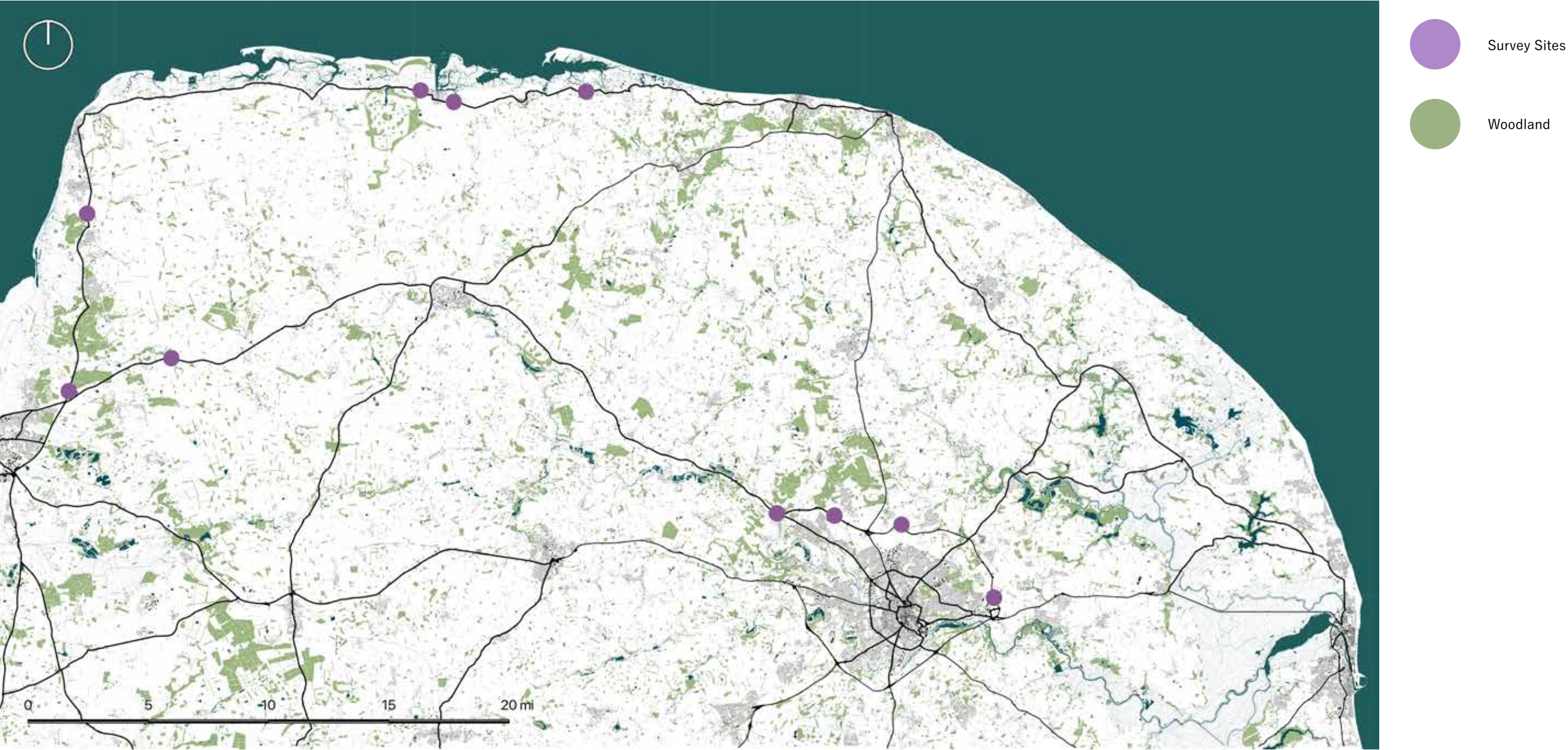
This map underlines the cross over between the Norfolk farming clusters (supplied to us via Norfolk County Council) and the road corridors and priority river valleys. It is clear to see that a great deal of wildlife re-connection could be delivered through these. Importantly, and once again overlapping the preceding studies there are two important areas of natural restoration occurring within the Norfolk Coast farm cluster. One is based to the west at Ken Hill estate, the

other is along the coastal fresh marshes of land owned by Holkham Hall. Both these locations, in conjunction with the other parameters set out in the brief, allow for opportunities to use new Environmental Land Management Schemes (ELMS) to contribute to the wider ecological connections made possible by the road networks and priority corridors. It is these two locations where sites will be chosen from, in accordance with the brief.



MAPPING

The 10 Sites



Therefore, with due consideration of the available data, we have concluded that the sites shown above represent a good spread of varying habitat types, enhancement options, connectivity and land owner engagement capacity. In order to vary the site specific data, further research was conducted whilst, 'on the road' as some of the initial sites did not allow for the scope of landscape design requested in the brief. The chosen areas are detailed in the

section with UK Habitat Classifications for each, as well as site introductions and defining features.





MAPPING

SITE SELECTION

The following table is the assessment criteria we used to select the five final sites from the original ten.

| Site | Location                |   | CWS?                                       | RNR: SPECIES                         | National Designation?                                       | Verge Habitat           | Adjacent Habitat   |  |
|------|-------------------------|---|--|--------------------------------------|---|-------------------------|--|--|
| 1    | NORWICH EAST            |   | X  | X                                    | X   | Other neutral grassland | Broadleaved woodland (newly planted), hedge, standing water, reedbed |  |
| 2    | NORWICH AIRPORT         |   | X  | X                                    | X   | Other neutral grassland | Broadleaved woodland (newly planted), gorse scrub                    |  |
| 3    | TAVERHAM                |   | Nr. Drayton Drewray & Whinney Hills/Common | X                                    | X   | Other neutral grassland | Hedge, broadleaved woodland (both newly planted)                     |  |
| 4    | ATTLEBRIDGE             |   | Between Attlebridge Hills & River Wensum   | Hoary Mullien                        | X   | Other neutral grassland | Hedge, open mosaic habitat   |  |
| 5    | BLAKENEY                |   | X  | X                                    | North Norfolk Coast SSSI, Wiveton Downs SSSI & Blakeney NNR | Scrub                   | Other neutral grassland, hedgerow, upland oakwood                    |  |
| 6    | WELLS-NEXT-THE-SEA EAST |   | Close to Walsingham Railway                | Chalk Flora / Orchids                | Wells Chalk Pit SSSI & Holkham NNR                          | Caclareous grassland    | Scrub, hedge, flower-rich field margin, wetland                      |  |
| 7    | KEN HILL                | A | Between Ken Hill woods & SE Sedgeford      | X                                    | Between Heacham Brick Pit & Snettisham Quarry               | Other neutral grassland | Mixed woodland, scrub, hedge   |  |
| 8    |                         | B | Between Ken Hill woods & SE Sedgeford      | X                                    | Between Heacham Brick Pit & Snettisham Quarry               | Scrub inc. gorse scrub  | Other neutral grassland  |  |
| 9    | FLITCHAM                |   | Close to Hillington Park & Abbey Meadows   | Lesser Meadow Rue. Nr. Hoary Mullien | X   | Caclareous grassland    | Scrub, Modified grassland, woodland                                  |  |
| 10   | KING’S LYNN             |   | Between many CWS’s                         | X                                    | X   | Other neutral grassland | Scrub, single line of trees  |  |

|  | Existing Farm Cluster? | Aboricultural features   | Chosen Site? |
|--|------------------------|--|--------------|
|  | X                      | Broadleaf woodland (newly planted)   | Rejected     |
|  | X                      | Broadleaf woodland (newly planted)   | Rejected     |
|  | X                      | Close to significant area of closed canopy woodland  | Situation 1  |
|  | X                      | Between several significant areas of closed canopy woodland                                    | Rejected     |
|  | Norfolk Coast          | Oakwood, close to small isolated patches of woodland   | Rejected     |
|  | Close to Norfolk Coast | Scrub & pioneer species in Chalk Pit, Sparse hedgerow  | Situation 2  |
|  | Norfolk Coast          | Close to extensive woodland of Ken Hill to West & wet woodland to East                         | Situation 4  |
|  | Norfolk Coast          | Close to extensive woodland of Ken Hill to West & wet woodland to East                         | Rejected     |
|  | X                      | Close to several areas of closed canopy woodland & significant area of parkland                | Situation 5  |
|  | Norfolk Coast          | Between several significant woodlands, road bordered by single lines of sparsley planted trees | Situation 3  |

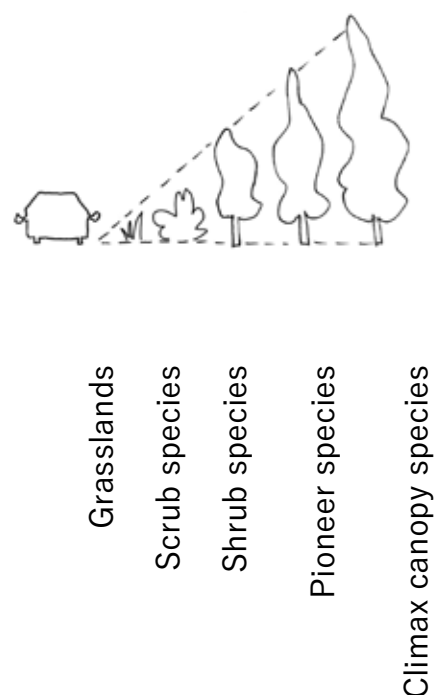
## DESIGN CRITERIA FOR SITE SELECTION

1. Wide highways verge with opportunities for tree planting and new herbaceous habitats - we suggest somewhere on the NDR.
2. Typical highways verge with an existing RNR. The key theme here is “how can RNRs be built upon to create idealised mixed habitat corridors?”. The design could consider extending and widening the corridor by developing connectivity with adjacent land, especially integrating hedges and existing trees and by developing TOWs on unproductive field margins and corners.
3. Typical highways verge, no RNR, but opportunities to connect CWS or opportunities to develop TOW on Highways boundaries or on contiguous private land.
4. Typical highways corridor with little species-rich grassland or other open habitat, where TOW would be the principal interest that can be built upon or enhanced, including with adjacent land,
5. A replicate of the above in a varying topographical situation - dry soils and valley soils for instance.

# DEVELOPING DESIGN FRAMEWORKS

With the five sites now selected we created a set of design frameworks/principles which combine both ecological uplift potential and maintenance feasibility across the broad range of habitat features found within the selected sites. These frameworks have been designed to be scalable and applicable across multiple site characteristics in order that future ecological enhancements across the highway corridor network of Norfolk, can be easily rolled out with limited additional design costs and simplistic long-term management plans.

## STRATA SYSTEM



The Strata System is a methodology of planting that is not only used throughout the following five design proposals, but designed to be easily adaptable to many different verge situations throughout the highways of Norfolk.

The System proposes that aboricultural features be stratified according to maximum height, from the lowest species planted closest to the highway to the highest planted furthest away. A minimum planting distance will be recommended to allow for all trees to fall a safe distance away from the highway to prevent serious issue with traffic flows.

This allows for easy maintenance of highways verges, and reduces the risk of falling branches, fruits or entire trees causing danger to road users.

This also creates one of the key principles put forward in the design brief which is to create an idealised mixed habitat akin to that of a woodland ride, wood pasture or parkland.

## NERVES & SYNAPSES



Nerves and Synapses represents use of field boundaries and productive corners to connect existing areas of habitat.

This is not only along the highway corridors, but also in adjacent farmland. Hedges can be expanded and managed for wildlife, standard trees can be planted along boundaries, and field corners can be left to become rough scrub. This provides migration corridors for wildlife between nature-rich areas, connecting the verge habitat to the wider landscape and existing wildlife sites.

It provides farmers with the opportunity to engage with ELMs schemes, whilst minimising the amount of land taken out of production. These are all explored through the design development in the following section.

WOODLAND EDGE HABITAT



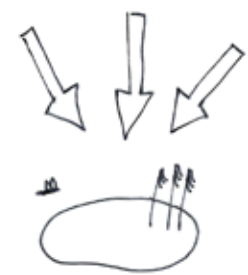
The following designs should aim to use transport corridors to mimic Woodland Edge Habitat, by including a diversity of ecotones in order to provide maximum opportunity for wildlife.

This can be achieved by including a range of species at different points in the natural successional process, such as grassland, scrub, shrubs, and trees of different age classes. This diverse habitat provides the greatest benefit to ecology.

The management strategies, however, should aim to keep the design in this dynamic state by preventing natural succession. This includes interventions such as annual cutting to prevent grassland progressing into scrub.

Techniques such as coppicing, pollarding and veteranisation also enhance this dynamism, and standing deadwood should be retained to provide additional opportunity for wildlife.

WATER MANAGEMENT



Water Management should be a focus throughout all design proposals. By carefully examining the current hydrology and topography of each site, careful water management can provide two benefits: helping to reduce the surface water run-off of roads, whilst simultaneously providing additional habitat.

Scrapes allow rainwater to pool during heavy rainfall, naturally percolating the water into the ground.

In wetter areas of bog and swale, wetland plant communities can be encouraged to develop, to help water slowly and naturally re-enter the water system and to filter the water run-off from roads.



## TAVERHAM

TG 18294 15318



LOCATION : TG 18294 15318



SECTION CUT

Taverham is located on the NDR around O.S. grid reference TG 18294 15318. The site is recently made-up land, landscaped during the construction of the NDR in 2019. The carriageway is c. 20 m wide with a central reservation.

## LANDSCAPE CONNECTIONS



County Wildlife Site



Woodland



Ecological Connections





## EXISTING HABITATS

Taverham is located on the Norwich Northern Distributor Road (NDR) around O.S. grid reference TG 18294 15318. The site is recently made-up land, landscaped during the construction of the NDR in 2019. The soft estate on both sides of the carriageway has a wide verge encompassing a shallow swale, which then slopes up 4 m high grassy embankments. To the north, the embankment drops away and the back is planted with trees and shrubs, to the south the embankment meets the original ground level with a newly planted hedge and a cycle path.

With reference to the NDR Handover Environmental Management Plan (Mott Macdonald 2019), the embankments and planting were created primarily as a screen to mitigate disturbance to people and wildlife from the new road, with the secondary benefits of compensating for habitat lost during construction and integrating the road into the surrounding landscape. The species composition and structure of the woodland planting are not referenced, only stating that trees have been planted amongst shrub species. The prescribed management of woodland planting focuses on the removal of weeds once per year during March or April and the re-planting of failed plantings which is triggered by a threshold of 20% failed (Mott Macdonald 2019).

Grassland has been created by redistributing the original topsoils which were removed to retain some of the seed bank. In addition, native meadow seed mixes have been used to supplement the seed bank. The prescribed management for species rich grassland is to make two annual cuts in the first three years of establishment in April and September, then annual cuts in September or early October with an emphasis on raking and removing all arisings.

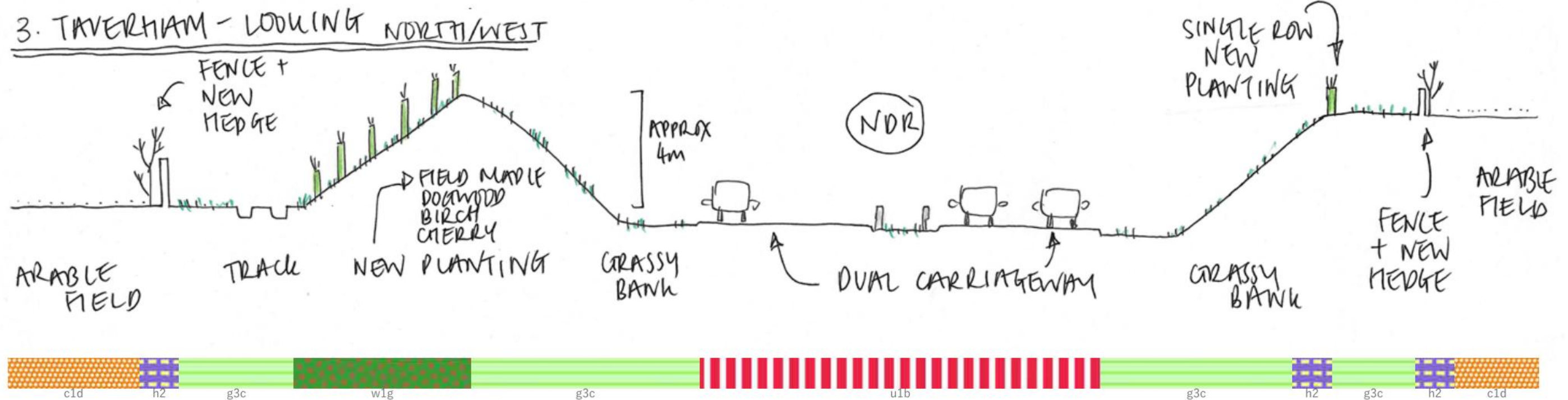
Hedgerows have been created to be species rich and to provide connectivity with the existing landscape. The prescribed management for hedgerows is to maintain 300 mm weed free strip along each side of the hedge and trim hedges annually to a maximum height of 2.5 m.

The site at Taverham was chosen as a site which is typical of the NDR in terms of its topography and the suite of habitats which have been created within the highway corridor, and its simplicity, i.e. it does not include specific bespoke habitat features such as SUDS or green bridges or bat gantries. The proposed design concept at Taverham has been designed specifically with a view to creating a template which could be rolled out across the NDR with minor site-specific adaptations. The site at Taverham does not have any particular site-specific ecological interest and the location was not chosen because it has any particular ecological significance, although the surrounding landscape features have been considered within the design concept as an example and for completeness.



UKHAB BASELINE SURVEY





## CURRENT HABITAT & SPECIES

### OTHER NEUTRAL GRASSLAND - g3c

The grassland holds a moderately diverse sward with some bare ground and abundant forbs. The grassland is stratified in response to the outcropping soil type. This is most apparent on the south facing slope of the northern embankment where the lower half is outcropping subsoil and the upper half is placed topsoil. The species composition and grassland structure suggest that all areas of grassland were seeded with a general neutral grassland mix but the grassland has developed differently in response to the different soil conditions. The grassland developing on the topsoil is lush and verdant and forb heavy. The grassland developing on the subsoil is drought stressed and appears nutrient deficient. Species richness is moderate across both soil types with just under 15 species m<sup>2</sup> recorded. Lowland meadow indicator species are present in the sward although the moderate species richness resulted in the grassland being mapped as 'other neutral grassland'. Lowland meadow

indicator species comprise common knapweed *Centaurea nigra*, ox-eye daisy *Lucantherum vulgare*, bird's-foot trefoil *Lotus corniculatus*, red fescue *Festuca rubra* and crested dog's tail *Cynasaurus cristatus*. Undesirable species in the sward include creeping thistle *Circium arvense* although this species does not account for greater than 5% of the vegetation cover. Notable species recorded within the grassland include nesting skylarks *Alauda arvensis* (recorded in contiguous grassland at a bridge junction) small blue *Cupido minimus* and green hairstreak *Callophrys rubi*.

### OTHER WOODLAND, BROADLEAVED - w1g

Native broadleaved shrubs and trees have been planted on the back slope of the embankment. Species recorded comprise blackthorn *Prunus spinosa*, hawthorn *Cratageous monogyna*, dogwood *Cornus sanguinea*, cherry *Prunus avium*, crab apple *Malus sylvestica*, birch *Betula pubescence*, field maple *Acer campestre*, and pedunculate oak *Quercus robur*. Trees are

planted as species clusters in ranks at wide spacings of 2 – 3 m. Plantings are protected by 50 cm plastic tree shelters. Failure rate was estimated to be 30 - 50 % of plantings having failed.

### HEDGEROW - h2

The edge of the highway corridor is marked by rabbit mesh fence and planted species-poor hedgerows. The hedgerows are hawthorn dominant with occasional blackthorn *Prunus spinosa*, hazel *Corylus avellana*, field maple *Acer campestre*, guelder rose *Viburnum opulus* and crab apple *Malus sylvestica*. The condition of the boundary hedgerows was assessed to be good or moderate, with the majority of saplings in good health. An additional hedge is planted along the apex of the ridge of the southern embankment, parallel with the southern boundary hedge. This hedge is in poor condition with greater than 60% of plantings having failed. The adjacent farmland is managed as arable land with no set-aside.



Woodland planting on South side of new embankment



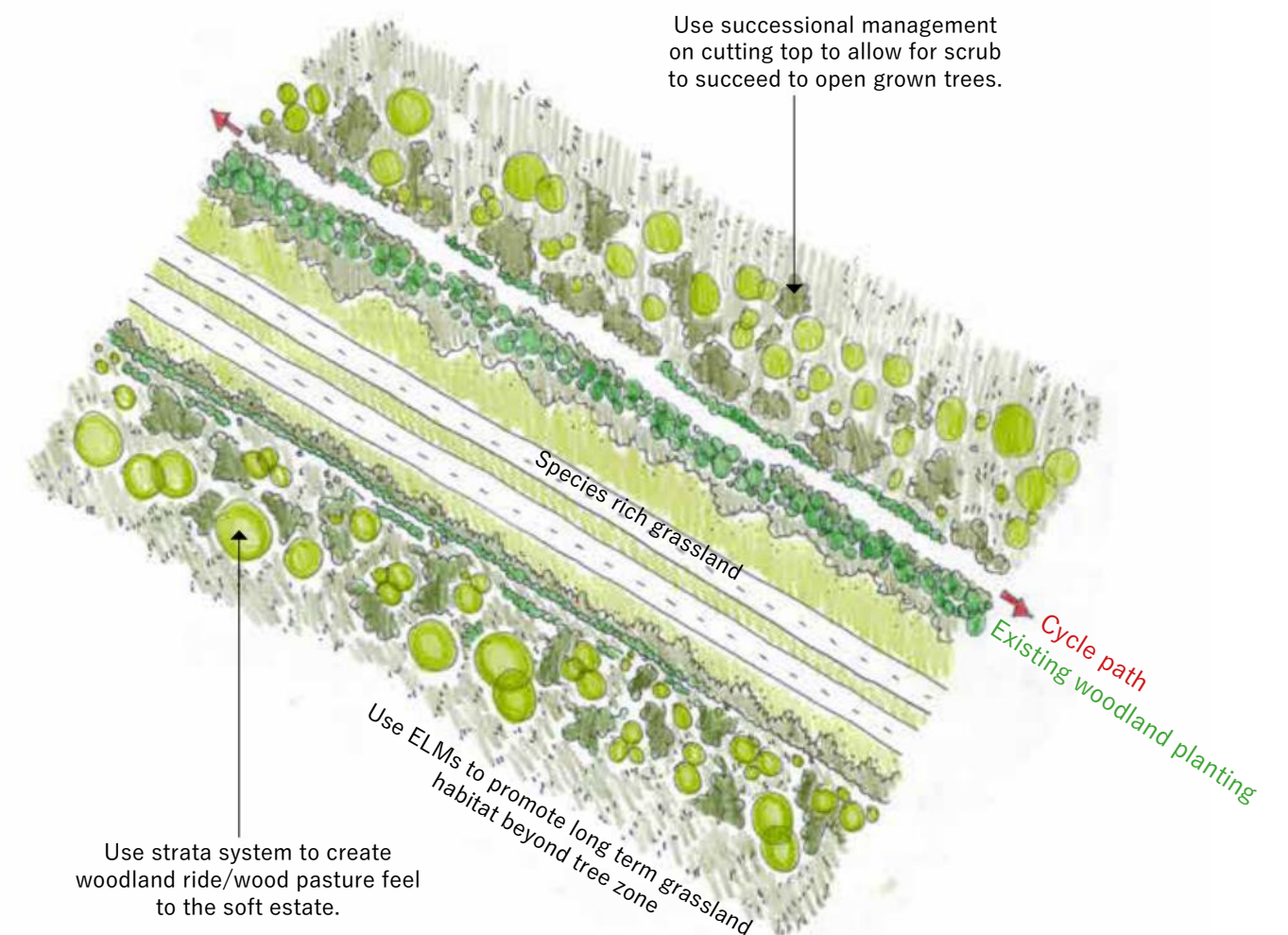
This page shows the current site setting and the proposed creation and enhancement work which will be undertaken. On each side of the carriageway, beyond the soft estate is arable land, currently potatoes. The land used by highways is now under restoration from the construction work and some areas of medium distinctiveness habitat have begun to emerge. Further explanations of the work to be considered for habitat

enhancement are found in the following pages. This small linear strip of land has created a far more wildlife rich set of habitats than was there before. This is a positive for the road and a good foundation to increase biodiversity with our suggested strategies. The linear nature of this habitat promotes far greater joined up bio-corridors than previously.

### EXISTING



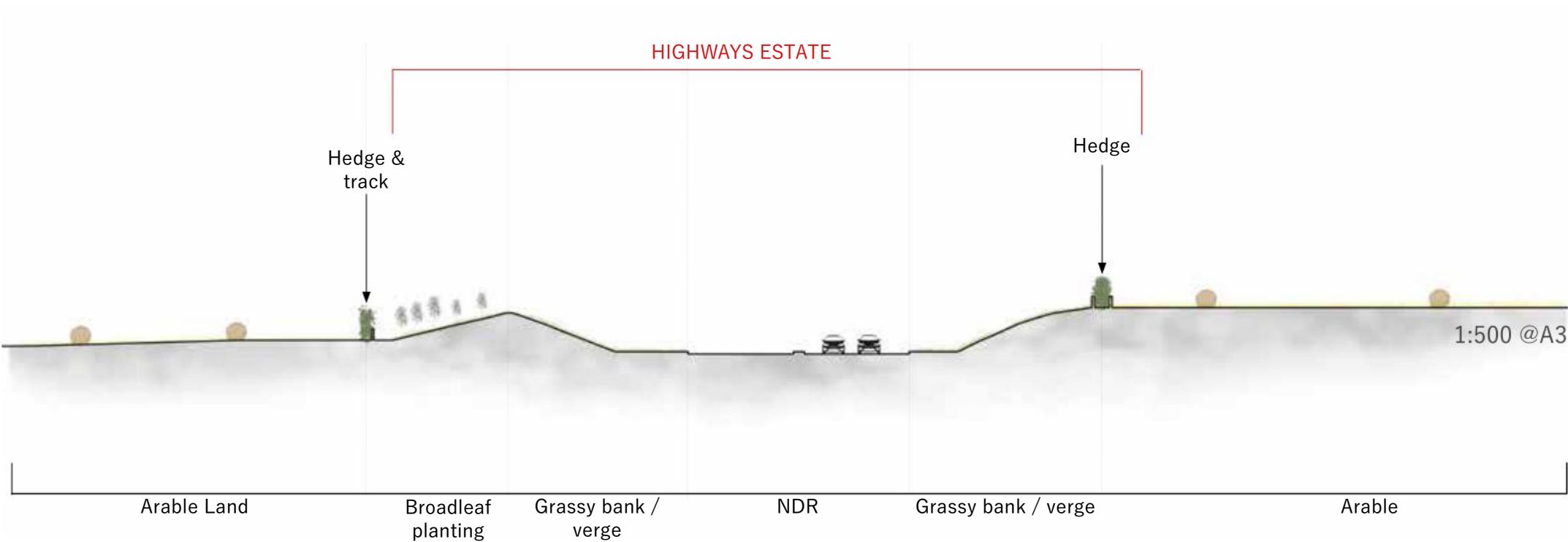
### MASTERPLAN - PROPOSED



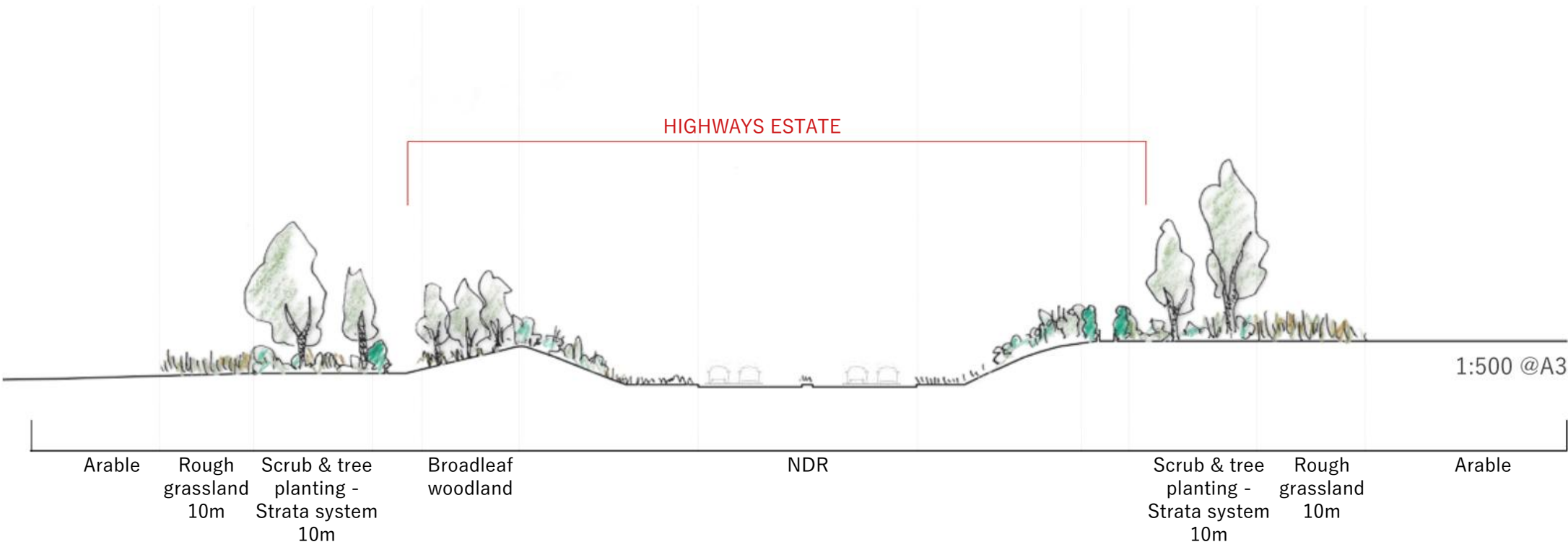
⌚ NTS

SITE  
SECTIONS

EXISTING SECTION



PROPOSED SECTION





CONDITION  
ASSESSMENT

Existing Condition



Proposed Condition



Existing Distinctiveness

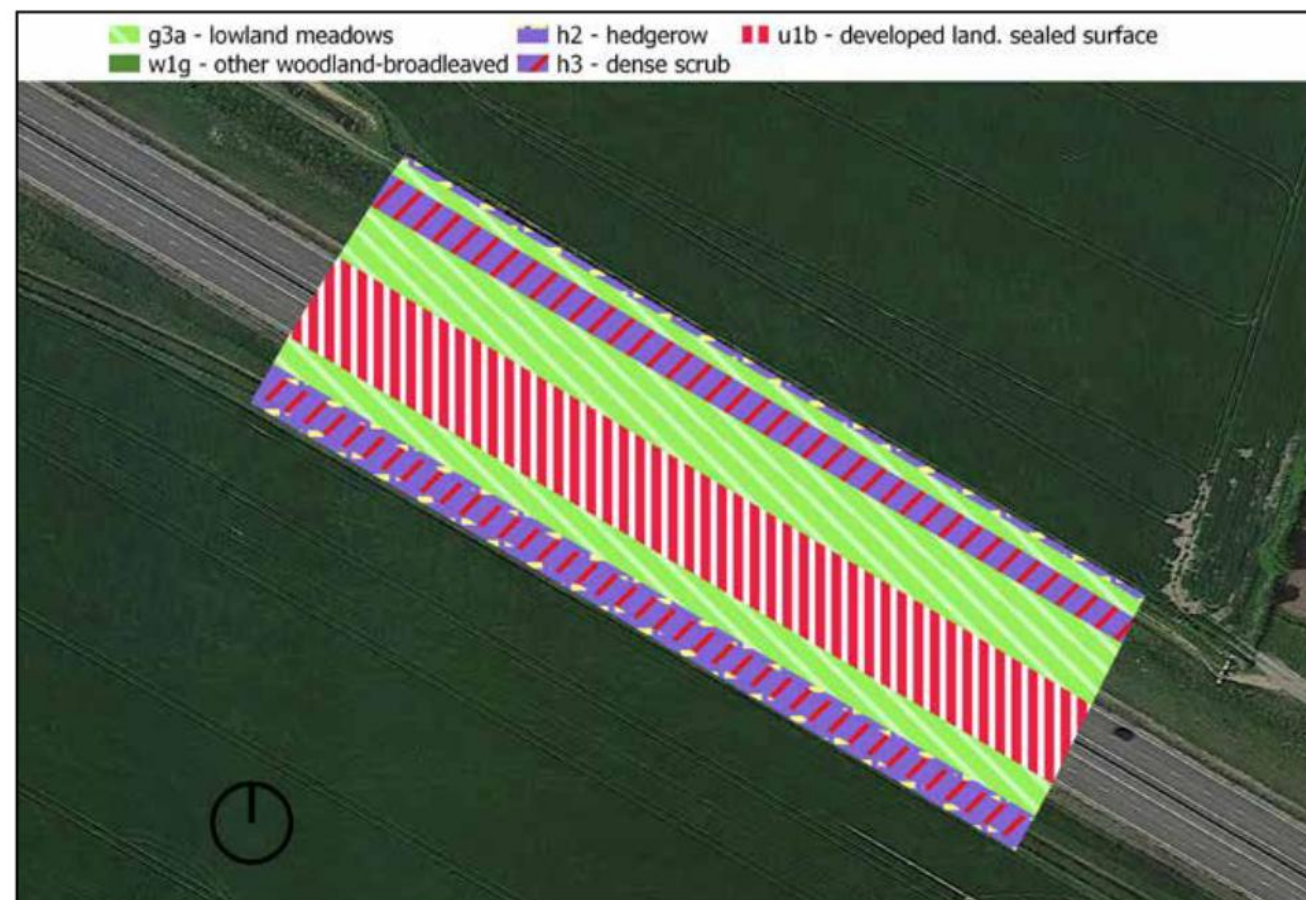


Proposed Distinctiveness





## NET-GAIN HABITAT UPLIFT MAP



**IMPORTANT** Surveying and calculations have been conducted for highways estate land only owing to the perceived complexity of multiple land ownership complexities in lease and management agreements and the varying strategic needs of both NCC and the landowner.

As part of the surveying, we undertook a biodiversity net-gain calculation to establish, against the DEFRA Biodiversity Metric 3.1, whether the proposed changes delivered a positive uplift in biodiversity. The figures from this calculation are highlighted on adjacent page. The first number is the unit figure of the existing site, the second number is the unit figure from the proposed design changes, the third shows the unit gain/loss and the final figure shows the percentage gain/loss.

This calculation is based on a 200m stretch of the soft estate as surveyed.

The DEFRA biodiversity metric works on two measures: Area habitats such as grassland and woodland, and Linear habitats such as streams, hedgerows and lines of trees. Below are calculations for both and their relative net loss/gain from existing to proposed.

### AREA:

Existing site biodiversity units (Area):

6.53

Proposed site biodiversity units (Area):

12.40

Biodiversity unit Gain/Loss

+5.87

Percentage Gain/Loss

89.86%

### LINEAR:

Existing site biodiversity units (Area):

2.40

Proposed site biodiversity units (Area):

2.37

Biodiversity unit Gain/Loss

-0.03

Percentage Gain/Loss

-1.15%

Notes: The grassland management regime and proposed uplift to good condition create a significant increase in the biodiversity value of the site as far as the metric is concerned. This could lead to the highways estate being used as council development offsetting sites in conjunction with local development of other infrastructure,

The small loss of hedgerow unit numbers is due to the removal of a failing hedge, which would have to be replanted anyway, to make the grassland management regime more simple over the southern bank of the site.



SITE PHOTOS



Broadleaf planting beginning to show from the tree guards, however there are many failures and in some areas entire drifts of trees have not succeeded.



Newly planted hedge and cycle path - this will be allowed to scrub up and widen to create the strata system.



The soft estate on both sides of the carriageway has a wide verge, encompassing a shallow swale on the south bank. It is recommended to fill this swale in to encourage an easier grassland management regime.



This hedge on the apex of the south bank cutting has predominantly failed. Remove and re-plant remaining alive trees. This is to encourage an easier grassland management regime.







PLANTING PLAN

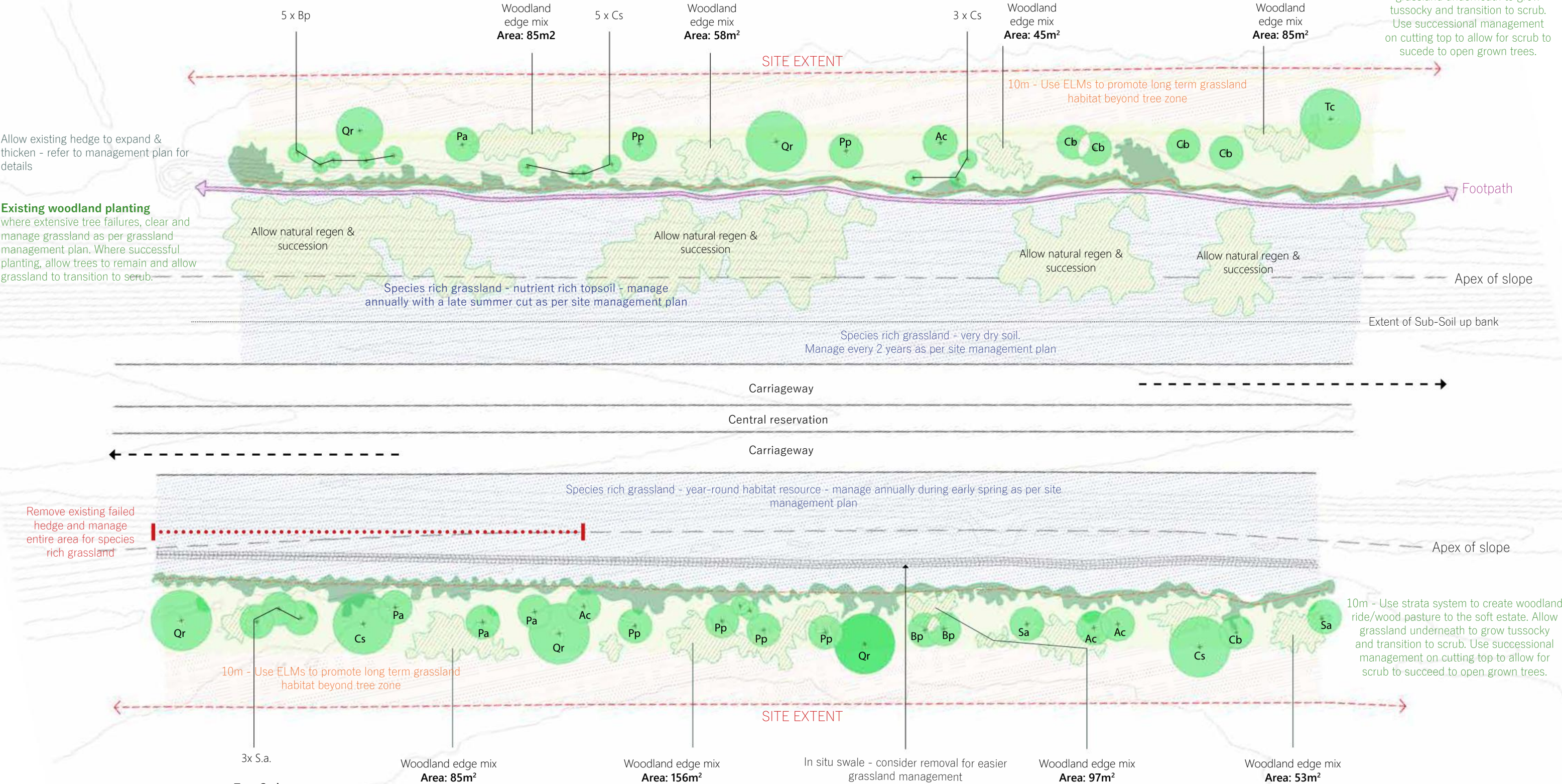
DESIGN STYLES



- Notes:
- (GREEN) Natural regeneration areas are indicative and contractors will need to use discretion along highway to ascertain where tree failure constitutes the creation of a glade to be managed as described.
  - For scrub mix details refer to doc. no. TOW-DIG-00-RP-0002

Allow existing hedge to expand & thicken - refer to management plan for details

**Existing woodland planting**  
where extensive tree failures, clear and manage grassland as per grassland management plan. Where successful planting, allow trees to remain and allow grassland to transition to scrub.



- Tree Codes:**
- 4 x A.c. = Acer campestre (Field Maple)
  - 7 x B.p. = Betula pedula (Silver Birch)
  - 5 x C.b. = Carpinus betulus (Hornbeam)
  - 8 x C.s. = Castanea sativa (Sweet Chestnut)
  - 5 x S.a. = Sorbus aria (Whitebeam)
  - 5 x Q.r. = Quercus robur (Oak)
  - 4 x Pa. = Prunus avium (Wild Cherry)
  - 6 x Pp. = Prunus padus (Bird Cherry)
  - 1 x T.c. = Tilia cordata (Small leaved lime)
  - 8 x C.sc. = Cytissus scoparius (Broom)

- Grassland enhancement.  
Refer to management plan for specific prescriptions
- 418m² Grassland creation  
Use green hay from species rich soft verge. Refer to management plan for details

DRG No. TOW-DIG-00-PL-0001

To be read in conjunction with:  
TOW-DIG-00-RP-0002 (Pg 22)



TABLE 1 - Standard trees specification

| Vernacular        | Species                   | Number | Size      | Pot/BR           |
|-------------------|---------------------------|--------|-----------|------------------|
| Field maple       | <i>Acer campestre</i>     | 4      | 40-60cm   | <i>Bare Root</i> |
| Silver birch      | <i>Betula pendula</i>     | 7      | 40-60cm   | <i>Bare Root</i> |
| Hornbeam          | <i>Carpinus betulus</i>   | 5      | 40-60cm   | <i>Bare Root</i> |
| Sweet chestnut    | <i>Castanea sativa</i>    | 10     | 180-200cm | <i>Bare Root</i> |
| Whitebeam         | <i>Sorbus aria</i>        | 5      | 40-60cm   | <i>Bare Root</i> |
| Oak               | <i>Quercus robur</i>      | 5      | 180-200cm | <i>Bare Root</i> |
| Wild cherry       | <i>Prunus avium</i>       | 4      | 40-60cm   | <i>Bare Root</i> |
| Bird cherry       | <i>Prunus padus</i>       | 6      | 40-60cm   | <i>Bare Root</i> |
| Small leaved lime | <i>Tilia cordata</i>      | 1      | 180-200cm | <i>Bare Root</i> |
| Broom             | <i>Cytissus scoparius</i> | 5      | 40-60cm   | <i>Bare Root</i> |

TABLE 2 - Scrub specification | Woodland Edge Mix - Plant at 100cm c/c | Total Area: 1037m<sup>2</sup>

| Vernacular     | Species                      | Mix Percentage | Number | Size    | Pot/BR    |
|----------------|------------------------------|----------------|--------|---------|-----------|
| Hazel          | <i>Corylus avellana</i>      | 2%             | 21     | 60-80cm | <i>BR</i> |
| Field maple    | <i>Acer campestre</i>        | 10%            | 104    | 60-80cm | <i>BR</i> |
| Crab apple     | <i>Malus sylvestris</i>      | 25%            | 257    | 60-80cm | <i>BR</i> |
| Rowan          | <i>Sorbus aucuparia</i>      | 10%            | 104    | 60-80cm | <i>BR</i> |
| Wayfaring Tree | <i>Viburnum lantana</i>      | 3%             | 31     | 60-80cm | <i>BR</i> |
| Elder          | <i>Sambucus nigra</i>        | 5%             | 52     | 60-80cm | <i>BR</i> |
| Dog rose       | <i>Rosa canina</i>           | 10%            | 104    | -       | <i>BR</i> |
| Field rose     | <i>Rosa Arvensis</i>         | 7%             | 73     | -       | <i>BR</i> |
| Bramble        | <i>Rubus fruticosus agg.</i> | 10%            | 104    | -       | <i>BR</i> |
| Honeysuckle    | <i>Lonicera periclymenum</i> | 3%             | 31     | -       | <i>BR</i> |
| Hawthorn       | <i>Crataegus monogyna</i>    | 15%            | 155    | 60-80cm | <i>BR</i> |

#### Grassland specification

For this site, the grassland creation specification is derived from the seed source of the highway cutting. Green hay is to be cut at the appropriate time (July to September) and then spread over a well prepared seed bed in the areas marked overleaf.

Spread the equivalent of 1 acre of green hay strewn over 4 acres of receptor site and roll in mechanically to obtain good ground contact with seeds.

The overall design concept for Taverham is to enhance the habitats within the highway corridor and implement the Strata System to buffer this adjacent farmland. The vision is to create a well-structured and diverse wooded corridor with the highway through the centre, species rich grassland on either side which grades into diverse and dynamic scrub, with open grown trees maturing to create a wood pasture landscape in a mosaic with species rich grassland and scattered scrub. Enhancing the existing species rich grassland will focus on improved management, scrub will be enhanced through opening up clearings where plantings have failed, creating varied microclimates, and planting and grassland seeding in adjacent farmland will further enhance the structure and extent of habitats. The additional planting would support the existing habitats by widening the habitat strip and adding vertical structure to the outer edge of the highway corridor, increasing shelter and the variety of ecotones available to wildlife. Maintenance management will include annual grass cuts, scrub management with a flail on a 3 – 5 year rotation to encourage a fluctuating scalloped edge and, once established, short duration coppice will be introduced on a 7 – 10 year rotation.

The Strata System will allow neighbouring land owners the opportunity to explore funding streams associated with wildlife provision within their farming systems, in a way that supports a coherent ecological landscape.

### Management prescription – Grassland (existing) – Strata 1

The objective of the grassland management is to create species rich grassland in good condition which accords with the description for Lowland Meadows as defined within the UK Habitat Classification System.

A survey of the grassland during May 2022 identified that the sward already has a moderate species richness and includes Lowland Meadow indicator species. Overall, the sward holds abundant forbs and grasses which are only dominant in patches. Grasses comprise species which are supportive of developing a high diversity grassland including red fescue *Festuca rubra* and crested dog's tail *Cynasaurus cristatus*. Vigorous grasses which are associated with rank unmanaged grassland occur only occasionally or rarely, including cock's foot *Dactylus glomerata* and Yorkshire fog *Holcus lanatus*.

The vegetation structure varies depending on the underlying soil conditions, with three distinct vegetation structures emerging. The northern embankment clearly has topsoil placed on the upper half and across the back (north facing) slope. The vegetation here is dense and lush with some vigorous grasses and abundant large knapweed plants.

The lower half of the northern embankment (south facing) holds a drought stressed sward growing in outcropping subsoil. The grassland has similar species richness to that in the topsoil, although the grassland condition is poor due to the limited water retention of the soils. The availability of nutrients within the subsoil

is also limited compared with the topsoil although this is likely to be supportive of developing a species rich grassland in the long-term.

The southern embankment is broadly homogeneous in structure and appears to be developing in outcropping subsoil although the developing grassland is less stressed. The grassland here is developing a good overall structure and is considered to be in good condition with an even distribution of species and no vigorous grasses apparent. However, a dense litter layer is developing which has the potential to slow increases in species richness.

Incidental recordings of notable species of butterfly; small blue and green hairstreak, and nesting birds; skylark, which were made within the grassland is an indication of the wildlife potential of the roadside grassland and its importance as a sanctuary within an otherwise intensively managed landscape.

A separate management prescription for each area of grassland is presented to achieve the best outcome for each distinct area. However, the general grassland management principles across all areas of grassland comprise the following: -

- Vegetation will be allowed to flower and set seed (do not cut between April and mid-July inclusive); and
- Cut arisings will be baled and removed.

### Northern bank - Topsoil

The presence of vigorous grasses and undesirable species will require an annual cut during the growing season to reduce their competitiveness and lower the soil nutrient status. Annual management of the grassland at the top of the northern bank, within the scrub planting and along the footpath should follow the prescription set out below: -

Step 1 – A single annual cut should be made during the period 15th July through 15th September each year, the grass should be cut to a height of 100 mm using a reciprocating blade cutter or a drum mower. Arisings should be baled and removed or removed with a brush collector or buck-rake.

### Northern bank - Subsoil

The vegetation is retarded by extreme drought conditions. This should be redressed by encouraging an increase in organic material within the soil. Management will be reduced to once every three years and the vegetation will be left to develop and drop in the intervening years. Management of the grassland on the lower slope of the northern bank should follow the prescription set out below: -

Step 1 – No management should be conducted during year 1 and year 2.

Step 2 – In year 3, a single annual cut should be made during the period 15th July through 15th September, the grass should be cut to a height of 100 mm using a reciprocating blade cutter or a drum mower. Arisings should be baled and removed or removed with a brush collector or buck-rake.

Step 3 – The grassland should be left unmanaged for the following two years, and cutting should be conducted on a three-year rotation thereafter.

Step 4 – Monitoring of the developing grassland will trigger a change to annual cutting if vigorous grasses appear in the sward.

#### Southern bank - Subsoil

The top of the southern embankment is divided by a drainage trench running parallel to the highway. This presents a challenge to mechanical grassland management due to convoluted topography and it would require manual management with hand tools to arrest its succession and maintain it as part of the grassland. It is therefore proposed, that the drainage swale could be removed, and infilled with an appropriate soil substrate and seeded with green hay to incorporate it within the grassland management.

In order to provide year-round habitat for invertebrates and ground nesting birds, the vegetation on the southern bank will be managed using a single early spring cut. This will provide winter cover for birds and overwintering habitat for invertebrates, and the apparent low nutrient status of the soil will naturally restrict encroachment from vigorous grasses. Management of the grassland on the southern embankment should follow the prescription set out below: -

Step 1 – A single annual cut should be made during the period 15th February through 31st March each year, the grass should be cut to a height of 100 mm using a reciprocating blade cutter or a drum mower. Arisings should be baled and removed or removed with a brush collector or buck-rake.

Step 2 - Monitoring of the grassland will identify whether vigorous grasses are appearing within the sward. Deterioration of condition will be redressed through shifting the annual cut to late summer during the period 15th July through 15th September each year, the grass should be cut to a height of 100 mm using a reciprocating blade cutter or a drum mower. Arisings should be baled and removed or removed with a brush collector or buck-rake.

#### Management prescription – Planted woodland/scrub (existing) – Strata 2

The existing planting comprises a mix of native shrubs with occasional birch, cherry and oak trees. The shrubs have been planted at wide 2 – 3 m spacings and in ranks. The failure rate was estimated to be between 20 and 40 % of plantings having failed.

Assessment of the vegetation structure and composition during May 2022 concluded that the new planting was currently in a poor condition for woodland or scrub and that it would be most beneficial to wildlife to encourage the development of good condition scrub with taller trees lifting the canopy over time. Scrub offers maximum opportunities to wildlife when it has an irregular edge with open grassy areas within it, creating small glades and sheltered areas in which wildlife can exploit a variety of environmental conditions.

It is therefore recommended that areas of failed planting are not re-stocked, instead tree guards and stakes should be removed and these areas should be managed in accordance with the topsoil grassland management prescription set out above.

As the scrub develops and matures, it will be necessary to implement additional management to arrest its succession to woodland and to maintain its dynamic nature. This could be achieved by introducing a 3-5 year management rotation which will accord with the management prescription set out below: -

Step 1 – In year 5 after management begins, during the period between September and February inclusive, a tractor mounted flail will cut back the scrub edge to open out the glades and to retain a scalloped edge to the vegetation.

Step 2 – Flailing of the scrub edge will adopt a 3 – 5 year rotation thereafter in response to the progression of scrub into open grassy areas.

Step 3 – The grassland will continue to be managed on an annual rotation in accordance with the grassland management prescription set out above.

#### Management prescription – Hedgerow (existing)

Note: Hedgerow management will follow the prescription set out below unless adjacent farmland is brought into coherent management with the highway estate. In this situation, it would not be beneficial to maintain the hedgerow under a separate management prescription as the hedgerow would be contiguous with adjacent scrub and wooded habitats. In this situation, a biannual cut along the public footpath would be likely to be required to keep the path open. This cut should be conducted during January or February to retain winter forage and avoid nesting birds.

Where hedgerows are not required to be a functional field boundary for retaining livestock, and are planted and maintained for landscape reasons or for wildlife benefit, management can include one of three methods, as follows: -

1. Laying;
2. Coppicing; or
3. Trimming.

The most appropriate method of enhancement management will depend on the condition of the existing hedgerow, which should be determined through preliminary survey prior to implementing management. An appropriate survey method is that prescribed by the Peoples Trust for Endangered Species (PTES) available <https://ptes.org/hedgerow/managing-hedgerows-top-tips/>

Hedge laying is achieved by partially cutting through the stems of shrubs and laying the stem at an angle. The stems are then secured in place using stakes and binders to produce a living stock-proof boundary. The process of laying shrubs encourages dense regrowth from the ground to the top of the laid shrubs and promotes prolific flowering and fruiting. Hedge laying can be used to improve the structure and shape of a hedgerow, and would be appropriate management for hedges which have become leggy with hard knuckles near the top of the hedge as a result of over-trimming with a flail. Hedge laying would also be appropriate management for recently planted hedges which are established but lack density.

Coppicing is achieved by cutting shrubs to ground level, promoting vigorous regrowth. Coppicing of hedges can be used to improve hedgerow structure where hedgerow shrubs have become tall and overgrown to the point where bare stems are visible below the foliage. Coppicing of hedgerows can be used to achieve a similar outcome to hedge laying, but is usually a more cost-efficient method of management due to the reduced cost of labour and includes the option to conduct coppicing mechanically. The payoff, is reduced structural complexity, and density, especially low down in the hedge, which provides a reduced habitat resource and is less likely to be stock-proof, at least in the short term.

Hedges which are already well-structured hedgerows may not need significant interventions to bring them into good ecological condition and it may be appropriate to continue to manage by trimming with a flail. However, trimming practices should accord with the following four rules/principles: -

1. Hedges should only be trimmed once in three years;
2. Only one side of a hedge should be trimmed in any one year;
3. Hedge trimming should only occur in January and February to maintain good forage for wildlife;
4. The trimming height and width should be raised slightly on each consecutive cut to avoid trimming at the same height every time.

The hedgerows at Taverham are recently planted, with young shrubs still relying on tree guards for their protection. The currently prescribed management prescription for hedgerows along the NDR, which is to maintain a 300 mm weed free strip along each side of the hedge, should be continued until shrubs have stems which are a minimum 50 mm in diameter (Mott Macdonald 2019). At this point it would be

appropriate to lay or coppice the hedge to stimulate dense growth and improve the structure of the hedgerow. Laying would be preferable from a wildlife perspective, although coppicing would be more economical. After the initial coppicing or laying, management should be through trimming following the four rules/principles above.

#### Management prescription – Field margin planting – Strata 3 & 4

The management prescription for Strata 3 & 4 will comprise creation and management of species rich grassland, and tree planting as described in the planting plan to create an open wood pasture landscape, as follows: -

The vision for Strata 3 is to establish wood pasture along the 10 m wide belt of land alongside the highway corridor. Trees will be planted at wide spacings and would either be managed as standards or as pollards. Pollarding is a method of reducing the crown of a tree, traditionally to provide wood fuel, to a height above which livestock can't reach. This encourages vigorous re-growth, which is out of the reach of browsing animals, to generate a successive supply of wood. In the context of the highway estate, this method of tree maintenance will ensure roadside trees are prevented from getting too large and reducing risk to highway users. It will also support maximum biodiversity by periodically allowing more light to reach the ground, supporting floral diversity, and has the potential to allow trees to live for an extended period and potentially reach veteran status.

#### Grassland

Step 1 – During July, the full extent of the area due to be enhanced will be disc harrowed or power harrowed to break up any existing vegetation, exposing a minimum of 50% bare ground and creating a good tilth for receiving seed.

Step 2 – Immediately after harrowing, green hay taken from the species rich roadside grassland will be distributed across the area either using a muck spreader if the hay is loose or a bale chopper if the hay is baled. The hay will be rolled to ensure maximum contact between seed and soil and left to establish until the following July.

Step 3 – The annual management will be to take an annual grass cut during August each year to a height of 100 mm and the arisings removed. It may be necessary to run a chain harrow over the grass during winter to break up any thatch which might develop in the absence of winter livestock grazing.

## Trees

The proposed location and species of each planting is detailed within the planting plan.

Step 1 – Tree planting will be conducted during October through January. Trees will be planted as per the planting plan. Trees will be planted as 1.2 m tall transplants. Bare root stock will be notch planted and staked, cell grown stock will be pit planted and staked with an appropriately sized stake. Trees will be protected using 0.8 m cardboard tree guards. Woodchip will be applied as a mulch to cover 1 m<sup>2</sup> area around each tree.

Step 2 - In September of years 1 to 3 following planting, management of trees will comprise the following; -

- An assessment of the health of the trees. Any mortality of trees will trigger remedial action. Remedial action will comprise the beating up of dead trees and re-planting of the same species to the method set out above;
- Woodchip will be re-applied to the base of each tree to maintain a weed free area of at least 1 m<sup>2</sup> around its base;
- Tree stakes should be checked and should remain fit for purpose for a minimum 3 years, supporting the tree but not causing damage; and
- Fencing should be checked and should remain fit-for-purpose.

Step 3 – If desired, pollarding of newly planted trees should begin in Year 15 and all trees destined to be managed as pollards should have had their first cut before Year 30 after planting (Edlin 1973). Approximately 25% of the pollards should be cut in Year 15. Pollarding of existing trees should aim to cut 25 % of the tree stock in Year 1.

The first cut of a pollard should aim to develop a bolling at between 2 and 2.5 m high. Two, three or four limbs at this height should be selected to form the ‘knuckles’ of the bolling. Above these limbs, the top of the tree should be removed and all lateral limbs below these limbs should be removed using a pruning cut; close to the stem but retaining the branch collar in-tact. The remaining limbs should be reduced to 50 cm long (Edlin 1973). These branch stubs will form knuckles which will regrow and subsequent cuts will be made back to the knuckles.

Subsequent cuts will be made at intervals of between 10 and 16 years.

Traditionally, pollards were managed for firewood, and re-growth would be harvested at between 2 and 5 cm diameter.

Step 4 - The second 25% of the pollards will receive their first cut two years after the first trees were cut to the method set out above.

Step 5 - The third 25% of the pollards will receive their first cut four years after the first trees were cut to the method set out above.

Step 6 – The fourth 25% of the pollards will receive their first cut six years after the first trees were cut to the method set out above.

Step 7 - The pollards may be ready to be cut for the second time, ten years after they were first cut. This would be at the discretion of the highways managers, due to the firewood resource having little value in today’s economy. However, it is recommended that pollards are cut on a 10 to 15 year rotation to maintain the bolling in a manageable condition and to support the diversity of the ground flora beneath the trees. The first cut of the regrowth, will see the poles cut back to the branch collar. The poles can be expected to be between 2 and 5 cm diameter, depending on the tree species.

## Scrub and woodland edge planting

Woodland edge and scrub planting will aim to create a scrub thicket of heavy flowering and fruiting species. Species appropriate for planting in the woodland edge situation are detailed in Table 2 (Pg. 31).

Tree planting will be conducted to the prescription set out below: -

Step 1 - During October through December, bare-root planting stock will be notch planted into a T-shaped slit with the original root collar at ground level. Roots will be spread out in the planting notch before firming the soil around the plant. Cell-grown whips will be pit planted with the root collar at ground level and any turfs, inverted and placed around the stem. Trees and shrubs will be planted in single species clusters of 5 - 9 plants at a minimum 1.5 m spacings and positioned irregularly to replicate a more natural situation; i.e. not in ranks. Plants will be protected using 0.8 m cardboard guards. Tree guards will be secured with appropriately sized stakes. Woodchip will be placed around the base of each plant to cover approximately 50 cm<sup>2</sup>.

## REFERENCES

- Mott Macdonald 2019. Handover Environmental Management Plan; Broadland Northway (previously known as the Norwich Northern Distributor Road). Mott Macdonald, Norwich.
- Edlin H. 1973. Woodland Crafts in Britain. Country Book Club, Newton Abbot
- Read H (ed.) 1991. Pollard and Veteran Tree Management – Proceedings of the meeting hosted by the Corporation of London at Burnham Beeches, Bucks., on 6th March 1991. Published online.



SITE  
COSTINGS

| Site Costings for Taverham                                     | All contracting costs derived from National Association of Agricultural Contractors (NAAC) |                       |             |           |         |          |         |         |          |         |           |
|--|--|-----------------------|-------------|-----------|---------|----------|---------|---------|----------|---------|-----------|
|  |  |                       |             |           |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| CAPITAL WORKS  | Item   | Time to complete 200m | Rate/person | Total/hr  |         |          |         |         |          |         |           |
| Tree Guard Removal from Failures                               | 2 people   | £3.00                 | £15.00      | £90.00    |         |          |         |         |          |         |           |
| Removal of hedge & translocation of living trees               | 2 people   | £5.00                 | £15.00      | £150.00   |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| Initial Hedge Lay  |  |                       |             |           |         |          |         |         |          |         |           |
| Length - 212m @ 14.00/m  | £14.00 per metre   | -                     | £14.00      | £2,968.00 |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| SUM TOTAL  |  |                       |             | £3,208.00 |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| ANNUAL MANAGEMENT WORKS  | Yr 1   | Yr 2                  | Yr 3        | Yr 4      | Yr 5    | Yr 6     | Yr 7    | Yr 8    | Yr 9     | Yr 10   | TOTALS    |
| Grassland  | Yes  | Yes                   | Yes         | Yes       | Yes     | Yes      | Yes     | Yes     | Yes      | Yes     |           |
| Annual cut - Grass mowing - £51.83/hr                          | £51.83   | £51.83                | £51.83      | £51.83    | £51.83  | £51.83   | £51.83  | £51.83  | £51.83   | £51.83  | £518.30   |
| Estimated 0.5 hour per bank over 200m due to size of bank      |  |                       |             |           |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| Baling - Small conventional - per bale £0.88                   | Yes  | Yes                   | Yes         | Yes       | Yes     | Yes      | Yes     | Yes     | Yes      | Yes     |           |
| Estimated 70 bales per acre due to lean soils                  | £115.81  | £115.81               | £115.81     | £115.81   | £115.81 | £115.81  | £115.81 | £115.81 | £115.81  | £115.81 | £1,158.08 |
| Grassland amangement area - 1.88 acres                         |  |                       |             |           |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| Bale Chasing   | Yes  | Yes                   | Yes         | Yes       | Yes     | Yes      | Yes     | Yes     | Yes      | Yes     |           |
| £3.06 per bale @ 131.6 bales                                   | £402.69  | £402.69               | £402.69     | £402.69   | £402.69 | £402.69  | £402.69 | £402.69 | £402.69  | £402.69 | £4,026.90 |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| Hedgerow and Scrub Maintenance                                 |  |                       |             |           |         |          |         |         |          |         |           |
| Hedge Cutting - Flail  |  | Yes                   |             |           | Yes     |          |         | Yes     |          |         |           |
| Tractor mounted flail - £47.84/hr @ 1 hour for site            |  | £47.84                |             |           | £47.84  |          |         | £47.84  |          |         | 143.52    |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| Scrub Flailing to maintain glades                              |  |                       |             |           | Yes     |          |         | Yes     |          |         |           |
| Tractor Mounted Flail - £47.84/hour                            |  |                       |             |           | £47.84  | (2hours) |         | £47.84  | (2hours) |         | £95.68    |
| Estimated 1 hour per 200m due to scalloping and technical work |  |                       |             |           |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
|  |  |                       |             |           |         |          |         |         |          |         |           |
| GRAND TOTAL  |  |                       |             |           |         |          |         |         |          |         | £5,942.48 |
|  |  |                       |             |           |         |          |         |         |          |         | £9,150.48 |







## WELLS-NEXT-THE-SEA EAST

TF 92785 43044



LOCATION : TF 92785 43044



SECTION CUT

Wells Next-The-Sea East is located on the A149. The road is a single carriageway and passes through a cutting. The level verges are 6-7 m wide, and the slopes of the cutting are steep and rise up to a maximum height of 4 m.

LANDSCAPE  
CONNECTIONS



County Wildlife Site



Woodland



Ecological Connections



SSSIs





# EXISTING HABITATS

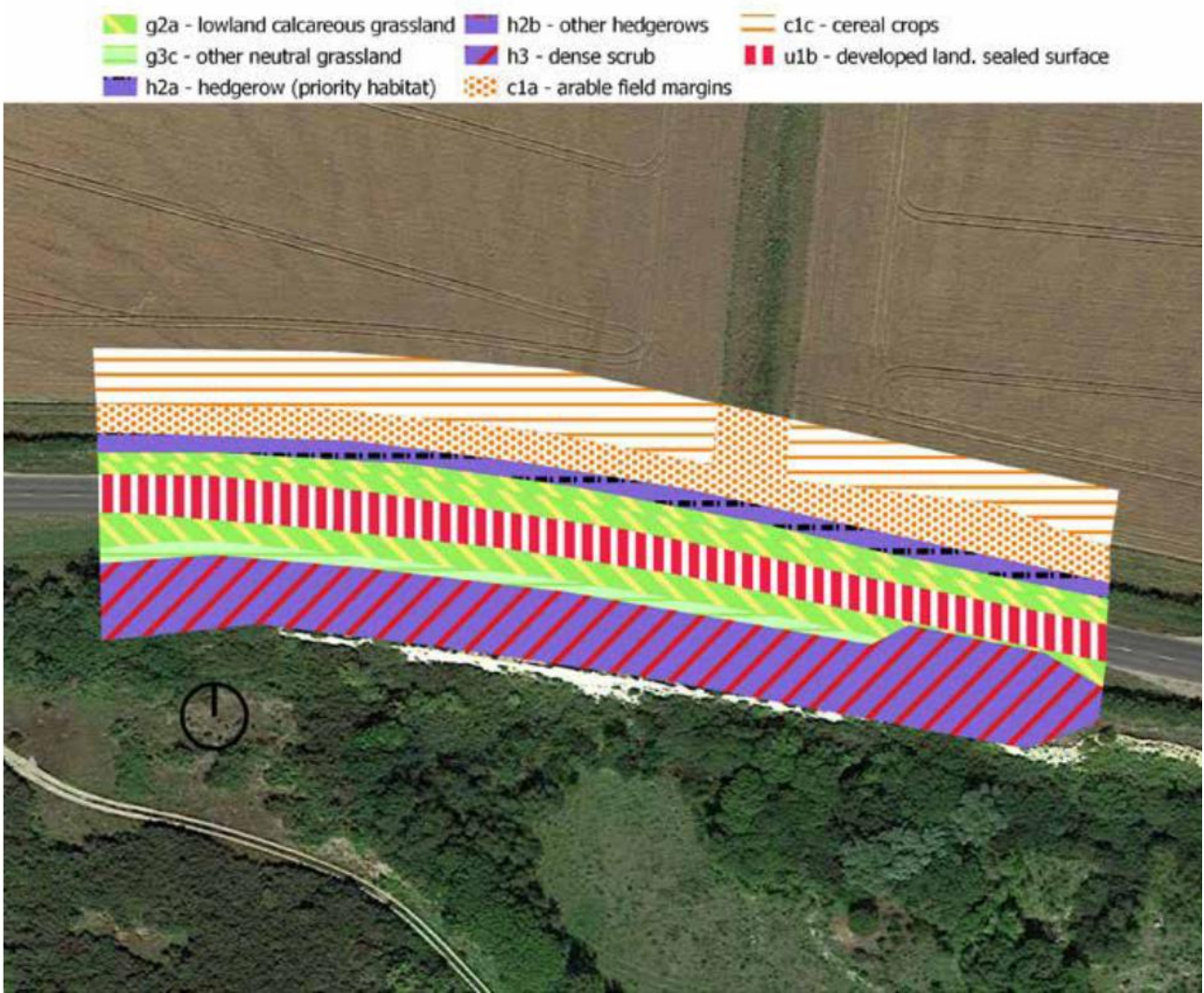
Wells Next-The-Sea East is located on the A149 around OS grid reference TF 92785 43044. The road is a single carriageway in a cutting. The grass verges and the slopes of the cutting are managed as a Roadside Nature Reserve (RNR). The level verges are 6 - 7 m wide, and the slopes of the cutting are steep and rise up to a maximum height of 4 m. To the north, the slope is topped with a hedge which separates the site from arable farmland beyond, to the south, the slope is topped with dense scrub, on top of a narrow ridge. Beyond this ridge, the land drops away into a deep chalk-pit which is no longer operational and is designated as an SSSI for its calcareous grassland. The chalk pit is primarily vegetated with early successional birch *Betula sp.* woodland and willow *Salix sp.* scrub with open areas of closely rabbit grazed calcareous grassland.

The principal existing ecological interest feature of this site is the RNR (Ref no. 41 – A149; Stiffkey Road). The RNR lies on both sides of the carriageway and comprises c. 5 m of level verge and c. 4 m of slope and extends for a maximum length of 197 m along the carriageway. The site is designated for its chalk grassland and the citation lists six plant species of interest, comprising: 1) pyramidal orchid *Anacamptis pyramidalis*; 2) ploughman's spikenard *Inula conyzae*; 3) carline thistle *Carlina vulgaris*; 4) eyebright *Euphrasia officinalis*; 5) common centaury *Centaureum erythraea*; and, 6) common calamint *Clinopodium ascendens*. The current management prescription for the site, detailed within the citation, does not specify an appropriate time of year or frequency for management but does specify that arisings should be removed. The citation identifies potential threats to the ecological interest which include lack of management resulting in a rank sward or scrub, spray drift from adjacent farmland and grip digging or road widening.

The site is well positioned within the landscape to create enhanced corridors for wildlife to be able to move between the highway estate and nearby wildlife sites. Within 500 m of the site, to the north, lies the North Norfolk Coast which is designated as a Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), Ramsar Site and National Nature Reserve (NNR). The designations reflect various ecological interest features relating to the littoral habitat types which occur including sandy beaches, shingle ridges, salt marshes and associated dunes, open pasture and scrub.

To the south, the adjacent Wells Chalk Pit SSSI is designated for its calcareous grassland which is considered to be in 'Unfavourable Recovering' condition due to encroaching scrub. The grassland citation also makes reference to the grass sward being very short due to rabbit grazing, which has the potential to reduce species richness over time. Therefore, improvements to the management of the RNR and adjacent habitats along the highway corridor, will support the conservation objectives of the SSSI by increasing the size of the ecological 'stepping stone', aiding seed dispersal and enhancing the overall habitat resource.

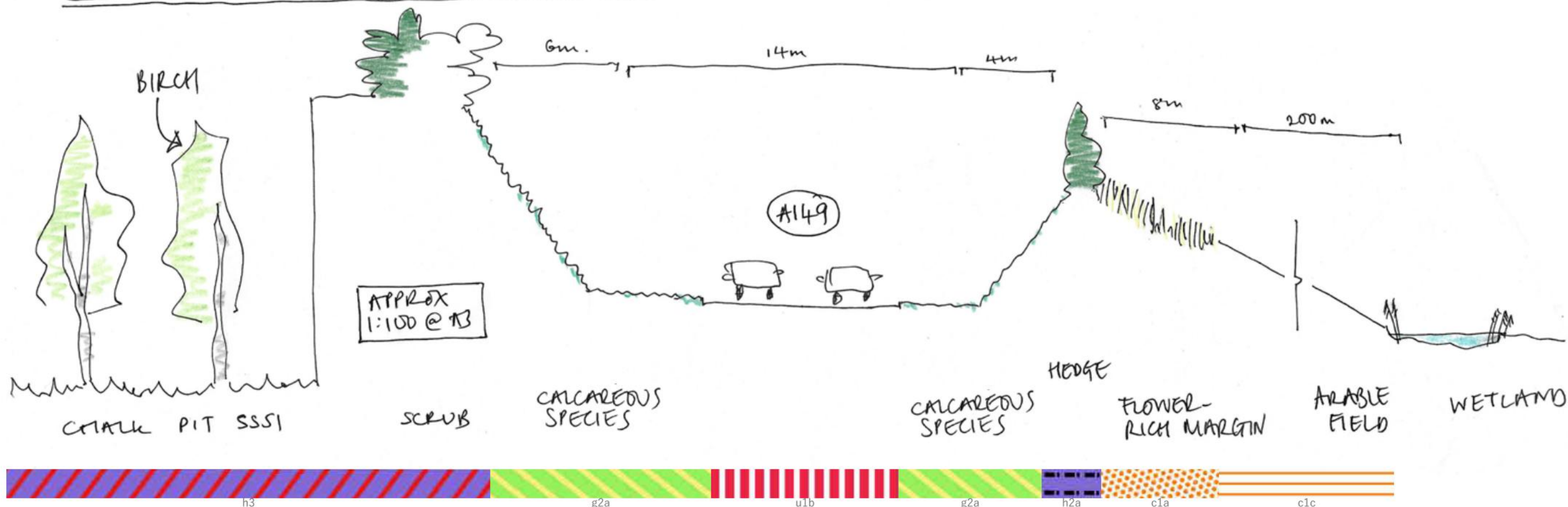
In addition, the Wells - Walsingham Railway County Wildlife Site (CWS), lies beyond the SSSI to the south, c. 330 m from the site. This is also cited for its calcareous grassland and scrub habitat mosaics and is considered to be an important corridor for wildlife, especially those associated with calcareous habitats.



UKHAB BASELINE SURVEY



## 6. WELLS-NEXT-THE-SEA EAST - LOOKING WEST.



### CURRENT HABITAT & SPECIES

#### LOWLAND CALCAREOUS GRASSLAND - g2a

The grass verges and slopes are reasonably botanically diverse with several species indicative of calcareous grassland recorded, including wild marjoram *Origanum majorana*, field scabies *Knautia arvensis*, wooly thistle *Cirsium eriophorum*, mouse-eared hawkweed *Pilosella officinarum*, and quaking grass *Briza media*.

The condition of the grassland was however compromised by significant coverage of alexanders *Smyrniololus atratum*, bramble *Rubus fruticosus* agg. and suckering blackthorn *Prunus spinosa*, which was particularly abundant on the northern (south facing) roadside. In addition, the ground is damaged by deep wheel ruts which are

likely to have resulted from management of the hedge using a tractor mounted flail when the ground was soft.

The north facing slope (on the southern roadside) is shaded by the steep slope which is at c. 70 degrees, and the scrub above. This has created patches which are dominated by bryophytes and some blackthorn is suckering into the verge at the edges.

#### HEDGEROW - h2

The hedgerow is well established but of recently planted origin. The hedgerow is not species rich although woody species are native comprising blackthorn with field maple *Acer campestre* and ivy *Hedera helix*. Management is with a flail and the hedge is continuous but unlikely to be stockproof.

#### ARABLE FARMLAND - c1

The farmland is tilled with a c. 10 m wide grassy margin alongside the hedge. A former field boundary which has been reduced to a strip of rank grassland, runs perpendicular to the highway corridor and creates some degree of connectivity between the highway and the semi-natural wetlands along the coast.

#### DENSE SCRUB - h3

The scrub is dense and continuous and is blackthorn dominant with occasional hawthorn and a multi-stemmed ash. The scrub connects with the pioneer woodland in the chalk-pit beyond.



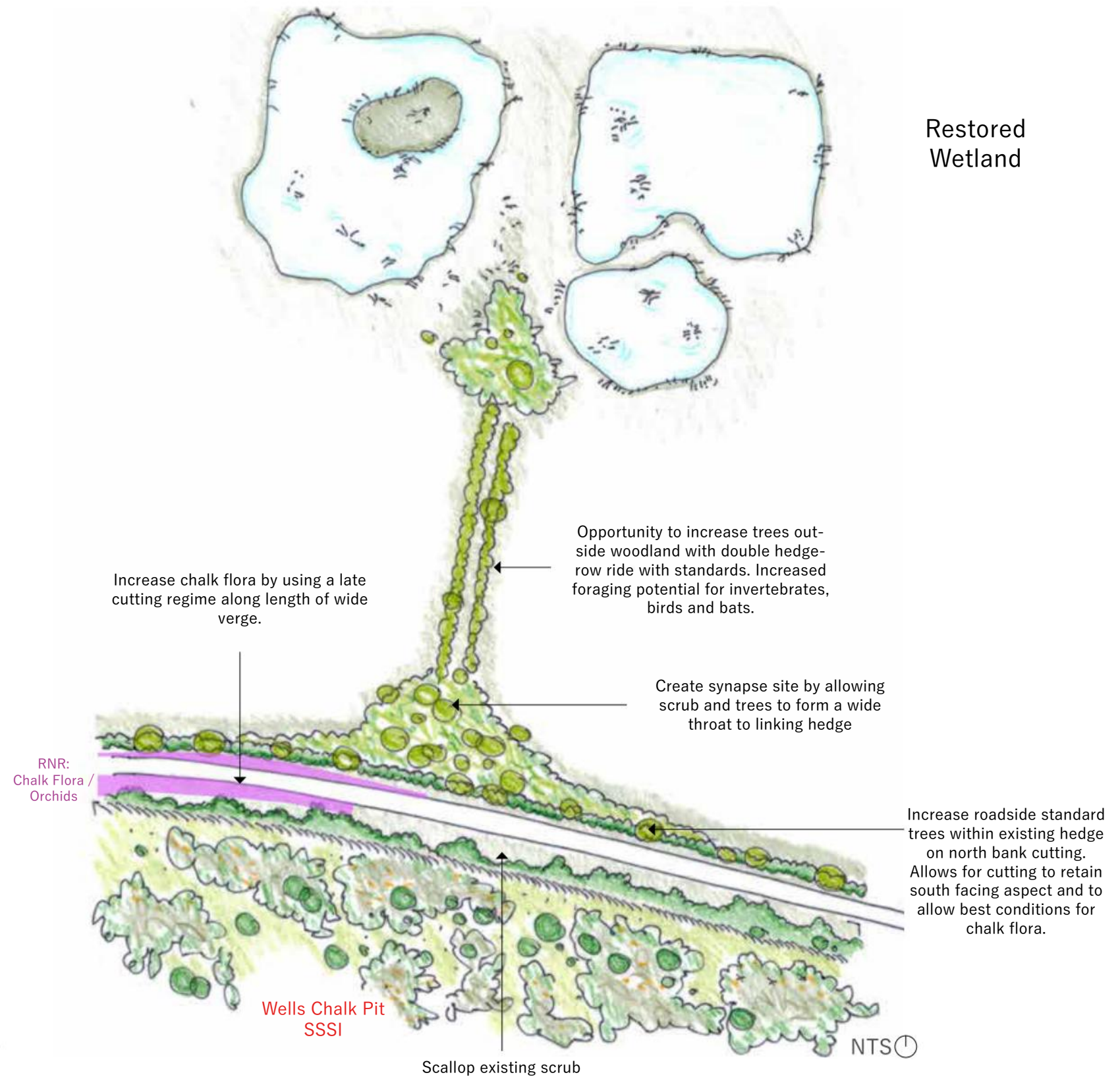
Grassy verges slope up to meet a flailed hedge



MASTERPLAN - EXISTING

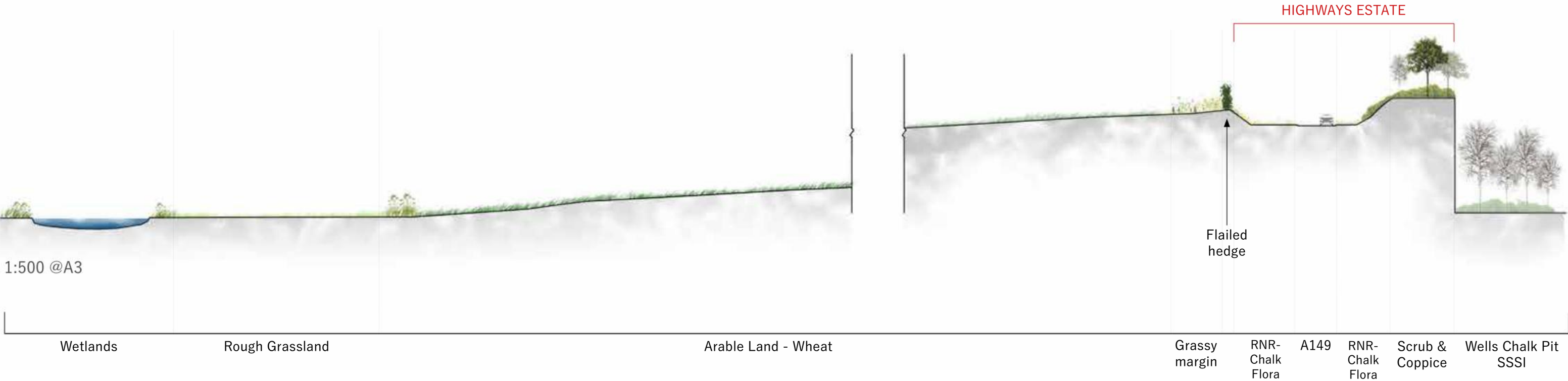


MASTERPLAN - PROPOSED



SITE  
SECTIONS

EXISTING SECTION



PROPOSED SECTION





CONDITION  
ASSESSMENT

Existing Condition



Proposed Condition



Existing Distinctiveness

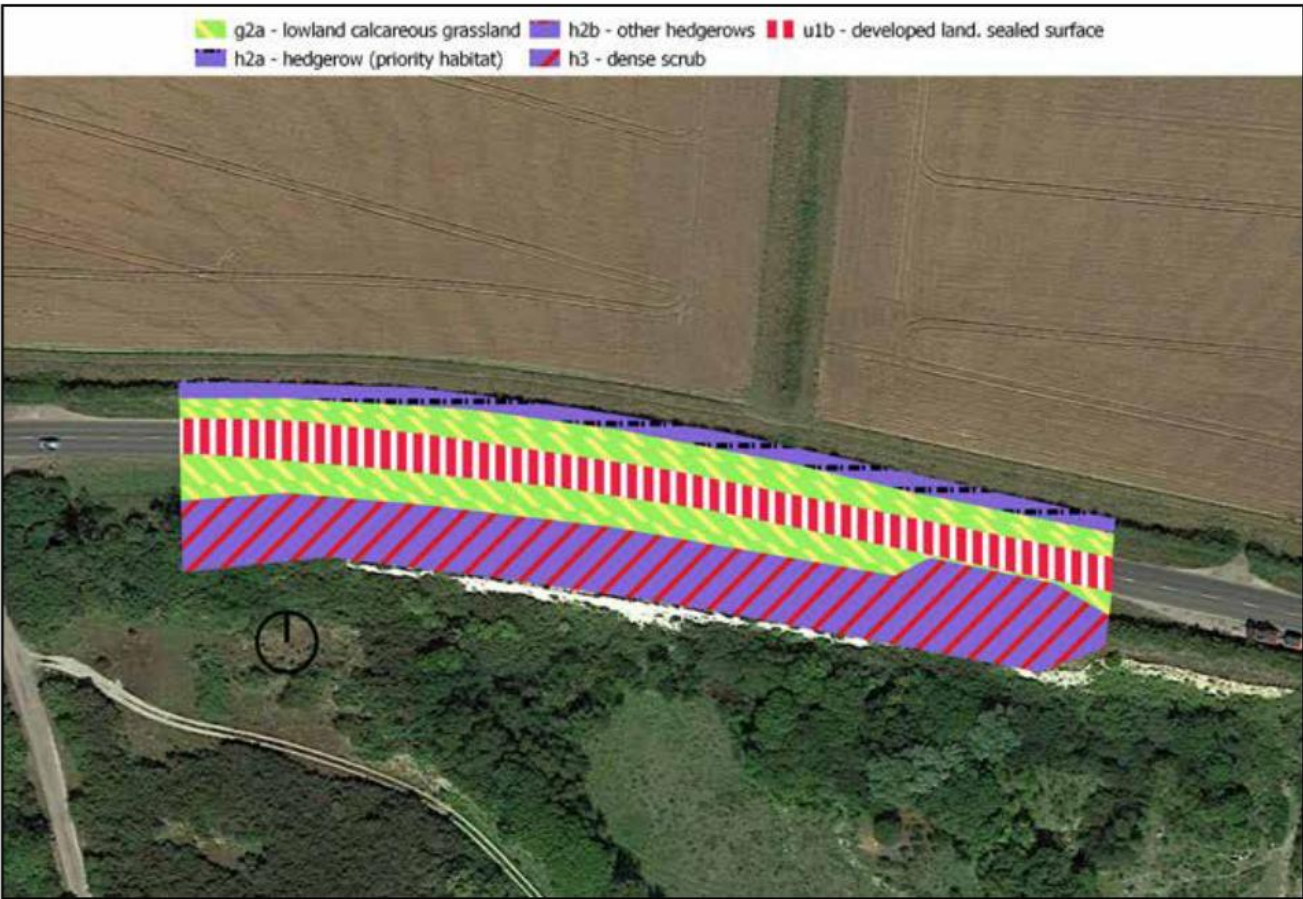


Proposed Distinctiveness





NET-GAIN HABITAT UPLIFT MAP



**IMPORTANT** Surveying and calculations have been conducted for highways estate land only owing to the perceived complexity of multiple land ownership complexities in lease and management agreements and the varying strategic needs of both NCC and the landowner.

As part of the surveying, we undertook a biodiversity net-gain calculation to establish, against the DEFRA Biodiversity Metric 3.1, whether the proposed changes delivered a positive uplift in biodiversity. The figures from this calculation are highlighted on adjacent page. The first number is the unit figure of the existing site, the second number is the unit figure from the proposed design changes, the third shows the unit gain/loss and the final figure shows the percentage gain/loss.

This calculation is based on a 200m stretch of the soft estate as surveyed.

The DEFRA biodiversity metric works on two measures: Area habitats such as grassland and woodland, and Linear habitats such as streams, hedgerows and lines of trees. Below are calculations for both and their relative net loss/gain from existing to proposed.

AREA:

Existing site biodiversity units (Area):

3.26

Proposed site biodiversity units (Area):

5.32

Biodiversity unit Gain/Loss

+2.06

Percentage Gain/Loss

44.03%

LINEAR:

Existing site biodiversity units (Area):

1.20

Proposed site biodiversity units (Area):

2.04

Biodiversity unit Gain/Loss

+0.84

Percentage Gain/Loss

70.03%

Notes:

Interestingly this is dragged up by improving the condition of the scrub. Without the improved condition of the scrub enhancements, aims to enhance the calcareous grassland are confounded by the perceived difficulty in creating this habitat type. The loss is in relation to the prescribed difficulty factor of enhancing calcareous grassland. The Metric assumes a 'high' level of difficulty in achieving Good calcareous grassland from Poor calcareous grassland and estimates a 20 year timeframe for the enhancement. It also assumes 'high' level of difficulty in enhancing moderate condition calcareous grassland to good and estimates a 10 year time frame.





The north cutting has become dominated by alexanders and scrub species such as dog rose and suckering blackthorn. Much of the chalk grassland flora is being outcompeted.



Woody vegetation will be removed and chalk flora will be re-established by implementing a cutting regime.



The principle existing ecological interest feature of this site is the RNR, which is designated for its chalk grassland - it is recommended that this is expanded east to create further species rich, high value habitat.

Green hairstreak, grayling and small heath butterflies were all present on the site when surveyed in May 2022.



The south bank cutting showing shading due to aspect and the presence of woody vegetation creeping down from the scrub woodland above.

Gaps will be created in the scrub woodland to allow more light to this bank and to connect to the Wells Chalk Pit RNR.

It is recommended to remove the woody vegetation and manage the cutting and verge for chalk grassland species which are prevalent along the RNR.





PLANTING PLAN



Tree Codes & Number.

- 3 x A.g. = Alnus glutinosa (Alder)
- 5 x B.p. = Betula pedula (Silver Birch)
- 2 x C.b. = Carpinus betulus (Hornbeam)
- 5 x S.a. = Sorbus aria (Whitebeam)
- 5 x Q.r. = Quercus robur (Oak)
- 1 x P.a. = Prunus avium (Wild Cherry)
- 6 x P.p. = Prunus padus (Bird Cherry)
- 3 x Pt = Populus tremula (Aspen)
- 2 x T.c. = Tilia cordata

Hedgerow & Scrub Planting Instructions

- Please refer to spec sheet for correct mix. TOW-DIG-00-RP-0002
- Plant out mixes randomly using clusters of 2-10 plants of the same species per cluster
- Plant each hedge in a double staggered row at 400mm c/c
- Ensure generous ground mulch of native species woodchip for weed suppression and fungal inoculant.
- Randomly plant areas of scrub with assorted species or small single species clumps. Allow open areas for glade development

**South Bank** - small areas of species rich grassland remain on the flat verge - maintain. Cutting face is in shade from scrub on top of bank. Remove woody vegetation where appropriate and resume cutting regime as per management plan

**South Bank** - Patches of scrub to be removed on South bank to allow light to grassland. Scallop existing scrub and allow to encroach down bank, to create niches and microclimates.

**North bank** - initially remove woody vegetation and re-establish chalk flora by using cutting regime as per management plan.

10m margins to be planted with wildflower mix - see mix below

New double hedge - managed to increase forage potential for invertebrates, birds and bats. Opportunity to increase trees outside woodland with double hedgerow ride with standards.

Wet woodland and scrub mix to link hedgerow to wetland landscape.

**WETLAND TREE MIX 1**  
Area: 642m<sup>2</sup>  
Plant as per specification

**SCRUB MIX 1**  
Area: 1516m<sup>2</sup>  
Plant as per specification

Manage hedge to create dense scrub thicket akin to that of a woodland edge, and allow to expand to North into field margins. Increase roadside standard trees within existing hedge, particularly heavy fruiting and flowering species.

Existing wetland - maintain short sward for nesting waders

Wells Chalk Pit SSSI

Expand RNR further East

- Create openings in scrub/woodland on cutting top to connect to chalk pit SSSI and allow more light to reach chalk grassland on banks
- Chalk flora enhancement area - remove woody scrub species and coarse vegetation then use cutting regime as per management plan.
- 5865m<sup>2</sup> Grassland creation areas - 50% loam & 50% chalk species seed mix. Seeding and ground preparation in management plan. Sow at 4g/m<sup>2</sup>
- Plant 2x 141m of Hedgerow Mix as described in specification.
- Plant scrub mixes as per drawing and specification

## PLANTING SCHEDULE

TABLE 1 - Standard Trees Specification - Plant and guard in accordance with management plan

| Vernacular        | Species                 | Number | Size      | Pot/BR  |
|-------------------|-------------------------|--------|-----------|---------|
| Alder             | <i>Alnus glutinosa</i>  | 3      | 180-200cm | BR      |
| Silver birch      | <i>Betula pendula</i>   | 5      | 180-200cm | BR      |
| Hornbeam          | <i>Carpinus betulus</i> | 2      | 180-200cm | BR      |
| Whitebeam         | <i>Sorbus aria</i>      | 5      | 180-200cm | BR      |
| Oak               | <i>Quercus robur</i>    | 5      | 180-200cm | BR      |
| Wild cherry       | <i>Prunus avium</i>     | 1      | 180-200cm | BR      |
| Bird cherry       | <i>Prunus padus</i>     | 6      | 180-200cm | BR      |
| Aspen             | <i>Populus tremula</i>  | 1      | 100cm     | 2 Litre |
| Small leaved lime | <i>Tilia cordata</i>    | 2      | 180-200cm | BR      |

TABLE 2 - Scrub & Hedge Specification - Hedgerow and Scrub Mix: Total Area 1516m<sup>2</sup> & 282 linear metres.  
Plant scrub at 1m c/c and hedgerow in a staggered row at 400mm c/c

| Vernacular     | Species                      | Mix Percentage | Number | Size    | Pot/BR |
|----------------|------------------------------|----------------|--------|---------|--------|
| Hazel          | <i>Corylus avellana</i>      | 2%             | 44     | 60-80cm | BR     |
| Field maple    | <i>Acer campestre</i>        | 10%            | 223    | 60-80cm | BR     |
| Crab apple     | <i>Malus sylvestris</i>      | 25%            | 555    | 60-80cm | BR     |
| Rowan          | <i>Sorbus aucuparia</i>      | 10%            | 223    | 60-80cm | BR     |
| Wayfaring Tree | <i>Viburnum lantana</i>      | 3%             | 66     | 60-80cm | BR     |
| Elder          | <i>Sambucus nigra</i>        | 5%             | 112    | 60-80cm | BR     |
| Dog rose       | <i>Rosa canina</i>           | 10%            | 223    | 60-80cm | BR     |
| Field rose     | <i>Rosa arvensis</i>         | 7%             | 155    | 60-80cm | BR     |
| Bramble        | <i>Rubus fruticosus agg.</i> | 10%            | 223    | 60-80cm | BR     |
| Honeysuckle    | <i>Lonicera periclymenum</i> | 3%             | 66     | 60-80cm | BR     |
| Hawthorn       | <i>Crataegus monogyna</i>    | 15%            | 333    | 60-80cm | BR     |

TABLE 3 - Wetland Tree Mix: Plant at 2m spacings: TOTAL AREA: 642m<sup>2</sup>

| Vernacular   | Species              | Mix Percentage | Number | Size    | Pot/BR |
|--------------|----------------------|----------------|--------|---------|--------|
| White Willow | <i>Salix alba</i>    | 25%            | 80     | 60-80cm | BR     |
| Goat Willow  | <i>Salix caprea</i>  | 50%            | 161    | 60-80cm | BR     |
| Grey Willow  | <i>Salix cinerea</i> | 25%            | 80     | 60-80cm | BR     |

Grassland Specification : 5865m<sup>2</sup> of creation

Blend 50% Loam Mix and 50% Chalk species mix together and sow at 4g/m<sup>2</sup>  
Use Emorsgate Seed Mixes EM6 & EM5 or similar approved. Total weight to order: 23.5kg



The overall design concept for the Wells Next-The-Sea site is to buffer the existing ecological interest through tree and shrub planting on adjacent farmland to the north, creating a woodland edge ecotone along the highway corridor by applying the Strata System methodology. The concept will also offer enhanced connectivity with wildlife sites to the north by re-establishing a historic field boundary, which is perpendicular to the road, and enhancing field corners to create a well-structured, diverse wildlife corridor.

In the current situation, the diverse calcareous grassland is bordered by a narrow, species poor hedge with a 10 m grassy field margin and intensive arable farmland beyond. The calcareous grassland holds several indicator species and species richness is good, although the overall condition is compromised by encroaching scrub and dominance in some areas by alexanders.

### Management prescription – Grassland – Strata 1

To restrict the spread of suckering blackthorn, bramble and alexanders, the grassland will need an initial restoration management strategy over three years. Following this, the management will adopt a less intensive maintenance management strategy.

Restoration management will continue for three years and will follow the prescription set out below: -

Step 1 – The grassland will be cut to a height of 50 mm during April with a focus on cutting bramble, blackthorn and alexanders which will be showing emerging shoots. Cutting should be with a hand-held brushcutter, and effort should be made to avoid emerging shoots. The arisings should be removed immediately;

Step 2 – The grassland will be cut for a second time during August with the arisings removed from the site or used as a green hay in habitat creation on the adjacent farmland;

Maintenance management of the grassland should focus on restricting succession through annual cutting and maintaining the low nutrient status of the soils through removing the arisings. Annual cutting should be timed to allow plants the maximum opportunity to complete their lifecycle, and set seed, to ensure they can perpetuate within the site. As the grassland is not being cut to produce a hay crop, the annual cut can be delayed to maximise seed dispersal.

Annual maintenance management of the grassland should follow the prescription set out below: -

Step 1 – The grass should be left uncut between March and July inclusive.

Step 2 – During August or September each year, the grass should be cut to a height

of 100 mm using a hand-held brushcutter. Brushcutting is considered to be the most appropriate cutting method due to the small surface area of the RNR and the varying topography. Arisings should be raked and removed by hand.

### Management prescription – Hedgerow – Strata 2 (north)

The hedgerow at the Wells site is in overall 'good' condition, but lacks some species richness and structure at its base, and does not contain standard trees. It is of recently planted origin, but has matured well and shrubs are healthy and generally well structured.

Hedgerow management will focus on creating a dense hedge with spaced standard trees to maximize value to wildlife. Management will comprise two elements:

- Planting standard trees as detailed in the planting plan; and,
- Lay or coppice the existing hedge.

Tree planting will be conducted to the following management prescription:

Step 1 - Trees will be sourced from nurseries meeting the UKISG standard (or where this is not achievable, nurseries registered with the Plant Healthy standard) and will be of local or southern provenance stock. Trees will be planted as 1.2m transplants.

Step 2 – During October through December, trees will be pit planted with the root collar at ground level and any turfs, inverted and placed around the stem. Trees will be planted adjacent as close as possible to the existing hedgerow. Trees will be supported with an appropriately sized stake and secured with a rubber tie and protected using 1 m cardboard guards. Woodchip will be placed around the base of each plant to cover approximately 50 cm<sup>2</sup>.

Hedge laying will be conducted to the following management prescription: -

Step 1 - During October through March, the hedgerow will be layed by a competent contractor or employee using traditional methods. Hedge laying is achieved by partially cutting through the stems of shrubs and laying the stem at an angle. The stems are then secured in place using stakes and binders to produce a living stock-proof boundary. The process of laying shrubs encourages dense regrowth from the ground to the top of the layed shrubs and stimulates prolific flowering and fruiting and re-growth.

Step 2 – Cut woody material which is removed during laying will be processed through a chipper and the woodchip piled at the base of the hedge on the northern side. The woodchip will be used to mulch newly planted trees, when required.

Step 3 - During October of year 2, in dry weather, the hedge will be trimmed using a flail to restrict encroachment onto the RNR.

Step 4 - Ongoing maintenance of the hedge will see it cut in October using a flail in year 5, with repeat cuts made at 3 year intervals.

If adjacent farmland is brought into coherent management along with the

highways estate, it may be more appropriate to coppice the existing hedgerow to ground level as this will allow light to reach the newly planted shrubs on adjacent land to the north and shrubs will re-grow and transition to scrub edge rather than being maintained as a linear hedgerow.

#### Management prescription – Scrub – Strata 2 (south)

The scrub is dense and continuous and comprises blackthorn only. The condition of the scrub would be significantly improved through opening clearings to create a mosaic of scrub edge and grassy glades which can develop with species rich calcareous grassland.

The initial management of scrub will see a team of tree surgeons clearing a route through the scrub and opening clearings using hand tools due to the difficult access and the topography of the ridge. Scrub management will be conducted to the prescription set out below: -

Step 1 - During October through February, c. 30% of the scrub will be removed using chainsaws and the brash will be processed using a chipper and either spread underneath retained scrub or removed from site. The works will retain dense and continuous blocks of scrub and open clearings with an access route between.

Step 2 - During October through February each year, the glades will be cut using a brushcutter to retard the blackthorn regrowth.

#### Management prescription – Scrub and woodland edge trees – Strata 3

Alongside the hedge to the north, outside the highway estate, new planting will aim to create a scrub thicket of heavy flowering and fruiting species. Species appropriate for planting in Strata 3 are detailed in Table 2 (Pg. 49).

Strata 3 will comprise a 10 m wide strip alongside the hedgerow to the north as set out in the planting plan. Tree planting will be conducted to the prescription set out below: -

Step 1 – Upon taking control of the land, all agricultural procedures will cease immediately and the soil will not be subject to additional ploughing or harrowing.

Step 2 – The existing vegetation will be topped and the arisings left in-situ to mulch the ground.

Step 3 - During October through December, bare-root planting stock will be notch planted into a T-shaped slit with the original root collar at ground level. Roots will be spread out in the planting notch before firming the soil around the plant. Cell-grown whips will be pit planted with the root collar at ground level and any turfs, inverted and placed around the stem. Trees and shrubs will be planted in single species clusters of 5 - 9 plants at a minimum 1.5 m spacings and positioned irregularly to replicate a more natural situation; i.e. not in ranks. Plants will be protected using 0.8 m cardboard guards. Tree guards will be secured with appropriately sized stakes. Woodchip will be placed

around the base of each plant to cover approximately 50 cm<sup>2</sup>.

#### Management prescription – Woodland canopy trees – Strata 4

Strata 4 will see tree species planted to create a canopy of similar height and function to a low woodland canopy. This will increase the structural complexity of habitat offering maximum opportunities for wildlife. Species appropriate for planting in Strata 4 are detailed in Table 1 (Pg. 49).

Strata 4 will comprise a 10 m wide strip alongside Strata 3 to the north. Tree planting will be conducted to the same prescription as set out for Strata 3.

#### Management prescription – Field corners – Strata 5

Strata 5 will repeat the management prescription and species mix set out at Strata 3 to create a transition zone of well-structured, flowering and fruiting scrub to integrate the highway corridor into the surrounding landscape. Strata 5 will not extend along the full extent of the highway section, instead it will focus on enhancing unproductive field corners adjacent to perpendicular connecting habitat. Strata 5 provides an overlap with the Nerves and Synapses concept for integrating the design concept into the wider landscape.

#### Management prescription – Landscape integration – Nerves and Synapses

A defunct field boundary which is aligned perpendicular to the highway corridor provides an excellent opportunity to connect the highway corridor with the designated wildlife sites to the north. Former arable land, c. 200 m to the north of the site, has recently been restored to a wetland, providing increased buffering to the North Norfolk Coast wildlife sites, and connection to this could be achieved through the creation of c. 200 m of hedgerow.

The hedgerow would be most beneficial as a double hedgerow with standard trees spaced at c. 30 m intervals, which would connect with enhanced field corners on land to the north, where existing small patches of scrub could be expanded upon and enhanced.

#### Hedgerows

Hedgerow creation would be achieved through implementing the following management prescription.

Step 1 – Shrubs will be sourced from nurseries meeting the UKISG standard (or where this is not achievable, nurseries registered with the Plant Healthy standard) and will be of local or southern provenance stock. Shrubs will be planted as 400 - 600 mm tall whips of either bare-root planting stock or as cell-grown planting stock. Table 2 (Pg. 49) lists desirable hedgerow species.

Step 2 – During October through December, shrubs will be notch planted at 400 mm spacings in a double staggered row, c. 500 mm apart and protected using 600 mm cardboard tree guards secured with a softwood stake. The planting pattern will ensure a minimum of seven different woody species per 30 m length to ensure maximum wildlife



value. A woodchip mulch will be applied to the base of newly planted shrubs to cover a minimum 500 mm on either side of the planted row.

Step 3 - A second hedge will be planted to the same prescription, leaving a 3 m wide gap between the two hedges.

Step 4 – Standard trees will be planted at c. 30 m spacings. Trees will be pit-planted as 1.2 m tall saplings and secured using an appropriately sized stake and flexible tie. Hedgerow shrubs will not be planted in the surrounding 500 mm<sup>2</sup> around the tree and this area will be mulched with woodchip. Standard trees to be included in the hedgerows are detailed within the accompanying planting plan.

#### Grassland

A 10 m wide strip of grassland would be created along each side of the hedgerow using the following management prescription:

Step 1 – During July, the full extent of the area due to be enhanced will be disc harrowed or power harrowed to break up any existing vegetation, exposing a minimum of 50% bare ground and creating a good tilth for receiving seed.

Step 2 – Immediately after harrowing, green hay taken from the species rich roadside grassland will be distributed across the area either using a muck spreader if the hay is loose or a bale chopper if the hay is baled. The hay will be rolled to ensure maximum contact between seed and soil and left to establish until the following July.

Step 3 – The annual management will be to take an annual grass cut during August each year to a height of 100 mm and the arisings removed. It may be necessary to run a chain harrow over the grass during winter to break up any thatch which might develop in the absence of winter livestock grazing.

#### REFERENCES

Butcher B, Carey P, Edmonds R, Norton L and Treweek J, 2020. UK Habitats Classification – Habitats Definitions V1.1. <http://ukhab.org>

Phillips R, 1978. Trees in Britain, Europe and North America. Macmillan, London

Sutton D, 1990. Field Guide to the Trees of Britain & Europe. Kingfisher Books, London

SITE  
COSTINGS

The site costings for all the selected sites represent the NCC owned areas only. This is to reflect the level of control which the highways team have over the management and creation works proposed.

| Site Costings for Wells Next the Sea                    | All contracting costs derived from National Association of Agricultural Contractors (NAAC) |                        |         |           |          |      |      |       |      |          |           |
|---|--|------------------------|---------|-----------|----------|------|------|-------|------|----------|-----------|
| N.B. Site costs extend to highways owned boundary.      |  |                        |         |           |          |      |      |       |      |          |           |
| All other costings relate to ELMs and are not included. |  |                        |         |           |          |      |      |       |      |          |           |
|   |  |                        |         |           |          |      |      |       |      |          |           |
| CAPITAL WORKS - Labour                                  | Item   | Time to complete/hours | Rate    | Total/hr  |          |      |      |       |      |          |           |
| Tree Planting in Hedges                                 |  |                        |         |           |          |      |      |       |      |          |           |
| Planting - Labour                                       | 2 people   | 8                      | £15.00  | £240.00   |          |      |      |       |      |          |           |
| Trees - 24 Mixed species trees @ £25.00 (variable)      | 24 Trees   | -                      | £25.00  | £600.00   |          |      |      |       |      |          |           |
| Guards & Protection - Carboard guard & stake combo      | 24 Guards  |                        | £5.75   | £138.00   |          |      |      |       |      |          |           |
| Initial Hedge Coppice - @ Yr 1)                         | £14.00 per metre   | -                      | £14.00  | £2,968.00 |          |      |      |       |      |          |           |
| Length - 212m @ 14.00/m                                 |  |                        |         |           |          |      |      |       |      |          |           |
| Tree Surgery - Removal of Trees on south bank           |  |                        |         |           |          |      |      |       |      |          |           |
| Felling - 2 x people with chainsaws @ 2 days            | 2 people with chainsaw   | 16                     | £35.00  | £1,120.00 |          |      |      |       |      |          |           |
| Clearing & chipping - 1 person labouring                | 1 person   | 16                     | £15.00  | £240.00   |          |      |      |       |      |          |           |
| Chipper - £250/day                                      | 2 days chipper hire  | -                      | £250.00 | £500.00   |          |      |      |       |      |          |           |
| SUM TOTAL   |  |                        |         | £5,806.00 |          |      |      |       |      |          |           |
| ANNUAL MANAGEMENT WORKS                                 | Yr 1   | Yr 2                   | Yr 3    | Yr 4      | Yr 5     | Yr 6 | Yr 7 | Yr 8  | Yr 9 | Yr 10    | TOTALS    |
| Grassland   |  |                        |         |           |          |      |      |       |      |          |           |
| Restoration Management - 2 Cuts (April & August)        | Yes  | Yes                    | Yes     |           |          |      |      |       |      |          |           |
| Strim w/brush blade 1 person @ £20.00/hr x 5 hours      | 200  | 200                    | 200     |           |          |      |      |       |      |          |           |
| Remove arisings - 2 people @ 15.00 x 8 hours            | 480  | 480                    | 480     |           |          |      |      |       |      |          |           |
| Grassland (Hay Cut)                                     |  |                        |         | Yes       | Yes      | Yes  | Yes  | Yes   | Yes  | Yes      |           |
| Strim w/brush blade 1 person @ £20.00/hr x 5 hours      |  |                        |         | 100       | 100      | 100  | 100  | 100   | 100  | 100      | £700.00   |
| Remove arisings - 2 people @ 15.00 x 8 hours            |  |                        |         | 240       | 240      | 240  | 240  | 240   | 240  | 240      | £1,680.00 |
| Hedgerow and Scrub Maintenance                          |  |                        |         |           |          |      |      |       |      |          |           |
| Hedge Cutting - Flail                                   |  | Yes                    |         |           | Yes      |      |      | Yes   |      |          |           |
| Tractor mounted flail - £47.84/hr @ 1 hour for site     |  | 47.84                  |         |           | 47.84    |      |      | 47.84 |      |          | £143.52   |
| Scrub management to maintain openings                   |  |                        |         |           | Yes      |      |      |       |      | Yes      |           |
| 1 person w/chainsaw for 1 day @ £35.00/hr               |  |                        |         |           | \$280.00 |      |      |       |      | \$280.00 | £560.00   |
| 1 person labouring for 1 day @ £15.00/hr                |  |                        |         |           | 120      |      |      |       |      | 120      | £240.00   |
| Management Sub-Totals                                   |  |                        |         |           |          |      |      |       |      |          | 3323.52   |
| GRAND TOTAL   |  |                        |         |           |          |      |      |       |      |          | £9,129.52 |

# FLITCHAM

TF 73619 25904



LOCATION : TF 73619 25904



SECTION CUT

Flitcham is located on the A148 around OS grid reference TF 73619 25904. The road is a single carriageway with a wide grassy verge along both roadsides. To the east of the study site, the road enters a cutting which exposes the chalk bedrock and the vegetation here is calcareous and is managed as a RNR. Some recommendations have been made to improve the condition of the RNR which is suffering from undermanagement and eutrophication, but the management prescription focusses on the site to the west of the RNR.



LANDSCAPE  
CONNECTIONS



County Wildlife Site



Woodland



Ecological Connections



SSSIs





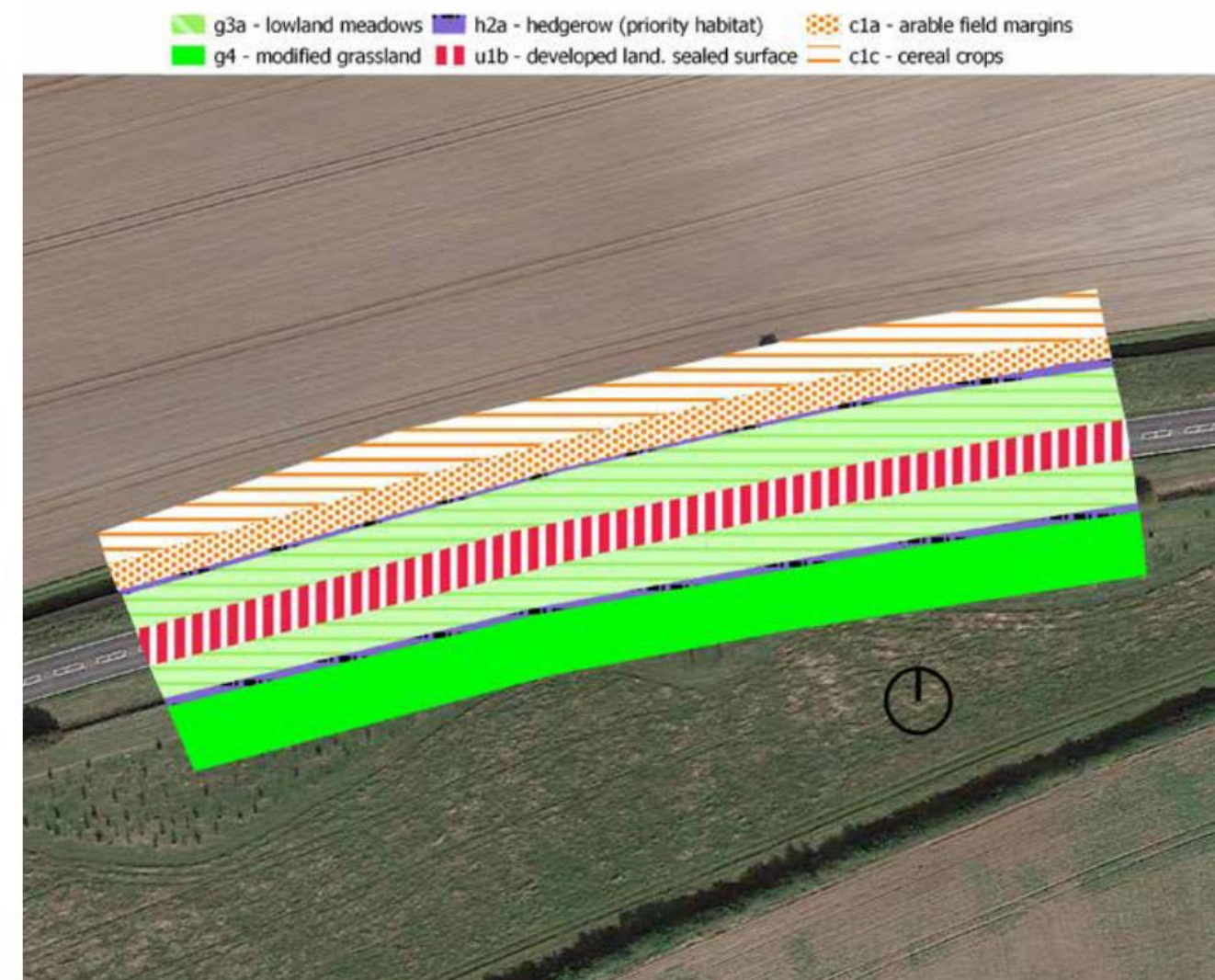
## EXISTING HABITATS

Flitcham is located on the A148 around OS grid reference TF 73619 25904. The road is a single carriageway with a wide grassy verge along both roadsides. To the east of the study site, the road enters a cutting which exposes the chalk bedrock and the vegetation here is calcareous and is managed as a RNR. Some recommendations have been made to improve the condition of the RNR which is suffering from undermanagement and eutrophication, but the management prescription focusses on the site which is located to the west of the RNR.

The principal existing ecological interest feature of this site is the RNR (Ref no. 37 – A148; Hillington). The RNR lies on both sides of the carriageway and comprises c. 5 m of level verge and c. 4 m of slope and extends for a maximum length of 470 m along the carriageway. The site is designated for its chalk grassland and the citation lists six plant species of interest, comprising: 1) small scabious *Scabiosa columbaria*; 2) Quaking grass *Briza media*; 3) meadow oatgrass *Helictotrichon pratense*; 4) basil thyme *Clinopodium acinos*; 5) fairy flax *Linium catharticum*; and, 6) bee orchid *Ophrys apifera*. The current management prescription for the site, detailed within the citation, does not specify an appropriate time of year or frequency for management but does specify that arisings should be removed. The citation identifies potential threats to the ecological interest which include lack of management resulting in a rank sward or scrub, spray drift from adjacent farmland and grip digging or road widening.

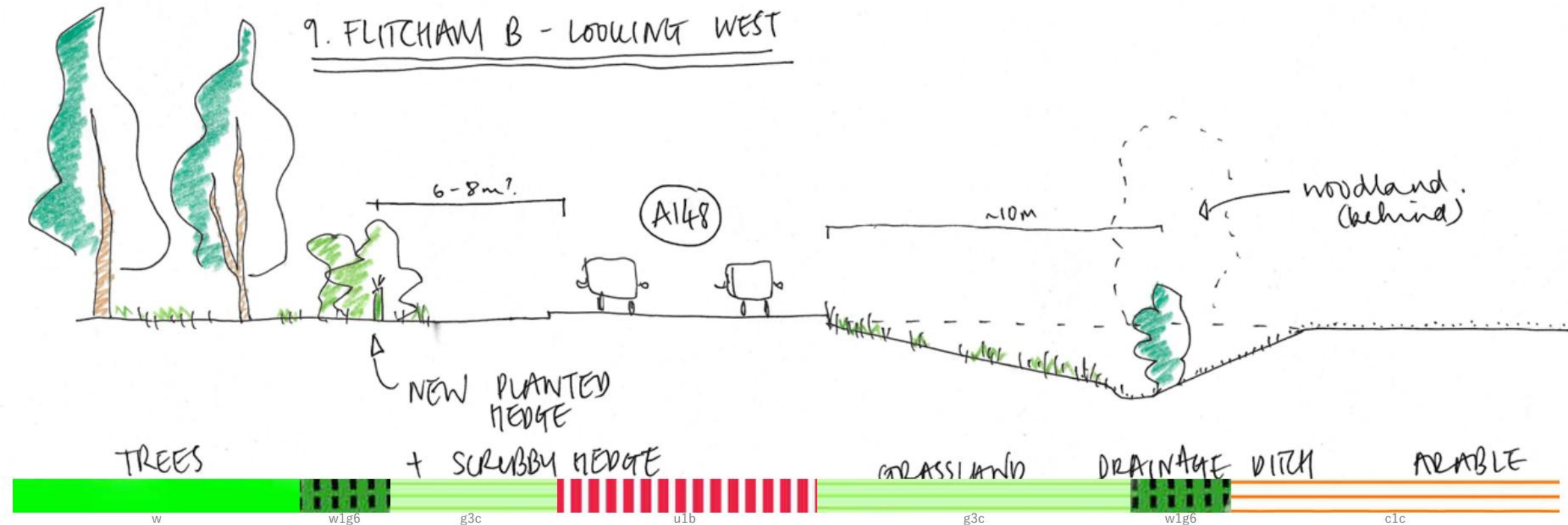
The landscape surrounding the site is dominated by arable farmland with isolated and fragmented small parcels of woodland. Hillington Hall estate is located some 500 m to the northwest of the site which encompasses three CWS; Hillington Park CWS which is old parkland of oak and beech pollards over species poor grassland; Abbey Meadows CWS which is a series of meadows supporting species rich neutral grassland, and the River Babingley CWS which is a river with marginal vegetation of tall herb and woodland.

The surrounding landscape supports some ecologically diverse habitats and this section of the A148, with its wide grassy verges and proximity to the RNR, is well positioned to increase ecological connectivity across the landscape through enhancements to the highways soft estate.



UKHAB BASELINE SURVEY





## CURRENT HABITAT & SPECIES

### LOWLAND MEADOW - g3a

The grass verges appear to be regularly managed, maintaining a reasonably diverse sward. Lowland meadow indicators are present in the sward and species richness is around 15 – 17 species per m<sup>2</sup>. Lowland meadow indicators include ox-eye daisy *Leucanthemum vulgare*, cowslip *Primula veris*, and common knapweed *Centaurea nigra*, although these species were not clearly visible throughout the sward and bramble scrub is encroaching, especially on the northern verge, compromising the overall condition of the grassland.

### HEDGEROW - h2

The hedgerows are 2 m tall, young, continuous and managed with a flail. They are comprised of native species including hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, hazel *Corylus avellanaria*, ash *Fraxinus excelsior*, bramble *Rubus fruticosus* agg. and dog rose *Rosa canina*.

### MODIFIED GRASSLAND - g4

The modified grassland is outside the highways corridor on private land and has widely spaced trees planted throughout. The grassland appears to

be managed for amenity use and is closely mown.

### ARABLE FARMLAND - c1

c1 – arable farmland - the adjacent arable farmland to the north has a c. 4 m wide grassy set-aside alongside the hedgerow.

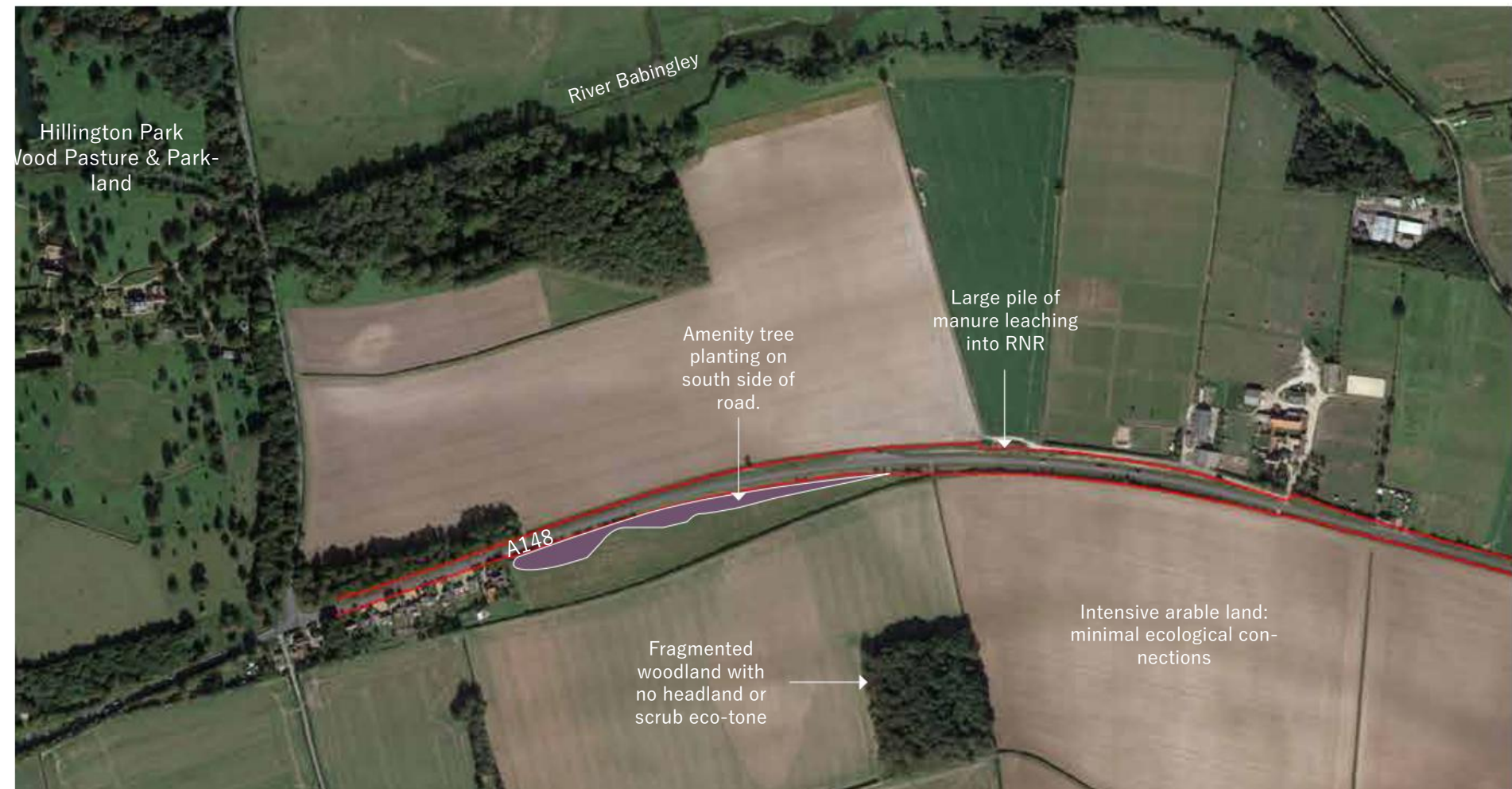


Wide grass verges appear to be regularly managed



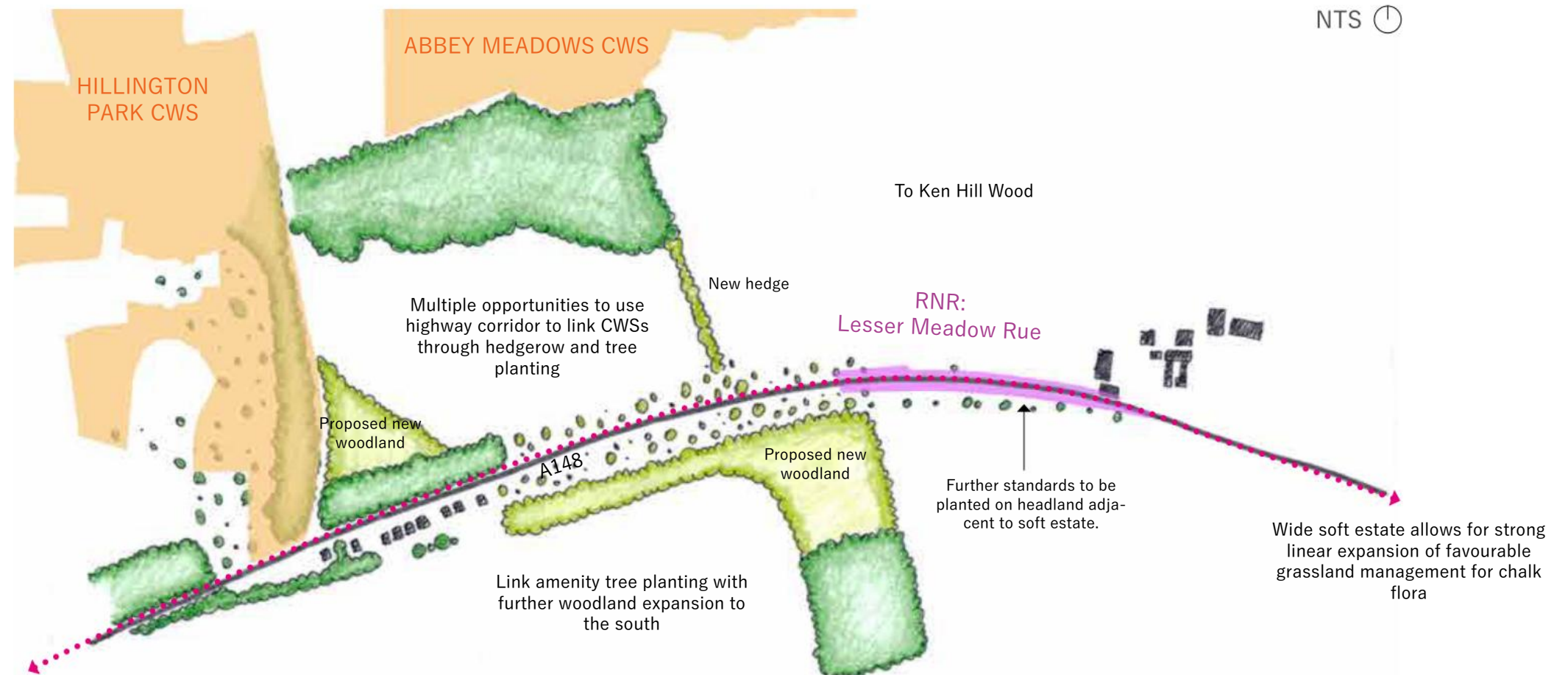
# SITE MASTERPLANS

MASTERPLAN - EXISTING



HIGHWAYS ESTATE

MASTERPLAN - PROPOSED



## SITE SECTIONS

### EXISTING SECTION



### PROPOSED SECTION





CONDITION  
ASSESSMENT

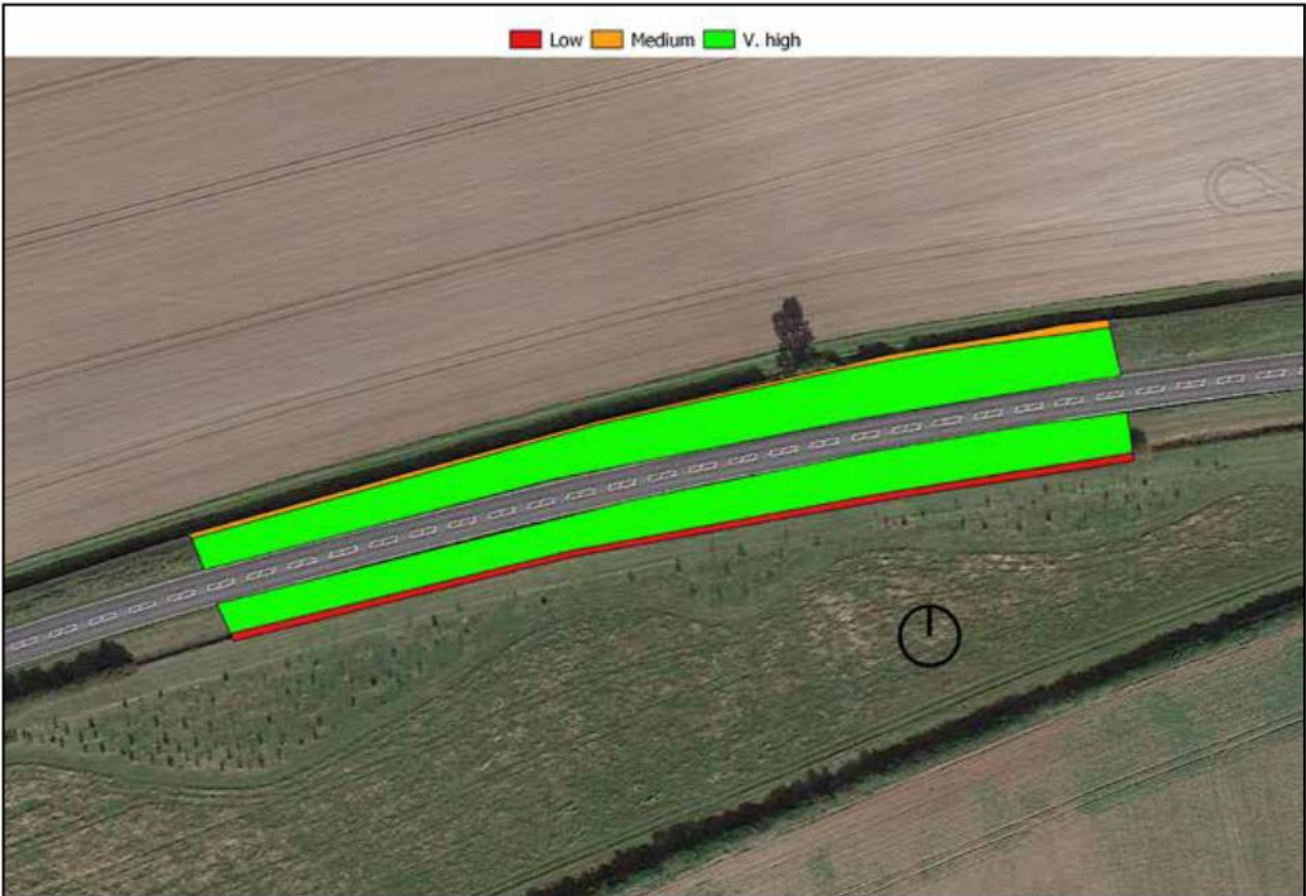
Existing Condition



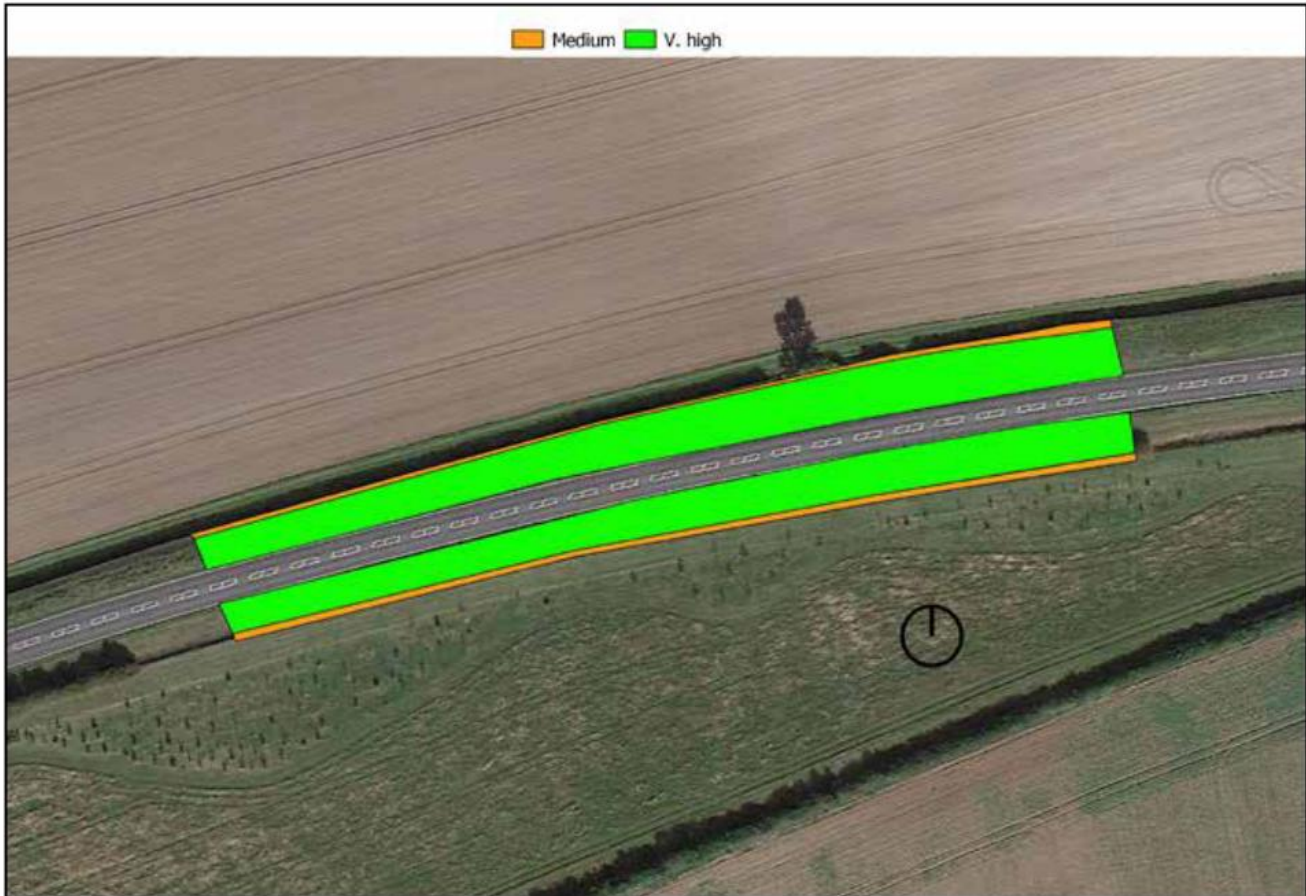
Proposed Condition



Existing Distinctiveness



Proposed Distinctiveness





## NET-GAIN HABITAT UPLIFT MAP



**IMPORTANT** Surveying and calculations have been conducted for highways estate land only owing to the perceived complexity of multiple land ownership complexities in lease and management agreements and the varying strategic needs of both NCC and the landowner.

As part of the surveying, we undertook a biodiversity net-gain calculation to establish, against the DEFRA Biodiversity Metric 3.1, whether the proposed changes delivered a positive uplift in biodiversity. The figures from this calculation are highlighted on adjacent page. The first number is the unit figure of the existing site, the second number is the unit figure from the proposed design changes, the third shows the unit gain/loss and the final figure shows the percentage gain/loss.

This calculation is based off a 200m stretch of the soft estate as surveyed.

The DEFRA biodiversity metric works on two measures: Area habitats such as grassland and woodland, and Linear habitats such as streams, hedgerows and lines of trees. Below are calculations for both and their relative net loss/gain from existing to proposed.

### AREA:

Existing site biodiversity units (Area):

7.19

Proposed site biodiversity units (Area):

4.31

Biodiversity unit Gain/Loss

+2.06

Percentage Gain/Loss

44.03%

### LINEAR:

Existing site biodiversity units (Area):

1.20

Proposed site biodiversity units (Area):

2.04

Biodiversity unit Gain/Loss

+0.84

Percentage Gain/Loss

70.03%

### Notes:

Interestingly this is dragged up by improving the condition of the scrub. Without the improved condition of the scrub enhancements, aims to enhance the calcareous grassland are confounded by the perceived difficulty in creating this habitat type. The loss is in relation to the perceived difficulty factor of enhancing calcareous grassland. The Metric assumes a 'high' level of difficulty in achieving Good calcareous grassland from Poor calcareous grassland and estimates a 20 year timeframe for the enhancement. It also assumes 'high' level of difficulty in enhancing moderate condition calcareous grassland to good and estimates a 10 year time frame.





Outside of the highway estate are some areas of newly planted trees, now 8-10 years old. These will be added to with further Trees Outside Woodland planting.



The principle existing ecological feature is the RNR, designated for its chalk flora. The exposed chalk cutting remains a beneficial substrate for invertebrates and low growing calcareous species such as Horseshoe Vetch, however both the cutting bank top and a small swale at its base have become dominated by woody species and will need attention. Perhaps the swale could be filled in to remove the issue of management.



In the farmland beyond the application of artificial nitrogen and annual uses of herbicides has left little to no ecological value. It is proposed that the hedge is allowed to broaden out and a mix of calcareous and neutral grassland species is sown along a 20m strip to increase the scale of the highway corridor.







PLANTING PLAN



Hedgerow & Scrub Planting Instructions

Please refer to spec sheet for correct mix. TOW-DIG-00-RP-0002

Plant out mixes randomly using clusters of 2-10 plants of the same species per cluster

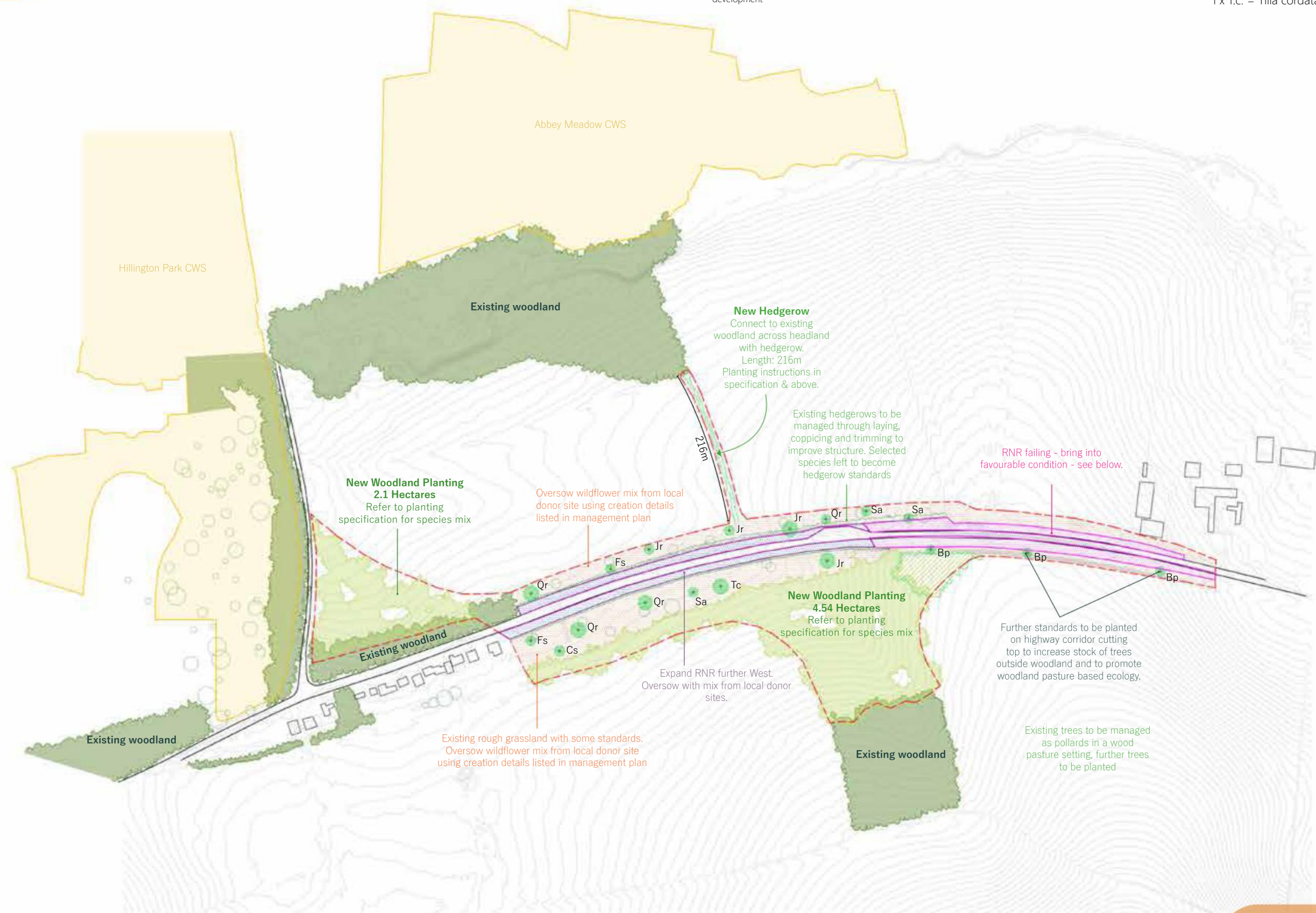
Plant each hedge in a double staggered row at 400mm c/c

Ensure generous ground mulch of native species woodchip for weed suppression and fungal inoculant.

Randomly plant areas of scrub with assorted species or small single species clumps. Allow open areas for glade development

Tree Specification:

- 3 x B.p. = Betula pedula (Silver Birch)
- 1 x C.s. = Castanea sativa (Sweet Chestnut)
- 3 x Fs. = Fagus sylvatica (Beech)
- 4 x J.r. = Juglans regia (Walnut)
- 3 x S.a. = Sorbus aria (Whitebeam)
- 4 x Q.r. = Quercus robur (Oak)
- 1 x T.c. = Tilia cordata (Small leaved lime)



- Grassland creation area: **16,625m²**  
Cultivate existing arable land to prepare seed bed and sow at 4g/m²
- Grassland enhancement area: **35,920m²**  
Mechanically create 20-50% bare ground and oversow with 50% loam mix and 50% locally sourced chalk grassland species (Edward Cross @ Flitcham).

- Existing RNR:  
Remove all woody scrub species and resume a management strategy to allow chalk flora to persist. See management plan for full details.

Notes:

- (GREEN) Existing trees to be managed as pollards in a wood pasture setting, further trees to be planted.

DRG No. TOW-DIG-00-PL-0003

To be read in conjunction with:  
TOW-DIG-00-RP-0002 (Pg 56)

TABLE 1 - Trees Outside Woodland Standards

| Vernacular        | Species                | Number | Size      | Pot/BR |
|-------------------|------------------------|--------|-----------|--------|
| Silver birch      | <i>Betula pendula</i>  | 3      | 180-200cm | BR     |
| Sweet Chestnut    | <i>Castanea sativa</i> | 1      | 180-200cm | BR     |
| Beech             | <i>Fagus sylvatica</i> | 3      | 180-200cm | BR     |
| Walnut            | <i>Juglans regia</i>   | 4      | 180-200cm | BR     |
| Whitebeam         | <i>Sorbus aria</i>     | 3      | 180-200cm | BR     |
| Oak               | <i>Quercus robur</i>   | 4      | 180-200cm | BR     |
| Small leaved lime | <i>Tilia cordata</i>   | 1      | 180-200cm | BR     |

TABLE 2 - Scrub & Hedge Specification - Hedgerow and Scrub Mix: Total length 216 linear metres.  
Plant scrub at 1m c/c and hedgerow in a staggered row at 400mm c/c

| Vernacular     | Species                      | Mix Percentage | Number | Size    | Pot/BR |
|----------------|------------------------------|----------------|--------|---------|--------|
| Hazel          | <i>Corylus avellana</i>      | 2%             | 44     | 60-80cm | BR     |
| Field maple    | <i>Acer campestre</i>        | 10%            | 223    | 60-80cm | BR     |
| Crab apple     | <i>Malus sylvestris</i>      | 25%            | 555    | 60-80cm | BR     |
| Rowan          | <i>Sorbus aucuparia</i>      | 10%            | 223    | 60-80cm | BR     |
| Wayfaring Tree | <i>Viburnum lantana</i>      | 3%             | 66     | 60-80cm | BR     |
| Elder          | <i>Sambucus nigra</i>        | 5%             | 112    | 60-80cm | BR     |
| Dog rose       | <i>Rosa canina</i>           | 10%            | 223    | 60-80cm | BR     |
| Field rose     | <i>Rosa arvensis</i>         | 7%             | 155    | 60-80cm | BR     |
| Bramble        | <i>Rubus fruticosus agg.</i> | 10%            | 223    | 60-80cm | BR     |
| Honeysuckle    | <i>Lonicera periclymenum</i> | 3%             | 66     | 60-80cm | BR     |
| Hawthorn       | <i>Crataegus monogyna</i>    | 15%            | 333    | 60-80cm | BR     |

TABLE 3 - Woodland Mix | Plant at 1.5m spacings | Guard and stake as per management plan.  
Planting Total Area: 6.64 Hectares | 44,266 Trees

| Vernacular        | Species                      | Mix Percentage | Number | Size    | Pot/BR |
|-------------------|------------------------------|----------------|--------|---------|--------|
| Whitebeam         | <i>Sorbus aria</i>           | 7%             | 3098   | 60-80cm | BR     |
| Wild service tree | <i>Sorbus torminalis</i>     | 3%             | 1328   | 60-80cm | BR     |
| Downy birch       | <i>Betula pubescens</i>      | 30%            | 13,280 | 60-80cm | BR     |
| Goat willow       | <i>Salix caprea</i>          | 10%            | 4427   | 60-80cm | BR     |
| Field maple       | <i>Acer campestre</i>        | 10%            | 4427   | 60-80cm | BR     |
| Wild cherry       | <i>Prunus avium</i>          | 10%            | 4427   | 60-80cm | BR     |
| Yew               | <i>Taxus baccata</i>         | 5%             | 2213   | 60-80cm | BR     |
| Pedunculate oak   | <i>Quercus robur</i>         | 20%            | 8854   | 60-80cm | BR     |
| Honeysuckle       | <i>Lonicera periclymenum</i> | 5%             | 2213   | 60-80cm | BR     |

Grassland Specification: Creation Area Total: 16,625m<sup>2</sup>

Grassland to be created using a locally sourced seed mix from Edward Cross at Abbey Farm, Flitcham.  
Mix 50% of this mix with 50% Emorsgate Seed mix EM5 (or similar approved).

Total 66Kg



## HABITAT MANAGEMENT

The overall design concept for Flitcham is to use the Strata System to establish a graded structure with species rich grassland along the road verge, then open grown trees which could be managed as pollards in a wood pasture setting, transitioning to closed canopy woodland to the south of the road and into open farmland to the north of the road. The focus is not on the stretch of road which contains the RNR, although recommendations have been made to bring the RNR into a more favourable condition. Instead, the design concept focusses on the wide grassy verge to the west of the RNR, which is damper and more neutral in character. Enhancement to this section of the soft estate using trees out of woodland will support diversity within the RNR and allow better movement of wildlife through the landscape.

In addition, the Nerves and Synapses concept has been applied to explore opportunities to expand the highways design concept into adjacent farmland, thereby maximising connectivity between ecologically diverse habitats, and going some way to reducing the fragmented nature of the landscape.

Hillington RNR – The diversity of the Hillington RNR is under threat from nutrient enrichment on the northern roadside due to the placement of significant quantities of farmyard manure on adjacent land. Nutrient enrichment is already clearly evident as significant areas are vegetated with stinging nettle and tall ruderal vegetation. Significant woody scrub and bramble is present within the calcareous grassland. A swale along the edge of the road is making mechanized management more difficult and is currently vegetated with dense woody scrub.

Rapid action should be taken to remove the manure pile above the RNR and stop the nutrient enrichment. Once the source of the problem has been addressed, management should be implemented to reduce the nutrient status of the soil in the RNR. Due to the extent of the damage, it may be appropriate to remove the enriched soil before reseeding with seed harvested from elsewhere within the RNR.

Annual management of the grassland thereafter should follow the prescription set out below:

Step 1 – Encroaching scrub should be cut back and/or grubbed out to arrest succession. It may be necessary to conduct this with hand tools and a small excavator to remove deep rooting woody species. It would be sensible to conduct any works with an excavator under direct supervision from an ecologist to identify and safeguard areas of good habitat and to reduce disturbance as much as possible.

Step 2 – Following this, annual management would see the vegetation left uncut between March and July inclusive. During the first 2 years after scrub management, any shrubs which still persist should be hand pulled or dug out.

Step 3 – During August or September, the grass should be cut to a height of 100 mm using a reciprocating blade cutter or a drum mower each year. Arisings should be baled and removed or removed with a brush collector or buck-rake. The green hay from the annual cut could be used to seed areas of grassland creation in the surrounding area.

### Management prescription – grassland – Strata 1

The initial management will focus on maximizing diversity in the sward and knocking-back vigorous grasses and brambles prior to the annual management. Management of the grassland on both sides of the road should follow the prescription set out below: -

Step 1 – The grass should be left uncut between March and July inclusive.

Step 2 – During August, the grass should be cut to a height of 100 mm using a reciprocating blade cutter or a drum mower. Arisings should be baled and removed or removed with a brush collector or buck-rake. Arisings can be used directly in seeding grassland creation in adjacent areas as a green hay.

Step 3 – A second cut should be made during late September to the same height with the arisings removed.

Step 4 – After cutting, during a period of dry weather, the grass should be harrowed using a heavy chain harrow in two passes to expose approximately 20% bare ground within the sward.

Step 5 – After harrowing, the grassland should be oversown with a locally sourced calcareous grassland mix at a rate of 4gm<sup>2</sup> with yellow rattle sown at a rate of 1gm<sup>2</sup>, and then the ground should be rolled to ensure maximum seed to soil contact.

Step 6 – After the initial restoration management, two annual cuts during late July and September will be made for the first five-year period when it may be appropriate to reduce the annual cut to a single cut in August.

### Management prescription – wood-pasture – Strata 2

The grass verge is wide enough on both sides of the road to incorporate tree planting within the soft estate to create a wood pasture landscape over species rich grassland. Strata 2 would comprise the outer 4 m of the existing grass verge with trees planted a minimum 6 m from the road's edge. The details of tree species and location are provided within the accompanying planting plan.

Step 1 – Tree planting will be conducted during October through January. Trees will be planted as 1.2 m tall transplants. Bare root stock will be notch planted and staked, cell grown stock will be pit planted and staked with an appropriately sized stake. Each tree will be fenced with a post-and-rail. The fencing will enclose an area of 3 m<sup>2</sup> square around the tree. Woodchip will be applied as a mulch to cover the 3 m<sup>2</sup> area within the enclosure.

Step 2 – In September of years 1 to 3 following planting, management of trees will comprise the following; -

- An assessment of the health of the trees. Any mortality of trees will trigger remedial action. Remedial action will comprise the beating up of dead trees and re-planting of the same species to the method set out above;
- Woodchip will be re-applied to the base of each tree to maintain a weed free area of at least 1 m<sup>2</sup> around its base;

- Tree stakes should be checked and should remain fit for purpose for a minimum of 3 years, supporting the tree but not causing damage; and
- Fencing should be checked and should remain fit-for-purpose.

Step 3 – If desired, pollarding of newly planted trees should begin in Year 15 and all trees destined to be managed as pollards should have had their first cut before Year 30 after planting (Edlin 1973). 25% of the pollards should be cut in Year 15. Pollarding of existing trees should aim to cut 25 % of the tree stock in Year 1. The method for pollarding newly planted trees is set out below.

Pollarding methodology - The first cut of a pollard should aim to develop a boleing at between 2 and 2.5 m high. Two, three or four limbs at this height should be selected to form the ‘knuckles’ of the boleing. Above these limbs, the top of the tree should be removed and all lateral limbs below these limbs should be removed using a pruning cut; close to the stem but retaining the branch collar in-tact. The remaining limbs should be reduced to 50 cm long (Edlin 1973). These branch stubs will form knuckles which will regrow and subsequent cuts will be made back to the knuckles.

Subsequent cuts will be made at intervals of between 10 and 16 years.

Traditionally, pollards were managed for firewood, and re-growth would be harvested at between 2 and 5 cm diameter.

Step 4 - The second 25% of the pollards will receive their first cut two years after the first trees were cut to the method set out above.

Step 5 - The third 25% of the pollards will receive their first cut four years after the first trees were cut to the method set out above.

Step 6 – The fourth 25% of the pollards will receive their first cut six years after the first trees were cut to the method set out above.

Step 7 - The pollards may be ready to be cut for the second time, ten years after they were first cut. This would be at the discretion of the estate managers, due to the firewood resource having little value in today’s economy. However, it is recommended that pollards are cut on a 10 to 15 year rotation to maintain the boleing in a manageable condition and to support the diversity of the ground flora beneath the trees. The first cut of the regrowth, will see the poles cut back to the branch collar. The poles can be expected to be between 2 and 5 cm diameter, depending on the tree species.

#### Management prescription – hedgerows (existing) – Strata 3

Hedgerows occur on both sides of the highway soft estate at Flitcham. In their current state, the northern hedge is mature and managed through repeated use of a flail, trimming the sides and top, creating a ‘leggy’ hedgerow with hard knuckles at the top where annual flailing has been conducted at the same height each year. The southern hedge is more recently planted and has been less heavily managed. A single, pollarded ash tree occurs alongside the hedge to the north of the road.

To improve the structure of both hedges, it is proposed that management will comprise a combination of laying, coppicing and trimming.

Hedge laying is achieved by partially cutting through the stems of shrubs and laying the stem at an angle. The stems are then secured in place using stakes and binders to produce a living stock-proof boundary. The process of laying shrubs encourages dense regrowth from the ground to the top of the layed shrubs and promotes prolific flowering and fruiting. Hedge laying can be used to improve the structure and shape of a hedgerow, and would be appropriate management for hedges which have become leggy with hard knuckles near the top of the hedge as a result of over-trimming with a flail. Hedge laying would also be appropriate management for recently planted hedges which are established but lack density.

Coppicing is achieved by cutting shrubs to ground level, promoting vigorous regrowth. Coppicing of hedges can be used to improve hedgerow structure where hedgerow shrubs have become tall and over-grown to the point where bare stems are visible below the foliage. Coppicing of hedgerows can be used to achieve a similar outcome to hedge laying, but is usually a more cost-efficient method of management due to the reduced cost of labour and the option to conduct coppicing mechanically. The pay-off, is reduced structural complexity, and density, especially low down in the hedge, which provides a reduced habitat resource and is less likely to be stock-proof, at least in the short-term.

Hedges which are already well-structured hedgerows may not need significant interventions to bring them into good ecological condition and it may be appropriate to continue to manage by trimming with a flail. However, trimming practices should accord with the following four rules/principles: -

The hedgerows at the Flitcham site should initially be either coppiced or layed to promote a good structure and stimulate vigorous regrowth. After this initial management intervention, management should continue on a three-year rotation by trimming using a flail following the four rules/principles set out above.

If tree species which are suitable to be managed as hedgerow standards are already present within the hedgerow, it would be appropriate to select these and mark them so they can be retained during management and managed to maturity. Trees will be selected based on their species, location, and overall health and condition with an aim of retaining a standard tree at c. 30 m intervals. If appropriate trees species are not already present, trees will be planted alongside the hedgerow within the setting of the wood-pasture using the method set out previously at Strata 2.

#### Management prescription – Wood-pasture – Strata 4

The vision for Strata 4 is to establish wood pasture alongside the highway corridor, incorporating existing trees and adding to the stock and enhancing existing grassland to the south and establishing grassland and planting standard trees in the 10 m wide belt of land alongside the highway corridor and out into the wider area if desirable. Tree planting and management would follow the method set out above for Strata 2. Grassland creation and management will follow the management prescription set out below.

#### Grassland

Step 1 – During September, the full extent of the area due to be enhanced or created will be disc harrowed to break up any existing vegetation, exposing a minimum of 50% bare ground and creating a good tilth for receiving seed..

Step 2 – Immediately after harrowing, a locally sourced chalk grassland seed mix will be broadcast sown at a rate of 4gm<sup>2</sup> and then rolled to maximise contact between seed and soil. Existing grassland will incorporate yellow rattle into the seed mix at a rate of 1gm<sup>2</sup>.

Step 3 – The annual management will be to take an annual grass cut during August each year to a height of 100 mm and the arisings removed. Winter grazing by livestock would support the development of a diverse grassland. An appropriate grazing density for cattle would be 5 units per ha for 8 – 10 weeks depending on the development of the sward (Blakesley & Buckley 2016) (although this is likely to be significantly different in a mob grazing system). If livestock are not available, it may be necessary to run a chain harrow over the grass during winter to break up any thatch which might develop and open up some bare ground to aid seed germination.

#### Management prescription – Landscape integration – Nerves and Synapses

The Nerves and Synapses concept will see woodland, hedgerows and buffering species rich grassland extend out into the surrounding landscape as illustrated in the accompanying planting plan.

#### Woodland

The principles of woodland planting will use two planting mixes to create a well structured woodland edge with fruiting and flowering shrubs. Beyond this, pioneer and climax canopy species will be planted behind to maximise structure. Species appropriate for the woodland edge are detailed in Table 2 (Pg. 65) and species appropriate for planting in the woodland centre are listed in Table 3 (Pg. 65).

Tree planting will be conducted to the prescription set out below: -

Step 1. Upon commencement of management, farming activities will cease immediately and the soil will not be subject to additional ploughing or harrowing.

Step 2 – The existing vegetation, including any stubble, should be left in the ground and topped and the arisings left in-situ to mulch the ground.

Step 3 - Trees will be sourced from nurseries meeting the UKISG standard (or where this is not achievable, nurseries registered with the Plant Healthy standard) and will be of local or southern provenance stock. Trees will be planted as 600 – 800 mm tall whips of either bare-root planting stock or as cell-grown planting stock.

Step 4 – During October through December, bare-root planting stock will be notch planted into a T-shaped slit with the original root collar at ground level. Roots will be spread out in the planting notch before firming the soil around the plant. Cell-grown whips will be pit planted. Plants will be placed at a minimum 1.5 m spacings and positioned irregularly to replicate a natural woodland; i.e. not in ranks. Trees and shrubs will be planted in single species clusters of 3 – 5 plants. Plants will be protected using 0.8 m cardboard guards. Tree guards will be secured with appropriately sized stakes. Woodchip will be placed around the base of each plant to cover approximately 50 cm<sup>2</sup>.

#### Hedgerows

It is proposed that a species rich, wide hedgerow with a wide strip of species rich grassland could extend north from the highway across farmland to connect with woodland on the Hillington Estate and Abby Meadows CWS. Hedgerow creation would be achieved through implementing the following management prescription.

Step 1 – Shrubs will be sourced from nurseries meeting the UKISG standard (or where this is not achievable, nurseries registered with the Plant Healthy standard) and will be of local or southern provenance stock. Shrubs will be planted as 400 - 600 mm tall whips of either bare-root planting stock or as cell-grown planting stock. Table 2 (Pg. 65) lists desirable hedgerow species.

Step 2 – During October through December, shrubs will be notch planted at 400 mm spacings in a double staggered row, c. 500 mm apart and protected using 600 mm cardboard tree guards secured with a softwood stake. The planting pattern will ensure a minimum of seven different woody species per 30 m length to ensure maximum wildlife value. A woodchip mulch will be applied to the base of newly planted shrubs to cover a minimum 500 mm on either side of the planted row.

Step 3 - Standard trees will be planted at c. 30 m spacings. Trees will be pit-planted as 1.2 m tall saplings and secured using an appropriately sized stake and flexible tie. Hedgerow shrubs will not be planted in the surrounding 500 mm<sup>2</sup> around the tree and this area will be mulched with woodchip.

#### Grassland

A 10 m wide strip of grassland would be created along each side of the hedgerow using the following management prescription:

Step 1 – During July, the full extent of the area due to be enhanced will be disc harrowed or power harrowed to break up any existing vegetation, exposing a minimum of 50% bare ground and creating a good tilth for receiving seed.

Step 2 – Immediately after harrowing, green hay taken from the species rich roadside grassland will be distributed across the area either using a muck spreader if the hay is loose or a bale chopper if the hay is baled. The hay will be rolled to ensure maximum contact between seed and soil and left to establish until the following July.

Step 3 – The annual management will be to take an annual grass cut during August each year to a height of 100 mm and the arisings removed. It may be necessary to run a chain harrow over the grass during winter to break up any thatch which might develop in the absence of winter livestock grazing.

#### REFERENCES

Blakesley D and Buckley P. 2016. Grassland Restoration and Management. Pelagic Press, Exeter.  
Edlin H. 1973. Woodland Crafts in Britain. Country Book Club, Newton Abbot

SITE COSTINGS

The site costings for all the selected sites represent the NCC owned areas only. This is to reflect the level of control which the highways team have over the management and creation works proposed.

| Site Costings for FLITCHAM                                  | All contracting costs derived from National Association of Agricultural Contractors (NAAC) |                       |           |           |        |        |        |        |        |        |            |
|---|--|-----------------------|-----------|-----------|--------|--------|--------|--------|--------|--------|------------|
| N.B. Site costs extend to highways owned boundary.          |  |                       |           |           |        |        |        |        |        |        |            |
| All other costings relate to ELMs and are not included.     |  |                       |           |           |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
| CAPITAL WORKS - Labour                                      | Item   | Time to complete 200m | Rate      | Total/hr  |        |        |        |        |        |        |            |
| Tree Planting in Hedges                                     |  |                       |           |           |        |        |        |        |        |        |            |
| Planting - Labour   | 2 people   | 8                     | £15.00    | £240.00   |        |        |        |        |        |        |            |
| Trees - 24 Mixed species trees @ £25.00 (variable)          | 24 Trees   | -                     | £25.00    | £600.00   |        |        |        |        |        |        |            |
| Guards & Protection - Carboard guard & stake combo          | 24 Guards  |                       | £5.75     | £138.00   |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
| Initial Hedge Lay   |  |                       |           |           |        |        |        |        |        |        |            |
| Length - 2 x 200m @ 14.00/m                                 | £14.00 per metre   | -                     | \$14.00   | £5,600.00 |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
| Grassland Enhancement                                       |  |                       |           |           |        |        |        |        |        |        |            |
| Initial grass removal (Hay Cut)                             | see annual management  |                       |           |           |        |        |        |        |        |        |            |
| Chain Harrow x 2 passes                                     | see annual management  |                       |           |           |        |        |        |        |        |        |            |
| Seed harvest payment to donor site owner @ £250/ha          | 0.5ha of species rich seed   | -                     | 250/ha    | £125.00   |        |        |        |        |        |        |            |
| Seed harvesting from donor site @ £50/hr                    | Brush harvesting site  |                       | 2 Hours   | £100.00   |        |        |        |        |        |        |            |
| Seed sorting and drying @ 25/hr                             | 1 person laying out seed on cloth  |                       | 3 hours   | £75.00    |        |        |        |        |        |        |            |
| Seed transport @ £25.00/hr                                  | 1 person and car   |                       | 0.5 hours | £12.50    |        |        |        |        |        |        |            |
| Seed sowing (4gms/m2) @ £30.00/hr                           | 1 person with quadbike & broadcaster   |                       | 1 hour    | £30.00    |        |        |        |        |        |        |            |
| Rolling   |  |                       |           |           |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
| SUM TOTAL   |  |                       |           | £6,920.50 |        |        |        |        |        |        |            |
| ANNUAL MANAGEMENT WORKS                                     | Yr 1   | Yr 2                  | Yr 3      | Yr 4      | Yr 5   | Yr 6   | Yr 7   | Yr 8   | Yr 9   | Yr 10  | TOTALS     |
| Grassland   | Yes  | Yes                   | Yes       | Yes       | Yes    | Yes    | Yes    | Yes    | Yes    | Yes    |            |
| First annual cut - Grass mowing - £51.83/hr                 | 51.83  | 51.83                 | 51.83     | 51.83     | 51.83  | 51.83  | 51.83  | 51.83  | 51.83  | 51.83  | 518.3      |
| Second annual cut - Grass mowing - £51.83/hr                | 51.83  | 51.83                 | 51.83     | 51.83     | 51.83  | 51.83  |        |        |        |        | 259.15     |
| Estimated 0.5 hour per verge over 200m due to size of verge |  |                       |           |           |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
| Baling - Small conventional - per bale £0.88                | Yes  | Yes                   | Yes       | Yes       | Yes    | Yes    | Yes    | Yes    | Yes    | Yes    |            |
| Estimated 70 bales per acre due to lean soils - First cut   | 55.44  | 55.44                 | 55.44     | 55.44     | 55.44  | 55.44  | 55.44  | 55.44  | 55.44  | 55.44  | 554.4      |
| Estimated 35 bales per acre due to second cut - Second cut  | 27.72  | 27.72                 | 27.72     | 27.72     | 27.72  | 27.72  |        |        |        |        | 138.6      |
| Grassland mangement area - 0.9 acres                        |  |                       |           |           |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
| Bale Chasing  | Yes  | Yes                   | Yes       | Yes       | Yes    | Yes    | Yes    | Yes    | Yes    | Yes    |            |
| £3.06 per bale @ 63 bales - First cut                       | 192.78   | 192.78                | 192.78    | 192.78    | 192.78 | 192.78 | 192.78 | 192.78 | 192.78 | 192.78 | 1927.8     |
| £3.06 per bale @ 32 bales - Second cut                      | 97.92  | 97.92                 | 97.92     | 97.92     | 97.92  |        |        |        |        |        | 489.6      |
|   |  |                       |           |           |        |        |        |        |        |        |            |
| Hedgerow and Scrub Maintenance                              |  |                       |           |           |        |        |        |        |        |        |            |
| Hedge Cutting - Flail                                       |  | Yes                   |           |           | Yes    |        |        | Yes    |        |        |            |
| Tractor mounted flail - £47.84/hr @ 1 hour for site         |  | 47.84                 |           |           | 47.84  |        |        | 47.84  |        |        | 143.52     |
|   |  |                       |           |           |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
|   |  |                       |           |           |        |        |        |        |        |        |            |
| Management Sub-Total  |  |                       |           |           |        |        |        |        |        |        | 4031.37    |
| GRAND TOTAL   |  |                       |           |           |        |        |        |        |        |        | £10,951.87 |



## KEN HILL

TF 68232 35614



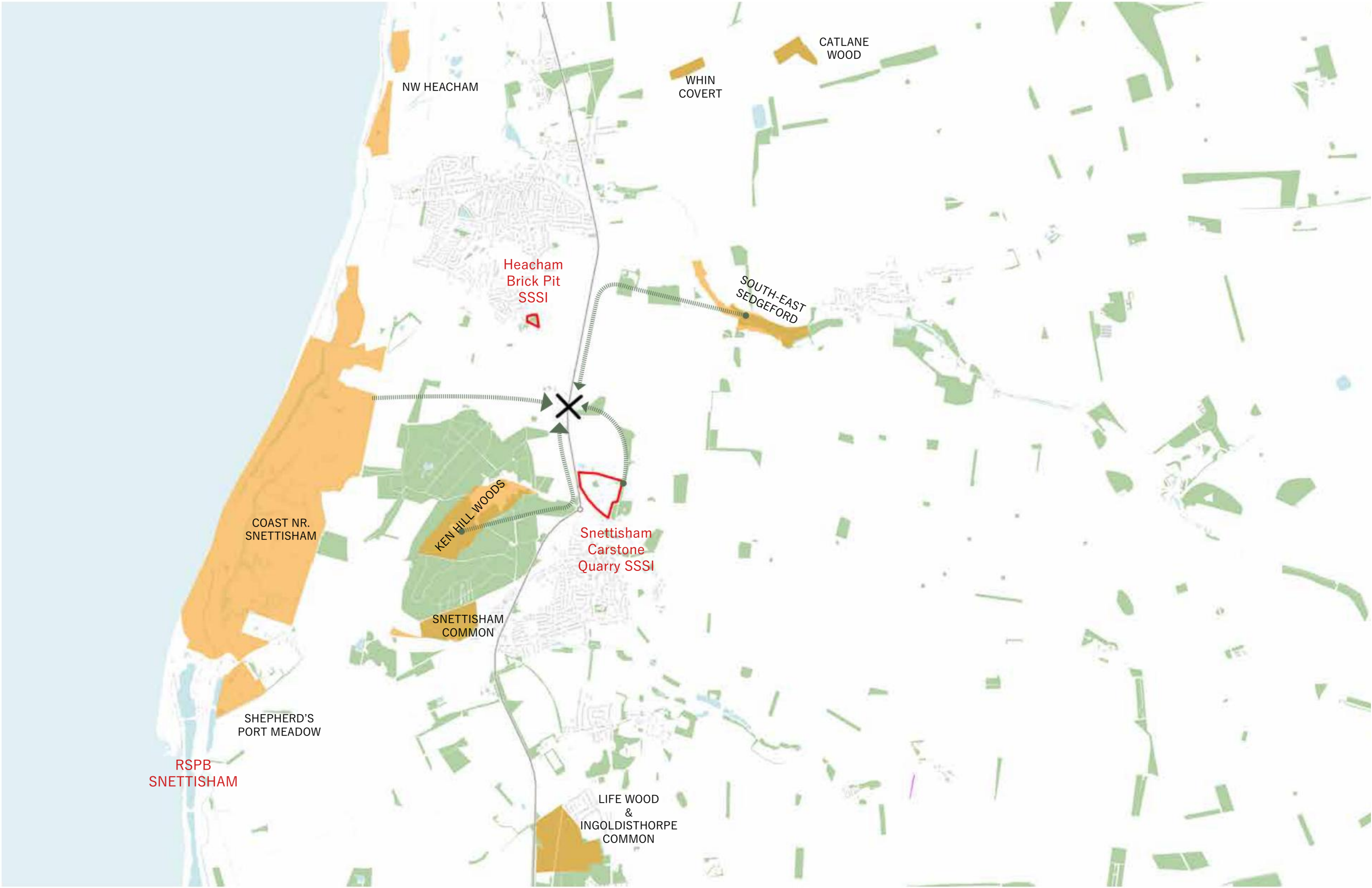
LOCATION : TF 68232 35614



SECTION CUT

Ken Hill A is located on the A149 at OS grid reference TF 68232 35614. The road is a single carriageway with a pavement along the western roadside and the selected site includes a lay-by. The eastern grass verge is wide and is contiguous with the adjacent grassy field margin of a large arable. The western grass verge connects with a cluster of broadleaved trees and a defunct thorn hedge, and beyond these, the ground level drops steeply into a large drainage ditch and then opens out into an arable field.

LANDSCAPE  
CONNECTIONS





## EXISTING HABITATS

Ken Hill is located on the A149 at OS grid reference TF 68232 35614. The road is a single carriageway with a pavement along the western roadside and includes a lay-by within the selected site. The eastern grass verge is wide and connects directly with arable land which includes a 10 m wide grassy margin. The western grass verge connects with a cluster of broadleaved trees and a defunct thorn hedge, and beyond these, the ground level drops steeply into a large drainage ditch. Beyond the ditch is a field of arable farmland with a 10 m wide buffer strip.

The site as Ken Hill has little ecological interest in the existing habitats, but is well positioned to explore opportunities to link the highway corridor with ecological interest in the surrounding landscape.

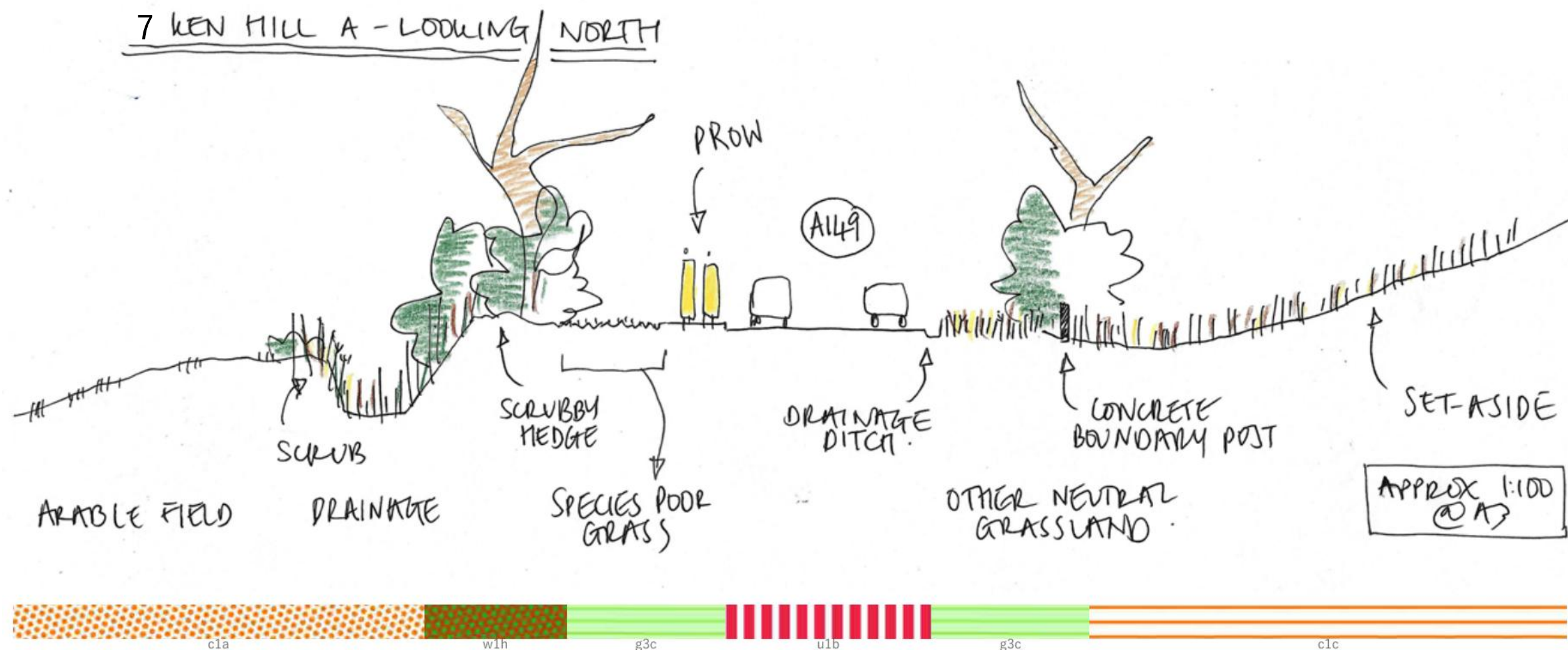
Within 500 m to the south, along the highway corridor, is Snettisham Carstone Quarry SSSI, which is a disused quarry cited as the only known location in Britain of the micro moth, *Nothris verbascella*. This rare moth, relies on the hoary mullien *Verbascum pulverulentum* plant to complete its life cycle. A second SSSI to the north; Heacham Brick Pit, is designated for its geological interest but brownfield sites such as this often provide a great ecological stepping stone due to the lack of formal vegetation management and the often thin, nutrient poor soils.

The location of the site also offers opportunities to improve connectivity between nearby County Wildlife Sites (CWS) and to improve landscape scale links with the Ken Hill Rewilding Area. The Coast Nr. Snettisham CWS and the south-east of Sedgeford CWS, located to the west and east of the site respectively, are cited for their grazing marsh, marshy grassland and fen habitats. Both CWS support diverse wetland plant and faunal communities and the site at Ken Hill would be well positioned to improve connectivity between these sites. Ken Hill Wood CWS is an area of dry heath surrounded by secondary woodland. The heath surrounds Ken Hill Hall and has been developed as parkland/wood pasture, containing scattered clumps of open grown ornamental trees. A maternity colony of barbastelle *Barbastellus barbastella* are known to roost in the woodland around Ken Hill Hall, which is a landscape scale bat, which primarily forages in broadleaved woodland and across open parkland, typically relying on a Core Sustenance Zone of 6 km radius around their roost (Collins 2016). Improving the stock of trees out of woodland will greatly support the conservation of this rare species of bat.



UKHAB BASELINE SURVEY





## CURRENT HABITAT & SPECIES

### OTHER NEUTRAL GRASSLAND - g3c

The grass verges are species poor neutral grassland and appear broadly unmanaged. Species recorded comprise cock's foot *Dactylus glomerata*, common couch, false oat grass, stinging nettle, red dead nettle, white dead nettle, creeping thistle, common knapweed, cow parsley, alexanders and yarrow.

### OTHER BROADLEAVED WOODLAND - w1g7

The woodland is small in surface area and is comprised of sycamore and pedunculate oak trees. The canopy of the trees are connected creating a continuous canopy, although the woodland only relates to a few trees. The trees are c. 8 – 10 m tall with stems approximately 15 – 25

cm d.b.h. (diameter at breast height). Beneath the canopy is a defunct blackthorn hedge which has reduced to five or six shrubs which are shaded by the trees.

### HEDGEROW - h2

The hedgerow continues beyond the woodland to the north where it is more-or-less intact and comprises native species including blackthorn and hawthorn.

### ARABLE FARMLAND - c1

The arable land on both sides of the carriageway is buffered by a 10 m wide grassy field margin.

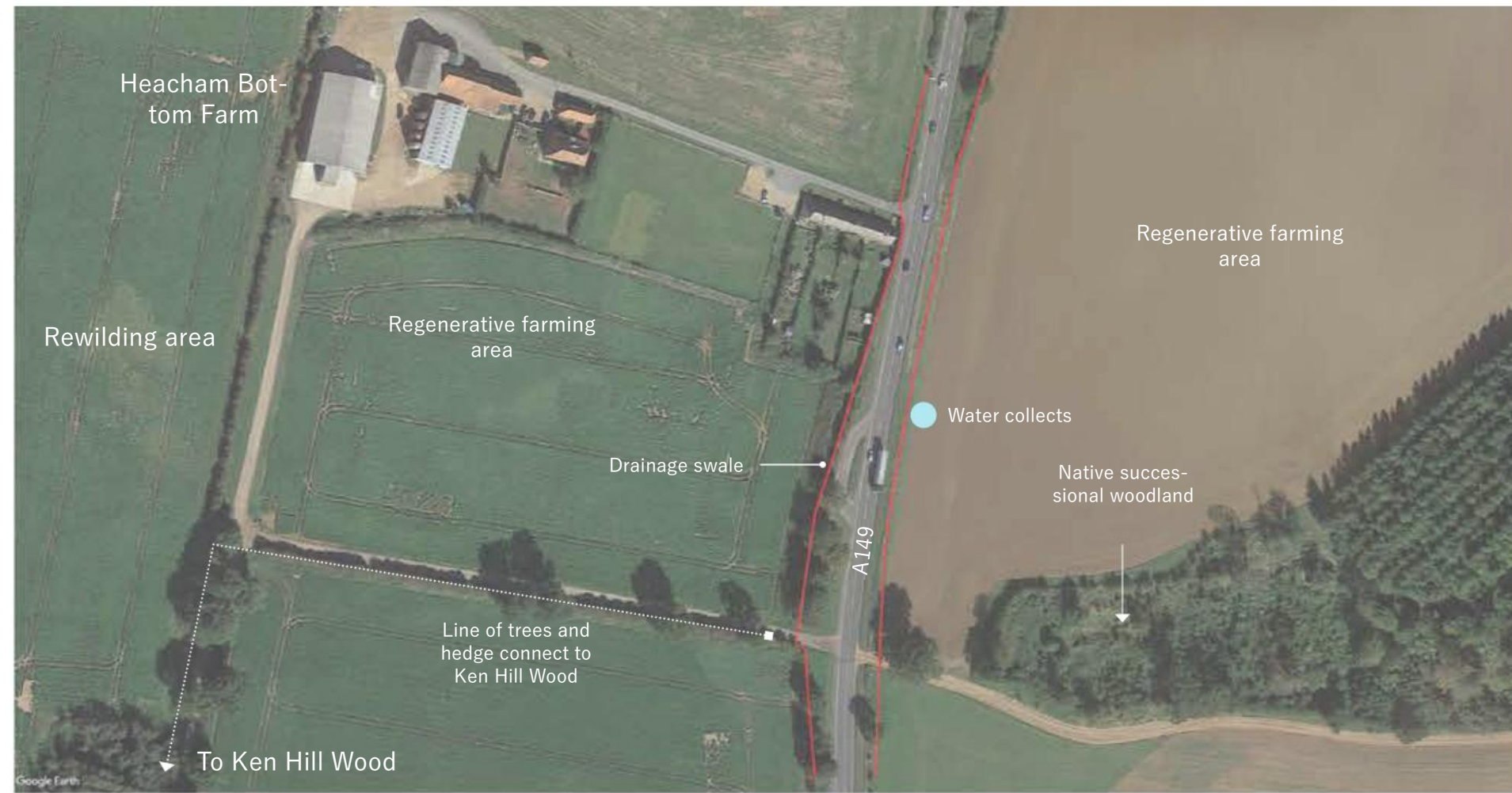


Sycamore and pedunculate oak trees make up a small area of closed canopy woodland



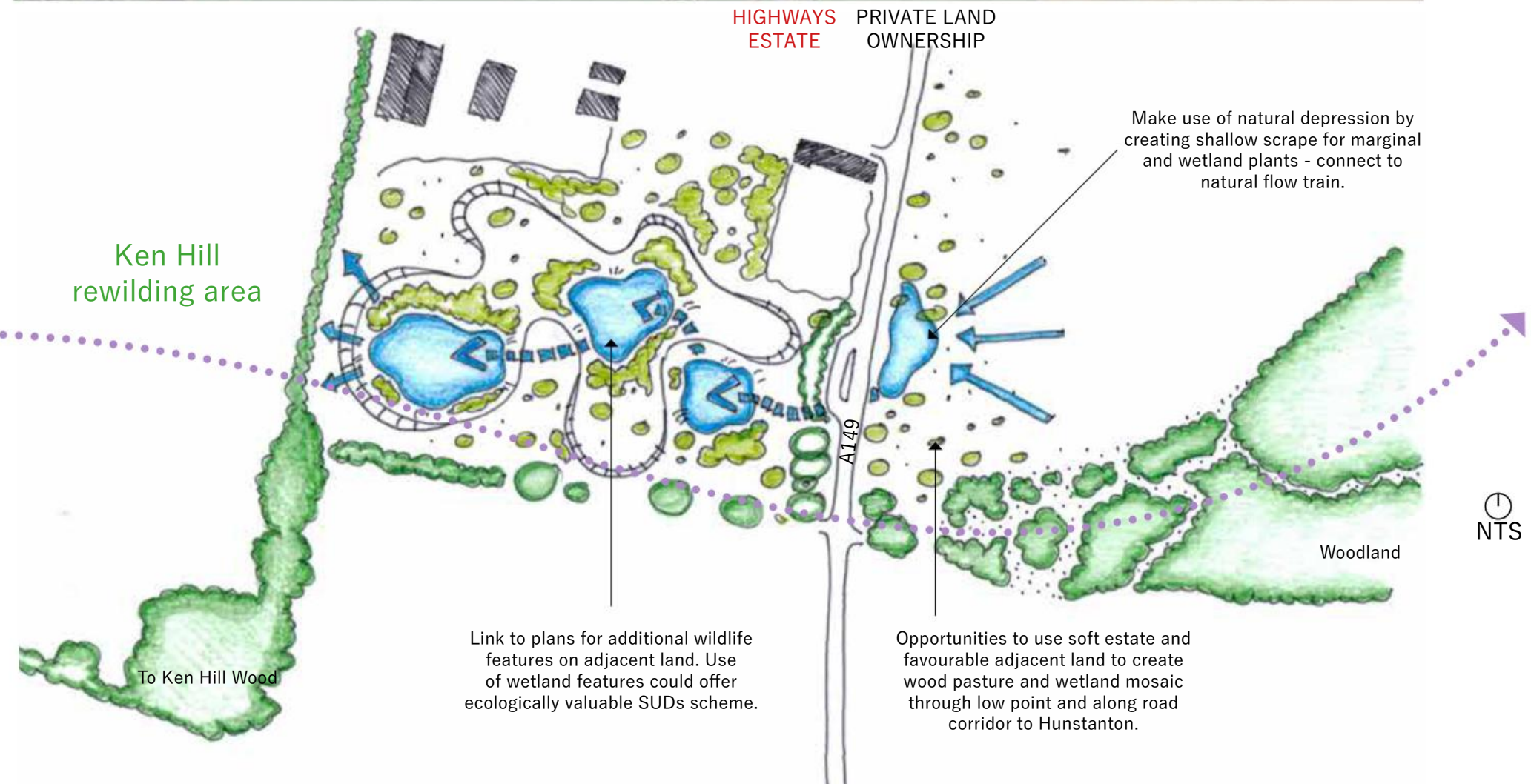
# SITE MASTERPLANS

## MASTERPLAN - EXISTING



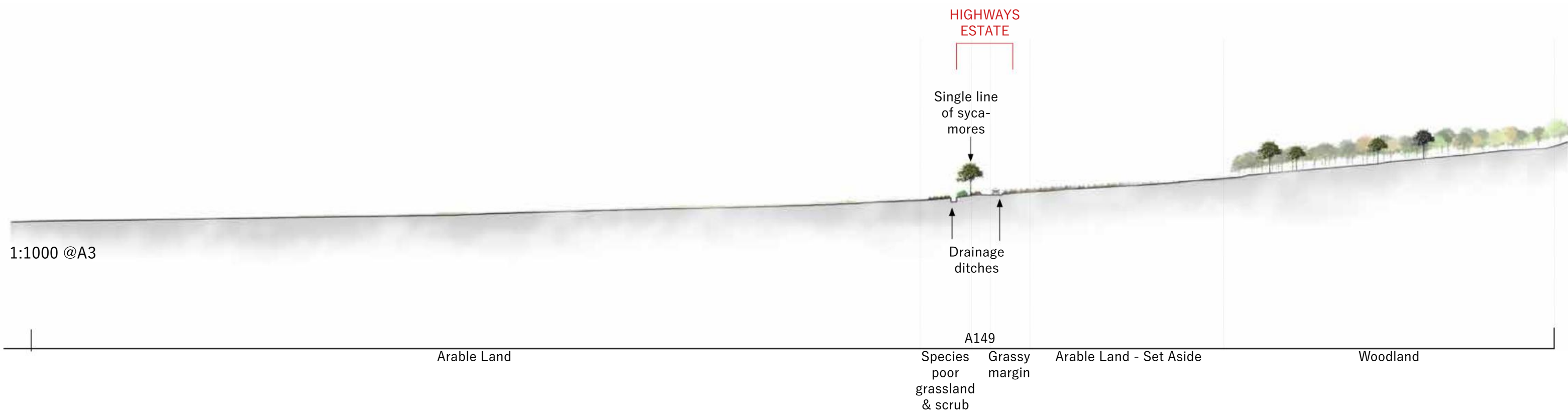
## MASTERPLAN - PROPOSED

Landscape scale link from chalk upland and woods to rewilding area and coastal marshes

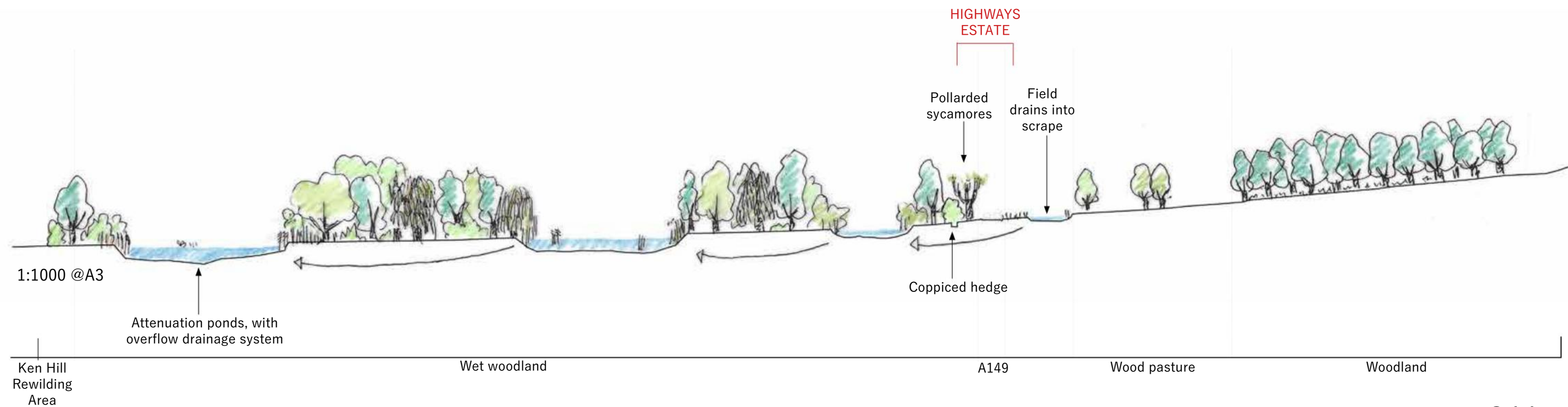


# SITE SECTIONS

## EXISTING SECTION



## PROPOSED SECTION

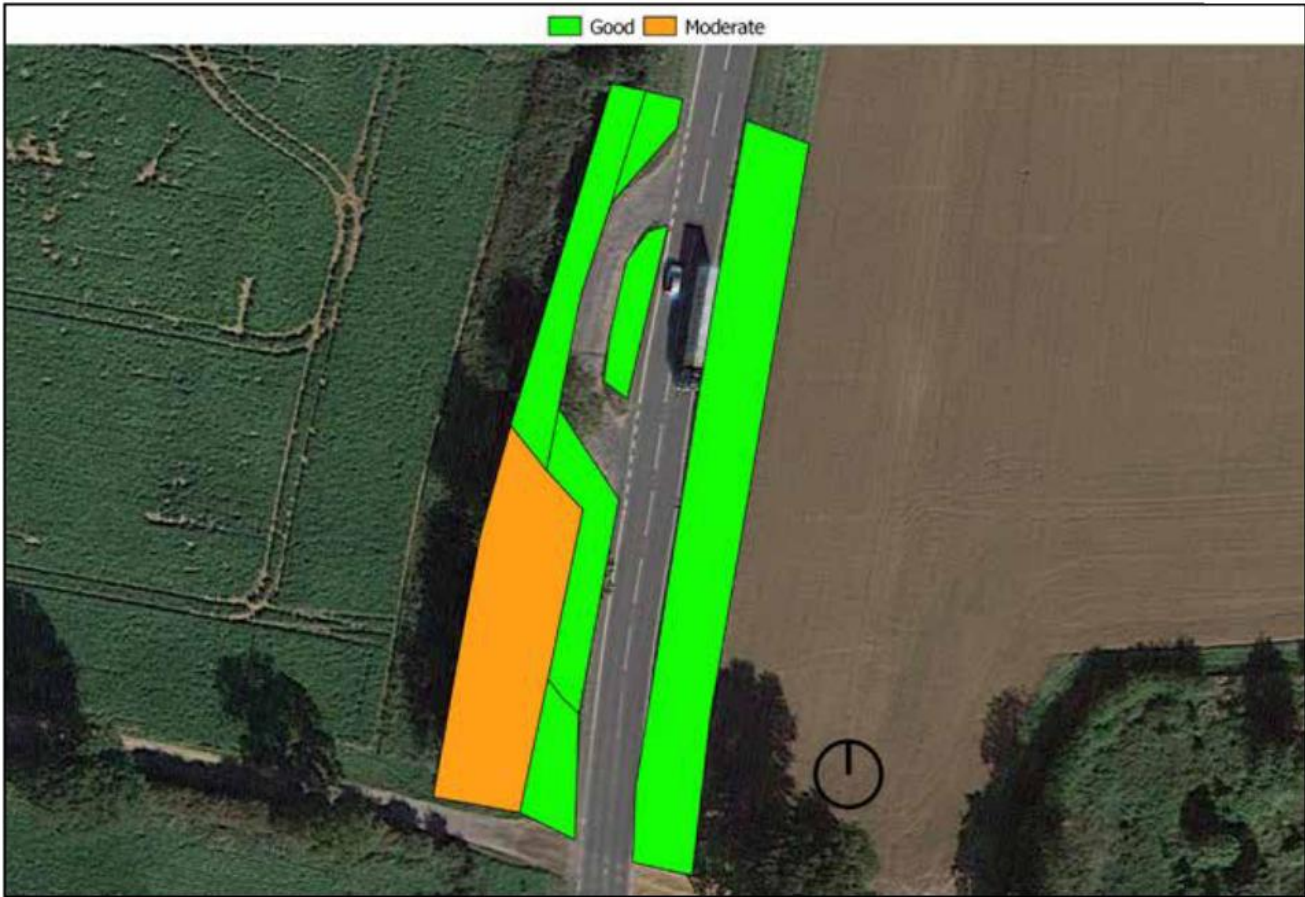




Existing Condition



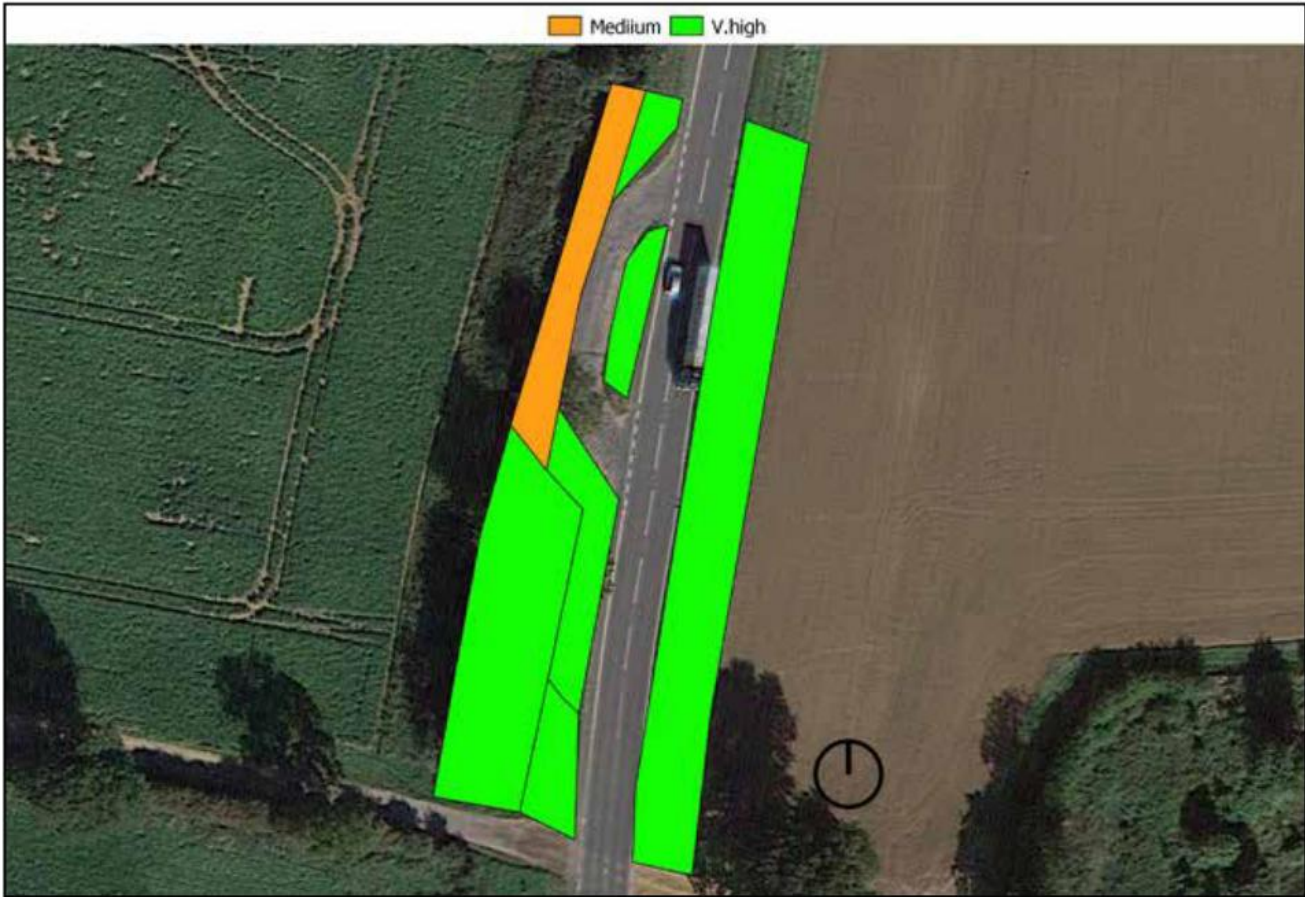
Proposed Condition



Existing Distinctiveness



Proposed Distinctiveness





NET-GAIN HABITAT UPLIFT MAP



**IMPORTANT** Surveying and calculations have been conducted for highways estate land only owing to the perceived complexity of multiple land ownership in lease and management agreements and the varying strategic needs of both NCC and the landowner.

As part of the surveying, we undertook a biodiversity net-gain calculation to establish, against the DEFRA Biodiversity Metric 3.1, whether the proposed changes delivered a positive uplift in biodiversity. The figures from this calculation are highlighted on adjacent page. The first number is the unit figure of the existing site, the second number is the unit figure from the proposed design changes, the third shows the unit gain/loss and the final figure shows the percentage gain/loss.

This calculation is based off a 200m stretch of the soft estate as surveyed.

The DEFRA biodiversity metric works on two measures. Area habitats such as grassland and woodland, and Linear habitats such as streams, hedgerows and lines of trees. Below are calculations for both and their relative net loss/gain from existing to proposed.

AREA:

Existing site biodiversity units (Area):

2.42

Proposed site biodiversity units (Area):

1.22

Biodiversity unit Gain/Loss

-1.2

Percentage Gain/Loss

-46.99%

LINEAR:

Existing site biodiversity units (Area):

1.6

Proposed site biodiversity units (Area):

1.6

Biodiversity unit Gain/Loss

+0.00

Percentage Gain/Loss

0.00%

Notes:





The eastern grass verge is wide and connects directly with arable land. A natural depression provides opportunity for a seasonal scrape. Some calcareous and lowland meadow indicator species are present along the highway estate, however the probable use of a flail mower with no removal of arisings is leading to a rank vegetation where herbaceous plants are patchy and sporadic. This could be easily remedied.



The western verge features a pavement and connects with a cluster of broadleaved trees and a defunct thorn hedge, and beyond these, a large drainage ditch. The trees to the left of the image are to be pollarded to allow more light to the grassland floor. A regular annual cutting regime is to begin with removal of arisings to allow for a delicate, species rich and open grassland to persist.



Existing sycamores are to be pollarded.







PLANTING PLAN



Strata system



Woodland edge



Water management

Hedgerow & Scrub Planting Instructions

Please refer to spec sheet for correct mix, TOW-DIG-00-RP-0002

Plant out mixes randomly using clusters of 2-10 plants of the same species per cluster

Plant each hedge in a double staggered row at 400mm c/c

Ensure generous ground mulch of native species woodchip for weed suppression and fungal inoculant.

Randomly plant areas of scrub with assorted species or small single species clumps. Allow open areas for glade development

Tree Codes & Number.

- 5 x A.c. = Acer campestre (Field maple)
- 3 x A.g. = Alnus glutinosa (Alder)
- 4 x B.p. = Betula pedula (Silver Birch)
- 5 x C.b. = Carpinus betulus (Hornbeam)
- 1 x C.s. = Castanea sativa (Sweet Chestnut)
- 3 x Q.r. = Quercus robur (Oak)
- 1 x P.p. = Prunus padus (Bird Cherry)
- 2 x S.c. = Salix cinerea (Willow)
- 1 x S.f. = Salix fragilis (Crack Willow)
- 3 x T.c. = Tilia cordata (Small Leaved Lime)

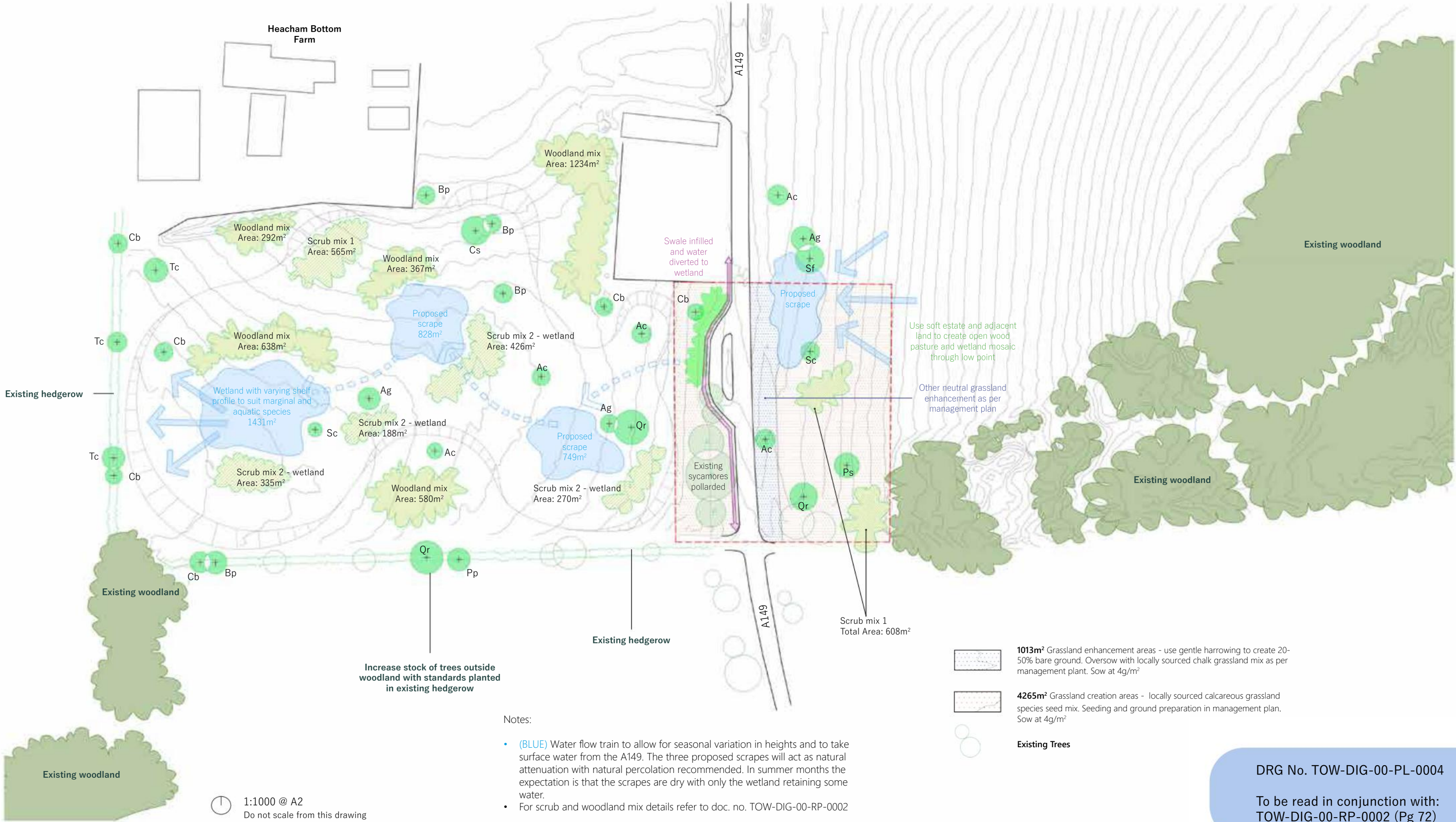


TABLE 1 - Standard Trees Specification

| Vernacular        | Species                 | Number | Size      | Pot/BR |
|-------------------|-------------------------|--------|-----------|--------|
| Field maple       | <i>Acer campestre</i>   | 5      | 180-200cm | BR     |
| Alder             | <i>Alnus glutinosa</i>  | 3      | 180-200cm | BR     |
| Silver birch      | <i>Betula pendula</i>   | 4      | 180-200cm | BR     |
| Hornbeam          | <i>Carpinus betulus</i> | 5      | 180-200cm | BR     |
| Sweet chestnut    | <i>Castanea sativa</i>  | 1      | 180-200cm | BR     |
| Oak               | <i>Quercus robur</i>    | 3      | 180-200cm | BR     |
| Bird Cherry       | <i>Prunus padus</i>     | 1      | 180-200cm | BR     |
| Willow            | <i>Salix cinerea</i>    | 2      | 180-200cm | BR     |
| Crack willow      | <i>Salix fragilis</i>   | 1      | 180-200cm | BR     |
| Small leaved lime | <i>Tilia cordata</i>    | 3      | 180-200cm | BR     |

TABLE 2: Woodland Mix Plant at 3m spacings | Total Area 3111m<sup>2</sup>

| Vernacular        | Species                      | Mix Percentage | Number | Size    | Pot/BR |
|-------------------|------------------------------|----------------|--------|---------|--------|
| Whitebeam         | <i>Sorbus aria</i>           | 7%             | 72     | 60-80cm | BR     |
| Wild service tree | <i>Sorbus torminalis</i>     | 3%             | 31     | 60-80cm | BR     |
| Downy birch       | <i>Betula pubescens</i>      | 30%            | 311    | 60-80cm | BR     |
| Goat willow       | <i>Salix caprea</i>          | 10%            | 104    | 60-80cm | BR     |
| Field maple       | <i>Acer campestre</i>        | 10%            | 104    | 60-80cm | BR     |
| Wild cherry       | <i>Prunus avium</i>          | 10%            | 104    | 60-80cm | BR     |
| Yew               | <i>Taxus baccata</i>         | 5%             | 52     | 60-80cm | BR     |
| Pedunculate oak   | <i>Quercus robur</i>         | 20%            | 207    | 60-80cm | BR     |
| Honeysuckle       | <i>Lonicera periclymenum</i> | 5%             | 52     | 60-80cm | BR     |

TABLE 3: Scrub specifications - Scrub mix 1 - Plant at 1m Spacings | Total Area 1173m<sup>2</sup>

| Vernacular     | Species                      | Mix Percentage | Number | Size    | Pot/BR |
|----------------|------------------------------|----------------|--------|---------|--------|
| Hazel          | <i>Corylus avellana</i>      | 2%             | 23     | 60-80cm | BR     |
| Field maple    | <i>Acer campestre</i>        | 10%            | 117    | 60-80cm | BR     |
| Crab apple     | <i>Malus sylvestris</i>      | 25%            | 293    | 60-80cm | BR     |
| Rowan          | <i>Sorbus aucuparia</i>      | 10%            | 117    | 60-80cm | BR     |
| Wayfaring Tree | <i>Viburnum lantana</i>      | 3%             | 36     | 60-80cm | BR     |
| Elder          | <i>Sambucus nigra</i>        | 5%             | 59     | 60-80cm | BR     |
| Dog rose       | <i>Rosa canina</i>           | 10%            | 117    | -       | BR     |
| Field rose     | <i>Rosa Arvensis</i>         | 7%             | 82     | -       | BR     |
| Bramble        | <i>Rubus fruticosus agg.</i> | 10%            | 117    | -       | BR     |
| Honeysuckle    | <i>Lonicera periclymenum</i> | 3%             | 36     | -       | BR     |
| Hawthorn       | <i>Crataegus monogyna</i>    | 15%            | 176    | 60-80cm | BR     |

TABLE 4: Scrub specifications - Scrub mix 2 - Wetland Tree Mix - Plant at 2m spacings | Total Area 1219m<sup>2</sup>

| Vernacular   | Species              | Mix Percentage | Number | Size    | Pot/BR |
|--------------|----------------------|----------------|--------|---------|--------|
| White Willow | <i>Salix alba</i>    | 25%            | 153    | 60-80cm | BR     |
| Goat Willow  | <i>Salix caprea</i>  | 50%            | 305    | 60-80cm | BR     |
| Grey Willow  | <i>Salix cinerea</i> | 25%            | 153    | 60-80cm | BR     |

Grassland Specification - Creation Area Total: 4265m<sup>2</sup>  
Enhancement Area Total : 1013m<sup>2</sup>



The overall design concept for Ken Hill is to implement ecological enhancements which also improve the movement of water through the highway corridor using strategic tree planting to create a wood-pasture and wetland mosaic. The design concept could be progressed further through collaboration with the adjacent land owners to create an ecologically valuable series of waterbodies on the land below the highway estate, to better manage surface run-off in a Sustainable Urban Drainage System (SUDS).

The Strata System will be used to improve management of the existing soft estate and to buffer the ecological interest and wider habitat mosaics. The Nerves and Synapses system will be used to explore opportunities to link the highway estate with ecological assets in the wider landscape.

### Management prescription – Grassland – Strata 1

Strata 1 comprises the c. 5 m of grass verge along the road's edge. In the current situation, the road verge is vegetated with species poor, rank and tussocky grassland which appears to be infrequently managed. The condition assessment established that the grassland is in moderate condition due to the rank grass not showing a sufficiently varied sward height and an absence of bare ground patches. However, species richness was higher further along the grass verge to the north, so through implementing some simple alterations to the management regime, it would allow the wildlife value of the grass verge to be optimised with little capital input.

Management of the grassland should focus on establishing an annual cutting regime which will knock-back vigorous grasses of an initial late summer cut, followed by a second cut in early autumn with a focus on removing the grass cuttings. Over time this will slowly reduce the nutrient status of the verge soils and ensure the litter layer is broken up annually, allowing a wider variety of plants to set seed and find space in the sward. Arisings could be spread around newly planted trees as a mulch during the first three years of establishment to suppress the growth of competitive weeds. After the third year following planting, arisings should be removed from site to avoid excessive nutrient build up in any one area. The ecological value of the verge could further be enhanced through over-seeding with a diverse lowland meadow seed mix including an element of yellow rattle *Rhinanthus minor* seed.

Annual management of the grassland on both sides of the road should follow the prescription set out below: -

Step 1 – The grass should be left uncut between March and July inclusive.

Step 2 – During the second half of July (after July 15th), the grass should be cut to a height of 100 mm using a reciprocating blade cutter or a drum mower. Arisings should be baled and removed or removed with a brush collector or buck-rake.

Step 3 – During September, the grass should be cut again to a height of 100 mm with the arisings removed.

Step 4 – After cutting, during a period of dry weather, the grass should be harrowed using a heavy chain harrow or disc harrow to expose a minimum 20% (up to 50%) bare ground within the sward.

Step 5 – After harrowing, a locally sourced chalk grassland seed mix should be broadcast sown at a rate of 4gm<sup>2</sup> and yellow rattle should be sown at a rate of 1gm<sup>2</sup>.

Step 6 – After the initial restoration management, two annual cuts during late July and September will be made for the first five-year period when it may be appropriate to reduce the annual cut to a single cut in August.

### Management prescription – Wood-pasture – Strata 2

Strata 2 comprises a 10 m wide strip along the eastern edge of the highway estate and encompasses the grassy field margin.

The western soft estate already contains mature trees which are rooted between 5 and 12 m from the road edge. The eastern verge has no trees or shrubs and is contiguous with the grassy arable field margin. It is proposed that Strata 2 would begin to establish a wood pasture type habitat with individual trees and patches of scrub sitting in a species rich grassland mosaic. Where the ground dips into a natural depression, a shallow scrape would be made to allow water to pool during high rainfall and naturally percolate into the ground to reduce surface flowing water. On wetter ground, the vegetation would be encouraged to develop into marginal and wetland plant communities with willow *Salix sp.* and alder *Alnus glutinosa* trees planted to help manage water.

The management prescription for Strata 2 will comprise creation and management of species rich grassland and marginal vegetation, and tree planting, as follows: -

### Grassland

Step 1 – During September, the full extent of the area due to be enhanced will be disc harrowed to break up any existing vegetation, exposing a minimum of 50% bare ground and creating a good tilth for receiving seed.

Step 2 – Immediately after harrowing, a locally sourced chalk grassland seed mix will be broadcast sown at a rate of 4gm<sup>2</sup> and then rolled to maximise contact between seed and soil.

Step 3 – The annual management will be to take an annual grass cut during August each year to a height of 100 mm and the arisings removed. Winter grazing by livestock would support the development of a diverse grassland. An appropriate grazing density for cattle would be 5 units per ha for 8 – 10 weeks depending on the development of the sward (Blakesley & Buckley 2016) (although this is likely to be significantly different in a mob grazing system). If livestock are not available, it may be necessary to run a chain harrow over the grass during winter to break up any thatch which might develop.

## Trees

The vision for Strata 2 is to establish wood pasture along the 10 m wide belt of land alongside the highway corridor and out into the wider area if desirable. Trees will be planted at wide spacings and would either be managed as standards or as pollards. Existing trees on the western road side will be pollarded to allow more light to reach the blackthorn beneath and to restrict the maximum height of the roadside trees. Pollarding is a method of reducing the crown of a tree, traditionally to provide wood fuel, to a height above which livestock can't reach. This encourages vigorous re-growth, which is out of the reach of browsing animals, to generate a successive supply of wood. In the context of the highway estate, this method of tree maintenance will ensure roadside trees are prevented from getting too large and reducing risk to highway users. It will also support maximum biodiversity by periodically allowing more light to reach the ground, supporting floral diversity, and has the potential to allow trees to live for an extended period and potentially reach veteran status. The details of tree species and proposed locations are detailed in the accompanying planting plan.

Step 1 – Tree planting will be conducted during October through January. Trees will be planted as per the planting plan with the closest trees set back from the road edge by a minimum 8 m. Trees will be planted as 1.2 m tall transplants. Bare root stock will be notch planted and staked, cell grown stock will be pit planted and staked with an appropriately sized stake. Each tree will be fenced using post-and-wire stock fencing comprising sheep netting with a single strand of barbed wire. The fencing will enclose an area of 3 m<sup>2</sup> square around the tree. Woodchip will be applied as a mulch to cover the 3 m<sup>2</sup> area within the enclosure.

Step 2 - In September of years 1 to 3 following planting, management of trees will comprise the following; -

- An assessment of the health of the trees. Any mortality of trees will trigger remedial action. Remedial action will comprise the beating up of dead trees and re-planting of the same species to the method set out above;
- Woodchip will be re-applied to the base of each tree to maintain a weed free area of at least 1 m<sup>2</sup> around its base;
- Tree stakes should be checked and should remain fit for purpose for a minimum 3 years, supporting the tree but not causing damage; and
- Fencing should be checked and should remain fit-for-purpose.

Step 3 – If desired, pollarding of newly planted trees should begin in Year 15 and all trees destined to be managed as pollards should have had their first cut before Year 30 after planting (Edlin 1973). Approximately 25% of the pollards should be cut in Year 15. Pollarding of existing trees should aim to cut 25 % of the tree stock in Year 1.

The first cut of a pollard should aim to develop a bolling at between 2 and 2.5 m high. Two, three or four limbs at this height should be selected to form the 'knuckles' of

the bolling. Above these limbs, the top of the tree should be removed and all lateral limbs below these limbs should be removed using a pruning cut; close to the stem but retaining the branch collar intact. The remaining limbs should be reduced to 50 cm long (Edlin 1973). These branch stubs will form knuckles which will regrow and subsequent cuts will be made back to the knuckles.

Subsequent cuts will be made at intervals of between 10 and 16 years.

Traditionally, pollards were managed for firewood, and re-growth would be harvested at between 2 and 5 cm diameter.

Step 4 - The second 25% of the pollards will receive their first cut two years after the first trees were cut to the method set out above.

Step 5 - The third 25% of the pollards will receive their first cut four years after the first trees were cut to the method set out above.

Step 6 – The fourth 25% of the pollards will receive their first cut six years after the first trees were cut to the method set out above.

Step 7 - The pollards may be ready to be cut for the second time, ten years after they were first cut. This would be at the discretion of the highways managers, due to the firewood resource having little value in today's economy. However, it is recommended that pollards are cut on a 10 to 15 year rotation to maintain the bolling in a manageable condition and to support the diversity of the ground flora beneath the trees. The first cut of the regrowth, will see the poles cut back to the branch collar. The poles can be expected to be between 2 and 5 cm diameter, depending on the tree species.

## Scrub and woodland

Woodland and scrub planting proposed for the wider landscape and detailed in the planting plan, will be planted to the following management prescription. Table 2 (Pg. 81) sets out the species mix for woodland and Tables 3 & 4 (Pg. 81) set out the planting mixes for scrub.

The method for woodland planting should follow the prescription set out below: -

Step 1 – Upon taking control of the land, all agricultural procedures will cease immediately and the soil will not be subject to additional ploughing or harrowing.

Step 2 – The existing vegetation will be topped and the arisings left in-situ to mulch the ground.

Step 3 - Trees will be sourced from local nurseries and will be of local or southern

provenance stock. Trees will be planted as 600 – 800 mm tall whips of either bare-root planting stock or as cell-grown planting stock.

Step 4 – During October through December, bare-root planting stock will be notch planted into a T-shaped slit with the original root collar at ground level. Roots will be spread out in the planting notch before firming the soil around the plant. Cell-grown whips will be pit planted. Plants will be placed at a minimum 1.5 m spacings and positioned irregularly to replicate a natural woodland; i.e. not in ranks. Trees and shrubs will be planted in single species clusters of 3 – 5 plants. Plants will be protected using 0.8 m cardboard guards. Tree guards will be secured with appropriately sized stakes. Woodchip will be placed around the base of each plant to cover approximately 50 cm<sup>2</sup>.

Step 5 - In September of years 1 to 3 following planting, management will comprise the following; -

- An assessment of the health of the shrubs and trees. Greater than 5% mortality of all shrubs will trigger remedial action. Remedial action will comprise the beating up of dead shrubs and re-planting of the same species to the method set out above;
- Grass and weeds will be removed from within the tree guards by hand and pulled away from the base of the shrubs;
- Woodchip will be re-applied to the base of each newly planted shrub or tree to maintain a weed free area of at least 50 cm<sup>2</sup>;
- Tree guards and stakes should be checked and should remain fit for purpose for a minimum 3 years;

Ongoing management of woodland planting will aim to encourage a dynamic, woodland edge which transitions to high woodland and grades out into adjacent open habitats. The high woodland will be encouraged by conducting thinning from year 10 after planting, with advice from an arboricultural professional. Thinning would be conducted of single species clusters of climax canopy species to favour the dominant tree. It may also be appropriate to selectively thin out pioneer tree species such as willow *Salix sp.* and birch *Betula sp.* to allow canopy space for climax canopy species.

The woodland edge will be maintained as a dynamic scrub through adopting a 5 – 7 year coppice rotation. This could be managed to cut a fifth to a seventh of the woodland edge annually in blocks of 50 – 100 m. This would allow maintenance budgets to be more easily managed on a year-to-year basis and would be ecologically beneficial by creating a succession of age classes within the coppice re-growth. Cut material for coppicing should be processed into woodchip and spread evenly across the woodland floor.

#### Management prescription – Ephemeral waterbody (scrape)

The creation of the ephemeral waterbody will aim to establish a seasonally wet depression which will hold water during high rainfall and allow it to slowly and more naturally re-enter the ground water, thereby reducing excess surface water run-off from the road.

The scrape should be constructed using an excavator and have a maximum central depth of 1 m. The edges should be gently graded to create a shallow marginal area for aquatic plants and to support amphibians. Spoil from the excavation should be placed on the downhill side of the waterbody and graded into the landscape so that it doesn't reduce the water catchment. It would be appropriate to plant willow trees and manage them as pollards along the water's edge to increase the ground drying process via transpiration.

Depending on the resulting hydrology of the scrapes and ephemeral pools, it may be beneficial to introduce marginal and emergent vegetation through planting of plugs. However, if pools are dry during much of the summer, these may not establish well. Plug planting should be considered in the year following the creation of the scrapes and pools after the resulting water level has been established.

#### REFERENCES

- Blakesley D and Buckley P. 2016. Grassland Restoration and Management. Pelagic Press, Exeter.
- Edlin H. 1973. Woodland Crafts in Britain. Country Book Club, Newton Abbot
- Read H (ed.) 1991. Pollard and Veteran Tree Management – Proceedings of the meeting hosted by the Corporation of London at Burnham Beeches, Bucks., on 6th March 1991. Published online
- Collins 2016. Bat Survey Good Practice Guidelines, 3rd edition. Bat Conservation Trust, London

SITE  
COSTINGS

The site costings for all the selected sites represent the NCC owned areas only. This is to reflect the level of control which the highways team have over the management and creation works proposed.

| Site Costings for KEN HILL                                 | All contracting costs derived from National Association of Agricultural Contractors (NAAC) |                        |           |          |        |        |        |        |        |        |           |
|--|--|------------------------|-----------|----------|--------|--------|--------|--------|--------|--------|-----------|
| N.B. Site costs extend to highways owned boundary.         |  |                        |           |          |        |        |        |        |        |        |           |
| All other costings relate to ELMs and are not included.    |  |                        |           |          |        |        |        |        |        |        |           |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| CAPITAL WORKS - Labour                                     | Item   | Time to complete/hours | Rate      | Total/hr |        |        |        |        |        |        |           |
| Tree Planting in wood pasture                              |  |                        |           |          |        |        |        |        |        |        |           |
| Planting - Labour  | 2 people   | 1                      | £15.00    | £30.00   |        |        |        |        |        |        |           |
| Trees - 24 Mixed species trees @ £25.00 (variable)         | 1 Trees  | -                      | £25.00    | £25.00   |        |        |        |        |        |        |           |
| Guards & Protection - Carboard guard & stake combo         | 1 Guards   |                        | £5.75     | £5.75    |        |        |        |        |        |        |           |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| Tree Surgery - pollard trees - 5 - 6 trees                 |  |                        |           |          |        |        |        |        |        |        |           |
| Stree surgery - 2 x arborists with chainsaws @ 1 days      | 2 arborists with chainsaw  | 8                      | £35.00    | £560.00  |        |        |        |        |        |        |           |
| Clearing & chipping - 1 person labouring                   | 1 person   | 8                      | £15.00    | £120.00  |        |        |        |        |        |        |           |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| Chipper - £250/day   | 1 days chipper hire  | -                      | £250.00   | £250.00  |        |        |        |        |        |        |           |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| Grassland Enhancement                                      |  |                        |           |          |        |        |        |        |        |        |           |
| Initial grass removal (Hay Cut)                            | see annual management  |                        |           |          |        |        |        |        |        |        |           |
| Chain Harrow x 2 passes                                    |  |                        |           |          |        |        |        |        |        |        |           |
| Seed harvest payment to donor site owner @ £250/ha         | 0.5ha of species rich seed   | -                      | 250/ha    | £125.00  |        |        |        |        |        |        |           |
| Seed harvesting from donor site @ £50/hr                   | Brush harvesting site  |                        | 2 Hours   | £100.00  |        |        |        |        |        |        |           |
| Seed sorting and drying @ 25/hr                            | 1 person laying out seed on cloth  |                        | 3 hours   | £75.00   |        |        |        |        |        |        |           |
| Seed transport @ £25.00/hr                                 | 1 person and car   |                        | 0.5 hours | £12.50   |        |        |        |        |        |        |           |
| Seed sowing (4gms/m2) @ £30.00/hr                          | 1 person with quadbike & broadcaster   |                        | 1 hour    | £30.00   |        |        |        |        |        |        |           |
| Rolling  |  |                        |           |          |        |        |        |        |        |        |           |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| SUM TOTAL  |  |                        |           | £990.75  |        |        |        |        |        |        |           |
| ANNUAL MANAGEMENT WORKS                                    | Yr 1   | Yr 2                   | Yr 3      | Yr 4     | Yr 5   | Yr 6   | Yr 7   | Yr 8   | Yr 9   | Yr 10  | TOTALS    |
| Grassland  | Yes  | Yes                    | Yes       |          |        |        |        |        |        |        |           |
| First annual cut - Grass mowing - £51.83/hr                | £25.92   | £25.92                 | £25.92    | £25.92   | £25.92 | £25.92 | £25.92 | £25.92 | £25.92 | £25.92 | £259.15   |
| Second annual cut - Grass mowing - £51.83/hr               | £25.92   | £25.92                 | £25.92    | £25.92   | £25.92 |        |        |        |        |        | £129.58   |
| Estimated 0.5 hour for full site                           |  |                        |           |          |        |        |        |        |        |        |           |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| Baling - Small conventional - per bale £0.88               | Yes  | Yes                    | Yes       | Yes      | Yes    | Yes    | Yes    | Yes    | Yes    | Yes    |           |
| Estimated 70 bales per acre due to lean soils - First cut  | £20.33   | £20.33                 | £20.33    | £20.33   | £20.33 | £20.33 | £20.33 | £20.33 | £20.33 | £20.33 | £203.28   |
| Estimated 35 bales per acre due to second cut - Second cut | £10.16   | £10.16                 | £10.16    | £10.16   | £10.16 |        |        |        |        |        | £50.82    |
| Grassland mangement area - 0.33 acres                      |  |                        |           |          |        |        |        |        |        |        |           |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| Bale Chasing   | Yes  | Yes                    | Yes       | Yes      | Yes    | Yes    | Yes    | Yes    | Yes    | Yes    |           |
| £3.06 per bale @ 23 bales - First cut                      | £70.38   | £70.38                 | £70.38    | £70.38   | £70.38 | £70.38 | £70.38 | £70.38 | £70.38 | £70.38 | £703.80   |
| £3.06 per bale @ 12 bales - Second cut                     | £36.72   | £36.72                 | £36.72    | £36.72   | £36.72 |        |        |        |        |        | £183.60   |
| Tractor mounted flail - £47.84/hr @ 1 hour for site        |  | £47.84                 |           |          | £47.84 |        |        | £47.84 |        |        | £143.52   |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| Management Sub-Total                                       |  |                        |           |          |        |        |        |        |        |        | £1,673.75 |
|  |  |                        |           |          |        |        |        |        |        |        |           |
| GRAND TOTAL  |  |                        |           |          |        |        |        |        |        |        | £2,664.50 |



## KING'S LYNN

TF 67052 23890



LOCATION : TF 67052 23890



SECTION CUT

King's Lynn is located on the A149. The road is a single carriageway and is raised above the surrounding land. The topography dips into a deep drainage dip before raising to meet the adjacent farmland.

## LANDSCAPE CONNECTIONS



County Wildlife Site



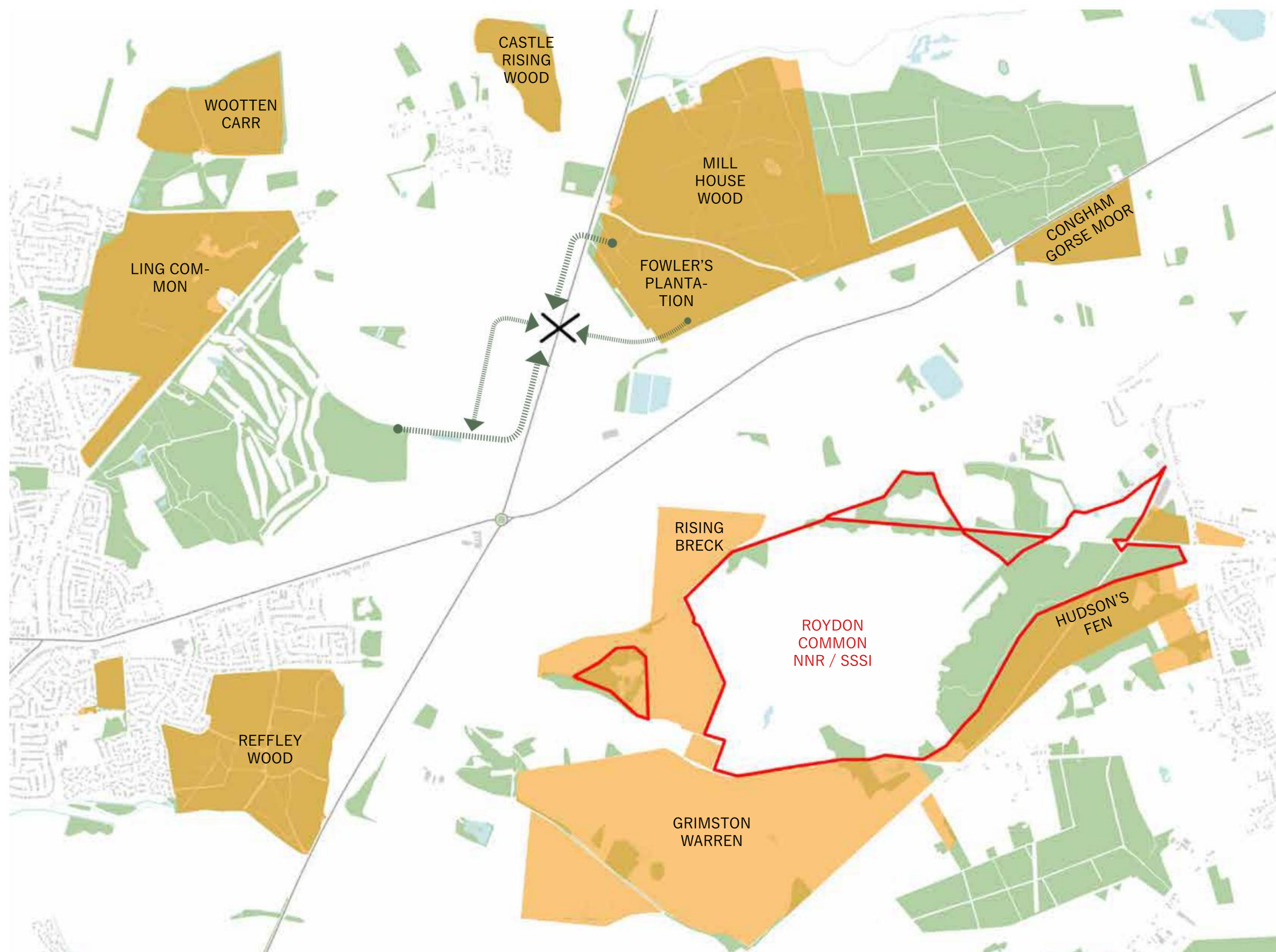
Woodland



Ecological Connections



SSSIs



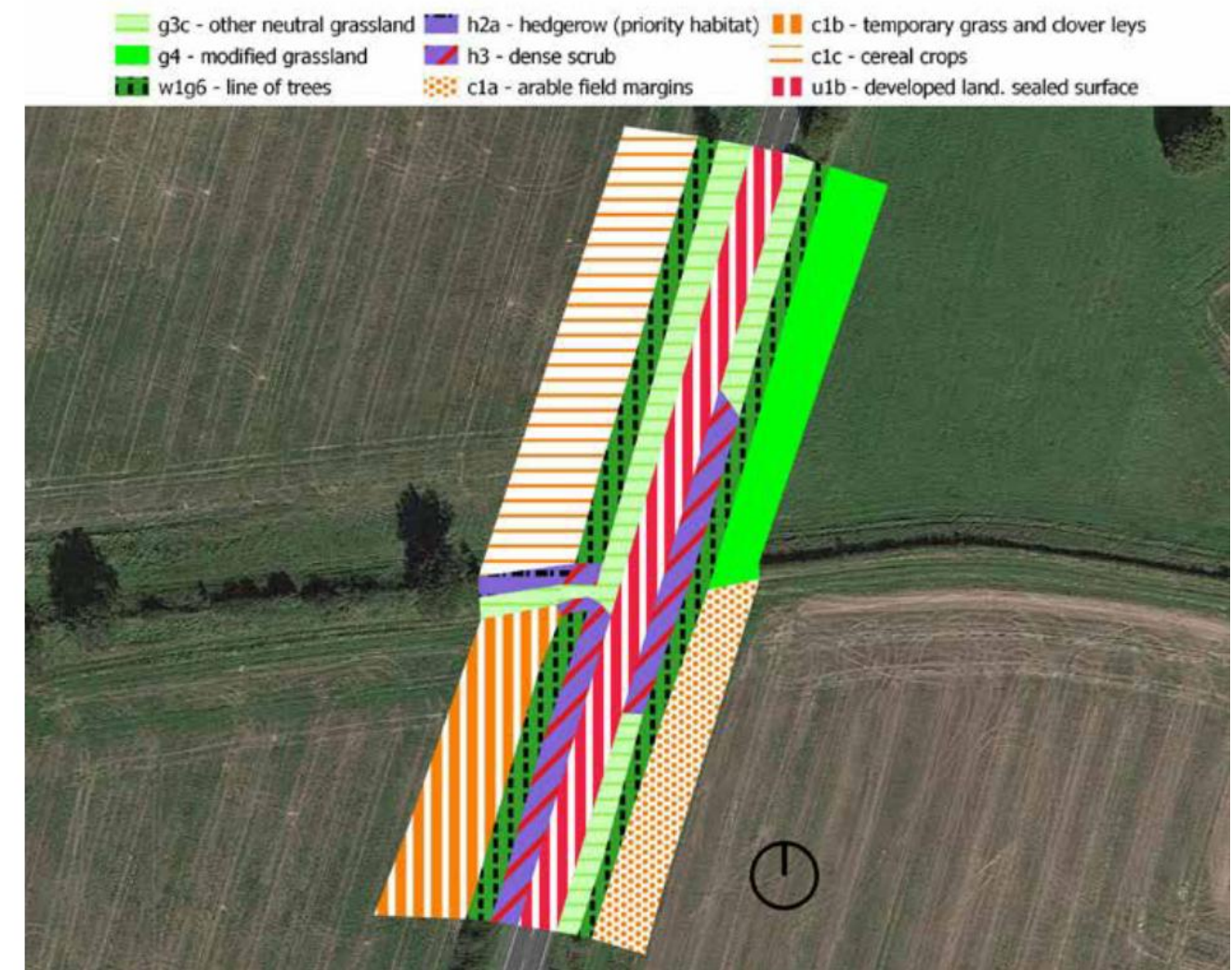


## EXISTING HABITATS

The King's Lynn site is located on the A149 around O.S. grid reference TF 67052 23890. The road is a single carriageway and is raised above the surrounding land constructed as a causeway. The roadside vegetation has a narrow grassland strip along the roads edge, with large areas of dense scrub developing around widely spaced native broadleaved trees and semi-mature hybrid black poplars *Populus x canadensis*.

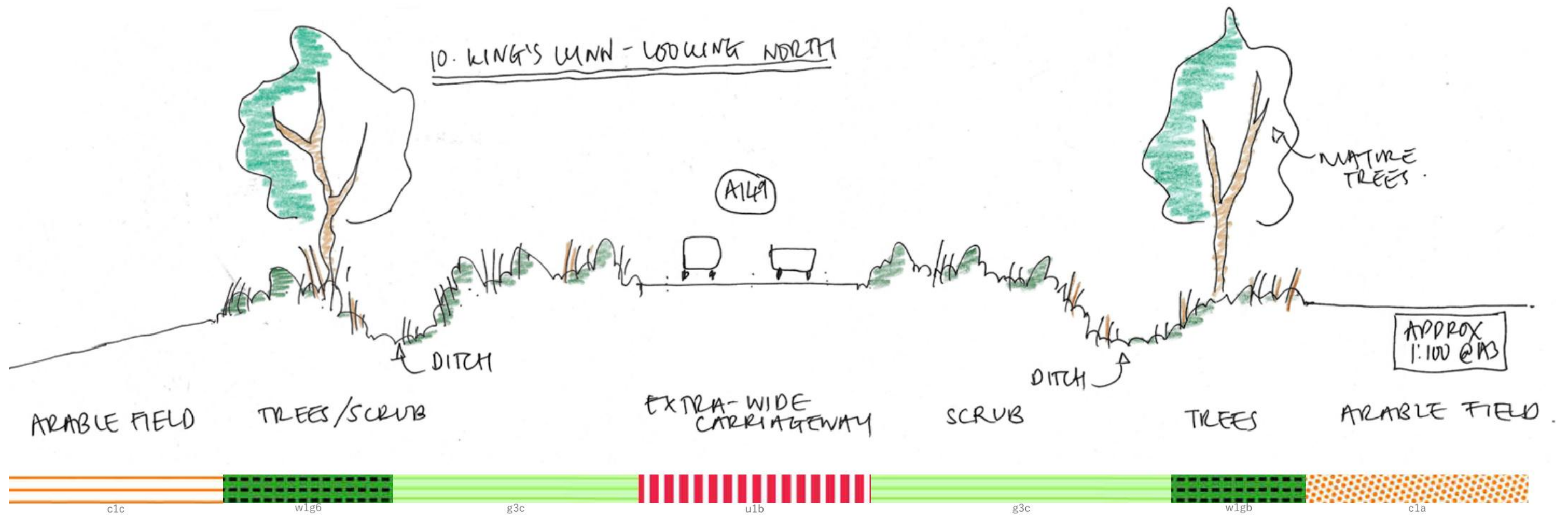
The vegetation appears unmanaged and natural successional processes are developing a good mosaic of habitats within the narrow corridor. In addition, a large drainage ditch parallel to the road is contributing to the variety of habitat niches available to wildlife. The study site sits on the boundary of four intensively managed fields; the two in the west do not include field margins and herbicide drift onto the highway corridor was observed; the two in the east include wide grassy field margins which hold moderate species richness.

The surrounding landscape is predominately arable farmland. Large fields are separated by hedges, often with mature trees. Fields are variously managed intensively up to the boundaries or include wide field margins which support the habitat value of the hedgerows. Hedgerows appear to be generally species rich and managed sympathetically, allowing them to widen into the field margins and grow tall. Four nearby County Wildlife Sites (CWS) occur in the surrounding landscape, comprising; 1) Wooton Carr CWS; 2) Castle Rising Wood CWS; 3) Fowler's Plantation CWS, and 4) Ling Common CWS. All four are cited for their wooded habitats and are broadly equal distance from the King's Lynn site. The site is therefore well placed to explore opportunities to connect the wooded CWS through creating enhanced habitat corridors along highways and field boundaries by enhancing the resource of trees outside woodland.



UKHAB BASELINE SURVEY





## CURRENT HABITAT & SPECIES

### OTHER NEUTRAL GRASSLAND - g3c

The grassland extends into the ditch and beneath the trees in some areas but is restricted to a very narrow (<1 m wide) strip where dense scrub has developed. Species richness is moderate with commonly occurring grasses of rough grassland including false oat grass *Arrhenatherum elatius*, barren brome *Anisantha madritensis*, cock's foot *Dactylus glomerata* and tall fescue *Schedonorus arundinacea* and some species of arable land and bee/bird mixes including wild oat *Avena fatua*, lucerne *Medicago sativa*, black medic *Medicago lupulina*, and tare *Vicia sp.*

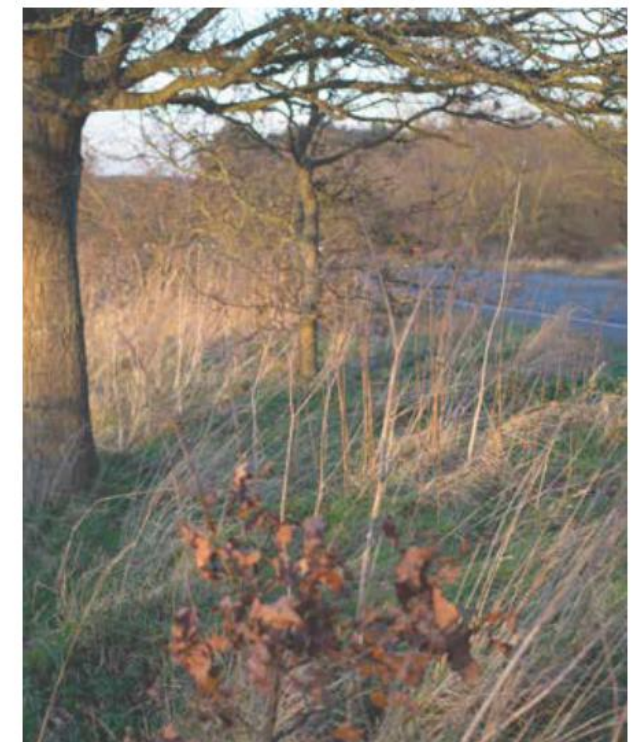
### MIXED SCRUB - h3h

Where scrub occurs it is dense and continuous and comprises widely spaced elder *Sambucus nigra*, hawthorn

*Crataegus monogyna* and young oak *Quercus robur* connected by extensive bramble *Rubus fruticosus* agg., with some field rose *Rosa canina*.

### LINE OF TREES - w1g6

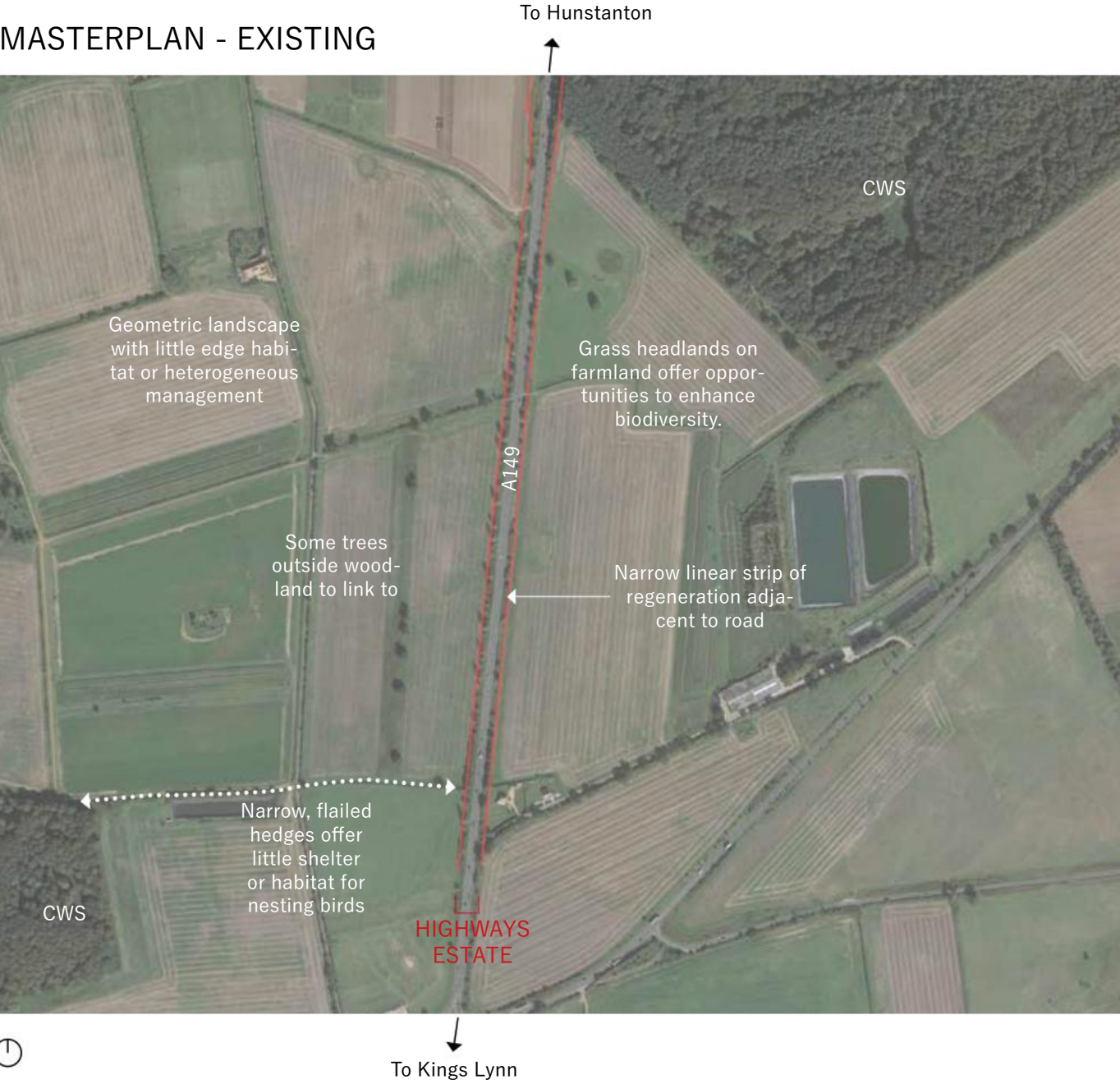
Trees occur throughout the highway corridor and comprise hybrid black poplar, pedunculate oak, ash *Fraxinus excelsior*, hawthorn and domestic apple *Malus domestica*. A good mixture of age classes was recorded suggesting that natural regeneration is uninhibited. The d.b.h (diameter at breast height) was measured of a sample of five oak trees of different sizes recording d.b.h of 3.5 cm, 10.8 cm, 41 cm, 59.9 cm and 67.2 cm. Additionally oak seedlings occur in the grassland along the highway corridor.



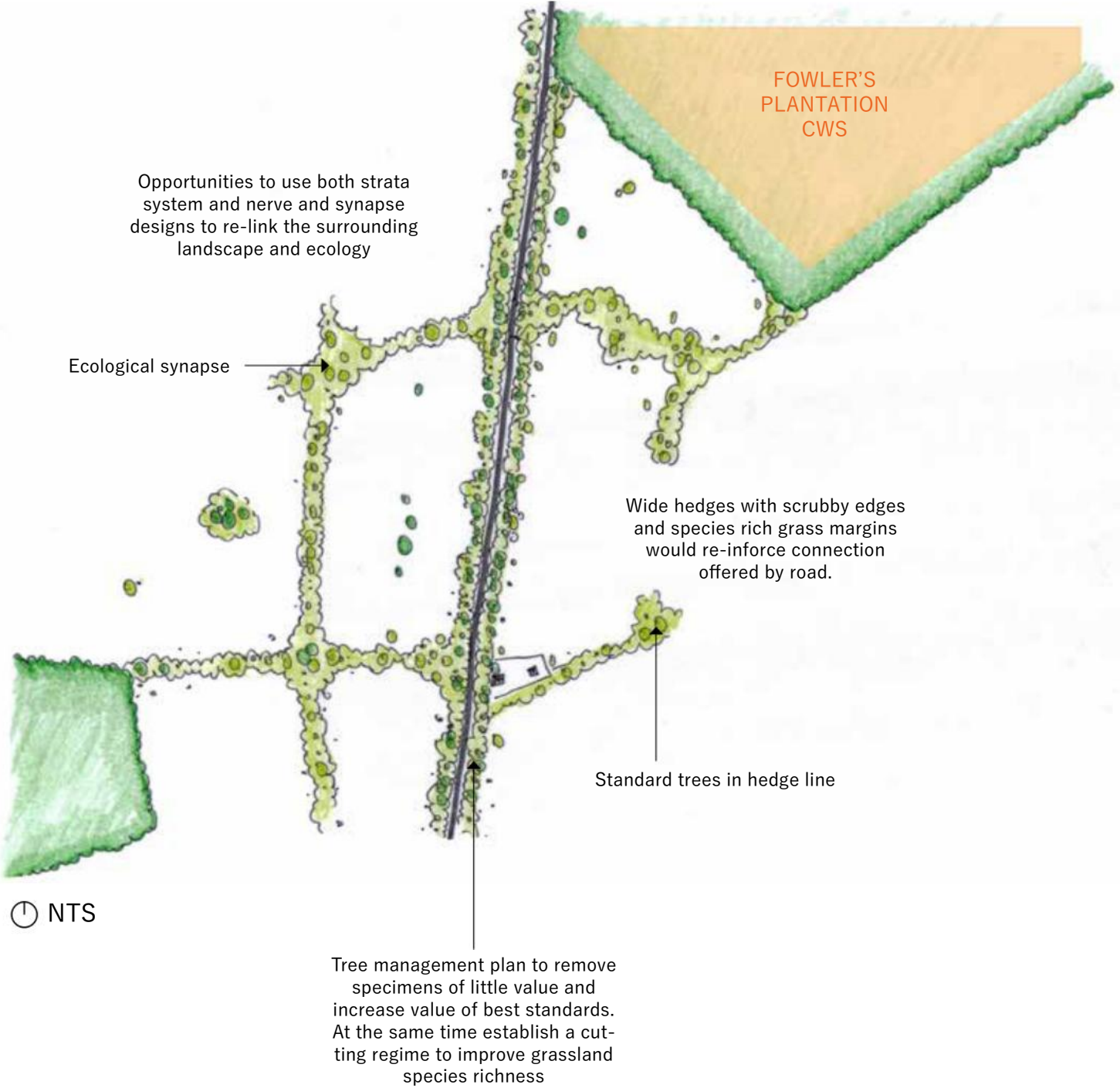
A single line of trees flank the road, including poplar, oak and apple



MASTERPLAN - EXISTING



MASTERPLAN - PROPOSED

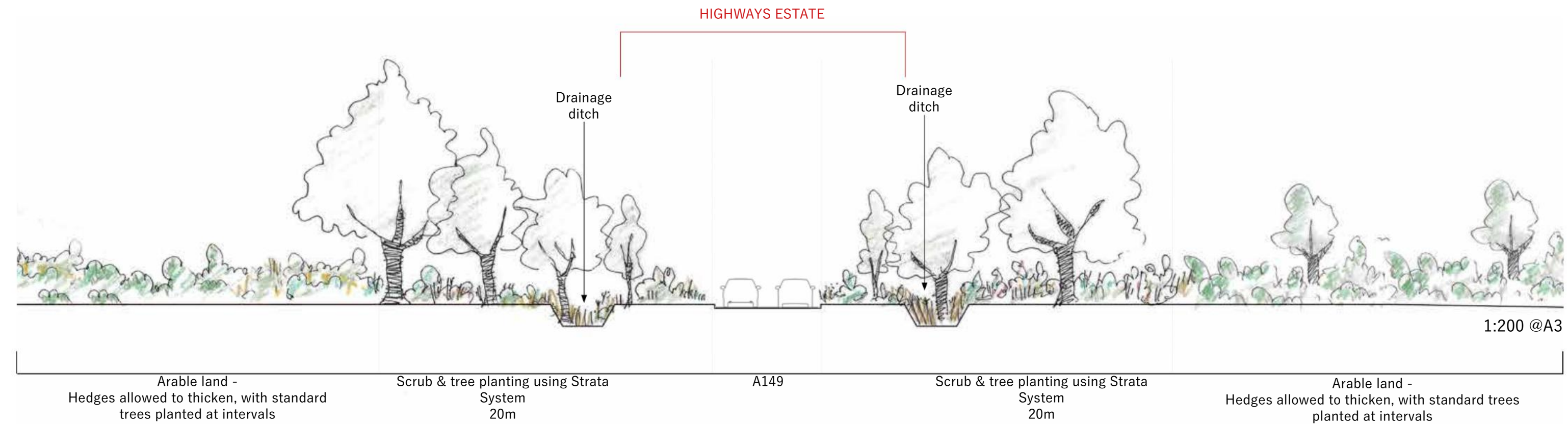


SITE  
SECTIONS

EXISTING SECTION



PROPOSED SECTION





Existing Condition



Proposed Condition



Existing Distinctiveness

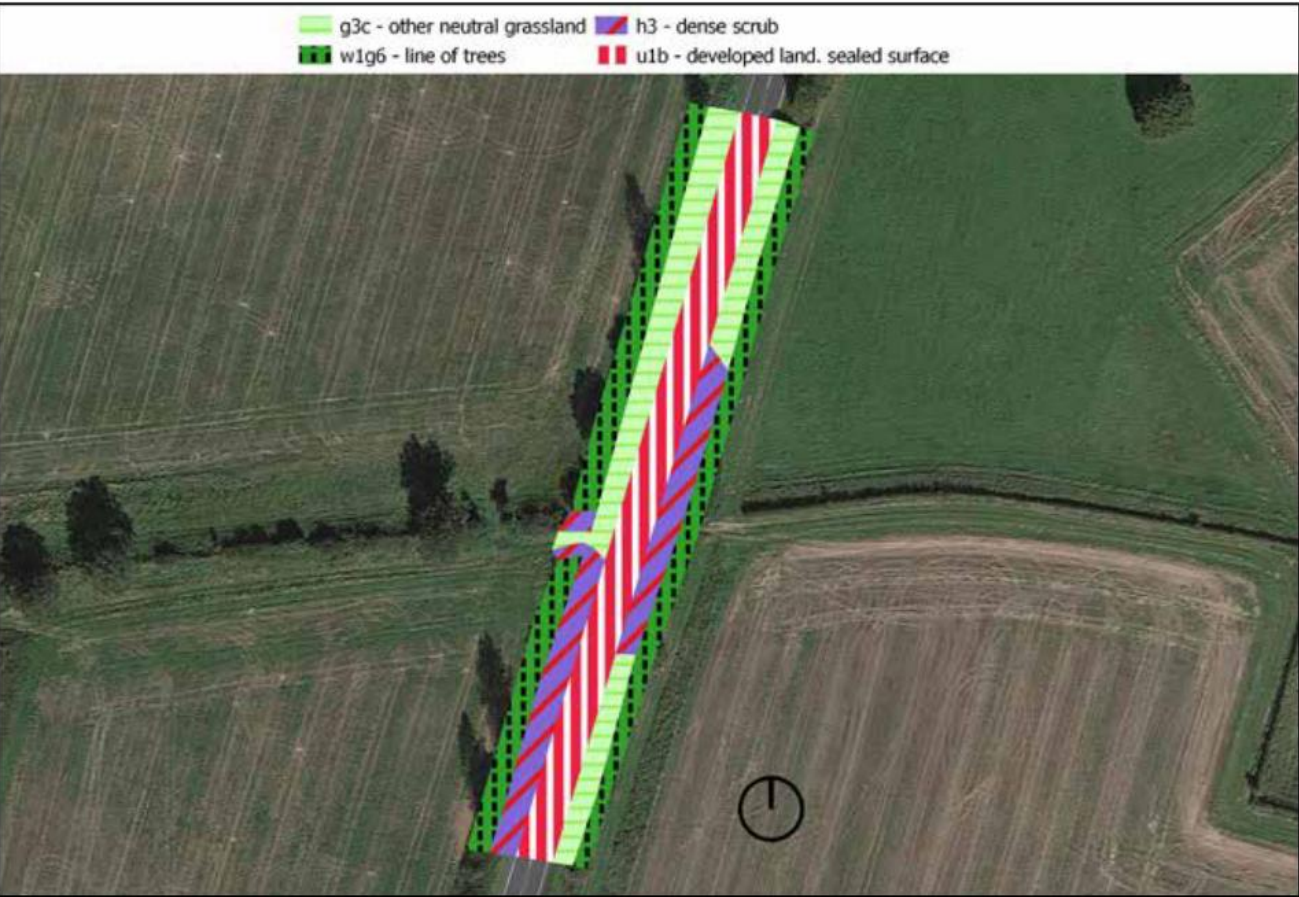


Proposed Distinctiveness





NET-GAIN HABITAT UPLIFT MAP



**IMPORTANT** Surveying and calculations have been conducted for highways estate land only owing to the perceived complexity of multiple land ownership complexities in lease and management agreements and the varying strategic needs of both NCC and the landowner.

As part of the surveying, we undertook a biodiversity net-gain calculation to establish, against the DEFRA Biodiversity Metric 3.1, whether the proposed changes delivered a positive uplift in biodiversity. The figures from this calculation are highlighted on adjacent page. The first number is the unit figure of the existing site, the second number is the unit figure from the proposed design changes, the third shows the unit gain/loss and the final figure shows the percentage gain/loss.

This calculation is based off a 200m stretch of the soft estate as surveyed.

The DEFRA biodiversity metric works on two measures. Area habitats such as grassland and woodland, and Linear habitats such as streams, hedgerows and lines of trees. Below are calculations for both and their relative net loss/gain from existing to proposed.

AREA:

Existing site biodiversity units (Area):

1.42

Proposed site biodiversity units (Area):

2.33

Biodiversity unit Gain/Loss

+0.91

Percentage Gain/Loss

64.84%

LINEAR:

Existing site biodiversity units (Area):

0.30

Proposed site biodiversity units (Area):

0.51

Biodiversity unit Gain/Loss

+0.21

Percentage Gain/Loss

70.03%

Notes:

Should the entire site area have been mapped, it is highly likely that the improvements in the metric would have been far larger due to the type and distinctiveness of the habitat, however to allow for a simple highways estate calculation only, the area owned and managed by the highways only has been assessed.



## SITE PHOTOS



The road is raised above the surrounding land with a deep drainage swale on each side. The existing verge features widely spaced, open grown trees and grassland.



Field corners will be removed from the farming system and managed for wildlife to create a scrub thicket of heavily flowering and fruiting species. The scrub hedgerow which bounds the road is in good condition and should be allowed to persist and expand into the farmland beyond. Yellow hammer, linnet, black cap and whitethroat were all heard singing in this scrub.



The surrounding landscape is typical of much of Norfolk with geometric shaped arable fields, separated by defunct hedges which are reduced to individual trees or short sections of scrub in places. Using the Nerves and Synapses concept, we will replace lost hedges and allow these to thicken out, whilst at the same time creating synapse areas of deeper, more heterogeneous scrub, which will suit a broader range of species and connect fragmented CWS.







PLANTING  
PLAN



Strata system



Woodland edge



Nerves and Synapses

Hedgerow & Scrub Planting Instructions

Please refer to spec sheet for correct mix. TOW-DIG-00-RP-0002

Plant out mixes randomly using clusters of 2-10 plants of the same species per cluster

Plant each hedge in a double staggered row at 400mm c/c

Ensure generous ground mulch of native species woodchip for weed suppression and fungal inoculant.

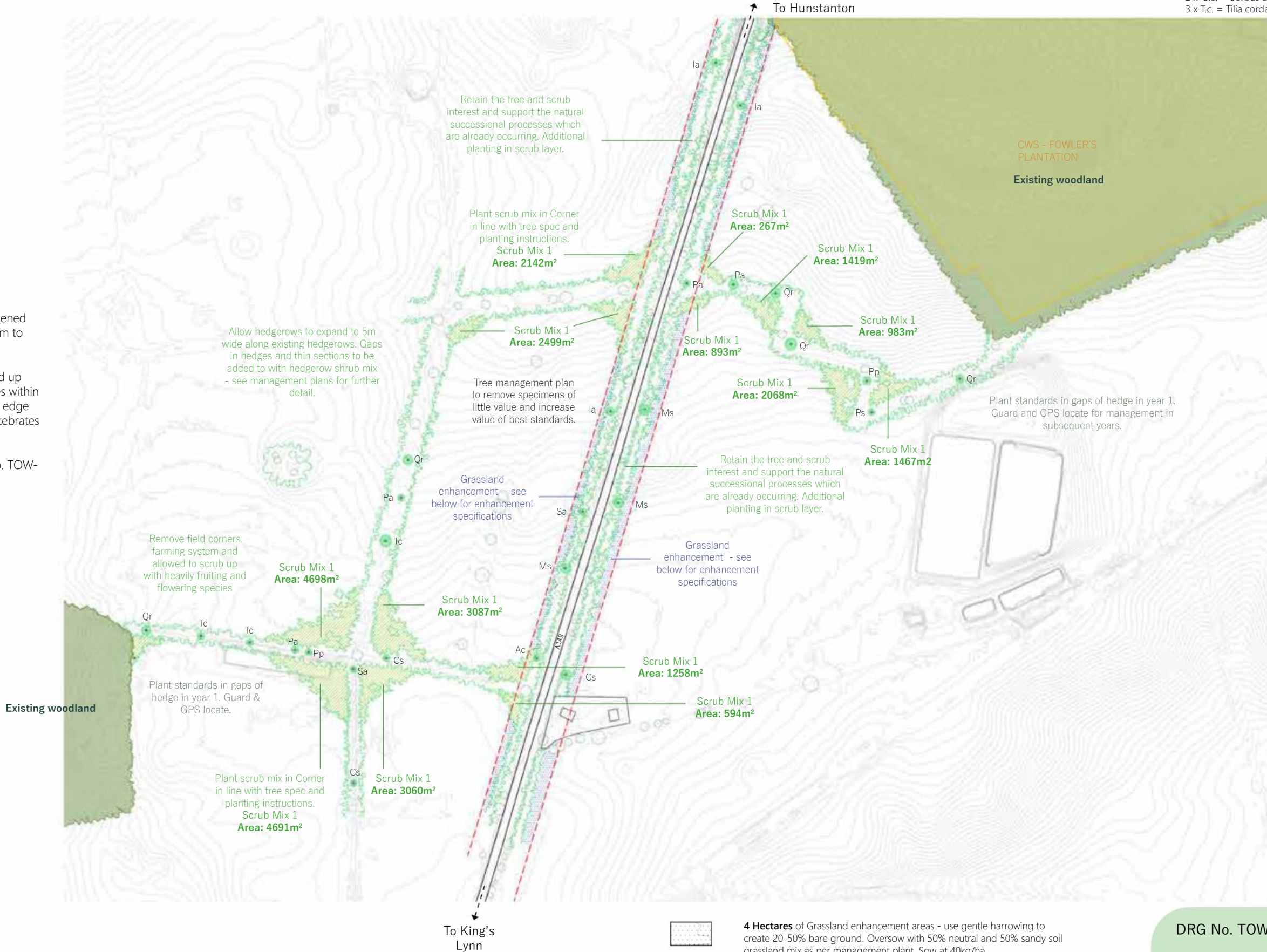
Randomly plant areas of scrub with assorted species or small single species clumps. Allow open areas for glade development

Tree Codes & Number.

- 1 x A.c. = Acer campestre (Field maple)
- 4 x B.p. = Betula pedula (Silver Birch)
- 5 x C.b. = Carpinus betulus (Hornbeam)
- 3 x C.s. = Castanea sativa (Sweet Chestnut)
- 3 x I.a. = Ilex aquifolium (Holly)
- 5 x Q.r. = Quercus robur (Oak)
- 3 x P.a. = Prunus avium (Wild Cherry)
- 3 x P.p. = Prunus padus (Bird Cherry)
- 3 x M.s. = Malus sylvestris (Crab Apple)
- 2 x S.a. = Sorbus aria (Whitebeam)
- 3 x T.c. = Tilia cordata (Small Leaved Lime)

Notes:

- Hedgerows to be enhanced and widened to allow for nerve and synapse system to develop between CWSS.
- Scrub corners to be planted to speed up natural colonisation of woody species within these areas and to develop dynamic edge habitat with micro-climates for invertebrates and foraging animals.
- For scrub mix details refer to doc. no. TOW-DIG-00-RP-0002



4 Hectares of Grassland enhancement areas - use gentle harrowing to create 20-50% bare ground. Oversow with 50% neutral and 50% sandy soil grassland mix as per management plant. Sow at 40kg/ha



Existing Trees



Existing hedgerows allowed to expand with natural growth, Plant standards in gaps



1:4000 @ A2  
Do not scale from this drawing

DRG No. TOW-DIG-00-PL-0004

To be read in conjunction with:  
TOW-DIG-00-RP-0002 (Pg 88)

## PLANTING SCHEDULE

TABLE 1 - Scrub corner specifications - Scrub Mix 1 | Plant at 1m spacings | Total Planting Area: 2.7 Hectares

| Vernacular     | Species                      | Percentage Mix | Number | Size    | Pot/BR |
|----------------|------------------------------|----------------|--------|---------|--------|
| Field maple    | <i>Acer campestre</i>        | 5%             | 1350   | 60-80cm | BR     |
| Blackthorn     | <i>Prunus spinosa</i>        | 15%            | 4050   | 60-80cm | BR     |
| Grey willow    | <i>Salix cinerea</i>         | 3%             | 810    | 60-80cm | BR     |
| Crab apple     | <i>Malus sylvestris</i>      | 7%             | 1890   | 60-80cm | BR     |
| Rowan          | <i>Sorbus aucuparia</i>      | 2%             | 540    | 60-80cm | BR     |
| Wayfaring Tree | <i>Viburnum lantana</i>      | 8%             | 2160   | 60-80cm | BR     |
| Elder          | <i>Sambucus nigra</i>        | 5%             | 1350   | 60-80cm | BR     |
| Dog rose       | <i>Rosa canina</i>           | 5%             | 1350   | 60-80cm | BR     |
| Field rose     | <i>Rosa arvensis</i>         | 5%             | 1350   | 60-80cm | BR     |
| Hawthorn       | <i>Crataegus monogyna</i>    | 30%            | 8100   | 60-80cm | BR     |
| Bramble        | <i>Rubus fruticosus agg.</i> | 15%            | 4050   | 60-80cm | BR     |

TABLE 2 - Scrub & Hedge Specification - To be used to fill in hedgerow gaps - Site survey necessary to determine final plant numbers

| Vernacular     | Species                      | Mix Percentage | Number | Size    | Pot/BR |
|----------------|------------------------------|----------------|--------|---------|--------|
| Hazel          | <i>Corylus avellana</i>      | 2%             | 44     | 60-80cm | BR     |
| Field maple    | <i>Acer campestre</i>        | 10%            | 223    | 60-80cm | BR     |
| Crab apple     | <i>Malus sylvestris</i>      | 25%            | 555    | 60-80cm | BR     |
| Rowan          | <i>Sorbus aucuparia</i>      | 10%            | 223    | 60-80cm | BR     |
| Wayfaring Tree | <i>Viburnum lantana</i>      | 3%             | 66     | 60-80cm | BR     |
| Elder          | <i>Sambucus nigra</i>        | 5%             | 112    | 60-80cm | BR     |
| Dog rose       | <i>Rosa canina</i>           | 10%            | 223    | 60-80cm | BR     |
| Field rose     | <i>Rosa arvensis</i>         | 7%             | 155    | 60-80cm | BR     |
| Bramble        | <i>Rubus fruticosus agg.</i> | 10%            | 223    | 60-80cm | BR     |
| Honeysuckle    | <i>Lonicera periclymenum</i> | 3%             | 66     | 60-80cm | BR     |
| Hawthorn       | <i>Crataegus monogyna</i>    | 15%            | 333    | 60-80cm | BR     |

TABLE 3 - Trees Outside Woodland Specification - Plant and Guard as per management plan

| Vernacular        | Species                 | Number | Size      | Pot/BR   |
|-------------------|-------------------------|--------|-----------|----------|
| Field maple       | <i>Acer campestre</i>   | 1      | 180-200cm | BR       |
| Crab Apple        | <i>Malus sylvestris</i> | 3      | 180-200cm | BR       |
| Sweet chestnut    | <i>Castanea sativa</i>  | 2      | 180-200cm | BR       |
| Holly             | <i>Ilex aquifolium</i>  | 3      | 180-200cm | 10 litre |
| Oak               | <i>Quercus robur</i>    | 5      | 180-200cm | BR       |
| Wild Cherry       | <i>Prunus avium</i>     | 4      | 180-200cm | BR       |
| Bird Cherry       | <i>Prunus padus</i>     | 1      | 180-200cm | BR       |
| Whitebeam         | <i>Sorbus aria</i>      | 2      | 180-200cm | BR       |
| Small leaved lime | <i>Tilia cordata</i>    | 3      | 180-200cm | BR       |

### Grassland Specification

4 Hectares of enhancement area:

Oversow with Sandy Soil mix from Emorsgate EM7

Sow at 4g/m<sup>2</sup>

Total seed needed: 160kg



The overall design concept for the King's Lynn site is to focus on improving landscape connectivity through applying the Nerves and Synapses system across the nearby landscape whilst enhancing the highways corridor using the Strata System. The existing habitat structure along the highway corridor is sympathetic to the objectives of this study.

The design process at King's Lynn focused on identifying opportunities within privately owned farmland adjacent to the highways estate to improve connectivity across the landscape. The Nerves and Synapses concept accepts that the majority of farmland adjacent to the highway is intensively managed and is generally inhospitable to wildlife. Therefore, wildlife is restricted to field margins, dividing hedgerows, individual trees and habitats of the highway corridor. By focusing directed management action on these aspects of the farmed landscape, a network of enhanced habitats can be made available to ensure wildlife can move more freely across the landscape between areas of higher biodiversity.

The core principles of the Nerves and Synapses concept are set out within the following management prescription. These broad management principles would be appropriate to be strategically rolled out across farmland throughout Norfolk where landowners are sympathetic and can be incentivised.

### Field corners

Field corners will be removed from the farming system and managed for wildlife to create a scrub thicket of heavily flowering and fruiting species. Species appropriate for planting in field corners are detailed in Table 1 (Pg. 97).

Tree planting will be conducted to the prescription set out below: -

Step 1 – Upon taking control of the land, all agricultural procedures will cease immediately and the soil will not be subject to additional ploughing or harrowing.

Step 2 – The existing vegetation will be topped and the arisings left in-situ to mulch the ground.

Step 3 - Trees will be sourced from nurseries meeting the UKISG standard (or where this is not achievable, nurseries registered with the Plant Healthy standard) and will be of local or southern provenance stock. Trees will be planted as 600 – 800 mm tall whips of either bare-root planting stock or as cell-grown planting stock.

Step 4 – During October through December, bare-root planting stock will be notch planted into a T-shaped slit with the original root collar at ground level. Roots will be spread out in the planting notch before firming the soil around the plant, cell-grown whips will be pit planted. Shrubs will be planted in single species clusters of 5 - 9

plants at a minimum 1.5 m spacings and positioned irregularly to replicate a more natural situation; i.e. not in ranks. Plants will be protected using 0.8 m cardboard guards. Tree guards will be secured with appropriately sized stakes. Woodchip will be placed around the base of each plant to cover approximately 50 cm<sup>2</sup>.

### Field boundaries

Defunct and poorly managed hedgerows should be re-planted to create wide bushy hedgerows and managed sympathetically.

Hedgerow creation could be achieved through implementing the following management prescription.

Step 1 – Trees will be sourced from nurseries meeting the UKISG standard (or where this is not achievable, nurseries registered with the Plant Healthy standard) and will be of local or southern provenance stock. Shrubs will be planted as 400 - 600 mm tall whips of either bare-root planting stock or as cell-grown planting stock. Table 2 (Pg. 97) lists desirable hedgerow species.

Step 2 – During October through December, shrubs will be notch planted at 400 mm spacings in a double staggered row, c. 500 mm apart and protected using 600 mm cardboard tree guards secured with softwood stakes. The planting pattern will ensure a minimum of seven different woody species per 30 m length to ensure maximum wildlife value. A woodchip mulch will be applied to the base of newly planted shrubs to cover a minimum 500 mm on either side of the planted row.

Step 3 - Standard trees will be planted at c. 30 m spacings. Trees will be pit-planted as 1.2 m tall saplings and secured using an appropriately sized stake and flexible tie. Hedgerow shrubs will not be planted in the surrounding 500 mm<sup>2</sup> around the tree and this area will be mulched with woodchip. Tree species suitable for incorporating in hedgerows are detailed in the accompanying planting plan.

Step 4 - In September of years 1 to 3 following planting, management will comprise the following; -

- An assessment of the health of the shrubs and trees. Greater than 5% mortality of all shrubs will trigger remedial action. Remedial action will comprise the beating up of dead shrubs and re-planting of the same species to the method set out above;
- Grass and weeds will be removed from within the tree guards by hand and pulled away from the base of the shrubs;
- Woodchip will be re-applied to the base of each newly planted shrub or tree to maintain a weed free strip of at least 500 mm on either side of the row;

- Tree guards and stakes should be checked and should remain fit for purpose for a minimum 3 years;

Ongoing management of hedgerows will comprise a combination of laying, coppicing and trimming depending on the development stage of the hedge. Once newly planted hedgerows have become established and shrubs have a stem diameter of at least 50 mm, it is beneficial to lay the hedgerow to improve the structure of the hedge and increase its density, especially at the base. In addition, the cutting of shrubs either by laying or coppicing stimulates strong re-growth and promotes flowering and fruiting. After the hedge has been initially laid, it can be maintained through trimming with a flail, following the four rules set out below: -

1. Hedges should only be trimmed once in three years;
2. Only one side of a hedge should be trimmed in any one year;
3. Hedge trimming should only occur in January and February to maintain good forage for wildlife and avoid impacting nesting birds;
4. The trimming height and width should be raised slightly on each consecutive cut to avoid trimming at the same height every time.

By following these good practice management principles, the hedge should be able to be maintained for several years as a well-structured, bushy and dense hedgerow. However, with time, it is likely that the structure of the hedge will need to be improved through laying or coppicing.

#### Management prescription – highway corridor

The existing habitat structure of the soft estate is broadly similar to wood pasture, with widely spaced, open grown trees and grassland along the verge. The principal trees are hybrid black poplar which are non-native, but their large growth form creates good habitat opportunities for wildlife. Other tree species are native and include pedunculate oak *Quercus Robur* and apple *Malus domestica* and are a range of age classes including young trees indicating that natural recruitment of trees is occurring. Areas of bramble scrub have developed and are likely to be sheltering newly emerging trees to add to the stock. Therefore, management of the highway corridor will focus on retaining the tree and scrub interest and supporting the natural successional processes which are already occurring. It is felt that intervention to the grassland is not necessary at this site because the road is very straight and therefore visibility is good and the greatest ecological interest is within the scrub and tree habitats. The highway corridor will be enhanced through expanding the width of the corridor by creating a 10 m wide species rich grass strip along the adjacent field margins and allowing the scrub to naturally spread into the margin. This will create a sinuous edge which will offer a variety of habitat niches in

association with a variety of environmental conditions.

Grassland creation will be achieved through implementing the following management prescription.

Step 1 – During September, the full extent of the area due for grassland creation will be disc harrowed to break up any existing vegetation, exposing a minimum of 50% bare ground and creating a good tilth for receiving seed.

Step 2 – Immediately after harrowing, a lowland meadow seed mix (Emorsgate EM3 – or EM7 meadow mixtures would be appropriate) will be broadcast sown at a rate of 4gm<sup>2</sup> and then rolled to maximise contact between seed and soil.

Step 3 – The annual management will be to take an annual grass cut during August each year to a height of 100 mm and the arisings removed. Winter grazing by livestock would support the development of a diverse grassland. An appropriate grazing density for cattle would be 5 units per ha for 8 – 10 weeks depending on the development of the sward (Blakesley & Buckley 2016) (although this is likely to be significantly different in a mob grazing system). If livestock are not available, it may be necessary to run a chain harrow over the grass during winter to break up any thatch which might develop. Annual management should allow scrub to naturally expand into the grass strip.

#### REFERENCES

- Blakesley D and Buckley P. 2016. Grassland Restoration and Management. Pelagic Press, Exeter.  
Edlin H. 1973. Woodland Crafts in Britain. Country Book Club, Newton Abbot

## SITE COSTINGS

The site costings for all the selected sites represent the NCC owned areas only. This is to reflect the level of control which the highways team have over the management and creation works proposed.

N.B. The site costings for this site are negligible over the current management due to the highways estate being deemed to be in good ecological condition for the habitats currently there.







## CONCLUSIONS

The project spans large areas of the Norfolk countryside over a wide range of soil types, aspects and moisture profiles, all of which have been included to offer the widest possible parameters for updating management techniques, as well as offering varying types of habitat creation and species.

Within the wider implications of the project we have picked out some landscape scale thoughts and conclusions:

1. It became clear during the surveys and desk based research that the highway corridors of Norfolk are already very important migration and movement pathways for many of the trophic levels of ecology, from flora and invertebrates to larger fauna such as badgers and deer. In many areas the surrounding farmland was unfavourable to wildlife for several reasons. This project hopes to further this by increasing scale and improving the existing stocks of high value sites along the highway corridors.
2. One significant and notable constant was the use of agri-chemicals for the use of growing crops, which created many downside pressures on ecology, such as herbicide drift into hedgerows and applications of artificial fertilisers, which have greatly reduced headland species richness. The use of trees outside of woodland inside wider and more robust scrub and hedgeland habitats would shield these effects more abruptly. One counterpoint to this was the highway corridors where butterflies and insects were more abundant among nectar bearing plants, legumes and native grasses. We did notice the use of round-up on trees which we would recommend is ceased.
3. The biodiversity net-gain (BNG) calculations for each site offer a glimpse at what could be an interesting arm to Norfolk County Council's offsetting strategy. It is evident from several of the calculations that the current conditions of grassland and hedge could be largely improved and additional BNG units created. Areas where additional creation is put forward also allow for potentially very significant uplifts to BNG unit figures along a stretch of highway. The NDR is a key opportunity. This could be a worthwhile opportunity to follow up during the next stages of this project in order to source funding for the large scale baselining which would be needed to accurately calculate the overall opportunity on any of the surveyed roads. Again the NDR, due to its fairly homogeneous landscaping and habitat creation, provides a simple template to firstly baseline and then provide calculations for BNG uplift along its length.
4. This brings us onto the concept of expanding the Roadside Nature Reserve stock for the county. In the idealised sections we have aimed for the maximum amount of biodiversity uplift and habitat enhancement within fairly simple management prescriptions. It would be possible on several lengths of the roads surveyed to extend the current RNRs onto soft estate areas beyond and broaden the scope for these so that they encompass not just one single habitat type (chalk grassland, for example) but rather a set of habitats which would be designed to allow for larger scale landscape ecology connection. An example of this is Flitcham, where woodland creation, lowland meadow creation, hedgerow, scrub creation and chalk grassland restoration should all become a combined nature reserve to preserve a vital connection on a larger scale.
5. Finally, the management strategies and costings that we have brought together for these projects still rely on heavily on mechanisation and contracting for both management and creation works. Whilst this will probably allow for greater efficiency and cost effectiveness in the short term, there are benefits that we can see from creating a specialist habitat management team within the highways department whose training and aim is to preserve, enhance and restore the highly beneficial roadside corridors and their wildlife.



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| Funding strand                   | Activity  | Description   | Cost            | Target    | Number of activities | Number of participants |
|----------------------------------|---|---|-----------------|-----------|----------------------|------------------------|
| Capability building              | Scheme planning and design                                    | Early feasibility and design work for 8 schemes from our completed LCWIPs. To be delivered approximate 70% in house   | £235,000        | N/A       | N/A                  | N/A                    |
| Capability building              | Development of Local Cycling and Walking Infrastructure Plans | Update published LCWIP with stage 2 small towns plus integration of review of rural network   | £30,000         | N/A       | N/A                  | N/A                    |
| Capability building              | Data evidence and collection                                  | Pre-scheme traffic monitoring across various sites to inform feasibility with associated in house evaluation  | £50,000         | N/A       | N/A                  | N/A                    |
| Capability building              | Public engagement / consultation                              | Ongoing public engagement and evaluation that will help shape active travel content for the emerging Travel Norfolk site                                      | £40,000         | N/A       | N/A                  | N/A                    |
| Capability building              | Staff training  | Strategic leadership training including Healthy Streets courses for councillors. LTN1/20 design course, QGIS and Low Traffic Neighbourhood training for staff | £40,388         | N/A       | N/A                  | N/A                    |
| <b>Capability building total</b> |   |   | <b>£395,388</b> |           |                      |                        |
| Behaviour change                 | Cycle training  | Delivery of enhanced Holiday Activity Fund centred around cycling activity, led rides and maintenance   | £7,500          | Schools   | 30                   | 450                    |
| Behaviour change                 | Cycle training  | Ride On It online cycle training for schools  | £4,500          | Schools   | 100                  | 6,000                  |
| Behaviour change                 | Organisational travel planning and engagement                 | Schools Engagement Officer for expanding modal shift activities working with 20 to 30 schools   | £70,000         | Schools   | 150                  | 4,500                  |
| Behaviour change                 | Grants  | Bike, e-bike and e-cargo bike loan and targeted grants  | £57,500         | Community | 3                    | 500                    |
| Behaviour change                 | Other - Community Cycle Club                                  | Community Cycle Clubs delivered with partner  | £49,000         | Community | 140                  | 1,300                  |
| Behaviour change                 | Active travel comms/marketing                                 | Campaigns delivered under the new Travel Norfolk sustainable transport brand  | £30,000         | Community | 3                    | 20,000                 |
| Behaviour change                 | Organisational travel planning and engagement                 | Workplace engagement with 8 large employers with budget for additional workplace staff interventions  | £43,500         | Workplace | 48                   | 3,000                  |
| <b>Behaviour change total</b>    |   |   | <b>£262,000</b> |           |                      |                        |
|                                  |   |   |                 |           |                      |                        |
| <b>Overall total</b>             |   |   | <b>£657,388</b> |           |                      |                        |



| NORFOLK COUNTY COUNCIL –<br>Capital Maintenance Fund 2021/2022 |                            |                    |   |  |                                   |
|--|----------------------------|--------------------|---|--|-----------------------------------|
| Scheme Number  | PROW                       | Parish             | Location  | Description  | Actual £                          |
| CMF-008  | Winterton RB7              | Winterton          | Winterton RB7 (Empsons Loke to Manor Farm Road)               | Resurface, PROW  | £40,974                           |
| CMF-014  | Marriott's Way             | Reepham            | Marriott's Way, Wood Dalling Road                             | Resurface (supply of material only), Marriott's Way                            | £3,628                            |
| CMF-010  | Norfolk Coast Path         | Gorleston          | Quay Road, Gorleston  | Gorleston steps repair, Norfolk Coast Path                                     | £3,857<br>(£2,892.75 NE Match)    |
| CMF-021A   | Cromer FP7                 | Cromer             | Cromer FP7 Roughton Road                                      | Resurface, PROW  | £18,363                           |
| CMF-18A & B  | Roydon FP22                | Roydon             | Roydon FP22, Tottington Lane                                  | Resurface, Angles Way  | £22,855                           |
| CMF-001  | Sheringham FP9             | Sheringham         | Sheringham FP9, Beeston Bump                                  | Beeston Bump Sheringham FP9 step repair, Norfolk Coast Path                    | £1,500                            |
| CMF-016A   | Holme-Next-to-Sea FP11     | Thornham           | Holme-Next-to-Sea FP11  | Boardwalk replacement  | £5,750                            |
| CMF-011  | Paston Way                 | North Walsham      | Little London Road  | Steps replacement, Paston Way  | £9,420                            |
| CMF-033  | Marriott's Way             | Great Witchingham  | Marriott's Way, Heath Lane                                    | Resurface and Drainage, Marriott's Way   | £32,609                           |
| CMF-032A   | Holme-Next-the-Sea FP13    | Holme-Next-the-Sea | Holme-Next-the-Sea FP13                                       | Surface repair Holme Chalk Path, Norfolk Coast Path                            | £4,800.00<br>(£3,600.00 NE Match) |
| CMF-050  | Thornham FP3               | Thornham           | Thornham FP3 (Church Street to Staithe Lane)                  | Resurface, Norfolk Coast Path  | £55,328<br>(£40,230 NE Match)     |
| CMF-013  | Brancaster FP9             | Brancaster         | Brancaster FP9 (The Drove to Harbour Way)                     | Resurface, Norfolk Coast Path  | £59,250<br>(£45,750 NE Match)     |
| CMF-054  | Sheringham FP26            | Sheringham         | Sheringham FP26 Skelding Hill (The Esplanade, Sheringham)     | Resurface, Norfolk Coast Path  | £75,000<br>(£53,625 NE Match)     |
| CMF-056  | Ellingham BR5 / Broom BR15 | Broom / Ellingham  | Ellingham BR5 / Broom BR15, south of Broom Bypass             | Resurface (new cyclepath, bridleway - CMF providing finance only to NORSE)     | £21,158                           |
| CMF-042V   | Peddars Way                | Wretham            | Peddars Way between Illington Road and Windmill Lane, Wretham | Vegetation cut back ahead of construction                                      | £1,500                            |
| CMF-009V   | Marriott's Way             | Cawston            | Marriott's Way between Chapel Street and High Street, Cawston | Vegetation cut back ahead of construction                                      | £2,150                            |
| CMF-044V   | Gillingham FP14            | Gillingham         | Gillingham FP14   | Pollard and coppice willow trees and vegetation cut back ahead of construction | £2,450                            |

|              |   |                     |   |   |   |
|--------------|---|---------------------|---|---|---|
| CMF-046      | Holme-Next-the-Sea FP1 and FP13               | Holme-Next-the-Sea  | Holme-Next-the-Sea FP1 and FP13 be  | Vegetation cut back ahead of construction                   | £550  |
| CMF-000      | Swaffham RB53<br>Swaffham FP50, FP51 and RB45 | Swaffham            | Peddars Way - Swaffham RB53 Peddars Way. Swaffham FP50, FP51 and RB45           | Vegetation cut back ahead of construction                   | £3,575  |
| CMF-000      | Weavers' Way                                  | Alysham, Felmingham | Aylsham end to Woodland end Colby<br><br>Stow Road to Farm gate a Papworth Farm | Vegetation cut back ahead of construction                   | £4,900  |
| Other        | All schemes                                   | All schemes         | All schemes   | Professional/ Legal fees (e.g. TTRO, Consultants, licences) | £9,550  |
| Staff        | All schemes                                   | All schemes         | All schemes   | Staff Salary  | £60,000   |
| <b>TOTAL</b> |   |                     |   |   | <b>£439,169</b><br><b>(NE match fundinn</b><br><b>£146,097)</b> |

**NORFOLK COUNTY COUNCIL**  
**External Funding 2021/2022**

| Scheme Number | PROW  | Parish  | Location  | Description   | Actual £                                 |
|---------------|---|---|---|---|--|
| PFA053B       | Marriott's Way                                  | Drayton                                       | Marriott's Way between Taverham Road and Fakenham Road  | Ramp construction, infrastructure upgrade and resurface             | £255,266<br><i>Pending final account</i> |
| PFA053        | Marriott's Way                                  | Costessey                                     | Marriott's Way between Gunton Land and Costessey Lane   | Resurface   | £267,277<br><i>Pending final account</i> |
| PFA045        | Marriott's Way                                  | Various - Aylsham to Costessey                | Various locations along Marriott's Way road crossings at various locations along the route                          | Infrastructure upgrade  | £154,699                                 |
| YP0119        | Bure Valley Path                                | Various – Aylsham to Hoveton and Wroxham      | 6 sections along Bure Valley Path route (Aylsham, Buxton, Hoveton & Wroxham)  | Resurface and infrastructure upgrades (Interreg Experience Project) | £100,000                                 |
| GP77          | Bure Valley Path – Various PROW                 | Aylsham Bampton, Buxton, Coltishall, Hautbois | Bampton, Buxton, Hautbois, Coltishall (5 circular walks connecting to Bure Valley Path)                             | Waymarking (Audit)  | £5,000                                   |
| GP51          | Rockland St Mary FP6                            | Rockland St Mary                              | Rockland St Mary FP6 off New Inn Hill to Environment Agency Floodbank   | Resurface, Wherryman's Way  | £22,750                                  |
| BDC-001       | Felthorpe RB10                                  | Felthorpe                                     | Broadland Country Park, Haveringland Road   | Resurface   | £49,280                                  |
| GP67          | Various PROW - Ketts Country Long Distance Path | Various – Cringleford to Wymondham            | Various locations from Norwich to Wymondham creating the Ketts Country Path + 5 circular walks connecting to linear | Waymarking, infrastructure upgrades                                 | £97,630                                  |
| <b>TOTAL</b>  |   |   |   |   | <b>£951,902</b>                          |



**NORFOLK COUNTY COUNCIL –  
Capital Maintenance Fund 2022/2023**

| Scheme Number | PROW                            | Parish                | Location  | Description  | Actual £                                |
|---------------|---------------------------------|-----------------------|---|--|---|
| CMF-009       | Marriott's Way                  | Cawston               | Marriott's Way between Chapel Street and High Street, Cawston | Resurface and stairset repair, Marriott's Way  | £54,459                                 |
| CMF-042       | Peddars Way                     | Wretham               | Peddars Way between Illington Road and Windmill Lane, Wretham | Resurface and drainage improvement   | £48,250                                 |
| CMF-045       | Sheringham FP27                 | Sheringham            | Butts Lane, Sheringham (Cranfield Road to Holway Road)        | Resurface  | £39,500                                 |
| CMF-046       | Holme-Next-the-Sea FP1 and FP13 | Holme-Next-the-Sea    | Holme-Next-the-Sea FP1 and FP13 be                            | Boardwalk replacement, Norfolk Coast Path  | £88,165                                 |
| CMF-002A      | Dereham FP34                    | Dereham               | Dereham FP34 Rushmeadow/ Potters Fen                          | Boardwalk and bridge (x3) replacement  | £61,851<br><i>Pending final account</i> |
| CMF-015       | Fakenham RB8 Health Walk        | Fakenham              | Fakenham RB8  | Phase 1 Resurface following river bank repair and stabilisation (NCC contribution towards works) | £24,557<br><i>Pending final account</i> |
| CMF-058       | Saxlingham Nethergate BR6       | Saxlingham Nethergate | Saxlingham Nethergate BR6                                     | Resurfacing & drainage   | £40,000<br>Estimate                     |
| Other         | All schemes                     | All schemes           | All schemes   | Professional/ Legal fees (e.g. TTRO, Consultants, licences)                                      | £15,207                                 |
| Staff         | All schemes                     | All schemes           | All schemes   | Staff Salary (including NETI specialist support)   | £85,000                                 |
| <b>TOTAL</b>  |                                 |                       |   |  | <b>£457,589</b>                         |

**NORFOLK COUNTY COUNCIL – EDT DRAFT**  
**External Funding 2022/2023**

| Scheme Number | PROW  | Parish   | Location  | Description  | Estimate £        |
|---------------|---|--|---|--|-------------------|
| GP83          | Loddon FP4<br>Langley FP9<br>Loddon FP5<br>Langley FP5<br>Bramerton FP5<br>Surlingham FP1 | Chedgrave<br>Hardley<br>Bramerton<br>Surlingham                        | Wherrymans Way;<br>Hardley Flood,<br>Bramerton and<br>Surlingham                                    | Wherrymans Way; Hardley<br>Flood Phase 1 Bank<br>Stabilisation / Bramerton<br>and Surlingham feasibility | £21,500           |
| JUB-058       | Hoe FP1<br>Dereham FP20   | Hoe<br>Dereham   | Wendling Beck between<br>Mill Lane and Holt Road  | Resurface  | £400,000          |
| JUB-047       | Dersingham<br>FP16<br>Ingoldisthorpe<br>FP7   | Dersingham<br>Ingoldisthorpe   | Station Road,<br>Dersingham to The Drift,<br>Ingoldisthorpe   | Resurface, Infrastructure<br>upgrade   | £450,000          |
| GP77          | Bure Valley Path<br>– Various PROW  | Aylsham,<br>Buxton,<br>Coltishall,<br>Haubois,<br>Hoveton &<br>Wroxham | Various locations from<br>Aylsham to Wroxham (5<br>circular walks connecting<br>to Bure Valley Path | Waymarking installation.<br>5 new circular walks from<br>Bure Valley Path                                | £5,000            |
| GP77          | Bure Valley Path  | Various –<br>Aylsham to<br>Hoveton and<br>Wroxham                      | 6 sections along Bure<br>Valley Path route<br>(Aylsham, Buxton,<br>Hoveton & Wroxham)               | Resurface and<br>infrastructure upgrades   | £526,948          |
| <b>TOTAL</b>  |   |  |   |  | <b>£1,403,448</b> |

**NORFOLK COUNTY COUNCIL – EDT**  
**Capital Maintenance Fund 2023/2024**

| Scheme Number | PROW  | Parish              | Location   | Description   | Estimate £      |
|---------------|---|---------------------|--|---|-----------------|
| CMF-053       | Peddars Way National Trail                          | Brettenham          | Peddars Way between Kilverstone Road and West Harling Road (south of River Chet)     | Boardwalk access improvement                                | £40,000         |
| CMF-006       | Walcott frontage, Norfolk Coast Path National Trail | Walcott             | Newlands Estate to Cranks Castle, Watch House Lane to Keswick Road, Poacher's Pocket | Resurface, Norfolk Coast Path                               | £80,000         |
| CMF-044       | Gillingham FP14                                     | Beccles/ Gillingham | Gillingham FP14 off Gillingham Dam   | Resurface   | £ 20,000        |
| CMF-002B      | Dereham FP14  | Dereham             | Dereham FP14, off Johnson Close  | Resurface and Boardwalk                                     | £40,000         |
| CMF-031       | FP2 West Acre                                       | West Acre           | West Acre FP2 off Narford Road   | Boardwalk   | £45,000         |
| CMF-061       | Castle Acre FP10                                    | Castle Acre         | Castle Acre FP10, off Common Road  | Resurface   | £8,000          |
| CMF-036       | Blickling FP19                                      | Blickling           | Blickling FP19 off Moorgate  | Boardwalk   | £55,000         |
| Other         | All schemes   | All schemes         | All schemes  | Professional/ Legal fees (e.g. TTRO, Consultants, licences) | £7,500          |
| Staff         | All schemes   | All schemes         | All schemes  | Staff Salary (including NETI specialist support)            | £85,000         |
| <b>TOTAL</b>  |   |                     |  |   | <b>£360,500</b> |



**NORFOLK COUNTY COUNCIL – EDT**  
**External Funding 2023/2024**

| Scheme Number   | PROW  | Parish                                | Location  | Description  | Estimate £                     |
|-----------------|---|---------------------------------------|---|--|--------------------------------|
| GP83<br>CIL Yr2 | Loddon FP4<br>Langley FP9<br>Loddon FP5<br>Langley FP5<br>Bramerton FP5<br>Surlingham FP1 | Hardley<br>Bramerton<br>Surlingham    | Wherrymans Way;<br>Hardley Flood,<br>Bramerton and<br>Surlingham          | Wherrymans Way; Hardley<br>Flood Phase 2 Resurface/<br>Phase 2 Bramerton and<br>Surlingham Resurface | £195,000                       |
| EXT-001         | Brancaster FP5  | Brancaster                            | Brancaster Boardwalk<br>between Broad Lane and<br>Harbour Way             | Brancaster Boardwalk FULL<br>repair  | £450,000<br><i>Funding TBC</i> |
| EXT-002         | Weavers' Way<br>East Ruston   | Dilham,<br>East<br>Ruston,<br>Stalham | Weavers' Way Trail, East<br>Ruston (between Chapel<br>Road to Holme Road) | Resurface  | £350,000<br><i>Funding TBC</i> |
| <b>Total</b>    |   |                                       |   |  | <b>£995,000</b>                |

# Infrastructure and Development Select Committee

Item No: 9

**Report Title: Adult Learning Annual Plan**

**Date of Meeting: 18 January 2023**

**Responsible Cabinet Member: Cllr Margaret Dewsbury** (Cabinet Member for Communities & Partnerships)

**Responsible Director: Tom McCabe** (Executive Director, Community & Environmental Services)

## Executive Summary

The Adult Learning service is an Ofsted-rated 'Good' Further Education Adult and Community Education provider, that is externally funded through grant funding from central Government through the Department for Education's Education and Skills Funding Agency and tuition fee income. The service's total income is around £5 million per academic year, and it uses this income to deliver qualifications, apprenticeships, non-accredited community learning programmes and self-financed personal development courses to around 8,000 adult learners in Norfolk. Around 63% of the service's courses are classroom-based and the remainder are delivered online.

In addition, the service is managing the delivery of Norfolk's Multiply allocation of £4.7 million over three financial years from the Department for Education.

Adult Learning continues to play an important role both nationally as a leader in the sector and in terms of its delivery, which has a significant impact on Norfolk residents.

Nationally, the service leads the way in the use of technology in education and, in 2022, successfully led a major Department for Education programme to improve teacher skills across a partnership of 10 local authorities.

Here in Norfolk, the service has opened its two new construction training centres, in Norwich and King's Lynn. With 500 learners completing construction skills training between January and October 2022 at a temporary facility, the service will increase its delivery at the new centres over the next year to 900 learners, with a clear focus on the net zero agenda.

This Annual Plan sets out the service's vision 'Changing lives through inspirational learning with exceptional support' and clearly links service delivery to Norfolk's strategic objectives, as detailed in the Better Together, for Norfolk Strategy 2021-25. Adult Learning's proposed key priorities are the same as Norfolk's key priorities:

In the 2023-24 academic year, Adult Learning will:

- **Enable** a vibrant and sustainable economy
- **Support** better opportunities for children and young people
- **Empower** individuals to live healthy, fulfilling and independent lives
- **Strengthen** communities
- **Enable** the development of a greener, more resilient future.

This paper sets out how the service's proposed strategic and operational activities contribute to Norfolk's priorities.

## **Actions Required**

The Select Committee is asked to:

1. **Note Adult Learning's exceptional performance and contribution to Norfolk priorities.**
2. **Consider and comment on the Adult Learning Annual Plan for 2023-24 and beyond, in advance of a cabinet decision on 6<sup>th</sup> March 2023.**

### **1. Background and Purpose**

- 1.1 The Adult Learning service is an Ofsted-rated 'Good' Further Education Adult and Community Education provider, that is externally funded through grant funding from central Government through the Department for Education's Education and Skills Funding Agency and tuition fee income.
- 1.2 With a total income of **£4,932,318** in the 2021-22 academic year, the service is one of the largest adult education providers in the country, the largest adult education provider in Norfolk, and is cost neutral to the Council.

The service earns its external funding and tuition fee income through the delivery of information, advice and guidance; teaching, learning and assessment; as well as learner and learning support activities, with around **8,000** adult learners (age 19+) registrations across Norfolk.

- 1.3 In addition, the service secured **an additional £1 million** in the 2021-22 academic year to deliver specific projects: the ACE Digital Leaders project, funded through the Further Education Professional Development Grant



(FEPDG) from the Department for Education, and the Community Renewal Fund-funded Construction project, which has enabled the service to establish two new construction training centres in Norfolk.

- 1.4 The service also manages Norfolk's Multiply allocation of **£4,700,000** from the Department for Education over three financial years ending in March 2025.

**Appendix A** provides detailed information on the service's Income and Financial Management.

- 1.5 In the 2021-22 academic year, Adult Learning continued to provide a high - quality service to Norfolk residents, with 8,000 adult learner registrations overall.

The service successfully earned 103% of its Adult Education Budget funding target of £3,894,232 (we are permitted to claim up to 103% if we deliver additional learning to residents) and this will bring an additional £112,000 of funding into Norfolk. This provides evidence that the service is using its funding fully to maximise delivery to Norfolk residents.

Currently around 63% of courses are classroom-based, with 37% remaining online, and this continues to meet the needs of learners who live in rural communities and/or who have challenges in getting to classroom venues, perhaps due to care responsibilities or because they have a disability.

The service proactively targets and provides opportunities for residents who are the furthest from education and training. 40% (1,248) of learners who attended the service's qualification programmes, and 31% (1,230) of learners who attended non-accredited community learning courses, or in total 2,478 learners who attended our externally funded programmes (not including apprenticeships or self-financed courses), were from the 30% most deprived wards in Norfolk.

Adult Learning continues to assess its performance as Good against Ofsted criteria, as set out in the Education Inspection Framework. This includes a judgement of Strong in respect of a new inspection area related to how well a provider contributes to meeting local skills needs.

| Education Inspection Framework Judgement Area | 2021-22 Self-Assessment Report (SAR) |
|---|--------------------------------------|
| Overall Effectiveness                         | Good                                 |
| Quality of Education                          | Good                                 |
| Behaviours and Attitudes of learners          | Good                                 |
| Personal Development of Learners              | Good                                 |
| Leadership and Management                     | Good                                 |
| Contribution to Meeting Skills Needs          | Strong                               |

**Appendix B** details the key findings from Adult Learning's Self-Assessment Report for the academic year 2021-22.

In July 2022, the service had an external accreditation review against the Matrix Standard, which is a nationally recognised quality standard that judges the effectiveness of the information, advice and guidance that a provider gives to its clients. The service successfully achieved the required standards and continues to hold the Matrix Standard. The passion of our staff to help learners, help people, help communities, came over to the external assessor very strongly. The assessor also fed back that our learners shared their real appreciation of the fact that there is a service here supporting them and our robust relationships with partners and employers came across strongly.

- 1.6 The service continues to play an important role nationally as a leader in the adult education sector and our service delivery has a significant impact on Norfolk residents.

While there are many areas of impact that the service has on Norfolk residents, **Appendix C** provides a few examples of the Adult Learning Service's impact:

- National impact
- The development of a construction and environmental sustainability programme
- Response to the needs of our guests from Ukraine
- Apprenticeships
- Basic English and maths qualifications
- Reducing the pay gap.

## 1.7 Learner Involvement

The service regularly collects feedback and produces case studies that demonstrate the impact of its services on Norfolk residents. In the 2021-22 academic year, the service received 2,444 feedback survey responses from learners. Over 93% of learners said that they enjoyed their course.

**Appendix D** shares feedback from our learners, taken from the Learner Survey 2021-22 academic year.

Each year, the service holds an awards ceremony that celebrates the achievements of our learners. This year's ceremony includes video testimonies from learners talking about the many ways in which Adult Learning has changed their lives. We intend to canvass staff and learners to see if they wish to stay online or move to a face-to-face event in 2023. This is a link to the online awards event.

[Adult Learning Learner Awards 2022 - YouTube](#)

## 2. Proposal

### 2.1 Intent – the Adult Learning Vision 2023-24

Feedback from learners tells us that the central thing that this service achieves is to change their lives. We, therefore, propose the following new vision for the service. We feel that this vision is extremely powerful and enables both staff and residents to immediately see the aspirations that this service aims to achieve.



**Adult Learning's new Vision:**

**Changing lives through inspirational learning with exceptional support**



### 2.2 Intent – the Adult Learning Annual Plan

The Adult Learning Annual Plan has been reviewed and adjusted based on the latest evidence and insight, and outlines how Adult Learning will use its funding and income in the 2023-24 academic year to respond to the ambition and



aspirations of the county, as well as the existing and emerging learning needs of adults in Norfolk.

In developing this plan, the service has considered external factors, such as the ongoing Department for Education consultation process in relation to Further Education funding and accountability, Norfolk's County Deal, which will lead to the devolution of the Adult Education Budget from the 2025-26 academic year, as well as the economic and social needs of the county.

A key focus in the 2023-24 academic year will be to target adult residents who are seeking employment or who are economically inactive and to enable individuals to return to the workplace by providing support and access to new skills and vocational pathways.

In addition, the curriculum planning process considers national, regional and local priorities in the Further Education sector, as well as how the service will contribute to Norfolk County Council's strategic objectives, as detailed in Better Together for Norfolk.

In revisiting the Annual Plan, the service has used evidence-based research and extensive partnership working to identify the key drivers for the future delivery of its courses, in particular the county's ambition and aspiration to be high performing, to enjoy economic growth and to protect the environment; as well as to have safe, empowered and connected communities.

## 2.3 Intent – Adult Learning's Key Priorities and Contribution to Norfolk's priorities for learning and skills in the academic year 2023-24.

This section outlines Adult Learning's key priorities and how they will contribute to the Better Together, for Norfolk Strategy 2021-25.

In the 2023-24 academic year, Adult Learning will:

- **Enable** a vibrant and sustainable economy
- **Support** better opportunities for children and young people
- **Empower** individuals to live healthy, fulfilling and independent lives
- **Strengthen** communities
- **Enable** the development of a greener, more resilient future.

**Appendix E** outlines in detail, with key performance indicators, how Adult Learning's strategic and operational activities will contribute to Norfolk County Council's strategic priorities as detailed in the Better Together, for Norfolk Strategy 2021-25.

**Appendix F** brings together Adult Learning's vision, priorities, how the service proposes to deliver its priorities and success measures in one document – the Adult Learning Plan on a Page for the academic year 2023-24.

2.4 The service's external income will enable it to deliver a wide-ranging curriculum, including:

- Qualifications from entry level to Level 5 (foundation degree level)
- Apprenticeships
- Non-accredited community learning that:
  - Provides opportunities for residents to return to education and progress on to further learning, qualifications and/or employment
  - Enables access to learning, work and independent lives for residents with disabilities and/or learning difficulties
  - Provides opportunities for parents, guardians and carers to support children and young people
  - Supports, through learning, the wellbeing of our residents.
- A wide range of learning interventions that improve numeracy skills, funded through the county's Multiply grant
- Self-financed creative and personal development courses.

**Appendix G** provides further information about the proposed Adult Learning curriculum 2023-24.

2.5 Delivery of the Adult Learning Annual Plan

The service has already demonstrated its ability to use its external funding and income to plan both flexible and responsive learning programmes that are delivered in the community and leads the way in our sector with the use of technology in education and the implementation of synchronous delivery.

**Appendix H** outlines the service's proposed approach to delivering the Adult Learning Annual Plan.

2.6 Delivering Multiply in Norfolk

Multiply is a national initiative, through the Department for Education, which aims to increase the levels of functional numeracy in the adult population across the UK.

Multiply funding has been allocated to local authorities and Norfolk has been allocated £4.7 million over three financial years, as follows:

- 2022-23: £1.41 million
- 2023-24: £1.63 million
- 2024-25: £1.63 million.

The Department for Education has given local authorities the flexibility to determine what provision is needed to deliver high quality, innovative numeracy interventions that meet the needs of local people and the national aims of Multiply.

Norfolk was asked to prepare and submit a Multiply Investment Plan (**see Appendix I**) by the end of June 2022 and our Investment Plan was accepted by the Department for Education and Norfolk's Multiply contract was signed in September 2022. The Investment Plan will be adjusted in advance of the start of each financial year. Norfolk will earn this funding through the delivery of Multiply Interventions.

**Appendix J** provides more detailed information on Norfolk's Multiply Interventions and the outputs and budget against each intervention through the three financial years of the programme.

The delay by the Department for Education in finalising contracts (September 2022) in financial year 1 has placed significant pressure on delivery nationally. Norfolk has moved quickly to establish its project team and identify in-house delivery through Adult Learning and grant funding arrangements with the three other key providers of adult numeracy in Norfolk. Delivery hours have been based on the proportion of each of these providers' delivery of Adult Education Budget numeracy programmes in the county.

Based on these calculations, Norfolk has allocated 86% of the Multiply direct delivery hours in financial year 1 as follows:

- Norfolk County Council Adult Learning: 41%
- City College Norwich: 24%
- College of West Anglia: 12%
- East Coast College: 9%

The remaining 14% of delivery hours have been allocated to smaller providers. Grant Funding agreements are in place with all external providers.

Progress against the programme outputs (**see Appendix J**) will be monitored quarterly by the Department for Education.

Norfolk's approach to financial year 2 delivery will be planned and agreed with the Department for Education between January and March 2023.

### **3. Impact of the Proposal**

- 3.1 The Adult Learning Annual Plan will enable the Council to use its external funding and tuition fee income to deliver the learning outcomes outlined in this proposal.



The service will use the success measures identified in its Key Priorities and Contribution to Norfolk's Priorities document (**see Appendix E**), its Plan on a Page (**see Appendix F**) and its self-assessment process to measure the impact of the proposed Adult Learning Annual Plan.

## **4. Financial Implications**

- 4.1 Adult Learning is externally funded through the Education and Skills Funding Agency, student loans and tuition fee income and is financially self-sustainable.

The growth of the service's programmes, together with successful applications for additional funding, will allow for investment into future learning opportunities that respond to Norfolk's priorities.

## **5. Resource Implications**

### **5.1 Staff:**

The service manages its staffing requirements in line with the curriculum that it delivers.

The service continues to provide specialist training for teaching staff to enable them to deliver their programmes effectively.

Norfolk's Multiply allocation has required the establishment of a Multiply team to manage the funding and delivery. The council is allowed to use up to 10% of its financial year Multiply allocation for this purpose. In addition, a proportion of the direct delivery Multiply funding has been used to recruit seven Multiply Champions, who will be based in the seven local districts/boroughs in Norfolk to work with local stakeholders and partners to identify residents who could benefit from the programme.

Adult Learning has recruited a manager responsible for its Multiply delivery and this is funded through its proportion of the Multiply funding.

### **5.2 Property:**

The service's move to hybrid working and the online and synchronous delivery of courses has reduced the service's venue-associated costs. This means that the service has become less reliant on physical premises. In addition, the service has actively increased its use of training facilities in the libraries. This combination of online and local training facilities has enabled the service to increase its countywide presence, and better meet the needs of residents.

The service's two new construction training centres in Norwich (opened November 2022) and King's Lynn (opening in January 2023), also provide training facilities for other subject areas. The on-going costs of these new facilities will be managed through the service's existing budgets.

### 5.3 IT:

The significant growth in online delivery has required the service to increase its expenditure on equipment, software and training for staff, as well as to increase the level of support for learners to access and effectively use digital platforms. The service's Department for Education learner support funding enables the service to provide digital equipment to learners who are unemployed or on a low income.

## 6. Other Implications

### 6.1 Legal Implications:

Adult Learning operates within the requirements around funding and performance established by Ofsted, the Department for Education and the Education and Skills Funding Agency.

### 6.2 Human Rights Implications:

None.

### 6.3 Equality Impact Assessment (EqIA):

The Adult Learning Annual Plan actively seeks to target diverse and vulnerable individuals and communities and it is not envisaged that there will be any adverse impacts based on this proposal. Adult Learning has an immensely positive impact on adult residents, for example:

- **40%** of learners who attended qualification programmes and **30%** of learners who attended non-accredited courses or **2,478 learners** in total in the 2021-22 academic year were from the **30%** most deprived wards in Norfolk
- The service responds well to the needs of Norfolk's ethnic minority communities, with **30.5%** of learners on qualification programmes and **12.6%** of community learning learners from a non-White British ethnic background in the 2021-22 academic year
- The **Independent Living Skills** programme, with around **200** learner registrations each year, supports residents with a learning difficulty and/or disability to gain the skills they need to live an independent life
- The **Lipreading** programme provides around **200** learners each year, who have a hearing impairment, with the skills they need to participate fully in everyday life and work. This programme is offered free of charge to facilitate access
- The service actively enables **female** learners to gain the skills and qualifications they need to gain employment and progress and reduce the pay gap, for example, **30%** of our construction learners are female
- **Learner support funding** enables residents who need financial support to enable them to participate in a course and is available to all learners

on qualification courses. We provide laptops, course books, and funding for travel and childcare costs

- Our **Special Educational Needs Coordinator (SENCo)** assesses learners' specific needs, including dyslexia assessments, and arranges the support an individual needs to succeed in their learning and to access examinations and qualifications
- **Additional learning support** enables a learner who needs one-to-one support with their learning to access the support they need, and this is available to all funded learners
- Adult Learning's **fees policy** enables learners on a low income and all community learning learners to access free courses
- The service's approach to **countywide delivery**, with both a classroom-based and online offer, provides access to learning for residents who previously had barriers, such as residents with a disability or who live in a rural area.

#### **6.4 Data Protection Impact Assessments (DPIA):**

Adult Learning is fully compliant with data protection requirements and there are no changes in this proposal that have implications in relation to data protection.

#### **6.5 Health and Safety implications (where appropriate):**

The delivery of the Adult Learning Annual Plan will be taken forward in line with Government regulations and in consultation with Health and Safety colleagues in the Council. An Assistant Head of Service is responsible for this process and for ensuring that learners and staff are and remain safe.

#### **6.6 Sustainability implications (where appropriate):**

This proposal will have a positive impact on the environment, as it is planned that around 40% of the service's future learning provision will be delivered online. This will reduce travel and the use of physical premises and resources. In addition, the new construction curriculum will actively support Norfolk's net zero aspirations.

#### **6.7 Any Other Implications:**

None.

### **7. Risk Implications / Assessment**

- 7.1 The risks associated with the Adult Learning service's operations are managed through the Community, Information and Learning departmental risk register. There are no additional risks resulting from this proposal.



## 8. Actions Required

The Select Committee is asked to:

1. Note Adult Learning's exceptional performance and contribution to Norfolk priorities.
2. Consider and comment on the Adult Learning Annual Plan for 2023-24 and beyond, in advance of a cabinet decision on 6<sup>th</sup> March 2023.

## 9. Background Papers

9.1 None.

### Officer Contact

If you have any questions about matters contained within this paper, please get in touch with:

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If you need this report in large print, audio, braille, alternative format or in a different language please contact 0344 800 8020 or 0344 800 8011 (textphone) and we will do our best to help.

## Adult Learning Income and Financial Management

Adult Learning is externally funded through grant funding from central Government's Education and Skills Funding Agency (ESFA). The service's income, in the 2021-22 academic year totalled £4,932,318, and was broken down as follows:

- Adult Education Budget (AEB) (£3,894,232)
- National Skills Fund (£102,514)
- Student loans (£180,908)
- Tuition fees (£232,000) and
- Apprenticeships (£625,178).

The service's external funding is earned through the delivery of teaching, learning and assessment across Norfolk.

Following a strong year of qualifications and community learning delivery, against a national backdrop of under-delivery, the service overdelivered on its AEB allocation by 3%, bringing in an additional £112K of funding into Norfolk (we are allowed to claim up to 103% of our contract value).

£117K from the service's £625K Apprenticeship income is paid to the Norfolk Fire and Rescue Service for the delivery of their Operational Firefighter Apprenticeship programme.

Following a similar trend to the last few years, more of the service's ESFA-funded learners were entitled to fully funded courses, leading to a reduction in the service's tuition fee income. This reduction in fee income is a direct result of the service's success in engaging with harder to reach learners and learners who are eligible for fully funded courses. Over the last 5 years, the service's income from tuition fees has reduced from in excess of £500K per year to around £232K in total. This figure does mask the full extent of the reduction, as it includes an increase in fees from self-financed provision of £200K.

Set against another tough year nationally in the sector, Adult Learning underdelivered by £45K on its allocation for Free Level 3 Courses. However, the service secured a Student Loans income for its Level 3 provision of £181K.

With the existing provision and the introduction of the new construction and sustainability curriculum and new training centres in Norwich and King's Lynn, the service expects to use all its funding in the 2022-23 academic year.

In addition to the income detailed above, Adult Learning is managing Norfolk's Multiply contract, which will be responsible for bringing £4.7 million of numeracy provision to Norfolk residents over the next two and a half financial years. Adult Learning has committed to delivery of 41% of the overall provision across the whole of Norfolk. Please note that while most of the service's external income is managed on an academic year basis, Multiply is being managed by the Department for Education on a financial year basis.

## 1. Self-Assessment Key Performance Indicators

### 1.1. Progress in Overall Effectiveness

| Report                     | Judgement   |
|----------------------------|-------------|
| <b>SAR 2021/22</b>         | Good        |
| SAR 2020/21                | Good        |
| SAR 2019/20                | Good        |
| <b>Ofsted January 2020</b> | <b>Good</b> |

### 1.2. Progress in Aspects of Performance

| EIF Aspect of Performance                        | 2019/20 | 2020/21     | 2021/22       |
|--|---------|-------------|---------------|
| <b>Quality of Education (QE)</b>                 | Good    | Good        | <b>Good</b>   |
| <b>Behaviours and Attitudes (BA)</b>             | Good    | Outstanding | <b>Good</b>   |
| <b>Personal Development (PD)</b>                 | Good    | Outstanding | <b>Good</b>   |
| <b>Leadership and Management (LM)</b>            | Good    | Good        | <b>Good</b>   |
| <b>Contribution to Meeting Skills Needs (S)*</b> | N/A     | N/A         | <b>Strong</b> |

### 1.3 Service Intent

Adult Learning's curriculum intent is strong, ambitious and closely linked to national, regional and local priorities, including Norfolk County Council's [\*\*Better Together for Norfolk Strategy 2021-2025\*\*](#).

Throughout the service and our subcontractors, staff have a good understanding of our intent and what it means for their practice. Through the service's highly effective, responsive and progressive curriculum, we provide a wide range of learning opportunities that improve people's lives and outcomes, enable people to participate in their communities and support growth and prosperity in Norfolk. Our service priorities are designed to give residents and learners, particularly the most disadvantaged, the knowledge and skills they need to succeed in life.

The strength of the service's intent is rooted in its position, deeply embedded within Norfolk County Council, where Council leaders see Adult Learning as a critical service that prevents the need for other Council services and a service that responds highly effectively to the needs of Norfolk residents.

The service uses evidence-based research, including local insight data, and extensive and highly effective partnership working with a wide range of internal Council and external stakeholders; including, for example, employers, the New Anglia Local Enterprise Partnership, DWP, District Councils, Voluntary Norfolk, VCSE partners, Citizens Advice Bureau and the GFE Colleges, to identify the key drivers for the development of our curriculum intent. This has resulted in a curriculum that is founded on the needs of learners, employers and the national, regional and local economy.

Leaders and managers are very clear how the service's strong curriculum intent and highly effective partnership working enable the service to make a strong contribution to meeting skills needs. The service's deep understanding of national, regional and local skills needs enables it to plan and deliver a curriculum that responds directly to these needs.



## 2. Service Performance – Key Findings against Ofsted Key Judgement Areas

| Ofsted Key Judgement Area | Strengths  | Area for Improvement   |
|---------------------------|--|--|
| Quality Of Education      | <ul style="list-style-type: none"> <li>• Training activities contribute well to delivering the service intent and are consistently demanding for all learners across all areas of the provision. High expectations ensure that learners build on their starting points for transferrable skills, develop their knowledge and acquire new skills.</li> <li>• Supporting the wider implementation of the offer and building on the successes of the previous year, learners benefit from access to remote education that is exceptionally well supported and is now embedded into much of the vocational and foundation skills curriculum offer.</li> <li>• Initial skills diagnostic tools are systematically used as part of an apprentice's induction programme to swiftly identify starting points and plan their programme of learning.</li> <li>• Employer feedback demonstrates that their apprentice's training reflects up to date industry practice and that organisational needs are clearly understood by us as their provider. This is further demonstrated by the 95% of achievers maintaining substantial employment on completion.</li> <li>• Participation in learning of Norfolk's BAME community is strong, demonstrating our commitment to our learners, irrespective of their background. The successful achievement of qualifications is broadly similar (+/- 5%) across the significant majority of ethnic minority groups that learn with us, where they make up 12.6% of our community learning learners, and 30.5% of our qualification programmes learners.</li> <li>• Learners furthest from education and training are targeted proactively with relevant provision and as such are well represented. 40% of our qualifications provision was represented by learners from the 30% most deprived areas of Norfolk, which not only raises attainment levels in those areas, but prepares those Norfolk residents well for future learning and employment opportunities.</li> </ul> | <ul style="list-style-type: none"> <li>• The service needs to develop further and streamline its use of collaborative Individual Learning Plan (ILP) tools. This will ensure that Tutors, LSAs and employers are able to effectively record progress against a learner's goals and that they will be able to provide well informed support according to that learner's needs, starting points, progress and aspirations.</li> <li>• Whilst a significant improvement on the previous year (up 18%), those declaring dyslexia as a barrier to learning are still 6% less likely to achieve their qualification aim.</li> <li>• For our qualifications provision as a whole, males were 8% less likely to achieve than their female counterparts.</li> <li>• The collection of destination data requires further development, so that the use of the insight gained influences the curriculum in a more systematic way.</li> </ul> |

|                          |   |   |
|--------------------------|---|---|
| Behaviours and Attitudes | <ul style="list-style-type: none"> <li>• Prevent, British Values and equality and diversity are embedded and demonstrated well, with staff diligent in their own practice, enabling an inclusive learning environment where all individuals are afforded opportunities to thrive.</li> <li>• The 'Learner Voice' is captured through all formal observations of Teaching, Learning and Assessment and is well documented in the observation records produced thereafter.</li> <li>• 95% of learner survey respondents said they would recommend Adult Learning to family and friends.</li> <li>• Our Learner Services team provide extensive welfare checks, pastoral and other types of support for struggling and/or challenging learners.</li> <li>• Across the majority of our curriculum offer learners demonstrate their commitment to learning well through strong attendance on their courses, with 94% attendance on vocational qualification programmes, 91% attendance on independent living skills and progression courses, 92% attendance on construction programmes and 97% on family learning courses.</li> <li>• Adult Learning is a safe place to learn, free from bullying and harassment, where learners behave consistently well, demonstrating high levels of self-control and consistently positive attitudes to their education and/or training.</li> <li>• The service's highly proactive approach to Safeguarding our learners, including clear referral routes and processes for managing allegations ensures that referrals are managed and closed in a timely manner, and this ensures that learners are safe.</li> </ul> | <ul style="list-style-type: none"> <li>• Attendance on foundation skills courses, at 84% overall, reflects the challenges faced by our most hard to reach learners and was significantly affected by learner absences due to covid. To move to outstanding, the service needs to identify measures to further support learners with their attendance on these programmes.</li> </ul>  |
| Personal Development     | <ul style="list-style-type: none"> <li>• Learner representation on our steering group, provides the opportunity for learner representatives to challenge and support senior leaders on the performance of the service and enables the 'learner voice' to be heard at every level of the organisation.</li> <li>• Learners on vocational courses achieve relevant and impactful additional aims that prepare them well for careers in their chosen subject area. For example, those studying level 2 Teaching Assistant Programmes also complete an award in progression, a certificate in employability skills and a communication skills for work module.</li> <li>• Learners from a diverse range of backgrounds participate in the Adult Learning termly and annual awards and are actively engaged in nominating peers from their groups for the receipt of the 'Classroom Colleague' award. Our highly successful,</li> </ul>  | <ul style="list-style-type: none"> <li>• To move to 'outstanding', we need to provide further opportunities for learners to develop their talents and interests and teach them why it is important to contribute actively to our diverse society.</li> <li>• For us to continue our journey towards 'outstanding' we need to develop further the tracking of Information, Advice and Guidance across the service. This will ensure</li> </ul> |

|                           |   |   |
|---------------------------|---|---|
|                           | <p>public facing Annual Learner Awards ceremony has demonstrated well the diversity of our learners and has championed their successes.</p> <ul style="list-style-type: none"> <li>• Our Information, Advice and Guidance service is offered to all learners and available to all Norfolk residents, which leads to a comprehensive Impartial Information, Advice and Guidance service. Working with individuals and monitoring their destinations after our advice leads to great outcomes including further courses, employment and Higher education.</li> <li>• Our Matrix standards assessment confirms that learners are supplied with current, accurate and quality assured information that is inclusive and we establish effective links with appropriate partners</li> </ul>   | <p>that the effectiveness of the process, can be consistently evaluated, continually improved upon, and that it benefits learners effectively, preparing them for their future success in education, employment or training.</p>  |
| Leadership and Management | <ul style="list-style-type: none"> <li>• Leaders have a strong and ambitious vision that is closely aligned to the council's strategic vision and priorities for Norfolk. Our strong, shared values, policies and practice enable the service to provide high-quality, inclusive education and training to our learners.</li> <li>• The service provides an exceptional, inclusive range of opportunities for residents to access education and training across a large, rural county, in physical settings, online or through a hybrid model.</li> <li>• The service's Quality Improvement Team provides high quality and highly effective professional development to teaching staff and this has improved the quality of education for learners.</li> <li>• Leaders provide an exceptional level of training to improve the use of technology in education, including remote education. The ACE Digital Leaders project, funded by DfE, supported 99 tutors to improve their use of technology and gain a wide range of new skills through the delivery of 1,646 hours of professional development opportunities, benefitting 2,000 learners in this academic year.</li> <li>• Extensive engagement with learners, for example, through representation on the Steering Group and learner surveys, informs service planning and delivery and ensures continuous improvement.</li> <li>• The service's strong relationships with other Norfolk County Council services have a significant positive impact on the quality of services available to residents and enables the service to respond highly effectively to the skills needs of the county. For example, the Operational Firefighters apprenticeships programme with Norfolk Fire and Rescue Service trains new fire fighters to support residents across Norfolk.</li> </ul> | <ul style="list-style-type: none"> <li>• The service needs to improve the implementation of the vision outlined in the service's CPD Strategy, including the systematic recording of evidence, so that the service consistently improves the quality of education provided to learners.</li> <li>• The service needs to improve the evidence it collects to demonstrate the impact of its extensive partnership working.</li> <li>• As a result of academic management job pressures and their scope of responsibility, there are examples where academic staff have been unable to access sufficient line management support.</li> <li>• To become outstanding, the service needs to implement its plan to further enhance the effectiveness of Steering Group.</li> </ul> |



|  |   |  |
|--|---|--|
|  | <ul style="list-style-type: none"> <li>• Our positive and successful working relationships with a wide range of external partners and stakeholders enables the service to develop and deliver a rich and varied offer that responds directly to the needs of Norfolk residents and the economy.</li> <li>• Our innovative and inclusive collaboration with Norfolk Fire and Rescue Service (NFRS), enabling people from abroad who have recently arrived in Norfolk to learn English and fire safety at the same time, has been nationally recognised through NFRS and Adult Learning winning the Asian Fire Service Association, Partnership of the year award 2022.</li> <li>• The service's robust Communications Strategy ensures clear, strong communication throughout the service.</li> <li>• Termly staff engagement meetings enable staff (around 140 each term) to be fully involved in service initiatives and issues.</li> <li>• Annual appraisals are closely linked to an individual staff member's responsibilities and performance and service objectives, and this ensures that each staff member's work priorities are aligned to service intent.</li> <li>• In addition to access to Norfolk County Council's wellbeing team and a 24-hours, 365 days a year support line, the service provides significant additional support for wellbeing issues. An Assistant Head of Service is the service's wellbeing lead and the wellbeing team provides exceptional support for staff who experience wellbeing issues. The wellbeing lead provides immediate support for staff with the full range of potential issues, including wellbeing, workload, bullying, harassment or discrimination.</li> <li>• All managers complete Mental Health First Aid training. This enables managers to provide effective support to their staff.</li> <li>• Staff feedback (131 or 60% of staff responded to the 2022 Our Voice Our Council Employee Survey) continues to be highly positive. The service's scores from this survey continue to improve, remain ahead of the overall council scores, and this demonstrates that service leaders are aware of and respond highly effectively to staff needs.</li> <li>• Adult Learning has a highly effective and proactive culture of safeguarding, with robust policies and arrangements in place to identify, help and protect learners</li> <li>• The Head of Service is the Designated Safeguarding Lead, supported by a team of Deputy Safeguarding Leads, and there is a highly effective culture that safeguarding is everyone's responsibility every day.</li> </ul> |  |
|--|---|--|

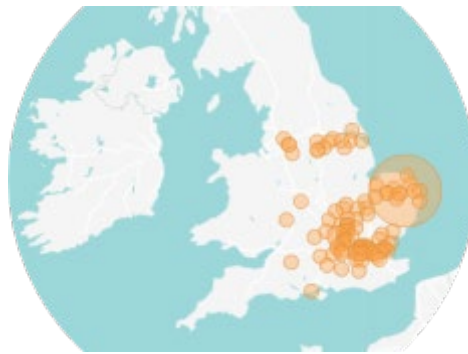
|  |   |  |
|--|---|--|
|  | <ul style="list-style-type: none"><li>• Steering Group members receive annual safeguarding training, including Prevent, and ensure that we are fulfilling our legal duties and responsibilities.</li><li>• The service takes a proactive approach to ensuring that learners are well informed and understand how to protect themselves from potential abuse and radicalisation.</li></ul> |  |
|--|---|--|

## Adult Learning's Impact

Adult Learning continues to play an important role nationally as a leader in the adult education sector and our service delivery has a significant impact on Norfolk residents. While there are many areas of impact that the service could highlight, this document provides a few examples of the Adult Learning service's impact.

### National Impact

Adult Learning secured £500K from the Department for Education to lead a highly ambitious and innovative project, ACE Digital Leaders, that aimed to drive forward the development of workforce capability and confidence to use technology effectively in education. The project, with 416 participants from 10 local authorities, has had a major impact on the use of technology in our sector and had a direct impact on 14,000 adult learners. We delivered 1,151 hours of staff training. This map shows the locations of project participants:



Following dissemination to the wider sector, we have now reached 140 local authorities who deliver to 150,000 learners each year.

This work has placed Norfolk at the cutting edge of the use of technology in education and this will benefit our learners in Norfolk going forward, as they access high quality support, teaching and learning that makes effective use of the latest technology.

### The Development of a Construction and Environmental Sustainability programme

Our determination to respond to the need to increase training opportunities in the construction industry, including sustainable practices and training that would support the green agenda, led to a successful bid to the Community Renewal Fund. The service secured £568K to develop a sustainable construction curriculum and two new construction training centres for adult learners in Norfolk. Throughout 2022 our key focus was on identifying the venues, getting planning permission and establishing the new centres. This had to be achieved by the deadline of December 2022. The centre in Hellesdon, Norwich, welcomed its first learners in November 2022 and the centre in King's Lynn will open in January 2023.





The new training centre in Norwich

In the meantime, from January 2022 through to October 2022, the service introduced its construction curriculum at a temporary training centre at Wensum Lodge in Norwich. In that time 500 learners completed courses in a range of construction skills, the most popular being carpentry. In the next year, the service plans to increase its delivery to 900 learners.

### Response to the needs of our guests from Ukraine

Since the arrival of the first Ukrainian guests in Norfolk, Adult Learning's English for Speakers of Other Languages (ESOL) and Learner Services teams have been providing a highly responsive service to over 330 learners from Ukraine.

150 Ukrainian guests had no spoken English and joined our Everyday Conversations programme. We have had 125 registrations on our multi-level ESOL qualification programmes for learners who joined us with some spoken English. Over the summer break 2022, the service offered Summer Coffee and Chat sessions, which aimed to support our guests (55) to feel integrated into our community and provided an opportunity to meet other Ukrainian learners. Since May 2022, Adult Learning has offered information drop-in sessions in collaboration with the Libraries, and these continue to the present time.

The service also continues to support, in collaboration with the People from Abroad team, Norfolk's refugees from Syria, with our sixth cohort of 18 refugees currently on an 11-month programme of 16 taught hours per week.

Our innovative and inclusive collaboration with Norfolk Fire and Rescue Service (NFRS), has enabled people from abroad who have recently arrived in Norfolk to learn English and fire safety at the same time. This work has been nationally recognised, as NFRS and Adult Learning have received the Asian Fire Service Association 'Partnership of the Year' award 2022.

The service is now embedding Maths into its ESOL courses and is projecting an increase on this programme overall from 529 registrations in 2021-22 to 900 in 2022-23.

### Apprenticeships

The service's apprenticeships programme continues to go from strength to strength, exceeding apprentice recruitment targets and meeting the needs of employers in Norfolk.

Our target for recruitment to the cohort of apprentices due to complete in the 2024-25 academic year has been set at 250, a 6.5% increase on the previous year (235) and over 330% increase on the recruitment of apprentices in the 2021-22 academic year (74).

We are currently working with 144 apprentices who are due to complete in the 2022-23 academic year.

Our apprentices continue to achieve well above the most recent published National Achievement Rates of 64%, with 71.6% (63) successfully having achieved their expected outcome in 2021-22 academic year. Additionally, we are proud to report that 61 of our 63 achievers in 2021-22 have continued in their employment after their success.

89% of the 106 employers who returned a survey questionnaire said that our delivery team deliver training that reflects up-to-date practices in their industry/sector.

### Basic English and Maths Qualifications

Basic English and maths provision underpins all national, regional and local priorities, and this is a significant area of learner recruitment for the service. With around 900 learners on these courses, which are delivered both in the classroom and online, 54% of our English learners and 39% of our maths learners were from the 30% most deprived wards in Norfolk.

### Reducing the pay gap

The service provides a wide range of opportunities that aim to respond not only to sector skills gaps, but also the gender pay gap in Norfolk.

For example, in the 2021-22 academic year:

- 33% (132) construction learners were female, and this compares well with 11% female employment in the industry. The current pay gap for construction operatives is 23%. By providing skills and qualifications we aim to address this issue so that we both increase the proportion of female construction workers, and our female learners will secure better paid jobs in industry.



Female construction learners gaining skills in plastering

- We currently have 49 firefighters who have completed or are still in training on their Operational Firefighter Apprenticeship programme this year. Of these, 13 (23%) are female (nationally less than 10% of firefighters are female).
- The pay gap in accountancy for financial accounts managers is 25%. Our strong Accountancy qualification programme, from Level 1 to Level 4, had 247 learners in the 2021-22 academic year, of which 78% (193) were female. Nationally, 62% of the workforce in accounting services is female. Our aim is to support our learners into full time, well-paid professional roles in the Accountancy industry.

## The Impact of Adult Learning – learner survey feedback 2021-22

*"... It has inspired me to think more seriously about starting my own business."*

[Starting a Business]

*"Discovered I could do something I never considered before."*

[Creative Writing]

*"I've learnt how to do Fractions! Something which I have never been able to do."*

[Maths]

*"Made my brain work and made me think what work I am capable of doing."*

[Volunteer Passport]

*"Talking about stress was a very good thing and the course made me realise that I must make more time for myself."*

[Stress Awareness]

*"I have made something beautiful and tried something new and would like to pursue this and see where it takes me!"*

[Stained Glass Taster]

*"... BY MYSELF DOING COURSES WITH ADULT EDUCATION HAS GIVEN MY DAUGHTER THE CONFIDENCE TO LEAVE HER HOME AND ATTEND TRAINING AT THE CENTRE WHICH IS A HUGE STEP FOR HER..."*

[Accountancy]

*"I am no longer isolated in a silent world..."*

[Lipreading]

*"I now feel far more confident going forward into the working world."*

[Essential Digital Skills]



*"This is a life saver for me in terms of maintaining my mental health"*

[Ceramic Sculpture]

*"At the moment not having result yet, it has given me a sense of achievement just doing the maths at level 2. I wasn't able or allowed at school. Now I have had that opportunity without being put into a certain box. If I have failed, I hope to re-sit but with empowerment this time after already completing it."*

[Maths Fast Track Online]

*"It has reduced loneliness and increased my zest for life and learning, to enjoy a new hobby."*

[Drawing and Painting]

*"Probably, above all, for me it's a context in which to stretch myself, mentally, and discover what I'm capable of"*

[Spanish]

*"I don't feel like the only person who needs to update my skills"*

[Essential Digital Skills]

*"... As someone who struggles with confidence and to leave the house, I know that there's always a warm welcome to be had. ..."*

[Pottery]

*"It's given me a real love and passion for carpentry and it's a great starting place for a new career"*

[Basic Carpentry & Joinery]

*"It has built on my quest to overcome anxiety around groups"*

[Peer Support Awareness]

*"This course has helped to build confidence and learn coping strategies when out in public."*

[Lipreading]

*The new CV that I developed as part of this course convinced two care homes where I applied to contact me to discuss employment..."*

[REFOCUS on your CV]

*"I'm looking at changing career, so the course is a good start to being a success in my next field of work."*

[Peer Support Safeguarding]

*"It's important to keep your mind active after retirement, so this is part of that..."*

[French Beginners]

*"I never red [sic] a book in my life, Liz's class has made me do many things I never done. Like reading a Book."*

[Improve Your English Skills]

*"As a mum to 4 it's given me the confidence to start a career in accounting and hopefully earn more so my family can all benefit."*

[Accountancy]

*"If I get maths qualification I will be able to complete my Occupational Therapy degree. I never thought this was going to be possible because of the struggle I have with Maths."*

[Maths Fast Track Online]

*"Having not had much in the way of contact with people over the past few years, being able to attend a classroom-based course has been such a tonic. It has given me renewed vigour and enthusiasm, not to mention the positive effect learning something new has on you."*

[Accountancy]

*"I have gained paid employment...It has given me a purpose other than just being a Mum."*

[Teaching Assistant L3]

*"I will be able to change my career. I feel more confident, proud and focused."*

[Teaching Assistant L2]

*"It gave me a solid grounding so that I was able to do an A1/B2 Spanish course in Nerja."*

[Spanish Higher Intermediate]

*"...getting together and learning with other deaf people who know exactly what it is like to be deaf is such a welcome relief."*

[Lipreading]

*"It brought positiveness in my life. I have great hopes that I can be a complete person with a job and still available for my children as I am a single mother of 2 children."*

[Care Academy L1]

*"I can now apply for jobs..."*

[Learn MS Word]

*"It has helped my mental health immensely. Was a reason to leave the house and improved my self-esteem. It has given me an interest in learning more new skills. "*

[Basic Carpentry & Joinery]

*"It has reduced my sense of isolation."*

[Wellbeing Through - Exploring Creativity with Natural Materials]

*"[I have] Been able to tackle a subject that I felt scared to approach but was absolutely necessary."*

[Beat the bills]

*"Made me more efficient and i [sic] can join in at work as I have learnt a new skill"*

[Excel Essentials for Work]

*"A positive impact that at 45 opened up aspirations that you thought were over."*

[Intermediate Carpentry and Joinery]

*"It will enable me to make a difference in [sic] making a more inclusive environment for our deaf students at UEA."*

[British Sign Language]

*"It took a certain amount of courage to enrol on the course but I'm so glad I did...completing the course and passing the exam certainly has improved my confidence, self-worth and overall mental health."*

[Maths Functional Skills]

*"Made me more confident. I feel less of a failure. I have learned coping strategies..."*

[Lipreading]

*"Whilst I've not gained a new job yet, it has given me the confidence to look for jobs that I wouldn't have previously."*

[Essential Digital Skills]

*"I have more confidence and believe in myself more.."*

[English and Maths Digital Skills]

*"It's been an amazing escape for me, I have ADHD and pottery is the only time I [sic] get to experience a 'quiet brain' because I'm totally immersed in what I'm doing."*

[Pottery]

*"As a single parent with no family here at all, I felt like I am being trapped at the same work place because I can only do certain hours due to childcare commitments...The course gave me so much more than "just" a new skill."*

[Accountancy]



## **Adult Learning's key priorities and contribution to Norfolk's priorities for learning and skills in the academic year 2023-24**

This document outlines in detail how Adult Learning's strategic and operational activities and outcomes will contribute to Norfolk County Council's strategic priorities as detailed in the Better Together, For Norfolk Strategy 2021-25.

***The contributions to Norfolk's priorities for learning and skills detailed in this document, focus on key areas of activity and do not include all areas of activity or all learners.***

### **We will enable a vibrant and sustainable economy by:**

- Enabling individuals to increase their literacy, numeracy and digital skills qualifications
- Providing access to a wide range of skills, including core transferable and employability skills, and vocational qualifications, including apprenticeships, that respond to national, regional and local need
- Delivering non-accredited pathways into qualifications and employment
- Enabling residents who are seeking employment or economically inactive to return to the workplace by providing access to new skills and vocational pathways.

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#### *Contribution:*

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- ❖ *1,000 adult enrolments on basic maths, English and digital skills programmes, with at least 50% from the 30% most deprived wards in Norfolk. At least 85% will achieve their qualification.*
  - ❖ *235 apprentices will complete their apprenticeship programme with at least 95% of completers remaining in sustainable employment.*
-

## **We will support better opportunities for children and young people by:**

- Delivering qualifications and apprenticeships that support the early years and school sectors
- Providing opportunities for parents, guardians, and carers to support their children and increase their literacy, numeracy and digital skills and qualifications.

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### *Contribution:*

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- ❖ *We will deliver 650 qualifications and apprenticeships in areas such as childcare, teaching assistants and Higher-Level teaching assistants, enhancing the level of education given to children and young people*
  - ❖ *We will deliver 300 qualifications in subjects that enhance the level of specialist skills available to those working with children and young people, including understanding autism, mental health and anxiety*
  - ❖ *We will secure 400 enrolments that enable parents, guardians and carers to support their children with their literacy, numeracy and digital skills.*
- 

## **We will empower individuals to live healthy, fulfilling and independent lives by:**

- Providing a comprehensive and impartial information, advice and guidance service
- Delivering an independent living skills programme that enables people with disabilities and/or learning difficulties to access learning and work and to live independent lives
- Maximising the use of learner and learning support funding
- Delivering a comprehensive programme of online learning that overcomes the barriers to accessing learning in Norfolk
- Using Multiply funding to improve the numeracy skills of individuals and families
- Delivering opportunities for personal development.
- Supporting, through learning, the wellbeing of our residents.

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### *Contribution:*

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- ❖ *Provide bespoke and impartial information, advice and guidance to at least 500 residents*
  - ❖ *Deliver an independent living skills programme, that focuses on the skills residents need to live independent lives, with at least 300 enrolments from adults who have a disability and/or learning difficulty*
  - ❖ *Improve the numeracy skills of 3,824 Norfolk residents through interventions funded by the Department for Education Multiply grant (financial year 2023-24)*
  - ❖ *Deliver personal development and wellbeing programmes that support residents with their mental and physical wellbeing with at least 1,000 adult enrolments.*
-

## **We will strengthen communities by:**

- Improving digital inclusion in Norfolk by increasing the digital skills and confidence of adult residents
- Supporting the integration of ethnic minority communities through the delivery of a comprehensive and targeted programme of English as a second language, employability, and life skills
- Locating our courses in the heart of Norfolk's communities and focusing our funding on the most deprived wards in the county
- Championing Equality, Diversity, and Inclusion, as well as Safeguarding and Prevent.

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### *Contribution:*

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- ❖ *Increase the digital skills and confidence of adult residents with at least 1,000 enrolments from residents in key disadvantaged communities*
  - ❖ *Deliver a comprehensive and targeted programme of skills with at least 700 adult enrolments from ethnic minority communities, with at least 75% progressing into further learning and/or employment*
  - ❖ *Delivering at least 45% of our programmes to residents who live in the most deprived communities in Norfolk.*
- 

## **We will enable the development of a greener, more resilient future by:**

- Delivering a wide range of sustainable construction and environmental skills and qualifications
- Developing extensive progression routes into employment in the construction industry.

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### *Contribution:*

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- ❖ *At our new construction training centres in Norwich and King's Lynn, secure 900 enrolments from adult learners that enable them to gain the skills and knowledge they need to successfully complete construction and greener skills qualifications that provide opportunities for them to progress into employment.*
-

## Appendix F: Plan on a Page 2023-2024 Academic Year

### What we'll do

#### Vision:

Changing lives through inspirational learning with exceptional support

#### Outcomes:

We provide learning opportunities that improve the lives and outcomes of adult learners, enable adult learners to participate in their communities and support economic growth and prosperity in Norfolk.

#### Priorities:

We will:

- Enable a vibrant and sustainable economy
- Support better opportunities for children and young people
- Empower individuals to live healthy, fulfilling and independent lives
- Strengthen communities
- Enable the development of a greener, more resilient future.

### How we'll do it

#### We will enable a vibrant and sustainable economy by:

**Enabling** individuals to increase their literacy, numeracy and digital skills and qualifications. **Providing** access to a wide range of skills, including core transferable and employability skills, and vocational qualifications, including apprenticeships, that respond to national, regional and local need. **Delivering** non-accredited pathways into qualifications and employment. **Enabling** residents who are seeking employment or economically inactive to return to the workplace by providing access to new skills and vocational pathways.

#### We will support better opportunities for children and young people by:

**Delivering** qualifications and apprenticeships that support the early years and school sectors. **Providing** opportunities for parents, guardians and carers to support their children and increase their literacy, numeracy and digital skills and qualifications.

#### We will empower individuals to live healthy, fulfilling and independent lives by:

**Providing** a comprehensive and impartial information, advice and guidance service. **Delivering** an independent living skills programme that enables people with disabilities and/or learning difficulties to access learning and work and to live independent lives. **Maximising** the use of learner and learning support funding. **Delivering** a comprehensive programme of online learning that overcomes the barriers to accessing learning in Norfolk. **Using** Multiply funding to improve the numeracy skills of individuals and families. **Delivering** opportunities for personal development. **Supporting**, through learning, the wellbeing of our residents.

#### We will strengthen communities by:

**Improving** digital inclusion in Norfolk by increasing the digital skills and confidence of adult residents. **Supporting** the integration of ethnic minority communities through the delivery of a comprehensive and targeted programme of English as a second language, employability and life skills. **Locating** our courses in the heart of Norfolk's communities and focusing our funding on the most deprived wards in the county. **Championing** Equality, Diversity and Inclusion, as well as Safeguarding and Prevent.

#### We will enable the development of a greener, more resilient future by:

**Delivering** a wide range of sustainable construction and environmental skills and qualifications and **developing** extensive progression routes into employment in the construction industry.

### How we'll know if we've made a difference

- Data and feedback demonstrate impact against the service **Priorities**
- Self-assessed in November 2024 as providing an Outstanding service to our learners, apprentices and staff
- Number of learners and apprentices accessing the service is strong and in line with service planning
- We use our funding effectively to achieve outstanding outcomes for our learners and apprentices
- Number of learners and apprentices who progress into further learning/education or sustainable employment
- Number of learners and apprentices who report improved health and wellbeing
- Evidence of effective implementation of the learner involvement strategy
- Evidence of effective implementation of the employer involvement strategy
- Outstanding inspection outcome at our next Ofsted inspection
- Council Survey evidences continuing improvement in staff wellbeing
- Matrix accreditation for information, advice and guidance maintained.



## Adult Learning Curriculum 2023-24

### Qualifications:

- Functional (basic English, including English as a Second Language (ESOL), maths and digital skills) and vocational qualifications from entry level (basic knowledge and understanding) to level 5 (foundation degree equivalent)
- Knowledge; skills; attainment; and employability skills
- Targeting residents who either do not have the basic skills and professional qualifications they need to progress, or who are seeking to reskill and retrain and/or progress into further learning and employment, or who are economically inactive and, with encouragement and support, could return to the workplace
- Fully funded for eligible learners, subject to Government criteria, with an element of tuition fees and student loans for other learners
- Each qualification attracts a funding tariff and 20% of the funding for each learner is earned on achievement of the qualification.

### Apprenticeships

- A fast-growing, high-quality programme across a variety of employment sectors that meets the needs of Norfolk employers and residents
- This programme provides entry to sustainable employment for apprentices and opportunities to develop new and higher-level skills for those who are already in employment
- The service's apprenticeships programme addresses Local Enterprise Partnership (LEP) priorities by contributing to the creation of a skilled workforce and supporting employers to plan and deliver their business strategies.

### Community Learning

- Community Learning provides opportunities for residents who are the furthest from education and/or employment or who need support through learning, to reengage with learning, grow and progress with confidence, including into employment
- These non-accredited courses aim to break the cycle of low achievement and renew and rebuild confidence and capacity to achieve and progress
- This programme:

- Enables an individual to gain confidence, motivation, knowledge and skills and supports progression into further learning, qualification programmes and/or employment
- Empowers people to live well independently
- Enables families to support their children and break intergenerational cycles of poor outcomes
- Strengthens communities
- Supports, through learning, the wellbeing of our residents, for example, through mental and physical wellbeing and healthy lifestyle programmes, as well as creative courses.

### Multiply

- A wide range of numeracy interventions, including both outreach and course-based activities, that target adults who do not have a GCSE at grade 4 or C and above or equivalent, and which aim to improve numeracy skills and ultimately lead to a GCSE or equivalent qualification
- These courses are designed to:
  - Increase confidence with numbers
  - Help people use numeracy to manage their money
  - Support employers to improve the numeracy skills of their workforce
  - Support people who cannot apply for certain jobs because they lack the required numeracy skills
  - Give parents the numeracy skills they need to both help their children and progress themselves
  - Improve the numeracy skills of prisoners, those recently released from prison or on temporary licence
  - Support care leavers
  - Engage the hardest to reach learners in the community
  - Provide additional relevant maths modules embedded into other vocational courses.

### Self-financed creative and personal development courses

- Courses that are self-financed by the learner – completely outside the Government-funded system
- No Government funding support, so tuition fee income must cover costs
- These courses target residents who are looking for personal development opportunities without the constraints of the Government-funded system
- Creative arts, including the highly popular pottery and silversmithing courses; modern foreign languages; and a range of general interest courses.

### Delivery of the Adult Learning Annual Plan

Adult Learning continues to demonstrate its ability to use its external funding and income to plan both flexible and responsive learning programmes and can change its delivery method to accommodate external circumstances and different methods of learning from classroom, online and synchronous learning.

The service's current offer is around 63% in the classroom and 37% online. Learners continue to like the choice of learning online, so the service will maintain a mixed offer that meets learners' needs. In addition, the service continues to offer synchronous delivery, so that learners in a classroom and online attend the same course at the same time together. Synchronous delivery will be enhanced this year with learners being able to choose at the time of enrolment to learn in the classroom or online. This will further support learning styles, access to courses for residents in rural areas, learners who have a disability, who have welcomed the new opportunities provided through online learning, and for larger class sizes to be available, while still using existing classrooms across the county.

Synchronous delivery is highly innovative and ahead of most of the rest of the country.

The service has established dedicated training rooms in the following locations:

- Attleborough Community and Enterprise Centre
- Great Yarmouth Library
- King's Lynn Library
- Millennium Library, Norwich
- Norman Centre, Norwich
- Swaffham Community Centre
- Wensum Lodge, Norwich.

In addition, the service is working with other venues on an ad hoc basis, such as other libraries across the County, Merchants Place in Cromer and Charring Cross in Norwich.

We have proudly opened our new Construction Training Centre in Hellesdon, Norwich, with dedicated workshops for construction courses including, carpentry, plastering, bricklaying and tiling and we have created 2 additional classrooms at this venue to allow for other types of courses to be delivered. In January 2023, we will be opening our Construction Training Centre in King's Lynn, which will be another dedicated centre with workshops and two additional classrooms.

Adult Learning is working closely with the council in developing new multi-user community hubs in Great Yarmouth and King's Lynn which will see new Libraries and Information centres created as community spaces with an Adult

Learning presence and dedicated classrooms in each. Great Yarmouth is planning to open in September 2024, with King's Lynn opening the following year.

The service's aspiration is that, in addition to our online offer, we will have a physical presence across Norfolk with Libraries being the initial venue of choice. We continue to review the needs across Norfolk and match venue requirements to that need. Analysis provides additional information around rural locations and public transport, and this supports decisions to whether to be in a physical venue, online or to deliver via Synchronous delivery.

There are many challenges in delivering a countywide service, however, as a service we are committed to a countywide presence, with the right courses and delivery methods based on the needs of our learners.

These photos were taken at the two new Construction Training Centres:







Department  
for Education

**Multiply**

# Multiply

## Investment plan template (England)

**May 2022**

**For Mayoral Combined Authorities, the Greater London Authority, and upper tier/unitary local authorities outside of these areas in England**

## Contents

|   |    |
|---|----|
| About this document   | 3  |
| Section A: Multiply intervention summary                                  | 4  |
| Section B: Strategic fit  | 6  |
| Section C: High level delivery timeline                                   | 8  |
| Section D: Evidence of need and demand                                    | 10 |
| Section E: Engaging learners  | 14 |
| Section F: Measuring success  | 16 |
| Section G: Stakeholder management   | 18 |
| Section H: Risks  | 19 |
| Section I: Capacity and Capability  | 21 |
| Section J: Declaration of the Chief Executive of the lead local authority | 24 |

## About this document

In conjunction with this template, please refer to the Multiply investment prospectus and technical guidance for England available here

<https://www.gov.uk/government/publications/multiply-funding-available-to-improve-numeracy-skills>

Investment plans are invited from the Greater London Authority, all Mayoral Combined Authorities, and upper tier/unitary authorities outside of these areas in England. Scotland, Wales and Northern Ireland should refer to the [wider UKSPF investment framework](#)

Please ensure you complete this template in full and submit by 30<sup>th</sup> June 2022 by emailing [Multiply.investmentplans@education.gov.uk](mailto:Multiply.investmentplans@education.gov.uk)

Once investment plans are approved, provisional allocations will be signed off, grant agreements will be put in place incorporating information included in this investment plan and first payments made in autumn 2022.

At the end of the 2022-23 and 2023-24 financial years, areas will submit an annual progress report, and a revised investment plan for subsequent years of Multiply provision. This should take on board learning achieved through local delivery, peer to peer support networks and engagement events. It should align with the updated menu of interventions and any new guidance issued each year by the Department for Education.

For further information or to discuss a proposal ahead of submission please contact DfE at [Multiply.investmentplans@education.gov.uk](mailto:Multiply.investmentplans@education.gov.uk)

Please note that information provided on this form, including personal information, may be subject to publication or disclosure in accordance with the access to information regimes, primarily the Freedom of Information Act 2000 and the Data Protection Act 1998.

We have suggested word counts for questions as an approximation but will allow some flexibility and will not apply the word count rigidly. We don't anticipate investment plans to be longer than 25 pages. We won't accept additional attachments beyond the return of this document and the accompanying Excel spreadsheet.

1. Who are the local authority representatives for Multiply (name, email, telephone)?

**Multiply lead: Denise Saadvandi – [denise.saadvandi@norfolk.gov.uk](mailto:denise.saadvandi@norfolk.gov.uk) – 01603 306585**

**Financial / Accounting Officer: Andrew Skiggs – [andrew.skiggs@norfolk.gov.uk](mailto:andrew.skiggs@norfolk.gov.uk) – 01603 223144**

## Section A: Multiply intervention summary

2. **In the accompanying spreadsheet**, please provide a high-level summary of the interventions to deliver Multiply in your local area, along with related output indicators and required budget?

See accompanying spreadsheet.

3. If you have described any Multiply provision in Section A that does not fit the menu of interventions, what is your rationale for proposing this additional intervention? We will consider this proposal against the aims of the Multiply programme. You can answer “None” for this question. (Approx. 250 words)

None.

4. Please confirm and explain how your Multiply provision is in addition to and does not duplicate or offset fully funded maths courses delivered through the Adult Education Budget statutory entitlement, or other government funded maths provision. (Approx. 250 words)

Norfolk County Council has developed this investment plan in close consultation with the main providers of Adult Education Budget (AEB) and other government-funded numeracy provision in Norfolk, including functional skills, GCSE and other community-funded programmes. This joint development work with Norfolk County Council Adult Learning, City College Norwich, East Coast College and College of West Anglia, has focused on the innovation and creativity that providers will bring to Multiply and how Multiply courses must not displace the county’s strong mainstream AEB offer. The key elements that differentiate the Norfolk Multiply offer are:

- A targeted focus on adults who lack both confidence and skills in numeracy and who would not attend mainstream provision
- The majority of the delivery in small groups of a maximum of six learners
- Personal tuition for adults who need the greatest support
- Courses that target the parents in individual families
- Extensive wrap-around support that enables progression and impact
- Courses delivered together with employers that are contextualised to the specific needs of each employer and employee
- Courses delivered through small, community-based organisations who do not have the capacity to deliver mainstream-funded provision, but who have access to individuals who most need the support of Multiply and can succeed with the support of the central project team.

Small class sizes and personal tuition are not viable through mainstream provision, yet are needed to encourage individuals who lack confidence and residents who live in Norfolk’s rural areas, where it is not viable to run mainstream courses and there are poor transport links.



5. Please briefly set out how you have considered the FE workforce needs (e.g. classroom, tutoring) for Multiply. How will you ensure Multiply workforce needs will not be at the detriment of other programmes you are delivering (eg under the AEB statutory entitlements)? Please note, FE workforce investment should support delivery of Multiply provision and should not be a standalone intervention. (Approx. 250 words)

Norfolk has a strong FE workforce delivering functional skills numeracy, Maths GCSE, and other community-type provision. Norfolk views Multiply as additional provision that must not impact on the delivery of the AEB statutory entitlements. The workforce delivering Multiply will be existing teaching staff with capacity to take on additional work, new teaching or delivery staff, or staff working for smaller community-based organisations.

Norfolk already delivers formal FE teacher training and this will continue to sit within providers' normal training programmes and budgets. We are encouraging teachers who do not currently teach numeracy to upskill through AEB ahead of the Multiply launch.

There will be a need to recruit and train new teaching and delivery staff, and this will be frontloaded into year 1. A joint provider recruitment campaign will form part of this initiative. Multiply-specific workforce training has been directly linked and costed into each investment plan intervention and the successful delivery of its outputs.

The following specific considerations have been taken into account:

- The Multiply workforce will need specific training in working with individuals and small groups in a community setting
- There is a need to upskill teachers who have industry experience with the skills to teach numeracy
- Delivery staff will not always be fully qualified maths teachers, as the ability to engage individuals in creative and fun activities, such as basic numeracy skills through cookery, is a skill that Multiply delivery will require. These staff will need training and support to enable them to succeed
- Norfolk's Multiply workforce will be trained in how to encourage an individual to progress.

## Section B: Strategic fit

6. How does the proposed Multiply provision strategically fit with your local priorities, coordinating where possible with wider skills and employment interventions in local areas (for example through Local Skills Improvement Plans), and interventions funded through the broader UKSPF (e.g. in district council investment plans) or other programmes? (Approx. 500 words)

Multiply sits across a number of strategic plans and priorities because of the breadth of opportunity it creates for individuals seeking to upskill, access the labour market or improve their career prospects.

The Norfolk County Council Strategy 2021-25 '[Better Together for Norfolk](#)' sets out the framework for combining inclusive economic growth with environmental and community sustainability objectives. Its ambition for a growing economy means that everyone benefits from economic growth and people can access good employment opportunities. It aims to achieve this by improving social mobility and improving workforce skills. Multiply will contribute to the achievement of this vision, creating opportunity to increase skills levels, impacting on individuals' abilities to increase their employment prospects, move into better paid jobs and improve their life outcomes.

Multiply will provide an opportunity to tackle pockets of low numeracy skills in rural areas in ways not previously possible, aiming to address the rural skills divide highlighted in The Norfolk Rural Economic Strategy 2021-24.

Regionally, Multiply contributes to the delivery of the [NALEP Norfolk and Suffolk Economic Strategy](#) in providing accessible upskilling opportunities, closing current and future skills and labour gaps.

A localised programme of Skills Bootcamps will be launched in August 2022, supporting individuals to access the labour market and to support in-work progression. Multiply will work closely with the Skills Broker to ensure that individuals who do not meet the criteria have access to appropriate numeracy provision to facilitate upskilling.

The Skills and Post-16 Education Bill (published in January 2021) outlines government plans to ensure that education and training meets local needs. This includes a statutory underpinning placed on Local Skills Improvement Plans\* (LSIPs), setting out the key changes needed to make technical skills training more responsive to employers' skills needs within a local area. Increasing quality, accessible numeracy provision, improving skills attainment will support the reshaping of skills provision to provide a basis for substantive change and sustainable progression pathways for individuals. The current Skills Advisory Panel, which will transition into a LSIP in 2023, has a focus on 'tackling barriers to employment' and 'driving skills progression within the workforce'; two key areas where Multiply will have a significant impact.

In developing this investment plan, we have had detailed discussions with Norfolk's seven District Councils, through which the UKSPF will be routed. We have shared our thinking, sought views to create alignment and avoid duplication, particularly in year 3 when the UKSPF People and Skills interventions are able to be funded. We will continue

to develop a joint skills approach and, as Multiply develops, we will learn from our experiences as we continue this dialogue.

## Section C: High level delivery timeline

7. Please provide an outline of your high-level delivery timeline including major milestones and planned partnerships with local education providers, employers, and other local touchpoints

|          | Multiply provision   | Delivery partners   | Major milestones (for all interventions in the 2022-23 FY)              | Date        | Comments |
|----------|--|---|---|-------------|----------|
| 1        | Courses designed to increase confidence with numbers for those needing first steps towards formal numeracy qualifications  | Norfolk County Council<br>City College Norwich<br>East Coast College<br>College of West Anglia<br>Other delivery partners to be procured              | Local Authority Multiply investment plan team established               | April 22    | Complete |
|          |  |   | Initial stakeholder and partner engagement complete                     | Jun 22      | Complete |
| 2        | Courses designed to help people use numeracy to manage their money   | Norfolk County Council<br>City College Norwich<br>East Coast College<br>College of West Anglia<br>Other delivery partners to be procured              | Multiply investment plan approved by Local Authority                    | Jun 28 2022 |          |
| 3        | Innovative numeracy programmes delivered together with employers – including courses designed to cover specific numeracy skills required in the workplace                          | Norfolk County Council<br>City College Norwich<br>East Coast College<br>College of West Anglia<br>Employers   | Multiply investment plan submitted to DfE                               | Jun 30 2022 |          |
|          |  |   | Procurement strategy developed, including in-house delivery             | Jul 22      |          |
|          |  |   | Steering Group established and monthly meetings commenced               | Jul 22      |          |
| 4<br>... | Courses aimed at people who can't apply for certain jobs because of lack of numeracy skills and/or to encourage people to upskill in numeracy order to access a certain job/career | Norfolk County Council<br>City College Norwich<br>East Coast College<br>College of West Anglia<br>Other delivery partners to be procured<br>Employers | Project delivery plan produced and monthly progress monitoring in place | Jul 22      |          |
| 5        | New intensive and flexible numeracy courses targeted at people without Level 2 maths, leading to a Functional Skills Qualification   | Norfolk County Council<br>City College Norwich<br>East Coast College<br>College of West Anglia  | Multiply communication strategy developed and implemented               | Aug 22      |          |
|          |  |   | MI reporting processes established and implemented                      | Aug 22      |          |
| 6        | Courses for parents wanting to increase  | Norfolk County Council<br>City College Norwich  |   |             |          |



|    |  |  |  |                    |  |
|----|--|--|--|--------------------|--|
|    | their numeracy skills in order to help their children, and help with their own progression   | East Coast College<br>College of West Anglia<br>Other delivery partners to be procured   | College grant funding contracts agreed and signed  | Aug 22             |  |
| 7  | Numeracy courses aimed at prisoners, those recently released from prison or on temporary licence   | Norfolk County Council<br>City College Norwich<br>East Coast College<br>College of West Anglia<br>Other delivery partners to be procured | Grant funding application process for other delivery partners open                             | Aug 22-<br>Mar 23  |  |
| 8  | Numeracy courses aimed at those 19 or over that are leaving, or have just left, the care system  | Norfolk County Council<br>City College Norwich<br>East Coast College<br>College of West Anglia<br>Other delivery partners to be procured | Training delivery against FY1 Multiply interventions commenced                                 | Aug 22             |  |
|    |  |  | Local Authority Multiply Project Manager and support team appointed                            | Sep 22             |  |
| 9  | Numeracy activities, courses or provision developed in partnership with community organisations and other partners aimed at engaging the hardest to reach learners | Norfolk County Council<br>VCSE, Community and other district/local delivery partners to be procured                                      | Teaching and delivery staff recruited  | Jul 22 -<br>Mar 23 |  |
|    |  |  | Training for teaching and delivery staff to deliver against specific interventions implemented | Aug 22-<br>Mar 23  |  |
| 10 | Relevant maths modules embedded into other vocational courses  | Norfolk County Council<br>City College Norwich<br>East Coast College<br>College of West Anglia<br>Other delivery partners to be procured | Investment Plan reviewed following feedback from DfE   | Sep 22             |  |
|    |  |  | Multiply champions recruited and activities in districts have commenced                        | Oct 22             |  |
|    |  |  | FY1 investment plan delivery review complete and draft investment plan for FY2 produced        | Jan 23             |  |
|    |  |  | Report on FY1 outcomes produced and disseminated   | Apr 23             |  |

## Section D: Evidence of need and demand

8. Please describe why improving adult functional numeracy (aiming to teach the numeracy skills that are needed in daily life and the workplace) matters to your local area. You should refer to specific characteristics of your local area in your answer and include supporting evidence - especially quantitative forms of evidence where available. (Approx. 250 words)

Improving adult functional numeracy is a key element in tackling the negative health and life outcomes experienced by Norfolk's most disadvantaged groups. It will help raise skills levels; improve employment prospects; reduce income inequality; improve mental and physical health; and increase economic growth.

Poor numeracy skills are part of the cycle of deprivation in Norfolk, which has persistently high levels of worklessness, low skills levels, low wages, a prevalence of low-skilled occupations and low social mobility levels. Structural and psychological barriers to participation are multiple and complex, and more likely to be experienced by the most disadvantaged. Therefore, participation in adult learning tends to be lower among those who need it most.

### Norfolk profile

- Education, training and skills deprivation levels are very high, and pockets of extreme educational disadvantage, common. Great Yarmouth is the second most deprived district in England: 65.6% live in the 30% most deprived areas. Four of Norfolk's seven districts are among the 10% most deprived.
  - 3.77% (16,600) of working-age people are unemployed, while 20% (102,400) are economically inactive. Of the latter, 22% (22,500) want a job. 29.1% (5,600) want to work in Kings Lynn and 39% (4,900) in Norwich, more than double the national average (18.6%).
  - Employment deprivation levels are high. Great Yarmouth is in the top 4% most deprived districts in England: 58% of its population live in the 30% most deprived areas
  - A low wage economy, Norfolk has some of the lowest annual incomes in England, and higher-than-average rates of employment in elementary occupations (18.6% in Norwich, nearly double the national average of 9.5%)
  - Norfolk is a social mobility coldspot, with five districts among the 20% worst performing local authorities. Norwich has the second highest levels of social immobility in England.
  - 70.2% of Norfolk's population, (637,000 people), live rurally, and face specific barriers to participation, such as availability of provision and access.
9. Please describe any qualitative or quantitative data you have on local adult numeracy levels (e.g., historic and current participation and achievement, etc) to evidence need and demand. (Approx. 250 words)

## Employer demand

16% of Norfolk employers surveyed in 2019 DFE Employer Skills Survey anticipated a need for new basic numeracy skills; 19% reported that numeracy skills need improving in occupations with skills gaps; 17% found numeracy skills difficult to obtain from applicants.

## GCSE attainment 2019

### *English and maths*

At 63%, the proportion of pupils achieving a standard (4+) pass in both English and mathematics in 2019, remained below the national average of 64.6%. Achievement varied widely by district, with significant gaps to average in Kings Lynn (57%), Breckland (61%), and Great Yarmouth (61%).

The gap in attainment between Norfolk and national outcomes was wider at 5+ (strong pass), with 40.1% achieving the pass in Norfolk against the national average of 43.2%.

Attainment levels have changed little since 2017.

### *Maths*

Attainment for maths remains just below the national average, with 69.9% achieving 4+ and 48.2% achieving 5+, against national averages of 70% and 49.1% respectively.

## Post 16 participation and qualifications 2021

At 7.1%, Norfolk has a higher-than-average percentage of people aged 16-64 with no qualifications. At 12.4%, Great Yarmouth's 'no qualification' level is almost double the national average (6.6%).

Achievement is average at NVQ1+, but lower at NVQ2+, where the gap to average is pronounced across most districts.

At 2.6%, Norfolk has a higher-than-average percentage of 16-17-year-olds progressing into employment without training.

At 51.4%, the percentage of 19-year-olds achieving NVQ3+, is well below the national average of 57.4%.

## Adult (19+) Maths participation (Norfolk 2021/2022) Source - GOV.UK

|                     | Maths Entry Level | Maths Level 1 | Maths Level 2 |
|---------------------|-------------------|---------------|---------------|
| Aug 2021 – Jan 2022 | 200               | 450           | 1,960         |

A 69.9% maths achievement rate among a population aged 16-64 of 534,464, means that there are approximately 167,287 working-age people in Norfolk without the

recognised standard of numeracy at any one point. The participation rates above point to only 1.17% of that total being in learning (at L2), or 1.56% at any level.

10. How does the Multiply provision outlined in section A meet this demand, on top of how existing entitlement is already meeting it, and what does success look like for your local area? (Approx. 250 words)

Norfolk's Multiply provision targets a very distinct cohort to the existing entitlement provision, responding to the needs of individuals who lack the motivation, confidence and awareness to take up mainstream numeracy opportunities.

This plan addresses the barriers that prevent the hardest to reach individuals from accessing mainstream numeracy courses, by providing accessible learning opportunities in safe environments.

This plan focuses on courses that target small groups, personal tuition and support for individual families, aiming to break the cycle of deprivation described above, including:

- Bite size courses that encourage individuals to have a go in a non-threatening environment
- Courses covering specific aspects of money management targeting individuals who seek support. For example, South Norfolk and Broadland District Council offer debt and welfare services to residents. Multiply will extend this service to develop residents' numeracy skills
- Supported by Multiply Champions, individuals will be encouraged to take up other Multiply opportunities, including progression to qualifications
- Employers report a need for improved numeracy skills, so contextual delivery in the workplace, as well as pre-employment numeracy skills courses, respond directly to this need
- Numeracy for money management targeting young care leavers who are housing association tenants – 37% aged 19-21(161) were not in education, employment or training in 2021
- By working with individual families, to give parents the tools to support their children with their maths, we will improve attainment
- Small group delivery in rural areas, where 70% of residents live, will break down the barriers to participation.

A vibrant, successful Multiply programme will see the effective implementation of these interventions, with the individuals and groups described in this document.

Over the three-year period, the numeracy skills of adults will improve, evidenced through data, and increasing numbers of individuals will progress to achieve functional skills qualifications.

11. Please describe what you have done to ensure good value for money (e.g., has your plan been reviewed by an economist, have you reviewed local data?). Please also describe what controls you will put in place to ensure that good value for money



continues to be achieved throughout the lifetime of the Multiply provision. (Approx. 250 words)

The following steps will ensure good value for money:

1. The starting point, as detailed in question 8, was an in-depth analysis of Norfolk's needs.
2. Once needs had been identified, interventions were planned to address them and, importantly in a rural county, where they are and how they are delivered.
3. As a new project, with unique interventions and outputs, the budget was costed from zero to ensure that it is deliverable, with the best possible outcomes for learners. The budget was established by the Project and Finance Leads, taking feedback from other stakeholders to ensure robustness.
4. Comparisons to other similar provision were made using the following methodology:
  - a. Comparing the cost per delivery hour (CPDH) against the Adult Education Budget (AEB) funding methodology for entry level Functional Skills mathematics qualifications gives a very good comparison. A single learning aim funded at £941 and delivered over 55 guided learning hours gives an individual learner hourly rate of £17.11. Standard class sizes vary by provider from 12 to 20, giving a CPDH of between £205.32 and £342.20. These CPDH rates formed the basis of planning and will ensure delivery is achievable.
  - b. Percentage of funding spent on direct delivery was the other key control measure. To derive a level accepted as good value for money, we analysed the percentage of funding on AEB programmes that is spent on the direct delivery of learning, versus the overhead costs and used this as a baseline figure.
5. The plan has been reviewed by a Norfolk County Council Finance Business Partner and both budgets and outputs will be continually monitored against the agreed plan at all levels of the project, including through a Multiply Norfolk Steering Group, which will include a finance expert.

## Section E: Engaging learners

12. Which cohorts of learners will be hardest to reach? How do you intend to maximise the reach of the programme and make sure Multiply provision engages those learners that are hardest to reach (e.g., communications; reaching out to people via employers, 'touch points' such as housing and other community groups)? (Approx. 300 words)

The cohorts of learners who will be hardest to reach are individuals who live in Norfolk's most deprived communities where there are high levels of worklessness, low skill levels and wages and low skilled jobs. These include:

- Families living in Norfolk's most deprived areas, where there is an intergenerational cycle of poor outcomes and worklessness
- Individuals who live and work in Norfolk's most deprived urban areas, such as Norwich, Great Yarmouth and King's Lynn, where more than half of residents live in the 30% most deprived wards
- Ethnic minority communities who face significant challenges in terms of low skilled jobs and income
- Individuals who live and work in rural communities, where low skilled jobs are prevalent and there are significant barriers to learning, including digital exclusion
- Individuals with disabilities, who are unable to access mainstream provision and support
- Gypsy roma travellers, who face extensive challenges in accessing learning and progression
- Young people, including young care leavers, where 37% aged 19-21(161) were not in education, employment or training in 2021.

Norfolk will employ a 'Multiply Champion' in each district, who will engage with hard-to-reach learners through a range of interventions, including face to face drop in sessions to build trust within the community and who will work with partners to identify and liaise with community-based organisations who work with the most vulnerable groups.

We will expand the reach of the programme by:

- Increasing promotion – dedicated advertising in print media, including local publications in rural areas, social media, PR, radio and our website, including QR codes
- Planning a succinct and well sequenced programme of numeracy courses, to increase numeracy skills one step at a time
- Engaging with early years settings and schools to identify families who need numeracy support
- Promoting Multiply within Norfolk County Council and the District Councils, encouraging teams working with the target groups to be proactive in increasing numeracy skills for their clients

- Working closely with a wide range of partners, including DWP, Jobcentres, employers, community-based organisations and groups, housing associations and GP Surgeries/NHS.

13. How will you ensure Multiply provision will be available and accessible to a diverse cohort as per [Public Sector Equalities Duty \(PSED\)](#) including those with dyscalculia or other protected characteristics? (Approx. 100 words)

Multiply Provision will be available and accessible to achieve the objectives set out in the Equality Act 2010.

All providers will have an Equality and Diversity Operating policy and evidence how their provision is being made available and how it will be accessible. NCC have also budgeted for the provision of Additional Learner Support.

All delivery staff will have awareness of Equality and Diversity and protected characteristics to eliminate discrimination, harassment and victimisation.

Multiply champions will target specific groups and we will measure / report the number of people participating in Multiply funded courses, including ethnicity, sex/gender, age and disability to enable PSED monitoring.

## Section F: Measuring success

14. We expect Multiply learner data to be inputted into the Individualised Learner Record (ILR). Describe your approach to data collection, management, and reporting to meet these requirements (Approx. 250 words)

Norfolk County Council and the main providers all hold current ESFA contracts, e.g., Apprenticeships, Adult Education Budget, etc. This ensures that providers are already highly competent and have the systems and processes in place in the accurate completion and submission of the ILR on a monthly basis from the very start of the Multiply programme.

It also means that the main providers are already used to working to the strict quality assurance regimes already set in place by the ESFA and are regularly subject to both internal and external audit.

All main providers already manage their data in a way that is secure and compliant with GDPR regulations and will extend these existing processes to this programme.

All main providers already have extensive processes and protocols in place to collect data from learners (including online and/or paper-based options), to verify that the data is correct before it is submitted and report on it.

Any providers who do not currently use the ILR, or have the experience, knowledge or systems and processes in place, will be supported by Norfolk County Council to ensure they are fully compliant with all rules and guidelines of Multiply.

15. What additional data (in addition to the Individualised Learner Record), if any, will you use to measure learner progress and achievement? If you do not have any additional data, you can answer “none”. (Approx. 100 words)

- On qualification learning aims, we will track learner progress whilst on the programme through the monitoring and completion of an Individual Learning Plan
- On non-regulated learning aims, we will use the Recognising and Recording Progress and Achievement (RARPA) approach, which includes initial assessment, establishes appropriate aims, sets challenging objectives and requires both formative and summative assessment against the agreed objectives
- We will monitor and record soft outcomes, for example, improvements in learner confidence, self-esteem, resilience, motivation and communication skills, including digital skills
- In addition, we will collect both learner and employer feedback so as to inform the development of future Multiply provision.



16. Are there any other local measures of success against your plan that you intend to monitor? You can answer “not applicable” for this question. (Approx. 100 words)

We will monitor:

- Recruitment of learners onto Multiply provision in the geographical areas and communities within the top 30% most deprived areas of educational, training and skills and employment deprivation, as identified in this plan
- Progression of learners from Multiply onto Adult Education Budget-funded provision, both in terms of numeracy/maths, and wider functional skills, including digital skills, as well as vocational programmes. In addition, we will measure progression onto Apprenticeships and employment
- Evidence that Multiply is contributing to Norfolk County Council’s ‘Better Together for Norfolk’ Strategy 2021-25, by:
  - Increasing skills levels in Norfolk
  - Impacting on individuals’ abilities to increase their employment prospects
  - Moving learners into better paid jobs and improving their life outcomes.

## Section G: Stakeholder management

17. Which organisations have you engaged with to develop your investment plan, including public sector, private sector, and civil society organisations? How have you engaged these organisations? (Approx. 100 words)

We have engaged through stakeholder engagement sessions, meetings and written communication, including slide pack, to develop our investment plan.

- FE providers in Norfolk including engagement sessions for principles and curriculum leads.
- District Council colleagues to ensure our plan aligns, reflects and compliments the UKSPF Investment Plans each district is producing.
- Council Members to ensure they can feed in their local knowledge and constituents needs.
- Voluntary Sector groups, housing associations and linked in with Norfolk County Council's Communities team to ensure the VCSE organisations understand how their contribution can support the outcomes of Multiply.
- DWP to align with the local needs they identify.

18. Detail how have you engaged lower tier local authorities, if any, within your local area in the development of your investment plan? You can answer "not applicable" to this question. (Approx. 100 words)

Recognising the potential link to the UKSPF core funding and the wealth of local intelligence on the numeracy skills needs of their localities, we have carried out multiple levels of engagement with districts including:

- Invitation to a wider stakeholder group in scoping initial thinking
- As part of individual district meetings on UKSPF
- A follow up individual session on Multiply, in which all districts have engaged.

Feedback has been very positive and as Multiply continues to develop we will have further conversations to evaluate success, lessons learned and to consider how Multiply can dovetail with their SPF plans.

## Section H: Risks

19. Please set out any key risks including financial and fraud that could affect Multiply delivery. Describe these risks or issues, including the contingency measures you have put in place to mitigate them.

|   | <b>Description of risk</b>  | <b>Actions you will take to mitigate</b>   | <b>After mitigation what is the likelihood of the risk occurring (High &gt;70%, Possible 70-30%, Unlikely &lt;30%)</b> | <b>After mitigation what would be the impact of the risk materialising? (High: significant impact of unable to deliver, Medium: delivery compromised, Low: Minor / no impact)</b> |
|---|---|--|--|---|
| 1 | Multiply strategy does not deliver planned outcomes   | <ul style="list-style-type: none"> <li>Project plan key dates and/or activities red or amber</li> <li>Take proactive approach to start dates</li> <li>Take action to bring project back on target</li> <li>Weekly monitoring</li> <li>Steering Group monthly report</li> </ul>   | Possible   | Medium  |
| 2 | A training provider fails to meet contractual requirements in a timely manner, resulting in failure to deliver project objectives | <ul style="list-style-type: none"> <li>Project plan for training provider is red or amber</li> <li>NCC Multiply Project Manager discusses performance with provider and agrees action plan</li> <li>Where necessary, NCC Multiply Project Manager reallocates outputs to another provider</li> <li>Weekly monitoring</li> <li>Steering Group monthly report</li> </ul> | Possible   | Medium  |
| 3 | Internal processes fail to deliver desired outputs  | <ul style="list-style-type: none"> <li>Quantity and/or quality of outputs is inadequate</li> <li>Intervene to support and rectify issues</li> <li>Weekly monitoring</li> <li>Steering Group monthly report</li> </ul>  | Unlikely   | Low   |
| 4 | Failure to recruit teaching and delivery staff delays the delivery of Multiply interventions                                      | <ul style="list-style-type: none"> <li>Unable to recruit sufficient delivery staff</li> <li>Develop and implement a staff recruitment and training strategy for Multiply</li> <li>Weekly monitoring</li> <li>Steering Group monthly report</li> </ul>  | Possible   | High  |
| 5 | Financial profile   | <ul style="list-style-type: none"> <li>Financial monitoring identifies slippage in expenditure</li> </ul>  | Possible   | Medium  |

|   |  |  |          |        |
|---|--|--|----------|--------|
|   | is behind target due to project implementation delay   | <ul style="list-style-type: none"> <li>• Reprofile project delivery to ensure that the funding is used fully and effectively</li> <li>• Weekly monitoring</li> <li>• Steering group monthly report</li> </ul>  |          |        |
| 6 | Incident of non-compliance with GDPR   | <ul style="list-style-type: none"> <li>• NCC Multiply Project Manager receives report</li> <li>• Investigation and action taken</li> <li>• GDPR reminder to all providers</li> <li>• Steering group report</li> </ul>  | Unlikely | Low    |
| 7 | Delayed agreement of and/or failure to agree investment plan puts delivery at risk (especially in FY1)   | <ul style="list-style-type: none"> <li>• NCC receives late notification and/or notification that proposed interventions are not agreed by DfE</li> <li>• Commence activity in summer 2022 based on areas of delivery that are low risk in terms of likelihood to be approved</li> <li>• Review and agree menu of interventions with DfE</li> <li>• Revise project plans and monitor weekly</li> <li>• Report to Steering Group</li> </ul>  | Possible | Medium |
| 8 | Grant funding of providers process delays delivery of Multiply provision and puts project delivery at risk (especially in FY1)                                   | <ul style="list-style-type: none"> <li>• Project plan red or amber due to delayed commissioning</li> <li>• Agree and implement a grant funding strategy with NCC's Procurement team by 30/06/22</li> <li>• Commence in-house delivery through Adult Learning by August 2022</li> <li>• Secure grant funding agreements with Norfolk's key AEB providers by August 2022</li> <li>• Weekly monitoring through the project team</li> <li>• Monthly report to Steering Group</li> </ul>  | Possible | High   |
| 9 | Department for Education decides that Multiply provision is subject to Ofsted inspection and this decision impacts on delivery through community-based providers | <ul style="list-style-type: none"> <li>• Ensure that all grant funding contracts have a get-out clause that covers this eventuality</li> <li>• If DfE decides that Multiply provision is subject to Ofsted inspection, review the grant funding strategy and plan to work only with providers who have been judged to be Good or Outstanding by Ofsted</li> <li>• Take action to rapidly re-distribute the funding and outputs</li> <li>• Monitor weekly through the project team</li> <li>• Report to Steering Group</li> </ul> | Possible | Medium |



## Section I: Capacity and Capability

20. Do you have dedicated capacity and capability to deliver adult skills interventions and adult education? How many FTE will be working on delivery of Multiply and what functions are being undertaken by those FTE including who will be responsible for data collection, contract management and how you will coordinate delivery? (Approx. 250 words)

Norfolk County Council already has the skills and capability needed to successfully deliver the Multiply programme but will need to use other providers to create the capacity to do so.

Existing, highly experienced staff are being utilised to get the programme up and running, for example using senior members of the award winning Adult Learning service, Growth and Development team and Data and Insight Officers to develop the plan. Because of the importance of the Multiply programme, these staff will continue to hold key roles in the programme until its conclusion.

The initial four key providers are all Ofsted rated Good and combined delivered 1,020 numeracy qualifications in 2020/21 through the AEB.

Whilst exact FTEs will vary, as providers will have flexibility within their budgets as to how they choose to resource their parts of the delivery, initial estimates are around 25 FTE in total at any point to deliver Multiply. NCC will employ 3.5 FTE to manage the programme, including the associated data collection, contract management and delivery coordination, with the remaining 21.5 FTE being used to deliver it.

Individual providers will be responsible for collecting the data of their own learners and interventions and returning it through the ILR, as well as coordinating their own delivery within the guidelines of the frameworks set.

21. If you have capacity, would you be prepared to take a leading role in a regional peer-to-peer network to share learnings with other local authorities (eg host quarterly Multiply sessions, share best practice, etc)? This does not commit you at this stage and we will use this information to develop our learning plans across the Multiply programme. (Approx. 100 words)

Norfolk would welcome the opportunity to take a leading role in a regional peer-to-peer network to share learnings with other local authorities.

Norfolk County Council's Adult Learning service has extensive experience of successfully delivering numeracy provision in flexible and innovative ways, with 48% of Norfolk's Adult Education Budget delivery or 490 learner registrations in the 2020-21 academic year. Norfolk County Council's approach to blended and online delivery was recognised

nationally in 2021, as its Adult Learning service was awarded the Tes Award for Adult and Community Education provider of the year.

In addition, Norfolk County Council has recent experience of successfully leading and delivering a DfE-funded project (FEPDG £500K) with multiple local authority partners (10) against very tight timescales (6 months), ensuring that the project was established and managed highly effectively and that KPIs were achieved.

22. Please describe the key capacity and capability challenges (if you have any) for delivering skills interventions. This could include challenges within your local authority (e.g., gaps in areas such as procurement, contract management, communications) and/or in your local delivery system? This information will be used to inform what support could be made available nationally. (Approx. 100 words)

In Norfolk the key capacity and capability challenges are as follows:

- In the local delivery system there is a need to build capacity in the number of teaching staff who are available to teach on the Multiply programme
- There is also a need to train teaching staff to deliver the types of intervention that Multiply aims to provide, targeted at specific cohorts. Teaching staff will be used to mainstream delivery and will encounter a more flexible and innovative approach to delivery that meets the needs of an individual or small groups of learners. Likewise, Multiply is targeted at the most hard to reach individuals, who have significant challenges in their lives and often a fear of numbers, so staff will need training to support them to respond to these issues.

23. Please describe what further support would help address these challenges? We will use this information to inform what central government support is made available nationally but cannot commit to fund every individual request. (Approx. 100 words)

- A national campaign that raises awareness of Multiply and, at the same time, encourages:
  - Maths and numeracy teachers
  - People with good numeracy skills who are not trained teachers
  - Teachers who are not numeracy experts

To join their local Multiply delivery team – receive training where necessary – and make a difference in their local area. Perhaps with a link on the DfE website to each local Multiply lead.

- Training resources for Multiply delivery staff to use on the digital platform, both in terms of numeracy and support for working in a range of different contexts, including support for learners who lack confidence.

24. Are there interventions or capability areas where you can partner with other local authorities, providers, or employers in your region? (Approx. 100 words)

We have a strong working relationship with Suffolk County Council and will look to maintain that relationship throughout the three years of the Multiply programme to compare impact and learn lessons from the delivery of our respective Multiply programmes.

Norfolk will work closely with key Multiply providers in the county to jointly implement a recruitment and training strategy.


Norfolk is a member of the national HOLEX professional network and a regional East of England adult education network and will collaborate with these networks to establish shared training opportunities that respond directly to Multiply interventions.

Norfolk would be interested in hosting wider regional staff networks that focus on each Multiply intervention, so that staff have an opportunity to share ideas and resources and develop their practice in the varying contexts through which Multiply will be delivered.

## Section J: Declaration of the Chief Executive of the lead local authority

As the lead local authority (Greater London Authority, Mayoral Combined Authorities, Upper Tier/Unitary Local Authorities) you will act as the accountable body and submit this application on behalf of your local area. By submitting this investment plan, you confirm:

- All the information included is true and accurate to the best of your knowledge.
- You have read, and confirm this plan is in accordance with, the expectations set out in the Multiply investment prospectus and technical guidance.
- Lower tier local authorities within your local area support this application and are committed to work with you.
- You will comply with the Assurance and Grant management process as outlined in the technical guidance and submit a statement of expenditure at mid-point and end of financial year.
- You understand that the grant will become repayable and further payments put on hold or reduced, if Multiply outputs are not on track for delivery and/or grant funding is not spent on eligible activities by the mid-point and end of each financial year.
- You understand that you will be responsible for ensuring data on Multiply learners is submitted through the Individualised Learner Record (ILR) and will submit regular monitoring reports as set out in the technical guidance.
- You will submit an annual progress report including an assurance statement to confirm spend was used wholly for the purposes for which it was given, and a revised investment plan for subsequent years of Multiply provision as set out in the technical guidance.
- You will support the sharing of learning as requested by the Department for Education – this may involve providing case studies, contributing to webinars and other activity as identified.
- You will comply with the Public Sector Equalities Duty and put in place equality policies and implementation plans as well as processes for learners to raise complaints about unfair practices or treatment.
- You will ensure value for money, seeking competitive costs for all activities and complying with the procurement governance as set out by your governing body.

|                      |  |
|----------------------|--|
| Chief Executive name | <b>Tom McCabe</b>  |
| Signature            |  |
| Date (DD/MM/YYYY)    | <b>28/6/22</b>   |





Department  
for Education

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| Number  | Multiply intervention (please see page 7 of the investment prospectus)  | Short description of Multiply provision (there could be multiple types of provision for each intervention)   | Related fund output indicators (please see page 8 of the technical guidance)  | Estimated output 22-23                   | Estimated output 23-24                   | Estimated output 24-25                   | Budget   |          |          |          |
|---------|---|--|---|--|--|--|----------|----------|----------|----------|
|         |   |  |   |  |  |  | 22-23    | 23-24    | 24-25    | Total    |
| Example | What Multiply intervention are you delivering?<br>e.g. Courses designed to increase confidence with numbers for those needing the first steps towards formal qualifications | What is the provision you intend to deliver?<br>Who is the target audience for this provision?<br>Are there any comms activities to increase reach required to deliver this provision?<br>e.g., a cross-agency / partnership approach, working with local employers (for example, to deliver in-work confidence building courses)  | Referring to the six fund output indicators on page 8 of the technical guidance, what outputs will this provision deliver. If you want to select more than one please add an additional row<br>e.g. Number of adult numeracy courses run in a local area through Multiply | e.g. 5 new courses or reach 100 learners | e.g. 5 new courses or reach 100 learners | e.g. 5 new courses or reach 100 learners | £1,000   | £2,000   | £2,000   | £5,000   |
| 1       | Courses designed to increase confidence with numbers for those needing the first steps towards formal numeracy qualifications.  | Bite size and short engagement courses at pre and entry level, that target individuals and small groups of learners who lack basic numeracy skills and who do not have the confidence or motivation to engage in formal learning. For example, cookery skills, life events/hacks, games such as darts and maths cafes. We are also planning a Norfolk numeracy challenge that aims to get people interested in Multiply. Intervention includes a Multiply champion in each District, promotional activities countywide and local, wide-ranging stakeholder and partner engagement, recruitment and training of delivery staff, childcare and other learner support costs   | Number of adult numeracy courses run in a local area through Multiply   | 425 courses                              | 300 courses                              | 300 courses                              | £215,995 | £146,603 | £146,603 | £509,200 |
|         |   |  | Number of people participating in Multiply funded courses   | Reach 1475 learners                      | Reach 1100 Learners                      | Reach 1100 Learners                      |          |          |          |          |
| 2       | Courses designed to help people use numeracy to manage their money.   | Individual and small group courses with a focus on money management, for example, debt management, buying on credit, household budgeting and how to plan and reduce your shopping bill. These courses target individuals who are struggling with the cost of living and who lack the numeracy skills they need to improve their situation. We will take a cross-agency, partnership approach, for example, with District Councils, housing associations, Citizens Advice Bureau, food banks and community fridges, and other community-based organisations. Multiply champions will work closely with each District to identify and support learners. Intervention includes recruitment and training of delivery staff, childcare and other learner support costs. | Number of adult numeracy courses run in a local area through Multiply   | 150 courses                              | 180 courses                              | 120 courses                              | £190,584 | £219,904 | £146,603 | £557,090 |
|         |   |  | Number of people participating in Multiply funded courses   | Reach 450 learners                       | Reach 540 learners                       | Reach 360 learners                       |          |          |          |          |
|         |   |  | Number of people referred from partners onto upskill courses  | 150 learners                             | 180 learners                             | 120 learners                             |          |          |          |          |
| 3       | Courses for parents wanting to increase their numeracy skills in order to help their children, and help with their own progression  | Contextualised numeracy developed and delivered in partnership with employers in the workplace. Targeting individuals and small groups through embedded numeracy specific to their job role. A focus on, but not limited to, entry level roles, construction workers, and ESOL with numeracy in food manufacturing companies and working closely with large employers, such as Norfolk County Council and NHS. We will take a partnership approach with employers to develop and deliver the provision. Multiply champions will work closely with employers to identify and develop provision. Intervention includes recruitment and training of delivery staff and funding to support the cost to the employer of releasing staff for training.                   | Number of adult numeracy courses run in a local area through Multiply   | 75 courses                               | 90 courses                               | 90 courses                               | £190,584 | £219,904 | £219,904 | £630,392 |
|         |   |  | Number of people participating in Multiply funded courses   | Reach 225 learners                       | Reach 270 learners                       | Reach 270 learners                       |          |          |          |          |
|         |   |  | Number of courses developed in collaboration with employers   | 75 courses                               | 90 courses                               | 90 courses                               |          |          |          |          |
|         |   |  | Number of different cohorts participating in numeracy courses (e.g. learners in prison, parents etc)  | 25 employers                             | 30 employers                             | 30 employers                             |          |          |          |          |
| 4       | Innovative numeracy programmes delivered together with employers – including courses designed to cover specific numeracy skills required in the workplace                   | Pre-employment courses targeting individuals and small groups that are developed in partnership with DWP, job centres and employers. We will work closely with employers to identify the essential numeracy skills that need to improve and develop assessment tools for recruitment, pre-employment numeracy courses, bitesize activities and short courses that respond to this need. Multiply champions will work closely with employers to identify and develop provision. Intervention includes recruitment and training of delivery staff, childcare and other learner support costs.  | Number of adult numeracy courses run in a local area through Multiply   | 35 courses                               | 36 courses                               | 36 courses                               | £88,939  | £87,962  | £87,962  | £264,862 |
|         |   |  | Number of people participating in Multiply funded courses   | 105 learners                             | 108 learners                             | 108 learners                             |          |          |          |          |
|         |   |  | Number of people referred from partners onto upskill courses  | 53 learners                              | 54 learners                              | 54 learners                              |          |          |          |          |
| 5       | New intensive and flexible numeracy courses targeted at people without Level 2 maths, leading to a Functional Skills Qualification  | Individual and small group courses targeting individuals who do not access mainstream entitlement provision, either because they lack the awareness, motivation or confidence, or because they live in a rural or disadvantaged community and are unable to access provision. We aim to progress learners from shorter Multiply interventions onto Multiply-funded FS Qualifications, which we will  | Number of adult numeracy courses run in a local area through Multiply   | 42 courses                               | 50 courses                               | 67 courses                               | £190,584 | £219,904 | £293,205 | £703,693 |

|   |  |   |   |                       |                       |                       |          |          |          |          |
|---|--|---|---|-----------------------|-----------------------|-----------------------|----------|----------|----------|----------|
|   |  | deliver at the standard FS qualification hours. We will also offer bridging courses at 20 GLH for individuals who lack the confidence to bridge the gap between FS levels. Fast track, intensive delivery and online, blended approaches. Intervention includes a Multiply champion in each District, promotional activities countywide and local, wide-ranging stakeholder and partner engagement, recruitment and training of delivery staff, childcare and other learner support costs. Exam costs are included. Intervention includes a Multiply champion in each District, promotional activities countywide and local, wide-ranging stakeholder and partner engagement, recruitment and training of delivery staff, childcare and other learner support costs   | Number of people participating in Multiply funded courses             | Reach 125 learners    | Reach 150 learners    | Reach 200 learners    |          |          |          |          |
|   |  |   | Number of people achieving a qualification                            | 87 learners           | 105 learners          | 140 learners          |          |          |          |          |
| 6 | Courses for parents wanting to increase their numeracy skills in order to help their children, and help with their own progression                                 | Courses that target families who are in need of support. We will work closely with schools, childcare settings and local authority children's services to identify the families that this provision aims to support. Individual family and small family group numeracy provision that supports parents to help their children at each key stage of numeracy at school, including up to GCSE level. Delivered in schools, libraries and community settings. Training for early years staff to bring numeracy to play. We will communicate this offer through schools and childcare settings and through the Multiply champion in each District, who will also work closely with parents to progress them to further numeracy courses. This intervention includes the recruitment and training of delivery staff, childcare and other learner support costs   | Number of adult numeracy courses run in a local area through Multiply | 80 courses            | 120 courses           | 120 courses           | £101,645 | £146,603 | £146,603 | £394,850 |
|   |  |   | Number of people participating in Multiply funded courses             | Reach 240 learners    | Reach 360 learners    | Reach 360 learners    |          |          |          |          |
|   |  |   | Number of people referred from partners onto upskill courses          | 180 learners referred | 270 learners referred | 270 learners referred |          |          |          |          |
| 7 | Numeracy courses aimed at prisoners, those recently released from prison or on temporary licence   | Individual and small group courses. In FY1 testing the water with courses that take peer mentor-led approaches, as well as family learning sessions and other bite-sized numeracy opportunities that complement the existing provision, including pre-employment focused courses. This numeracy provision is aimed at prisoners, those recently released from prison or on temporary licence and ex-offenders. We will work closely with Seetec, who deliver the mainstream offer in our local prisons, as well as with the probation service and DWP and job centres, to develop and communicate this provision. Intervention includes recruitment and training of delivery staff.   | Number of adult numeracy courses run in a local area through Multiply | 7 courses             | 20 courses            | 20 courses            | £25,411  | £73,301  | £73,301  | £172,014 |
|   |  |   | Number of people participating in Multiply funded courses             | Reach 21 learners     | Reach 60 learners     | Reach 60 learners     |          |          |          |          |
|   |  |   | Number of people referred from partners onto upskill courses          | 21 learners referred  | 60 learners referred  | 60 learners referred  |          |          |          |          |
| 8 | Numeracy courses aimed at those 19 or over that are leaving, or have just left, the care system  | Courses that target individual care leavers, in particular those who are not in education, employment or training (161 aged 19-21 in 2021) with the aim of increasing their financial awareness and budgeting skills through Multiply numeracy provision. We will work closely with the local authority to identify and communicate with care leavers, as well as through other community-based organisations, such as housing associations, citizens advice bureau and food banks. This intervention includes a Multiply champion in each District and recruitment and training of delivery staff, childcare and other learner support costs   | Number of adult numeracy courses run in a local area through Multiply | 10 courses            | 24 courses            | 24 courses            | £12,706  | £29,321  | £29,321  | £71,347  |
|   |  |   | Number of people participating in Multiply funded courses             | Reach 10 learners     | Reach 24 learners     | Reach 24 learners     |          |          |          |          |
|   |  |   | Number of people referred from partners onto upskill courses          | 10 learners referred  | 24 learners referred  | 24 learners referred  |          |          |          |          |
| 9 | Numeracy activities, courses or provision developed in partnership with community organisations and other partners aimed at engaging the hardest to reach learners | Individual and small group courses that target the most hard to reach individuals in the county and that are developed and delivered through community organisations and other partners who work closely with hard to reach groups in Norfolk. Basic numeracy skills through innovative course development and delivery, for example, cookery courses that incorporate numeracy skills that aim to reduce costs, delivered at food bank and community fridge venues or courses that target longer term unemployment through numeracy skills delivered in partnership with DWP and locally-based organisations, courses linked into weight management/ healthy lifestyle programmes, with calorie counting and food nutrition numeracy skills. These are a very few of the wide-ranging opportunities to enhance residents' numeracy skills. For this intervention we will partner with a wide range of VCSE and | Number of adult numeracy courses run in a local area through Multiply | 150 courses           | 204 courses           | 204 courses           | £190,584 | £249,225 | £249,225 | £689,033 |
|   |  |   | Number of people participating in Multiply funded courses             | Reach 450 learners    | Reach 612 learners    | Reach 612 Learners    |          |          |          |          |

|                          |  |  |   |                       |                       |                       |            |            |            |            |
|--------------------------|--|--|---|-----------------------|-----------------------|-----------------------|------------|------------|------------|------------|
|                          |  | community-based organisations who work closely with the client group that Norfolk's Multiply programme aims to reach. Communication will be through these groups and organisations. Intervention includes a Multiply champion in each District, recruitment and training of delivery staff, childcare and other learner support costs  | Number of people referred from partners onto upskill courses          | 450 learners referred | 612 learners referred | 612 learners referred |            |            |            |            |
| 10                       | Relevant maths modules embedded into other vocational courses  | These Multiply courses will be an add-on to Adult Education Budget-funded vocational courses and will provide contextualised numeracy skills up to Level 2 that are appropriate and specific to a vocational area. For example, on construction courses - ratios for mixing paint and calculating the number of bricks needed. Additional hours will be added to the vocational course to cover these numeracy skills. This offer will be delivered through Norfolk's main Adult Education Budget numeracy providers - Norfolk County Council Adult Learning, City College Norwich, East Coast College and College of West Anglia, and will be built into and communicated to individual learners through their main vocational academic team. Intervention includes recruitment and training of delivery staff, childcare and other learner support costs. There will also be the facility to provide additional individual support to a learner who needs further support. | Number of adult numeracy courses run in a local area through Multiply | 63 courses            | 75 courses            | 75 courses            | £63,528    | £73,301    | £73,301    | £210,131   |
|                          |  |  | Number of people participating in Multiply funded courses             | Reach 504 learners    | Reach 600 learners    | Reach 600 learners    |            |            |            |            |
| ... Add rows as required |  |  |   |                       |                       |                       |            |            |            | £0         |
| Any off-menu provision   | Off-menu intervention  | There is no off-menu intervention.   |   |                       |                       |                       |            |            |            |            |
| Un-allocated             |  |  |   |                       |                       |                       |            |            |            | £0         |
| Admin                    | Please include a breakdown of your required administrative expenditure across Year 1-3 (up to a maximum 10% of the total spend in that year). Please note the % admin allowance is subject to review before Y2 & Y3 payments. If you do not think you can spend your full provisional allocation we expect that you will consider the scale of your administrative spending, making appropriate adjustments to prevent disproportionate expenditure. |  |   |                       |                       |                       | £141,173   | £162,892   | £162,892   | £466,957   |
| Total                    |  |  |   |                       |                       |                       | £1,411,730 | £1,628,919 | £1,628,919 | £4,669,568 |



# Infrastructure and Development Select Committee

Item No: 10

**Report Title: Forward Work Programme**

**Date of Meeting: 18 January 2023**

**Responsible Cabinet Member: N/A**

**Responsible Director: Tom McCabe** (Executive Director, Community and Environmental Services)

This report sets out the Forward Work Programme for the Committee to enable the Committee to review and shape.

## Action Required

The Select Committee is asked to:

1. Review and agree the Forward Work Programme for the Select Committee set out in Appendix A.

## 1. Background and Purpose

- 1.1 This report sets out the Forward Work Programme for the Select Committee to enable the Committee to review and shape it.

## 2. Proposal

### 2.1 Forward Plan

- i. The current Forward Work Programme for the Select Committee is set out in Appendix A, for the Committee to use to shape future meeting agendas and items for consideration.

### 2.2 Member Task and Finish Groups

- 2.2.1 The Select Committee previously agreed that, to help ensure a manageable workload, there will be no more than two Member Task and Finish Groups operating at any one time. There are currently no active Member Task and Finish Groups established by this Committee.

### **3. Impact of the Proposal**

- 3.1 The Forward Work Programme enables the Select Committee to shape agendas for future meetings so that they contain items which the Committee considers are the most important for them to consider.

### **4. Evidence and Reasons for Decision**

- 4.1 As above.

### **5. Alternative Options**

- 5.1 The Committee can shape and amend the Work Programme.

### **6. Financial Implications**

- 6.1 None.

### **7. Resource Implications**

- 7.1 **Staff:** None.

- 7.2 **Property:** None.

- 7.3 **IT:** None.

### **8. Other Implications**

- 8.1 **Legal Implications:** None.

- 8.2 **Human Rights Implications:** None.

- 8.3 **Equality Impact Assessment (EqIA):** N/A

- 8.4 **Data Protection Impact Assessments (DPIA):** N/A

- 8.7 **Any Other Implications:** None.

### **9. Action required**

The Select Committee is asked to:

1. Review and agree the Forward Work Programme for the Select Committee set out in Appendix A.

## 10. Background Papers

11.1 None.

### Officer Contact

If you have any questions about matters contained within this paper, please get in touch with:

**Officer name:** Sarah Rhoden  
**Telephone no.:** 01603 222867  
**Email:** sarah.rhoden@norfolk.gov.uk



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## Forward Work Programme – Infrastructure and Development Select Committee

Draft agendas for the next three meetings.

| Report title                                  | Reason for report   |
|---|---|
| <b>15 March 2023 meeting</b>                  |   |
| School Streets Trial                          | To provide an update and learning from the trial  |
| Trading Standards Service Plan                | To review and consider the policy elements of the service plan.   |
| Local Transport Plan                          | To review the plan  |
| Norfolk Infrastructure Delivery Plan (NIDP)   | To review the proposed 2022 plan  |
| Highways Responses to Planning Applications   | To provide an update  |
| Highways Winter Service Policy Review         | To agree the proposed policy  |
| Ash Dieback                                   | To provide an end of year progress report   |
| Forward Work Programme                        | To review and shape the Select Committee's forward work programme.  |
| <b>17 May 2023 meeting</b>                    |   |
| Policy and Strategy Framework – annual review | To enable the Select Committee to understand the relevant policies and strategies aligned this Committee. |
| Forward Work Programme                        | To review and shape the Select Committee's forward work programme.  |
| <b>12 July 2023 meeting</b>                   |   |
| Forward Work Programme                        | To review and shape the Select Committee's forward work programme.  |