

Communities, Housing, and Planning Policy Development Panel Agenda

Members of the Panel

Cllr J Ward (Vice-Chairman)	Cllr E Laming
Cllr N Brennan	Cllr K Leggett
Cllr A Crotch	Cllr M Murrell
Cllr R Foulger	Cllr J Neesam
Cllr N Harpley	Cllr D Thomas

Cllr F Whymark (ex-officio)

Date & Time:

Wednesday 4 January 2023 at 6pm

Place:

Trafford Room, Thorpe Lodge, 1 Yarmouth Road, Thorpe St Andrew, Norwich, NR7 0DU

Contact:

Jessica Hammond tel (01508) 505298

Email: committee.bdc@southnorfolkandbroadland.gov.uk

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PUBLIC ATTENDANCE:

If a member of the public would like to observe the meeting in person or to speak on an agenda item, please email your request to committee.bdc@southnorfolkandbroadland.gov.uk, no later than 5.00pm Thursday 29 December 2022.

Large print version can be made available

If you have any special requirements in order to attend this meeting, please let us know in advance.

AGENDA

1. **To receive declarations of interest from members;**
(guidance and flow chart attached – page 3)
2. **To report apologies for absence and to identify substitute members;**
3. **To receive the minutes of the meeting of the Communities, Housing and Planning Policy Development Panel held on 2 November 2022;**
(minutes attached – page 5)
4. **To establish and enter into a joint venture to deliver a programme of mitigation for nutrient neutrality;**
(report attached page 9)
5. **Greater Norwich Local Plan Gypsy and Traveller Sites Consultation;**
(report attached page 29)

(Please note: As this item has been provided by an external source we cannot guarantee that it is fully accessible)

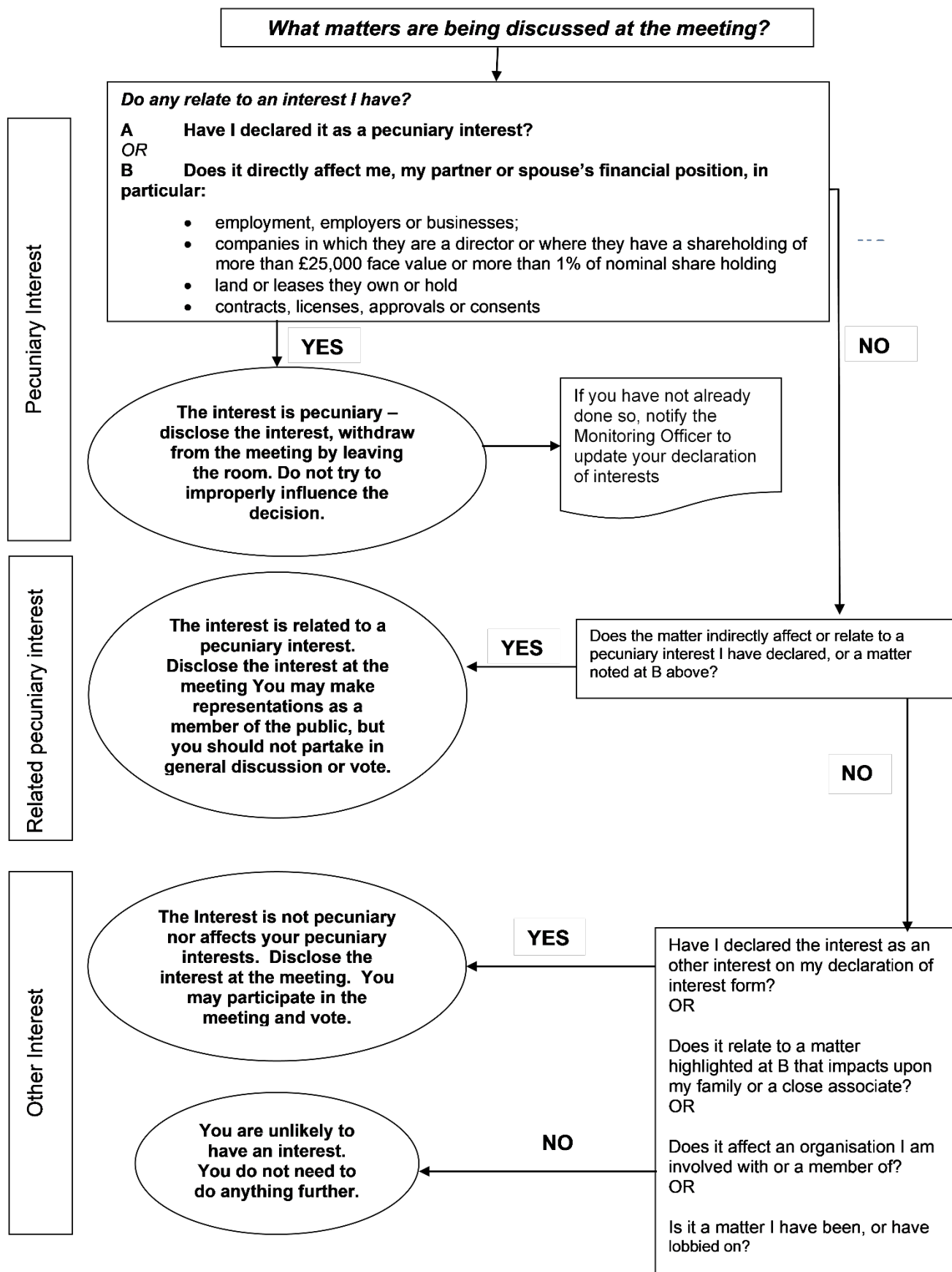
DECLARATIONS OF INTEREST AT MEETINGS

When declaring an interest at a meeting Members are asked to indicate whether their interest in the matter is pecuniary, or if the matter relates to, or affects a pecuniary interest they have, or if it is another type of interest. Members are required to identify the nature of the interest and the agenda item to which it relates. In the case of other interests, the member may speak and vote. If it is a pecuniary interest, the member must withdraw from the meeting when it is discussed. If it affects or relates to a pecuniary interest the member has, they have the right to make representations to the meeting as a member of the public but must then withdraw from the meeting. Members are also requested when appropriate to make any declarations under the Code of Practice on Planning and Judicial matters.

<p>Have you declared the interest in the register of interests as a pecuniary interest? If Yes, you will need to withdraw from the room when it is discussed.</p>
<p>Does the interest directly:</p> <ol style="list-style-type: none"> 1. affect yours, or your spouse / partner's financial position? 2. relate to the determining of any approval, consent, licence, permission or registration in relation to you or your spouse / partner? 3. Relate to a contract you, or your spouse / partner have with the Council 4. Affect land you or your spouse / partner own 5. Affect a company that you or your partner own, or have a shareholding in <p>If the answer is "yes" to any of the above, it is likely to be pecuniary.</p> <p>Please refer to the guidance given on declaring pecuniary interests in the register of interest forms. If you have a pecuniary interest, you will need to inform the meeting and then withdraw from the room when it is discussed. If it has not been previously declared, you will also need to notify the Monitoring Officer within 28 days.</p>
<p>Does the interest indirectly affect or relate any pecuniary interest you have already declared, or an interest you have identified at 1-5 above?</p> <p>If yes, you need to inform the meeting. When it is discussed, you will have the right to make representations to the meeting as a member of the public, but you should not partake in general discussion or vote.</p>
<p>Is the interest not related to any of the above? If so, it is likely to be an other interest. You will need to declare the interest, but may participate in discussion and voting on the item.</p>
<p>Have you made any statements or undertaken any actions that would indicate that you have a closed mind on a matter under discussion? If so, you may be predetermined on the issue; you will need to inform the meeting, and when it is discussed, you will have the right to make representations to the meeting as a member of the public, but must then withdraw from the meeting.</p>

**FOR GUIDANCE REFER TO THE FLOWCHART OVERLEAF.
PLEASE REFER ANY QUERIES TO THE MONITORING OFFICER IN THE FIRST
INSTANCE**

DECLARING INTERESTS FLOWCHART – QUESTIONS TO ASK YOURSELF



COMMUNITIES, HOUSING, AND PLANNING POLICY DEVELOPMENT PANEL

Minutes of a meeting of the Communities, Housing, and Planning Policy Development Panel of Broadland District Council, held at Thorpe Lodge, 1 Yarmouth Road, Thorpe St Andrew, Norwich on Wednesday 2 November 2022 at 6pm.

Committee Members Present: Councillors: S Prutton (Chairman), R Foulger, N Harpley, E Laming, K Leggett, M Murrell, J Neesam, D Thomas and J Ward

Apologies for Absence: Councillors: N Brennan and A Crotch

Other Members present: Councillor: F Whymark (ex-officio)

Officers in Attendance: The Assistant Director of Individuals and Families (M Pursehouse), the Housing and Wellbeing Senior Manager (R Dunsire) and the Democratic Services Officer (J Hammond)

1 DECLARATIONS OF INTEREST

No declarations of interest were made.

2 APOLOGIES FOR ABSENCE

Apologies for absence were received from Cllrs N Brennan and A Crotch.

3 MINUTES

The minutes of the meetings of the Wellbeing Policy Development Panel held on 27 April 2022, and Place Shaping Policy Development Panel held on 11 July 2022 were agreed as a correct record and signed by the Chairman.

Wellbeing Policy Development Panel

In reference to minute number 57, one member requested an update on the number of payments made under the discretionary fund scheme. The Assistant Director of Individuals and Families explained that scheme would conclude at the end of November, at which point he would be able to provide the Committee with figures on the number of applications received and grants paid. The Housing and Wellbeing Senior Manager added that the scheme had

been very successful with an average of 18 discretionary applications per week. In response to further questions, he explained that in addition to a social media campaign, the Council had been utilising the Lift Scheme with a partner agency. The Lift Scheme could be used to pinpoint vulnerable residents within the district where a direct discretionary payment could be made.

In reference to minute number 58, the Housing and Wellbeing Senior Manager confirmed that the two new trained members of staff were now in place and had been providing a great service to the team and residents. They were now due to review the One Team's approach to dealing with domestic abuse.

4 BEST IN CLASS HOUSING – TEMPORARY ACCOMMODATION

The Assistant Director of Individuals and Families presented the report which set out the expected future increase in demand for temporary accommodation, the associated significant increase in cost, and provided a plan to help address this.

The Council had a strong track record in delivering an effective housing service in the district. However, the Council was now facing a significant increase in the demand for temporary accommodation, due to a number of factors, including:

- The lasting legacy of Covid
- The cost-of-living crisis
- Reduced housing stock in both social housing and the private rented sector
- Ukraine asylum – a large number of placements coming to an end

Members were informed that under the Housing Act 1996 and the Homelessness Reduction Act 2017, the Council had a statutory obligation to deliver housing services. Although the Council no longer held its own general housing stock, it was still required to support residents at risk of homelessness or those who were already homeless, by working with the district's fourteen registered social landlords to ensure residents had access to the right social home.

Regarding the Council's current temporary accommodation, the Housing and Wellbeing Senior Manager explained that the Council owned two three-bedroomed properties, leased five units from Clarion Housing, as well as 24 properties of various sizes rented from private landlords. One member requested clarification on what constituted 'temporary accommodation'. The Housing and Wellbeing Senior Manager explained that, in addition to Council owned and private sector leased properties, temporary accommodation could include rooms at Bed & Breakfasts (B&Bs). For the property to be classed as temporary accommodation an individual stay should not surpass 6-12 months. He added that due to a lack of housing supply the Council currently had cases exceeding 9 months.

Discussion moved to the forecasted demand on temporary accommodation. The Housing and Wellbeing Senior Manager advised the Committee that consultants Campbell Tickell had been commissioned to model the impact on temporary accommodation of an economic recession. This modelling had estimated that demand would increase significantly from 2023, before falling to pre-covid levels in 2026. In response to a query on the use of caravans as temporary accommodation, officers advised the Committee that whilst the use of caravans was legal, regulations were in place covering the size and standard of housing which would be difficult to meet, especially during the winter months. The issues of increased pollution and instances of anti-social behaviour at large caravan sites was also noted, along with the reputational risk to the Council of housing, often vulnerable, individuals in caravans.

Members further discussed the use of B&Bs as a source of temporary accommodation, where it was noted that this was a very costly approach to managing the increased demand for temporary accommodation. The Housing and Wellbeing Senior Manager explained that were the Council to continue utilising B&Bs to meet the expected increased demand, the predicted revenue cost to the Council would be £4,894,000 over the next six financial years. It was noted that some B&Bs were seeing the rising demand for temporary accommodation as a business opportunity and had been increasing prices.

Members discussed the proposal to acquire a specialist resource to research properties and undertake the necessary work on behalf of the Council. The Housing and Wellbeing Senior Manager explained that consultants were required as they had the specialised expertise needed to locate and assess properties, which was not available within the Council's current resource. The Assistant Director of Individuals and Families added that this resource would ensure that suitable properties could be located and purchased more quickly. One member queried whether the specialist would carry out any legal work required as part of property acquisition and the Assistant Director of Individuals and Families advised the Committee that all legal work would be carried out by the Council's contractor, NPLaw.

With regard to the long-term need for the properties if demand reduced, the Assistant Director of Individuals and Families explained that it would be unlikely to reduce significantly and that additional properties would provide greater resilience going forward. The Housing and Wellbeing Senior Manager added that officers would closely monitor the demand projections and stays at the Council's current temporary accommodation.

In response to a question concerning the energy efficiency of the properties to be purchased, the Housing and Wellbeing Senior Manager informed members that energy efficiency measures such as solar panels would be added onto the temporary accommodation, if not already present. He added that this would not only offset any increase on the Council's carbon footprint, but also reduce the cost of utility bills.

After further discussion, it was unanimously

RESOLVED

To recommend to Cabinet that it recommends to Council to:

Capital Items

1. Create an additional capital budget of £1,356,000 to purchase additional temporary accommodation.
2. Delegate authority to the Assistant Director of Individuals and Families, in consultation with the Section 151 Officer, the Portfolio Holder for Communities, Housing, and Planning Policy and the Portfolio Holder for Finance to purchase individual properties up to £750,000.
3. Increase the current allocated opportunities reserve from £900,000 to £1,000,000, to facilitate the purchase of a property and pay for the renovation works to make the property ready for use.

Revenue Items

4. Agree to the extension of contracts for temporary additional housing staff up to £266,200 per annum (funded BDC 45% / SNC 55%) to deal with additional demand on housing services.
5. Agree the recruitment of 1 x FTE officer for every additional purchase of 10 units of temporary accommodation, which will be paid for by the additional income received from those properties.
6. Prioritise allocations in temporary accommodation within its own stock, and in the event, that capacity cannot be found within its own stock, place in South Norfolk Council stock first.
7. Utilise capital reserves to pay for specialist support to speed up the purchase of properties.

(The meeting concluded at 7.00pm)

Chairman

Agenda Item: 4
Communities, Housing and Planning Policy Development Panel
4 January 2023

To establish and enter into a joint venture to deliver a programme of mitigation for nutrient neutrality

Report Author(s): Phil Courtier
Director of Place
07879 486982
phil.courtier@southnorfolkandbroadland.gov.uk

Portfolio: Communities, Housing and Planning, and Finance

Ward(s) Affected: All

Purpose of the Report:

Currently planning applications for new overnight accommodation are on hold in many parts of the district due to the nutrient neutrality constraints that were imposed by Natural England in March 2022.

The report contains details of how this constraint will be overcome through the establishment of a Joint Venture which will source the mitigation that is required to get the housing market moving and sell credits to developers to enable them to demonstrate housing schemes are nutrient neutral.

The Joint Venture would be established with the potential to provide a range of environmental credits, initially focussing on nutrient neutrality.

In order to provide seed funding for the establishment of the Joint Venture it is also proposed to use £150k from the Environmental Projects Reserve which will be repaid from the Joint Venture in due course.

Recommendations:

It is recommended that the Panel advises Cabinet to:

1. Enter a Joint Venture (a company limited by guarantee) with Anglian Water and one or more local authorities in Norfolk for the provision of environmental credits (initially focussing on addressing nutrient neutrality) as per the attached Heads of Terms.
2. To commit £30,000 revenue in 2023/24 as part of establishing the Joint Venture. The purpose of the funding being to establish the operating model in year one, after which there will be full recovery of the operating costs as part of the credit income.
3. Delegate to the Director of Place in consultation with the Leader of the Council to finalise the details of the joint venture agreement and operating arrangements and enter the Joint Venture.
4. To loan £150,000 revenue from the Environmental Projects Reserve as seed funding in 2022/23 for the Joint Venture to be repaid with interest within 2 years from the establishment of the Joint Venture.
5. Delegate to the S151 Officer in consultation with the Portfolio Holder for Finance to finalise the details of the seed funding and repayment mechanism

1. Summary

- 1.1 On the 16 March 2022 Natural England wrote to seventy-four local authorities and advised them, as the Competent Authority under the Habitats Regulations, to carefully consider the nutrients impacts of any new plans and policies (including new development proposals). In Norfolk, the two Special Areas of Conservation (SACs) that need to be protected from rising nutrient levels are the River Wensum and the Broads.
- 1.2 Consequently, planning applications for new overnight accommodation are on hold in many parts of the district awaiting developers to come forward with planning applications that demonstrate there will be no further adverse levels of nutrients (phosphorus and nitrogen) reaching the SACs because of their respective housing proposal.
- 1.3 Whilst some of the volume housebuilders will be able to provide the mitigation required (through for example constructed wetlands) this will not be possible for many of the small and medium sized developers. With small and medium sized developers making up around 40% of the homes delivered in Norfolk this creates a significant barrier.
- 1.4 There is also an impact on the Council's growth ambitions for the district alongside social and economic impacts, for example addressing housing need and future loss of income for council services.
- 1.5 The impact of the nutrient neutrality requirements has been significant for Breckland Council, Broadland District Council, Norwich City Council, North Norfolk

District Council and South Norfolk Council and therefore it is proposed that the authorities work together to identify a solution.

- 1.6 Anglian Water is also affected by nutrient neutrality and the government has indicated that the performance of wastewater treatment plants also must improve by 2030. An amendment to the Levelling Up and Regeneration Bill was proposed on the 18 November 2022, which if adopted is expected to reduce the mitigation requirement for phosphorus by 36% and nitrogen by 65% post 2030. Anglian Water has significant expertise at a strategic level in water management and treatment which the Council does not have and a direct link into all the households in Norfolk. This will be essential in providing some of the solutions within the portfolio of mitigation.
- 1.7 The report sets out the work to date and a range of options that have been considered.

2. Background

- 2.1 On the 16 March 2022 Natural England issued new guidance to local planning authorities concerning nutrient enrichment and the role it must play in preventing further adverse impacts to protected wetland habitats.
- 2.2 This guidance covered the catchment areas of the River Wensum Special Area of Conservation (SAC) and the Broads Special Area of Conservation and RAMSAR. This impacted all the local authorities in Norfolk, either through wastewater discharge or surface water flows running into the River Wensum SAC or Broads SAC. Although Kings Lynn and West Norfolk District Council and Great Yarmouth Borough Council have indicated nutrient neutrality requirements will have a minimal impact.
- 2.3 Local Planning Authorities (LPA) are required to consider the impact of nutrient enrichment before planning permission can be granted and therefore all planning applications (including new applications, reserved matters and with those with outstanding conditions), primarily involving increases to overnight stay were temporarily put on hold. Some of these applications have now been released, although most are still in abeyance.
- 2.4 The Council is the Competent Authority for planning decisions; however, the habitats legislation requires that sites that are in the catchments of the Wensum SAC and Broads SAC will only be granted planning permission when there is certainty around levels of enrichment and corresponding mitigation. If that certainty is not proven beyond reasonable the LPA is not legally allowed to grant permission and Natural England has made it clear it will also oppose any deviation to the legal framework.
- 2.5 A Written Ministerial Statement on nutrient neutrality was published on 20 July 2022 and Defra issued a Direction to Natural England on strategic mitigation schemes on 28 July 2022. The Secretary of State directed Natural England to

“take the steps that they have proposed and that are within their control to prepare, facilitate and administer the operation of strategic mitigation schemes in any or all the catchments where at the date of this direction there are restrictions on development because of concerns in relation to nutrient pollution.”

- 2.6 It is understood that Natural England will only provide a scheme and nutrient neutrality credits on nature and land-based solutions such as wetlands and woodlands, which by their nature will be medium to long term solutions. This will also not deliver sufficient capacity for the growth agenda in the catchments.
- 2.7 This is a complex and complicated scenario with a range of external factors influencing the approach alongside the immediate local challenges. Member briefings have taken place during the Autumn to share the context, challenges, and approach, these were well attended.
- 2.8 The focus of this report is to put in place an arrangement to source and deliver the required mitigation. The content covers how the arrangements will be governed, the report is not intended to cover all the aspects and details of nutrient neutrality or the provision of other environmental credits.

3. Current position/findings

- 3.1 The authorities in Norfolk all have growth aspirations which are predicated on providing housing as part of their place shaping agenda. Meeting the nutrient neutrality requirements will place further pressure on viability and developer contributions which are also supporting wider economic, environmental, and social improvements. This includes transport infrastructure, affordable housing and improving connectivity which all impact on wider economic growth. In addition, the government has targets for additional housing in these authorities which are all now under threat.
- 3.2 Without swift action to mitigate nutrient neutrality there is a risk that developers will submit predatory applications for schemes which lie outside the relevant catchment area and the plan-led approach to the growth agenda will eroded. The government has previously stated that it will issue further guidance on how the 5-year land supply will be assessed in areas which are subject to nutrient neutrality, but this guidance is still awaited.
- 3.3 Many of the developers in Norfolk are small and medium sized organisations and they do not have capacity to install their own nutrient neutrality solutions. Many will have already purchased land or have options on sites. There is a significant risk that many of these small and medium sized enterprises will go out of business if the granting of new planning permissions in these catchments does not get moving soon.
- 3.4 It is estimated that between 1,750 and 2,200 homes per year are currently on hold across Norfolk due to the nutrient neutrality constraints. In addition, there is a significant backlog of applications that were halted on the 16 March 2022.

- 3.5 Natural England recently provided an update on progress with their credits-based system. However, there is no mitigation identified in Norfolk at this stage (and therefore no credits available). Natural England is still looking for potential solutions with the aim of providing credits by the end of March 2023.
- 3.6 The Norfolk planning authorities have been working together since March 2022 to look at the mitigation requirement and potential solutions. On the former Royal Haskoning has been commissioned and is working with the Norfolk councils to look at calculating the mitigation need, the locations where nutrient neutrality would apply and potential solutions.
- 3.7 The authorities have also been looking at how mitigation could be delivered on specific sites and have been discussing options and advising developers, landowners and potential providers.
- 3.8 Learning has also been taken from authorities that have been subject to nutrient neutrality for several years to look at the options and bringing forward proposals as swiftly as possible. It should be noted that many of the early authorities that were affected have taken 2 to 3 years to get their schemes operational.

4. Proposed action

- 4.1 The proposed way forward is to establish a Joint Venture company. The purpose of the Joint Venture would be to enable developers to purchase environmental credits to cover the additional enrichment load that has been calculated for their site.
- 4.2 The Joint Venture company would secure mitigation and then issue certificates confirming the credits that had been purchased. Developers would then submit the certificates with their planning applications.
- 4.3 The Joint Venture would comprise of Anglian Water and several of the local authorities. It is estimated that the offer from the company would capture 40% of the nutrient neutrality market. Noting some developers will have the capacity and space to develop their own nutrient neutrality solutions on site.
- 4.4 This solution will provide housing developers in the catchments with certainty around the delivery of the mitigation required. It is not anticipated that the Joint Venture will be a direct provider of mitigation solutions itself.
- 4.5 The operating model would sit alongside what Natural England provides on nature and land-based solutions. Recognising some landowners may prefer to work with the partnership on nature and land-based solutions rather than Natural England and vice versa.
- 4.6 It is expected that other commercial providers will also enter the nutrient neutrality market in due course.

- 4.7 There would be an informal reporting link into the Leaders through the Norfolk Strategic Planning Forum.
- 4.8 This action would enable the growth ambition across Norfolk to proceed through the delivery of additional overnight accommodation and help in addressing the demand for additional housing. Unlocking the new homes that are currently on hold by establishing an environmental credits model focussing on nutrient neutrality by March 2023.
- 4.9 The immediate level of benefit to the housing market will be determined by the level of mitigation that can be implemented, particularly in the short term. It is anticipated that it will take some time to secure the mitigation required to address all the backlog and new planning applications that come forward during 2022/23 and 2023/24.

5. Other options

- 5.1 Several other options have been considered as part of responding to the nutrient neutrality situation, these are set out in the following section.
- 5.2 Option 1 - To require Natural England to produce the whole nutrient neutrality solution for Norfolk. The government has said Natural England need to oversee the nutrient credit arrangements; Natural England has subsequently said that they will focus on the nature and land-based solutions. This option is not recommended as a way forward for the Council. A mixed economy of mitigation will need to be delivered to meet the requirements. Any nature-based solutions are also unlikely to be operational in the short term and Natural England will only be able to meet a portion of the nutrient requirement.
- 5.3 Option 2 - To pass responsibility to some other third party or investment vehicle to run a credit-based scheme for developers to access. For example, something like EnTRADE (providing online markets to help buyers and sellers (farmers) find the best value deals for environmental improvement), this would be a profit-making organisation. This is not recommended as a way forward for the Council. The preference is for the planning authorities to have some control over the nutrient credits process and allocation as part of place shaping and supporting the market (particularly small and medium sized organisations). Recognising it is likely other nutrient neutrality providers will enter the marketplace in due course.
- 5.4 Option 3 - Do nothing. Allowing the market to develop credits themselves alongside the Natural England nature and land-based offer. Developers can trade between themselves and develop their own mitigation plans. This is not recommended as a way forward for the Council. There is no indication of how long this would take to become established and many of the developers are small and medium sized enterprises that will not be able to develop their own solutions. It is likely other providers will enter the market and will be profit making, however, this will take time and reduce the funds available from each scheme for other aspects such as affordable housing.

6. Indicative timescales

- 6.1 The initial planning phase of the Programme will run through to March 2023 when, subject to agreement, the Joint Venture will be established.
- 6.2 At this stage (subject to council agreement) it is envisaged that Breckland Council, Broadland District Council, Norwich City Council, North Norfolk District Council, South Norfolk Council and Anglian Water will enter the Joint Venture. All the parties will be considering reports in December 2022 and January 2023.
- 6.3 The aim is to have the governance up and running by March 2023, alongside developing some short-term mitigation solutions.

7. Issues and risks

Both a Risk Register (things that may happen) and Issues Register (things that have or will happen) exist as part of the programme planning. The main identified risks are:

- a. Change in Government Policy towards nutrient neutrality meaning the mitigation is reduced or no longer required which would impact on the business model.
- b. Natural England not being able to establish an effective and timely Norfolk wide P (phosphorus) credit and N (nitrogen) credit system requiring more credits from the Joint Venture to support the planned growth.
- c. Anglian Water not meeting the government highest technically achievable limits (TAL) by 2030 at larger wastewater treatment works, requiring more credits. Noting that TAL is dependent on legislation and an update to the Levelling Up and Regeneration Bill.
- d. Small and medium sized developers being squeezed out of the market and go out of business along with local builders if an accessible mitigation solution cannot be established.
- e. Delay in the Government legislation and guidance including the Levelling Up and Regeneration Bill causing delay in sites coming forward for mitigation
- f. The cost of credits cannot be established in a creditable way ahead of knowing the full cost of the mitigation scheme(s)

7.1 Issues (Critical ones)

- a. The need to identify a portfolio of short-term mitigation to enable planning applications to be considered and determined and new homes delivered.

- b. Clarifying the rules that apply to the accreditation of any mitigation.

7.2 Resource Implications

- 7.3 Initial revenue funding of £30,000 is required from the Council for 2023/24 to establish the Joint Venture. Annual operating costs have been estimated at £300,000, with a 50:50 split between Anglian Water and the local authorities. Therefore, with five local authorities indicating they wish to be a part of the joint venture it would be £30,000 each. Provision will need to be made in the 2023/24 budget.
- 7.4 In addition, £150,000 seed revenue funding which will help expedite the establishment of the Joint Venture is requested for 2022/23. It is proposed that this funding can be loaned from the Environmental Projects Reserve and subsequently repaid to the Reserve as the Joint Venture starts trading. This revenue is currently being sought solely from Broadland District Council and would be spent on consultants, financial advice/modelling/legal advice and the appointment of a general manager. Prior to the formal establishment of the Joint Venture the repayment of this loan would be at risk. However, even if other partners unexpectedly pulled out of the proposed company, it could still be progressed by South Norfolk and Broadland District Councils acting together to form the Joint Venture. In otherwords it is considered that any risk to this loan prior to the establishment of the Joint Venture is limited.
- 7.5 The terms of this loan will need to be agreed but it the terms will be equivalent to the financial market at the time of agreeing the loan.
- 7.6 Once the Joint Venture is operational and credits are sold it is anticipated that the revenue costs associated with the future running costs would be met as part of the developer contributions.
- 7.7 An officer representative from the Council would become a member director of the Joint Venture and then a Board would be drawn from the member directors. Decision making on the most important matters would rest with the member directors. Board members may also be Executive directors that are appointed to oversee the day-to-day arrangements. Further details are set out in the draft Heads of Terms (See Appendix 1).
- 7.8 The Joint Venture company would employ a small team of staff, a programme lead/general manager to run the company on a day-to-day basis and a separate support role to oversee, monitor and track arrangements and agreements.
- 7.9 There are implications for local businesses as many are directly and indirectly related to the housing market. The pipeline of work is reducing for builders, electricians, plumbers etc, agents and developers will also see options on land running out, particularly on smaller and medium sized sites where local mitigation is not possible.

- 7.10 There are also short-term financial implications for the Council in terms of a loss in planning fees and in the longer-term council tax income. At best housing development is on hold, however, with the delays some housing development may well not come forward at all, seriously impacting on the growth aspirations for the area.
- 7.11 **Legal Implications**
- 7.12 Legal advice has been sought on several governance models through external advisors (Birketts LLP) and each of the working options was considered by officers in November 2022. The options explored were as follows:-
- A Joint Venture Company Limited by Shares
 - A Joint Venture Company Limited by Guarantee
 - Contractual arrangements using Council in-house powers
 - A Limited Liability Partnership
- 7.13 Further details on each of the options are available in a background document. The preferred option was a joint venture company limited by guarantee. This was influenced by:-
- (a) a desire to show this was not about making profit out of nutrient neutrality - particularly when funding for affordable housing and other infrastructure is being squeezed
 - (b) the fact that the liability on each of the parties is limited and
 - (c) there is a constraint for Anglian Water (given their funding base and operational arrangements) to pursue this model rather than a profit-making vehicle
- 7.14 Following an initial meeting with lead officers from all the potential parties on 15 November a draft Heads of Terms document was produced by Birketts. This has been reviewed by all the parties and is set out in Appendix 1 to this report.
- 7.15 **Equality Implications – None**
- 7.16 **Environmental Impact**
- 7.17 The proposal will have a significant impact on the environment in establishing a Joint Venture that will provide mitigation to initially stop the nutrient enrichment arising from new overnight accommodation worsening the water quality in the Wensum SAC and Broads SAC and provide headroom for development to proceed.
- 7.18 In due course it is envisaged that Biodiversity Net Gain (due to become a requirement in November 2023), carbon credits and potentially water neutrality measures could be delivered through the Joint Venture.
- 7.19 **Crime and Disorder – None**

7.20 **Other Risks**

There is a reputational risk for the Council. A Joint Venture between Anglian Water and the councils provides a trusted brand that developers can be confident in. However, whilst the risk has been assessed as low there could be a reputational risk for the Council if the Joint Venture ran into difficulties.

8 **Conclusion**

- 8.1 Protecting the natural environment in our rivers and Special Areas of Conservation remains a priority. However, the nutrient neutrality constraints that have been placed on the council present a huge barrier to growth and addressing some the wider social and economic challenges.
- 8.2 A solution needs to be found swiftly that meets the local requirements without creating a further uncertainty across the wider region.
- 8.3 The proposed Joint Venture with Anglian Water and the other local authorities that have been significantly affected by nutrient neutrality will enable the hold on many planning applications to be released in the short term.

9 **Recommendations**

- 9.1 It is recommended that the Panel advises Cabinet to:
 - 1. Enter a Joint Venture (a company limited by guarantee) with Anglian Water and one or more local authorities in Norfolk for the provision of environmental credits (initially focussing on addressing nutrient neutrality) as per the attached Heads of Terms.
 - 2. To commit £30,000 revenue in 2023/24 as part of establishing the Joint Venture. The purpose of the funding being to establish the operating model in year one, after which there will be full recovery of the operating costs as part of the credit income.
 - 3. Delegate to the Director of Place in consultation with the Leader of the Council to finalise the details and enter the joint venture arrangement.
 - 4. To loan £150,000 revenue from the Environmental Projects Reserve as seed funding in 2022/23 for the Joint Venture to be repaid with interest within 2 years from the establishment of the Joint Venture.
 - 5. Delegate to the S151 Officer in consultation with the Portfolio Holder for Finance to finalise the details of the seed funding and repayment mechanism

Appendices

1. Draft Heads of Terms

Background papers

Assessment of potential governance models by Birketts LLP

NORFOLK ENVIRONMENTAL CREDITS LIMITED

Members' Agreement / Articles of Association - Term Sheet

No.	Term	Proposal
1.	Company Name	NORFOLK ENVIRONMENTAL CREDITS LIMITED
2.	Trading Name	Same as registered name – see above.
3.	Type	Company limited by guarantee
4.	Registered office address	c/o Birketts LLP, Kingfisher House, 1 Gilder's Way, Norwich NR3 1UB
5.	Financial Year	12 months from the month end when the company is registered
6.	Business of the JV Co	<p>The JV Co will:</p> <ul style="list-style-type: none"> - buy environmental mitigation and sell environmental credits - provide an effective portfolio of projects to help mitigate the impact of nutrient enrichment arising from additional housing development; - oversee the creation, accreditation and monitoring of a range of large-scale mitigation measures; - work with local authorities who will be the "Competent Authority" under The Conservation of Habitats and Species Regulations 2017 for the purposes of nutrient neutrality - Work with organisations who are acting as the "Responsible Body" under the Environment Act 2021 for the purposes of biodiversity net gain, including ensuring "Conservation Covenants" and the means of enforcing them are in place, if necessary; and - source and deliver other environmental credits as and when opportunities arise in the future.

7.	Business Plan	Each year the JV Co shall produce an annual business plan, a draft of which shall be circulated at least 2 months prior to the start of the next financial year.
8.	Membership guarantee	Each member shall give a guarantee of £1.
9.	Members	<p>(1) Anglian Water</p> <p>x5 Local Authorities:</p> <p>(2) South Norfolk Council</p> <p>(3) Breckland Council</p> <p>(4) North Norfolk District Council</p> <p>(5) Broadland District Council</p> <p>(6) Norwich City Council</p>
10.	Membership voting	<p>When decisions are put to the members:</p> <ul style="list-style-type: none"> - Anglian Water shall be entitled to the same number of votes as the number of local authority (LA) members. - Each LA shall be entitled to 1 vote.
11.	Initial funding	<p>2022/23: initial revenue seed funding of c£150k via a loan to be sourced, potentially from a single LA.</p> <p>2023/24: Each member to make an initial revenue loan to the JV Co as follows:</p> <p>(1) Anglian Water: £150k</p> <p>(2) South Norfolk Council: £30k</p> <p>(3) Breckland Council: £30k</p> <p>(4) North Norfolk Council: £30k</p> <p>(5) Broadland District Council: £30k</p> <p>(6) Norwich City Council £30k</p> <p>Term of loans tbc but, will need to be on arms' length terms:</p> <ul style="list-style-type: none"> - Loan amount: see above - Term: 1 year for initial revenue loan - Interest: no interest would be payable on the initial revenue loan, other loan arrangements

		<p>(including the seed funding) to be negotiated on a case-by-case basis.</p> <ul style="list-style-type: none"> - Repayment: conditional upon the JV Co having sufficient funds <p>Events of default: If the loan cannot be repaid in year one, repayment will be sought in future years. If the loan cannot be repaid the money would be written off.</p> <p>Further loans (including capital funding) may be made by any of the parties or third parties to the JV Co with terms to be agreed on a case-by-case basis by the members.</p>
12.	Future investments	No member is <u>required</u> to make further loans in the JV Co
13.	Directors	<p>Anglian Water shall have the right to appoint two directors.</p> <p>The Norwich based LAs (Broadland District Council, South Norfolk Council and Norwich City Council) shall have the right to appoint one director.</p> <p>The non-Norwich based LAs (i.e. North Norfolk District Council and Breckland Council) shall have the right to appoint one director.</p> <p>Each of the LA appointments shall be decided by a majority of the relevant LAs.</p> <p>Any member which does not have a director appointed shall be entitled to have an observer attend board meetings.</p> <p>A director will not be able to appoint an alternate.</p> <p>The appointment of any additional directors must be approved as set out in the Reserved Matters below.</p> <p>It is not anticipated that a Managing Director will be appointed at this stage.</p>
14.	Secretary	Secretarial support will be sought for the duties / administration of the JV Co, including maintaining a current list of members and directors, this person will not be designated as a Company Secretary.

15.	Board Meetings	Board meetings shall be held no less than 4 times per annum and no meeting shall take place more than 3 months after the previous meeting. Remote attendance permissible. It is envisaged that in the first year further Board meetings are going to be required. Third parties – including Natural England, Environment Agency, Department of Levelling Up, Housing and Communities representatives would also attend the Board by invitation for certain items.
16.	Director voting powers	Wherever possible a unanimous decision will be sought, thereafter decisions will be reached by majority. If voting is still tied the casting vote will rest with the local authority directors who are present.
17.	Quorum	Each board meeting shall be attended by: A majority of the directors (including at least one director appointed by Anglian Water).
18.	Chairman	Chairing of the Board meetings to oscillate between Anglian Water and a local authority representative on the Board. A chairman shall not be appointed in addition to the Directors referred to above. The chairman will agree the agenda and business for the Board. Any director shall be entitled to chair a board meeting. The chairman shall not have a casting vote.
19.	Conflicts	Each director shall be required to declare any conflicts he/she might have, both situational (i.e. each LA director will have an inherent conflict on the basis that nutrient neutrality impacts planning and any mitigation measure is intended to influence the LPA) and transactional (e.g. where AW is presenting a mitigation measure, the AW director(s) will be conflicted). Any director with a private, personal or direct financial conflict on an item shall declare it and be entitled to count in the quorum of a board meeting but not included in the discussion and vote itself on

		any of the items where the private, personal or direct financial conflict exists.
20.	Reserved Matters (requiring consent of members and/or board of directors)	<p><u>Part 1 – matters requiring the consent of a majority (including AW) of the members:</u></p> <ul style="list-style-type: none"> - amending the JV Co's articles of association - altering any rights of membership - permitting registration of a new member otherwise than in accordance with the Members' Agreement or articles of association - the Credits Allocation Policy (CAP) setting out the criteria on which environmental credits will be allocated (and until such time as the CAP is agreed, no credits can be allocated) - the appropriate assessment of the mitigation to be provided - appointing/removing a director - approving the annual business plan <p><u>Part 2 – matters requiring the consent of a majority of the board including at least one AW director</u></p> <ul style="list-style-type: none"> - changing the JV Co's name / trading name(s) or registered office - ceasing to trade or changing the nature of the JV Co's business - conducting the business otherwise than in the ordinary course and on an arm's length basis - selling or disposing of the JV Co's business (whole or part) - entering into any contract above £500,000 and for any proposed contract of a value between £250,000 and £500,000, the board shall be notified with a one week notice period to call a vote to approve such contract - introducing any benefit plan for the directors/employees - employing anyone whose salary is greater than £50,000

		<ul style="list-style-type: none"> - increasing remuneration of an employee above £5,000 - creating any encumbrance over the business - incurring borrowing above £500,000 - making any extraordinary loans - merging with or acquiring another company or business - entering into any form of insolvency procedure (e.g. administration, liquidation etc) - [others?]
21.	Directors' pay	No Directors of the company will be paid.
22.	Dividend policy	Dividends cannot be declared as the JV Co is limited by guarantee
23.	Accountant / auditor	The Company shall appoint an organisation to provide financial support, an accountant and auditor supplier(s) TBD
24.	Tax	<p>The Company shall be liable to pay corporation tax on profits. Although it envisaged that the JV will not be making a profit, any surplus will be reinvested.</p> <p>The Company shall be liable to pay PAYE and employer NICs in respect of any employees.</p>
25.	VAT	The Company shall [not] be registered for VAT and VAT shall [not] be charged on Environmental Credits sold. VAT position to be confirmed by specialist advisors]
26.	Information rights	<p>Members will be provided with:</p> <ul style="list-style-type: none"> - monthly management accounts - audited accounts no later than 4 months after the end of the relevant financial year - access to trading and financial information, books and records <p>Final details to be confirmed as part of the contracted accountancy service.</p>

27.	Membership transfers	<p>Membership shall be transferable only in specific circumstances:</p> <ul style="list-style-type: none"> - members only permitted to transfer membership in accordance with the terms of the Members' Agreement and/or Articles of Association - membership may be transferred to any person with consent of <u>all</u> members - outgoing member ceases to have the right to appoint a director
28.	Deed of adherence	Any new member will be required to enter into a deed of adherence to be bound by the terms of the Members' Agreement
29.	Membership termination	<p>A membership will be terminated in the following circumstances:</p> <ul style="list-style-type: none"> - persistent/material of the Members' Agreement and/or Articles of Association - breach of restrictive covenant given in favour of the JV Co - if a member ceases to exist.
30.	Drag and tag rights	<p>A minority member may be "dragged" (i.e. forced to sell its membership) if 80% or more of members wish to sell the JV Co</p> <p>If there is a change of control of the JV Co (i.e. 50% or more of the memberships are sold to a third party) a minority member should be able to "tag" along and receive the same offer for its membership]]</p>
31.	Intellectual property	<p>All intellectual property (IP) created by the JV Co shall belong to the JV Co.</p> <p>Anglian Water and the local authorities will have their own IP which they will bring into the JV Co and which will remain their property.</p>
32.	Restrictive covenants	No member may have any involvement in a similar or competing business whilst they are a member and for 24 months thereafter

33.	Confidentiality	Each member shall be subject to standard confidentiality provisions although they shall be permitted to share information internally and/or with other public authorities and government departments to the extent required in order to promote the success of the business and to progress developments around nutrient neutrality, biodiversity net gain and other environmental opportunities
34.	Termination	The Members' Agreement will terminate upon the following: <ul style="list-style-type: none"> - winding up of the JV Co - JV Co entering into insolvency procedures - an exit i.e. a sale or listing
35.	Dispute Resolution / Deadlock	In the event of a dispute arising between any of the members: <ul style="list-style-type: none"> - first, the members in dispute shall seek to resolve such dispute in good faith - second, member voting shall be applied in order to try to resolve the dispute, including the application of a casting vote, which would be based on the majority decision of the local authority members. - third, if the issue cannot be resolved and impacts on the JV Co then with the agreement of the parties the matter shall be referred to mediation
36.	Winding Up	On a solvent liquidation (members voluntary liquidation), the surplus assets (after first settling any outstanding liabilities including the repayment of member loans) shall be appointed to another business with a similar purpose, which is common for charity operating through a company limited by guarantee.
37.	FCA Regulation	Not to be progressed.
38.	Procurement	The JV Co will be required to comply with any procurement laws and regulations.

39.	OTHER	None
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DRAFT

Agenda Item: 5
Communities, Housing and Planning Policy Development Panel
4 January 2023

Greater Norwich Local Plan Gypsy and Traveller Sites Focused Consultation Report

Report Author(s): Mike Burrell
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Portfolio: Policy, and Communities, Housing and Planning

Ward(s) Affected: All

Purpose of the Report:

This report seeks a recommendation for Cabinet approval to undertake a focused public consultation on the allocation of Gypsy and Traveller sites in the Greater Norwich Local Plan (GNLP). The consultation includes 10 favoured sites, a reasonable alternative site, proposed changes for the submitted contingency site and 3 unreasonable sites. It also provides the opportunity for people to put forward additional sites for Gypsy and Traveller accommodation.

The consultation is scheduled to take place from 30th January to 13th March 2023 with the opportunity for Cabinets to agree the final sites in early June prior to final site information and representations being sent to the inspectors later in June. The GNLP examination hearings sessions on Gypsies and Travellers sites are expected to take place in late July.

It is anticipated that the inspectors will subsequently include Gypsy and Traveller sites in their main modifications to the GNLP. The main modifications are expected to be consulted on in early Autumn 2023 allowing the inspectors to produce their report on the plan before the end of 2023 and adoption to take place early in 2024.

Recommendations:

It is recommended that the Communities, Housing and Planning Policy Panel advises that Cabinet:

1. Approves the focused consultation on the Greater Norwich Local Plan proposed allocations for Gypsy and Traveller sites; and
2. Agrees to delegate authority to the Assistant Director – Planning, in consultation with the Leader and Portfolio Holder for Communities, Housing and Planning, to agree consultation documentation and materials prior to the public consultation.

1. Summary

- 1.1 In resolving to submit the GNLP for independent examination the Council agreed to *“proactively identify and bring forward sufficient Gypsy and Traveller sites to meet identified needs in accordance with the criteria-based policies of the current and emerging Development Plans”*.
- 1.2 During the GNLP hearing sessions in February/March 2022 it was made clear that Gypsy and Traveller accommodation needs must be addressed through site allocations in the plan. This is in accordance with the expectations set out in paragraph 68 of the National Planning Policy Framework ([NPPF](#)) and allied guidance specifically for Gypsies and Travellers in Planning Policy for Travellers Sites ([PPTS](#)) (2015).
- 1.3 No potential Gypsy and Traveller sites were submitted to the GNLP for consideration prior to its submission for independent examination. Subsequently, officers have undertaken an extensive process of proactive engagement and site assessment to identify suitable allocation sites.
- 1.4 This report seeks Cabinet agreement to undertake a Focused Consultation on the sites which have been identified from this work. Furthermore, to ensure that the best and most appropriate sites are chosen, the consultation gives landowners a further chance to submit land for inclusion in the GNLP, but this will be strictly limited to the promotion of Gypsy and Traveller sites.
- 1.5 Following the close of the consultation the GNLP team will process and analyse the responses received and finalise the favoured site allocations for consideration at Cabinets in June. The finalised sites information and representations will be provided to the inspectors and published. The sites will then be subject to additional hearing sessions in late July, with the outcome being the subject of main modifications to the plan.
- 1.6 The main modifications are expected to be consulted on in Autumn 2023 with adoption planned for early 2024.

2. Background

- 2.1 Policy regarding the provision of Gypsy and Traveller sites is set out in the NPPF. Paragraph 68 states that local plans should include specific deliverable sites for years 1 to 5 of the plan period and developable sites for

years 6-10 and where possible years 11-15. Allied guidance to the NPPF specifically for Gypsies and Travellers is in the PPTS. This makes the same point at paragraph 10 about local plans having '*specific deliverable sites sufficient to provide 5 years-worth of sites against their locally set targets... [and] specific, developable sites, or broad locations for growth, for years 6 to 10 and, where possible, for years 11-15*'.

- 2.2 The PPTS also contains a definition of Gypsies and Travellers for planning purposes which focuses on people who continue to lead a nomadic lifestyle. This is known as the PPTS need, as opposed to the full need, which is referred to as the ethnic need.
- 2.3 While the PPTS does not require allocations to meet the needs of Gypsies and Travellers who have ceased to travel, a very recent Court of Appeal decision (dated 31st October 2022) has found that this distinction can discriminate against ethnic Gypsies and Travellers, in particular the disabled and elderly who are unable to travel.
- 2.4 The councils must decide how many Gypsy and Traveller pitches are required ('the need') by gathering evidence, which is then tested as part of the independent examination of the plan. Evidence has been produced by RRR Consultancy on behalf of the councils and is available online as [B8.3](#). This most recent Gypsy and Traveller Accommodation Assessment (GTAA) identifies a potential need in the Greater Norwich area for 50 residential pitches to meet the total ethnic need. Since the evidence was completed, the additional capacity to be provided through refurbishment work at the existing site at Swanton Road site in Norwich has been reduced by 3 pitches. As a result of this reduced commitment, 53 additional pitches will be needed.
- 2.5 In order to provide some flexibility and choice and to minimise the risks of non-delivery and any implications of the Court of Appeal decision, favoured sites should be identified for consultation which are capable of delivering at least the minimum number of pitches required to meet the ethnic definition in the earlier years of the plan. A criteria-based policy set out within Policy 5 of the plan provides the potential for further windfall sites to come forward in suitable locations which could meet needs in the later years of the plan. These windfall pitches also provide additional flexibility.
- 2.6 No sites for Gypsies and Travellers were submitted for allocation through the GNLP plan-making process between 2016 and its submission in July 2021. Therefore, the GNLP as submitted does not contain any Gypsy and Traveller site allocations.
- 2.7 In considering the submission of the GNLP back in July 2021 the Council resolved specifically to "*commit to proactively identify and bring forward sufficient Gypsy and Travellers sites to meet identified needs in accordance with the criteria-based policies of the current and emerging Development Plans*". The purpose of this was to allow the Gypsy and Traveller accommodation issue to be addressed through the examination hearings without adding undue additional delay to plan adoption.

- 2.8 The GNLP was submitted for examination by inspectors on 30th July 2021. Their role is to undertake an independent assessment of the overall “soundness” of the plan and to verify that it satisfies the relevant statutory and regulatory requirements for its preparation. As part of the submission of the plan, the councils formally requested that the appointed inspectors recommend such modifications to the plan as may be necessary to ensure legal compliance and soundness in accordance with Section 20 (7C) of the Planning and Compulsory Purchase Act 2004 (as amended).
- 2.9 Public hearings took place in February and March 2022, with further sessions on the outstanding issues of nutrient neutrality and the housing trajectory to be reconvened in late March 2023 and on Gypsies and Travellers in late July 2023.

3. Examination process January 2022 to present

- 3.1 The partnership wrote to the inspectors on 4th January 2022 ([D5.4](#)) in relation to the Part 1 Matters Issues and Questions to seek advice on how to progress the issue of Gypsies and Travellers through the examination. The inspectors responded on 19th January 2022 ([D5.4A](#)) with the view that any sites identified would need to be subject to dedicated public consultation and examination, with any modifications necessary for soundness to be incorporated into any main modifications. This view was offered without prejudice to discussions to take place during the hearing sessions.
- 3.2 During the GNLP hearing sessions in February/March 2022 the inspectors indicated that they would require Gypsy and Traveller accommodation needs to be addressed through site allocations in the plan in accordance with the expectations set out in paragraph 68 of the NPPF.
- 3.3 Following the hearing sessions officers from the GNLP team undertook further work to identify Gypsy and Traveller allocations. A report was written for consideration by Cabinets in July 2022 which identified three potential sites for consultation at Wymondham Recycling Centre, the Costessey Contingency Site and Cawston. Consultation was anticipated to take place from 25th July to 7th September 2022. Norwich City Council Cabinet supported undertaking the consultation at its meeting on 6th July. South Norfolk did not do so at its meeting on 11th July and as a result Broadland did not take the matter to their Cabinet meeting. Since decisions on the GNLP must be unanimous this meant the focused consultation on Gypsy and Traveller sites could not take place as anticipated. South Norfolk’s concerns centred around the nature of the consultation and specific issues in relation to the proposed Costessey site.
- 3.4 Since July a number of letters have been exchanged between the partnership and the inspectors regarding the issue of Gypsy and Traveller sites to

establish the most appropriate way forward. These can be found in section [D5.4](#) of the GNLP website

4. The current position

- 4.1 The inspectors' most recent letter ([D5.4G](#)) provides the timetable for the rest of the examination as referenced in this report, making it clear that strict adherence to this timetable is critical to the timing of the modification stage and the adoption date of the plan. It also requested a response on whether the partnership will update its evidence on Gypsy and Traveller needs in the light of the Court of Appeal decision.
- 4.2 The partnership's response (document [D5.4H](#)) stated that the assessment of Traveller site needs would be reviewed in the light of the legal decision through an addendum to current evidence which would make clear how the needs of those who have ceased to travel for reasons of age or infirmity are to be dealt with. It explained that the addendum would be provided by the consultancy which produced the Greater Norwich Gypsy and Traveller Accommodation Assessment by early December.
- 4.3 The response also stated that legal advice has been commissioned on this issue.
- 4.4 Officers have undertaken a process of extensive proactive engagement and site assessment to identify suitable allocation sites over recent months. This includes:
 - Officers have contacted local agents and development promoters asking them to bring forward any options where there are willing landowners. Agents Brown & Co have been commissioned to contact landowners on behalf of the Partnership.
 - All GNLP new and carried forward residential, employment and mixed use allocations have been reviewed to see if any of them have potential to accommodate Gypsy and Traveller pitches.
 - A review of publicly owned land options has been done.
 - The Norfolk and Suffolk Gypsy, Roma and Traveller Service has been commissioned to engage with the Gypsy and Traveller community on the partnership's behalf.
- 4.5 All the sites identified have been assessed in a standardised manner. It is important to have clear criteria to assess all the Gypsy and Traveller sites, to apply the methodology consistently and to include the findings in public consultation. This process ensures that sites are selected or ruled out on their planning merits and that unsuitable sites are ruled out at an early stage. The assessment criteria were provided to the inspectors as part of the letter dated 2 September (D5.4D). They are based on the Housing and Economic Land Availability Assessment (HELAA) criteria that the partnership used to assess all potential development sites with adjustments for specific issues that Gypsy and Traveller sites raise such as the manoeuvring of trailers and

caravans and the vulnerability of people living in caravans during flood events.

5. Proposed action

- 5.1 It is proposed to undertake public consultation on potential Gypsy and Traveller sites for allocation in the GNLP between 30th January and 13th March 2023. It is crucial that the consultation takes place between these dates so that it is closed prior to the purdah period for the local elections in May.
- 5.2 As set out above, the evidenced requirement is for 53 pitches to meet total need under the ethnic definition of Gypsies and Travellers. Sites in the planning applications pipeline have been taken account of in the evidenced need.
- 5.3 In line with the national policy requirements identified in paragraph 11 above, a minimum of 31 pitches would need to be provided through site allocations within the initial 5-year period from April 2022 to March 2027. Ten pitches would need to be provided as either site allocations or by the identification of broad locations for sites between April 2027 and March 2032. Greater flexibility is possible over provision for the remaining years of the plan to 2038, and windfall could play a role here.
- 5.4 Work on the evidence of need to reflect the implications of the Court of Appeal decision is ongoing but the current advice is that the need should be derived from the ethnic population rather than the PPTS. The very recent appeal court decision suggests that providing sufficient pitches to meet ethnic need will de-risk the examination and reduce the potential for legal challenge. Legal advice has confirmed that this is the case.
- 5.5 As a result of the above, the intention is to consult on 10 favoured sites along with a reasonable alternative site and the potential opportunity provided by a proposed change to the submitted housing contingency site as follows:

Table 1: Favoured Sites			
Reference	Address	Pitches	Pitches Delivered years 1 to 5
GNLP5004	Land off Buxton Road, Eastgate, Cawston	4	4
GNLP5005	Land at Strayground Lane, Wymondham Recycling Centre	2	0
GNLP5009	Land off Hockering Lane, Bawburgh	6	6
GNLP5014	A47 North Burlingham Junction	15	15

GNLP5019	Land north of Shortthorn Road, Stratton Strawless	4	4
GNLP5020	Romany Meadow, The Turnpike, Carleton Rode	6	6
GNLP5021	Land at the Old Produce Shop, Holt Road, Horsford	6	6
GNLP5022	Land at the Oaks, south-east of Letter Box Cottage, Reepham Road, Foulsham	5	5
GNLP5023	Land off Strayground Lane, Wymondham	10	0
GNLP5024	Land off Upgate Street, Carleton Rode	4	4
Total		62	50

Table 2: Reasonable Alternative

Reference	Address	Pitches	Pitches Delivered years 1 to 5
GNLP5013	Land at Ketteringham Depot	10	0
Total		10	0

Table 3: Proposed change to Contingency Site

Reference	Address	Pitches	Pitches Delivered years 1 to 5
GNLP0581/2043	Land off Bawburgh Lane, north of New Road and east of the A47 (Costessey contingency site)	18	0
Total		18	0

- 5.6 The 10 favoured sites provide the opportunity to deliver up to 62 pitches against the overall ethnic need of 53 pitches. This provides flexibility should sites drop out and/or choice if some favoured sites are found to be unsuitable through the consultation.
- 5.7 Current expectations, as set out in the tables above, are that 50 of these pitches could be delivered in years 1 to 5 and 12 could be delivered in years 6 to 10. This would more than meet the NPPF requirements (31 pitches in years 1 to 5 and 10 in years 6 to 10). The consultation will provide further evidence on deliverability.

- 5.8 Ketteringham Depot is recommended as a reasonable alternative. It is not part of the favoured approach due to concerns over accessibility and integration with neighbouring uses, though potential remains.
- 5.9 The Costessey Contingency Site is in a highly accessible location and continues to provide an excellent opportunity if the wider contingency housing site comes forward.
- 5.10 Windfall delivered through policy 5 plus the Costessey Contingency Site could meet needs later in the plan period or could provide a buffer against non-delivery to help ensure the 53-pitch need will be met. It is anticipated that this would also meet NPPF requirements.
- 5.11 Three sites, two in Denton and one on London Road, Wymondham, were proposed through the South Norfolk Village Clusters Plan. These have been assessed as unreasonable for the reasons set out in Appendix A which provides a summary of key considerations in relation to all sites. Consultation respondents will be able to comment on the non-inclusion of these sites.
- 5.12 The existing Gypsy and Traveller Transit site at Long Lane, Bawburgh is to be retained in its current use and improved with new investment. Consequently, it does not form part of this consultation on permanent Gypsy and Traveller sites.
- 5.13 Appendix B to this report is a map showing the distribution of the favoured, reasonable alternative, contingency and unreasonable sites.
- 5.14 The Site Policies document in Appendix C of this report will be the main consultation document.
- 5.15 Detailed site appraisals in the Site Assessment Information document which is in Appendix D of this report will be available to assist consultation responses. The legally required Sustainability Appraisal and Habitat Regulations Assessments on the environmental impacts of proposed site allocations are in Appendices E and F of this report. Consultation respondents will also be able to comment on these supporting evidence documents.
- 5.16 In the interests of efficiency and continuing the successful approach taken at previous GNLP consultations, responses will be encouraged online, although written responses will also be accepted either by post or via email.
- 5.17 Publicity relating to the consultation will be undertaken in line with the Communications Protocol agreed by the Greater Norwich Development Partnership (GNDP) Board in 2017 (updated 2019). Cllr Shaun Vincent as chair of the GNDP will be the nominated spokesperson for all media. All media responses will be co-ordinated by the Broadland and South Norfolk Joint Marketing and Communications team as communications lead for the project, in liaison with other partners.

- 5.18 The GNLP has been prepared with regard to the Public Sector Equality Duty as defined by the Equality Act 2010 and this consultation represents a further positive step in meeting the Public Sector Equality Duty. Gypsies and Travellers are a key ethnic minority in the area and making specific site allocations in the plan to meet ethnic need, potentially in tandem with other sources of delivery, would give added assurance that their housing needs are being addressed in line with current requirements.
- 5.19 Following the close of the consultation on 13th March the GNLP team will process and analyse the responses received and finalise the preferred site allocations for consideration at Cabinets in June. The new council administrations formed after the May elections will need to take the decision on submitting the Gypsy and Traveller sites into the GNLP process. If this is agreed the finalised sites information and representations will be provided to the inspectors for their consideration. Hearing sessions and possible modifications to the plan will follow.
- 5.20 The main modifications are expected to be consulted on in Autumn 2023 allowing the Inspectors to produce their report on the plan before the end of 2023 and adoption to take place early in 2024.

6. Written statement

- 6.1 A [written statement](#) from the Secretary of State Michael Gove was published on 6th December 2022. A supporting letter was also sent to local planning authorities. The written statement sets out further changes to the planning system alongside the Levelling Up and Regeneration Bill which aim to “*place local communities at the heart of the planning system*”. It contains a number of commitments to consultation and a small number of clear policy statements.
- 6.2 For the Greater Norwich authorities, the main impact is likely to be on how 5-year land supply will be calculated in the future. A key statement is that “We will end the obligation on local authorities to maintain a rolling five-year supply of land for housing where their plans are up-to-date”. This means that progressing the GNLP to adoption will result in 5-year land supply requirements not applying in the area for an as yet undefined period.
- 6.3 Other measures to “*give local communities a greater say in what is built in their neighbourhood*” remain to be clarified through consultation. In general, future changes to calculating housing numbers are most likely to impact on heavily constrained local planning authorities, for example those with green belts, which are at earlier stages of plan-making. As Greater Norwich has a submitted plan, these changes are less likely to have an impact on its examination.

7. Other options

- 7.1 If a focused consultation is not undertaken on potential allocation sites for Gypsies and Travellers it will prevent the inspectors from undertaking a subsequent consultation on the modifications. Such modifications are very likely to be necessary for the soundness of the GNLP. Therefore, choosing not to agree to undertake the proposed consultation carries a strong likelihood of the GNLP being found unsound. Officers do not consider that there is evidence to justify this option as reasonable and therefore consider there are no other options to present.

8. Issues and risks

- 8.1 **Resource Implications** – The focused consultation will be undertaken within the current GNLP officer resource and covered by the existing GNLP budget.
- 8.2 **Legal Implications** – The consultation is required to ensure a sound plan and consequently relates to the regulatory framework associated with plan making. Statutory requirements for Sustainability Appraisal and Habitats Regulations Assessment are also part of this focused consultation.
- 8.3 **Equality Implications** – The GNLP has been prepared with regard to the Public Sector Equality Duty, as defined by the Equality Act 2010. This consultation represents a positive step in meeting the Public Sector Equality duty. The recent court decision on meeting needs should be taken into account in decision making.
- 8.4 **Environmental Implications** – A Sustainability Appraisal and Habitat Regulations Assessment have been undertaken alongside the site assessment process to ensure that the environmental impacts of proposed site allocations are fully understood.
- 8.5 **Crime and Disorder** – The report does not have any direct implications for the council's crime and disorder considerations.
- 8.6 **Risks** - Failure to consult on, and enable the allocation of, sufficient sites for Gypsy and Traveller accommodation is likely to carry a significant risk that the GNLP will be found unsound.
- 8.7 The timely adoption of the GNLP is an important element in ensuring that the councils continue to maintain an up-to-date development plan. This is important to ensure that the identified development needs of Greater Norwich are effectively met so that the councils can continue to give full weight to their planning policies in the determination of planning applications.

9. Conclusion

- 9.1 It is recommended that Cabinet gives approval for the Gypsy and Traveller Focused Consultation to go ahead as it forms an important part in the

examination of the GNLP. Allocating sites for Gypsies and Travellers through the main modifications to the GNLP is needed both to address identified accommodation needs and to support a sound plan.

10. Recommendations

It is recommended that Cabinet:

- 10.1 Approves the focused consultation on the Greater Norwich Local Plan (GNLP) proposed allocations for Gypsy and Traveller sites; and
- 10.2 Agrees to delegate authority to the Assistant Director – Planning, in consultation with the Leader and Portfolio Holder for Communities, Housing and Planning, to agree consultation documentation and materials prior to the public consultation.

Background papers

The documents to support the GNLP Gypsy and Traveller Focused Consultation are the:

- Site Policies document (the main consultation document -see Appendix C below)
- Site Assessment Information document (Appendix D below).
- Sustainability Appraisal of the Greater Norwich Local Plan Gypsy and Traveller Sites and Policies by Lepus Consulting (Appendix E below)
- Habitats Regulations Assessment of published Proposed Submission Greater Norwich Local Plan – Gypsy and Traveller Sites Addendum by The Landscape Partnership (Appendix F below).
- A review of new and carried forward residential, employment and mixed-use allocations which concludes that none of the allocations in the GNLP have the potential to accommodate pitches for Gypsies and Travellers (see Appendix G below).

Other documents that are part of the GNLP's examination evidence library which relate to Gypsies and Travellers are:

- [B8.1](#) Caravans and Houseboats Study, October 2017, RRR Consultancy Ltd
- [B8.2](#) Gypsy and Travellers Addendum, January 2021, RRR Consultancy Ltd
- [B8.3](#) Greater Norwich Gypsy & Traveller Accommodation Assessment Draft Report, June 2022, RRR Consultancy Ltd
- [D3.6](#) Topic Paper - Policy 5 Homes, September 2021
- [D3.7](#) Topic Paper - Policy 5 Homes - Appendices A to D, September 2021
- [D5.4](#) Inspectors' Matters Issues and Questions (Part 1) - GNLP letter on Matter 6 (Homes) Issue 3: Gypsies and Travellers, Travelling Showpeople and Residential Caravans, 4th January 2022
- [D5.4A](#) Inspectors' response letter regarding sites for Gypsies and Travellers, 19th January 2022

- [D5.4B](#) A letter from the partnership explaining the position following the July Cabinet, 26th July 2022.
- [D5.4C](#) The inspectors' response to the partnership letter of 26th July, 9th August 2022.
- [D5.4D](#) A letter from the partnership in response to the inspectors' letter of 9th August, 2nd September 2022.
- [D5.4E](#) The inspectors' response to the partnership letter of 2nd September, 14th October 2022.
- [D5.4F](#) A letter from the partnership in response to the inspectors' letter of 14th October, 17th October 2022.
- [D5.4G](#) a letter from the inspectors sent on 11th November.
- [D5.4H](#) partnership response to the above letter.

Appendix A Summary of key considerations in relation to the sites

Introduction

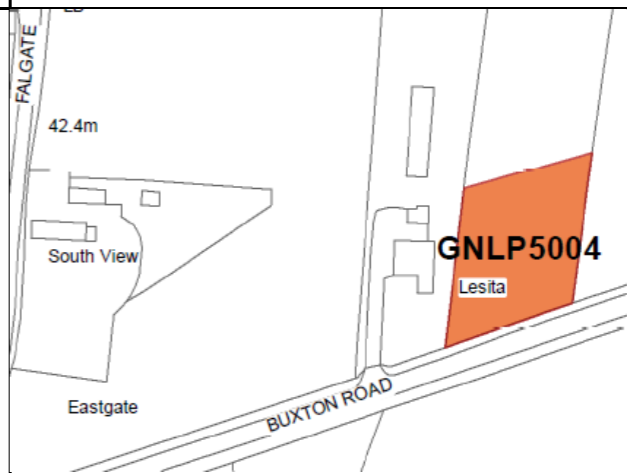

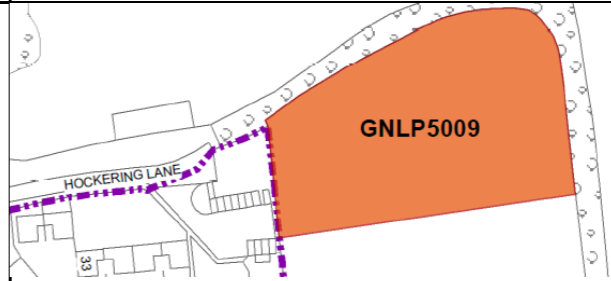
15 potential sites for Gypsy and Traveller accommodation have been assessed in detail. Three of these were promoted through the public consultation for the South Norfolk Village Clusters Housing Allocations Plan (VCHAP), with the remainder resulting from proactive engagement over recent months as set out in this report.


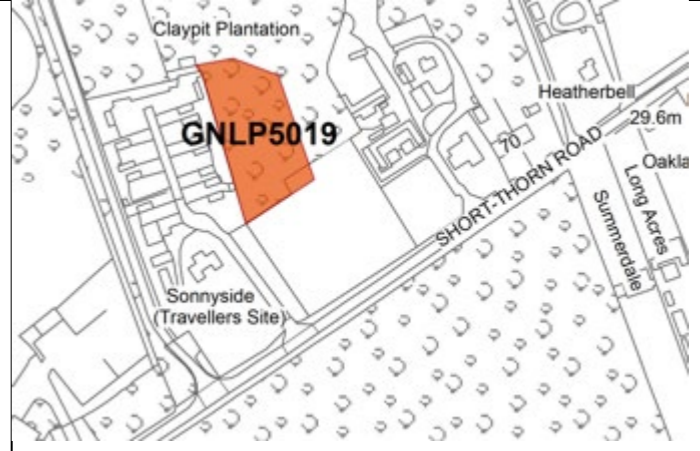

The sites have been categorised into four tables in this appendix as follows:

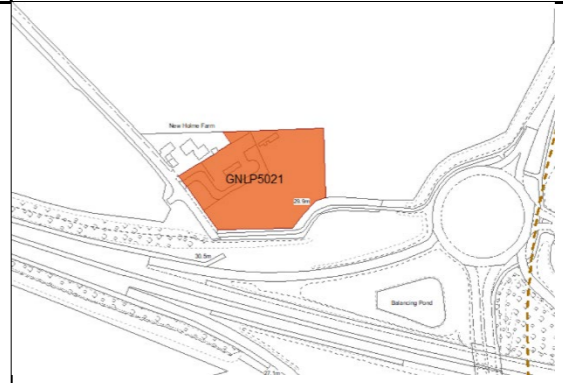
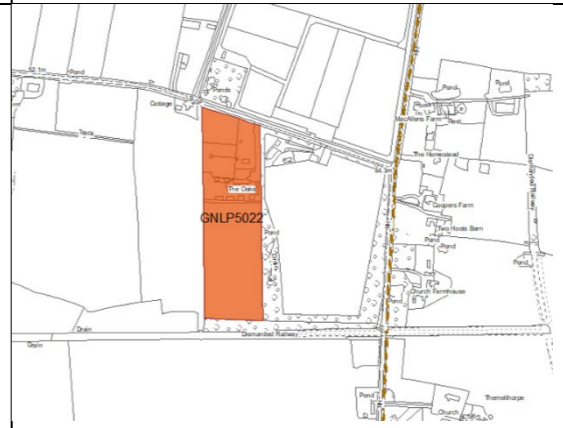
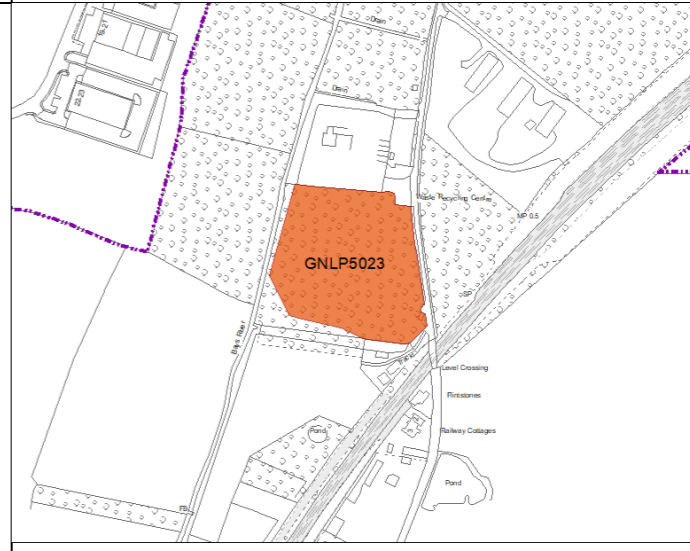
- Table 1: Favoured Sites
- Table 2: Reasonable Alternative
- Table 3: Proposed change to Contingency Site
- Table 4: Unreasonable Sites

Brief details are given for each site, along with a summary of deliverability conclusions. This assessment is based on and supported by the Site Assessment Information document (see Appendix D below).

Table 1: Favoured Sites

Site Reference	Site Address	Estimate of Pitches	Timeframe for Delivery	Opportunities and Constraints	Site Maps
GNLP5004	Land off Buxton Road, Eastgate, Cawston BROADLAND	4	3-5 years	The private landowner has sold land for a Gypsy and Traveller site in the past and is content to promote this site for Gypsies and Travellers, having previously had an appeal for a residential property on the site refused. The site is somewhat remote from services and facilities, but development could take place here within 3-5 years.	
GNLP5005	Land at Strayground Lane, Wymondham Recycling Centre SOUTH NORFOLK	2	6-10 years	Norfolk County Council intend to relocate the recycling centre and are willing to sell it as a Gypsy and Traveller site. However, the site will not be available prior to 2027. Development would be subject to investigations about possible contamination.	
GNLP5009	Land off Hockering Lane, Bawburgh SOUTH NORFOLK	6	3-5 years	The private landowner has sold land for a Gypsy and Traveller site in the past and is content to promote this site for Gypsies and Travellers. There is a Cadent gas pipeline that runs north to south through the western part of the site and this is likely to dictate that the majority of pitches would be positioned towards the middle or eastern part of the site. Other considerations are the possible landscape impacts on the River Yare, and, to a lesser extent, nearby heritage assets and the Bawburgh Conservation Area. Nevertheless, there is development potential here and a scheme could come forward in 3-5 years.	

Site Reference	Site Address	Estimate of Pitches	Timeframe for Delivery	Opportunities and Constraints	Site Maps
GNLP5014	A47 North Burlingham Junction BROADLAND	15	3-5 years	The A47 improvements will sub-divide neighbouring land and reduce its agricultural potential. They will also create new vehicular accesses. Site GNLP5014 is a 2.48 ha broad location for development with the opportunity to provide 15 pitches on 1 ha of this land and landscaping to mitigate noise from the A47 and visual impacts on the surrounding landscape. While the site is somewhat remote from services and timescales are dependent on the trunk road scheme, delivery is anticipated in years 1 to 5.	
GNLP5019	Land at Shortthorn Road, Stratton Strawless BROADLAND	4	1-3 years	This site currently comprises 9 pitches and a community building. The proposal is to submit a revised scheme for 8 pitches on an area of land that has been granted permission for 4 pitches. The proposal would expand the site to a total of 17 pitches. While somewhat remote from services, this is an existing Gypsy and Traveller site which the owners would be likely to progress quickly.	
GNLP5020	Romany Meadow, The Turnpike, Carleton Rode SOUTH NORFOLK	6	1-3 years	This site currently comprises 6 pitches and the proposal is to expand on adjacent land to provide up to an additional 6 pitches. While somewhat remote from services, this is an existing Gypsy and Traveller site on which additional pitches could come forward quickly. If approved, the Romany Meadow site would grow to a total of 12 pitches.	

Site Reference	Site Address	Estimate of Pitches	Timeframe for Delivery	Opportunities and Constraints	Site Maps
GNLP5021	Land at the Old Produce Shop, Holt Road, Horsford BROADLAND	6	1-3 years	This site currently comprises 1 pitch and the proposal is to expand it by 6 pitches within the current curtilage of the site. The land was previously a shop selling fruit and vegetables but has been a private Gypsy and Traveller site for nearly 10 years. The owner would be likely to progress this proposal quickly and if approved the site would grow to a total of 7 pitches.	
GNLP5022	Land at the Oaks, south-east of Letter Box Cottage, Reepham Road, Foulsham BROADLAND	5	1-3 years	This site currently has 2 pitches and Broadland District Council is discussing regularising all the development on the site with the landowner. The landowner wants to expand the site by 5 pitches, bringing the total number of pitches to 7. Development would need to be in the northern part of the site, as a gas pipeline runs east to west below the central part of the site. While somewhat remote from services and located next to rural roads, this is an existing Gypsy and Traveller site on which additional pitches could come forward quickly over the next 1-3 years.	
GNLP5023	Land off Strayground Lane, Wymondham SOUTH NORFOLK	10	5-10 years	The private landowner has stated that the land is available immediately and is willing to sell it as a private or publicly funded Gypsy and Traveller site. Investigations for possible contamination and ground stability will be required as part of the land was previously used as a landfill site. 10 pitches is considered to be appropriate given the highway constraints posed by the narrowness of Strayground Lane and Whartons Lane and delivery would be likely to need to be delayed until after the waste and recycling centre has closed.	


Site Reference	Site Address	Estimate of Pitches	Timeframe for Delivery	Opportunities and Constraints	Site Maps
GNLP5024	Land off Upgate Street, Carleton Rode SOUTH NORFOLK	4	1-3 years	This site currently comprises 2 pitches and the proposal is to expand within the current curtilage of the site by 4 pitches to grow the site to a total of 6 pitches. While somewhat remote from services and located next to rural roads with a bend nearby which will require further investigation and potentially mitigation, this is an existing Gypsy and Traveller site on which additional pitches could come forward quickly.	

Table 2: Reasonable Alternative


Site Reference	Site Address	Estimate of Pitches	Timeframe for Delivery	Opportunities and Constraints	Site Plan
GNLP5013	Land at Ketteringham Depot SOUTH NORFOLK	10	5-10 years	This 0.7 ha brownfield site is owned by South Norfolk District Council. It is currently used as a depot which is expected to be relocated and a Gypsy and Traveller site could be delivered over the next 5 to 10 year period. Site constraints include possible contamination, the compatibility of neighbouring uses and the distance to local services in Hethersett via a necessarily indirect route as it is not practicable to cross the A11 to the north of the site.	

Table 3: Proposed change to Contingency Site

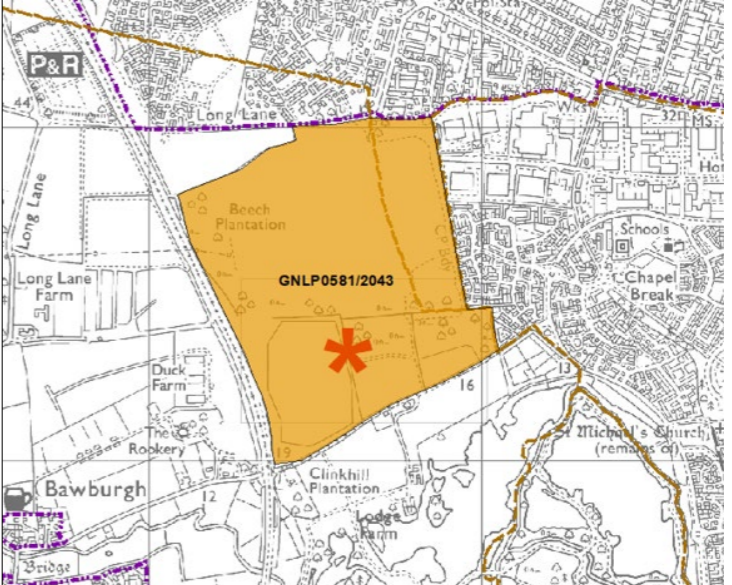

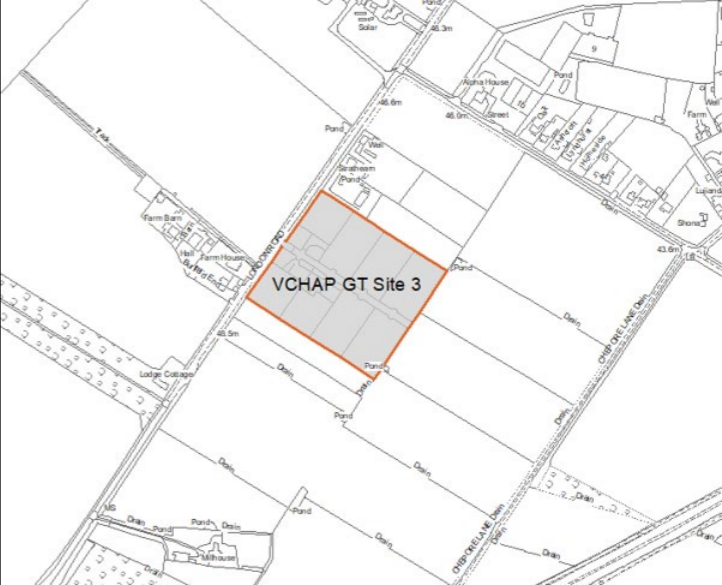
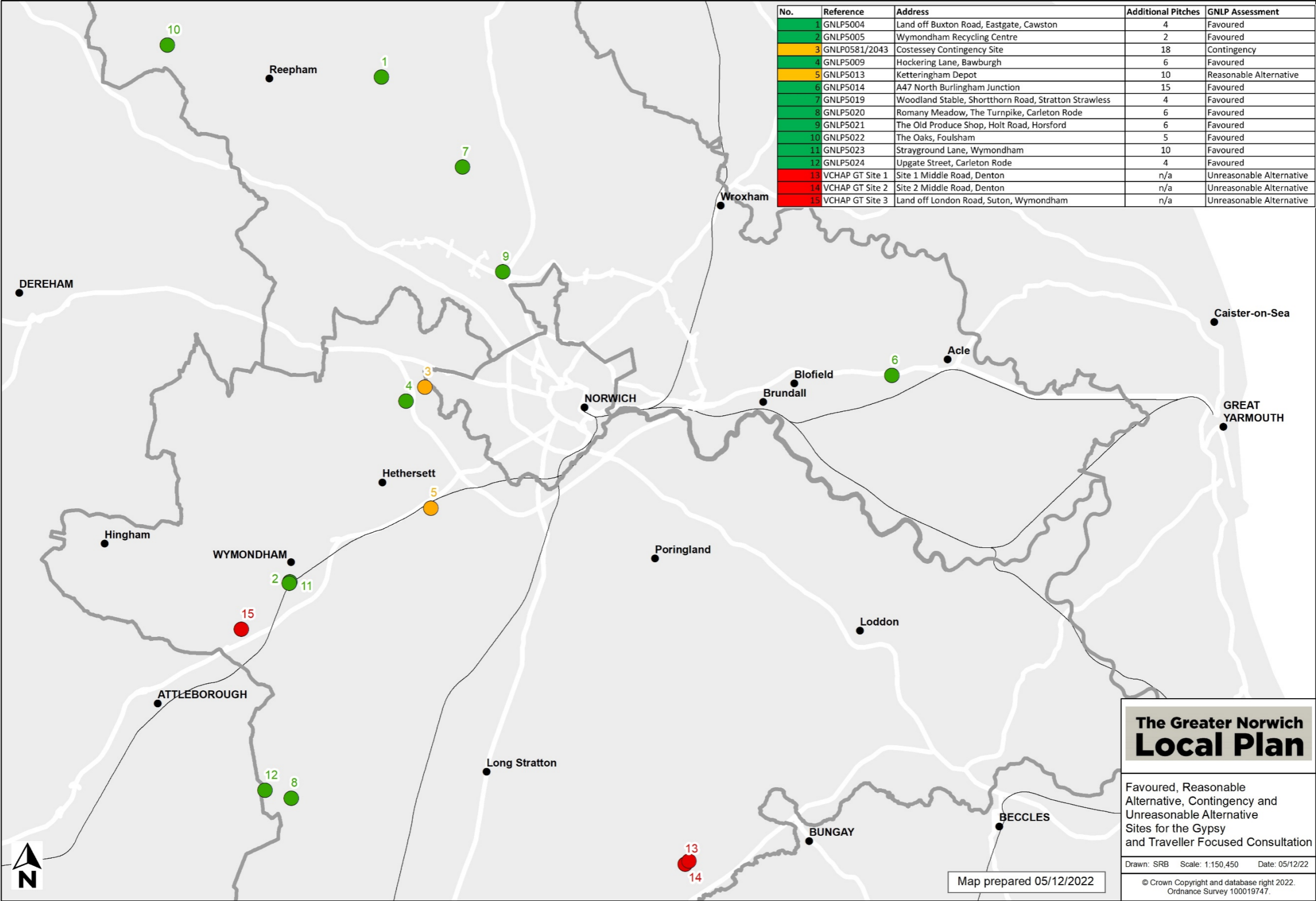
Site Reference	Site Address	Estimate of Pitches	Timeframe for Delivery	Opportunities and Constraints	Site Plan
GNLP0581/2043	Land off Bawburgh Lane, north of New Road and east of the A47 (Costessey Contingency Site) SOUTH NORFOLK	18	4-6 years	<p>A large site in Costessey is identified as a contingency site for housing in the submitted GNLP. The role of the contingency site has been discussed at the examination. The inspectors' conclusions on this have not yet been released.</p> <p>Subject to agreement from the landowners, the southern portion of the site is identified as a potential broad contingency location for a Gypsy and Traveller site (denoted by a star on the map to the right). To ensure good planning, the need for a Gypsy and Traveller site at this broad location would need to be evidenced if and when the wider contingency site for housing is brought forward for development.</p>	

Table 4: Unreasonable Sites

Site Reference	Site Address	Estimate of Pitches	Timeframe for Delivery	Opportunities and Constraints	Site Plan
VCHAP GT Site 1 VCHAP GT Site 2	Sites at Denton, Middle Road SOUTH NORFOLK	n/a	n/a	Planning constraints relate to the highway implications for Middle Road, the distance to facilities and the impact on the setting of adjacent listed buildings. These issues were cited in planning applications that were refused and appeals that were dismissed in 2004 and 2006 and continue to apply.	
VCHAP GT Site 3	Land off London Road, Sutton, Wymondham SOUTH NORFOLK	8	n/a	Planning constraints are accessibility to local services and facilities, as well as impacts on landscapes and heritage assets. These issues were tested at a dismissed appeal in 2021. The site is known as Hollyoaks and the planning reference is 20190330.	

Appendix B - Distribution Map of the favoured, reasonable alternative, contingency and unreasonable sites.



Appendix C - Site Policies

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Introduction

1. The Greater Norwich authorities (Broadland, Norwich and South Norfolk - the 'Partnership') submitted the Greater Norwich Local Plan (GNLP) for independent examination in July 2021.
2. In resolving to submit the GNLP for independent examination, the partnership councils agreed to "*proactively identify and bring forward sufficient Gypsy and Traveller sites to meet identified needs in accordance with the criteria-based policies of the current and emerging Development Plans*".
3. During the GNLP hearing sessions in February/March 2022 the inspectors indicated that they would require Gypsy and Traveller accommodation needs to be addressed through site allocations in the plan in accordance with the expectations set out in paragraph 68 of the NPPF.
4. This document responds by considering 10 favoured sites to provide permanent residential pitches for Gypsies and Travellers, 1 reasonable alternative site and an opportunity provided by proposed changes to the policy for an existing contingency site for housing development at Costessey.
5. Three sites have been submitted for consideration through the South Norfolk Village Clusters Plan which have been rejected as "unreasonable". As a result, no policies for these sites have been included in this document. However, maps for these sites are included and comments can be submitted. More information on the reasons for classifying the sites as unreasonable is in the Site Assessment Information document.
6. This consultation also provides a further opportunity for landowners to propose more sites for Gypsies and Travellers.

Context

7. The July 2021 submission of the GNLP to the Secretary of State stated that a further 64 pitches for Gypsies and Travellers will be required across Greater Norwich by the end of the plan period in 2038. Since then, the Partnership has kept its requirement under review and has continued working with RRR Consultancy ('RRR') to produce a new Gypsy and Traveller Accommodation Assessment ('GTAA') which was produced in June 2022.
8. The GTAA, with the most recent updates, shows there are 132 permanent authorised Gypsy and Traveller pitches in Greater Norwich. This consists of 98 existing authorised pitches, 24 potential sites with planning permission that will be built, 4 vacant pitches, and 6 transit pitches (although the latter are currently not occupied). Also, the 2011 Census shows there were 354 Gypsies and Travellers living in the area, representing 0.09% of the total population.

Background

9. The requirements for providing Gypsy and Traveller sites are set out in the National Planning Policy Framework (NPPF) (2021). Paragraph 68 of the NPPF sets out that local plans should include specific deliverable sites for years 1 to 5 of the plan period and developable sites for years 6-10 and where possible years 11-15.
10. The allied guidance to the NPPF specifically for Gypsies and Travellers is called the Planning Policy for Travellers Sites (PPTS) (2015). This makes the same point at paragraph 10 about local plans having '*specific deliverable sites sufficient to provide 5 years-worth of sites against their locally set targets... [and] specific, developable sites, or broad locations for growth, for years 6 to 10 and, where possible, for years 11-15*'.
11. The PPTS also contains a definition of Gypsies and Travellers for planning purposes which focuses on people who continue to lead a nomadic lifestyle, as opposed to those households who are Gypsies and Travellers by ethnic background but who have permanently ceased to travel. However, this definition was the subject of a Court of Appeal decision in October 2022. The judgment concluded that the PPTS discriminates against Gypsies and Travellers who have ceased to travel due to disability or old age. No data is currently available to fully answer the question that the court case raises as it is not possible to determine how many Gypsies and Travellers living in bricks and mortar accommodation would want to move back into a caravan, including those who have ceased to travel through age or disability. Work for the GNLP is ongoing on this issue.
12. As required by national planning policy, the Partnership has evidence showing how many Gypsy and Traveller pitches the Greater Norwich area needs. This evidence was commission from RRR. The GTAA that RRR produced found a total need for 50 residential pitches to meet the total ethnic need. This figure has since been revised to 53 pitches as more recent evidence has shown that refurbishment work at the existing Swanton Road site in Norwich will deliver 3 fewer pitches than was originally expected.
13. Using the GTAA as the evidence base and applying the most recent information about sites under construction, the need for 53 pitches to meet ethnic needs to the timescales in Table 1 below has been identified:

Table 1 Pitch Numbers for the Ethnic Need Requirement

Ethnic Requirement	Time Period	Pitches
Specific Sites for Year 1 to 5	April 2022 to March 2027	31
Specific sites or broad locations for Years 6 to 10	April 2027 to March 2032	10
Specific Sites or broad locations for Years 11-15	April 2032 to March 2037	10
Specific Sites or broad locations for Year 16	April 2027 to March 2038	2
Total		53

Meeting the Need for Pitches

14. The Partnership recognises the benefits of a plan-led approach to providing suitable sites for Gypsies and Travellers. We are consulting on a choice of possible sites so that the best available sites can be identified.

15. The very recent appeal court decision suggests that providing sufficient pitches to ensure that the full ethnic need can be met should prevent any potential unlawful discrimination. Legal advice has confirmed that this is the case. It could also provide the strongest guarantee that full needs can be met.

16. This consultation includes 10 favoured sites along with a reasonable alternative site and the potential opportunity provided by the submitted housing contingency site as follows:

Table 2: Favoured Sites			
Reference	Address	Pitches	Pitches Delivered years 1 to 5
GNLP5004	Land off Buxton Road, Eastgate, Cawston	4	4
GNLP5005	Strayground Lane, Wymondham Recycling Centre	2	0
GNLP5009	Hockering Lane, Bawburgh	6	6
GNLP5014	A47 North Burlingham Junction	15	15
GNLP5019	Woodland Stable, Shortthorn Road, Stratton Strawless	4	4
GNLP5020	Romany Meadow, The Turnpike, Carleton Rode	6	6
GNLP5021	The Old Produce Shop, Holt Road, Horsford	6	6
GNLP5022	The Oaks, Foulsham	5	5
GNLP5023	Strayground Lane, Wymondham	10	10
GNLP5024	Upgate Street, Carleton Rode	4	4
Total		62	60

Table 3: Reasonable Alternative			
Reference	Address	Pitches	Pitches Delivered years 1 to 5
GNLP5013	Ketteringham Depot	10	0
Total		10	0

Table 4: Proposed change to Contingency Site			
Reference	Address	Pitches	Pitches Delivered years 1 to 5
GNLP5007R	Costessey Contingency Site	18	0
Total		18	0

17. The Partnership is confident that allocations to meet needs can be found from its list of favoured, reasonable and contingency sites.

18. This public consultation is an important part of the plan-making process as responses could provide feedback which alters the favoured sites currently identified.

19. In addition to the proposed allocations in this consultation, windfall sites on non-allocated locations could also come forward through planning applications. Existing development management policies which are currently used to assess such applications will be supplemented by policy 5 of the GNLP on adoption of the plan.

20. From analysing past trends, the Partnership estimates that 8 pitches are likely to be built over the current 5-year period between April 2022 and March 2027 on windfall sites.

21. In combination, the supply of pitches from consultation sites and windfall pitches that are anticipated would comfortably meet the identified need for pitches under the ethnic definition of need.

Consideration of Equalities Issues

22. The GNLP has been prepared with regard to the Public Sector Equality Duty, as defined by the Equality Act 2010 and an Equalities Impact Assessment (EqIA) accompanies the submission draft of the plan (document [A10](#)).
23. This Focused Consultation is a further positive step in meeting the Public Sector Equality Duty because Gypsies and Travellers are a key ethnic minority in the area and making specific site allocations will give added assurance that this group's housing needs are addressed.

Responding to this Consultation

24. There are consultation questions for the favoured, reasonable alternative and proposed change to the contingency site, as well as the opportunity to comment on the non-inclusion of unreasonable sites. These will allow respondents to express their support or objections and to give comments. The submitted opinions and comments will be published on the GNLP website and will be used in assessing which sites are progressed as allocations.
25. Ideally, consultation responses should be submitted online at www.gnlp.org.uk. However, written responses can also be made on a response form that can be requested by telephoning 01603 306603, emailing gnlp@norfolk.gov.uk or downloading from www.gnlp.org.uk.
26. The following supporting documents provide site by site analysis. They are intended to assist respondents in commenting on issues such as access to local facilities, landscape impact and ecological impact so that the best sites are chosen and they are built out in the best possible way:
- Site Assessment Information (Appendix D for Cabinet Reports - **Insert links when available**)
 - Sustainability Appraisal of the Greater Norwich Local Plan Gypsy and Traveller Sites and Policies by Lepus Consulting (Appendix E for Cabinet Reports- **Insert links when available**)
 - Habitats Regulations Assessment of published Proposed Submission Greater Norwich Local Plan – Gypsy and Traveller Sites Addendum by The Landscape Partnership. (Appendix F for Cabinet Reports- **Insert links when available**)
27. A review of new and carried forward residential, employment and mixed-use allocations was undertaken which concludes that none of the allocations in the GNLP have the potential to accommodate pitches for Gypsies and Travellers. (Appendix F for Cabinet Reports- **Insert links when available**).
28. Please follow the links above to comment on these supporting documents.

Future Work in Allocating Gypsy and Traveller Sites

29. Following the close of the consultation on 13th March 2023 the GNLP team will process and analyse the responses received and finalise the preferred site allocations for consideration by the authorities in June 2023. The councils will then decide on submitting the Gypsy and Traveller sites into the GNLP process. If this is agreed, the finalised sites information and representations will be provided to the inspectors for their consideration. Hearing sessions and possible modifications to the plan will follow.
30. Main modifications to the GNLP are expected to be consulted on in Autumn 2023. This will provide a further opportunity to comment on selected sites and allow the Inspectors to produce their report on the plan before the end of 2023, with adoption anticipated early in 2024.

Favoured Sites

Policy GNLP5004 Land off Buxton Road, Eastgate, Cawston

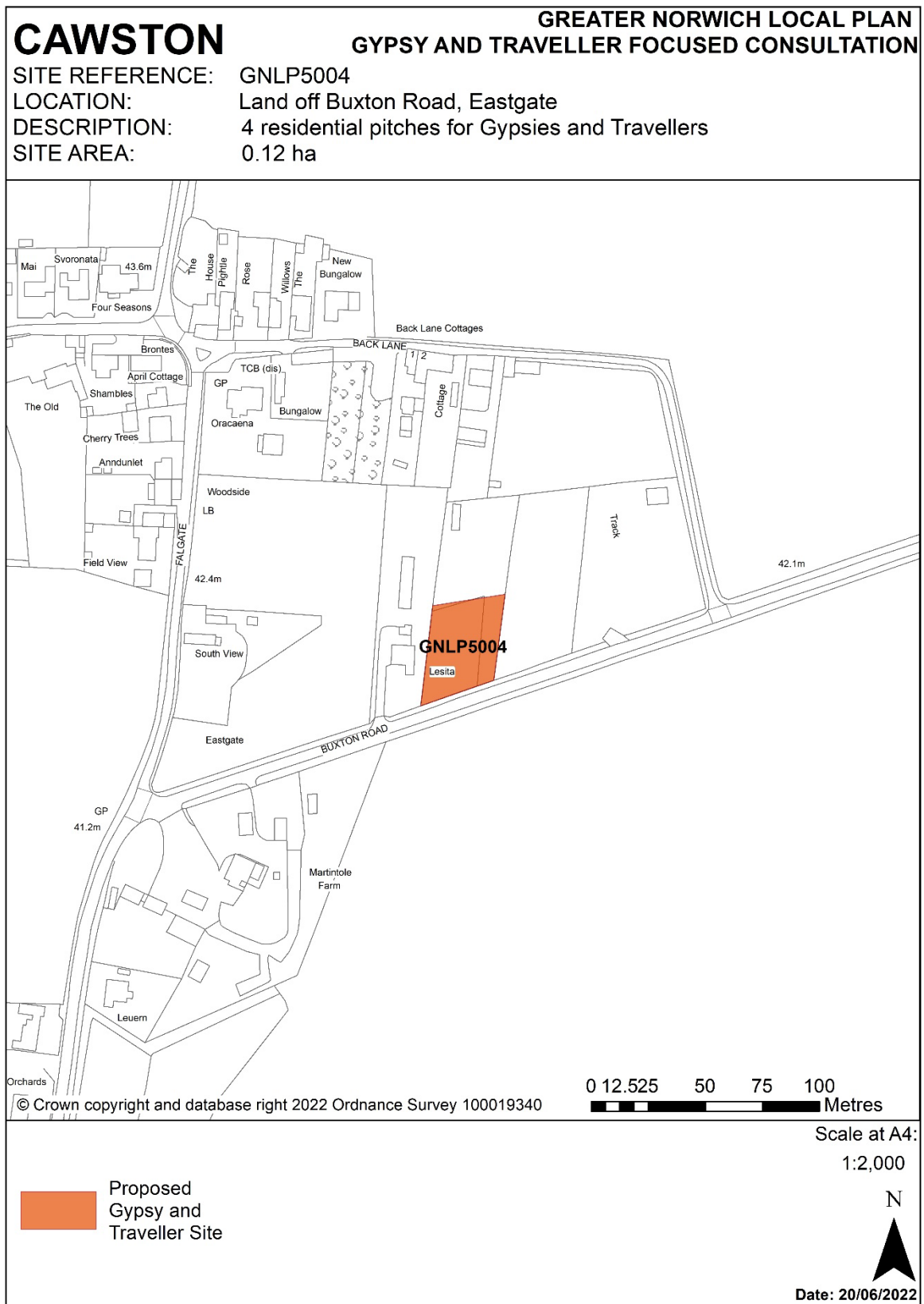
31. This privately owned greenfield site is located on the Buxton Road in the hamlet of Eastgate to the south-east of Cawston.
32. Additional landscaping is required as part of the design and layout of the scheme to enhance screening and to maintain the residential amenity of adjoining properties. An archaeological assessment is also required prior to development due to the site being close to an area of Roman settlement.

Policy GNLP5004

Land off Buxton Road, Eastgate, Cawston (0.12 ha) is allocated for a permanent residential Gypsy and Travellers site. The site will accommodate approximately 4 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be via Buxton Road. Any trees or hedgerow lost to form the access or visibility splay must be compensated for with new planting within the development.
2. Additional landscaping will be provided to enhance screening and to maintain the residential amenity of adjoining properties.
3. An archaeological assessment will be required prior to development.
4. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5005 Land at Strayground Lane Wymondham Recycling Centre, , Wymondham

33. This is a publicly owned brownfield site that is expected to become vacant due to the decision to relocate Wymondham Recycling Centre. Strayground Lane is a quiet country road that connects to the built edge of Wymondham to the north via Whartons Lane. The Bays River Meadow North County Wildlife Site is located to the north, and partly overlaps the site, and immediately to the west is an established paving business.
34. The redevelopment of this site will require local highways improvements, consideration of noise and dust from neighbouring activities, investigation of possible land contamination from previous uses, and conducting an ecological assessment prior to development due to the neighbouring County Wildlife Site.

Policy GNLP5005

Land at Strayground Lane Wymondham (0.07 ha), currently the Wymondham Recycling Centre, is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 2 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be via Strayground Lane using the existing vehicular access for the recycling centre.
2. Improvements will be required to the passing bays along Strayground Lane and an adequate visibility is required at the junction of Whartons Lane with London Road (the B1172).
3. A contaminated land assessment is required, and any mitigation must be completed prior to development.
4. An ecological assessment must be carried out and any identified impacts on nearby sites mitigated.
5. Pollution mitigation measures are required as the site is within the catchment of groundwater source protection zone (III).
6. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5009 Land off Hockering Lane, Bawburgh

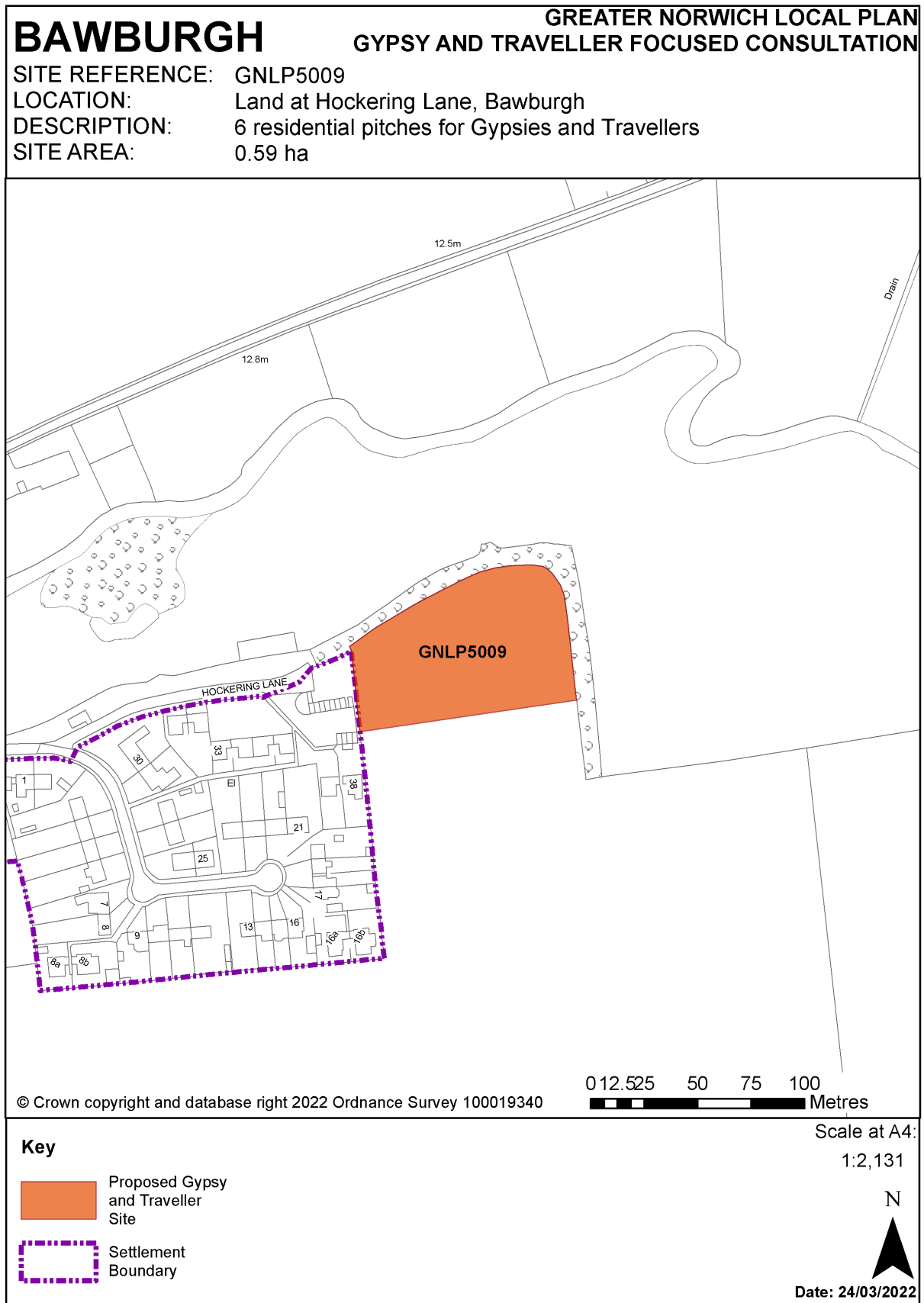
35. The is a privately owned greenfield site to the east of Hockering Lane in Bawburgh. The site, which measures 0.59 ha, is part of an agricultural field that is bounded to the north, east and west by trees and hedges, whilst the remainder of the field is to the south.
36. An issue that will affect the design and layout of the site is a Cadent gas pipeline running north to south through the western part of the site. This will limit the number of pitches that can be positioned on the western part of the site and will require engagement with the Health & Safety Executive (HSE). Other considerations are that prior to development an ecological assessment will be required due to there being potential habitats for Great Crested Newts on-site, and an archaeological investigation is needed as some prehistoric features have been identified on adjacent land.

Policy GNLP5009

Land off Hockering Lane Bawburgh (0.59 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 6 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be from Hockering Lane via a private road, therefore third-party rights of access will be required.
2. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
3. An archaeological assessment will be required prior to development.
4. Development will be designed to avoid impacts to and from the underground gas pipeline.
5. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5014 A47 North Burlingham Junction

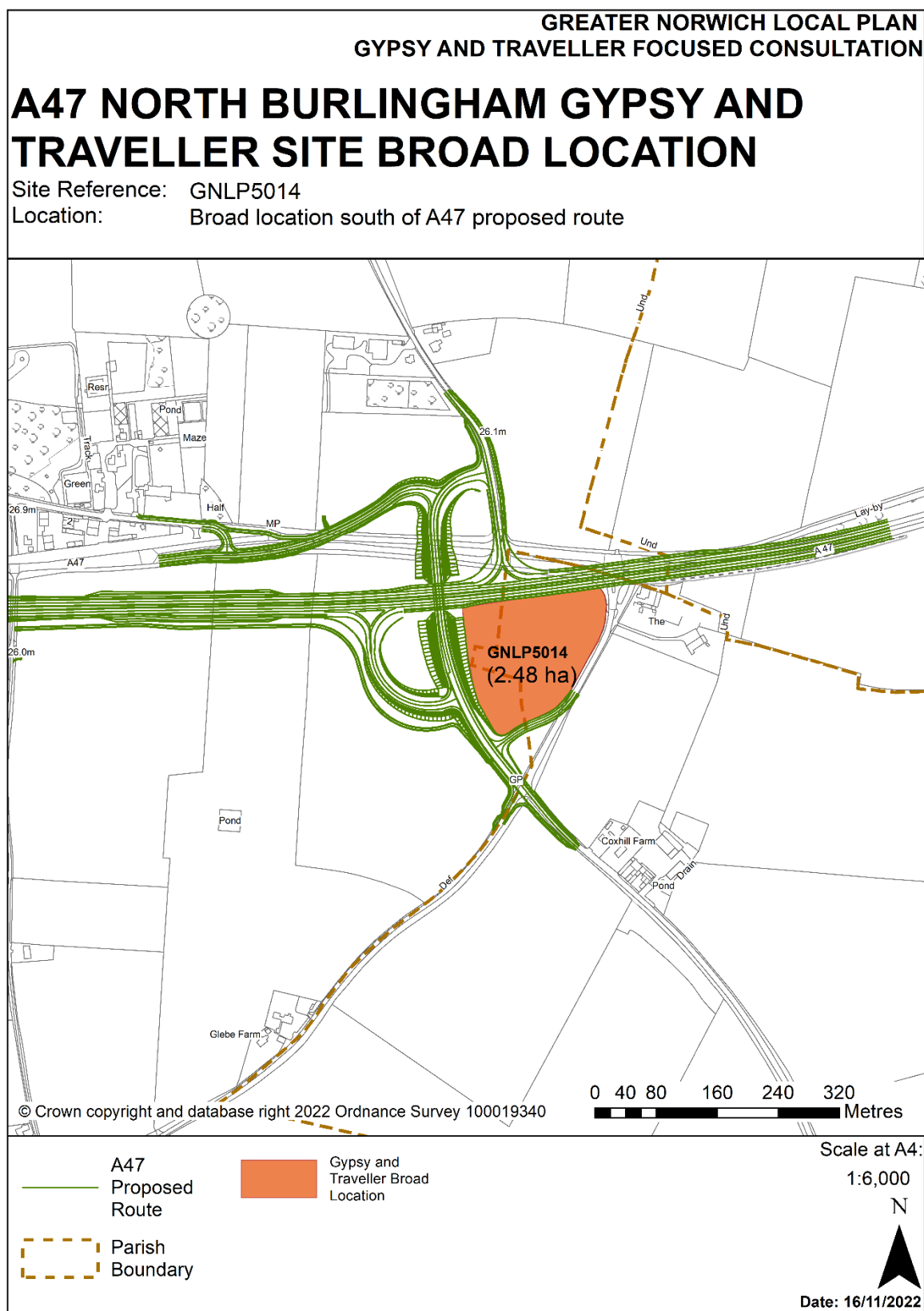
37. This is a broad location of 2.48 ha providing for a site of up to 1 hectare for approximately 15 residential pitches for Gypsies and Travellers. The land in this broad location is in public ownership which will facilitate delivery of a site once the forthcoming A47 road improvements from Blofield to North Burlingham have been completed.
38. The proximity to the A47 and its associated road improvement scheme presents noise and air quality issues that will require mitigation through the design of the development. Landscaping and tree planning will also be required to preserve the character of the surrounding area and views of non-designated heritage assets.

Policy GNLP5014

Land off A47 North Burlingham Junction is allocated as a 2.48 ha broad location for a residential Gypsy and Traveller site within which a 1 ha site will accommodate approximately 15 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be from the stopped-off road linking to the newly aligned B1140.
2. Noise and air quality investigations will be required, with provision of a layout and design that incorporates a landscape buffer to the nearby major roads and noise mitigation measures to protect residential amenity.
3. Landscaping and tree planting will be required to preserve the landscape character of the surrounding area and to protect views of non-designated heritage assets nearby.
4. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5019 Woodland Stable, Shortthorn Road, Stratton Strawless

39. This is a privately owned greenfield site which will extend a well-established privately owned Gypsy and Traveller site known as Woodland Stable located on Shortthorn Road in Stratton Strawless. The allocation of GNLP5019 will result in an expansion from the existing 9 pitches to 17 pitches in total.
40. Prior to development an ecological assessment is required due to the surrounding trees and the potential habitat for protected species.
41. The land shown as GNLP5019 already has planning permission for 4 pitches (20211657). This allocation therefore adds 4 pitches to the number already consented at Woodland Stable.

Policy GNLP5019

Woodland Stable, Shortthorn Road, Stratton Strawless (0.33 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 8 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access off Shortthorn Road that serves the Woodland Stables site.
2. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
3. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5020 Romany Meadow, The Turnpike, Carleton Rode

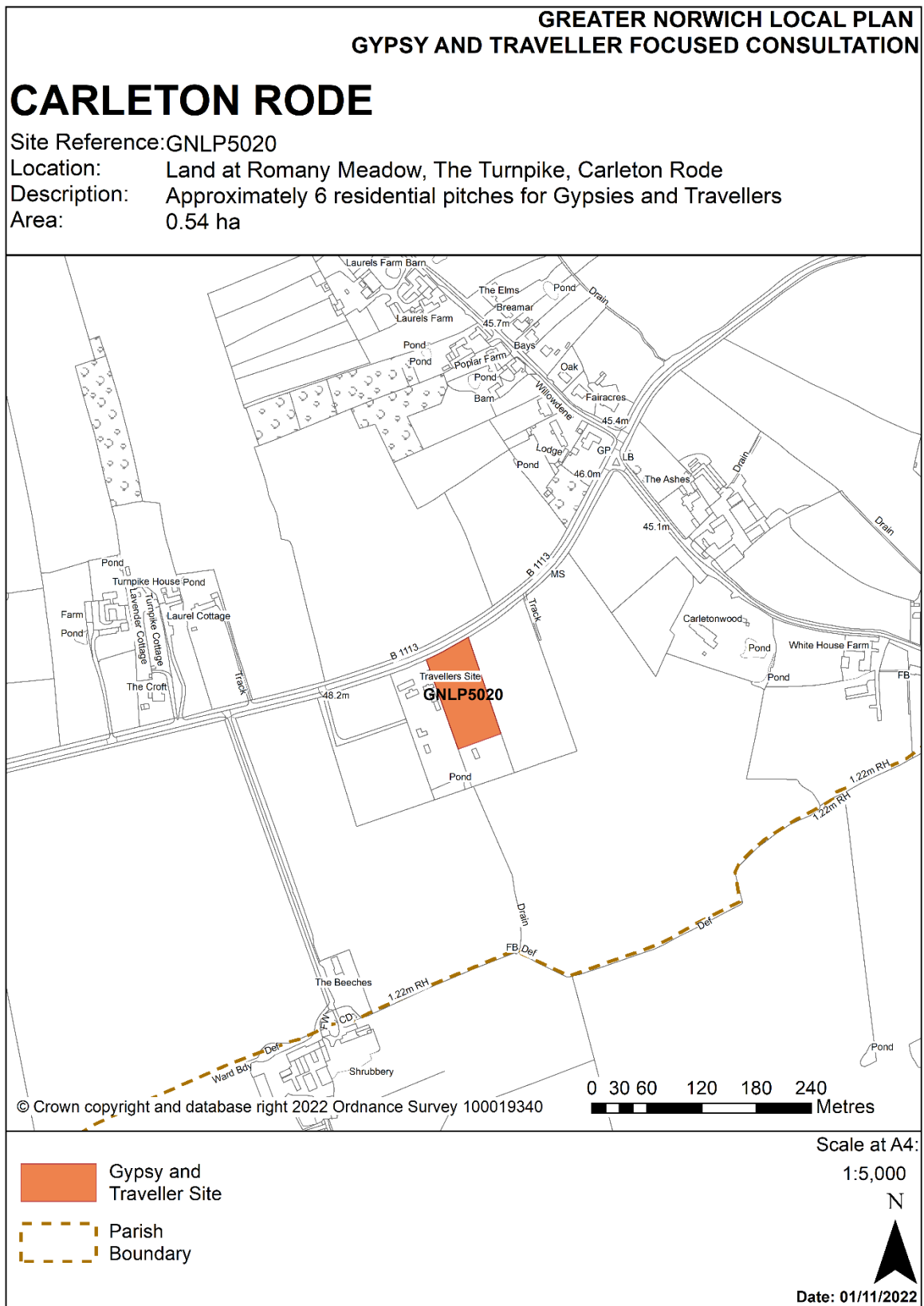
42. This is a privately owned greenfield site which will extend a well-established Gypsy and Traveller site known as Romany Meadow on The Turnpike, Carleton Rode. The allocation of GNLP5020 will result in an expansion from the existing 6 pitches to 12 pitches in total.
43. Site specific issues will impact on the design of the development. A surface water flow path that crosses the southern part of the site is likely to limit where caravans and other structures can be located, and additional landscaping is required at the boundaries of the site to protect views of nearby listed buildings. An ecological assessment is also required due to the proximity of nearby mature trees and hedgerows.

Policy GNLP5020

Land off the B1113 (0.54 ha) at Romany Meadow, The Turnpike, Carleton Rode is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 6 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access off The Turnpike that serves the Romany Meadow site.
2. A surface water flood risk assessment must be carried out with caravans and other structures positioned away from areas at surface water flood risk.
3. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
4. Landscaping and tree planting will be required to preserve the landscape character of the surrounding area and to protect views of nearby listed buildings.
5. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5021 Land of Holt Road, Horsford

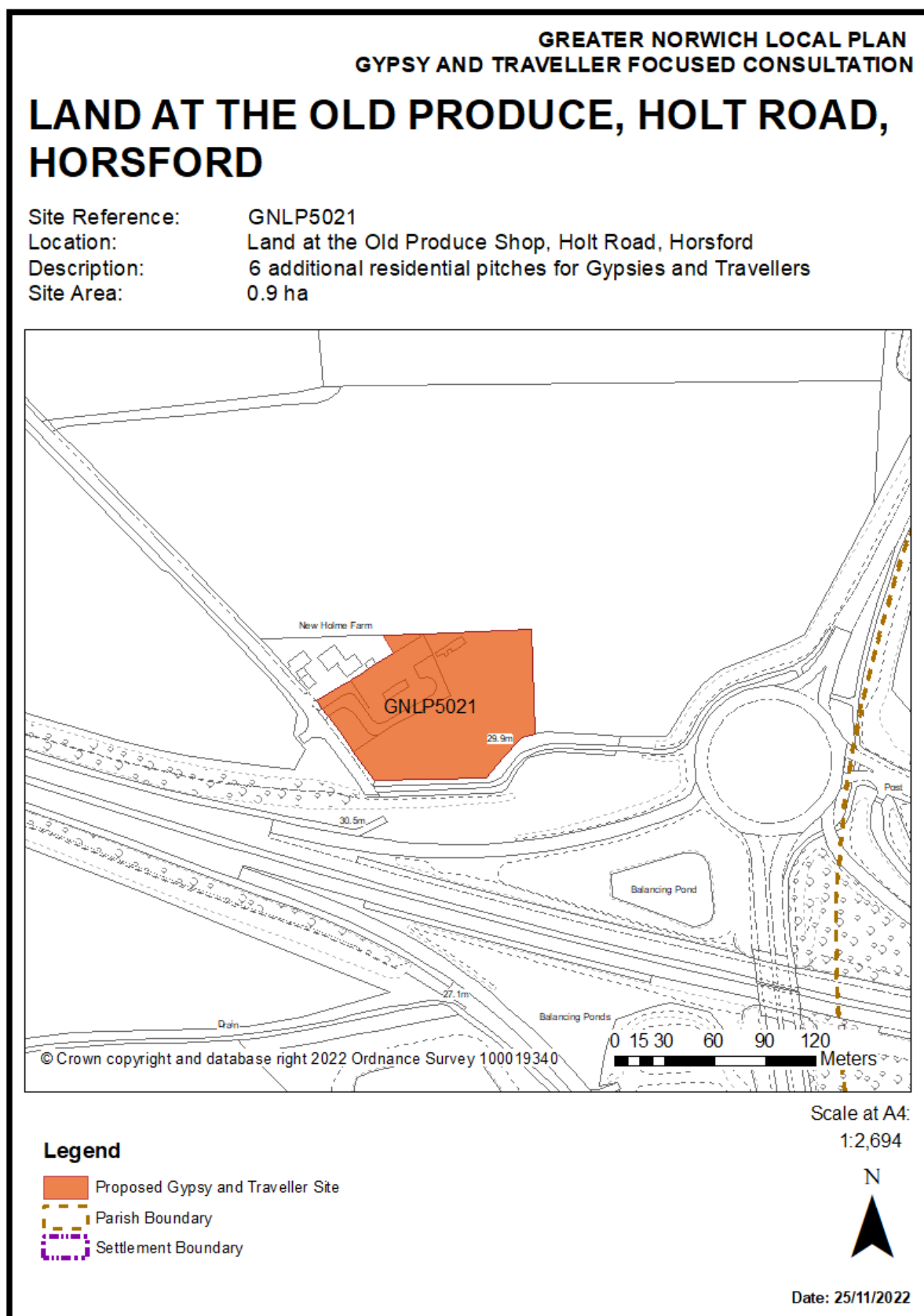
44. This is a privately owned site which will extend an existing Gypsy and Traveller site known as The Old Produce Shop, Holt Road, Horsford. The allocation of GNLP5021 will result in its expansion from the existing single pitch to 7 pitches in total.
45. The design and layout of the site should consider measures to mitigate any noise, air quality and landscape issues that may arise from the site being located just to the north-west of the Broadland Northway (A1270) junction with the A140.

Policy GNLP5021

The Old Produce Shop, Holt Road, Horsford (0.9 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 6 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access off Holt Road that serves the Old Produce Shop site.
2. Noise and air quality investigations are required, with provision of a layout and design that incorporates a landscape buffer to the nearby major roads and noise mitigation measures to protect residential amenity.
3. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5022 Land off Reepham Road, The Oaks, Foulsham

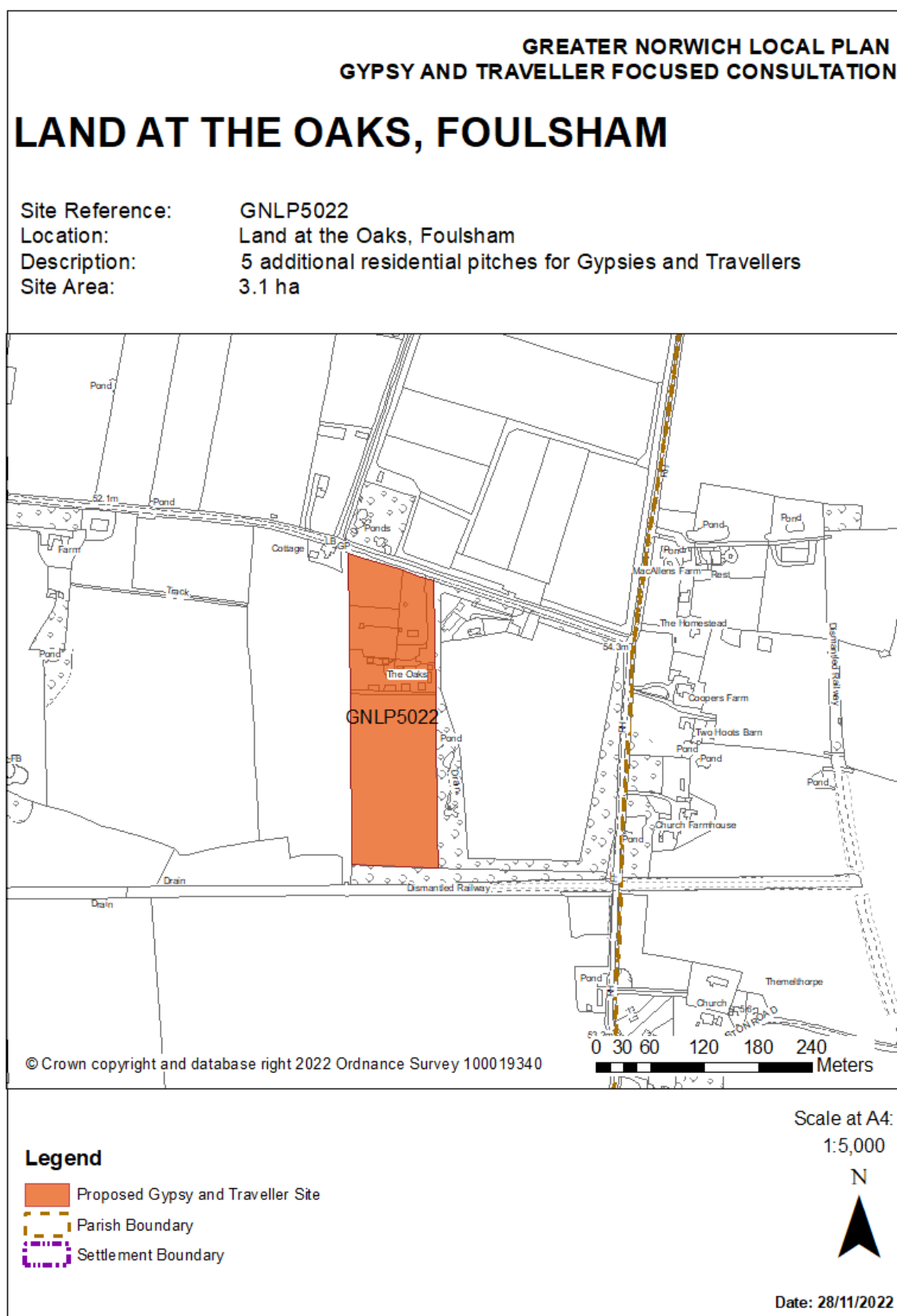
46. This site allocation would extend a well-established privately owned Gypsy and Traveller site by 5 further pitches. The site is located off the Reepham Road, approximately 2 km from the edge of the village of Foulsham which has a limited range of services and facilities including Foulsham Primary School.
47. Further development of the site will require investigations into highway safety, including vehicle speeds along Reepham Road, with widening of the visibility splay at the site entrance if required.
48. The Bacton to Kings Lynn gas pipeline crosses from east to west below the site at its mid-point. This will require further investigation, engagement with the Health & Safety Executive (HSE) and National Grid and consequent consideration of site design. A surface water flow path that crosses the southern portion of the site is also likely to limit where caravans and other structures can be located.
49. An ecological assessment is needed due to the presence of several County Wildlife Sites within 2.5 km.
50. The allocation of GNLP5022 will result in its expansion from the existing 2 pitches to 7 pitches in total.

Policy GNLP5022

The Oaks off Reepham Road, is allocated for a residential Gypsy and Traveller site (3.3 ha). The site will accommodate approximately 5 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be via the existing access on Reepham Road. A highway safety assessment is required and an appropriate visibility splay must be achieved.
2. A surface water flood risk assessment must be carried out with caravans and other structures positioned away from areas at surface water flood risk.
3. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
4. Landscaping and tree planting will be required to preserve the landscape character of the surrounding area and to protect views of nearby listed buildings.
5. Development will be designed to avoid impacts to and from the underground gas pipeline.
6. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5023 Land off Strayground Lane, Wymondham

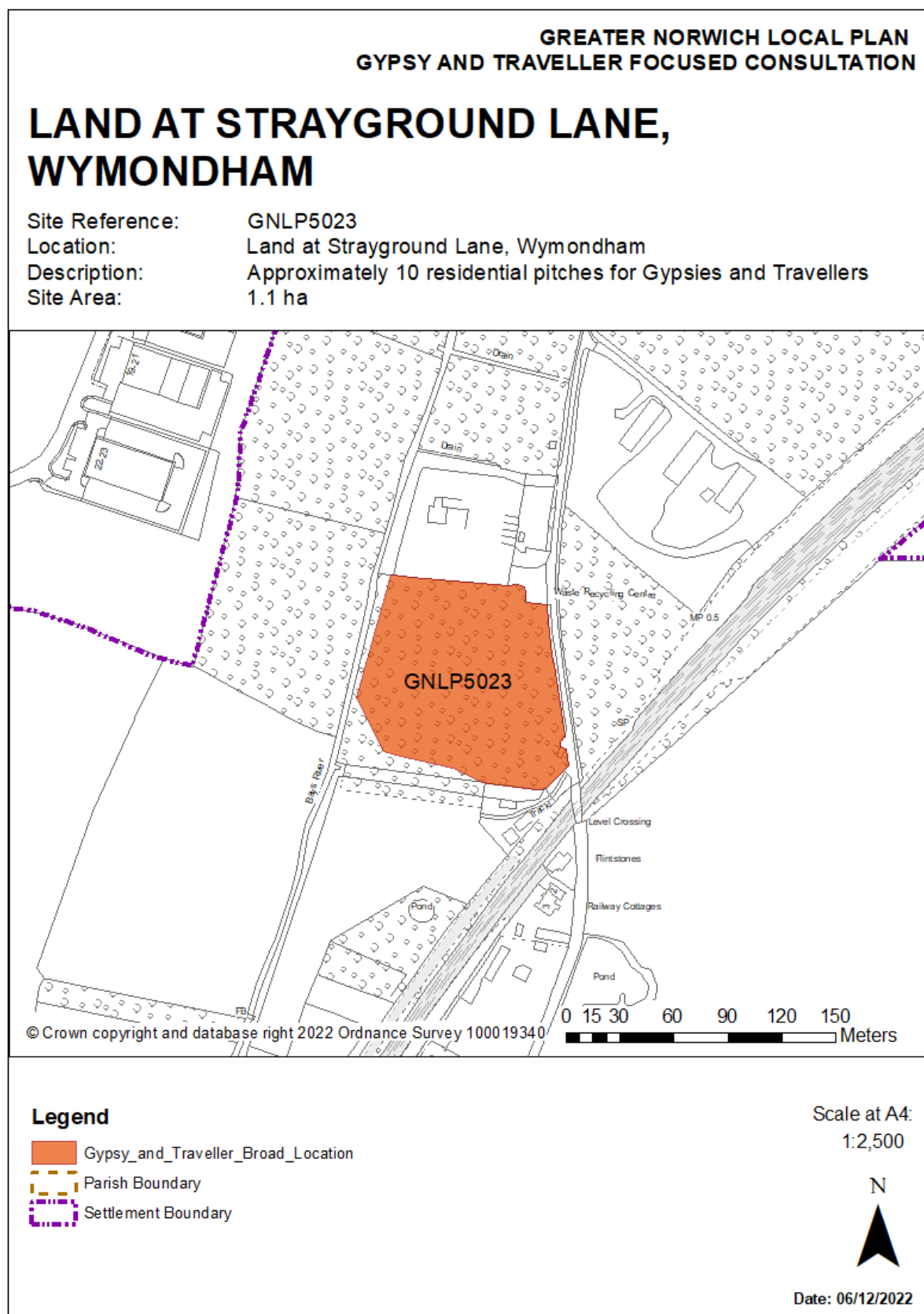
51. This is a privately owned piece of land that has been put forward by the owner and is located towards the southern end of Strayground Lane, Wymondham. There is an established paving business to the north. There are mineral extraction activities on the land to the north-east and east. The Norwich to Cambridge railway line is to the south and the Bays River Meadow North County Wildlife Site is on the western boundary.
52. The development of this site will need to take account of a number of issues. These are highway improvements, consideration of noise and dust from neighbouring activities, investigation of possible land contamination from previous uses, consideration of neighbouring flood risk, an ecological assessment due to the neighbouring County Wildlife Site as well as trees and hedgerow on site, and pollution control measures for the groundwater source protection zone.

Policy GNLP5023

Land off Strayground Lane, Wymondham (1.1 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 10 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be via Strayground Lane, using either the existing access point at the north-east corner of the site or a new access on the eastern boundary. If a new access is provided any loss of trees or hedgerows will be compensated for by new planting within the site.
2. Highway improvements will be required to the passing bays along Strayground Lane and an adequate visibility is required at the junction of Whartons Lane with London Road (the B1172).
3. As the land adjacent to the south-west is in Flood Zones 2 and 3, caravans and other structures shall also be positioned away from this area.
4. A contaminated land assessment is required and any mitigation must be completed prior to development.
5. Screening will be required to the neighbouring paving company.
6. An ecological assessment must be carried out and any identified impacts on nearby sites mitigated.
7. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (III).
8. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Policy GNLP5024 Upgate Street, Carleton Rode

53. This is an existing privately owned Gypsy and Traveller site located on Upgate Street, Carleton Rode. The allocation of GNLP5024 will result in an expansion from the existing 2 pitches to 6 pitches in total.

54. Further development of the site will require investigation of highway safety, including of vehicle speeds along Upgate Street, with widening of the visibility splay at the site entrance as appropriate. An ecological assessment prior to development is required due to the presence of a veteran tree on the northern boundary of the site and because New Buckenham Common is approximately 250 metres to the south-west.

Policy GNLP5024

Upgate Street, Carleton Rode (0.62 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 4 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access off Upgate Street. A highway safety assessment is required and an appropriate visibility splay must be achieved.
2. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
3. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

Reasonable Alternative Site

Policy GNLP5013 Ketteringham Depot land west of Station Lane, Ketteringham

55. This site is on publicly owned land located west of Station Lane, Ketteringham. It is currently used as a depot which is expected to be relocated.

56. This site is separated from the nearest services and facilities which are in Hethersett., but nevertheless this site is considered a reasonable alternative for consultation. If GNLP5013 became allocated in the local plan a draft policy for the site is shown in the red box below.

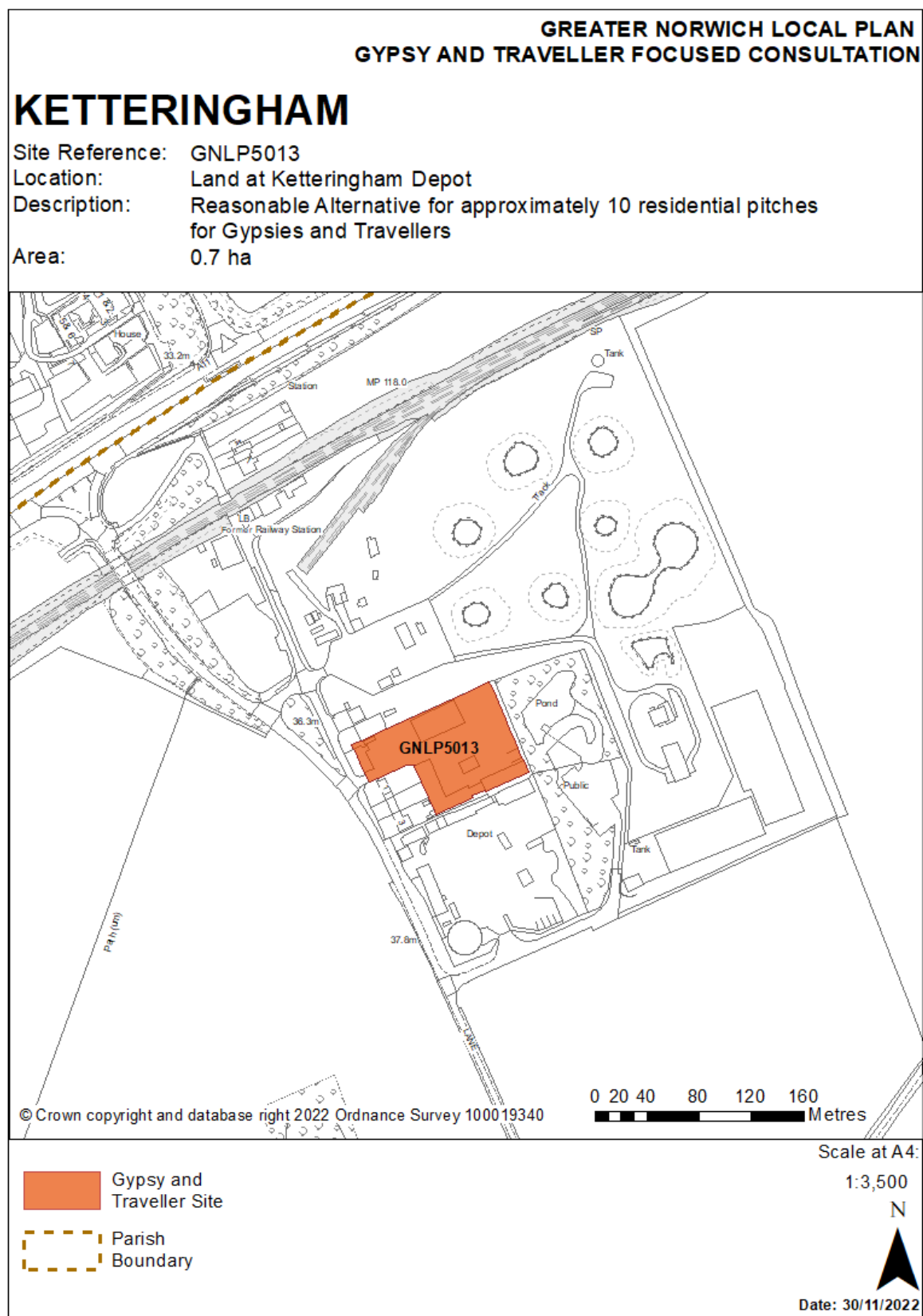
57. A number of assessments will be required prior to development if the site is allocated. These are an assessment of possible land contamination from previous uses, an ecological survey for the potential for hibernating bats in the existing buildings and an investigation of potential noise and dust from neighbouring depot and waste processing businesses nearby.

Policy GNLP5013

Land west of Station Lane, Ketteringham, (0.86 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 10 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access that currently serves the depot.
2. Investigation is required of the potential for the conversion of existing buildings, particularly at the frontage, as part of the redevelopment.
3. Noise and air quality investigations are required, and the layout and design of the site should include boundary treatments that protect residential amenity.
4. A contaminated land assessment is required, and any mitigation must be completed prior to development.
5. An ecological survey is required due to the potential presence of protected species such as bats or barn owls in the existing buildings.
6. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.



Contingency Site

Proposed Change to Policy GNLP0581/2043: Land off Bawburgh Lane, north of New Road and east of A47 – incorporation of a Gypsy and Traveller site into the Costessey contingency site allocation

58. A 62 ha site at Costessey is included in the submitted GNLP as a contingency housing site which can come forward in the event that the overall delivery of homes in the Greater Norwich Local Plan area falls significantly below annual targets. Should the need for the contingency site be triggered then the option would exist to provide a Gypsy and Traveller site as part of this urban extension.
59. The landowners for the contingency site are willing to incorporate a Gypsy and Traveller site for up to 18 pitches if the accommodation needs evidence at the time shows it is required. To allow for the master planning of the whole site, it is proposed to only identify a broad location for the potential Gypsy and Traveller site within the southern part of the contingency allocation. Not detailing a specific site at this time will ensure that a Gypsy and Traveller site could be properly integrated into any wider development. The southern part of the site gives the opportunity for early delivery of Gypsy and Traveller accommodation with vehicular access from New Road if the need for the contingency site is triggered.
60. Delivering this option would require the amendment of the contingency site policy wording originally submitted to the inspectors for examination. The original policy text for the contingency site can be found at [section 8 of the 'Part 2 – The Sites'](#). The proposal is to insert the following additional criterion to the list of specific matters which would need to be addressed:

“Subject to up-to-date evidence of need in the remainder of the plan period evidence at the time, provision of a 1 ha Gypsy and Traveller site providing approximately 18 pitches.”

COSTESSEY

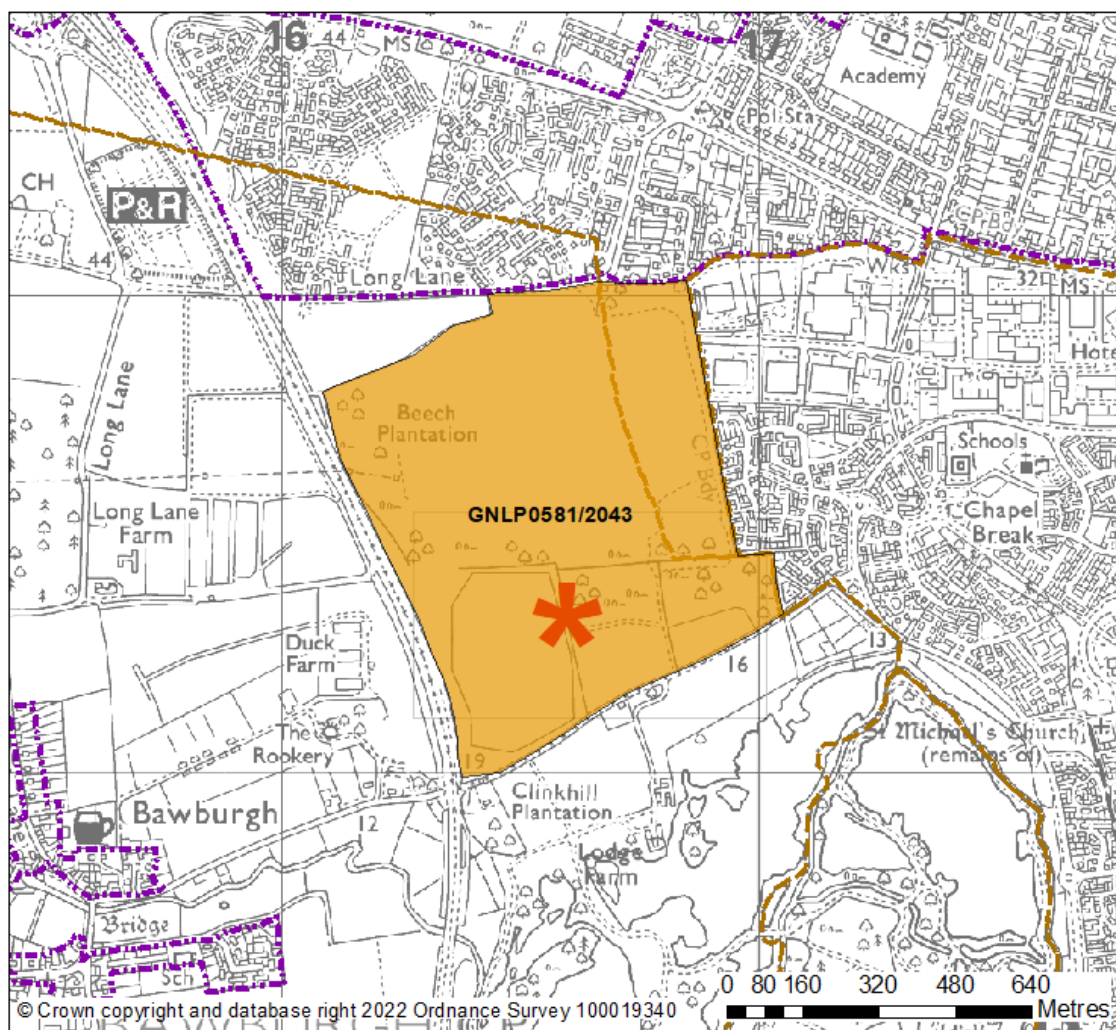
GREATER NORWICH LOCAL PLAN GYPSY AND TRAVELLER FOCUSED CONSULTATION

Site Reference:GNLP0581/2043

Location: Land off Bawburgh Lane, north of New Road and east of the A47

Description: Should the need for the contingency site be triggered then the option would exist to provide a Gypsy and Traveller site as part of this urban extension of approximately 800 homes. The southern part of the site is the broad location for the Gypsy and Traveller site with vehicular access from New Road.

Site Area: Approximately 1 ha will be located within entire 62 ha site



- Contingency Site
- Parish Boundary
- Settlement Boundary

*
 Broad Location of Gypsy and Traveller Site

Scale at A4:
1:12,000

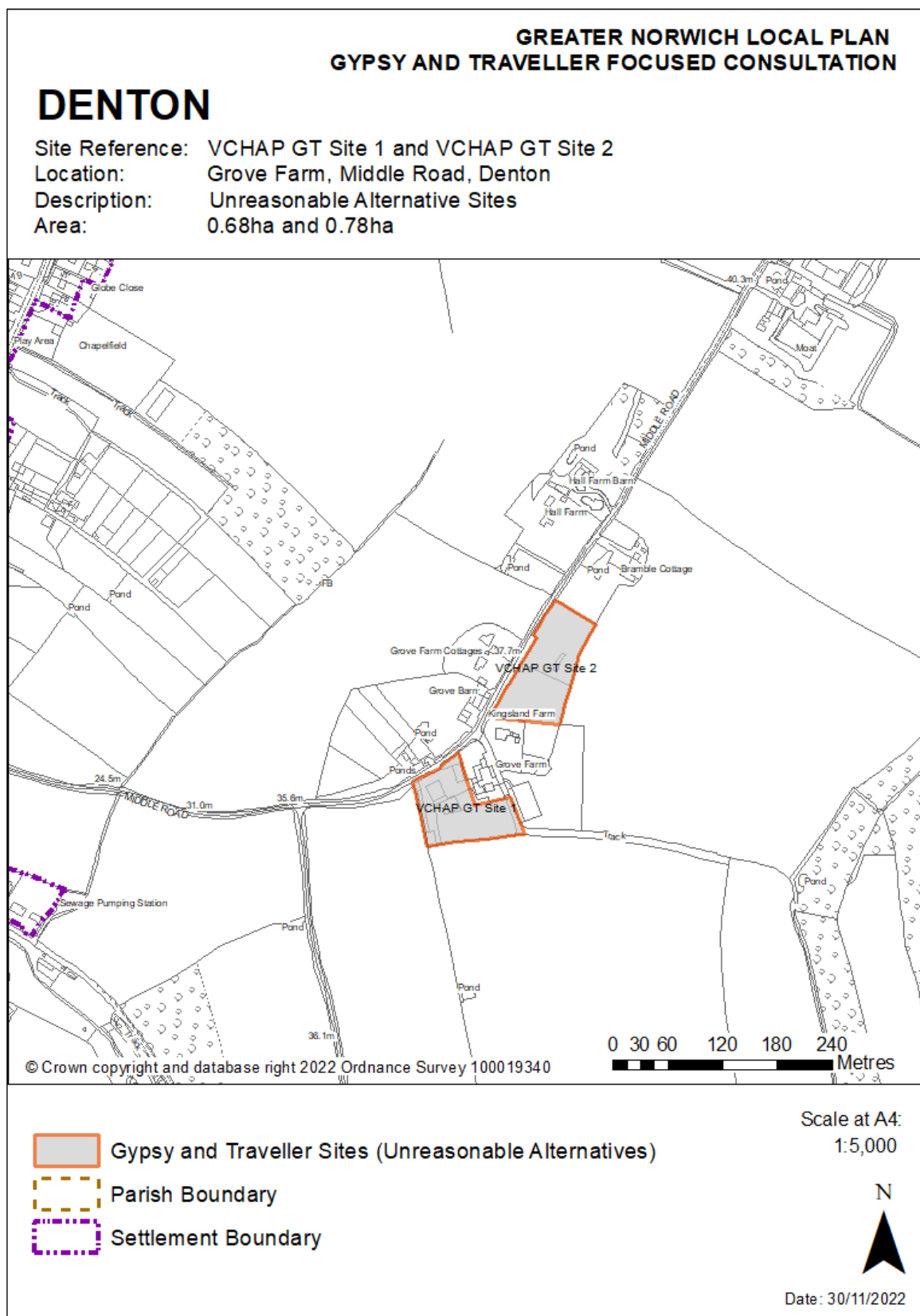


Date: 30/11/2022

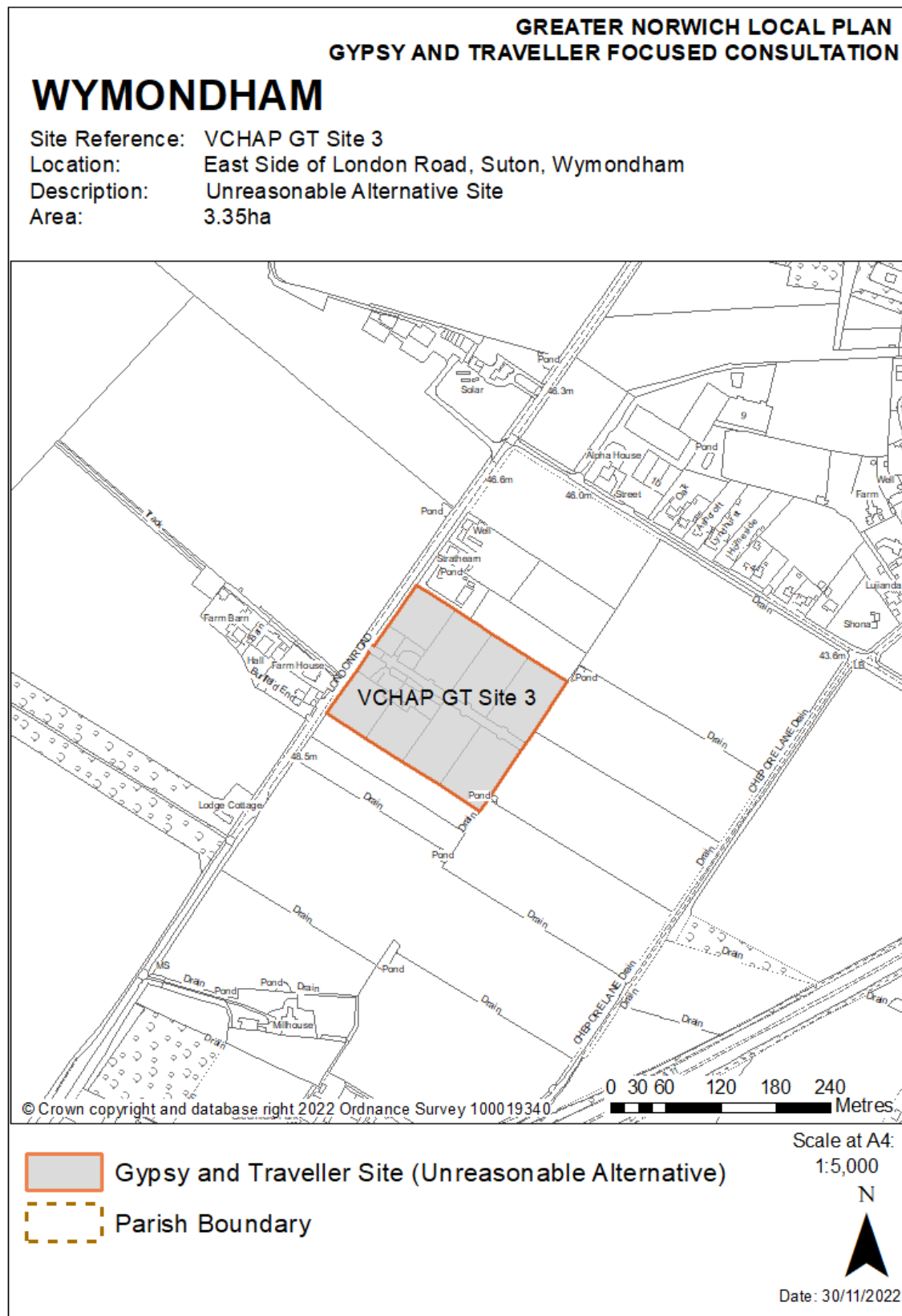
Unreasonable Alternatives

61. The following three sites are considered unreasonable alternatives but respondents to the consultation can comment upon them.

VCHAP Site 1 and Site 2, Middle Road, Denton



VCHAP Site 3, Land off London Road, Sutton, Wymondham



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Introduction

1. This document provides site assessment information for sites proposed for inclusion in the Greater Norwich Local Plan (GNLP) as Gypsy and Traveller sites.
2. It is a background document to the Site Policies document (Appendix C for the Cabinet Reports) which is the main consultation document for the focused consultation which takes place from January 30th to March 13th 2023.
3. This Site Assessment Information document provides an analysis of constraints and potential mitigation for sites proposed for allocation for Gypsy and Traveller accommodation in the GNLP. As such, it is both intended to assist wider consultation responses and its content can be commented on.

Background

4. The GNLP was submitted for independent examination in July 2021.
5. During the examination the two inspectors appointed on behalf of the Secretary of State made it clear that they expected to include specific site allocations for Gypsies and Travellers in the plan in accordance with national policy in paragraph 68 of the National Planning Policy Framework NPPF.
6. This assessment is limited in scope to sites that have been proposed to meet the accommodation needs of Gypsies and Travellers, considering 15 sites.

Methodology

7. Landowners have provided a “redline” outline plan for each of the proposed sites and a judgement has been made about how many pitches could be accommodated. As a guideline, to avoid the risk of pitches being too small, around 300 square metres is required per pitch. This accords with design guidance that suggests 320 square metres per pitch is needed to also provide space for an amenity block (with a kitchen, bathroom and living room) and touring caravan space for up to 2 caravans and 2 vehicles.¹
8. The Norfolk-wide Housing and Economic Land Availability Assessment (HELAA) methodology has been the starting point for assessing all development proposals in the GNLP. This has been adapted to include criteria specific to the needs of Gypsy and Traveller communities including access, landscaping, acoustic screening and proximity to the main road network. The assessment of access to services takes account of the requirements for Gypsy and Traveller sites in more rural locations.

¹ [https://www.leeds.gov.uk/docs/Gypsy and Traveller Site Design Guide.pdf](https://www.leeds.gov.uk/docs/Gypsy%20and%20Traveller%20Site%20Design%20Guide.pdf)
designinggypsiesites.pdf (publishing.service.gov.uk)

9. The proposed Gypsy and Traveller sites have been compared against the 14 suitability criteria in the HELAA methodology to assess if they are reasonable for development. The purpose of this is to screen out sites with no development potential; and, for the remaining sites, to identify issues that may need to be addressed to allow development to be progressed.
10. A 'red', 'amber' or 'green' rating is given for each site for each criterion, accompanied by a commentary and a conclusion. The ratings are informed by information from a broad range of professionals and are based on the following:
 - Green – no identified constraints;
 - Amber – constraints identified are either not significant enough to prevent development and/or could be mitigated;
 - Red – Significant constraints which can not be mitigated.
11. An 'Availability and Achievability' section identifies when sites could be delivered, either within the current 5-year time period to March 2027 or, due to site specific issues, to a longer timeframe to March 2032. This approach is in line with national policy.
12. Following assessment, the sites are classified into four categories below:
 - 10 sites are favoured options. Analysis shows that these sites have limited constraints which can be overcome and provide potential for allocation.
 - 1 site, at Ketteringham Depot, is a reasonable alternative which also has some potential for allocation, though with some constraints primarily related to accessibility and neighbouring uses.
 - 1 site at Costessey is a proposed policy change to the submitted contingency housing site. This is an option if a Gypsy and Traveller site is delivered as part of a larger scheme for approximately 800 homes if the evidence at the time supports the need for a Gypsy and Traveller site.
 - 3 sites have been rejected as unreasonable due to site constraints.

Sustainability Appraisal and Habitats Regulation Assessment

13. The Sustainability Appraisal of the Gypsy and Travellers sites (Appendix E for the Cabinet reports) is another background document for the consultation which provides additional assessment of the sites above, apart from the 3 which have been concluded to be unreasonable. It covers the sustainability performance of each favoured site, the reasonable alternative and the Costessey site. The appraisal feeds into the assessment of sites and provides recommendations for mitigation measures which have been incorporated into the Site Policies document as appropriate (Appendix C for the Cabinet reports).
14. The Habitats Regulation Assessment (HRA) (Appendix F for the Cabinet reports) assesses a wide range of potential impacts on nature conservation

sites of international importance, including any in-combination impacts with other development in the area.

15. It concludes that no allocations will be close enough to a European site to have any construction related impacts such as land-take or disturbance from construction activities. It also concludes that as there will be no allocations within 1.5 kilometres of a European site, there would also be no direct recreational impacts.
16. The HRA also concludes that the tariff payment of £185.93 per Gypsy and Traveller Pitch (and for other types of home) which has been set which will be sufficient to ascertain no adverse effect upon the integrity of any European site from the in-combination effects of residential developments across the plan area and beyond.
17. Subject to satisfactory policy modification of the GNLP with respect to Nutrient Neutrality, the HRA concludes that the proposed allocations for Gypsy and Traveller sites will have no adverse effect upon the integrity of any European site acting alone, in combination with other development in the GNLP or any other plan or project.

Favoured Sites

Parish: Cawston Suitability Assessment

Site reference: GNLP5004	Site area: 0.12 Ha
LOCATION: Land off Buxton Road, Eastgate District: Broadland	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site for 4 pitches

CONSTRAINTS ANALYSIS

Site Access	Amber
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Green
Flood Risk	Green
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Amber
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Amber
Historic Environment	Amber
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring uses	Amber

SITE SUITABILITY CONCLUSIONS

18. This greenfield site is off Buxton Road in the hamlet of Eastgate, south-east of Cawston. It is 0.12 ha in size and could accommodate 4 permanent residential Gypsy and Traveller pitches.
19. A suitable vehicular access from Buxton Road is likely to be achievable, subject to demonstrating an acceptable visibility splay, but this might require the removal of a hedgerow.
20. The site is slightly disconnected from the local services including a primary school in Cawston 1.7 kilometres away. However, as this is a relatively small development proposal it will not lead to a significant increase in traffic on local roads or a significant increase in unsustainable travel patterns.

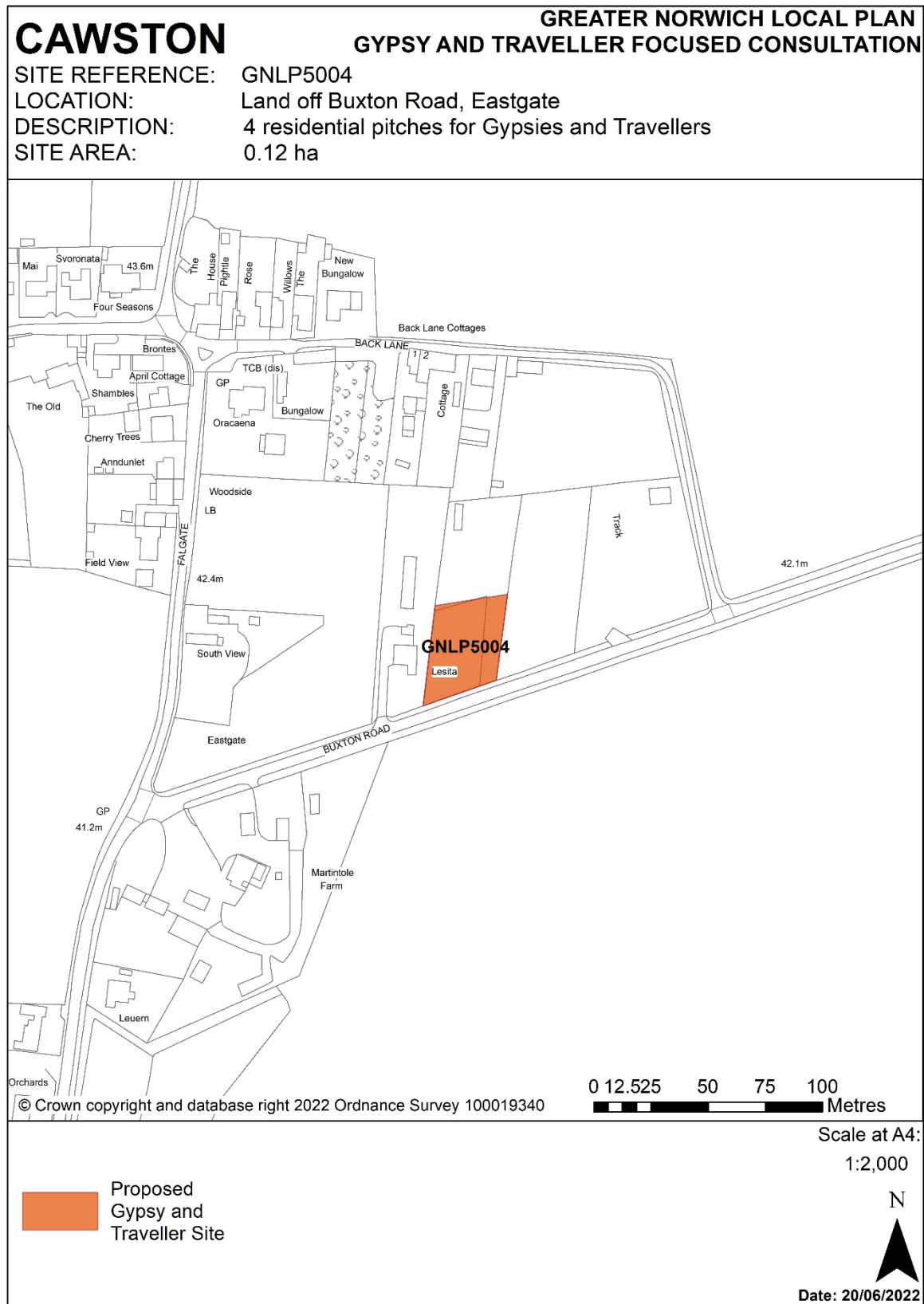
21. There are no known constraints relating to utilities capacity, contamination or ground stability. The site is within Flood Zone 1, so is at low risk of fluvial flooding and no surface water flooding risk has been identified.
22. Market attractiveness is evidenced by the landowner promoting the site.
23. GNLP5004 is on grade 2 agricultural land, so development would result in a minor loss of high-quality agricultural land. There would be a no loss of open space resulting from development and the site is not situated on a strategic green infrastructure corridor.
24. In relation to biodiversity, Cawston and Marsham Heaths SSSI is located approximately 1 kilometre from the site. There are four further SSSIs within a 5 kilometre radius (Booton Common, Buxton Heath, Alderford Common and Swannington Upgate Common) and the site is in a 'green' impact risk zone for Great Crested Newts. However, Natural England has not raised an objection to the site.
25. Cawston Conservation Area, which includes a number of Grade I and II listed buildings, is approximately 1.6 kilometres west of the site, so no adverse impact is expected on existing heritage assets. Since the site is close to an area of Roman settlement further archaeological investigation will be required which should identify any necessary mitigation.
26. There are residential properties to the north of the site on Back Lane, a field to the east, agricultural land on the south side of Buxton Road and a home to the west. Additional landscaping and hedges will be needed to enhance screening and to maintain the residential amenity of adjoining properties.
27. As with many locations in Greater Norwich, mitigation of the impacts on nutrient levels in river catchments will be required.
28. Overall, GNLP5004 is considered suitable as a favoured option for allocation, subject to any proposed development achieving an acceptable visibility splay and site investigations being undertaken.

Availability and Achievability Conclusions

29. GNLP5004 is in private ownership and the landowner is willing to make the site available for Gypsy and Traveller accommodation use. As a relatively unconstrained greenfield site, there is no reason why development could not come forward quickly. 3 to 5 years is considered ample time to market the land, gain planning permission, and to develop site GNLP5004.

Overall Conclusions for Site

30. Subject to the caveats identified above, GNLP5004 is considered suitable as a favoured option for allocation. If allocated in the local plan, GNLP5004 would be deliverable within 5 years and could be completed by March 2027.



Parish: Wymondham Suitability Assessment

Site reference: GNLP5005	Site area: 0.07 Ha
LOCATION: Land at Strayground Lane, Wymondham Recycling Centre District: South Norfolk	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site for 2 pitches

CONSTRAINTS ANALYSIS

Site Access	Amber
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Amber
Flood Risk	Green
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Green
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Amber
Historic Environment	Green
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring uses	Amber

SITE SUITABILITY CONCLUSIONS

31. Site GNLP5005 measures 0.07 ha and is currently used as Wymondham Recycling Centre. The landowner intends to close this facility, so an opportunity exists to redevelop it for 2 residential Gypsy and Traveller pitches. However, the site is not likely to become available until 2027 at the earliest.
32. GNLP5005 has a vehicular access onto Strayground Lane which serves the existing recycling centre. Though the proposed use will generate less traffic than the existing recycling centre, Strayground Lane has no footpaths and the passing bays will require improvement. As Strayground Lane is a quiet road, pedestrians and cyclists would be able to use this route to access facilities in Wymondham. There is a local shop approximately 700 metres away and Browick Road Primary School is approximately 1 kilometre away.
33. The site is in flood zone 1, so is at low risk of river flooding, whilst a small area in the south of the site is at low risk of surface water flooding. The site is within the catchment of a groundwater Source Protection Zone (Zone III). As

such, pollution mitigation measures for water quality protection will be required, but this does not rule out development potential.

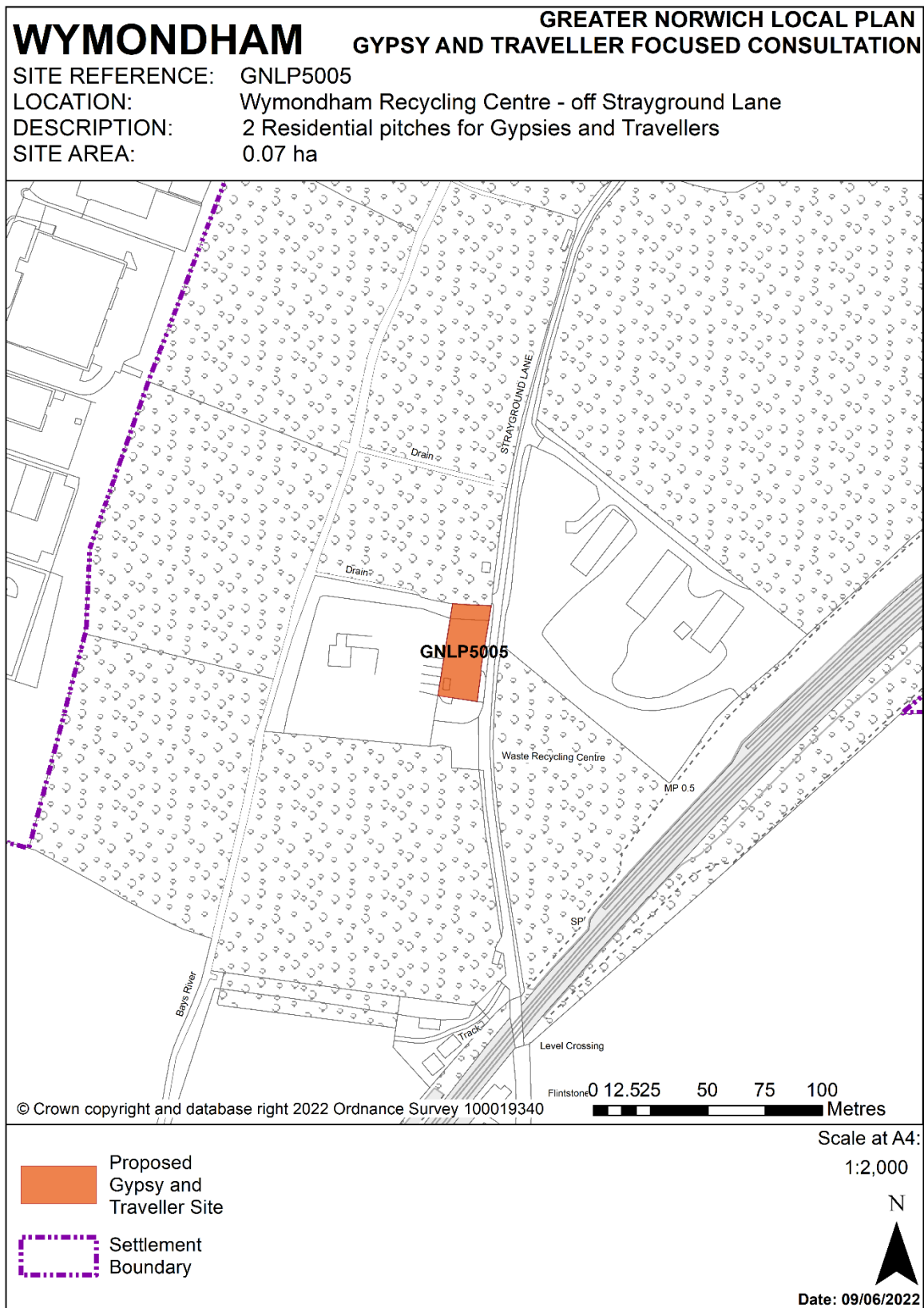
34. Good road and public transport connections in Wymondham are accessible from the site and its location suggests it will be attractive to the market.
35. GNLP5005 presents no substantive concerns in relation to heritage constraints as the nearest listed building (Grade II 'Ivy Green Villa') is 300 m away and is separated from the site by the industrial area on Chestnut Drive.
36. There will be a need for an ecological survey as the site is approximately 50m from undeveloped areas along the Bays River, which is a lowland fens priority habitat. GNLP5005 also partly intersects the Bays River Meadows North County Wildlife Site on its northern boundary.
37. Whilst not prohibiting possible development, there are other issues resulting from past and present neighbouring uses which may impact on the form of the development:
 - A paving company adjoins the site to its west and south. This will cause impacts from vehicle movements, noise and possibly dust, so screening may be required.
 - A neighbouring historic landfill site will require investigation for possible contamination.
 - There are various planning consents dating back to the 1990s for a gravel quarry, stockpiling aggregates, and landfilling of inert waste (references include C/92/7023 and C/94/7016) immediately to the north-east, east, and south of the site.
38. As with many locations in Greater Norwich, mitigation of the impacts on nutrient levels in river catchments will be required.
39. Overall, GNLP5005 is considered suitable as a favoured option for allocation subject to providing appropriate mitigation measures.

Availability and Achievability Conclusions

40. GNLP5005 is owned by Norfolk County Council and will become available for development once that existing recycling centre there closes. However, the site is not likely to become available until 2027 at the earliest. Further time would then be required to market the land, gain planning permission and to develop GNLP5005.

Overall Conclusions for Site

41. Subject to the caveats identified above, GNLP5005 is considered suitable as a favoured option for allocation. If allocated in the local plan, GNLP5005 would be developable within 6 to 10 years and should be completed by March 2032.



Parish: Bawburgh Suitability Assessment

Site reference: GNLP5009	Site area: 0.59 ha
LOCATION: Land off Hockering Lane, Bawburgh	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site for 6 pitches
District: South Norfolk	

CONSTRAINTS ANALYSIS

Site Access	Amber
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Amber
Contamination and Ground Stability	Green
Flood Risk	Green
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Amber
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Green
Historic Environment	Amber
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring Uses	Green

SITE SUITABILITY CONCLUSIONS

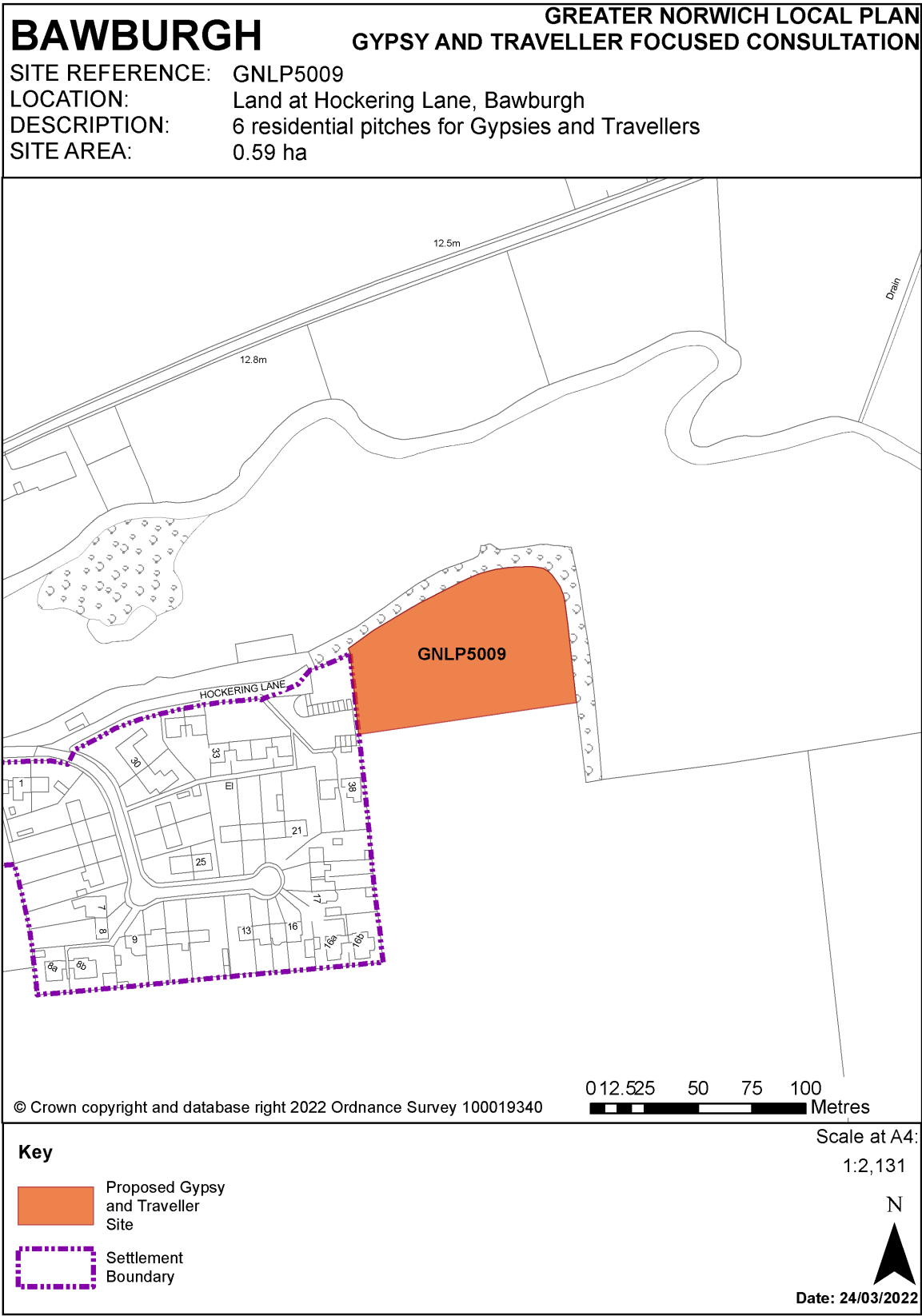
42. GNLP5009 is a proposal for 6 pitches on a greenfield site to the east of Hockering Lane in Bawburgh. The site, which measures 0.59 ha, is part of an agricultural field that is bounded to the north, east and west by trees and hedges, with the remainder of the field to the south.
43. Access to GNLP5009 would be via a private road, therefore third-party rights of access would be required. GNLP5009 is 200 metres from Bawburgh Primary School, but otherwise facilities are limited and residents would likely need to travel by private vehicle, for example the nearest shops are at Longwater Retail Park 3 kilometres away.
44. A gas pipeline runs north to south through the western part of the site. This is part of the Cadent Norfolk network and initial investigations suggest that an easement of 12.2 metres would be required. This is likely to dictate that the

majority of pitches would be positioned towards the central and eastern part of the site.

45. GNLP5009 is on the southern bank of the River Yare, meaning that there could be some adverse impact on the locally designated Yare/Tiffey River Valley landscape. Development would therefore be likely to require mitigation, such as additional tree planting on the site boundaries, to ensure visual impacts on the landscape are minimised.
46. There are no statutory designated environmental sites immediately affecting GNLP5009. The nearest is Bawburgh/Colney Gravel Pits County Wildlife Site and candidate County Geodiversity site which is 290 metres to the east of the site on the opposite side of the A47. The River Wensum SSSI and SAC is 3 kilometres to the north at its closest point to GNLP5009 and the Sweetbriar Road Meadows SSSI is 4.6 kilometres away to the east. However, an ecological assessment will be required due to there being potential habitats for Great Crested Newts on-site.
47. The site is 180 metres east of Bawburgh Conservation Area where the majority of the village's listed buildings are located, and it is possible that a Historic Impact Assessment (HIA) will be required due to the proximity of the scheduled grade II* garden buildings at the former Bawburgh Hall to the north-west of the site. Archaeological investigation may be required as some prehistoric features have been identified on land adjacent to GNLP5009.
48. There are limited concerns in relation to the remaining criteria. The site is in flood zone 1, so is at low risk of river flooding and is not at risk of surface water flooding. There are no issues over the loss of designated open space and the site is on relatively low-quality agricultural land (Grade 4). Whilst the site is less than 300 metres from the A47, noise impacts could be mitigated.
49. As with many locations in Greater Norwich, mitigation of the impacts on nutrient levels in river catchments will be required.
50. The site is in private ownership and the landowner is willing to make it available as a Gypsy and Traveller site. Although there are some constraints, most particularly the gas pipeline passing under the site and the possible adverse impact on the adjacent River Yare landscape, there is no reason why development with mitigation could not come forward quickly. 4 to 5 years is considered ample time to market the land, gain planning permission, and to develop the site.

Overall Conclusions for the Site

51. Subject to the caveats identified above, GNLP5009 is considered suitable as a favoured option for allocation. If allocated in the local plan, GNLP5009 would be deliverable within 5 years and could be completed by March 2027.



14

98

Parish: Lingwood and Burlingham Suitability Assessment

Site references: GNLP5014	Site area: 1 ha (within a 2.48 ha area)
LOCATION: A47 North Burlingham Junction District: Broadland	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site for 15 pitches within a broad site location.

CONSTRAINTS ANALYSIS

Site Access	Green
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Green
Flood Risk	Green
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Amber
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Green
Historic Environment	Amber
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring uses	Green

SITE SUITABILITY CONCLUSIONS

52. A broad site location has been identified to provide a site of up to 1 hectare for 15 residential pitches for Gypsies and Travellers. The 1 hectare site is located within a larger area of greenfield land (2.48 ha) which is owned by Norfolk County Council and is currently in agricultural use. The potential site and the wider area will gain excellent access to the main road network due to the forthcoming A47 dualling from Blofield to North Burlingham.
53. Vehicular access to the proposed site is very likely to be achievable given the wider road improvements around this site which will create of a cul-de-sac on the current alignment of the B1140. This will allow easy access to the site.
54. The site is located between Blofield to the west, Acle to the east and Lingwood to the south. It is very likely to be an attractive location for the gypsy

and traveller community given the access to main roads that will be provided when the upgrades to the A47 have been completed. Whilst the site is in close proximity to a school bus route, there is somewhat limited access to local services in Lingwood as there is currently no footpath on the local road.

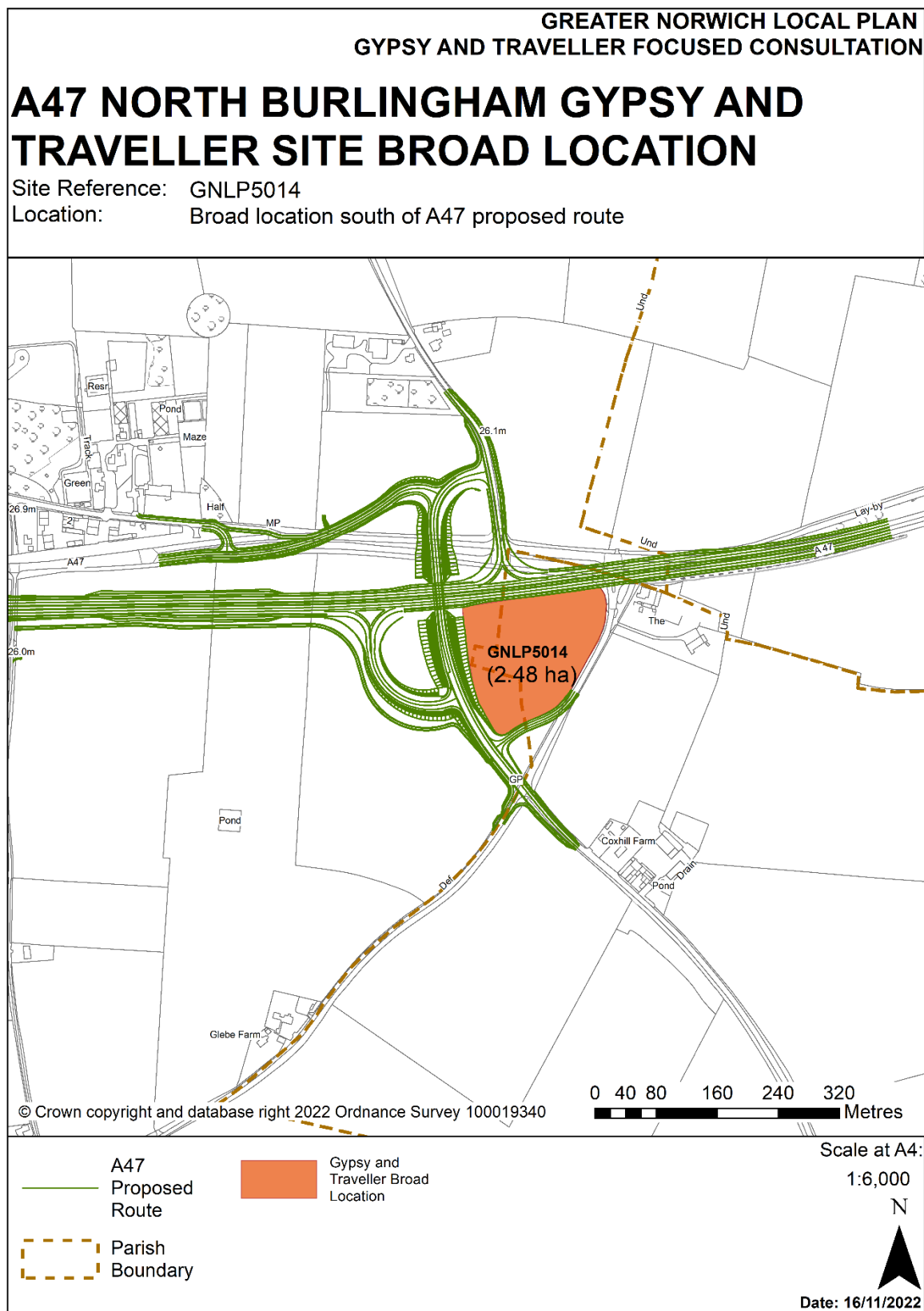
55. There are no known issues from contamination or ground stability. The site is in flood zone 1, so is at low risk of river flooding and there is not at risk of surface water flooding.
56. The site is grade 1 agricultural land, so development would result in a minor loss of high-quality agricultural land. However, the road scheme will greatly reduce the agricultural utility of this land.
57. There are county wildlife sites at Church and Belt Plantations which are located to the north-west of the proposed site and to the north of the A47. The impact of the proposed development on these designated habitats would be negligible.
58. St Peter's Church, a grade II listed building, is located in North Burlingham to the north-west of the site. Given that it is on the opposite side of the A47, it will not be impacted. As the landscape is relatively flat and open and there are nearby non-designated heritage assets, screening for any development would need to be provided. Depending on the exact location of development, such screening could also provide noise mitigation from the upgraded A47.
59. Development of this site would not result in the loss of formal open space. As the site will be adjacent to the local road network which will be in place after the dualling of the A47 at the North Burlingham junction, it is not expected to affect the functioning of local roads.
60. Overall, the site is suitable as a favoured option for allocation subject to a providing a suitable vehicular access, screening and possibly noise mitigation measures.

Availability and Achievability Conclusions

61. Norfolk County Council Farms is the owner of the site and land required for a Gypsy and Traveller site is available for development. Investigations are underway into how best to bring a Gypsy and Traveller site forward.

Overall Conclusions for Site

62. Subject to the caveats identified above, site GNLP5014 is considered suitable as a favoured option for allocation. Timescales are dependent on the trunk road scheme, but it is anticipated that GNLP5014 would be deliverable within 5 years and could be completed by March 2027.



Parish: Stratton Strawless Suitability Assessment

Site reference: GNLP5019	Site area: 0.33 ha
LOCATION: Land north of Shortthorn Road, Stratton Strawless District: Broadland	PROPOSED DEVELOPMENT: To provide 8 pitches, extending the existing 9 pitches to 17 pitches in total. This would provide 4 more pitches than are currently permitted.

CONSTRAINTS ANALYSIS

Site Access	Green
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Green
Flood Risk	Green
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Green
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Amber
Historic Environment	Green
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring Uses	Green

SITE SUITABILITY CONCLUSIONS

63. GNLP5019 is a proposal to extend a well-established privately owned Gypsy and Traveller site which is known as Woodland Stable and is located on Shortthorn Road in Stratton Strawless. The planning history on this site includes a decision in 2009 to grant planning permission for '8 Traveller Residential Pitches' (reference 20091534 2016), and a further decision in 2016 to permit a community building and an additional ninth pitch (reference 20161500). In February 2022 planning permission was granted for a further 4 pitches (reference 20211657).

64. The GNLP5019 proposal is to expand the permitted extension by a further 4 pitches by providing 8 pitches on the area of land earmarked on the site plan for planning application 20211657. If this proposal goes ahead the entire

Woodland Stable site would grow from the existing 9 pitches to 17 pitches in total.

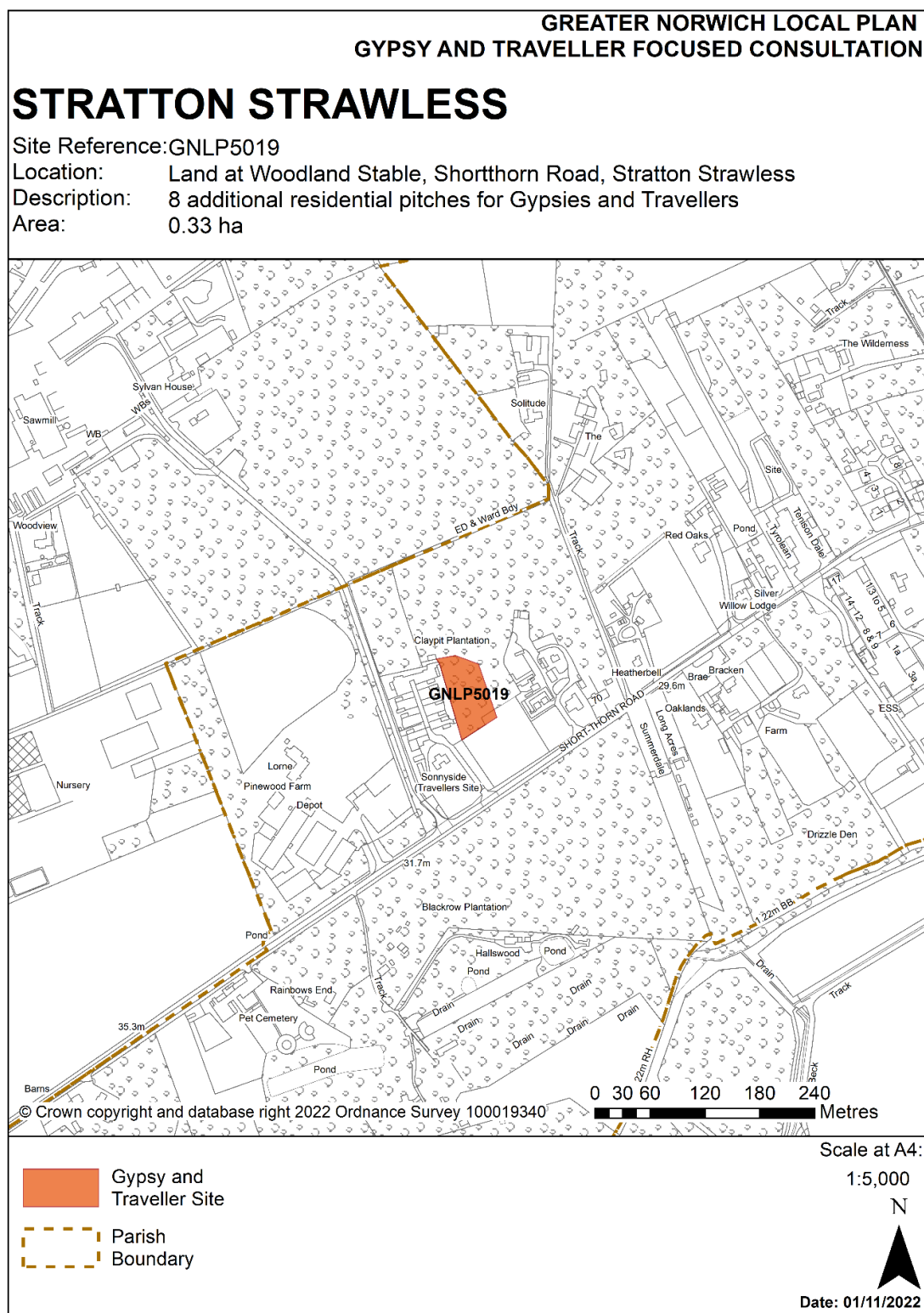
65. The distance to services and facilities is a constraint. Whilst there are various businesses along Shortthorn Road, the majority of facilities such as schools and shops are only accessible by a short car journey to the neighbouring villages of Hainford, Horsford, or Hevingham. Nevertheless, this is a well-established site, it is in a location with good access to the A140 Cromer Road to the east and would be an extension to an existing Gypsy and Traveller site.
66. In other respects, GNLP5019 performs well against the assessment criteria and confidence can be drawn for the success of the existing site. The market attractiveness of the site is reflected in the demand from the Gypsy and Traveller community to extend it. There are no constraints created by proximity of designated ecological sites or heritage sites, and the site has no significant constraints in terms of land contamination, ground stability, or flood risk.
67. The Woodland Stable site, including the land promoted as GNLP5019, also benefits from being bounded by trees and is set back from Shortthorn Road, meaning there are no concerns about intrusion from incompatible neighbouring uses. As the site includes mature trees/ woodland and grassland and therefore has the potential to support priority habitats as well as protected species such as bats, reptiles and breeding birds, a Preliminary Ecological Appraisal is likely to be required. In addition, the site is located within a great crested newt 'amber zone' and therefore has the potential to impact on newts.
68. As with many locations in Greater Norwich, mitigation of the impacts on nutrient levels in river catchments will be required.
69. In summary, the Woodland Stable site is suitable for expansion to 17 pitches, subject to detailed considerations such as design layout. On this basis GNLP5019 is considered suitable as a favoured option for allocation.

Availability and Achievability Conclusions

70. GNLP5019 is in private ownership and the landowner is willing to make the site available for Gypsy and Traveller accommodation use. The owners would be likely to progress this proposal quickly, so 1 to 3 years is considered ample time to market the land, gain planning permission and to develop the site.

Overall Conclusions for Site

71. Subject to the caveats identified above, GNLP5019 is considered suitable as a favoured option for allocation. If allocated in the local plan, GNLP5019 could be completed by March 2025.



Parish: Carleton Rode Suitability Assessment

Site reference: GNLP5020	Site area: 0.54 Ha
LOCATION: Romany Meadow, The Turnpike, Carleton Rode	PROPOSED DEVELOPMENT: To provide an additional 6 pitches to extend the site to 12 pitches in total
District: South Norfolk	

CONSTRAINTS ANALYSIS

Site Access	Green
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Green
Flood Risk	Amber
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Amber
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Amber
Historic Environment	Amber
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring Uses	Green

SITE SUITABILITY CONCLUSIONS

72. GNLP5020 is a proposal to extend a well-established privately owned Gypsy and Traveller site known as Romany Meadow which is located on the B1113 (The Turnpike) at Carleton Rode. The planning history on this site goes back to 2009 when 6 pitches were granted planning permission (reference 2009/0086). Since then, subsequent applications have amended conditions to allow Gypsy and Traveller families to occupy the site that are not related to the owner, and the design of a building has been revised to allow the storage of horse drawn touring caravans.

73. The GNLP5020 proposal is to expand the site on land immediately to the east of the existing site to provide 6 additional pitches. The proposal would grow Romany Meadow using the existing site access to a total of 12 pitches on a relatively compact area of land adjacent to the B1113.

74. The distance to services and facilities is a constraint. The nearest village is New Buckenham, which is 2.5 kilometres to the west along the B1113, with

Old Buckenham 5 kilometres away. Romany Meadows has direct access to the 'A' and 'B' class road network.

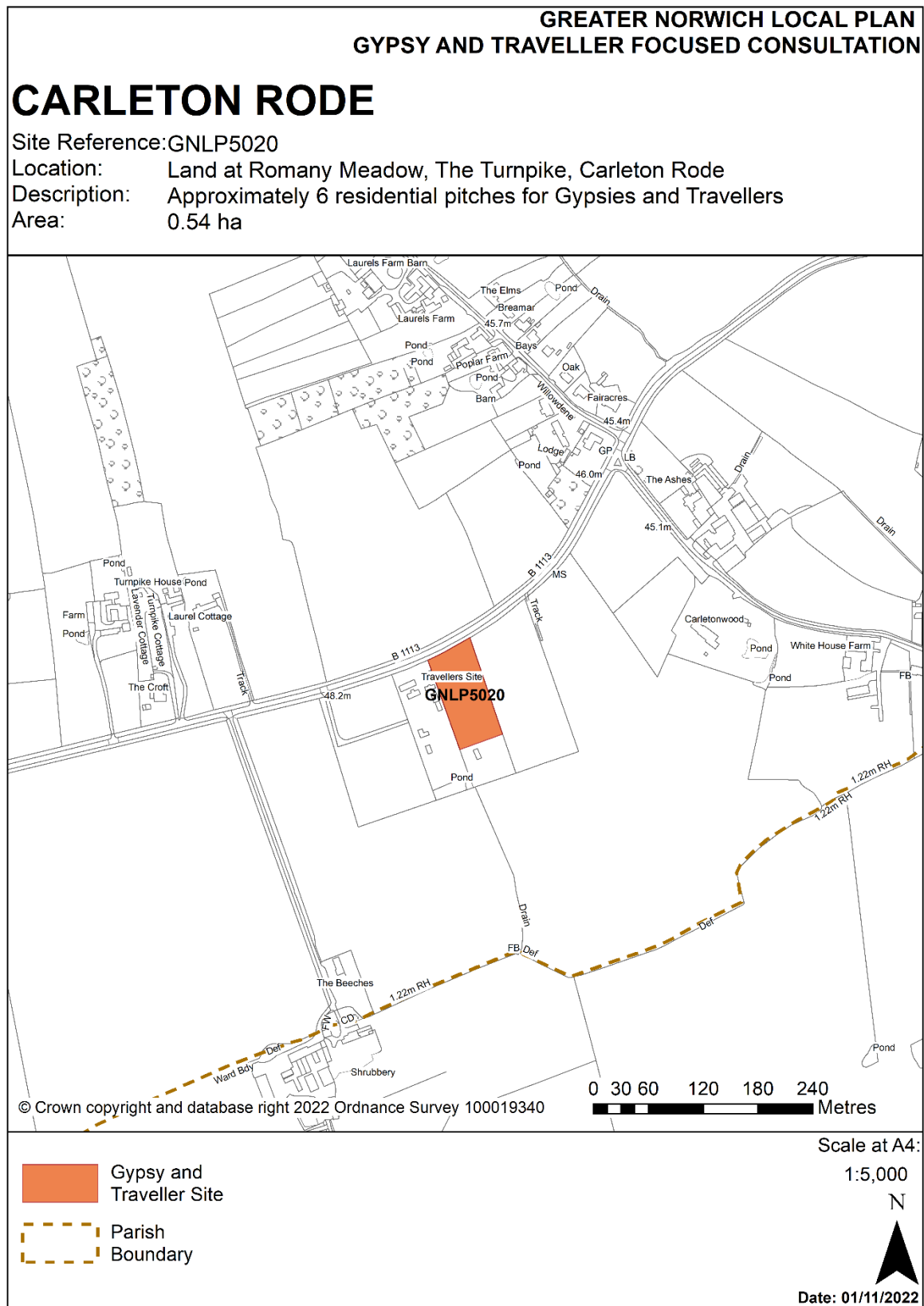
75. There are flood risk, landscape and heritage issues that will require mitigation. In terms of flood risk, a surface water flow path passes through the southern part of the site, so the layout of the site should avoid development in this area. In terms of landscape and heritage, the surrounding countryside is open with scattered listed farm buildings and cottages nearby. Of these the most likely to be affected are the Grade II listed cottages which are 300 metres to the north-east of the site. While there are no significant constraints created by proximity of designated ecological sites, an ecological assessment is required due to the proximity of nearby mature trees and hedgerows. Additional tree planting should be provided to minimise landscape impacts.
76. In other respects, GNLP5020 performs well against the assessment criteria. and the site is not constrained by land contamination or ground stability issues. The market attractiveness of the site is reflected in the demand from the Gypsy and Traveller community to extend it.
77. The Romany Meadow site is considered suitable for expansion to 12 pitches, subject to detailed design layout considerations. On this basis site GNLP5020 is considered suitable as a favoured option for allocation.

Availability and Achievability Conclusions

78. The site is in private ownership and the landowner is willing to make the site available for Gypsy and Traveller accommodation use. The owner would be likely to progress this proposal quickly, so 1-3 years is considered ample time to market the land, gain planning permission and to develop the site.

Overall Conclusions for Site

79. Subject to the caveats identified above, GNLP5020 is considered suitable as a favoured option for allocation. If allocated in the local plan, GNLP5020 would be deliverable within 5 years and could be completed by March 2025.



Parish: Horsford Suitability Assessment

Site reference: GNLP5021	Site area: 0.9
LOCATION: Land at the Old Produce Shop, Holt Road, Horsford District: Broadland	PROPOSED DEVELOPMENT: Expansion of an existing site with 1 pitch to provide a permanent residential Gypsy and Travellers site for 7 pitches

CONSTRAINTS ANALYSIS

Site Access	Green
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Amber
Contamination and Ground Stability	Green
Flood Risk	Green
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Green
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Green
Historic Environment	Green
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring uses	Amber

SITE SUITABILITY CONCLUSIONS

80. GNLP5021 is promoted as an extension to an existing Gypsy and Traveller site at the Old Produce Shop, Horsford. It is located to the south-east of Horsford, off the Holt Road, near where the road has been stopped-off close to the A1270 Broadland Northway junction with the A140 Cromer Road.
81. There is currently 1 pitch on the site which was approved in 2013 (reference 20120414) and the land is now promoted for an additional 6 pitches to give a total of 7 pitches. The land put forward as GNLP5021 is within the curtilage of the existing site and given that the site measures 0.9 ha the addition of a further 6 pitches is considered a realistic and achievable proposal.
82. Access to services is somewhat of a constraint as the site is 2 kilometres from services in Horsford. Although the Holt Road is stopped-off to through traffic

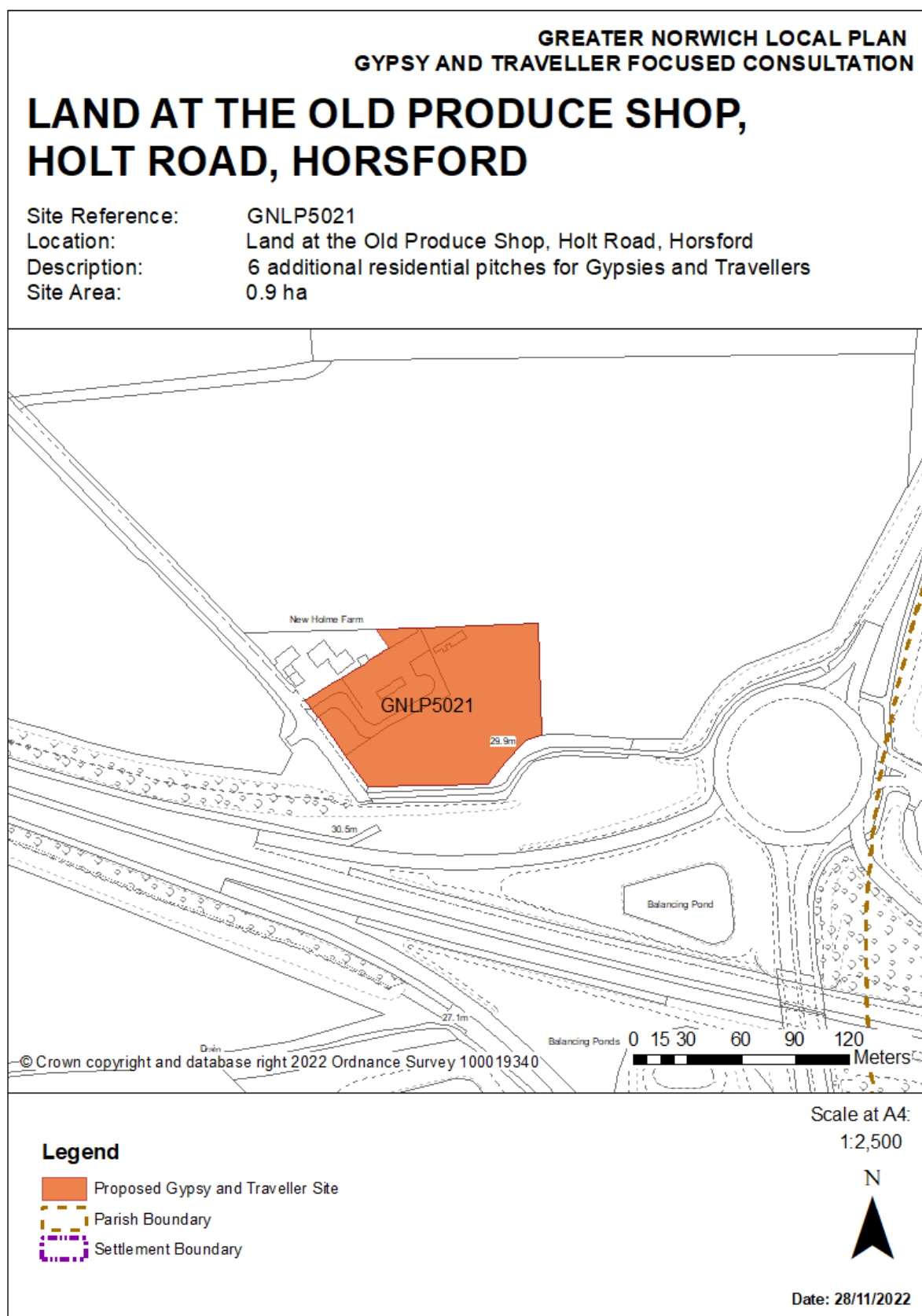
and so is little used, there is no footpath from the site to Horsford until the roundabout junction at Brewery Lane which is 1 kilometre from the site. Services are also accessible in Horsham St. Faiths to the north-east via a dedicated pedestrian/cycle route.

83. A further constraint is the proximity of GNLP5021 to the A1270 Broadland Northway, which at its nearest point is 100 metres from the junction with the A140 and Norwich Airport which is approximately 2.5 kilometres away. While trees adjacent to the new road are becoming established, additional landscaping and possibly acoustic fencing may be required.
84. GNLP5021 performs relatively well against the other assessment criteria. The existing vehicle access from the Holt Road could serve the additional pitches, there is good access to the wider 'A' and 'B' class road network, there are no known concerns over land contamination and ground stability, the site is in Flood Zone 1 and utilities already serve the site.
85. GNLP5021 is neighboured by agricultural fields to its east, north and west, with heritage features further away and unlikely to be affected by expanding the site. The Scheduled Ancient Monument Horsford Castle is 1.2 kilometres to the north and the nearest listed buildings on the southern edge of Horsford, including the Grade II* Church of All Saints, are over 1 kilometre to the north-west.
86. There are no ecological designations in close proximity to GNLP5021 that are likely to be adversely affected by the proposed development. The nearest County Wildlife Sites are Black Park & Thicket 1.2 kilometres to the north, Canham's Hill 1.2 kilometres to the south-west and Horsham Meadows which is 1.3 kilometres to the north-east. There are also no significant mature trees or hedgerows on GNLP5021 that raise particular ecological concerns.
87. The market attractiveness of the site is reflected in the demand from the Gypsy and Traveller community to extend it.
88. As with many locations in Greater Norwich, mitigation of the impacts on nutrient levels in river catchments will be required.
89. In summary, GNLP5021 is considered suitable as a favoured option for allocation.

Overall Conclusions for Site

Availability and Achievability Conclusions

90. GNLP5021 is in private ownership and the landowner is willing to make the site available for Gypsy and Traveller accommodation use. As a relatively unconstrained greenfield site there is no reason why development could not come forward quickly. 1 to 3 years is considered sufficient time to gain planning permission and to develop the site.



Parish: Foulsham Suitability Assessment

Site reference: GNLP5022	Site area: 3.1 ha
LOCATION: Land at the Oaks, south-east of Letter Box Cottage, Reepham Road, Foulsham District: Broadland	PROPOSED DEVELOPMENT: Expansion of an existing site of 2 pitches by 5 further pitches to provide a permanent residential Gypsy and Travellers site for 7 pitches.

CONSTRAINTS ANALYSIS

Site Access	Amber
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Amber
Contamination and Ground Stability	Green
Flood Risk	Amber
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Amber
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Amber
Historic Environment	Green
Open Space and GI	Green
Transport and Roads	Amber
Compatibility with neighbouring Uses	Green

SITE SUITABILITY CONCLUSIONS

91. GNLP5022 is a proposal to extend a well-established privately owned Gypsy and Traveller site by 5 further pitches to 7 pitches in total.
92. The site is located off the Reepham Road, which is part of a local road network which is narrow with some poor alignments and lacks lighting or pavements. Further development of the site will require investigation of highway safety, including of vehicle speeds along Reepham Road, with widening of the visibility splay at the site entrance as appropriate. There is also somewhat limited access to the “A” and B class road network.
93. GNLP5022 is approximately 2 kilometres from the village of Foulsham which has a limited range of services and facilities which include a school. The

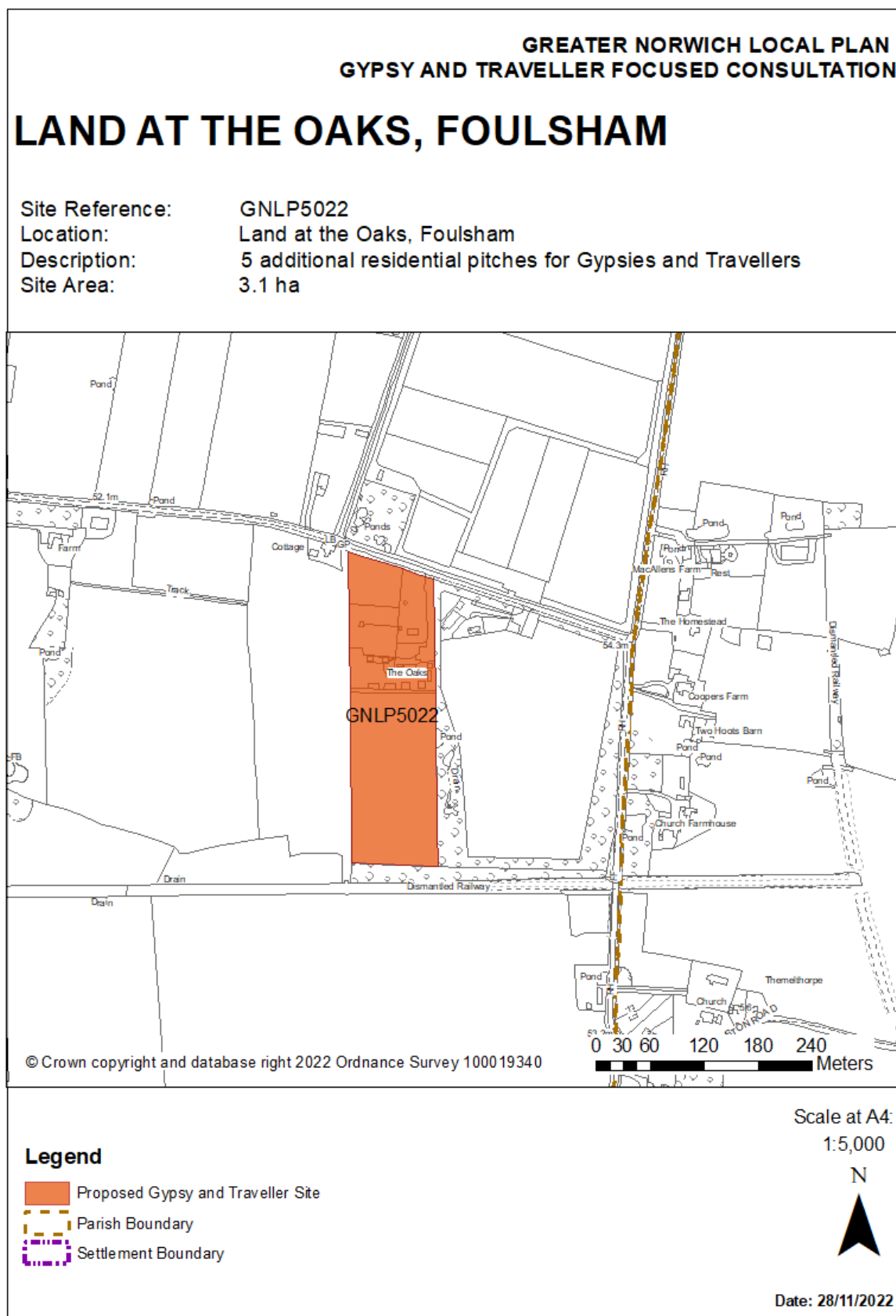
nearest bus stop, which provides regular links to Fakenham and Norwich, is at the far end of the village some 3 kilometres from the site.

94. The site has access to utilities infrastructure. The National Grid Bacton to Kings Lynn gas pipeline crosses below the site from east to west and a surface water flow path of 1 in 1,000 probability affects the central portion of the site. However, the northern section of the site is not impacted by the pipeline or flood risk. Whilst further investigation of these issues will be necessary, it is considered that locating development in the north of the site will address these constraints.
95. An ecological survey will be required as there are a number of protected habitats and sites within 2.5 kilometres of the site. These are:
- Foxley Wood (SSSI) 950 m to the south of the site;
 - The Marriott's Way (CWS) 570 m to the east;
 - Land adjacent to disused railway (CWS) 1,120 m to the east of the site;
 - Moat Meadow near Bates Moor (CWS) 1,700 m to the west,
 - Westfield Meadow (CWS) 2,500 m to the south-west and
 - Barney Brickyard, a county geodiversity candidate site which is 2,300 m to the north-west.
96. As the site is classified as grade 3 agricultural land and is currently a Gypsy and Traveller Site there would be no loss of high-quality agricultural land resulting from expanding the site. There would also be no loss of open space resulting from this development proposal.
97. GNLP5022 presents no substantive concerns in relation to heritage constraints as the nearest listed buildings are at some distance from the site:
- The Old Hall is 280 m to the east,
 - Old Hall Farm House is 480 m to the north-west,
 - St Andrews Church is 320 m to the south-west and
 - Manor Farm House is 720 m to the west.
98. The site has been landscaped with significant tree planting by the disused railway to the south of the site. These trees would need to be retained, with additional soft landscaping required to the north of the site to complement the layout of additional pitches.
99. The market attractiveness of the site is reflected in the demand from the Gypsy and Traveller community to extend it. The Oaks site is considered suitable for expansion to 7 pitches subject to detailed consideration of the impact of the gas pipeline, flood risk, design layout, landscaping and an ecological survey. On this basis GNLP5022 is considered appropriate for allocation.

Overall Conclusions for Site

Availability and Achievability Conclusions

100. Subject to the caveats identified above, GNLP5022 is considered suitable as a favoured option for allocation. If allocated in the local plan, the additional pitches would be likely to come forward quickly over the next 1-3 years.



Parish: Wymondham Suitability Assessment

Site reference: GNLP5023	Site area: 1.1 Ha
LOCATION: Land off Strayground Lane, Wymondham District: South Norfolk	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site for 10 pitches

CONSTRAINTS ANALYSIS

Site Access	Amber
Accessibility to Services	Amber
Utilities Capacity	Amber
Utilities Infrastructure	Amber
Contamination and Ground Stability	Amber
Flood Risk	Green
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Green
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Amber
Historic Environment	Green
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring uses	Amber

SITE SUITABILITY CONCLUSIONS

101. Site GNLP5023 is a 1.1 hectare privately owned site which has been put forward by the owner for approximately 10 residential Gypsy and Traveller pitches and is immediately available for development. The site is located on Strayground Lane, south of the existing Wymondham Recycling Centre and north of the Norwich to Cambridge railway line.

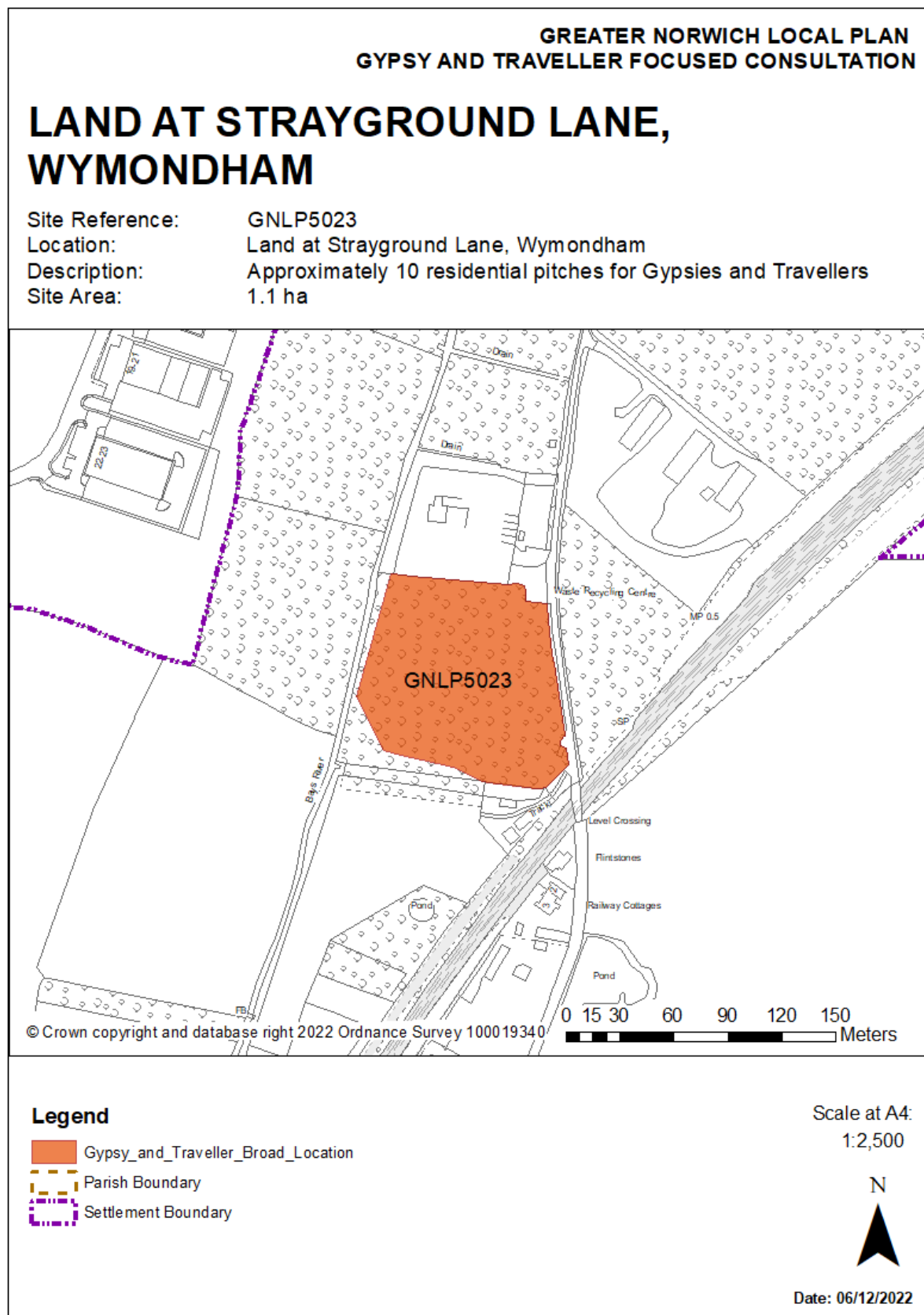
102. GNLP5023 has an access point at its north-eastern corner which would require improvement; or, alternatively, depending on the trees and hedgerow along the land's eastern boundary, other points of access could be achievable to Strayground Lane. As Strayground Lane and the adjoining Whartons Lane which links site GNLP5023 back to the B1172 London Road are narrow, improvements to the passing bays on the Strayground Lane will be required and visibility issues at the London Road junction will need to be addressed.

103. There are no footpaths on Strayground Lane, but as it is a quiet road, pedestrians and cyclists would be able to use this route. There is a local shop approximately 700 metres away and Browick Road Primary School is approximately 1 kilometre away.
104. An ecological assessment will be required as the western boundary of the site is adjacent to the Bays River, which is lowland fens priority habitat and a designated County Wildlife Site. The retention of trees and hedgerows should form part of the assessment.
105. Whilst not prohibiting possible development, there are other issues resulting from past and present on-site and neighbouring uses which may impact on the form of development:
- A paving company adjoins the site to its north. This will cause impacts from vehicle movements, noise and possibly dust. Screening will therefore be required.
 - The northern half of the site is a historic landfill site so contamination investigation and possibly mitigation will be required.
 - There are various planning consents dating back to the 1990s for a gravel quarry, stockpiling aggregates, and landfilling of inert waste (references include C/92/7023 and C/94/7016) to the north-east of the site.
106. GNLP5023 is in the catchment of a groundwater Source Protection Zone (Zone III) and as such pollution mitigation measures for water quality would be required.
107. The site presents few concerns in relation to the remaining assessment criteria:
- The nearest listed buildings are some distance away and are separated by the industrial area along Chestnut Drive.
 - The site is in Flood Zone 1. A small area to the west and south-west of the site is within flood zone 2 and 3a and the site boundary has been redrawn to exclude it. Development should not be located close to this area.
 - The site is close to the 'A' and 'B' class road network and to public transport and its location suggests it would be attractive to the market.
108. As with many locations in Greater Norwich, mitigation of the impacts on nutrient levels in river catchments will be required. Subject to addressing access and site constraints and the design of development taking account of site investigations and providing screening, GNLP5023 is considered suitable as a favoured option for allocation.

Overall Conclusions for Site

109. GNLP5023 is in private ownership and the landowner has stated that the site is available immediately and as such development could come

forward relatively quickly. 3 to 5 years is thought to be sufficient time to market the land, gain planning permission and to develop the site.



Parish: Carleton Rode Suitability Assessment

Site reference: GNLP5024	Site area: 0.62 Ha
LOCATION: Land off Upgate Street, Carleton Rode District: South Norfolk	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site for 4 additional pitches, expanding the site from 2 to 6 pitches in total.

CONSTRAINTS ANALYSIS

Site Access	Amber
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Green
Flood Risk	Green
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Green
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Amber
Historic Environment	Amber
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring Uses	Green

SITE SUITABILITY CONCLUSIONS

110. GNLP5024 is a proposal to extend a well-established privately owned Gypsy and Traveller site located on Upgate Street at Carleton Rode from 2 to 6 pitches. The site was initially granted permission in 2010. The site is 0.62 hectares in size and the addition of 4 further pitches is considered appropriate.
111. However, the distance to services is a constraint. The nearest villages with local services are New Buckenham, which is 1.7 kilometres to the south-west and Old Buckenham, which is 5 kilometres away. There is no footpath provision, but some of the quiet lanes such as Wymondham Road, which is stopped-off to through traffic and provides a direct route to New Buckenham, could be used for walking and cycling. Further evidence/speed data would be

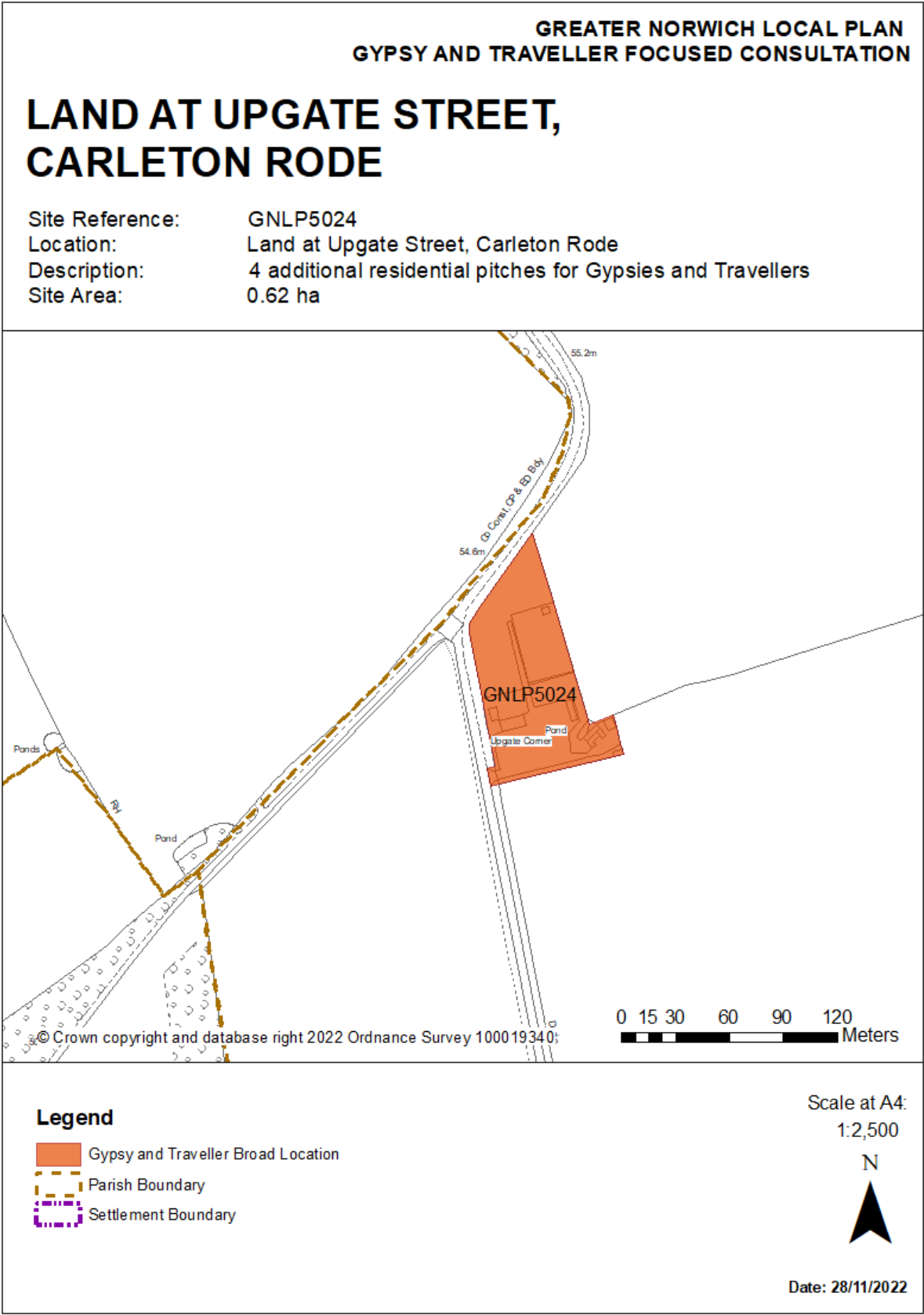
needed to demonstrate acceptability in relation to site access and visibility requirements.

112. The Uppgate Street site is surrounded by agricultural fields, there are no immediate neighbouring properties and the site itself is bounded by established trees and hedgerows, minimising impacts on the landscape and the setting of nearby heritage assets. The site is adjacent to Bunns Bank Linear Earthwork, which elsewhere in its course is a Scheduled Monument, so this should be taken into consideration in design. While the Grade II listed South Farmhouse is in close proximity, there is effective screening by hedgerows and trees.
113. New Buckenham Common is approximately 250 metres to the south-west, but it is unlikely that the addition of 4 Gypsy and Traveller pitches would pose a significant adverse effect on ecology. The site is unlikely to support priority habitats, however, boundary trees and hedgerows have the potential to support protected species such as bats and breeding birds. Therefore, a Preliminary Ecological Appraisal is likely to be required and the veteran tree on the northern boundary of the site should be retained.
114. In other respects, GNLP5024 performs well against the assessment criteria. There are no constraints from contamination or ground stability, the site is in Flood Zone 1, is not at risk of surface water flooding and there are existing utilities at the site. The market attractiveness of the site is reflected in the demand from the Gypsy and Traveller community to extend it.
115. Overall, GNLP5024 is suitable for expansion to 6 pitches, subject to detailed considerations, in particular in relation to safe access. On this basis GNLP5020 is considered suitable as a favoured option for allocation.

Overall Conclusions for Site

Availability and Achievability Conclusions

116. GNLP5024 is in private ownership and the landowner is willing to make the site available for more Gypsy and Traveller accommodation use quickly. Consequently, it is anticipated that development could come forward in 1 to 3 years.



Reasonable Alternative Site

Parish: Ketteringham Suitability Assessment

Site reference: GNLP5013	Site area: 0.7 Ha
LOCATION: Ketteringham Depot Land west of Station Lane, Ketteringham District: South Norfolk	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site for 10 pitches

CONSTRAINTS ANALYSIS

Site Access	Green
Accessibility to Services	Amber
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Amber
Flood Risk	Green
Market Attractiveness	Amber

IMPACTS ANALYSIS

Significant Landscapes	Green
Sensitive Townscapes	Green
Biodiversity and Geodiversity	Amber
Historic Environment	Green
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring uses	Amber

SITE SUITABILITY CONCLUSIONS

117. This 0.7 ha brownfield site is owned by South Norfolk Council. It is currently used as a depot which is expected to be relocated. The site could accommodate 10 residential pitches for Gypsies and Travellers.
118. The site has good access to the A11 south-west bound and development would not affect the functioning of local roads. There is an established vehicular access to serve its existing use. However, accessibility to public transport and services is limited. The nearest bus stop is approximately 1.6 kilometres to the north in Hethersett, which also provides the nearest services and facilities such as primary and secondary schools and food shopping. Station Road does not have footpaths and there is no direct

safe crossing of the A11 dual carriageway. An alternative route exists via Ketteringham High Street and over a narrow bridge to Ketteringham Lane, but there are no footpaths along this significantly longer route.

119. There are no known constraints relating to utilities capacity. Ground investigation, contamination assessments, noise and air quality investigations are required as there is a Norfolk County Council depot and salt storage to the west, and a former fuel depot to the north. There will be a need for screening to neighbouring homes to the west of the site
120. The site is in flood zone 1, so is at low risk of river flooding and is not at risk of surface water flooding.
121. The proposed development is unlikely to have any impacts on biodiversity and geodiversity as there are no locally or national designated environmental sites within a 1 kilometre radius. The only designated site within a 5 kilometre radius is Eaton Chalk Pit SSSI which is designated for its hibernating bats. The closest County Wildlife Site, Ketteringham Hall Lake, is 1 kilometre to the south. The site is considered unlikely to support priority habitats, however, buildings have the potential to support protected species such as bats and barn owls, therefore a Preliminary Ecological Appraisal is likely to be required.
122. There are two ancient monuments around 500 m to the south of the site and a listed monument close to Norwich Lodge, which is a grade II listed building. There is another listed building in the vicinity (Ivy Farmhouse). However, there are no concerns over the impact of development on these buildings and structures, or issues related to the loss of protected trees. In addition, development of this site would not result in the loss of formal open space.
123. Overall, the site is suitable as a reasonable alternative for allocation, subject to suitable mitigation measures to address possible noise or odour from the waste management site nearby. As with many locations in Greater Norwich, mitigation of the impacts on nutrient levels in river catchments would be required.

Availability and Achievability Conclusions

124. South Norfolk Council is the owner of the site which is available for development.

Overall Conclusions for Site

125. GNLP5013 is considered suitable as a reasonable alternative site. If allocated in the local plan, GNLP5013 would be developable within 5 to 10 years and could be completed by March 2032.



Proposed change to Contingency Site

Parish: Costessey Suitability Assessment

Site reference: Proposed change to GNLP5081/2023	Site area: 1 ha
LOCATION: Land off Bawburgh Lane, north of New Road and east of the A47 (Costessey contingency site ref GNLP0581/2043) District: South Norfolk	PROPOSED DEVELOPMENT: A broad location for a permanent residential Gypsy and Travellers site for 18 pitches.

CONSTRAINTS ANALYSIS

Site Access	Amber
Accessibility to Services	Amber
Utilities Capacity	Amber
Utilities Infrastructure	Amber
Contamination and Ground Stability	Green
Flood Risk	Amber
Market Attractiveness	Green

IMPACTS ANALYSIS

Significant Landscapes	Amber
Sensitive Townscapes	Amber
Biodiversity and Geodiversity	Amber
Historic Environment	Green
Open Space and GI	Green
Transport and Roads	Green
Compatibility with neighbouring uses	Green

SITE SUITABILITY CONCLUSIONS

126. This is a proposed change to provide a variation of the contingency site GNLP5081/2043, which measures 62 ha, and is being promoted as a residential-led urban extension of approximately 800 homes. Subject to formal agreement from the landowners, the southern portion of the site is identified as a potential broad contingency location for a Gypsy and Traveller site (denoted by a star on the map below). To ensure good planning, the need for a Gypsy and Traveller site at this broad location would need to be evidenced

if and when the wider contingency site for housing is brought forward for development.

127. There is an area of land affected by surface water flood risk in the central and part of the northern area of GNLP5081/2043. GNLP5081/2043 is also in the Norwich Southern Bypass Protection Zone and is adjacent to the A47, so there could be amenity concerns from disturbance caused by traffic and screening may be required. Other constraints include providing a new site access, overhead power lines, landscape impacts, townscape impacts, and the potential for protected species on site requiring further investigation. Site constraints would need to be mitigated through a comprehensive master-planning exercise.
128. Due to its location on the edge of the urban area close to existing services and the major road network, the site is likely to be attractive to the market.
129. Site GNLP5081/2043 was considered suitable for inclusion in the land supply assessment, and that conclusion remains the same with the inclusion of a Gypsy and Traveller site into the overall proposal for an urban extension. As with many locations in Greater Norwich, mitigation of the impacts on nutrient levels in river catchments would be required.

Availability and Achievability Conclusions

130. Norwich City Council is a part owner of the land promoted as GNLP0581/2043. Subject to confirmation of agreement with the other two landowners and the need for a Gypsy and Traveller site at this broad location being evidenced if and when the site comes forward for a wider urban extension, the land required for a Gypsy and Traveller site is considered to be likely to be available for development within 4 to 6 years.

Overall Conclusions for Site

The proposed change to GNLP5081/2023 offers the potential for a Gypsy and Traveller site to be delivered in a sustainable location if and when the submitted contingency site comes forward for a wider urban extension. Evidence would need to be provided at that time that additional Gypsy and Traveller accommodation is required. Inclusion of this site in this consultation provides flexibility for later decision making.

COSTESSEY

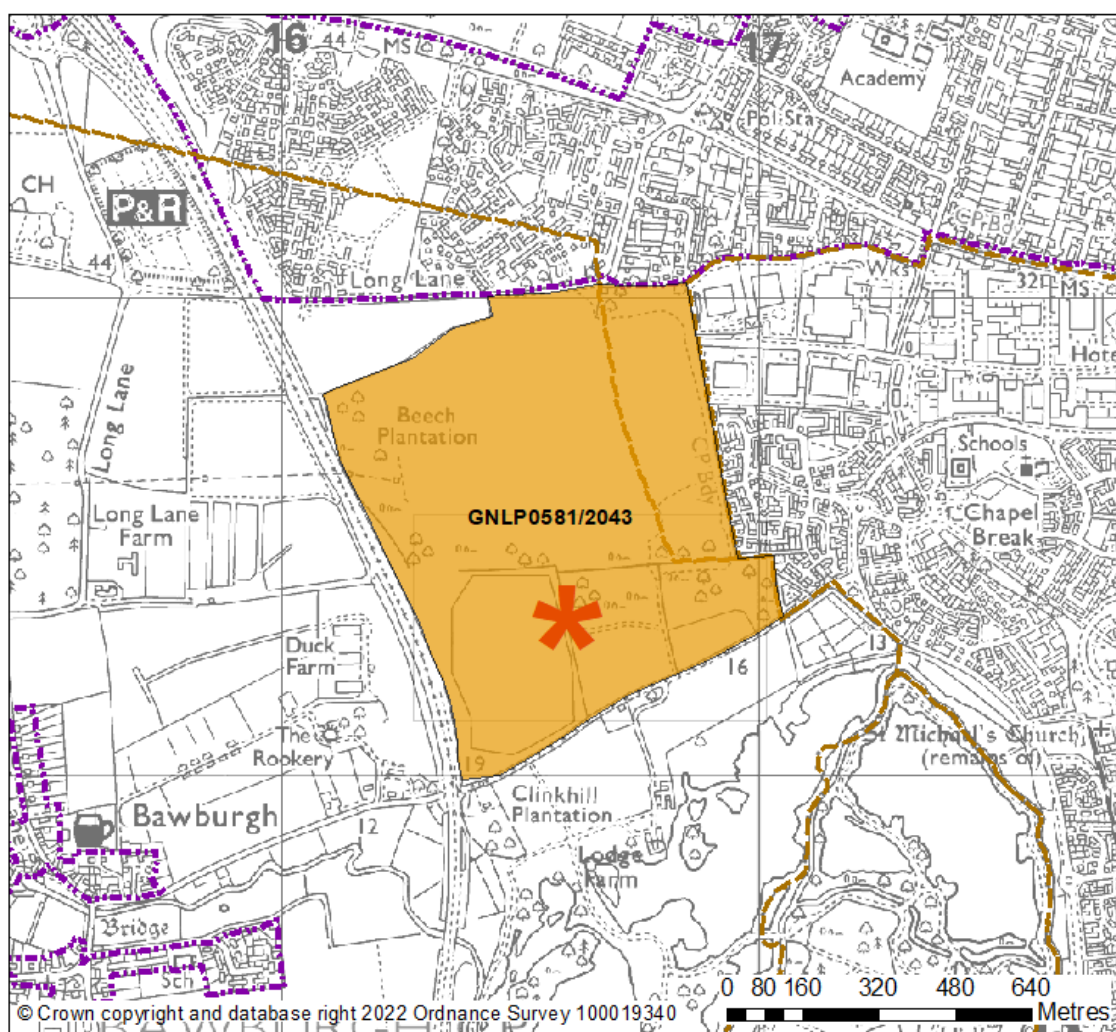
GREATER NORWICH LOCAL PLAN GYPSY AND TRAVELLER FOCUSED CONSULTATION

Site Reference: GNL0581/2043

Location: Land off Bawburgh Lane, north of New Road and east of the A47

Description: Should the need for the contingency site be triggered then the option would exist to provide a Gypsy and Traveller site as part of this urban extension of approximately 800 homes. The southern part of the site is the broad location for the Gypsy and Traveller site with vehicular access from New Road.

Site Area: Approximately 1 ha will be located within entire 62 ha site



- Contingency Site
- Parish Boundary
- Settlement Boundary



Broad Location of
Gypsy and Traveller Site

Scale at A4:
1:12,000

N



Date: 30/11/2022

Unreasonable Sites

Parish: Denton Suitability Assessment

Site reference: VCHAP GT Site 1	Site area: 0.68 Ha
LOCATION: Land west of Grove Farm, Middle Road, Denton District: South Norfolk	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site

Site reference: VCHAP GT Site 2	Site area: 0.78 Ha
LOCATION: Land north of Kingsland Farm, Middle Road Denton District: South Norfolk	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site

CONSTRAINTS ANALYSIS

Site Access	Red
Accessibility to Services	Red
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Green
Flood Risk	Amber
Market Attractiveness	Amber

IMPACTS ANALYSIS

Significant Landscapes	Red
Sensitive Townscapes	Red
Biodiversity and Geodiversity	Green
Historic Environment	Amber
Open Space and GI	Green
Transport and Roads	Red
Compatibility with neighbouring Uses	Amber

131. Two areas of land in Denton, measuring 0.68 ha and 0.78 ha, were promoted in 2021 as Gypsy and Traveller sites through the public consultation for the South Norfolk Village Clusters Housing Allocations Plan (VCHAP). The

two sites are both on Middle Road, located less than 100 metres apart, and are either side of Grove Farm. Whilst being very similar in locational terms, a key difference is Site 1 is partially covered by farm buildings and Site 2 is used as paddocks.

132. There is a significant planning history to Site 2, where there have been appeal decisions against developing a Gypsy and Traveller site – see planning applications 2004/0495 and 2006/0797. While the following appeal refusal criteria apply directly to Site 2, the close proximity of Site 1 makes them applicable here as well:

- highway safety on Middle Road
- the relationship to the primary road network and the distance to facilities
- the effect on the greenfield setting of two listed buildings
- the landscape visual impact and
- the amenity impact for nearby residents.

133. The inspectors stated that as Middle Road is narrow, and due to its location, access to services would be dependent upon having access to a vehicle. The remoteness of the location is evidenced by the distance to schools: Earsham Primary School is 6 kilometres away, Harleston Primary School is 7 kilometres and it is 10 kilometres to Bungay High School. These factors present significant constraints when considering the sites against the assessment criteria.

134. Other notable constraints are the impacts on listed buildings and surface water flood risk. Kingswood Farm and Grove Cottages are Grade II listed buildings and the setting of both would be affected by the development of a Gypsy and Traveller site in this location. A lesser constraint is flood risk as there are areas at 1 in 1,000 and 1 in 100 flood risk probability on both Sites 1 and 2 that would warrant consideration if the sites were to be developed.

135. Ecological impacts are less of a concern because the nearest designations are some distance away. The nearest is Wayside County Wildlife Site which is 300 metres to the north-east and East Wood County Wildlife Site is 500 metres to the east. The River Waveney is 1.7 kilometres away, making it unlikely that development would have any adverse impact on this habitat and landscape.

136. In summary, there are significant concerns in relation to these sites, most notably about highways, the distance to facilities and the impact on the setting of adjacent listed buildings. For these reasons Sites 1 and 2 are not considered suitable for allocation.



Parish: Wymondham Suitability Assessment

Site reference: VCHAP GT Site 3	Site area: 3.34 Ha
LOCATION: Land off London Road, Sutton, Wymondham District: South Norfolk	PROPOSED DEVELOPMENT: A permanent residential Gypsy and Travellers site for 8 pitches

CONSTRAINTS ANALYSIS

Site Access	Red
Accessibility to Services	Red
Utilities Capacity	Green
Utilities Infrastructure	Green
Contamination and Ground Stability	Green
Flood Risk	Amber
Market Attractiveness	Amber

IMPACTS ANALYSIS

Significant Landscapes	Red
Sensitive Townscapes	Red
Biodiversity and Geodiversity	Green
Historic Environment	Amber
Open Space and GI	Green
Transport and Roads	Red
Compatibility with neighbouring Uses	Amber

SITE SUITABILITY CONCLUSIONS

137. VHCAP Site 3, which measures 3.35 ha, is located on the B1172 London Road, 4.2 kilometres from the centre of Wymondham and 5.4 kilometres from the centre of Attleborough. It has been largely built out as a Gypsy and Traveller site for 8 pitches, but a planning appeal to allow the scheme was dismissed in June 2021. As of December 2022 consideration is ongoing as to when the unlawful development shall be fully vacated.

138. The site's accessibility to services is a notable constraint. Although there is a bus stop 600 metres from the site, there is no footpath to it, and it is likely that most journeys from this location would be by car. Spooner Row Primary School is 1.8 kilometres away on the opposite side of the A11 dual carriageway and there is no easily accessible walking and cycling route. The other nearest services are 3.8 kilometres away in Wymondham.

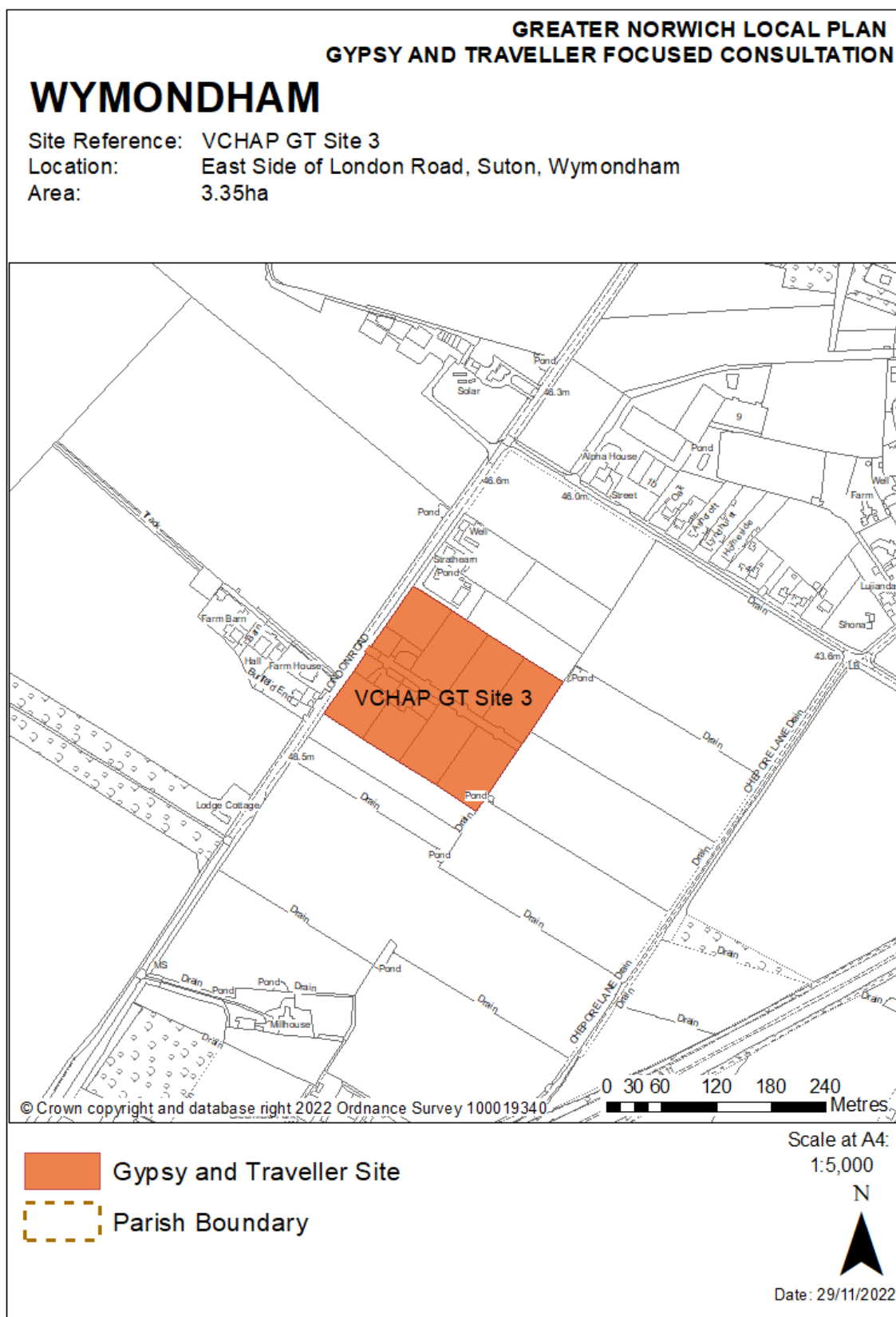
139. The site's setting amongst flat and open agricultural fields has been assessed to have a significant impact on the surrounding landscape and on nearby estate cottages which are non-designated heritage assets.

140. There are fewer constraints in relation to other assessment criteria including biodiversity, flood risk, market attractiveness, compatibility with neighbouring uses and the availability of utilities connections.

141. The recent planning history provides further useful information when considering VCHAP Site 3 against the assessment criteria. The inspector cited the following justification in refusing appeal (2019/0330) in June 2021:

- landscape intrusion,
- impact on the nearby estate cottages,
- journeys would be predominately by car and ,
- the site would amount to a small village in its own right in the context of a sparsely populated community.

142. In summary, there are significant concerns relating to this site as evidenced in a recent appeal decision, most notably relating to accessibility to services, landscape impact and the effect on the nearby non-designated heritage assets. For these reasons VCHAP Site 3 is not considered suitable for allocation.



Conclusions

143. This assessment, along with the SA and HRA, has assisted in identifying a “favoured option” for Gypsy and Traveller accommodation sites to be consulted on. Although all of the favoured sites have some constraints, the limited scale of the development proposed and the specific nature of the constraints means that these can be overcome with appropriate mitigation measures.
144. In some cases, proposed sites do not have immediate access to everyday services. However, the needs of the Gypsy and Traveller community in a predominantly rural area mean that it is not always possible, or necessary, to locate sites with immediate access to facilities.
145. The favoured option provides a variety of sites. There are different types of ownership, both public or private, and both new sites and existing sites for expansion. There is also a relatively wide geographical spread of sites across the area, providing choice, and a range of likely delivery timescales which should meet national policy requirements to ensure evidenced needs are met. This diverse choice of site is the outcome of extensive engagement with various landowners, including direct liaison with the Gypsy and Traveller community.
146. Two of the favoured option sites are new sites put forward by public authorities (GNLP 5005 at Wymondham and GNLP5014 at North Burlingham). Three are new privately owned sites (GNLP5004 at Cawston, GNLP5009 at Bawburgh and GNLP5023 at Wymondham) and five are existing privately owned sites which are proposed for expansion (GNLP5019 Stratton Strawless, GNLP5020 and GNLP5024 at Carleton Rode, GNLP5021 at Horsford, and GNLP5022 at Foulsham).
147. Whilst no sites were identified in the Norwich City Council area in addition to the expansion of the Swanton Road site which has already been accounted for in the calculation of need, there is a distribution and choice of sites across Broadland and South Norfolk. Foulsham, Cawston, Stratton Strawless and Horsford are in the north and west of Broadland, whilst North Burlingham is in the east. In South Norfolk the choice of sites is more clustered in Wymondham and Carleton Rode, with two new sites proposed in the former and two for expansion in the latter.
148. The Greater Norwich partnership recognises there is a current unmet need for pitches and therefore it is important to identify a supply of sites that can deliver over the current 5-year period to March 2027. Expanding existing sites is a good way to build new pitches quickly, and the existing sites at Carleton Rode, Horsford, Foulsham, Stratton Strawless are well-placed to expand over the next 5 years because infrastructure is already in place and the landowners are willing and able to build them out.
149. Some of the newly proposed sites also provide potential for pitches to be built over the current 5-year period. Landowners for the Cawston, Bawburgh, and Wymondham (GNLP5023) sites have stated could deliver

pitches in the current 5-year period. The new site at North Burlingham (GNLP5014), although contingent on the A47 road improvement scheme, can be built on publicly owned land and is also deliverable over the current 5-year period.

150. The reasonable alternative site at Ketteringham and proposed policy change to the submitted contingency housing site at Costessey provide further options.

Sustainability Appraisal of the Greater Norwich Local Plan Gypsy and Traveller Sites and Policies

Addendum to the Regulation 19 SA Report

December 2022



LEPUS CONSULTING
LANDSCAPE, ECOLOGY, PLANNING & URBAN SUSTAINABILITY

Sustainability Appraisal of the Greater Norwich Local Plan Gypsy and Traveller Sites and Policies

Addendum to the Regulation 19 SA Report

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Approved	ND

Front cover: Happisburgh by John Fielding

About this report & notes for readers

Lepus Consulting Ltd (Lepus) has prepared this report for the use of Greater Norwich Development Partnership. There are a number of limitations that should be borne in mind when considering the conclusions of this report. No party should alter or change this report whatsoever without written permission from Lepus.

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This SA Report is based on the best available information, including that provided to Lepus by the Council and information that is publicly available. No attempt to verify these secondary data sources has been made and they have been assumed to be accurate as published. This report was prepared between April and December 2022 and is subject to and limited by the information available during this time. This report has been produced to assess the sustainability effects of the Gypsy and Traveller Site Allocations and

Policies and meets the requirements of the SEA Directive. It is not intended to be a substitute for an Environmental Impact Assessment (EIA) or Appropriate Assessment (AA).

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Abbreviations

ALC	Agricultural Land Classification
AQMA	Air Quality Management Area
DEFRA	Department for Environment, Food and Rural Affairs
DLUHC	Department for Levelling Up, Housing and Communities
EA	Environment Agency
GNDP	Greater Norwich Development Partnership
GNLP	Greater Norwich Local Plan
GP	General Practice
GTAA	Gypsy and Traveller Accommodation Assessment
ha	Hectare
HRA	Habitats Regulations Assessment
IRZ	Impact Risk Zone
km	Kilometre
LCA	Landscape Character Area
LCT	Landscape Character Type
LVIA	Landscape and Visual Impact Assessment
m	Metre
MHCLG	Ministry for Housing, Communities and Local Government
MSA	Mineral Safeguarding Area
NHS	National Health Service
NPPF	National Planning Policy Framework
ODPM	Office of the Deputy Prime Minister
PPG	Planning Policy Guidance
PPP	Plan, Policy and Programme
PRoW	Public Right of Way
SA	Sustainability Appraisal
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest

Executive Summary

About this report

- E1 The Greater Norwich Development Partnership (GNDP) are in the process of preparing the Greater Norwich Local Plan (GNLP), which will include allocations and policies to meet the accommodation needs of Gypsies and Travellers.
- E2 As part of the GNLP process, a Sustainability Appraisal (SA) is being undertaken that incorporates the requirements of Strategic Environmental Assessment (SEA). The purpose of SA/SEA is to help guide and influence the Plan making process for the GNDP by identifying the likely sustainability effects of various reasonable alternative options.
- E3 The Greater Norwich Gypsy and Traveller Accommodation Assessment (GTAA) Report (June 2022)¹ has been prepared to assess the accommodation needs of Gypsies and Travellers and Travelling Showpeople within the Plan area, through a review of secondary information, surveys and interviews. The GTAA found that 53 Gypsy and Traveller pitches are required over the Plan period to 2038.
- E4 The GNLP was submitted to the Secretary of State for independent examination on 30th July 2021, with examination hearings held between February and March 2022. The Inspectors stated that a focussed consultation on proposed Gypsy and Traveller sites and policies within the GNLP is required. This SA report therefore comprises an appraisal of the 12 reasonable alternative sites and related policies proposed within the GNLP for Gypsies and Travellers within the Plan area.
- E5 SA is the process of informing and influencing the preparation of a Local Plan to optimise its sustainability performance. SA considers the social, economic and environmental performance of the Plan.

Summary findings

- E6 A total of 12 reasonable alternative sites proposed for permanent Gypsy and Traveller pitches have been identified across Greater Norwich. These sites have been assessed within this SA report, based on the same methodology that has been used throughout the SA process for the assessment of housing, employment and mixed-use sites.
- E7 The SA has identified a range of positive and negative potential impacts of the reasonable alternative sites on the objectives within the SA Framework, pre-mitigation. Negative impacts were mainly related to issues associated with the location of development outside of sustainable target distances to services such as schools and healthcare facilities, and the potential for threats or pressures to environmental assets including biodiversity features,

¹ RRR Consultancy Ltd (2022) Greater Norwich Gypsy and Traveller Accommodation Assessment Report, June 2022. Available at: <https://www.gnlp.org.uk/sites/gnlp/files/2022-06/Greater%20Norwich%20GTAA%20Final%20Report%20June%202022.pdf> [Date accessed: 21/06/22]

-
- watercourses and the loss of ecologically or agriculturally valuable soil associated with development on previously undeveloped land. Positive impacts were identified relating to the provision of pitches to contribute towards meeting accommodation needs for Gypsies and Travellers, and the location of sites away from areas of fluvial flood risk.
- E8 Some (but not all) of the identified negative impacts may be mitigated through policy and site design.
- E9 The GNLP's preferred sites for allocation within the emerging GNLP 'Site Policies for Gypsy and Traveller Permanent Residential Pitches Focused Consultation' document are Sites GNLP5004, GNLP5005, GNLP5009, GNLP5014, GNLP5019, GNLP5020, GNLP5021, GNLP5022, GNLP5023 and GNLP5024. Site GNLP0581/2043GT is proposed as a contingency site, and GNLP5013 is proposed as a reasonable alternative. Each site has an accompanying site policy which has been prepared to address site-specific issues alongside the proposed allocation.
- E10 The 12 reasonable alternative Gypsy and Traveller sites perform similarly overall in the SA. Following consideration of policy mitigation, the SA has identified residual positive, negligible and negative effects against some SA Objectives.
- E11 The best performing option could be identified as Site GNLP5013, because after the potential mitigating influence of the GNLP policies is taken into account, no major negative scores are identified, and positive scores are identified overall for seven of the 15 SA Objectives. However, the assessment of this site has also identified the potential for minor negative impacts across five SA Objectives. Site GNLP5005 also performs relatively well, with positive scores for seven SA Objectives but five minor negative scores.
- E12 There is a degree of uncertainty regarding effects on biodiversity (SA Objective 3) owing to the emerging mitigation strategy regarding nutrient neutrality issues within Norfolk. Site GNLP5023 wholly coincides with priority habitat, and as such, there is also uncertainty regarding the potential to mitigate the proposed development at this location. Furthermore, at this stage, the impacts that could arise at Site GNLP0581/2043GT are uncertain for some SA Objectives, as the exact location of the Gypsy and Traveller pitches within the wider Costessey Contingency Site are unknown at the time of writing.
- E13 Where relevant, the SA has identified some recommendations to enhance or strengthen the proposed site allocation policies.

Next steps

- E14 This SA Report has been prepared as an addendum to the Regulation 19 SA Report, and will undergo a 6-week public consultation period between January and March 2023.
- E15 This SA Report is undergoing a focused consultation alongside the 'Site Policies for Gypsy and Traveller Permanent Residential Pitches Focused Consultation' document, the Gypsy and Traveller Site Assessment Booklet, HELAA Addendum and the HRA.
- E16 Following the consultation period, responses will be considered by the Councils to inform the emerging GNLP as the examination stage progresses.

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1 Introduction

1.1 Context

- 1.1.1 Lepus Consulting is conducting the Sustainability Appraisal (SA) process for the Greater Norwich Local Plan (GNLP), including Gypsy and Traveller sites and policies, on behalf of Greater Norwich Development Partnership (GNDP) which includes Broadland District Council, Norwich City Council and South Norfolk Council.
- 1.1.2 The Submission Version of the GNLP was submitted to the Secretary of State for independent examination on 30th July 2021. Between 1st February and 22nd March 2021, the GNDP underwent public consultation on the Regulation 19 Pre-Submission Draft Version of the GNLP², with examination hearings held between February and March 2022. This version of the GNLP was supported by a Sustainability Appraisal/Strategic Environmental Assessment (SA/SEA) report³, which satisfied the requirements of an 'Environmental Report' as per the SEA Regulations⁴ (from here on referred to as the Regulation 19 SA Report).
- 1.1.3 SA is the process of informing and influencing the preparation of a Local Plan to maximise sustainability value. SA is integrated with the SEA process so that the requirements of both assessments are prepared simultaneously. The purpose of SA/SEA is to help guide and influence the plan-making process for GNDP by identifying the likely environmental, social and economic effects of various reasonable alternative sites and policies.
- 1.1.4 This document comprises an Addendum to the Regulation 19 SA Report⁵, focusing on the assessment of proposed Gypsy and Traveller sites, which has been prepared in order to address a request made by the Planning Inspectors during the examination.
- 1.1.5 The GNDP have identified 12 reasonable alternative Gypsy and Traveller sites within South Norfolk and Broadland Districts, with potential pitch delivery ranging from two to 18 pitches per site.
- 1.1.6 Additionally, the Councils have prepared site policies which seek to facilitate the allocation of the ten preferred Gypsy and Traveller sites and their development management within the emerging GNLP, as follows: Policies GNLP5004, GNLP5005, GNLP5009, GNLP5014, GNLP5019, GNLP5020, GNLP5021, GNLP5022, GNLP5023 and GNLP5024.

² GNLP (2021) Regulation 19 Publication Information. Available at: <https://www.gnlp.org.uk/regulation-19-publication-part-1-strategy/regulation-19-publication-information-not-part-plan> [Date accessed: 06/08/21]

³ Lepus Consulting (2021) Sustainability Appraisal and Strategic Environmental Assessment of the Greater Norwich Local Plan (Volumes 1-3) January 2021. Available at: <https://www.gnlp.org.uk/regulation-19-publication/evidence-base> [Date accessed: 06/08/21]

⁴ The Environmental Assessment of Plans and Programmes Regulations 2004. Available at: <https://www.legislation.gov.uk/uksi/2004/1633/contents/made> [Date accessed: 20/06/22]

⁵ Lepus Consulting (2021) Sustainability Appraisal and Strategic Environmental Assessment of the Greater Norwich Local Plan. Volume 2 of 3: Regulation 19 SA Report. Available at: https://www.gnlp.org.uk/sites/gnlp/files/2021-01/LC-663_Vol_2of3_GNLP_SA_Reg19_20_250121LB_compressed%20Jan%202021.pdf [Date accessed: 14/04/22]

1.1.7 The Councils have also prepared site policies for two sites which are not preferred at this stage but may come forward in future. The proposed change to Policy GNLP0581/2043 refers to the inclusion of Gypsy and Traveller pitches within the contingency site at Costessey (Site GNLP0581/2043GT), and Policy GNLP5013 is proposed as a reasonable alternative for allocation.

1.1.8 This SA report has appraised the 12 reasonable alternative sites and accompanying site policies in terms of sustainability performance using the SA Framework as set out in **Appendix A**. This will help the GNLP to identify potential mitigation or improvements which could be made to the policies at this stage, in order to help ensure the GNLP have chosen the most sustainable options.

1.2 Greater Norwich

1.2.1 Lepus Consulting has been commissioned by the GNLP to review the GNLP Gypsy and Traveller sites and policies, through the SA process. The GNLP are working with Norfolk County Council and consist of the following:

- Broadland District Council;
- Norwich City Council; and
- South Norfolk District Council.

1.2.2 Greater Norwich comprises the three districts of Norwich, Broadland and South Norfolk (see **Figure 1.1**). The districts of Broadland and South Norfolk are predominantly rural in nature, with isolated towns and villages separated by large areas of open farmland. The Broads National Park, a nationally important landscape, is located to the east of the Greater Norwich Local Plan area. The Broads is a visually and culturally distinctive part of Norfolk. The River Yare, River Bure and River Waveney form the district boundaries between Broadland and South Norfolk.

1.2.3 The city of Norwich is a major regional centre for employment, tourism and culture and is Norfolk's highest-ranking retail centre. Within the district there are numerous primary and secondary educational facilities. Besides schools, there are a number of higher and further education centres, including the University of East Anglia, Norwich University College of the Arts, City College and Easton College.

1.2.4 The GNLP will guide development across the three districts up to 2038, providing both strategic policies and site allocations to meet demand for housing and employment, Gypsy and Traveller pitches, as well as other land use matters. It is being produced by the three councils of Broadland, Norwich and South Norfolk, supported by Norfolk County Council. It takes the adopted Joint Core Strategy (JCS) for Broadland, Norwich and South Norfolk, which covers all three districts from 2008 up to 2026, as its starting point.

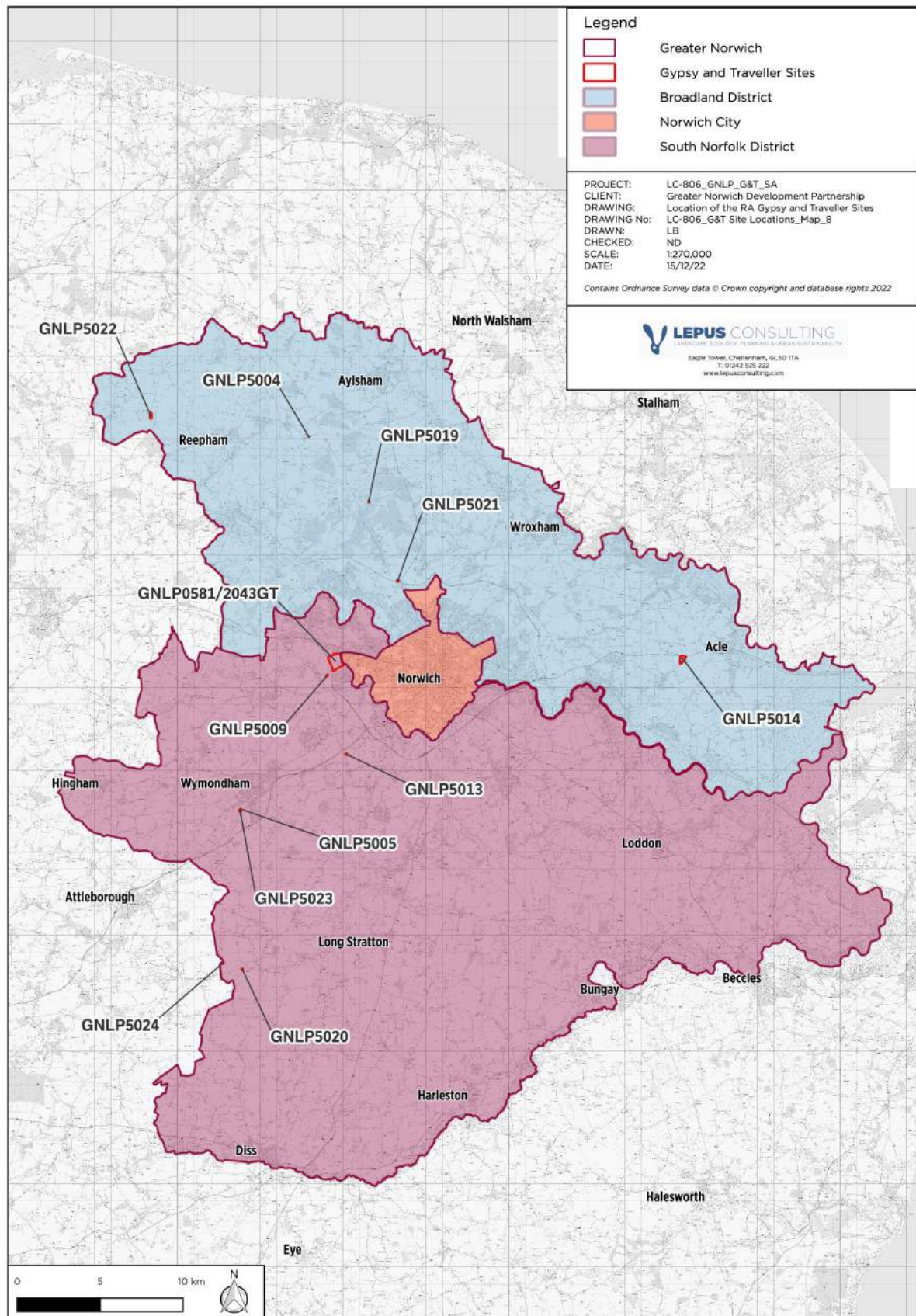


Figure 1.1: District boundaries within Greater Norwich and location of reasonable alternative Gypsy and Traveller sites

1.3 Gypsy and Traveller Accommodation Needs Assessment

- 1.3.1 The Greater Norwich Gypsy and Traveller Accommodation Assessment (GTAA) Report (June 2022)⁶ has been prepared to assess the accommodation needs of Gypsies and Travellers and Travelling Showpeople within the Plan area, through a review of secondary information, surveys and interviews.
- 1.3.2 In accordance with planning policy for traveller sites⁷, Gypsies and Travellers are defined as *“persons of nomadic habit of life whatever their race or origin, including such persons who on grounds only of their own or their family’s or dependants’ educational or health needs or old age have ceased to travel temporarily, but excluding members of an organised group of travelling showpeople or circus people travelling together as such”*.
- 1.3.3 Travelling Showpeople are defined as *“members of a group organised for the purposes of holding fairs, circuses or shows (whether or not travelling together as such). This includes such persons who on the grounds of their own or their family’s or dependants’ more localised pattern of trading, educational or health needs or old age have ceased to travel temporarily, but excludes Gypsies and Travellers as defined above”*⁸.
- 1.3.4 When taking into account this new evidence alongside recent planning permissions, the GTAA found that 53 Gypsy and Traveller pitches are required by the end of the Plan period in 2038.

1.4 Integrated approach to SA and SEA

- 1.4.1 The requirements to carry out SA and SEA are distinct, although it is possible to satisfy both obligations using a single appraisal process.
- 1.4.2 The European Union Directive 2001/42/EC⁹ (SEA Directive) applies to a wide range of public plans and programmes on land use, energy, waste, agriculture, transport and more (see Article 3(2) of the Directive for other plan or programme types).
- 1.4.3 The objective of the SEA procedure can be summarised as follows: *“the objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development”*.

⁶ RRR Consultancy Ltd (2022) Greater Norwich Gypsy and Traveller Accommodation Assessment Report, June 2022. Available at: <https://www.gnlp.org.uk/sites/gnlp/files/2022-06/Greater%20Norwich%20GTAA%20Final%20Report%20June%202022.pdf> [Date accessed: 21/06/22]

⁷ MHCLG (2015) Planning policy for traveller sites. Available at: <https://www.gov.uk/government/publications/planning-policy-for-traveller-sites> [Date accessed: 22/04/22]

⁸ Ibid

⁹ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 (SEA Directive). Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0042&from=EN> [Date accessed: 22/04/22]

- 1.4.4 The Directive has been transposed into English law by the SEA Regulations (SI no. 1633). Under the requirements of the SEA Directive and SEA Regulations, specific types of plans that set the framework for the future development consent of projects must be subject to an environmental assessment. Therefore, it is a legal requirement for the GNLP to be subject to SEA throughout its preparation.
- 1.4.5 SA is a UK-specific procedure used to appraise the impacts and effects of development plans in the UK. It is a legal requirement as specified by s19(5) of the planning and Compulsory Purchase Act 2004¹⁰ and should be an appraisal of the economic, social and environmental sustainability of development plans.
- 1.4.6 The present statutory requirement for SA lies in The Town and Country Planning (Local Planning) (England) Regulations 2012¹¹. SA is a systematic process for evaluating the environmental consequences of proposed plans or programmes to ensure environmental issues are fully integrated and addressed at the earliest appropriate stage of decision-making.

1.5 Best Practice Guidance

- 1.5.1 Government policy recommends that both SA and SEA are undertaken under a single sustainability appraisal process, which incorporates the requirements of the SEA Directive. This can be achieved through integrating the requirements of SEA into the SA process. The approach for carrying out an integrated SA and SEA is based on best practice guidance:
- European Commission (2004) Implementation of Directive 2001/42 on the assessment of the effects of certain plan and programmes on the environment¹²;
 - Office of Deputy Prime Minister (2005) A Practical Guide to the SEA Directive¹³;
 - Ministry of Housing, Communities and Local Government (2018) National Planning Policy Framework (NPPF)¹⁴;
 - Ministry of Housing, Communities and Local Government (2018) Planning Practice Guidance (PPG)¹⁵; and

¹⁰ Planning and Compulsory Purchase Act 2004. Available at: <https://www.legislation.gov.uk/ukpga/2004/5/contents> [Date accessed: 22/04/22]

¹¹ The Town and Country Planning (Local Planning) (England) Regulations 2012. Available at: <http://www.legislation.gov.uk/uksi/2012/767/contents/made> [Date accessed: 22/04/22]

¹² European Commission (2004) Implementation of Directive 2001/42 on the assessment of the effects of certain plan and programmes on the environment. Available at: http://ec.europa.eu/environment/archives/eia/pdf/030923_sea_guidance.pdf [Date accessed: 22/04/22]

¹³ Office of Deputy Prime Minister (2005) A Practical Guide to the SEA Directive. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf [Date accessed: 22/04/22]

¹⁴ Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Date accessed: 22/04/22]

¹⁵ Ministry of Housing, Communities and Local Government (2019) Planning practice guidance. Available at: <https://www.gov.uk/government/collections/planning-practice-guidance> [Date accessed: 22/04/22]

- Royal Town Planning Institute (2018) Strategic Environmental Assessment, Improving the effectiveness and efficiency of SEA/SA for land use plans¹⁶.

1.6 Sustainability Appraisal

- 1.6.1 The preparation of the GNLP has been supported by a sustainability appraisal process. This document is a component of the SA of the GNLP, comprising the SA of Gypsy and Traveller sites and policies.
- 1.6.2 SA is the process of informing local development plans to maximise their sustainability value and is a statutory requirement when preparing development plan documents. The SA process provides a soundness test for development plan documents, the key objective of which is to promote sustainable development.
- 1.6.3 The SA process has followed the Local Plan making process on an iterative basis. Consequently, there are several SA documents that have been prepared. The Regulation 19 SA Report meets the requirements of the SEA Regulations, and all earlier work is clearly referenced in the Regulation 19 SA Report and is available on the GNLP website¹⁷. **Table 1.1** sets out the iterative timeline of the Local Plan and SA/SEA processes.

Table 1.1: Timeline of SA documents in relation to the GNLP stages of preparation

Date	Local Plan Stage	Sustainability Appraisal
March 2017		SA Scoping Report (GNDP) Identified the scope for the SA, set out the context, 15 SA Objectives and approach of the assessment.
January to March 2018	Stage A Regulation 18 Consultation of Site Proposals, Growth Options and the Interim Sustainability Appraisal	Interim Sustainability Appraisal (GNDP) This report assessed the GNLP options for growth, which included six options for the spatial strategy and policy options.
October to December 2018	Stage B Regulation 18 Site Proposals Addendum and HELAA Addendum	No SA report prepared.
January to March 2020	Stage C Regulation 18 Draft Strategy consultation Draft strategy including vision, objectives and strategic policies, a sites document and supporting evidence documents.	Regulation 18C SA Report (Lepus) This report assessed 285 reasonable alternative sites and eleven draft strategic policies.
February to March 2021	Publication Draft Plan The GNLP is split into two documents: The Strategy and Site Allocations. The Strategy Document sets out the profile of Greater Norwich, the Plan vision and objectives, and the strategic policies. The Site Allocations Document sets out the site allocations of the GNLP.	Regulation 19 SA Report (Lepus) The Regulation 19 SA Report summarised the SA process to date and helped inform the examination stage of the preparation of the GNLP. The Regulation 19 SA presented the findings of the sustainability appraisal of the GNLP, which is composed principally of twelve strategic policies and 138 site policies. This

¹⁶ Royal Town Planning Institute (2018) Strategic Environmental Assessment, Improving the effectiveness and efficiency of SEA/SA for land use plans. Available at: <http://www.rtpi.org.uk/media/2668152/sea-sappracticeadvicefull2018c.pdf> [Date accessed: 22/04/22]

¹⁷ Greater Norwich Local Plan. Available at: <https://www.gnlp.org.uk/growing-stronger-communities-together> [Date accessed: 20/06/22]

Date	Local Plan Stage	Sustainability Appraisal
		report also contained an assessment of an additional 107 reasonable alternative sites.
September 2021		<p>Consultation response: Addendum to the Regulation 19 SA/SEA Report (Lepus)</p> <p>The Addendum sought to address consultation responses related to the SA/SEA received by the GNDP during the Regulation 19 consultation, specifically in relation to the testing of reasonable alternatives and selection process for the chosen spatial strategy and distribution of growth in the Plan area.</p>
December 2021		<p>Inspectors' Initial Questions: Reasonable Alternatives for Housing Number Options. Addendum to the Regulation 19 SA/SEA Report (Lepus)</p> <p>Prepared in response to the Inspectors' Initial Question 7 which asked for an addendum to the SA to be produced, relating to the housing growth numbers, and addressing "<i>both smaller and minimal supply buffers as 'reasonable alternatives'</i>".</p>
June 2022		<p>Note in response to Inspectors' questions relating to the Sustainability Appraisal of potential development Sites (Lepus)</p> <p>An SA note has been prepared to address site specific issues raised in representations made in writing or in person at the EiP Part 1 Hearings.</p>
January to March 2023	<p>Site Policies for Gypsy and Traveller Permanent Residential Pitches Focused Consultation</p> <p>The consultation document sets out possible sites to provide residential pitches for Gypsies and Travellers.</p>	<p>SA of the GNLP Gypsy and Traveller Sites and Policies: Addendum to the Regulation 19 SA/SEA Report (Lepus)</p> <p>This SA Addendum presents the assessment of 12 reasonable alternative Gypsy and Traveller sites and accompanying site allocation policies.</p>

1.7 GNLP Gypsy and Traveller Sites and Policies

- 1.7.1 The GNLP have identified 12 reasonable alternative Gypsy and Traveller sites, listed in **Table 1.2**.

Table 1.2: Reasonable alternative sites considered within this SA report

Site Reference	Site Name	Gypsy and Traveller Site Area (ha)	Total Site Area (ha)	Proposed No. of Pitches
GNLP5004	Land off Buxton Road, Eastgate	0.12	0.12	4
GNLP5005	Wymondham Recycling Centre, Strayground Lane	0.07	0.07	2
GNLP0581/2043GT	Land off Bawburgh Lane, north of New Road and east of the A47, Costessey (Contingency Site)	1.00	62.33	18
GNLP5009	Hockering Lane	0.59	0.59	6
GNLP5013	Ketteringham Recycling Centre (revised area)	0.70	0.70	10
GNLP5014	Land adjacent to A47	1.00	11.09	15
GNLP5019	Land at Woodland Stable, Shortthorn Road, Stratton Strawless	0.33	0.33	4
GNLP5020	Land at Romany Meadow, The Turnpike, Carleton Rode	0.54	0.54	6
GNLP5021	The Old Produce Shop, Holt Road, Horsford	0.90	0.90	6
GNLP5022	The Oaks, Foulsham	3.19	3.19	5
GNLP5023	Strayground Lane, Wymondham	1.19	1.19	10
GNLP5024	Uppgate Street, Carleton Rode	0.62	0.62	4

- 1.7.2 10 reasonable alternative sites are preferred for allocation within the GNLP: GNLP5004, GNLP5005, GNLP5009, GNLP5014, GNLP5019, GNLP5020, GNLP5021, GNLP5022, GNLP5023 and GNLP5024. Site GNLP0581/2043GT is allocated as a contingency site, and GNLP5013 as a reasonable alternative. Site policies have been prepared by the Councils which set out requirements for the development proposals relating to each site. These site-specific policies have been assessed within **Chapter 4** of this report.

1.8 Signposting for this report

- 1.8.1 **Chapter 2** of this report sets out the methodology used to present and assess the findings of the SA process.
- 1.8.2 **Chapter 3** of this report presents the findings of the appraisal of the 12 reasonable alternative Gypsy and Traveller sites, pre-mitigation.
- 1.8.3 **Chapter 4** of this report presents the assessment of the 12 Gypsy and Traveller site policies.
- 1.8.4 **Chapter 5** of this report outlines the potential mitigating influence of GNLP policies and post-mitigation assessment of the reasonable alternative Gypsy and Traveller sites.
- 1.8.5 **Chapter 6** sets out the site identification process that has been undertaken and the reasons for rejection and selection of each reasonable alternative site.
- 1.8.6 **Chapter 7** outlines the next steps of the SA process.

2 Methodology

2.1 Assessment of Reasonable Alternatives

- 2.1.1 The purpose of this document is to provide an appraisal of the GNLP development proposals and policies prepared by GNPD in line with the SEA Regulations.
- 2.1.2 Regulation 12 of the SEA Regulations¹⁸ states that the Environmental Report “*shall identify, describe and evaluate the likely significant effects of the environment of – (a) implementing the plan or programme; and (b) reasonable alternatives taking into account the objectives and geographical scope of the plan or programme*”.
- 2.1.3 Each of the sites and policies appraised in this report has been assessed for their likely impacts on each SA Objective of the SA Framework. The SA Framework is presented in its entirety in **Appendix A**.
- 2.1.4 The SA Framework is comprised of SA Objectives and decision-making criteria. Acting as yardsticks of sustainability performance, the SA Objectives are designed to represent the topics identified in Schedule 2 of the SEA Regulations¹⁹. Including the SEA topics in the SA Objectives helps ensure that all environmental criteria of the SEA Regulations are represented. Consequently, the SA Objectives reflect all subject areas to ensure the assessment process is transparent, robust and thorough.
- 2.1.5 It is important to note that the order of SA Objectives in the SA Framework does not infer prioritisation. The SA Objectives are at a strategic level and can potentially be open-ended. In order to focus each objective, decision-making criteria are presented in the SA Framework to be used during the appraisal of policies and sites.
- 2.1.6 A single value from **Table 2.1** is allocated to each SA Objective for each site and policy. Justification for the score is presented in an accompanying narrative assessment text. The assessment of a significant effect is in accordance with the SEA Regulations which states that, where feasible, effects considered should include “*short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects*”.

¹⁸ The Environmental Assessment of Plans and Programmes Regulations 2004. Regulation 12. Available at: <https://www.legislation.gov.uk/uksi/2004/1633/regulation/12/made> [Date accessed: 16/05/22]

¹⁹ Biodiversity flora and fauna; Population; Human health; Soil; Water; Air; Climatic factors; Material assets; Cultural heritage (including architectural and archaeological heritage); and Landscape.

Table 2.1: Guide to scoring significant effects

Significance	Definition (not necessarily exhaustive)
Major Negative --	<p>The size, nature and location of a reasonable alternative would be likely to:</p> <ul style="list-style-type: none"> • Permanently degrade, diminish or destroy the integrity of a quality receptor, such as a feature of international, national or regional importance; • Cause a very high-quality receptor to be permanently diminished; • Be unable to be entirely mitigated; • Be discordant with the existing setting; and/or • Contribute to a cumulative significant effect.
Minor Negative -	<p>The size, nature and location of a reasonable alternative would be likely to:</p> <ul style="list-style-type: none"> • Not quite fit into the existing location or with existing receptor qualities; and/or • Affect undesignated yet recognised local receptors.
Negligible 0	Either no impacts are anticipated, or any impacts are anticipated to be negligible.
Uncertain +/-	It is entirely uncertain whether impacts would be positive or adverse.
Minor Positive +	<p>The size, nature and location of a reasonable alternative would be likely to:</p> <ul style="list-style-type: none"> • Improve undesignated yet recognised receptor qualities at the local scale; • Fit into, or with, the existing location and existing receptor qualities; and/or • Enable the restoration of valued characteristic features.
Major Positive ++	<p>The size, nature and location of a reasonable alternative would be likely to:</p> <ul style="list-style-type: none"> • Enhance and redefine the location in a positive manner, making a contribution at a national or international scale; • Restore valued receptors which were degraded through previous uses; and/or • Improve one or more key elements/features/characteristics of a receptor with recognised quality such as a specific international, national or regional designation.

2.1.7 When selecting a single value to best represent the environmental performance of the relevant SA Objective, the precautionary principle is used. This is a worst-case scenario approach. If a positive effect is identified in relation to one criterion within the SA Framework (see the second column of the SA Framework in **Appendix A**) and a negative effect is identified in relation to another criterion within the same SA Objective, the overall score will be negative for that objective.

2.1.8 The assessment considers, on a strategic basis, the degree to which a location can accommodate change without detrimental effects on known receptors (identified in the baseline).

2.2 Significance

- 2.2.1 Where an environmental impact has been identified, the significance of effect has been categorised as minor or major. **Table 2.1** lists the significance matrix and explains the terms used. The nature of the significant effect can be either beneficial or adverse depending on the type of development and the design and mitigation measures proposed.
- 2.2.2 Each reasonable alternative site that has been identified in this report has been assessed for its likely significant effect against each SA Objective in the Framework, as per **Table 2.1**. Scores are not intended to be summed.
- 2.2.3 It is important to note that the scores are high level indicators. The narrative assessment text which details the key decision-making criteria behind each awarded score should always read alongside the score. Assumptions and limitations in **Table 2.4** and **section 2.7** offer further insight into how each score was arrived at.
- 2.2.4 Significance of effect is a combination of impact sensitivity and magnitude.

2.3 Impact sensitivity

- 2.3.1 Impact sensitivity is measured through consideration as to how the receiving environment will be impacted by a plan proposal. This includes assessment of the value and vulnerability of the area, whether or not environmental quality standards will be exceeded, and if impacts will affect designated areas or landscapes.
- 2.3.2 A guide to the range of scales used in the impact significance matrix is presented in **Table 2.2**. For most receptors, sensitivity increases with geographic scale.

Table 2.2: Geographic scales of receptors

Scale	Typical criteria
International/ national	Designations that have an international aspect or consideration of transboundary effects beyond national boundaries. This applies to effects and designations/receptors that have a national or international dimension.
Regional	This includes the regional and sub-regional scale, including county-wide level and regional areas.
Local	This is the district and neighbourhood scale.

2.4 Impact magnitude

- 2.4.1 Impact magnitude relates to the degree of change the receptor will experience, including the probability, duration, frequency and reversibility of the impact. Impact magnitude is determined based on the susceptibility of a receptor to the type of change that will arise, as well as the value of the affected receptor (see **Table 2.3**).

Table 2.3: Impact magnitude

Impact magnitude	Typical criteria
High	<p>Likely total loss of or major alteration to the receptor in question;</p> <ul style="list-style-type: none"> • Provision of a new receptor/feature; or • The impact is permanent and frequent.
Medium	<p>Partial loss/alteration/improvement to one or more key features; or</p> <p>The impact is one of the following:</p> <ul style="list-style-type: none"> • Frequent and short-term; • Frequent and reversible; • Long-term (and frequent) and reversible; • Long-term and occasional; or • Permanent and occasional.
Low	<p>Minor loss/alteration/improvement to one or more key features of the receptor; or</p> <p>The impact is one of the following:</p> <ul style="list-style-type: none"> • Reversible and short-term; • Reversible and occasional; or • Short-term and occasional.

2.5 Distances

2.5.1 Where distances have been measured, these are ‘as the crow flies’ from the furthest edge of the site unless specified otherwise. Site end users require access to a range of facilities and amenities. Some distances that are considered to be sustainable in this regard are based on Barton, Grant and Guise (2010) Shaping Neighbourhoods for Local Health and Global Sustainability²⁰.

2.6 Limitations of predicting effects

2.6.1 SA is a tool for predicting potential significant effects. Predicting effects relies on an evidence-based approach and incorporates professional judgement. It is often not possible to state with absolute certainty whether effects will occur, as many impacts are influenced by a range of factors such as the design and the success of mitigation measures.

2.6.2 The assessments in this report are based on the best available information, including that provided to us by GNLP and information that is publicly available. The assessment of reasonable alternatives is somewhat limited in terms of available data resources. For example, up to date ecological surveys and/or landscape and visual impact assessments have not been available. Every attempt has been made to predict effects as accurately as possible.

²⁰ Barton, H., Grant, M. & Guise, R. (2010) Shaping Neighbourhoods: For local health and global sustainability, January 2010.

- 2.6.3 SA operates at a strategic level which uses available secondary data for the relevant SA Objective. Sometimes, in the absence of more detailed information, forecasting the potential impacts of development can require making reasonable assumptions based on the best available data and trends. However, all reasonable alternatives must be assessed in the same way.

2.7 Assessment assumptions

- 2.7.1 A number of assumptions are inherent to the appraisal process for specific SA Objectives (see **Table 2.4**). These should be borne in mind when considering the assessment findings.

Table 2.4: Assumptions for each SA objective.

SA Objective	Assessment Assumptions/Methodology
1. Air Quality and Noise: Minimise air, noise and light pollution to improve wellbeing.	<p>Exposure of new residents to air pollution has been considered in the context of development proposal location in relation to established Air Quality Management Areas (AQMAs) and main roads. It is widely accepted that the effects of air pollution from road transport decreases with distance from the source of pollution i.e. the road carriageway. The Department for Transport (DfT) in their Transport Analysis Guidance (TAG) consider that, “beyond 200m from the link centre, the contribution of vehicle emissions to local pollution levels is not significant”²¹. This statement is supported by Highways England and Natural England based on evidence presented in a number of research papers^{22 23}.</p> <p>The proximity of a development proposal in relation to a main road (defined as a motorway or A-road) determines the exposure level of site end users to road related air and noise emissions²⁴. In line with the DMRB guidance, it is assumed that site end users would be most vulnerable to these impacts within 200m of a main road. This distance has therefore been applied throughout this assessment to both existing road and rail sources. Development proposals located within 200m of a main road would be expected to have a minor negative impact on local residents’ exposure to air and noise pollution. Development proposals located over 200m from a main road would be expected to have a negligible impact on local residents’ exposure to air and noise pollution.</p> <p>Development proposals located within 200m of a railway line would be expected to have a minor negative impact on local residents’ exposure to noise pollution and vibrations. Development proposals located over 200m from a railway line would be expected to have a negligible impact on local residents’ exposure to noise pollution and vibrations.</p> <p>Due to the extent and nature of the development (Gypsy & Traveller pitches) it is assumed that development proposals would have a negligible impact on the generation of air pollution in the Plan area.</p>

²¹ Department for Transport (2022) TAG unit A3 Environmental Impact Appraisal. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/825064/tag-unit-a3-environmental-impact-appraisal.pdf [Date accessed: 22/06/22]

²² Bignal, K., Ashmore, M & Power, S. (2004) The ecological effects of diffuse air pollution from road transport. English Nature Research Report No. 580, Peterborough.

²³ Ricardo-AEA (2016) The ecological effects of air pollution from road transport: an updated review. Natural England Commissioned Report No. 199.

²⁴ Design Manual for Roads and Bridges (2019) Sustainability & Environment Appraisal: LA 105 Air quality. Available at: <https://www.standardsforhighways.co.uk/dmrB/search/10191621-07df-44a3-892e-c1d5c7a28d90> [Date accessed: 22/06/22]

SA Objective	Assessment Assumptions/Methodology
<p>2. Climate Change Mitigation and Adaptation: Continue to reduce carbon emissions, adapting to and mitigating against the effects of climate change.</p>	<p>Carbon Emissions</p> <p>At this stage, the nature and design of Gypsy and Traveller pitches which could be developed at each site is unknown. Therefore, increases in greenhouse gas (GHG) emissions as a result of the construction and occupation of dwellings is unknown.</p> <p>Due to the extent and nature of the development (pitches for Gypsies & Travellers) it is assumed that development proposals would have a negligible impact on Greater Norwich's contributions to climate change.</p> <p>Fluvial Flooding</p> <p>The level of fluvial flood risk present across the Plan area is based on the Environment Agency's flood risk data²⁵, such that:</p> <ul style="list-style-type: none"> • Flood Zone 3: 1%+ chance of flooding each year; • Flood Zone 2: 0.1% - 1% chance of flooding each year; and • Flood Zone 1: Less than 0.1% chance of flooding each year. <p>It is assumed that development proposals will be in perpetuity and it is therefore likely that development will be subject to the impacts of flooding at some point in the future, should it be situated on land at risk of fluvial flooding.</p> <p>Where development proposals coincide with Flood Zone 2, a minor negative impact would be expected. Where development proposals coincide with Flood Zone 3 (either Flood Zone 3a or 3b), a major negative impact would be expected. Where development proposals are located within Flood Zone 1, a minor positive impact would be expected for climate change adaptation.</p> <p>Surface Water Flooding</p> <p>Areas determined to be at high risk of surface water (pluvial) flooding have more than a 3.3% chance of flooding each year, medium risk between 1% and 3.3%, and low risk between 0.1% and 1% chance.</p> <p>Development proposals located in areas at low and medium risk of surface water flooding would be expected to have a minor negative impact on surface water flooding.</p> <p>Development proposals located within areas at high risk of surface water flooding would be expected to have a major negative impact on surface water flooding.</p> <p>Where development proposals are not located in areas determined to be at risk of surface water flooding, a negligible impact would be expected for climate change adaptation.</p> <p>It is assumed that development proposals will be in perpetuity, and it is therefore likely that development would be subject to the impacts of flooding at some point in the future, should it be situated on land at risk of surface water flooding.</p>
<p>3. Biodiversity, Geodiversity and Green Infrastructure: Protect and enhance the area's biodiversity and geodiversity assets</p>	<p>Where a development proposal is coincident with, adjacent to or located in proximity to an ecological or geological receptor, it is assumed that negative effects associated with development will arise to some extent. These negative effects include those that occur during the construction phase and are associated with the construction process and construction vehicles (e.g. habitat loss, habitat fragmentation, habitat degradation, noise, air, water and light pollution) and those that are associated with the operation/occupation phases of development (e.g. public access associated disturbances, increases in local congestion resulting in a reduction in air quality, changes in noise levels, visual disturbance, light pollution, impacts on water levels and quality etc.).</p>

²⁵ Environment Agency (2013) Flood Map for Planning Risk. Available at: <http://apps.environment-agency.gov.uk/wiyby/cv/151263.aspx>
[Date accessed: 22/06/22]

SA Objective	Assessment Assumptions/Methodology
and expand the provision of green infrastructure.	<p>Negative impacts would be expected where the ecological or geological designations listed above may be harmed or lost as a result of proposals. The assessment is largely based on a consideration of the proximity of a site and the attributes and qualities of the receptor in question.</p> <p>For the purposes of this assessment, impacts on priority habitats protected under the 2006 NERC Act²⁶ have been considered in the context of Natural England's publicly available Priority Habitat Inventory database²⁷. It is acknowledged this may not reflect current local site conditions in all instances.</p> <p>It is assumed that construction and occupation of previously undeveloped greenfield land would result in a net reduction in vegetation cover and Green Infrastructure in the Plan area. Development proposals which would be likely to result in the loss of greenfield land are therefore expected to contribute towards a cumulative loss in vegetation cover. This would also be expected to lead to greater levels of fragmentation and isolation across the wider ecological network, such as the loss of habitat stepping-stones and corridors. This can restrict the ability of ecological receptors to adapt to the effects of climate change. The loss of greenfield land is considered under the Natural Resources objective (SA Objective 14) in this assessment.</p> <p>It should be noted that no detailed ecological surveys have been completed by Lepus to inform the assessments made in this report.</p> <p>Protected species survey information is not generally available for the sites within the Plan area. It is acknowledged that data is available from the local biological records centre. However, it is noted that this data may be under-recorded in certain areas. This under-recording does not imply species absence. As a consequence, consideration of this data on a site-by-site basis within this assessment would have the potential to skew results – favouring well recorded areas of the Plan area. As such, it has not been possible to assess impacts on protected species in a fair and consistent basis at the site level using primary survey data.</p> <p>It is anticipated that the GNDP will require detailed ecological surveys and assessments to accompany future planning applications. Such surveys will determine on a site-by-site basis the presence of Priority Species and Priority Habitats protected under the NERC Act.</p> <p>It is assumed that the loss of biodiversity assets, such as ancient woodland or an area of priority habitat, are permanent effects.</p> <p>It is assumed that mature trees and hedgerows will be retained where possible.</p> <p>Natural England has developed Impact Risk Zones (IRZs) for each SSSI unit in the country. IRZs are a Geographical Information System (GIS) tool which allow a rapid initial assessment of the potential risks posed by development proposals to: SSSIs, SACs, SPAs and Ramsar sites. They define zones around each site which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts²⁸. It should be noted that IRZ</p>

²⁶ Natural Environment and Rural Communities Act 2006. Available at: <http://www.legislation.gov.uk/ukpga/2006/16/contents> [Date accessed: 22/06/22]

²⁷ Natural England (2021) Priority Habitat Inventory (England). Available at: <https://data.gov.uk/dataset/4b6ddab7-6c0f-4407-946e-d6499f19fcd/priority-habitat-inventory-england> [Date accessed: 22/06/22]

²⁸ Natural England (2022) Natural England's Impact Risk Zones for Sites of Special Scientific Interest, 08 June 2022. Available at: <https://data.gov.uk/dataset/5ae2af0c-1363-4d40-9d1a-e5a1381449f8/ssi-impact-risk-zones> [Date accessed: 22/06/22]

SA Objective	Assessment Assumptions/Methodology
	<p>classifications are regularly updated by Natural England, and although were correct at the time of writing, may have since been amended.</p> <p>Where development proposals coincide with a Habitats site, a SSSI, NNR, LNR, CWS, CGS or ancient woodland, or are adjacent to a Habitats site, SSSI or NNR, it is assumed that development would have a permanent impact on these nationally important biodiversity and geodiversity assets, and a major negative impact would be expected.</p> <p>Where development proposals coincide with priority habitats, are adjacent to an ancient woodland, LNR, CWS or CGS, are located within a SSSI IRZ which states to “<i>consult Natural England</i>” or are located in close proximity to a Habitats site, SSSI, NNR, LNR or stand of ancient woodland, it is assumed that development would have an impact on these biodiversity and geodiversity assets, and a minor negative impact would be expected.</p> <p>There are numerous Habitats sites located within and in close proximity to the Plan area and various Zones of Influence, primarily relating to nutrient impacts, coincide with the Gypsy and Traveller sites. Advice relating to nutrient neutrality issues has been published in March 2022 by Natural England²⁹ and DLUHC³⁰, which affects a large proportion of the GNLP area, for which a mitigation strategy is currently being developed. The emerging HRA³¹ has assessed the potential effects of the Gypsy and Traveller sites in further detail.</p> <p>Where a development proposal would not be anticipated to impact a biodiversity or geodiversity asset, a negligible impact would be expected for this objective.</p>
<p>4. Landscape: Promote efficient use of land, while respecting the variety of landscape types in the area.</p>	<p>Impacts on landscape will be largely determined by the specific layout and design of development proposals, as well as the site-specific landscape circumstances. Detailed proposals for each development are uncertain at this stage of the assessment. Furthermore, this assessment comprises a desk-based exercise which has not been verified in the field. Therefore, the nature of the potential impacts on the landscape are, to an extent, uncertain. However, there is a risk of negative effects occurring, some of which may be unavoidable. As such, this risk has been reflected in the assessment as a negative impact where a development proposal is located in close proximity to sensitive landscape receptors. The level of impact has been assessed based on the nature and value of, and proximity to, the landscape receptor in question.</p> <p>Where a development proposal would not be anticipated to impact a local or designated landscape, a negligible impact would be expected for this objective.</p> <p>The Norfolk Coast and Suffolk Coast and Heaths AONBs:</p> <p>The Suffolk Coast and Heaths AONB is located, at its closest point, approximately 3km south east of the Greater Norwich boundary. Parts of the Norfolk Coast AONB are located approximately 8km to the north and east of Greater Norwich. It is not anticipated that the</p>

²⁹ Letter from Natural England to LPA Chief Executives & Heads of Planning, County Council Chief Executives and Heads of Planning, EA Area and National Team Directors, Planning Inspectorate, Natural Resources Wales (Cross border sites only) & Secretary of State for Department for Levelling Up Housing & Communities (DLUHC). Advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on habitats sites. 16 March 2022.

³⁰ Letter from DLUHC to Chief Planning Officers and Local Planning Authorities affected by nutrient pollution. NUTRIENT POLLUTION: NEUTRALITY, SUPPORT AND FUNDING. 16 March 2022. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1061531/Chief_Planner_Letter_about_nutrient_pollution_March_2022.pdf [Date accessed: 17/06/22]

³¹ The Landscape Partnership (2022) Habitats Regulations Assessment of published Proposed Submission Greater Norwich Local Plan – Gypsy and Traveller sites Addendum for Greater Norwich Development Partnership, June 2022.

SA Objective	Assessment Assumptions/Methodology
	<p>proposed development of Gypsy and Traveller Sites at any of the identified sites would impact either of these AONBs, and as such, they have not been considered further in this report.</p> <p>Discordant with LCA:</p> <p>Baseline data on Landscape Character Areas (LCAs) within the Plan area are derived from the Broadland Character Assessment Supplementary Planning Document (SPD)³² and South Norfolk Landscape Character Assessment³³. Key characteristics of each LCA have informed the appraisal of each development proposal against the landscape objective. Given that the detailed nature of the landscape in relation to each development proposal is unknown, the assessment of impact is based on the overall landscape character guidelines and key characteristics. Development proposals which are considered to be potentially discordant with the guidelines and characteristics provided in the published landscape character assessment would be expected to have a minor negative impact on the landscape objective.</p> <p>The Broads National Park:</p> <p>The Broads is an area covering approximately 303km² of low-lying wetland with National Park status. It is located to the east of Greater Norwich and follows the River Yare into Norwich City. None of the proposed Gypsy and Traveller sites are located within, or within close proximity to, the Broads and as such a negligible impact would be anticipated at all sites.</p> <p>Views:</p> <p>Development proposals which may alter views of a predominantly rural or countryside landscape experienced by users of the Public Rights of Way (PRoW) network and/ or local residents would be expected to have minor negative impacts on the landscape objective.</p> <p>Potential views from residential properties are identified through reference to aerial mapping and the use of Google Maps³⁴.</p> <p>It is anticipated that the GNLP will require developers to undertake Landscape and Visual Impact Assessments (LVIAs) to accompany any future proposals, where relevant. The LVIAs should seek to provide greater detail in relation to the landscape character of the development proposals and its surroundings, the views available towards the development, the character of those views and the sensitivity and value of the relevant landscape and visual receptors.</p> <p>Urbanisation of the Countryside:</p> <p>Development proposals which are considered to increase the risk of future development spreading further into the wider landscape would be expected to have a minor negative impact on the landscape objective.</p>
<p>5. Housing: Ensure that everyone has</p>	<p>It is assumed that there will be no net loss of existing lawful Gypsy and Traveller pitches.</p>

³² Broadland District Council (2013) Landscape Character Assessment Supplementary Planning Document (SPD). Available at: https://www.broadland.gov.uk/downloads/download/167/landscape_character_assessment_supplementary_planning_document_spd [Date accessed: 22/06/22]

³³ Land Use Consultants (2001) South Norfolk Landscape Assessment. Available at: <https://www.south-norfolk.gov.uk/residents/planning/planning-policy/landscape-character-assessments> [Date accessed: 22/06/22]

³⁴ Google Maps (2022). Available at: <https://www.google.co.uk/maps> [Date accessed: 22/06/22]

SA Objective	Assessment Assumptions/Methodology
good quality housing of the right size and tenure to meet their needs.	Sites put forward for the development of additional pitches for Gypsies and Travellers are expected to make a minor positive contribution to fulfilling the identified accommodation needs.
6. Population and Communities: Maintain and improve the quality of life of residents.	<p>Local Services:</p> <p>In accordance with Barton et al.'s sustainable distances³⁵, proposed development which is located within 600m of a local service, such as a post office or a convenience store, would be expected to provide site end users with access to essential services. Development proposals located within this target distance would be expected to have a minor positive impact on this objective. Development proposals located outside this target distance would be expected to have a minor negative impact on this objective.</p> <p>Local Landscape Designations:</p> <p>The local landscape designations dataset has been provided by the GNDP. This includes areas of multi-functional green infrastructure and community buildings such as playing fields, allotments and other communal spaces which would be expected to help improve the quality of life for local residents.</p> <p>Development proposals which would situate site end users within 600m of a local landscape designation would be likely to have a minor positive impact on this objective.</p> <p>Overall:</p> <p>Development proposals which would locate site end users within 600m of both an open greenspace and a local landscape designation would be expected to have a major positive impact for this objective.</p>
7. Deprivation: To reduce deprivation.	The purpose of this objective is to help redress deprivation issues across the Plan area. None of the site proposals assessed in this report will be expected to redress these issues. At this stage, it is assumed that development proposals at all of the reasonable alternative sites would have a negligible impact for this objective.
8. Health: To promote access to health facilities and promote healthy lifestyles.	<p>Green Network:</p> <p>Development proposals have been assessed in terms of their access to the local PRoW networks and public greenspace. In line with Barton et al.³⁶, a sustainable distance of 600m has been used for the assessments. Development proposals that are located within 600m of a PRoW/public greenspace would be expected to have a minor positive impact on residents' access to a diverse range of natural habitats. Development proposals located over 600m from a PRoW/public greenspace could potentially have a minor negative impact on residents' access to natural habitats, and therefore have an adverse impact on the physical and mental health of local residents.</p> <p>Air Quality:</p> <p>It is assumed that development proposals located in close proximity to main roads would expose site end users to transport associated noise and air pollution. In line with the DMRB guidance, it is assumed that receptors would be most vulnerable to these impacts</p>

³⁵ Barton, H., Grant. M. & Guise. R. (2010) Shaping Neighbourhoods: For local health and global sustainability.

³⁶ Barton, H., Grant. M. & Guise. R. (2010) Shaping Neighbourhoods: For local health and global sustainability.

SA Objective	Assessment Assumptions/Methodology
	<p>located within 200m of a main road³⁷. Negative impacts on the long-term health of residents would be anticipated where residents would be exposed to air pollution.</p> <p>Development proposals located within 200m of a main road would be expected to have a minor negative impact on local residents' exposure to air pollution. Development proposals located over 200m from a main road would be expected to have a minor positive impact on local residents' exposure to air pollution.</p> <p>Air Quality Management Areas (AQMA) are considered to be an area where the national air quality objective will not be met. No proposed Gypsy and Traveller sites are located within, or within 200m of, an AQMA.</p> <p>Health Facilities:</p> <p>In order to facilitate healthy and active lifestyles for existing and new residents, it is expected that the GNDP should seek to ensure that residents have access to NHS hospitals, GP surgeries, leisure centres and a diverse range of accessible natural habitats and the surrounding PRoW network. Sustainable distances to each of these necessary services are derived from Barton et al.³⁸.</p> <p>Adverse impacts are anticipated where the proposed development would not be expected to facilitate active and healthy lifestyles for current or future residents.</p> <p>For the purposes of this assessment, accessibility to a hospital has been taken as proximity to an NHS hospital with an A&E service. Distances of development proposals to other NHS facilities (e.g. community hospitals and treatment centres) or private hospitals has not been taken into consideration in this assessment. The two NHS hospitals with an A&E department in close proximity Greater Norwich are Norfolk and Norwich University Hospital and James Paget University Hospital.</p> <p>Development proposals located within 5km of one of these hospitals would be expected to have a minor positive impact on the access of site end users to emergency health services. Development proposals located over 5km from one of these hospitals would be likely to have a minor negative impact on the access of site end users to emergency health care.</p> <p>There are numerous GP surgeries located across the Plan area. Development proposals located within 800m of a GP surgery would be expected to have a minor positive impact on the access of site end users to this essential health service. Development proposals located over 800m from a GP surgery would be likely to have a minor negative impact on the access of site end users to essential health care.</p> <p>Access to leisure centres can provide local residents with opportunities to facilitate healthy lifestyles through exercise. Development proposals located within 1.5km of a leisure centre would be expected to have a minor positive impact on the access of site end users to these facilities. Development proposal located over 1.5km from a leisure centre would be likely to have a minor negative impact on the access of site end users to these facilities.</p> <p>Overall:</p> <p>Development proposals which would locate site end users in close proximity to one of the listed NHS hospitals, a GP surgery and a leisure centre would be expected to have a major positive impact for this objective.</p>

³⁷ Design Manual for Roads and Bridges (2019) Sustainability & Environment Appraisal: LA 105 Air quality. Available at: <https://www.standardsforhighways.co.uk/dmrb/search/10191621-07df-44a3-892e-c1d5c7a28d90> [Date accessed: 22/04/22]

³⁸ Barton, H., Grant, M. & Guise, R. (2010) Shaping Neighbourhoods: For local health and global sustainability, January 2010

SA Objective	Assessment Assumptions/Methodology
	Development proposals which would locate site end users away from the listed NHS hospitals, a GP surgery and a leisure centre would be expected to have a major negative impact for this objective.
9. Crime: To reduce crime and the fear of crime.	The purpose of this objective is to help reduce crime rates in the local area. It is not possible to assess the impacts of residential site proposals on local crime prevention or crime rates. At this stage, it is assumed that development proposals at all reasonable alternative sites would have a negligible impact for this objective.
10. Education: To improve skills and education.	<p>It is assumed that new residents in the Plan area require access to primary and secondary education services to help facilitate good levels of education, skills and qualifications of residents.</p> <p>In line with Barton et al.'s sustainable distances³⁹, for the purpose of this assessment, 800m is assumed to be the target distance for travelling to a primary school and 1.5km to secondary schools. All schools identified are publicly accessible state schools.</p> <p>It is recognised that not all schools within Greater Norwich are accessible to all pupils. For instance, independent and academically selective schools may not be accessible to all. Local primary schools may only be Infant or Junior schools and therefore not provide education for all children of primary school age. Some secondary schools may only be for girls or boys and therefore would not provide education for all. This has been considered within the assessment.</p> <p>At this stage, there is not sufficient information available to be able to accurately predict the effect of new development on the capacity of local schools, or to incorporate local education attainment rates into the assessment.</p> <p>Development proposals which would locate site end users within the target distances of a primary school or secondary school would be expected to have a minor positive impact for this objective.</p> <p>Development proposals which would locate site end users outside of the target distances of a primary or secondary school would be expected to have a minor negative impact for this objective.</p> <p>Development proposals which would locate new residents within the target distance to both a primary and secondary school would be expected to have a major positive impact on the education objective.</p> <p>Development proposals which would locate new residents outside of the target distance to both a primary and secondary school would be likely to have a major negative impact on the education objective.</p>
11. Economy: Encourage economic development covering a range of sectors and skill levels to improve employment	<p>Employment Opportunities:</p> <p>It is assumed that, in line with Barton et al.'s sustainable distances⁴⁰, new residents should be situated within 5km of key employment areas to ensure they have access to a range of employment opportunities capable of meeting their needs. Key employment areas are defined as locations which would provide a range of employment opportunities from a variety of employment sectors, including retail parks, industrial estates and major local employers. No further study has been undertaken to identify all employment areas.</p> <p>Development proposals which would locate site end users within the target distances of a key employment area would be expected to have a minor positive impact for this</p>

³⁹ Barton, H., Grant. M. & Guise. R. (2010) Shaping Neighbourhoods: For local health and global sustainability, January 2010.

⁴⁰ Barton, H., Grant. M. & Guise. R. (2010) Shaping Neighbourhoods: For local health and global sustainability, January 2010

SA Objective	Assessment Assumptions/Methodology
opportunities for residents and maintain and enhance town centres.	<p>objective. Development proposals which would locate site end users outside the target distances to a key employment area would be expected to have a minor negative impact for this objective.</p> <p>Employment Floorspace:</p> <p>An assessment of current land use at all sites has been made through reference to aerial mapping and the use of Google Maps⁴¹.</p> <p>Development proposals which could result in a net decrease in employment floorspace would be expected to have a negative impact on the local economy.</p>
<p>12. Transport and Access to Services:</p> <p>Reduce the need to travel and promote the use of sustainable transport modes.</p>	<p>Public Transport:</p> <p>In line with Barton et al.'s sustainable distances, site end users should be situated within 2km of a railway station and 400m of a bus stop offering a frequent service. Bus service frequency and destination information was obtained from Google Maps^{42 43}.</p> <p>In order for a positive impact to be anticipated with regard to access to public transport, consideration has been given to the proportion of a development proposal within the target distance of these key transport services. To be sustainable, the bus stop should provide users with hourly services.</p> <p>Development proposals located within the target distance to a railway station or bus stop would be expected to have a minor positive impact on local transport and accessibility. Development proposals located outside of the target distance to a railway station or a bus stop would be expected to have a minor negative impact on transport and accessibility.</p> <p>Pedestrian Access:</p> <p>Development proposals have been assessed in terms of their access to the surrounding footpath network. In order for a positive impact to be anticipated with regard to pedestrian access, consideration has been given to safe access to and from the development e.g. footpath. Safe access is determined to be that which is suitable for wheelchair users and pushchairs.</p> <p>Development proposals which would be expected to provide site end users with adequate access to the surrounding footpath network would be expected to have a minor positive impact on pedestrian access. Development proposals which would not be anticipated to provide adequate access would be expected to result in a minor negative impact on pedestrian access.</p> <p>Road Access:</p> <p>Development proposals have been assessed in terms of their access to the surrounding road network. Development proposals which would be likely to provide site end users with adequate access to the surrounding road network would be expected to have a minor positive impact on road access. Development proposals which would not be anticipated to provide adequate access would be expected to have a minor negative impact on road access.</p> <p>Overall:</p> <p>Development proposals which would locate site end users in close proximity to all the above receptors would be expected to have a major positive impact for this objective.</p>

⁴¹ Google Maps (2022). Available at: <https://www.google.co.uk/maps> [Date accessed: 14/04/22]

⁴² Ibid

⁴³ Live departure boards available from Google Maps have been used to assess the frequency of services at bus stops within the Plan area. These are obtained from local bus timetables.

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	Development proposals which would locate site end users away from all the above receptors would be expected to have a major negative impact for this objective.
13. Historic Environment: Conserve and enhance the historic environment, heritage assets and their setting, other local examples of cultural heritage, preserving the character and diversity of the area's historic built environment.	<p>Impacts on heritage assets will be largely determined by the specific layout and design of development proposals, as well as the nature and significance of the heritage asset. There is a risk of adverse effects occurring, some of which may be unavoidable. As such, this risk has been reflected in the assessment as a negative impact where a site is in close proximity to heritage assets.</p> <p>Adverse impacts are recorded for options which have the potential to have an adverse impact on sensitive heritage designations, including Listed Buildings, Scheduled Monuments (SM), Registered Parks and Gardens (RPG), and Conservation Areas.</p> <p>It is assumed that where a designated heritage asset coincides with a site proposal, the heritage asset will not be lost as a result of development (unless otherwise specified by the GNLP). Adverse impacts on heritage assets are predominantly associated with impacts on the existing setting of the asset and the character of the local area, as well as adverse impacts on views of, or from, the asset.</p> <p>Setting:</p> <p>Development which could potentially be discordant with the local character or setting, for example, due to design, layout, scale or type, would be expected to adversely impact the setting of nearby heritage assets that are important components of the local area. Views of, or from, the heritage asset are considered as part of the assessment of potential impacts on the setting of the asset.</p> <p>Designated Features:</p> <p>No proposed Gypsy and Traveller sites coincide with a designated heritage asset.</p> <p>Where the development proposal lies adjacent to, or in close proximity to, a Listed Building, Conservation Area, SM, or RPG, an adverse impact on the setting of the asset would be likely, to some extent, and a minor negative impact may therefore be expected.</p> <p>Where development proposals are not located in close proximity to any heritage asset, or the nature of development is determined not to affect the setting or character of the nearby heritage asset, a negligible impact would be expected for this objective.</p> <p>It is anticipated that the GNLP will require a Heritage Statement to be prepared to accompany future planning applications, where appropriate. The Heritage Statement should describe the significance of any heritage assets affected by the proposals, including any contribution made by their settings.</p> <p>It is assumed that desk-based assessments will be required on a site-by-site basis for planning proposals which could potentially impact archaeological features. At this stage of the Plan preparation process there is no data available to indicate areas of archaeological potential within Greater Norwich, and as such no assessment has been carried out with regard to archaeology at present.</p>
14. Natural Resources, Waste and Contaminated Land: Minimise waste generation,	<p>Previously Developed Land:</p> <p>In accordance with the core planning principles of the NPPF⁴⁴, development on previously developed land will be recognised as an efficient use of land. Development of previously undeveloped land and greenfield sites is not considered to be an efficient use of land.</p>

⁴⁴ Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Date accessed: 22/04/22]

SA Objective	Assessment Assumptions/Methodology
<p>promote recycling and avoid the sterilisation of mineral resources. Remediate contaminated land and minimise the use of the best and most versatile agricultural land.</p>	<p>Development of an existing brownfield site would be expected to contribute positively to safeguarding greenfield land in Greater Norwich and have a minor positive impact on this objective.</p> <p>Development proposals situated on previously undeveloped land would be expected to pose a threat to soil within the site perimeter due to excavation, soil compaction, erosion and an increased risk of soil pollution and contamination during construction.</p> <p>In addition, development proposals which would result in the loss of greenfield land would be expected to contribute towards a cumulative loss of ecological habitat. This would be expected to lead to greater levels of habitat fragmentation and isolation for the local ecological network restricting the ability of ecological receptors to adapt to the effects of climate change. The loss of greenfield land has therefore been considered to have an adverse effect under this objective.</p> <p>For the purpose of this report, a 20ha threshold has been used based on available guidance⁴⁵. Development proposals which would result in the loss of less than 20ha of greenfield land would be expected to have a minor negative impact on this objective. Development proposals which would result in the loss of 20ha or more of greenfield land would be expected to have a major negative impact on this objective.</p> <p>Agricultural Land Classification:</p> <p>The Agricultural Land Classification (ALC) system classifies land into five categories according to versatility and suitability for growing crops. The top three grades, Grades 1, 2 and 3a, are referred to as the Best and Most Versatile (BMV) land⁴⁶. In the absence of site-specific surveys to identify Grades 3a and 3b, and in line with the precautionary principle, ALC Grade 3 is considered as BMV land.</p> <p>Adverse impacts are expected for options which would result in a net loss of agriculturally valuable soils. Development proposals which are situated on Grade 1, 2 or 3 ALC land, and would therefore risk the loss of some of the Plan areas BMV land, would be expected to have a minor negative impact for this objective.</p> <p>Development proposals which are situated on Grade 4 and 5 ALC land, or land classified as 'urban' or 'non-agricultural' and would therefore help prevent the loss of the Plan areas BMV land, would be expected to have a minor positive impact for this objective.</p> <p>Household Waste:</p> <p>At this stage, the nature and design of pitches or plots at each site is unknown. Therefore, increases in waste and consumption of resources as a result of the construction and occupation of dwellings is unknown.</p> <p>Due to the extent and nature of the development (pitches for Gypsies & Travellers) it is assumed that development proposals would have a negligible impact on Greater Norwich's waste and resources.</p>
<p>15. Water: Maintain and enhance water quality and ensure</p>	<p>Groundwater:</p> <p>The vulnerability of groundwater to pollution is determined by the physical, chemical and biological properties of the soil and rocks, which control the ease with which an unprotected hazard can affect groundwater. Groundwater Source Protection Zones</p>

⁴⁵ Natural England (2009) Agricultural Land Classification: protecting the best and most versatile agricultural land. Available at: <http://publications.naturalengland.org.uk/publication/35012> [Date accessed: 22/04/22]

⁴⁶ Natural England (1988) Agricultural Land Classification of England and Wales: Revised criteria for grading the quality of agricultural land (ALC011). Available at: <http://publications.naturalengland.org.uk/publication/6257050620264448?category=5954148537204736> [Date accessed: 14/04/22]

SA Objective	Assessment Assumptions/Methodology
the most efficient use of water.	<p>(SPZs) indicate the risk to groundwater supplies from potentially polluting activities and accidental releases of pollutants. As such, any development proposal that is located within a groundwater SPZ could potentially have an adverse impact on groundwater quality.</p> <p>Watercourses:</p> <p>Construction activities in or near watercourses have the potential to cause pollution, impact upon the bed and banks of watercourses and impact on the quality of the water⁴⁷. An approximate 10m buffer zone from a watercourse should be used in which no works, clearance, storage or run-off should be permitted⁴⁸. In this assessment, a 200m buffer zone was deemed appropriate.</p> <p>Development proposals located within 200m of a watercourse would be expected to have a minor negative impact on local water quality.</p> <p>Water Consumption:</p> <p>It is assumed that development proposals will be in accordance with the national mandatory water efficiency standard of 125 litres per person per day, as set out in the Building Regulations 2010⁴⁹.</p> <p>It is assumed that all Gypsy and Traveller site proposals in the GNLP will be subject to appropriate approvals and licensing for sustainable water supply from the Environment Agency.</p>

⁴⁷ World Health Organisation (1996) Water Quality Monitoring - A Practical Guide to the Design and Implementation of Freshwater Quality Studies and Monitoring Programmes: Chapter 2 – Water Quality. Available at: <https://apps.who.int/iris/handle/10665/41851> [Date accessed: 14/04/22]

⁴⁸ Department of Agriculture, Environment and Rural Affairs (no date) Advice and Information for planning approval on land which is of nature conservation value. Available at: <https://www.daera-ni.gov.uk/articles/advice-and-information-planning-approval-land-which-nature-conservation-value> [Date accessed: 22/04/22]

⁴⁹ The Building Regulations 2010. Available at: <http://www.legislation.gov.uk/uksi/2010/2214/contents/made> [Date accessed: 22/04/22]

3 Pre-mitigation site assessments

3.1 Overview

- 3.1.1 The process which has been used to appraise reasonable alternative sites is sequenced through two stages. Firstly, sites are assessed in terms of impacts on the baseline without consideration of mitigation. Secondly, the appraisal findings are further assessed in light of any relevant mitigation that is available through for example, emergent local plan policies.
- 3.1.2 The pre-mitigation assessment provides a baseline assessment of each site and identifies any local constraints. The pre-mitigation assessment does not consider mitigating factors such as local plan policy. The purpose of this stage is to identify the impacts that would need to be overcome for development to optimise sustainability performance.
- 3.1.3 **Table 3.1** presents a summary of the pre-mitigation impacts identified for each of the 12 reasonable alternative Gypsy and Traveller sites. The pre-mitigation assessments of the reasonable alternative sites proposed for Gypsy and Traveller pitches are presented in full in **sections 3.2 to 3.14** and should be read in conjunction with **Table 3.1**.
- 3.1.4 The SA assessments of the reasonable alternative sites identified positive, negligible, minor negative and major negative impacts for the SA objectives (pre-mitigation). The SA found that the proposed development at the majority of the sites would be expected to have minor negative or negligible impacts.

Table 3.1: Pre-mitigation impacts of each site identified in the SA Report

Site Reference	SA Objective														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5004	0	+	-	0	+	-	0	--	0	--	+	-	0	-	-
GNLP5005	-	+	--	0	+	-	0	-	0	--	-	-	0	-	-
GNLP0581/2043GT	+/-	--	-	-	+	+/-	0	-	0	+/-	+	-	-	-	-
GNLP5009	0	+	-	-	+	-	0	-	0	-	+	-	-	-	-
GNLP5013	0	+	-	0	+	-	0	-	0	--	-	-	0	+	-
GNLP5014	-	+	+/-	-	+	-	0	--	0	--	+	-	0	-	0
GNLP5019	0	-	-	0	+	-	0	--	0	--	+	--	0	-	0
GNLP5020	0	-	-	0	+	-	0	--	0	--	-	-	0	-	-
GNLP5021	-	+	-	0	+	-	0	--	0	--	+	-	0	-	-
GNLP5022	0	-	-	0	+	-	0	--	0	--	+	-	0	-	-
GNLP5023	-	+	-	-	+	-	0	-	0	--	+	-	0	-	-
GNLP5024	0	-	-	0	+	-	0	--	0	--	-	-	0	-	-

3.2 Site GNLP5004 – Land off Buxton Road, Eastgate

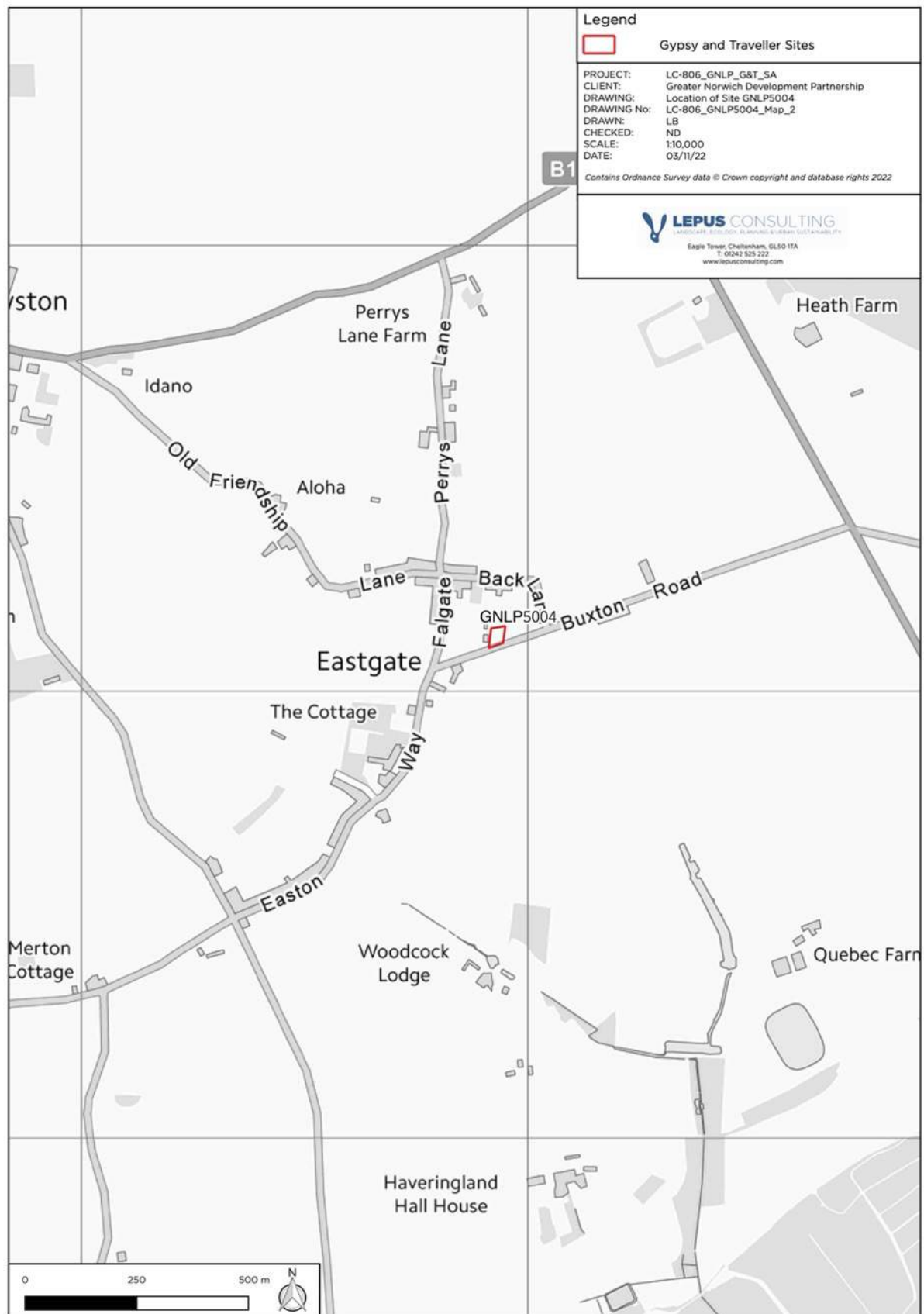


Figure 3.1: Location of proposed Gypsy and Traveller Site GNLP5004

Site GNLP5004: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Land off Buxton Road, Eastgate							0.12				4			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
0	+	-	0	+	-	0	--	0	--	+	-	0	-	-

SA1: Air Quality and Noise

- 3.2.1 **Air and Noise Pollution:** Site GNLP5004 is proposed for small-scale development (four Gypsy and Traveller pitches) and is situated away from major sources of air and noise pollution. A negligible impact on local air quality and noise would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.2.2 **Fluvial Flooding:** Site GNLP5004 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.2.3 **Habitats Sites:** Site GNLP5004 is located approximately 2.3km from 'Norfolk Valley Fens' SAC and 12.8km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.
- 3.2.4 **SSSI IRZ:** Site GNLP5004 is located within a Nutrient Impact Area, within an IRZ which states that *"for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice"*. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.

SA4: Landscape

- 3.2.5 **Landscape Character:** Site GNLP5004 is located within the LCA 'Cawston Tributary Farmland'. Some key characteristics of this LCA include the mosaic of arable fields, woodland and parkland, and landscape setting of villages and notable buildings. Due to the expected small-scale development (four Gypsy and Traveller pitches) situated in a small enclosed field, it is not anticipated that development proposals would be discordant with this LCA. Therefore, a negligible impact on the landscape character would be expected.

SA5: Housing

- 3.2.6 **Provision of Pitches:** Site GNLP5004 is proposed for the development of four Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.2.7 **Local Services:** The nearest local shop to Site GNLP5004 is Cawston Post Office and Store, located approximately 1.4km from the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.

SA7: Deprivation

- 3.2.8 See **Table 2.4**, 'SA7: Deprivation'.

SA8: Health

- 3.2.9 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5004 is Norfolk and Norwich University Hospital, located approximately 16.3km from the site, outside the sustainable target distance. The proposed development at Site GNLP5004 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.
- 3.2.10 **GP Surgery:** Site GNLP5004 is located approximately 1.2km from the closest GP surgery, 'Dr Harrison K & Partners', outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.2.11 **Leisure Facilities:** The closest leisure centre to Site GNLP5004 is 'Victory Swim and Fitness Leisure Centre', located approximately 14.8km from the site. Site GNLP5004 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.2.12 **Main Road:** Site GNLP5004 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.

3.2.13 **Green Network:** Site GNLP5004 is located within 600m from the PRow network. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.

3.2.14 As Site GNLP5004 is located outside the target distance to an NHS hospital, GP surgery and leisure centre, the proposed development at this site would be expected to have a major negative impact on the health and wellbeing of site end users.

SA9: Crime

3.2.15 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

3.2.16 **Primary/Secondary School:** Site GNLP5004 is located approximately 1.1km from the closest primary school, Cawston CE Primary School. The site is also located approximately 5.3km from the closest secondary school, Reepham High School and College. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

3.2.17 **Primary Employment Location:** Site GNLP5004 is located approximately 5km from the market town of Reepham, which would be expected to provide a range of employment opportunities for site end users and is within the sustainable target distance. Therefore, a minor positive impact on the local economy would be expected.

SA12: Transport and Access to Services

3.2.18 **Bus Stop:** Site GNLP5004 is located within the target distance to bus service '42', Reepham to Norwich route; however, this only provides two services per day. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to bus services.

3.2.19 **Railway Station:** Site GNLP5004 is located outside the target distance to a railway station, with the nearest being North Walsham Railway Station situated over 14km to the north east. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.

3.2.20 **Pedestrian Access:** Site GNLP5004 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.

3.2.21 **Road Network:** Site GNLP5004 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.2.22 **Heritage Assets:** The development proposed at Site GNLP5004 would be unlikely to significantly impact any surrounding heritage assets, and therefore, would be expected to have a negligible impact on the local historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.2.23 **Previously Developed Land:** Site GNLP5004 is located upon 0.12ha of previously undeveloped land. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.2.24 **ALC:** Site GNLP5004 is situated upon ALC Grade 2 land which represents some of Greater Norwich's BMV land. Therefore, a minor negative impact would be expected as a result of the proposed development at this site, due to the loss of this important natural resource.

SA15: Water

- 3.2.25 **SPZ:** Site GNLP5004 coincides with the catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.

3.3 Site GNLP5005 – Wymondham Recycling Centre, Strayground Lane

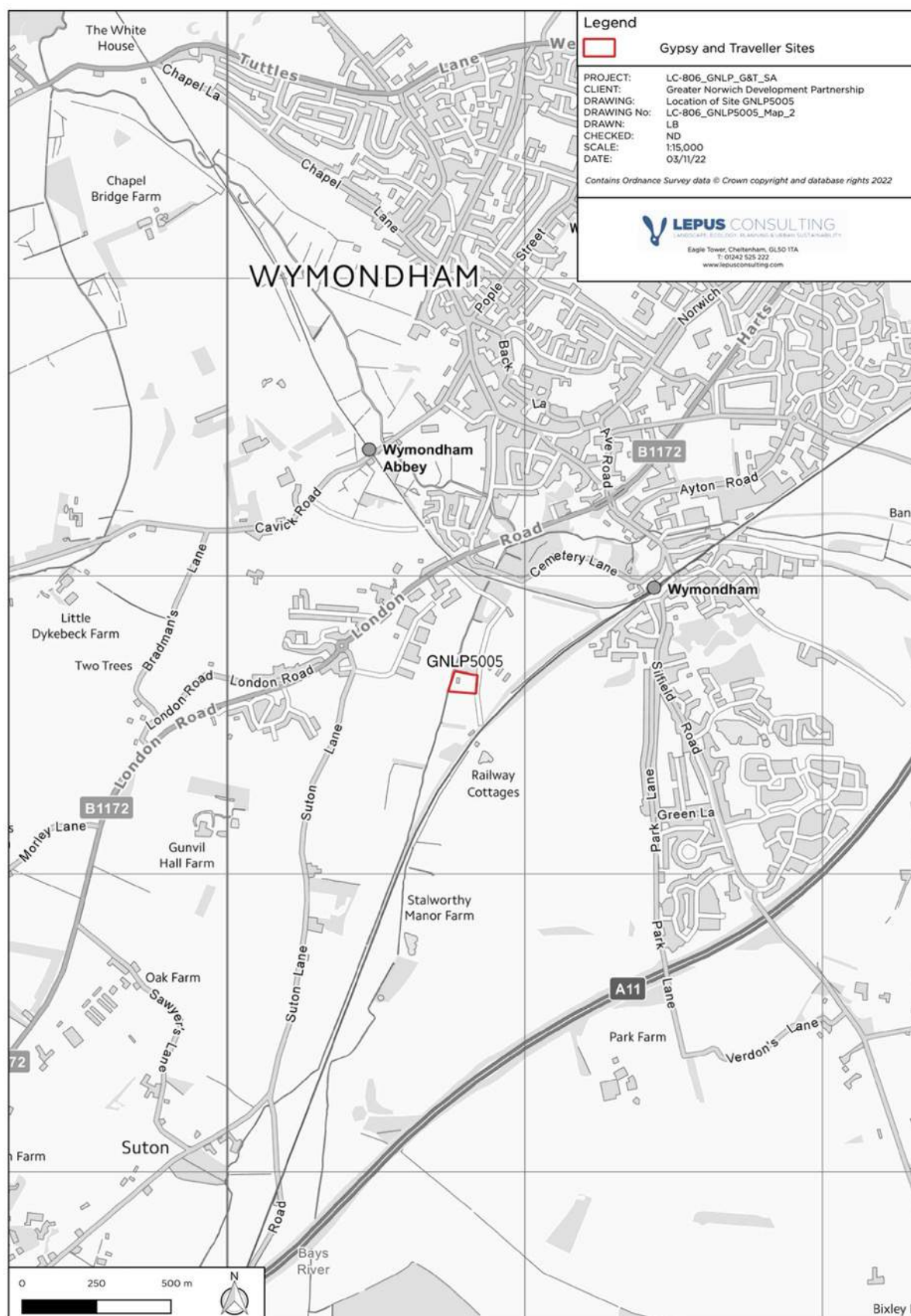


Figure 3.2: Location of proposed Gypsy and Traveller Site GNLP5005

Site GNLP5005: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Wymondham Recycling Centre, Strayground Lane							0.07				2			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
-	+	-	0	+	-	0	-	0	-	-	-	0	-	-

SA1: Air Quality and Noise

- 3.3.1 **Railway Line:** Site GNLP5005 is located within 200m of a railway line, therefore the proposed development at this site could potentially expose site end users to higher levels of noise pollution and vibrations associated with this railway. A minor negative impact would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.3.2 **Fluvial Flooding:** Site GNLP5005 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.3.3 **Habitats Sites:** Site GNLP5005 is located approximately 7.8km from 'Norfolk Valley Fens' SAC, 12.5km from 'River Wensum' SAC and 20km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.

- 3.3.4 **SSSI IRZ:** Site GNLP5005 is located within a Nutrient Impact Area, within an IRZ which states that “*for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England’s Nutrient Neutrality advice*”. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.
- 3.3.5 **County Wildlife Site:** The north of Site GNLP5005 coincides with a section of ‘Bays River Meadows North’ CWS. It is noted that part of this section of the CWS within the boundary of Site GNLP5005 comprises hardstanding associated with Wymondham Recycling Centre; however, a section along the northern site boundary remains undeveloped. The proposed development at this site could potentially result in direct adverse impacts on this CWS, and therefore a major negative impact on biodiversity could be expected.
- 3.3.6 **Priority Habitats:** The north of Site GNLP5005 coincides with approximately 0.01ha of lowland fens priority habitat. Therefore, the proposed development at this site could potentially result in the partial loss or degradation of this habitat, and therefore, have a minor negative impact on the overall presence of priority habitats in the Plan area.

SA4: Landscape

- 3.3.7 **Landscape Character:** Site GNLP5005 is located within the LCA ‘Tiffey Tributary Farmland’. Some key characteristics of this LCA include large scale arable farmland, water bodies, sparse settlements and long views. Due to the expected small-scale development (two Gypsy and Traveller pitches) situated on a partially developed site, it is not anticipated that development proposals would be discordant with this LCA. Therefore, a negligible impact on the landscape character would be expected.

SA5: Housing

- 3.3.8 **Provision of Pitches:** Site GNLP5005 is proposed for the development of two Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.3.9 **Local Services:** The nearest local shop to Site GNLP5005 is Co-op, located just over 600m from the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.
- 3.3.10 **Local Landscape Designations:** Site GNLP5005 is located within 600m from natural and semi-natural greenspace at Tolls Meadow. The proposed development at this site would therefore be likely to provide site end users with good access to this asset, and as such, result in a minor positive impact on opportunities for integration with the local community.

SA7: Deprivation

- 3.3.11 See **Table 2.4**, 'SA7: Deprivation'.

SA8: Health

- 3.3.12 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5005 is Norfolk and Norwich University Hospital, located approximately 9.7km from the site, outside the sustainable target distance. The proposed development at Site GNLP5005 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.
- 3.3.13 **GP Surgery:** Site GNLP5005 is located approximately 840m from the closest GP surgery, 'Dr Watts', outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.3.14 **Leisure Facilities:** The closest leisure centre to Site GNLP5005 is 'Wymondham Leisure Centre', located approximately 1.3km from the site. Site GNLP5005 is located within the target distance to this leisure facility, and therefore a minor positive impact on the health and wellbeing of site end users would be expected.
- 3.3.15 **Main Road:** Site GNLP5005 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.
- 3.3.16 **Green Network:** Site GNLP5005 is located within 600m from the PRow network and open greenspaces, including play space and a cemetery. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.

SA9: Crime

- 3.3.17 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.3.18 **Primary/Secondary School:** Site GNLP5005 is located approximately 960m from the closest primary school, Browick Road Primary School. The majority of Site GNLP5005 is located outside of the sustainable distance to the closest secondary school, Wymondham High Academy. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.3.19 **Primary Employment Location:** Site GNLP5005 is located approximately 300m from Wymondham Business Park with many potential employment opportunities for site end users, including businesses 'Express Equine', 'Supreme Bathroom and Kitchen Centre' and 'Abbeygate Accident and Repair', in addition to those expected in Wymondham Town Centre. Therefore, a minor positive impact on the local economy would be expected.
- 3.3.20 **Employment Floorspace:** Site GNLP5005 coincides with 'Wymondham Recycling Centre'. The proposed development of this site could potentially result in the loss of any employment opportunities currently associated with this site. Therefore, a minor negative impact could be expected following development at this site.

SA12: Transport and Access to Services

- 3.3.21 **Bus Stop:** Site GNLP5005 is located outside the target distance to a bus stop. The closest bus stop is located approximately 410m from the site on London Road and provides regular services '13', '13A', '13B' and '805', including routes to Norwich and the surrounding area. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.3.22 **Railway Station:** Site GNLP5005 is located within the target distance to Wymondham Railway Station. The proposed development at this site would be likely to have a minor positive impact on the access of site end users to rail services.
- 3.3.23 **Pedestrian Access:** Site GNLP5005 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.3.24 **Road Network:** Site GNLP5005 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.3.25 **Grade II Listed Building:** Site GNLP5005 is located approximately 350m from the Grade II Listed Building 'Ivy Green Villa'. Due to this distance and intervening development (Wymondham Business Park), and the expected small number of pitches at this site, it is not anticipated that it would affect the setting of this Listed Building. Therefore, the proposed development at this site would be expected to result in a negligible impact on the historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.3.26 **Previously Developed Land:** Site GNLP5005 is located upon 0.07ha of primarily previously developed land; however, the site also contains an undeveloped area along the Bays River. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.3.27 **ALC:** Site GNLP5005 is situated upon ALC Grade 2 land which represents some of Greater Norwich's BMV land. Therefore, a minor negative impact would be expected as a result of the proposed development at this site, due to the loss of this important natural resource.

SA15: Water

- 3.3.28 **SPZ:** Site GNLP5005 coincides with the catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.
- 3.3.29 **Watercourse:** Site GNLP5005 is located approximately 70m from the Bays River. The proposed development at this site could potentially increase the risk of contamination of this watercourse, and therefore, a minor negative impact would be expected.

3.4 Site GNL P0581/2043GT – Land off Bawburgh Lane, north of New Road and east of the A47, Costessey (Contingency Site)

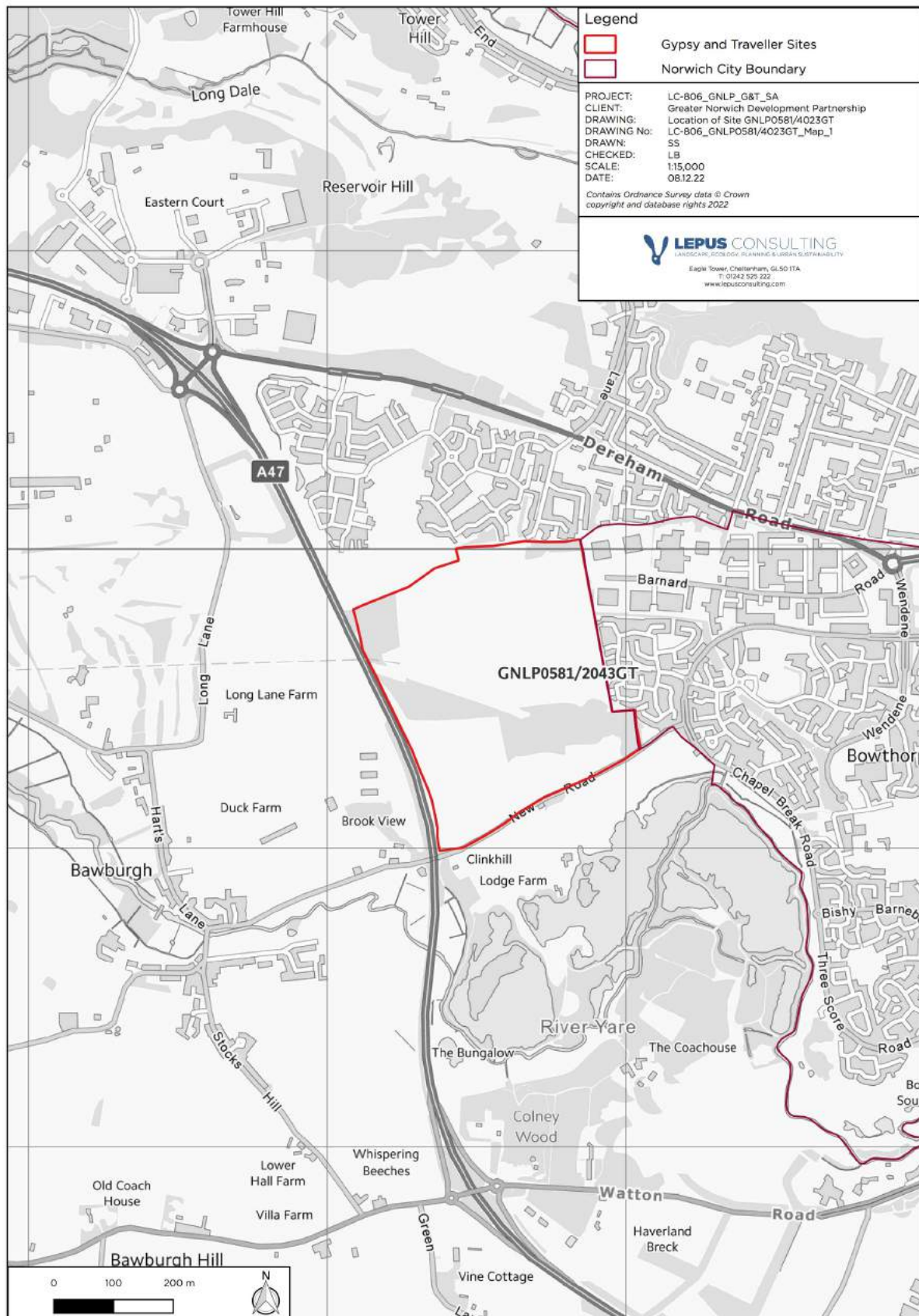


Figure 3.3: Location of proposed Gypsy and Traveller Site GNL P0581/2043GT

Site GNLP0581/2043GT: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Land off Bawburgh Lane, north of New Road and east of the A47, Costessey (Contingency Site)							1ha of the 62.33ha larger site at Costessey				18			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
+/-	+/-	-	-	+	+/-	0	-	0	+/-	+	-	-	-	-

SA1: Air Quality and Noise

- 3.4.1 **Main Road:** The A47 is located adjacent to the western boundary of Site GNLP0581/2043GT, with a proportion of the site located within 200m of this main road. The proposed development at this site could potentially expose site end users to higher levels of transport associated air and noise pollution. The exact location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, beyond that it would be in the southern section of the site. As such, it is uncertain whether site end users would be located within 200m of this road, and consequently whether they would be exposed to associated air pollution.

SA2: Climate Change Mitigation and Adaptation

- 3.4.2 **Fluvial Flooding:** Site GNLP0581/2043GT is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.
- 3.4.3 **Surface Water Flooding:** A large proportion of Site GNLP0581/2043GT coincides with an area determined to be at low, medium and high risk of surface water flooding. Depending on the specific location of the Gypsy and Traveller pitches within the south of the wider site, the proposed development could potentially locate some site end users in areas at high risk of surface water flooding, as well as exacerbate surface water flood risk in surrounding locations. At this stage, the potential impact is uncertain.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.4.4 **Habitats Sites:** Site GNLP0581/2043GT is located approximately 1.7km from 'River Wensum' SAC and 11.1km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.
- 3.4.5 **SSSI IRZ:** Site GNLP0581/2043GT is located within a Nutrient Impact Area, within an IRZ which states that "*for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice*". A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.
- 3.4.6 **Priority Habitats:** Site GNLP0581/2043GT coincides with approximately 7ha of deciduous woodland priority habitat, in the north west and south east of the site. The specific location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, and as such, it is uncertain whether the proposed development would result in the loss of any priority habitat.

SA4: Landscape

- 3.4.7 **Landscape Character:** Site GNLP0581/2043GT is located within the LCA 'Yare Valley Urban Fringe'. Some key characteristics of this LCA include the wide, flat floodplain, recreational landscape and green buffer between the river valley and Norwich City. The proposed development at this site could potentially result in a small-scale erosion of this green buffer and may alter wide views, and therefore, have a minor negative impact on the local landscape character.
- 3.4.8 **Views for Local Residents:** Site GNLP0581/2043GT extends outside the outskirts of Norwich City, adjacent to Bowthorpe and Chapel Break, and the proposed development at this site has the potential to alter views experienced by local residents of surrounding dwellings to some extent. Therefore, a minor negative impact on the local landscape would be expected.
- 3.4.9 **Urbanisation of the Countryside:** Site GNLP0581/2043GT comprises previously undeveloped land and is located outside of Bowthorpe on the outskirts of the city of Norwich. Therefore, the proposed development at this site could potentially contribute towards the urbanisation of the countryside. A minor negative impact on the local landscape would be expected.

SA5: Housing

- 3.4.10 **Provision of Pitches:** Site GNLP0581/2043GT is proposed for the development of 18 Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.4.11 **Local Services:** The nearest local shop to Site GNLP0581/2043GT is Co-op, located approximately 600m from the site at its closest point; however, the majority of the site is located outside of the sustainable target distance to this shop. The specific location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, and as such, it is uncertain whether site end users would be located within the sustainable target distance to local services.
- 3.4.12 **Local Landscape Designations:** A proportion of Site GNLP0581/2043GT is located within 600m of local landscape designations including amenity open space at Harts Lane and New Road, and informal open spaces in Chapel Break. The location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, and as such, it is uncertain whether site end users would be located in areas with good access to these assets, and consequently the opportunities for integration with the local community that they may provide.

SA7: Deprivation

- 3.4.13 See **Table 2.4**, 'SA7: Deprivation'.

SA8: Health

- 3.4.14 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP0581/2043GT is Norfolk and Norwich University Hospital, located approximately 2.5km from the site, within the sustainable target distance. The proposed development at Site GNLP0581/2043GT would be expected to provide site end users with good access to this healthcare facility and therefore a minor positive impact would be expected.
- 3.4.15 **GP Surgery:** The closest GP surgeries to Site GNLP0581/2043GT are 'Dr Lockett and Partners', 'Roundwell Medical Centre' and 'Bowthorpe Health Centre'. A proportion of the site, to the east, is located within the target distance to one or more of these GP surgeries however the majority of the site lies outside of this target distance. The location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, beyond that it would be in the southern section of the site. As such, it is uncertain whether site end users would be located within the sustainable target distance to GP surgeries.
- 3.4.16 **Leisure Facilities:** The closest leisure centre to Site GNLP0581/2043GT is 'Riverside Leisure Centre', located approximately 6.8km from the site. Site GNLP0581/2043GT is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.4.17 **Main Road:** Site GNLP0581/2043GT is located partially within 200m of a main road, the A47. The proposed development at this site could potentially expose site end users to higher levels of transport associated air pollution. The location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, beyond that it would be in the southern section of the site. As such, it is uncertain whether site end users would be located within 200m of this road, and consequently whether they would be exposed to associated air pollution.

- 3.4.18 **Green Network:** Site GNLP0581/2043GT is located partially within 600m of various open greenspaces, including play spaces and playing fields. However, a proportion of the site lies outside of this sustainable target distance. The location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, beyond that it would be in the southern section of the site. As such, it is uncertain whether site end users would be located within 600m of outdoor spaces for recreation and exercise and consequently the health benefits they provide.

SA9: Crime

- 3.4.19 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.4.20 **Primary School:** Site GNLP0581/2043GT is located approximately 500m from Chapel Break Infant School and approximately 720m from the The Bawburgh School (primary school), at its closest point (at the eastern edge of the site). However, the majority of the site is located outside of the target distance to these facilities. The specific location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, and as such, it is uncertain whether site end users would be located within the sustainable target distance to primary schools.
- 3.4.21 **Secondary School:** The majority of Site GNLP0581/2043GT is located within 1.5km of Ormiston Victory Academy, however, a proportion of the site in the south west is situated outside of this sustainable target distance. The specific location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, and as such, it is uncertain whether site end users would be located within the sustainable target distance to secondary schools.

SA11: Economy

- 3.4.22 **Primary Employment Location:** Site GNLP0581/2043GT is located approximately 740m from Bowthorpe Employment Area in the outskirts of Norwich City, which would be expected to provide a range of employment opportunities for site end users and is within the sustainable target distance. Therefore, a minor positive impact on the local economy would be expected.

SA12: Transport and Access to Services

- 3.4.23 **Bus Stop:** The majority of Site GNLP0581/2043GT is located outside the target distance to a bus stop that provides a regular service. A small proportion of the site, in the east, is located within 400m of bus stops in Chapel Break providing regular services. The specific location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, and as such, it is uncertain whether site end users would be located within the sustainable target distance to bus services.

- 3.4.24 **Railway Station:** Site GNLP0581/2043GT is located outside the target distance to a railway station, with the nearest being Norwich Railway Station situated over 7km to the east. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.
- 3.4.25 **Pedestrian Access:** Site GNLP0581/2043GT currently has good access to the surrounding footpath network in some locations (namely to the east and northern edges); however, the remainder of the site has poor connectivity for pedestrians. The specific location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, beyond that it would be in the southern section of the site. As such, it is uncertain whether site end users would be located in areas with good local accessibility.
- 3.4.26 **Road Network:** Site GNLP0581/2043GT is well connected to the existing road network at the site edges. However, the specific location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, and as such, it is uncertain whether site end users would be located in areas with good connectivity to the surrounding road network.

SA13: Historic Environment

- 3.4.27 **Grade II* Listed Building:** At its closest point, Site GNLP0581/2043GT is located approximately 270m from Grade II* Listed Building 'Lodge Farmhouse'. There is potential for the proposed development to result in a minor negative impact on the setting of the Listed Building.

SA14: Natural Resources, Waste and Contaminated Land

- 3.4.28 **Previously Developed Land:** Site GNLP0581/2043GT is located upon 62.33ha of previously undeveloped land, with the net area for the proposed Gypsy and Traveller pitches comprising approximately 1ha. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.4.29 **ALC:** The majority of Site GNLP0581/2043GT is situated upon ALC Grade 3 land which could potentially be some of Greater Norwich's BMV land. A small proportion in the south of the site is situated upon ALC Grade 4 land, which is considered to be poor quality agricultural land. The specific location of the Gypsy and Traveller pitches within the wider site boundary is unknown at the time of writing, and as such, it is uncertain whether the development would be situated on Grade 3 or 4 land and consequently whether the development would have positive or negative effects on the conservation of BMV land.

SA15: Water

- 3.4.30 **SPZ:** Site GNLP0581/2043GT coincides with the outer zone (Zone II) and catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.

3.5 Site GNLP5009 – Hockering Lane

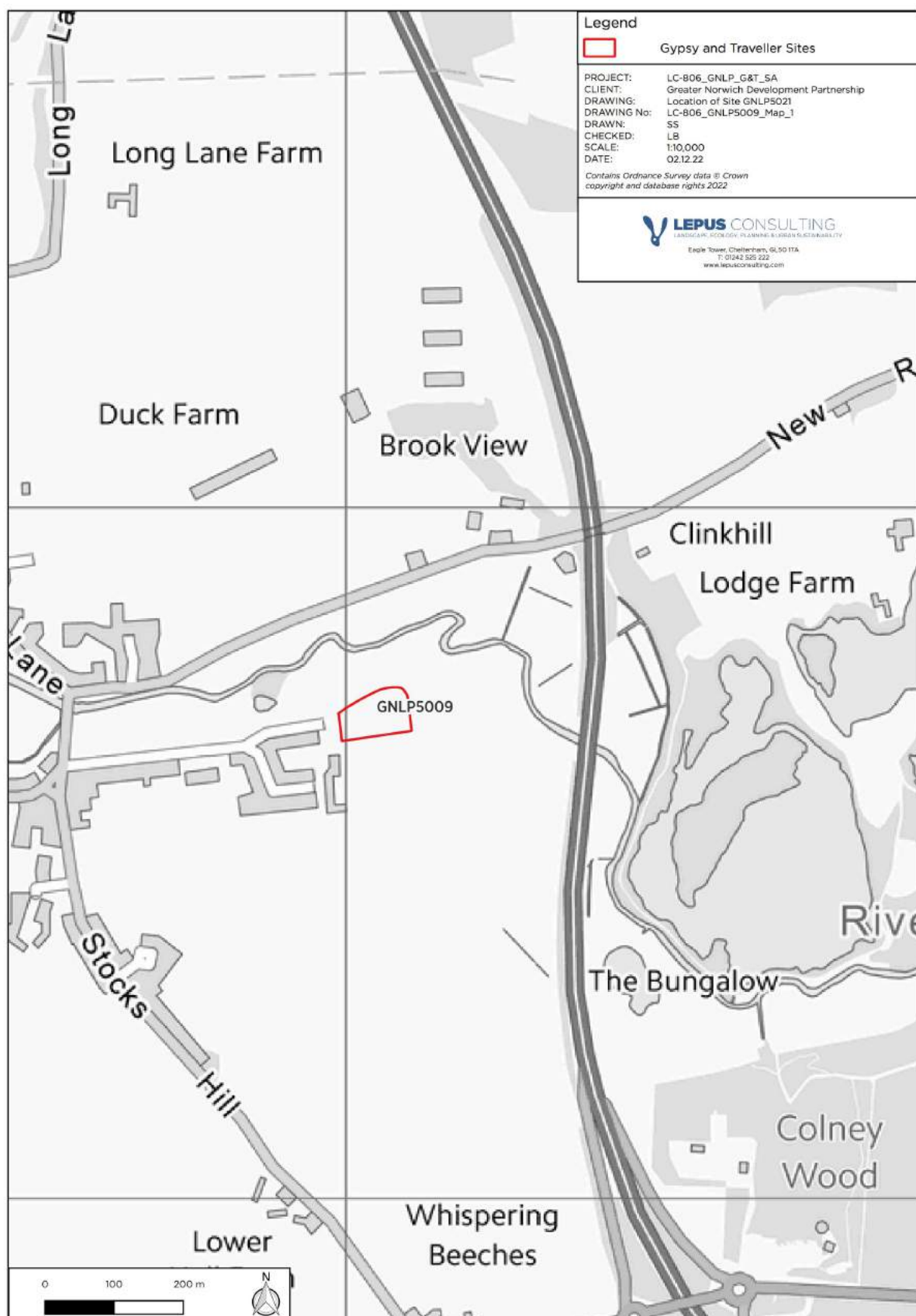


Figure 3.4: Location of proposed Gypsy and Traveller Site GNLP5009

Site GNLP5009: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Hockering Lane							0.59				6			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
0	+	-	-	+	-	0	-	0	-	+	-	-	-	-

SA1: Air Quality and Noise

- 3.5.1 **Air and Noise Pollution:** Site GNLP5009 is proposed for small-scale development (six Gypsy and Traveller pitches), and is situated away from major sources of air and noise pollution. A negligible impact on local air quality and noise would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.5.2 **Fluvial Flooding:** Site GNLP5009 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.5.3 **Habitats Sites:** Site GNLP5009 is located approximately 3km from 'River Wensum' SAC and 12.5km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites.
- 3.5.4 **SSSI IRZ:** Site GNLP5009 is located within a Nutrient Impact Area, within an IRZ which states that *"for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice"*. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.

SA4: Landscape

- 3.5.5 **Landscape Character:** Site GNLP5009 is located within the LCA 'Yare/Tiffey Rural River Valley'. Some key characteristics of this LCA include vegetated valley floor, meandering rivers, pastoral land use, small woodland blocks, and small attractive villages. Site GNLP5009 comprises an area of arable farmland and hedgerow/trees outside of the existing settlement of Bawburgh, in close proximity to the River Yare. The proposed development at this site could potentially result in some small-scale loss or degradation of vegetation associated with the river corridor, and therefore, have a minor negative impact on the local landscape character.
- 3.5.6 **Views for Local Residents:** Site GNLP5009 is located within the outskirts of Bawburgh and the proposed development at this site has the potential to alter views experienced by local residents of surrounding dwellings to some extent, such as those on Hockering Lane. Therefore, a minor negative impact on the local landscape would be expected.
- 3.5.7 **Urbanisation of the Countryside:** Site GNLP5009 comprises previously undeveloped land and is located outside of Bawburgh. Therefore, the proposed development at this site could potentially contribute towards the urbanisation of the countryside. A minor negative impact on the local landscape would be expected.

SA5: Housing

- 3.5.8 **Provision of Pitches:** Site GNLP5009 is proposed for the development of six Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.5.9 **Local Services:** The nearest local shop to Site GNLP5009 is Co-op, located approximately 1.7km from the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.
- 3.5.10 **Local Landscape Designations:** Site GNLP5009 is located within 600m from Bawburgh Allotments, Village Green and amenity open space at Harts Land and New Road. The proposed development at this site would therefore be likely to provide site end users with good access to these assets, and as such, result in a minor positive impact on opportunities for integration with the local community.

SA7: Deprivation

- 3.5.11 See **Table 2.4**, 'SA7: Deprivation'.

SA8: Health

- 3.5.12 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5009 is Norfolk and Norwich University Hospital, located approximately 2.6km from the site, within the sustainable target distance. The proposed development at Site GNLP5009 would be expected to provide site end users with good access to this healthcare facility and therefore a minor positive impact would be expected.
- 3.5.13 **GP Surgery:** Site GNLP5009 is located approximately 1.6km from the closest GP surgery, 'Bowthorpe Health Centre', outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.5.14 **Leisure Facilities:** The closest leisure centre to Site GNLP5009 is 'Riverside Leisure Centre', located approximately 7.9km from the site. Site GNLP5009 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.5.15 **Main Road:** Site GNLP5009 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.
- 3.5.16 **Green Network:** Site GNLP5009 is located within 600m from an open greenspace (play space). Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.

SA9: Crime

- 3.5.17 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.5.18 **Primary School:** Site GNLP5009 is located approximately 200m from The Bawburgh School, within the sustainable target distance. Therefore, a minor positive impact on the access of site end users to primary education would be expected.
- 3.5.19 **Secondary School:** Site GNLP5009 is located approximately 2.1km from the closest secondary school, Ormiston Victory Academy. Therefore, as the site is located outside of the sustainable target distance to this facility, a minor negative impact on the access of site end users to secondary education would be expected.

SA11: Economy

- 3.5.20 **Primary Employment Location:** Site GNLP5009 is located approximately 1.8km from Bowthorpe Employment Area in the outskirts of Norwich City, which would be expected to provide a range of employment opportunities for site end users and is within the sustainable target distance. Therefore, a minor positive impact on the local economy would be expected.

SA12: Transport and Access to Services

- 3.5.21 **Bus Stop:** Site GNLP5009 is located outside the target distance to a bus stop that provides a regular service. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.5.22 **Railway Station:** Site GNLP5009 is located outside the target distance to a railway station, with the nearest being Norwich Railway Station situated over 7km to the east. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.
- 3.5.23 **Pedestrian Access:** Site GNLP5009 is well connected to the existing footpath network, via pavement. The proposed development at this site would be expected to have a minor positive impact on the access of site end users to the site and surrounding areas.
- 3.5.24 **Road Network:** Site GNLP5009 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on local accessibility.

SA13: Historic Environment

- 3.5.25 **Grade II* Listed Building:** Site GNLP5009 is located approximately 260m from the Grade II* Listed Building 'The Slipper Chapel in Garden of Brecon House' and 280m from 'The Hermit's House'. The site is separated from these Listed Buildings by the undeveloped River Yare corridor. The proposed development at this site could potentially alter the setting of these Listed Buildings, and therefore, a minor negative impact on the local historic environment would be expected.
- 3.5.26 **Conservation Area:** Site GNLP5009 is located approximately 170m from 'Bawburgh' CA. The proposed development at this site could potentially alter the setting of this CA to some extent, and as such have a minor negative impact on the local historic environment.
- 3.5.27 **Scheduled Monument:** Site GNLP5009 is located approximately 280m from 'Two Garden Houses near the Hall' SM, across the undeveloped River Yare corridor. The proposed development at this site could potentially have a minor negative impact on the setting of this SM.

SA14: Natural Resources, Waste and Contaminated Land

- 3.5.28 **Previously Developed Land:** Site GNLP5009 is located upon 0.59ha of previously undeveloped land. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.5.29 **ALC:** Site GNLP5009 is situated upon ALC Grade 4, which is considered to be poor quality agricultural land. Therefore, a minor positive impact on natural resources could be expected as development would help to prevent the loss of BMV land across the Plan area.

SA15: Water

- 3.5.30 **SPZ:** Site GNLP5009 coincides with the outer zone (Zone II) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.
- 3.5.31 **Watercourse:** Site GNLP5009 is located within 200m of the River Yare. The proposed development at this site could potentially increase the risk of contamination of this watercourse, and therefore, a minor negative impact would be expected.

Site GNLP5013: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Ketteringham Recycling Centre (revised area)							0.70				10			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
0	+	-	0	+	-	0	-	0	-	-	-	0	+	-

SA1: Air Quality and Noise

- 3.6.1 **Air and Noise Pollution:** Site GNLP5013 is proposed for small-scale development (10 Gypsy and Traveller pitches) and is situated away from major sources of air and noise pollution. A negligible impact on local air quality and noise would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.6.2 **Fluvial Flooding:** Site GNLP5013 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.6.3 **Habitats Sites:** Site GNLP5013 is located approximately 6.4km from 'Norfolk Valley Fens' SAC, 7km from 'River Wensum' SAC and 13.5km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.

- 3.6.4 **SSSI IRZ:** Site GNLP5013 is located within a Nutrient Impact Area, within an IRZ which states that “*for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England’s Nutrient Neutrality advice*”. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.

SA4: Landscape

- 3.6.5 **Landscape Character:** Site GNLP5013 is located within the LCA ‘Yare Tributary Farmland with Parkland’. Some key characteristics of this LCA include meandering rivers, blocks of woodland, avenues of poplars and small villages with strong vernacular qualities. Site GNLP5013 comprises previously developed land and is situated amongst an existing industrial area. The proposed development at this site would be unlikely to affect any of these identified key characteristics, and therefore, a negligible impact on the landscape character would be expected.

SA5: Housing

- 3.6.6 **Provision of Pitches:** Site GNLP5013 is proposed for the development of 10 Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.6.7 **Local Services:** The nearest local shop to Site GNLP5013 is Church Farm Shop, located approximately 1.4km to the north west of the site, or various shops and services in Hethersett, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.

SA7: Deprivation

- 3.6.8 See **Table 2.4**, ‘SA7: Deprivation’.

SA8: Health

- 3.6.9 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5013 is Norfolk and Norwich University Hospital, located approximately 3.2km from the site, within the sustainable target distance. The proposed development at Site GNLP5013 would be expected to provide site end users with good access to this healthcare facility and therefore a minor positive impact would be expected.

- 3.6.10 **GP Surgery:** Site GNLP5013 is located approximately 2.2km from the closest GP surgery, 'Hethersett Surgery', outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.6.11 **Leisure Facilities:** The closest leisure centre to Site GNLP5013 is 'Wymondham Leisure Centre', located approximately 6km from the site. Site GNLP5013 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.6.12 **Main Road:** Site GNLP5013 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.
- 3.6.13 **Green Network:** Site GNLP5013 is located within 600m from the PRoW network. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.

SA9: Crime

- 3.6.14 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.6.15 **Primary/Secondary School:** Site GNLP5013 is located approximately 1.7km from the closest primary schools, Hethersett Woodside Infant & Nursery School and Hethersett VC Junior School. The site is also located approximately 1.9km from the closest secondary school, Hethersett Academy. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.6.16 **Primary Employment Location:** Site GNLP5013 is located within the sustainable target distance of 5km from various employment locations, including the industrial/commercial area Penfold Drive in Wymondham, and Norwich and Norfolk University Hospital and other locations in the south west of Norwich City, which would be expected to provide a range of employment opportunities for site end users. Therefore, a minor positive impact on the local economy would be expected.
- 3.6.17 **Employment Floorspace:** Site GNLP5013 coincides with 'Ketteringham Depot' and 'Whites Staircases'. The proposed development of this site could potentially result in the loss of any employment opportunities currently associated with this location. Therefore, a minor negative impact could be expected following development at this site.

SA12: Transport and Access to Services

- 3.6.18 **Bus Stop:** Site GNLP5013 is located outside the target distance to a bus stop. The closest bus stop is located approximately 1.3km from the site on Norwich Road and provides several regular services including '13', '14' and '15' to Norwich City Centre and various other surrounding towns and villages. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.6.19 **Railway Station:** Site GNLP5013 is located outside the target distance to a railway station, with the nearest being Wymondham Station situated approximately 6.4km to the south west. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.
- 3.6.20 **Pedestrian Access:** Site GNLP5013 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.6.21 **Road Network:** Site GNLP5013 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.6.22 **Heritage Assets:** The development proposed at Site GNLP5013 would be unlikely to significantly impact any surrounding heritage assets, and therefore, would be expected to have a negligible impact on the local historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.6.23 **Previously Developed Land:** Site GNLP5013 comprises previously developed land. The proposed development at this site would be expected to have a minor positive impact on natural resources as development would be classed as an efficient use of land.

SA15: Water

- 3.6.24 **SPZ:** Site GNLP5013 coincides with the catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.

3.7 Site GNLP5014 – Land adjacent to A47

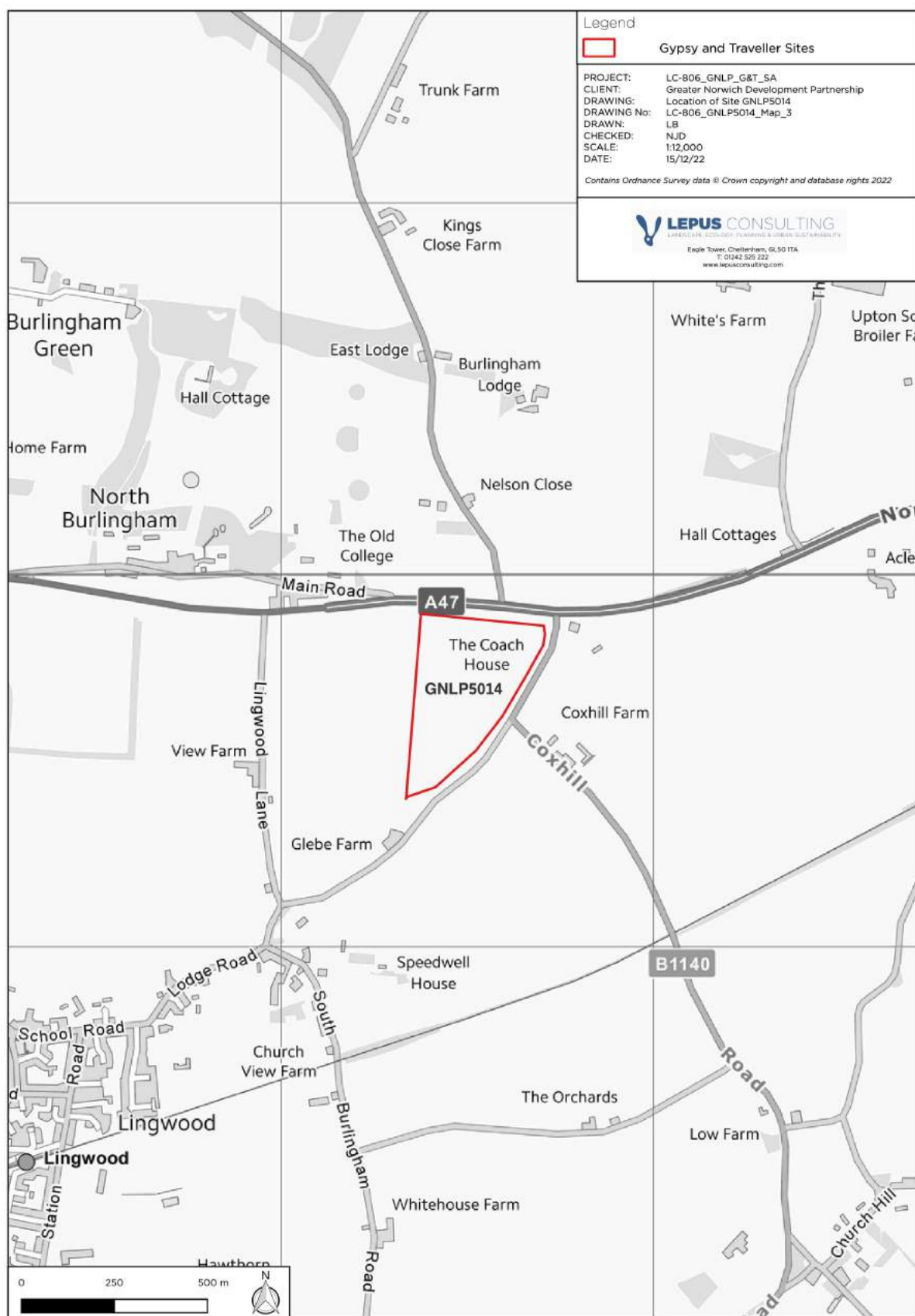


Figure 3.6: Location of proposed Gypsy and Traveller Site GNLP5014

Site GNLP5014: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Land adjacent to A47							1ha of 11.09ha larger site				15			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
-	+	0	-	+	-	0	--	0	--	+	-	0	-	0

SA1: Air Quality and Noise

- 3.7.1 **Main Road:** The A47 passes to the north of Site GNLP5014, with the majority of the site within 200m of this main road. The proposed development at this site could potentially expose site end users to higher levels of transport associated air and noise pollution. Traffic using the A47 would be expected to have a minor negative impact on air quality and noise at this site.

SA2: Climate Change Mitigation and Adaptation

- 3.7.2 **Fluvial Flooding:** Site GNLP5014 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.7.3 **Habitats Sites:** Site GNLP5014 is located approximately 2.5km from 'Broadland' SPA/Ramsar and 'The Broads' SAC, at its closest point. The site is also located approximately 17.5km from 'River Wensum' SAC, and 7.5km from 'Breydon Water' SPA/Ramsar. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.

- 3.7.4 **SSSI IRZ:** Site GNLP5014 is located within an IRZ which states that “*Any discharge of water or liquid waste of more than 5m³/day to ground (i.e. to seep away) or to surface water, such as a beck or stream*”. It is uncertain at this stage whether the proposed Gypsy and Traveller development would exceed this threshold, and consequently whether adverse impacts on nearby SSSIs would occur.

SA4: Landscape

- 3.7.5 **Landscape Character:** Site GNLP5014 is located within the LCA ‘Blofield Tributary Farmland’. Some key characteristics of this LCA include the landscape setting of historic halls and churches, villages, and mosaic of arable fields with views to features. Site GNLP5014 comprises part of the open arable landscape surrounding Lingwood and Burlingham Green. The proposed development at this site could potentially be discordant with these key characteristics and would be expected to have a minor negative impact on the local landscape character.
- 3.7.6 **Urbanisation of the Countryside:** Site GNLP5014 comprises previously undeveloped land and is located outside of the existing settlements of Lingwood and Burlingham Green. Therefore, the proposed development at this site could potentially contribute towards the urbanisation of the countryside. A minor negative impact on the local landscape would be expected.

SA5: Housing

- 3.7.7 **Provision of Pitches:** Site GNLP5014 is proposed for the development of 15 Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.7.8 **Local Services:** The nearest local shop to Site GNLP5014 is SPAR in Lingwood, located approximately 2km to the south west of the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.

SA7: Deprivation

- 3.7.9 See **Table 2.4**, ‘SA7: Deprivation’.

SA8: Health

- 3.7.10 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5014 is James Paget University Hospital, located approximately 16km from the site, outside the sustainable target distance. The proposed development at Site GNLP5014 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.

- 3.7.11 **GP Surgery:** Site GNLP5014 is located approximately 1.2km from the closest GP surgery, 'Dr Rolls & Partners' in Acle, outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.7.12 **Leisure Facilities:** The closest leisure centre to Site GNLP5014 is 'Riverside Leisure Centre' in Norwich City, located approximately 13.5km from the site. Site GNLP5014 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.7.13 **Main Road:** Site GNLP5014 is located adjacent to the A47. The proposed development at this site could potentially expose site end users to higher levels of traffic associated emissions, which would be likely to have a minor negative impact on the health of site end users.
- 3.7.14 **Green Network:** The majority of Site GNLP5014 is located within 600m from public greenspace, including religious grounds and a bowling green. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.
- 3.7.15 As Site GNLP5014 is located outside the target distance to an NHS hospital, GP surgery and leisure centre, the proposed development at this site would be expected to have a major negative impact on the health and wellbeing of site end users.

SA9: Crime

- 3.7.16 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.7.17 **Primary/Secondary School:** Site GNLP5014 is located approximately 1.5km from the closest primary school, Lingwood Primary School. The site is also located approximately 2.3km from the closest secondary school, Acle Academy. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.7.18 **Primary Employment Location:** Site GNLP5014 is located approximately 3km from the market town of Acle, which would be expected to provide a range of employment opportunities for site end users and is within the sustainable target distance. Therefore, a minor positive impact on the local economy would be expected.

SA12: Transport and Access to Services

- 3.7.19 **Bus Stop:** Site GNLP5014 is located outside the target distance to a bus stop. The closest bus stops can be found in Lingwood, including a bus stop along Station Road approximately 1.3km from the site, which provides regular service '15A' to Wymondham. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.7.20 **Railway Station:** Site GNLP5014 is located within the target distance to Lingwood Railway Station. The proposed development at this site would be likely to have a minor positive impact on the access of site end users to rail services.
- 3.7.21 **Pedestrian Access:** Site GNLP5014 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.7.22 **Road Network:** Site GNLP5014 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.7.23 **Heritage Assets:** The development proposed at Site GNLP5014 would be unlikely to significantly impact any surrounding heritage assets, and therefore, would be expected to have a negligible impact on the local historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.7.24 **Previously Developed Land:** Site GNLP5014 comprises 11.09ha of previously undeveloped land, with the proposed development to occupy approximately 1.00ha of this. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.7.25 **ALC:** Site GNLP5014 is situated upon ALC Grade 1 land which represents some of Greater Norwich's BMV land. Therefore, a minor negative impact would be expected as a result of the proposed development at this site, due to the loss of this important natural resource.

SA15: Water

- 3.7.26 **Water Quality:** Site GNLP5014 is located over 200m from a watercourse and does not coincide with a groundwater SPZ. Therefore, the proposed development at this site would be expected to have a negligible impact on local water receptors considered in this assessment. However, it should be noted that the emerging HRA will explore potential for wider water quality issues relating to nutrient thresholds (see SA3: Biodiversity).

3.8 Site GNLP5019 – Land at Woodland Stable, Shortthorn Road, Stratton Strawless



Figure 3.7: Location of proposed Gypsy and Traveller Site GNLP5019

Site GNLP5019: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Land at Woodland Stable, Shortthorn Road, Stratton Strawless							0.33				4			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
0	-	-	0	+	-	0	--	0	--	+	--	0	-	0

SA1: Air Quality and Noise

- 3.8.1 **Air and Noise Pollution:** Site GNLP5019 is proposed for small-scale development (four Gypsy and Traveller pitches) and is situated away from major sources of air and noise pollution. A negligible impact on local air quality and noise would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.8.2 **Fluvial Flooding:** Site GNLP5019 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.
- 3.8.3 **Surface Water Flooding:** A small proportion of Site GNLP5019 in the south coincides with an area determined to be at low risk of surface water flooding. The proposed development at this site could potentially have a minor negative impact on surface water flood risk, as development could potentially locate some site end users in areas at risk of surface water flooding, as well as exacerbate surface water flood risk in surrounding locations.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.8.4 **Habitats Sites:** Site GNLP5019 is located approximately 2.3km from 'Norfolk Valley Fens' SAC, 5.6km from 'River Wensum' SAC and 7.8km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.
- 3.8.5 **SSSI IRZ:** Site GNLP5019 is located within a Nutrient Impact Area, within an IRZ which states that *"for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice"*. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.

SA4: Landscape

- 3.8.6 **Landscape Character:** Site GNLP5019 is located within the LCA 'Horsford Woodland Heath Mosaic'. Some key characteristics of this LCA include extensive blocks of woodland, remnant patches of heathland and fen, and small-scale settlement. Site GNLP5019 comprises a small area of scrub / trees, situated adjacent to an existing Gypsy and Traveller site, and bounded by woodland to the north. The proposed development of four Gypsy and Traveller pitches at this site would be unlikely to significantly affect any of these identified key characteristics, and therefore, a negligible impact on the landscape character would be expected.

SA5: Housing

- 3.8.7 **Provision of Pitches:** Site GNLP5019 is proposed for the development of four Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.8.8 **Local Services:** The nearest local shop to Site GNLP5019 is Co-op in Horsford, located approximately 3.2km from the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.

SA7: Deprivation

- 3.8.9 See **Table 2.4**, 'SA7: Deprivation'.

SA8: Health

- 3.8.10 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5019 is Norfolk and Norwich University Hospital, located approximately 12km from the site, outside the sustainable target distance. The proposed development at Site GNLP5019 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.
- 3.8.11 **GP Surgery:** Site GNLP5019 is located approximately 2.6km from the closest GP surgery, 'Dr O'Neil' in Horsford, outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.8.12 **Leisure Facilities:** The closest leisure centre to Site GNLP5019 is 'Riverside Leisure Centre', located approximately 12.5km from the site. Site GNLP5019 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.8.13 **Main Road:** Site GNLP5019 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.
- 3.8.14 **Green Network:** Site GNLP5019 is located within 600m from public greenspace, including a cemetery. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.
- 3.8.15 As Site GNLP5019 is located outside the target distance to an NHS hospital, GP surgery and leisure centre, the proposed development at this site would be expected to have a major negative impact on the health and wellbeing of site end users.

SA9: Crime

- 3.8.16 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.8.17 **Primary/Secondary School:** Site GNLP5019 is located approximately 2.1km from the closest primary school, Hevingham Primary School. The site is also located approximately 5.4km from the closest secondary school, Taverham High School. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.8.18 **Primary Employment Location:** Site GNLP5019 is located approximately 500m from Woodland Park Industrial Estate, and approximately 5km from Taverham in the outskirts of Norwich. These areas would be expected to provide a range of employment opportunities for site end users, within the sustainable target distance. Therefore, a minor positive impact on the local economy would be expected.

SA12: Transport and Access to Services

- 3.8.19 **Bus Stop:** Site GNLP5019 is located outside the target distance to a bus stop. The closest bus stop is located approximately 800m from the site on Shortthorn Road and provides regular service '43A' and '45B' from Holt to Norwich City Centre. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.8.20 **Railway Station:** Site GNLP5019 is located outside the target distance to a railway station, with the nearest being Norwich Station situated approximately 12km to the south east. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.
- 3.8.21 **Pedestrian Access:** Site GNLP5019 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.8.22 **Road Network:** Site GNLP5019 is not accessible from the current road network. Therefore, the proposed development at this site could potentially result in a minor negative impact on accessibility.
- 3.8.23 Site GNLP5019 is located outside of the sustainable target distance to a bus stop and railway station and is poorly connected to the current road and footpath networks. Therefore, a major negative impact on travel and accessibility would be expected at this site.

SA13: Historic Environment

- 3.8.24 **Heritage Assets:** The development proposed at Site GNLP5019 would be unlikely to significantly impact any surrounding heritage assets, and therefore, would be expected to have a negligible impact on the local historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.8.25 **Previously Developed Land:** Site GNLP5019 is located upon 0.33ha of previously undeveloped land. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.

- 3.8.26 **ALC:** Site GNLP5019 is situated on land which is classed as ‘non-agricultural’ ALC. A minor positive impact would therefore be expected as development at this site would be likely to help prevent the loss of BMV land across the Plan area.

SA15: Water

- 3.8.27 **Water Quality:** Site GNLP5019 is located over 200m from a watercourse and does not coincide with a groundwater SPZ. Therefore, the proposed development at this site would be expected to have a negligible impact on local water receptors considered in this assessment. However, it should be noted that the emerging HRA will explore potential for wider water quality issues relating to nutrient thresholds (see SA3: Biodiversity).

3.9 Site GNLP5020 – Land at Romany Meadow, The Turnpike, Carleton Rode

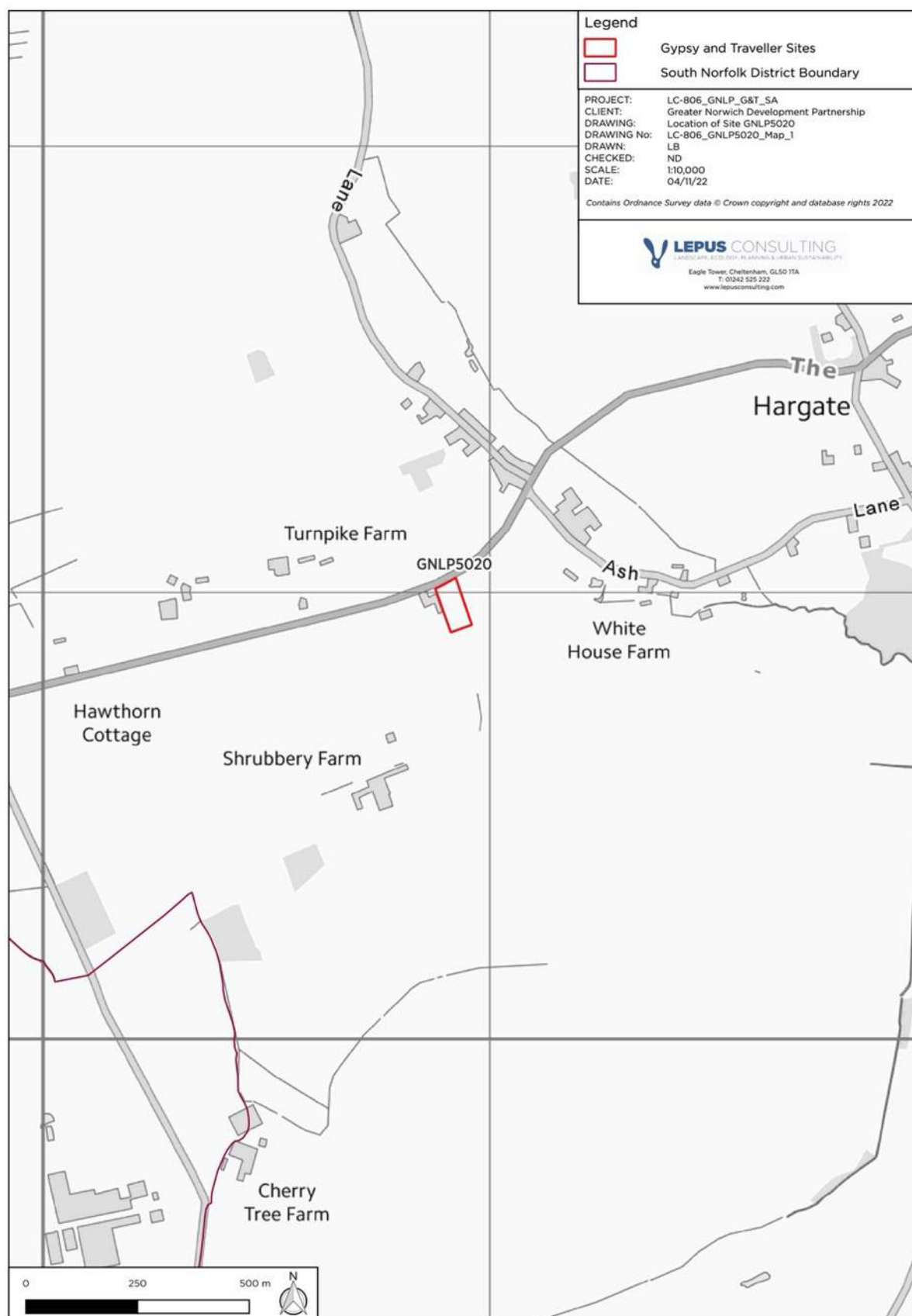


Figure 3.8: Location of proposed Gypsy and Traveller Site GNLP5020

Site GNLP5020: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Land at Romany Meadow, The Turnpike, Carleton Rode							0.54				6			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
0	-	-	0	+	-	0	--	0	--	-	-	0	-	-

SA1: Air Quality and Noise

- 3.9.1 **Air and Noise Pollution:** Site GNLP5020 is proposed for small-scale development (six Gypsy and Traveller pitches) and is situated away from major sources of air and noise pollution. A negligible impact on local air quality and noise would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.9.2 **Fluvial Flooding:** Site GNLP5020 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.
- 3.9.3 **Surface Water Flooding:** A large proportion of Site GNLP5020 in the south coincides with an area determined to be at low risk of surface water flooding, and a small proportion of the site in the east is within an area of medium risk. The proposed development at this site could potentially have a minor negative impact on surface water flood risk, as development could potentially locate some site end users in areas at risk of surface water flooding, as well as exacerbate surface water flood risk in surrounding locations.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.9.4 **Habitats Sites:** Site GNLP5020 is located approximately 9.2km from 'Norfolk Valley Fens' SAC, 11km from 'Waveney & Little Ouse Valley Fens' SAC and 'Redgrave & South Lopham Fens' Ramsar site. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.
- 3.9.5 **SSSI IRZ:** Site GNLP5020 is located within a Nutrient Impact Area, within an IRZ which states that *"for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice"*. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.

SA4: Landscape

- 3.9.6 **Landscape Character:** Site GNLP5020 is located within the LCA 'Tas Tributary Farmland'. Some key characteristics of this LCA include large, open arable fields, blocks of woodland and open views. Site GNLP5020 comprises a small field, enclosed by hedgerows and trees, adjacent to an existing Gypsy and Traveller site. The proposed development of six Gypsy and Traveller pitches at this site would be unlikely to affect any of these identified key characteristics, and therefore, a negligible impact on the landscape character would be expected.

SA5: Housing

- 3.9.7 **Provision of Pitches:** Site GNLP5020 is proposed for the development of six Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.9.8 **Local Services:** The nearest local shop to Site GNLP5020 is Kings Stores in New Buckenham, located approximately 2.2km to the west of the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.

SA7: Deprivation

- 3.9.9 See **Table 2.4**, 'SA7: Deprivation'.

SA8: Health

- 3.9.10 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5020 is Norfolk and Norwich University Hospital, located approximately 17.5km from the site, outside the sustainable target distance. The proposed development at Site GNLP5020 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.
- 3.9.11 **GP Surgery:** Site GNLP5020 is located approximately 5.5km from the closest GP surgery, 'Dr Rolls & Partners' in Sneath Common, outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.9.12 **Leisure Facilities:** The closest leisure centre to Site GNLP5020 is 'Long Stratton Leisure Centre', located approximately 8.6km from the site. Site GNLP5020 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.9.13 **Main Road:** Site GNLP5020 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.
- 3.9.14 **Green Network:** Site GNLP5020 is located within 600m from the PRoW network. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.
- 3.9.15 As Site GNLP5020 is located outside the target distance to an NHS hospital, GP surgery and leisure centre, the proposed development at this site would be expected to have a major negative impact on the health and wellbeing of site end users.

SA9: Crime

- 3.9.16 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.9.17 **Primary/Secondary School:** Site GNLP5020 is located approximately 1.5km from the closest primary school, Carleton Rode C of E VA Primary School. The site is also located approximately 4.2km from the closest secondary school, Old Buckenham High School. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.9.18 **Primary Employment Location:** Site GNLP5020 is located in a rural area, with the closest primary employment locations being the market town of Wymondham to the north, and Diss to the south, over 5km from the site and outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to employment.

SA12: Transport and Access to Services

- 3.9.19 **Bus Stop:** Site GNLP5020 is located outside the target distance to a bus stop. The closest bus stop is located approximately 1km from the site on Fen Road and provides regular service '37A' from East Harling to Norwich City Centre. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.9.20 **Railway Station:** Site GNLP5020 is located outside the target distance to a railway station, with the nearest being Spooner Row Station situated approximately 6.5km to the north. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.
- 3.9.21 **Pedestrian Access:** Site GNLP5020 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.9.22 **Road Network:** Site GNLP5020 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.9.23 **Heritage Assets:** The development proposed at Site GNLP5020 would be unlikely to significantly impact any surrounding heritage assets, and therefore, would be expected to have a negligible impact on the local historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.9.24 **Previously Developed Land:** Site GNLP5020 is located upon 0.54ha of previously undeveloped land. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.9.25 **ALC:** Site GNLP5020 is situated upon ALC Grade 3 land which could potentially represent some of Greater Norwich's BMV land. Therefore, a minor negative impact would be expected as a result of the proposed development at this site, due to the loss of this important natural resource.

SA15: Water

- 3.9.26 **SPZ:** Site GNLP5020 coincides with the catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.

3.10 Site GNLP5021 – The Old Produce Shop, Holt Road, Horsford

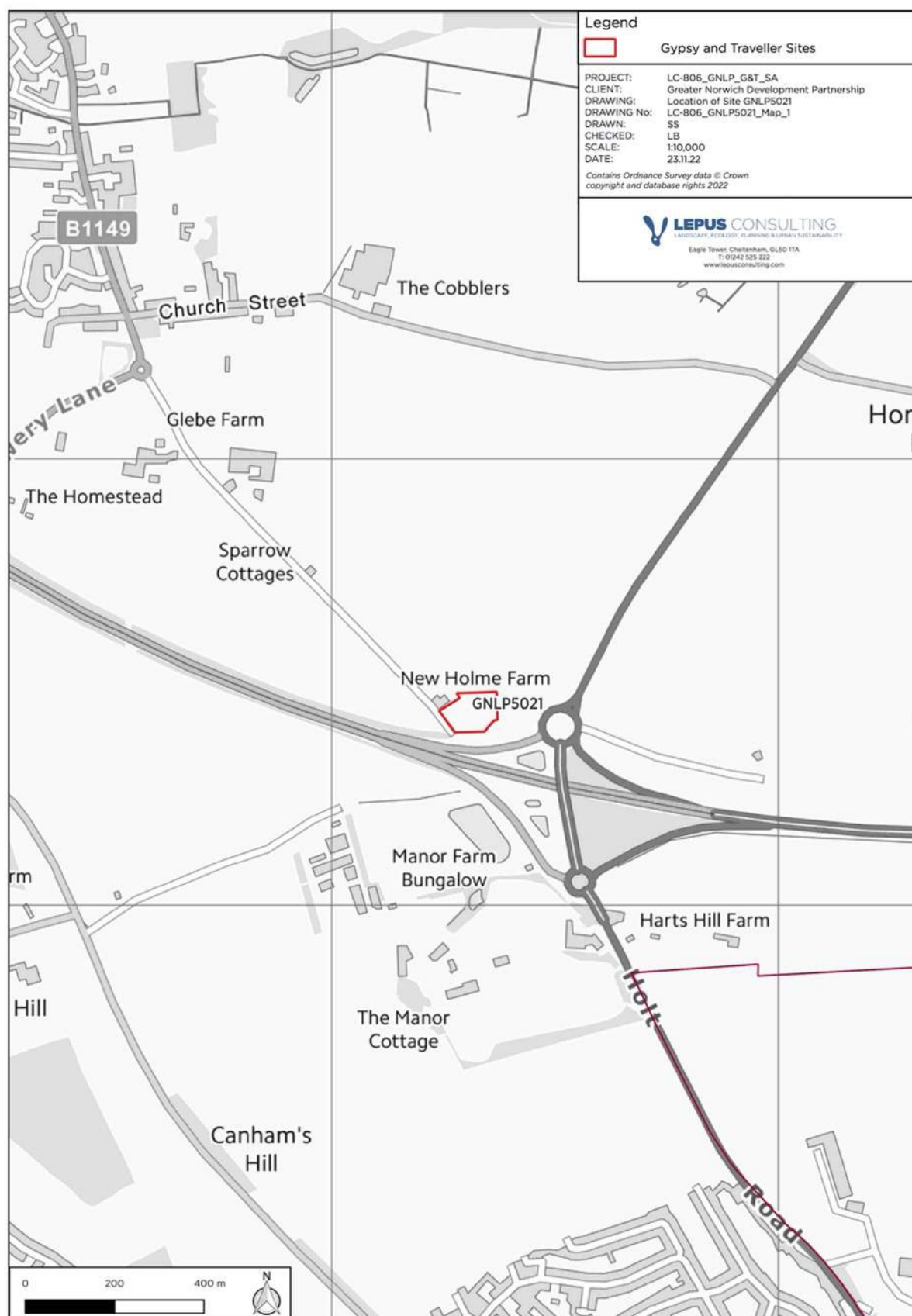


Figure 3.9: Location of proposed Gypsy and Traveller Site GNLP5021

Site GNLP5021: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
The Old Produce Shop, Holt Road, Horsford							0.90				6			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
-	+	-	0	+	-	0	--	0	--	+	-	0	-	-

SA1: Air Quality and Noise

- 3.10.1 **Main Road:** Site GNLP5021 is located adjacent to the A1270/A140 roundabout, with the entirety of the site within 200m of these main roads. The proposed development at this site could potentially expose site end users to higher levels of transport associated air and noise pollution. Traffic using the A1270 and A140 would be expected to have a minor negative impact on air quality and noise at this site.

SA2: Climate Change Mitigation and Adaptation

- 3.10.2 **Fluvial Flooding:** Site GNLP5021 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.10.3 **Habitats Sites:** Site GNLP5021 is located approximately 7.5km from 'Norfolk Valley Fens' SAC, 2.3km from 'River Wensum' SAC and 6km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.

- 3.10.4 **SSSI IRZ:** Site GNLP5021 is located within a Nutrient Impact Area, within an IRZ which states that “*for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England’s Nutrient Neutrality advice*”. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.

SA4: Landscape

- 3.10.5 **Landscape Character:** Site GNLP5021 is located within the LCA ‘Spixworth Wooded Estatelands’. Some key characteristics of this LCA include blocks of woodland and hedgerows, and the landscape setting of villages, historic houses and halls. Due to the expected small-scale development (six Gypsy and Traveller pitches) situated adjacent to existing rural buildings and the Broadland Northway roundabout, it is not anticipated that development proposals would be discordant with this LCA. Therefore, a negligible impact on the landscape character would be expected.

SA5: Housing

- 3.10.6 **Provision of Pitches:** Site GNLP5021 is proposed for the development of six Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.10.7 **Local Services:** The nearest local shop to Site GNLP5021 is St Faiths Post Office and Stores, located approximately 1.4km to the north east of the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.
- 3.10.8 **Local Landscape Designations:** Site GNLP5021 is located within 600m from outdoor sports facilities (Horsford Manor Cricket Ground). The proposed development at this site could potentially provide site end users with good access to this asset, and as such, result in a minor positive impact on opportunities for integration with the local community.

SA7: Deprivation

- 3.10.9 See **Table 2.4**, ‘SA7: Deprivation’.

SA8: Health

- 3.10.10 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5021 is Norfolk and Norwich University Hospital, located approximately 7.6km from the site, outside the sustainable target distance. The proposed development at Site GNLP5021 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.

- 3.10.11 **GP Surgery:** Site GNLP5021 is located approximately 1.4km from the closest GP surgery, 'Dr Stone & Partners' in Hellesdon, outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.10.12 **Leisure Facilities:** The closest leisure centre to Site GNLP5021 is 'Riverside Leisure Centre', located approximately 7.5km from the site. Site GNLP5021 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.10.13 **Main Road:** Site GNLP5021 is located adjacent to the A1270/A140 roundabout. The proposed development at this site could potentially expose site end users to higher levels of traffic associated emissions, which would be likely to have a minor negative impact on the health of site end users.
- 3.10.14 **Green Network:** Site GNLP5021 is located within 600m from public greenspace, including a playing field. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.
- 3.10.15 As Site GNLP5021 is located outside the target distance to an NHS hospital, GP surgery and leisure centre, the proposed development at this site would be expected to have a major negative impact on the health and wellbeing of site end users.

SA9: Crime

- 3.10.16 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.10.17 **Primary/Secondary School:** Site GNLP5021 is located approximately 1.3km from the closest primary school, Arden Grove Infant and Nursery School, and approximately 2km from the nearest school providing education for all primary ages, St Faiths C of E VC Primary School. The site is also located approximately 2.6km from the closest secondary school, Hellesdon High School. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.10.18 **Primary Employment Location:** Site GNLP5021 is located within 5km from a range of employment opportunities in the north of Norwich City, including Norwich Airport and various industrial and commercial areas, which would be expected to provide a range of employment opportunities for site end users and are within the sustainable target distance. Therefore, a minor positive impact on the local economy would be expected.

SA12: Transport and Access to Services

- 3.10.19 **Bus Stop:** Site GNLP5021 is located outside the target distance to a bus stop. The closest bus stop is located approximately 1.2km from the site on Holt Road and provides regular services including '36' from Horsford to Norwich City Centre. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.10.20 **Railway Station:** Site GNLP5021 is located outside the target distance to a railway station, with the nearest being Norwich Railway Station situated over 7km to the south east. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.
- 3.10.21 **Pedestrian Access:** Site GNLP5021 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.10.22 **Road Network:** Site GNLP5021 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.10.23 **Heritage Assets:** The development proposed at Site GNLP5021 would be unlikely to significantly impact any surrounding heritage assets, and therefore, would be expected to have a negligible impact on the local historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.10.24 **Previously Developed Land:** Site GNLP5021 comprises 0.90ha, the majority of which is previously undeveloped land. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.10.25 **ALC:** Site GNLP5021 is situated upon ALC Grade 3 land which could potentially represent some of Greater Norwich's BMV land. Therefore, a minor negative impact would be expected as a result of the proposed development at this site, due to the loss of this important natural resource.

SA15: Water

- 3.10.26 **SPZ:** Site GNLP5021 coincides with the catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.

3.11 Site GNLP5022 – The Oaks, Foulsham

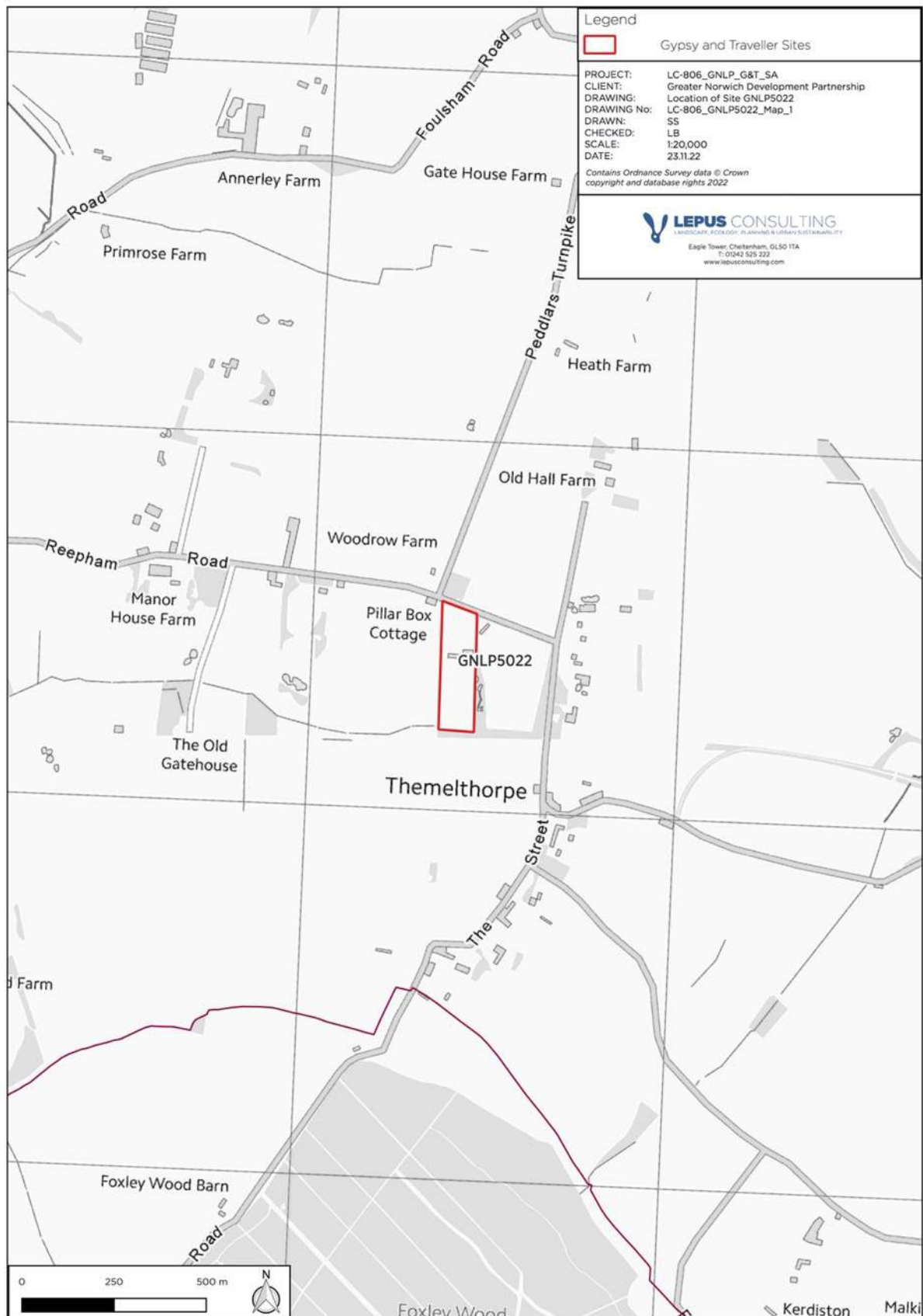


Figure 3.10: Location of proposed Gypsy and Traveller Site GNLP5022

Site GNLP5022: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
The Oaks, Foulsham							3.19				5			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
0	-	-	0	+	-	0	--	0	--	+	-	0	-	-

SA1: Air Quality and Noise

- 3.11.1 **Air and Noise Pollution:** Site GNLP5022 is proposed for small-scale development (five Gypsy and Traveller pitches) and is situated away from major sources of air and noise pollution. A negligible impact on local air quality and noise would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.11.2 **Fluvial Flooding:** Site GNLP5022 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.
- 3.11.3 **Surface Water Flooding:** A small proportion of Site GNLP5022 in the south coincides with an area determined to be at low risk of surface water flooding. The proposed development at this site could potentially have a minor negative impact on surface water flood risk, as development could potentially locate some site end users in areas at risk of surface water flooding, as well as exacerbate surface water flood risk in surrounding locations.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.11.4 **Habitats Sites:** Site GNLP5022 is located approximately 5.6km from 'Norfolk Valley Fens' SAC, 4.8km from 'River Wensum' SAC and 21km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.

- 3.11.5 **SSSI IRZ:** Site GNLP5022 is located within a Nutrient Impact Area, within an IRZ which states that “*for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England’s Nutrient Neutrality advice*”. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.

SA4: Landscape

- 3.11.6 **Landscape Character:** Site GNLP5022 is located within the LCA ‘Foulsham and Reepham Plateau Farmland’. Some key characteristics of this LCA include the distinctive field pattern, wide views to churches and the setting of manors, halls and churches. Due to the expected small-scale development (five Gypsy and Traveller pitches) situated adjacent to an existing Gypsy and Traveller site, it is not anticipated that development proposals would be discordant with this LCA. Therefore, a negligible impact on the landscape character would be expected.

SA5: Housing

- 3.11.7 **Provision of Pitches:** Site GNLP5022 is proposed for the development of five Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.11.8 **Local Services:** The nearest local shop to Site GNLP5022 is The Village Store in Foulsham, located approximately 2.2km to the north west of the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.

SA7: Deprivation

- 3.11.9 See **Table 2.4**, ‘SA7: Deprivation’.

SA8: Health

- 3.11.10 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5022 is Norfolk and Norwich University Hospital, located approximately 21.5km from the site, outside the sustainable target distance. The proposed development at Site GNLP5022 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.
- 3.11.11 **GP Surgery:** Site GNLP5022 is located approximately 4.5km from the closest GP surgery, ‘Reepham Surgery’, outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.

- 3.11.12 **Leisure Facilities:** The closest leisure centre to Site GNLP5022 is 'Dereham Leisure Centre', located approximately 13km from the site. Site GNLP5022 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.11.13 **Main Road:** Site GNLP5022 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.
- 3.11.14 **Green Network:** Site GNLP5022 is located within 600m from public greenspace, including religious grounds. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.
- 3.11.15 As Site GNLP5022 is located outside the target distance to an NHS hospital, GP surgery and leisure centre, the proposed development at this site would be expected to have a major negative impact on the health and wellbeing of site end users.

SA9: Crime

- 3.11.16 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.11.17 **Primary/Secondary School:** Site GNLP5022 is located approximately 2.2km from the closest primary school, Foulsham Primary School. The site is also located approximately 4.6km from the closest secondary school, Reepham High School. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.11.18 **Primary Employment Location:** Site GNLP5022 is located approximately 4.8km from the market town of Reepham, which would be expected to provide a range of employment opportunities for site end users and is within the sustainable target distance. Therefore, a minor positive impact on the local economy would be expected.

SA12: Transport and Access to Services

- 3.11.19 **Bus Stop:** Site GNLP5022 is located outside the target distance to a bus stop. The closest bus stop is located approximately 2.2km from the site on Station Road and provides service '80' to Dereham and '98' to Fakenham. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.

- 3.11.20 **Railway Station:** Site GNLP5022 is located outside the target distance to a railway station, with the nearest being Sheringham Railway Station situated over 21km to the north east, and Norwich Railway Station situated over 24km to the south east. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.
- 3.11.21 **Pedestrian Access:** Site GNLP5022 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.11.22 **Road Network:** Site GNLP5022 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.11.23 **Grade II* Listed Building:** Site GNLP5022 is located approximately 330m from the Grade II* Listed Building 'Church of St Andrew'. This Listed Building is situated amongst the existing settlement and surrounded by trees. Due to these factors, and the expected small number of pitches at this existing Gypsy and Traveller site, it is not anticipated that it would affect the setting of this Listed Building. Therefore, the proposed development at this site would be expected to result in a negligible impact on the historic environment.
- 3.11.24 **Grade II Listed Building:** Site GNLP5022 is located approximately 290m from the Grade II Listed Building 'The Old Hall'. This Listed Building is situated amongst the existing settlement and surrounded by trees. Due to these factors, and the expected small number of pitches at this existing Gypsy and Traveller site, it is not anticipated that it would affect the setting of this Listed Building. Therefore, the proposed development at this site would be expected to result in a negligible impact on the historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.11.25 **Previously Developed Land:** Site GNLP5022 comprises 3.19ha, the majority of which is previously undeveloped land. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.11.26 **ALC:** Site GNLP5022 is situated upon ALC Grade 3 land which could potentially represent some of Greater Norwich's BMV land. Therefore, a minor negative impact would be expected as a result of the proposed development at this site, due to the loss of this important natural resource.

SA15: Water

- 3.11.27 **SPZ:** Site GNLP5022 coincides with the catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.

3.12 Site GNLP5023 – Strayground Lane, Wymondham

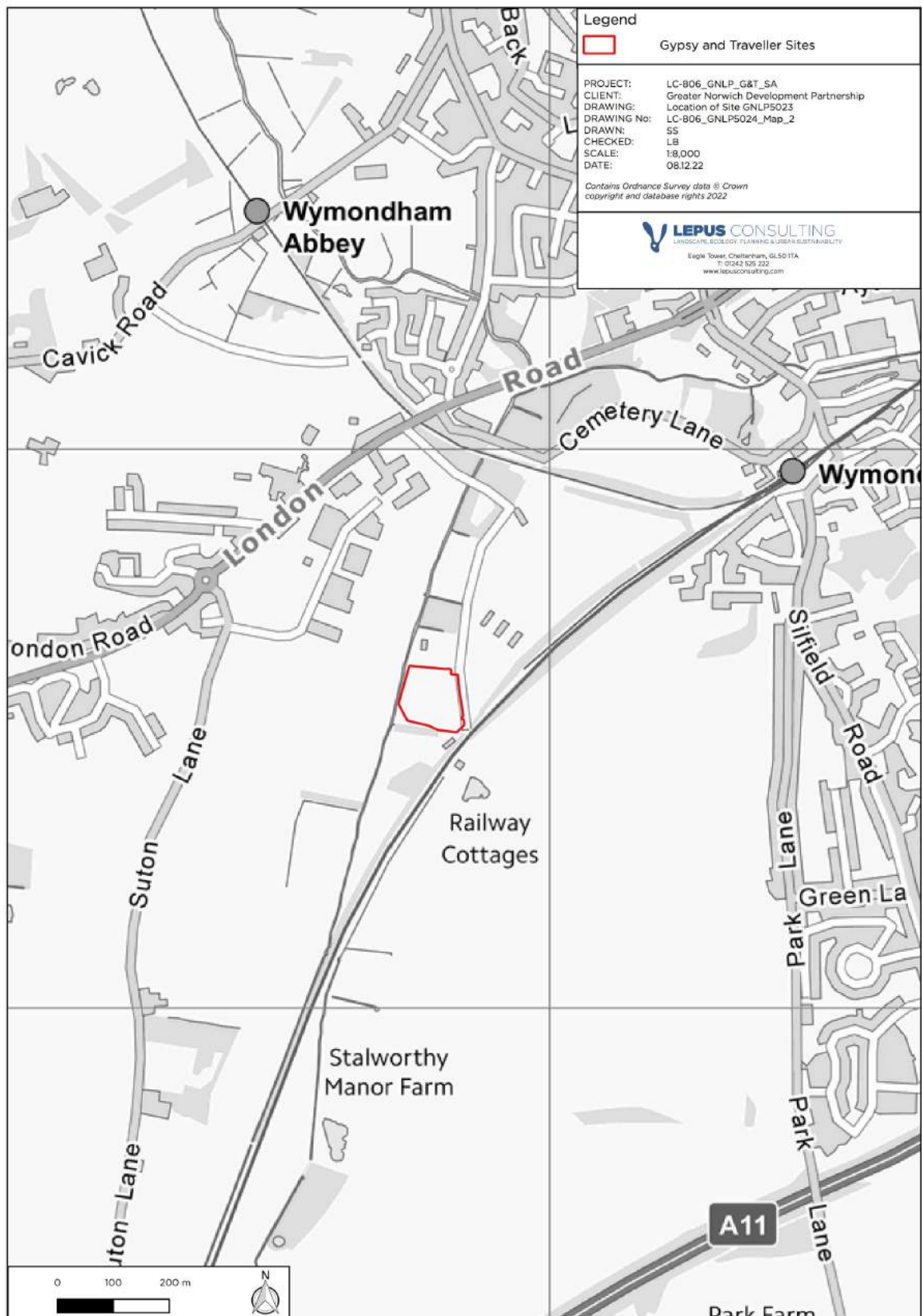


Figure 3.11: Location of proposed Gypsy and Traveller Site GNLP5023

Site GNLP5023: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Strayground Lane, Wymondham							1.19				10			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
-	+	-	-	+	-	0	-	0	-	+	-	0	-	-

SA1: Air Quality and Noise

- 3.12.1 **Railway Line:** Site GNLP5023 is located within 200m of a railway line, therefore the proposed development at this site could potentially expose site end users to higher levels of noise pollution and vibrations associated with this railway. A minor negative impact would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.12.2 **Fluvial Flooding:** Site GNLP5023 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.12.3 **Habitats Sites:** Site GNLP5023 is located approximately 8km from 'Norfolk Valley Fens' SAC, 13.4km from 'River Wensum' SAC and 20km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.

- 3.12.4 **SSSI IRZ:** Site GNLP5023 is located within a Nutrient Impact Area, within an IRZ which states that “*for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England’s Nutrient Neutrality advice*”. A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.
- 3.12.5 **County Wildlife Site:** Site GNLP5023 is located adjacent to ‘Bays River Meadow North’ CWS. The proposed development at this site could potentially have a minor negative impact on this CWS due to increased development related threats and pressures.
- 3.12.6 **Priority Habitats:** Site GNLP5023 wholly coincides with lowland fens priority habitat. Therefore, the proposed development at this site would be likely to result in the loss or degradation of this habitat, and therefore, have a minor negative impact on the overall presence of priority habitats in the Plan area.

SA4: Landscape

- 3.12.7 **Landscape Character:** Site GNLP5023 is located within the LCA ‘Tiffey Tributary Farmland’. Some key characteristics of this LCA include large scale arable farmland, water bodies, sparse settlements and long views. Site GNLP5023 comprises previously undeveloped land including trees and hedgerow boundaries, forming part of the undeveloped approach to Wymondham along the Bays River valley. The proposed development at this site could potentially be discordant with the key characteristics of this LCA and would be expected to have a minor negative impact on the local landscape character.
- 3.12.8 **Urbanisation of the Countryside:** Site GNLP5023 comprises previously undeveloped land and is located outside of Wymondham. Therefore, the proposed development at this site could potentially contribute towards the urbanisation of the countryside. A minor negative impact on the local landscape would be expected.

SA5: Housing

- 3.12.9 **Provision of Pitches:** Site GNLP5023 is proposed for the development of 10 Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

- 3.12.10 **Local Services:** The nearest local shop to Site GNLP5023 is Co-op, located just over 600m from the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.

SA7: Deprivation

- 3.12.11 See **Table 2.4**, ‘SA7: Deprivation’.

SA8: Health

- 3.12.12 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5023 is Norfolk and Norwich University Hospital, located approximately 9.8km from the site, outside the sustainable target distance. The proposed development at Site GNLP5023 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.
- 3.12.13 **GP Surgery:** Site GNLP5023 is located approximately 950m from the closest GP surgery, 'Dr Watts' in Wymondham, outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.12.14 **Leisure Facilities:** The closest leisure centre to Site GNLP5023 is 'Wymondham Leisure Centre'. The majority of Site GNLP5023 is located within the 1.5km target distance to this leisure facility, and therefore a minor positive impact on the health and wellbeing of site end users would be expected.
- 3.12.15 **Main Road:** Site GNLP5023 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.
- 3.12.16 **Green Network:** Site GNLP5023 is located within 600m from the PRow network and public greenspace. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.

SA9: Crime

- 3.12.17 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.12.18 **Primary/Secondary School:** Site GNLP5023 is located approximately 1km from the closest primary school, Browick Road Primary and Nursery School. The site is also located approximately 1.6km from the closest secondary school, Wymondham High Academy. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.12.19 **Primary Employment Location:** Site GNLP5023 is located approximately 300m from Wymondham Business Park with many potential employment opportunities for site end users, including businesses 'Express Equine', 'Supreme Bathroom and Kitchen Centre' and 'Abbeygate Accident and Repair', in addition to those expected in Wymondham Town Centre. Therefore, a minor positive impact on the local economy would be expected.

SA12: Transport and Access to Services

- 3.12.20 **Bus Stop:** The majority of Site GNLP5023 is located outside the 400m target distance to a bus stop. The closest bus stops are found on London Road to the north west and provide regular services '13', '13A', '13B' and '805', including routes to Norwich and the surrounding area. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.12.21 **Railway Station:** Site GNLP5023 is located within the target distance to Wymondham Railway Station. The proposed development at this site would be likely to have a minor positive impact on the access of site end users to rail services.
- 3.12.22 **Pedestrian Access:** Site GNLP5023 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.12.23 **Road Network:** Site GNLP5023 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.12.24 **Grade II Listed Building:** Site GNLP5023 is located approximately 310m from the Grade II Listed Building 'Ivy Green Villa'. Due to this distance and intervening development (Wymondham Business Park), and the expected small number of pitches at this site, it is not anticipated that it would affect the setting of this Listed Building. Therefore, the proposed development at this site would be expected to result in a negligible impact on the historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.12.25 **Previously Developed Land:** Site GNLP5023 comprises 1.19ha of previously undeveloped land. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.12.26 **ALC:** Site GNLP5023 is situated upon ALC Grade 2 land which represents some of Greater Norwich's BMV land. Therefore, a minor negative impact would be expected as a result of the proposed development at this site, due to the loss of this important natural resource.

SA15: Water

- 3.12.27 **SPZ:** Site GNLP5023 coincides with the catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.

- 3.12.28 **Watercourse:** Site GNLP5023 is located adjacent to the Bays River. The proposed development at this site could potentially increase the risk of contamination of this watercourse, and therefore, a minor negative impact would be expected.

3.13 Site GNLP5024 – Land at Upgate Street, Carleton Rode

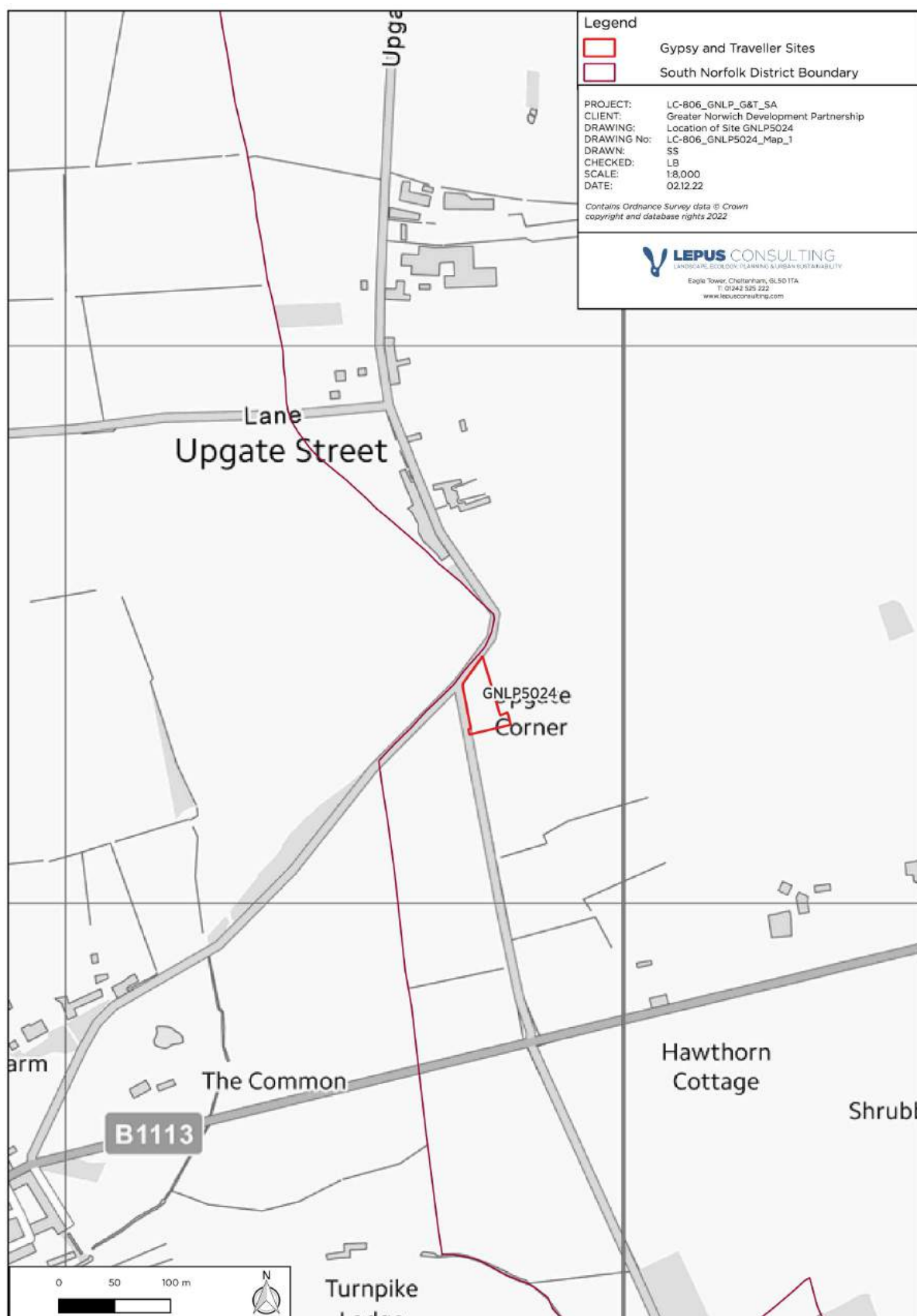


Figure 3.12: Location of proposed Gypsy and Traveller Site GNLP5024

Site GNLP5024: Site information and overall scores per SA Objective (pre-mitigation)

Site Name							Area (ha)				Proposed No. of Pitches			
Land at Upgate Street, Carleton Rode							0.62				4			
SA Objective														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
0	-	-	0	+	-	0	--	0	--	-	-	0	-	-

SA1: Air Quality and Noise

- 3.13.1 **Air and Noise Pollution:** Site GNLP5024 is proposed for small-scale development (four Gypsy and Traveller pitches) and is situated away from major sources of air and noise pollution. A negligible impact on local air quality and noise would be expected.

SA2: Climate Change Mitigation and Adaptation

- 3.13.2 **Fluvial Flooding:** Site GNLP5024 is located wholly within Flood Zone 1. Therefore, a minor positive impact would be expected at this site, as the proposed development would be likely to locate site end users away from areas at risk of fluvial flooding.

SA3: Biodiversity, Geodiversity and Green Infrastructure

- 3.13.3 **Habitats Sites:** Site GNLP5024 is located approximately 8.2km from 'Norfolk Valley Fens' SAC, 11.8km from 'Waveney & Little Ouse Valley Fens' SAC and 'Redgrave & South Lopham Fens' Ramsar site and 26km from 'Broadland' SPA/Ramsar and 'The Broads' SAC. It is uncertain at this stage whether development of the site would be likely to impact these Habitats sites, and any potential impacts will be identified within the emerging HRA for the proposed Gypsy and Traveller sites. This includes the potential for nutrient impacts related to wastewater discharge from new developments, which may contribute towards worsening of water quality of rivers or wetland habitats associated with the Broads SAC and Broadland SPA/Ramsar which are in an unfavourable condition due to elevated and exceeded nutrient thresholds.

3.13.4 **SSSI IRZ:** Site GNLP5024 is located approximately 170m from 'New Buckenham Common' SSSI, with the south west of the site lying within an IRZ which states "*Any residential development of 10 or more houses outside existing settlements/urban areas*" should be consulted on with Natural England. The majority of the site is also located within a Nutrient Impact Area, within an IRZ which states that "*for new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice*". A minor negative impact on the features for which nearby SSSIs have been designated could potentially occur as a result of the proposed development at this site.

3.13.5 **Priority Habitats:** The north of Site GNLP5024 coincides with approximately 0.08ha of traditional orchard priority habitat; although, aerial photography indicates that this habitat may have since been lost. In absence of site surveys to confirm the quality or extent of the priority habitat, and in line with the precautionary principle, the proposed development at this site could potentially result in the partial loss or degradation of this habitat. A minor negative impact on the overall presence of priority habitats in the Plan area could occur.

SA4: Landscape

3.13.6 **Landscape Character:** Site GNLP5024 is located within the LCA 'Ashwellthorpe Plateau Farmland'. Some key characteristics of this LCA include arable fields, panoramic views and linear settlements along roads. Due to the expected small-scale development (four Gypsy and Traveller pitches) situated within an existing Gypsy and Traveller site, it is not anticipated that development proposals would be discordant with this LCA. Therefore, a negligible impact on the landscape character would be expected.

SA5: Housing

3.13.7 **Provision of Pitches:** Site GNLP5024 is proposed for the development of four Gypsy and Traveller pitches. Therefore, the proposed development at this site would be expected to have a minor positive impact by helping to satisfy the identified accommodation needs in the Plan area.

SA6: Population and Communities

3.13.8 **Local Services:** The nearest local shop to Site GNLP5024 is Kings Stores in New Buckenham, located approximately 1.3km to the south west of the site, outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to local services.

SA7: Deprivation

3.13.9 See **Table 2.4**, 'SA7: Deprivation'.

SA8: Health

- 3.13.10 **NHS Hospital:** The closest hospital with an A&E department to Site GNLP5024 is Norfolk and Norwich University Hospital, located approximately 17.7km from the site, outside the sustainable target distance. The proposed development at Site GNLP5024 could potentially restrict the access of site end users to this facility. Therefore, a minor negative impact on access to healthcare could be expected.
- 3.13.11 **GP Surgery:** Site GNLP5024 is located approximately 5.9km from the closest GP surgery, 'Dr Martin & Partners' in Attleborough, outside of the sustainable target distance. The proposed development at this site could potentially restrict the access of site end users to healthcare facilities and therefore a minor negative impact could be expected.
- 3.13.12 **Leisure Facilities:** The closest leisure centre to Site GNLP5024 is 'Long Stratton Leisure Centre', located approximately 9.7km from the site. Site GNLP5024 is located outside of the target distance to this leisure facility, and therefore a minor negative impact on the health and wellbeing of site end users would be expected.
- 3.13.13 **Main Road:** Site GNLP5024 is located over 200m from a main road. The proposed development at this site would be expected to have a minor positive impact on health, as site end users would be located away from main roads and associated air pollution.
- 3.13.14 **Green Network:** Site GNLP5024 is located within 600m from the PRoW network. Therefore, a minor positive impact would be expected at this site as the proposed development would be likely to provide site end users good access to outdoor space and a diverse range of natural and semi-natural habitats, which is known to have physical and mental health benefits.
- 3.13.15 As Site GNLP5024 is located outside the target distance to an NHS hospital, GP surgery and leisure centre, the proposed development at this site would be expected to have a major negative impact on the health and wellbeing of site end users.

SA9: Crime

- 3.13.16 See **Table 2.4**, 'SA9: Crime'.

SA10: Education

- 3.13.17 **Primary/Secondary School:** Site GNLP5024 is located approximately 2km from the closest primary school, Carleton Rode C of E VA Primary School. The site is also located approximately 3km from the closest secondary school, Old Buckenham High School. Therefore, as the site is located outside the sustainable target distance to both primary and secondary schools, a major negative impact on the access of site end users to education would be expected.

SA11: Economy

- 3.13.18 **Primary Employment Location:** Site GNLP5024 is located in a rural area, with the closest primary employment locations being the market town of Wymondham to the north, and Diss to the south, over 5km from the site and outside of the sustainable target distance. Therefore, the proposed development at this site could potentially have a minor negative impact on the access of site end users to employment.

SA12: Transport and Access to Services

- 3.13.19 **Bus Stop:** Site GNLP5024 is located outside the target distance to a bus stop. The closest bus stops are located approximately 1.2km from the site along the B1113 in New Buckenham, which provide regular service '37A' from East Harling to Norwich City Centre. Therefore, the proposed development at this site would be expected to result in a minor negative impact on site end users' access to these services.
- 3.13.20 **Railway Station:** Site GNLP5024 is located outside the target distance to a railway station, with the nearest being Attleborough Railway Station situated over 5km to the north west. The proposed development at this site would be likely to have a minor negative impact on the access of site end users to rail services.
- 3.13.21 **Pedestrian Access:** Site GNLP5024 currently has poor access to the surrounding footpath network and therefore the proposed development at this site could potentially have a minor negative impact on local accessibility.
- 3.13.22 **Road Network:** Site GNLP5024 is well connected to the existing road network. The proposed development would therefore be expected to provide site end users with good access to existing roads, resulting in a minor positive impact on accessibility.

SA13: Historic Environment

- 3.13.23 **Grade II Listed Building:** Site GNLP5024 is located approximately 280m from the Grade II Listed Buildings 'South Farmhouse' and 'Plumtree Farmhouse'. Due to the intervening development between the site and these Listed Buildings, as well as the previously developed nature of the site with a small number of additional pitches proposed, it is not anticipated that it would affect the setting of this Listed Building. Therefore, the proposed development at this site would be expected to result in a negligible impact on the historic environment.
- 3.13.24 **Conservation Area:** Site GNLP5024 is located approximately 175m from 'New Buckenham' CA. Due to the previously developed nature of the site with a small number of additional pitches proposed, it is not anticipated that it would affect the setting of this CA. Therefore, the proposed development at this site would be expected to result in a negligible impact on the historic environment.

SA14: Natural Resources, Waste and Contaminated Land

- 3.13.25 **Previously Developed Land:** Site GNLP5024 is located upon 0.62ha of primarily previously developed land; however, the site also contains undeveloped areas. Therefore, the development of this site could have a minor negative impact on natural resources due to the loss of less than 20ha of previously undeveloped land. This negative impact would be associated with an inefficient use of land and the permanent and irreversible loss of ecologically valuable soils.
- 3.13.26 **ALC:** Site GNLP5024 is situated upon ALC Grade 3 land which could potentially represent some of Greater Norwich's BMV land. Therefore, a minor negative impact would be expected as a result of the proposed development at this site, due to the loss of this important natural resource.

SA15: Water

- 3.13.27 **SPZ:** Site GNLP5024 coincides with the catchment (Zone III) of a groundwater SPZ. The proposed development at this site could potentially increase water contamination within this SPZ, resulting in a potential minor negative impact on local groundwater resources.

4 Assessment of site policies

4.1 Preface

- 4.1.1 The following sections of this chapter provide an appraisal of the 12 site policies which have been prepared by the GNLP alongside each of the proposed Gypsy and Traveller sites. Each of the policies appraised in this report have been assessed for their likely impacts on each SA Objective of the SA Framework. The SA Framework is presented in its entirety in **Appendix A**.
- 4.1.2 Each appraisal includes a SA impact matrix that provides an indication of the nature and magnitude of effects. Assessment narratives follow the impact matrices for each site policy, within which the findings of the appraisal and the rationale for the recorded impacts are described.
- 4.1.3 The assessments of the site policies presented within **sections 4.2 to 4.13** have drawn on the relevant site assessment findings as presented in **Chapter 3**.

4.2 Site Policy GNLP5004

Policy GNLP5004 – Land off Buxton Road, Cawston

Land off Buxton Road, Cawston (0.12 Ha) is allocated for a permanent residential Gypsy and Travellers Site. The site will accommodate approximately 4 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be via Buxton Road. Any trees or hedgerow lost to form the access or visibility splay should be compensated for with new planting within the development.
2. Additional landscaping and hedges will be provided to enhance screening and to maintain the residential amenity of adjoining properties.
3. An archaeological assessment will be required prior to development.
4. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (III).
5. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5004	0	+	-	0	+	-	0	--	0	--	+	-	0	-	0

- 4.2.1 Policy GNLP5004 sets out site-specific requirements for the development of Site GNLP5004. The policy seeks to ensure residential amenity of adjoining properties (i.e. those on Buxton Road) is maintained through the use of hedgerows and landscaping, and that new hedgerows replace those that may be lost through the development of access to the site. Additionally, development of the site must ensure prior appropriate archaeological investigations and pollution mitigation measures are undertaken.
- 4.2.2 Through seeking to screen the site from nearby properties using hedgerows and landscaping, the policy would help to provide privacy for existing local residents and conserve the surrounding landscape to some extent. Additionally, archaeological investigations prior to the development of the site would help to identify any below ground assets with potential cultural heritage value that have not yet been discovered.
- 4.2.3 Additionally, the proposed “*pollution mitigation measures*” owing to the site’s location within a groundwater SPZ could help to ensure appropriate drainage of water from the site, which could help to protect water quality. A negligible impact on water could be achieved (SA Objective 15).
- 4.2.4 As such, Site Policy GNLP5004 could potentially improve the performance of this site for SA Objective 15, compared to the identified impacts in the site assessment (see **Chapter 3**). Although Policy GNLP5004 would lead to further potential benefits, such as regarding biodiversity, landscape and historic environment (SA Objectives 3, 4 and 13), the site policy is unlikely to change the assessment scores for these objectives (outlined within **Chapter 3**).

- 4.2.5 It is recommended that Policy GNLP5004 provides further details regarding landscaping measures, for example ensuring new planting with species appropriate to the local area which could be used to enhance the site, as well as to ascertain whether archaeological investigations will include desk or field studies.

4.3 Site Policy GNLP5005

Policy GNLP5005 – Wymondham Recycling Centre, Strayground Lane, Wymondham

Land off Strayground Lane Wymondham (0.07 ha), currently the Wymondham Recycling Centre, is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 2 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be via Strayground Lane using the existing vehicular access for the recycling centre.
2. Improvements should be made to the passing bays along Strayground Lane and an adequate visibility is required at the junction of Whartons Lane with London Road (the B1172).
3. A contaminated land assessment is required and any mitigation must be completed prior to development.
4. An ecological assessment must be carried out and any identified impacts on nearby sites mitigated.
5. Pollution mitigation measures are required as the site is within the catchment of groundwater source protection zone (III).
6. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5005	-	+	--	0	+	-	0	-	0	--	-	-	0	-	-

- 4.3.1 Policy GNLP5005 sets out site-specific requirements for the development of Site GNLP5005 which regard the provision of access to the site, as well as the various assessments to be undertaken prior to the development of the site.
- 4.3.2 The site policy seeks to prepare the development of the site through requiring a contaminated land assessment, which would help to ensure that site end users would not be exposed to harmful contaminants which may potentially be present at the site. Additionally, the proposed “*pollution mitigation measures*” could help to ensure appropriate drainage of water from the site, which could help to protect water quality. An ecological assessment of the site could help to further identify potential impacts and required mitigation related to the ‘Bays River Meadows North’ CWS and lowland fens priority habitat which both coincide with the site.
- 4.3.3 It is deemed that although Site Policy GNLP5005 would lead to potential benefits, such as regarding biodiversity, health and water (SA Objectives 3, 8 and 15), the site policy is unlikely to change the assessment scores for the site overall (outlined within **Chapter 3**).

- 4.3.4 It is recommended that Site Policy GNLP5005 provides specific wording in relation to the protection of the CWS and retention of priority habitat within the site, as well as protection of the Bays River from construction/end use related pollution.

4.4 Site Policy GNLP5009

Policy GNLP5009 – Hockering Lane, Bawburgh

Land off Hockering Lane Bawburgh (0.59 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 6 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be from Hockering Lane via a private road, therefore third-party rights of access will be required.
2. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
3. An archaeological assessment will be required prior to development.
4. Development will be designed to avoid impacts to and from the underground gas pipeline.
5. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (II).
6. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5009	0	+	-	-	+	-	0	-	0	-	+	-	-	-	-

- 4.4.1 Policy GNLP5009 sets out site-specific requirements for the development of Site GNLP5009 which includes provision of access to the site, design considerations and assessments to be undertaken prior to the development of the site.
- 4.4.2 The policy states that an ecological assessment will be carried out prior to the development of the site, to help inform any required mitigation measures in relation to protected species and nearby sites. This would be likely to help identify and conserve local biodiversity features.
- 4.4.3 The policy also requires an archaeological assessment prior to the development of the site, which would help to identify any below ground assets with potential cultural heritage value that have not yet been discovered.
- 4.4.4 Furthermore, as a Cadent gas pipeline crosses the site from east to west, Policy GNLP5009 requires this to be investigated further to ensure that the site can be developed safely and without adverse effects on the function of this pipeline.
- 4.4.5 Additionally, the proposed “*pollution mitigation measures*” owing to the site’s location within a groundwater SPZ could help to ensure appropriate drainage of water from the site, which could help to protect water quality.

- 4.4.6 Overall, although Site Policy GNLP5009 would lead to potential benefits, such as regarding biodiversity, the historic environment and water (SA Objectives 3, 13 and 15), the site policy is unlikely to change the assessment scores for the site overall (outlined within **Chapter 3**).
- 4.4.7 It is recommended that Policy GNLP5009 incorporates wording to protect or where possible enhance the trees and hedgerow surrounding the site, which would be likely to help conserve the landscape character and historic settings of nearby heritage assets in Bawburgh by ensuring the site is appropriately screened.

4.5 Site Policy GNLP5014

Policy GNLP5014 – A47 North Burlingham Junction

Land off A47 North Burlingham Junction is allocated as a 2.48 ha broad location for a residential Gypsy and Traveller site within which a 1 ha site will accommodate approximately 15 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be from the stopped-off road linking to the newly aligned B1140.
2. Noise and air quality investigations will be required, with provision of a layout and design that incorporates a landscape buffer to the nearby major roads and noise mitigation measures to protect residential amenity.
3. Landscaping and tree planting will be required to preserve the landscape character of the surrounding area and to protect views of non-designated heritage assets nearby.
4. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5014	0	+	+/-	0	+	-	0	--	0	--	+	-	0	-	0

- 4.5.1 Policy GNLP5014 sets out site-specific requirements for the development of Site GNLP5014 which includes provision of access to the site, design considerations regarding the adjacent main road, and landscaping to be undertaken for the development.
- 4.5.2 The policy requires noise and air quality investigations to be undertaken, and for the development to ensure “*provision of a layout and design that incorporates a landscape buffer to the nearby major roads and noise mitigation measures*”. Through careful design and layout, it is possible that this could mitigate adverse impacts on site end users associated with traffic along the adjacent A47 and proposed road improvements, leading to a negligible impact on air quality and noise (SA Objective 1). The proposed landscape buffer in combination with the required “*Landscaping and tree planting*” would also be likely to reduce adverse effects on the landscape character and help to protect residential amenity, with a negligible impact likely for SA Objective 4.

- 4.5.3 Furthermore, the policy sets out that the proposed landscape measures should seek to protect views of nearby non-designated heritage assets, with potential benefits in terms of cultural heritage.
- 4.5.4 Overall, Site Policy GNLP5014 could potentially improve the performance of this site for air quality and noise (SA Objective 1) and landscape (SA Objective 4), compared to the identified impacts in the site assessment (see **Chapter 3**). Although the policy would also lead to potential benefits in terms of health (SA Objective 8), and potentially climate change adaptation owing to the GI provisions (SA Objective 2), the site policy is unlikely to change the assessment scores for the site overall for these objectives, as outlined within **Chapter 3**.
- 4.5.5 The site is relatively isolated in location and performs poorly in terms of access to healthcare, schools and other services. It is recommended that Policy GNLP5014 seeks to improve connections to and from the site, including sustainable transport options, to improve accessibility.

4.6 Site Policy GNLP5019

Policy GNLP5019 – Woodland Stable, Shortthorn Road, Stratton Strawless

Woodland Stable, Shortthorn Road, Stratton Strawless (0.33 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 8 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access off Shortthorn Road that serves the Woodland Stables site.
2. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
3. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5019	0	-	-	0	+	-	0	--	0	--	+	--	0	-	0

- 4.6.1 Policy GNLP5019 sets out site-specific requirements for the development of Site GNLP5019 which includes provision of suitable access to the site via the neighbouring land uses, and assessments to be undertaken prior to the development.
- 4.6.2 The policy would be expected to ensure that appropriate road access to the site is provided, as the site is not currently connected to the existing road network.
- 4.6.3 The policy states that an ecological assessment will be carried out prior to the development of the site, to help inform any required mitigation measures in relation to protected species and nearby sites. This would be likely to help identify and conserve local biodiversity features.

- 4.6.4 It is deemed that although Site Policy GNLP5019 would lead to potential benefits, such as regarding biodiversity and accessibility (SA Objectives 3 and 12), the site policy is unlikely to change the assessment scores for the site overall (outlined within **Chapter 3**).
- 4.6.5 The site is relatively isolated in location and performs poorly in terms of access to healthcare, schools and other services. It is recommended that Policy GNLP5019 seeks to improve connections to and from the site, including sustainable transport options, to improve accessibility. Furthermore, the policy could be enhanced through seeking to retain as many of the existing trees on site as possible alongside the proposed development, or re-plant where removal is deemed necessary following ecological or arboricultural surveys.

4.7 Site Policy GNLP5020

Policy GNLP5020 – Romany Meadow, The Turnpike, Carleton Rode

Land off the B1113 (0.54 ha) at Romany Meadow, The Turnpike, Carleton Rode is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 6 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access off The Turnpike that serves the Romany Meadow site.
2. A surface water flood risk assessment must be carried out with caravans and other structures positioned away from areas at surface water flood risk.
3. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
4. Landscaping and tree planting will be required to preserve the landscape character of the surrounding area and to protect views of nearby listed buildings.
5. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (III).
6. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5020	0	0	-	0	+	-	0	--	0	--	-	-	0	-	0

- 4.7.1 Policy GNLP5020 sets out site-specific requirements for the development of Site GNLP5020 which includes provision of access to the site, landscaping measures, and assessments to be undertaken prior to the development.
- 4.7.2 The policy states that an ecological assessment will be carried out prior to the development of the site, to help inform any required mitigation measures in relation to protected species and nearby sites. This would be likely to help identify and conserve local biodiversity features.

- 4.7.3 The policy sets out the requirement for landscaping and tree planting alongside the proposed development, in order to help “*preserve the landscape character of the surrounding area and to protect views of nearby listed buildings*”. These measures would be likely to reduce the potential for adverse effects on the landscape character and help to protect residential amenity. Through seeking to preserve views of nearby heritage assets, the policy would also lead to potential benefits in terms of cultural heritage.
- 4.7.4 The policy also requires a surface water flood risk assessment which may help to ensure that site end users are protected from adverse effects associated with surface water flooding, and that the development does not exacerbate surface water flood risk elsewhere. A negligible impact on climate change adaptation could therefore be expected (SA Objective 2).
- 4.7.5 Additionally, the proposed “*pollution mitigation measures*” owing to the site’s location within a groundwater SPZ could help to ensure appropriate drainage of water from the site, which could help to protect water quality. A negligible impact on water could be achieved (SA Objective 15).
- 4.7.6 As such, Site Policy GNLP5020 could potentially improve the performance of this site for SA Objectives 2 and 15, compared to the identified impacts in the site assessment (see **Chapter 3**). It is deemed that although Site Policy GNLP5020 would lead to further potential benefits, such as regarding biodiversity, landscape and the historic environment (SA Objectives 3, 4 and 13), the site policy is unlikely to change the assessment scores for these objectives (outlined within **Chapter 3**).
- 4.7.7 The site is relatively isolated in location and performs poorly in terms of access to healthcare, schools and employment opportunities. It is recommended that Policy GNLP5020 seeks to improve connections to and from the site, including sustainable transport options, to improve accessibility.

4.8 Site Policy GNLP5021

Policy GNLP5021 – Land off Holt Road, Horsford

The Old Produce Shop, Holt Road, Horsford (0.9 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 6 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access off Holt Road that serves the Old Produce Shop site.
2. Noise and air quality investigations are required, with provision of a layout and design that incorporates a landscape buffer to the nearby major roads and noise mitigation measures to protect residential amenity.
3. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (III).
4. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5021	0	+	-	0	+	-	0	--	0	--	+	-	0	-	0

- 4.8.1 Policy GNLP5021 sets out site-specific requirements for the development of Site GNLP5021 which includes provision of access to the site as well as design and landscaping measures.
- 4.8.2 The policy requires noise and air quality investigations to be undertaken, and for the development to ensure “*provision of a layout and design that incorporates a landscape buffer to the nearby major roads and noise mitigation measures*”. Through careful design and layout, it is possible that this could mitigate adverse impacts on site end users associated with traffic along the adjacent A1270/A140 roundabout, leading to a negligible impact on air quality and noise (SA Objective 1). Depending on the design of the landscape buffer, these measures could also help to reduce the potential for adverse impacts on the surrounding landscape.
- 4.8.3 Additionally, the proposed “*pollution mitigation measures*” owing to the site’s location within a groundwater SPZ could help to ensure appropriate drainage of water from the site, which could help to protect water quality. A negligible impact on water could be achieved (SA Objective 15).
- 4.8.4 As such, Site Policy GNLP5021 could potentially improve the performance of this site for air quality and noise (SA Objective 1) and water (SA Objective 15), compared to the identified impacts in the site assessment (see **Chapter 3**). Although the policy would also lead to potential benefits in terms of landscape (SA Objective 4), the site policy is unlikely to change the assessment scores for the site overall for this objective.
- 4.8.5 The site is relatively isolated in location and performs poorly in terms of access to healthcare, schools and other services. It is recommended that Policy GNLP5021 seeks to improve connections to and from the site, including sustainable transport options, to improve accessibility.

4.9 Site Policy GNLP5022

Policy GNLP5022 – Land off Reepham Road, The Oaks, Foulsham

The Oaks off Reepham Road, is allocated for a residential Gypsy and Traveller site (3.3 ha). The site will accommodate approximately 5 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be via the existing access on Reepham Road. A highway safety assessment is required and an appropriate visibility splay must be achieved.
2. A surface water flood risk assessment must be carried out with caravans and other structures positioned away from areas at surface water flood risk.
3. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
4. Landscaping and tree planting will be required to preserve the landscape character of the surrounding area and to protect views of nearby listed buildings.
5. Development will be designed to avoid impacts to and from the underground gas pipeline.
6. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (III).
7. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5022	0	0	-	0	+	-	0	--	0	--	+	-	0	-	0

- 4.9.1 Policy GNLP5022 sets out site-specific requirements for the development of Site GNLP5022 which includes provision of access to the site, design and landscaping measures, and assessments to be undertaken prior to the development.
- 4.9.2 The policy states that an ecological assessment will be carried out prior to the development of the site, to help inform any required mitigation measures in relation to protected species and nearby sites. This would be likely to help identify and conserve local biodiversity features.
- 4.9.3 The policy sets out the requirement for landscaping and tree planting alongside the proposed development, with the aim of helping to “*preserve the landscape character of the surrounding area and to protect views of nearby listed buildings*”. These measures would be likely to reduce the potential for adverse effects on the landscape character and help to protect residential amenity. Through seeking to preserve views of nearby heritage assets, which may include the Grade II Listed Building ‘The Old Hall’ and Grade II* Listed Building ‘Church of St Andrew’ in Themelthorpe, the policy would also lead to potential benefits in terms of cultural heritage.
- 4.9.4 Furthermore, as the Bacton to Kings Lynn gas pipeline crosses the site from east to west, Policy GNLP5022 requires this to be investigated further to ensure that the site can be developed safely and without adverse effects on the function of this pipeline.

- 4.9.5 The policy also requires a surface water flood risk assessment which may help to ensure that site end users are protected from adverse effects associated with surface water flooding, and that the development does not exacerbate surface water flood risk elsewhere. A negligible impact on climate change adaptation could therefore be expected (SA Objective 2).
- 4.9.6 Additionally, the proposed “*pollution mitigation measures*” owing to the site’s location within a groundwater SPZ could help to ensure appropriate drainage of water from the site, which could help to protect water quality. A negligible impact on water could be achieved (SA Objective 15).
- 4.9.7 As such, Site Policy GNLP5022 could potentially improve the performance of this site for climate change adaptation (SA Objective 2) and water (SA Objective 15), compared to the identified impacts in the site assessment (see **Chapter 3**). It is deemed that although Site Policy GNLP5022 would lead to further potential benefits, such as regarding biodiversity, landscape and the historic environment (SA Objectives 3, 4 and 13), the site policy is unlikely to change the assessment scores for these objectives (outlined within **Chapter 3**).
- 4.9.8 The site is relatively isolated in location and performs poorly in terms of access to healthcare, schools and public transport infrastructure. It is recommended that Policy GNLP5022 seeks to improve connections to and from the site, including sustainable transport options, to improve accessibility.

4.10 Site Policy GNLP5023

Policy GNLP5023 – Land off Strayground Lane, Wymondham

Land at Strayground Lane, Wymondham (1.1 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 10 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access will be via Strayground Lane, using either the existing field access at the north-east corner of the site or a new access on the eastern boundary. If a new access is provided any loss of trees or hedgerows will be compensated for by new planting within the site.
2. Highway improvements will be required to the passing bays along Strayground Lane and an adequate visibility is required at the junction of Whartons Lane with London Road (the B1172).
3. As the land adjacent to the south west is in Flood Zones 2 and 3 a flood risk assessment maybe required, caravans and other structures shall be positioned away from this area.
4. A contaminated land assessment is required and any mitigation must be completed prior to development.
5. Screening will be required to the neighbouring paving company.
6. An ecological assessment must be carried out and any identified impacts on nearby sites mitigated.
7. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (III).
8. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5023	-	+	-	-	+	-	0	-	0	--	+	-	0	-	-

- 4.10.1 Policy GNLP5023 sets out site-specific requirements for the development of Site GNLP5023 which includes provision of access to the site and various assessments to be undertaken prior to the development.
- 4.10.2 The site policy seeks to prepare the development of the site through requiring a contaminated land assessment, which would help to ensure that site end users would not be exposed to harmful contaminants which may potentially be present at the site. Additionally, the proposed “*pollution mitigation measures*” could help to ensure appropriate drainage of water from the site, which could help to protect water quality. An ecological assessment of the site could help to further identify potential impacts and required mitigation related to the ‘Bays River Meadows North’ CWS which is directly adjacent to the site.
- 4.10.3 Site GNLP5023 wholly coincides with lowland fens priority habitat. In line with the NPPF, local plans should “*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity*”. As such, the loss or degradation of priority habitats should be avoided where possible. The proposed ecological assessment would be expected to help understand the quality and extent of the priority habitat and inform required mitigation or compensation measures. The policy also requires compensatory planting for any loss of trees required as a result of construction of access to the site, which would help to reduce adverse effects in this regard. Although, it is likely that the proposed development would result in some loss of the priority habitat.
- 4.10.4 The proposed compensatory planting, and policy provision that “*Screening will be required to the neighbouring paving company*” could help to reduce adverse effects on the surrounding landscape character, to some extent.
- 4.10.5 The policy also seeks to ensure that any flooding issues on site associated with the adjacent areas of Flood Zone 2 and 3 along the Bays River are addressed, where necessary. These provisions would be expected to benefit climate change adaptation (SA Objective 2).
- 4.10.6 On the whole, although Site Policy GNLP5023 would lead to potential benefits, such as regarding climate change adaptation, biodiversity, landscape, health and water (SA Objectives 2, 3, 4, 8 and 15), the site policy is unlikely to change the assessment scores for the site overall (outlined within **Chapter 3**).

- 4.10.7 It is recommended that Site Policy GNLP5023 provides specific wording in relation to the protection of the adjacent CWS and priority habitat within the site, as well as protection of the Bays River from construction/end use related pollution. The policy could also be enhanced through including more detailed requirements to consider landscaping measures to reduce potential for adverse effects on the surrounding landscape character.

4.11 Site Policy GNLP5024

Policy GNLP5024 – Upgate Street, Carleton Rode

Upgate Street, Carleton Rode (0.62 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 4 additional residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access off Upgate Street.
2. An ecological assessment must be carried out and any identified impacts on protected species and nearby sites mitigated.
3. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (III).
4. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5024	0	-	-	0	+	-	0	--	0	--	-	-	0	-	0

- 4.11.1 Policy GNLP5024 sets out site-specific requirements for the development of Site GNLP5024 which includes provision of access to the site and assessments to be undertaken prior to the development.
- 4.11.2 The policy states that an ecological assessment will be carried out prior to the development of the site, to help inform any required mitigation measures in relation to protected species and nearby sites. This would be likely to help identify and conserve local biodiversity features. The proposed ecological assessment would be expected to help understand the quality and extent of the traditional orchard priority habitat located in the north of the site, and inform required mitigation or compensation measures.
- 4.11.3 Additionally, the proposed “*pollution mitigation measures*” owing to the site’s location within a groundwater SPZ could help to ensure appropriate drainage of water from the site, which could help to protect water quality. A negligible impact on water could be achieved (SA Objective 15).

4.11.4 As such, Site Policy GNLP5024 could potentially improve the performance of this site for water (SA Objective 15), compared to the identified impacts in the site assessment (see **Chapter 3**). It is deemed that although Site Policy GNLP5024 would lead to further potential benefits, such as regarding biodiversity (SA Objective 3), the site policy is unlikely to change the assessment scores for this objective (outlined within **Chapter 3**).

4.11.5 Although the site is largely previously developed with low potential for adverse effects on environmentally focused objectives, it is relatively isolated in location and performs poorly in terms of access to healthcare, schools, employment and local services. It is recommended that Policy GNLP5024 seeks to improve connections to and from the site, including sustainable transport options, to improve accessibility.

4.12 Site Policy GNLP5013 (Reasonable Alternative)

Policy GNLP5013 – Ketteringham Depot, Land west of Station Lane, Ketteringham

Land west of Station Lane, Ketteringham, (0.86 ha) is allocated for a residential Gypsy and Traveller site. The site will accommodate approximately 10 residential Gypsy and Traveller pitches.

The development will address the following site-specific matters:

1. Access should be via the existing access that currently serves the depot.
2. Investigation is required of the potential for the conversion of existing buildings, particularly at the frontage, as part of the redevelopment.
3. Noise and air quality investigations are required, and the layout and design of the site should include boundary treatments that protect residential amenity.
4. A contaminated land assessment is required and any mitigation must be completed prior to development.
5. An ecological survey is required due to the potential presence of protected species such as bats or barn owls in the existing buildings.
6. Pollution mitigation measures are required because the site is within the catchment of groundwater source protection zone (III).
7. The residential pitches shall not be occupied by any persons other than Gypsies and Travellers and their families.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5013	0	+	-	+	+	-	0	-	0	--	-	-	0	+	0

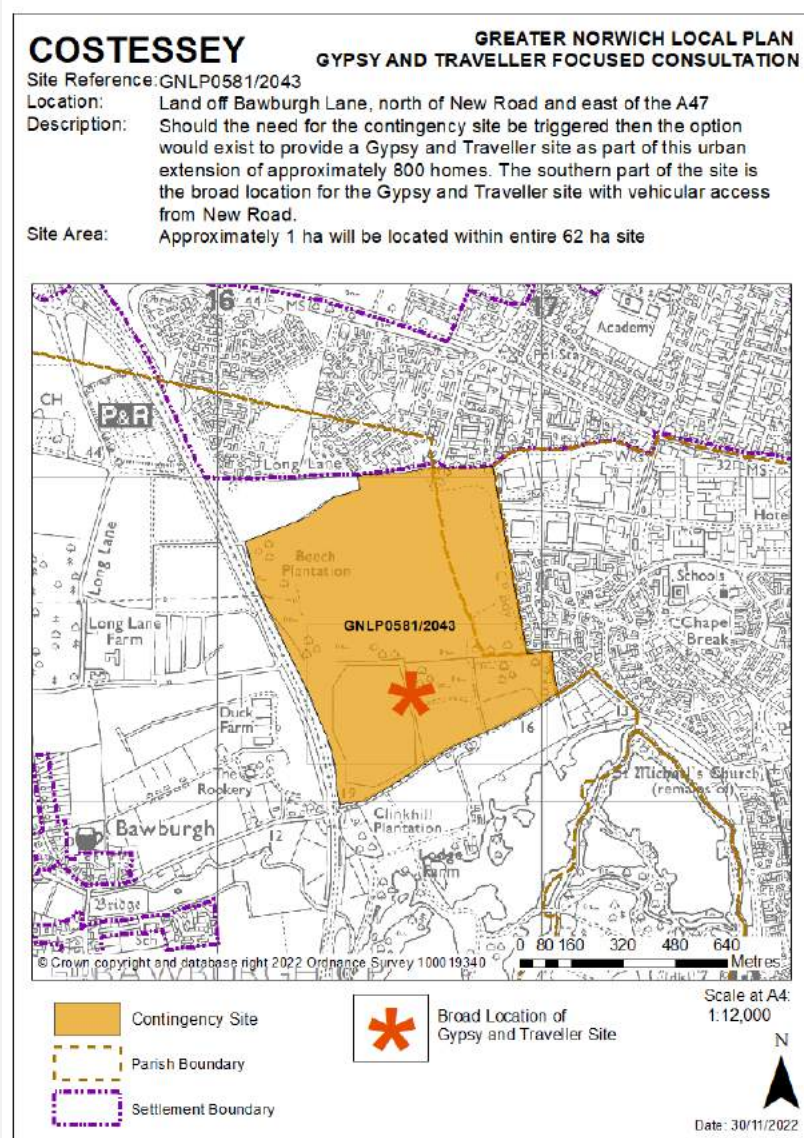
4.12.1 Policy GNLP5013 sets out site-specific requirements for the development of Site GNLP5013 which includes provision of access to the site, design considerations regarding the existing buildings on site, and various assessments to be undertaken prior to the development. Although the site is not preferred by the Councils for allocation at this stage, it is considered to be a reasonable alternative and so the policy sets out the requirements for the site, should it come forward at a later date.

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- 4.12.2 The policy seeks to ensure that potential for redevelopment of buildings within the previously developed site is explored, and that the layout and design of the site seeks to protect residential amenity through boundary treatments. These requirements may help to improve the quality and character of the site and surroundings compared to the current nature of the site, and provide a more attractive frontage, potentially leading to a minor positive impact on landscape (SA Objective 4).
- 4.12.3 Owing to the presence of existing buildings on site, the policy states that an ecological survey will be required, to help inform any required mitigation measures in relation to protected species.
- 4.12.4 The policy requires a contaminated land survey to be carried out, to inform any necessary mitigation measures to make the site safe. Furthermore, “*noise and air quality investigations*” are required in addition to the proposed boundary treatments, which may help to reduce adverse effects on health and wellbeing experienced by site end users as a result of neighbouring site uses.
- 4.12.5 Additionally, the proposed “*pollution mitigation measures*” owing to the site’s location within a groundwater SPZ could help to ensure appropriate drainage of water from the site, which could help to protect water quality. A negligible impact on water could be achieved (SA Objective 15).
- 4.12.6 Overall, Site Policy GNLP5013 could potentially improve the performance of this site for landscape (SA Objective 4) and water (SA Objective 15), compared to the identified impacts in the site assessment (see **Chapter 3**). Although the policy would also lead to potential benefits in terms of air quality, noise, biodiversity, health and natural resources (SA Objectives 1, 3, 8 and 14), the site policy is unlikely to change the assessment scores for the site overall for these objectives, as outlined within **Chapter 3**.
- 4.12.7 Although the site is previously developed with low potential for adverse effects on environmentally focused objectives, it is relatively isolated in location and performs poorly in terms of access to healthcare, schools and other services. It is recommended that Policy GNLP5013 seeks to improve connections to and from the site, including sustainable transport options, to improve accessibility.

4.13 Proposed change to Policy GNLP0581/2043

Policy GNLP0581/2043 – Land off Bawburgh Lane, north of New Road and east of A47 – incorporation of a Gypsy and Traveller site into the Costessey contingency site allocation

Subject to up-to-date evidence of need in the remainder of the plan period evidence at the time, provision of a 1 ha Gypsy and Traveller site providing approximately 18 pitches.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Site Policy	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
Change to GNLP0581/2043	+/-	+/-	-	-	+	+/-	0	-	0	+/-	+	-	-	-	-

- 4.13.1 A 62ha site at Costessey is included in the submitted GNLP as a contingency housing site which can come forward in the event that the overall delivery of homes in the GNLP area falls significantly below annual targets. Should the need for the contingency site be triggered then the proposed change to Policy GNLP0581/2043 would seek to provide a Gypsy and Traveller site as part of this urban extension.
- 4.13.2 The proposed change to Policy GNLP0581/2043 sets out details of Gypsy and Traveller Site GNLP0581/2043GT which regards the number of pitches and overall area to be allocated within the wider Costessey Contingency Site.
- 4.13.3 The policy at present contains no specific requirements for the development of the site, regarding issues such as flood risk, biodiversity and landscape, as the specific location of the site has not been confirmed. Therefore, the proposed change to Policy GNLP0581/2043 at present is unlikely to result in any significant difference compared to the identified impacts for Site GNLP0581/2043GT overall (outlined within **Chapter 3**).
- 4.13.4 It is recommended that, if the site comes forward and when the specific site location for Gypsy and Traveller use has been agreed, the policy is reviewed to ensure it reflects the potential impacts of developing the site and ways to mitigate these issues.

5 Mitigation and residual effects

5.1 Overview

- 5.1.1 The sustainability appraisal of the 12 reasonable alternative Gypsy and Traveller sites against baseline sustainability information has identified a number of adverse effects associated with the SA Objectives in the SA Framework (see **Appendix A**). The purpose of this chapter is to consider if and how these effects can be mitigated by applying the mitigation hierarchy.
- 5.1.2 The first stage of the mitigation hierarchy is to consider if the adverse effect can be avoided. This may be possible by withdrawing the potential site allocation.
- 5.1.3 For allocations which are likely to remain on the basis that the plan makers consider their inclusion to be necessary, mitigation measures should be explored to reduce the overall significance of effect. If it is not possible to mitigate identified adverse effects, these will remain as 'residual effects' at the end of the SA process.
- 5.1.4 One way to reduce adverse impacts identified against baseline receptors is to consider the potential mitigating effects of planning policies. **Tables 5.1 – 5.14** list the identified adverse impacts according to SA Objective, as discussed within **Chapter 3**, and list development management policies from lower tier plans (i.e. which have already been adopted) that might reasonably be expected to help mitigate identified adverse effects. The plans in question have been prepared by Broadland District Council⁵⁰ and South Norfolk Council⁵¹.
- 5.1.5 Site policies have been prepared for all reasonable alternative Gypsy and Traveller sites assessed within this report. Attributes of the proposed Gypsy and Traveller Site Policies, alongside other emerging GNLP Strategic Policies, could also potentially help to mitigate some of the negative impacts that have been identified as a result of some of the development proposals. These are discussed in **Chapter 4**.
- 5.1.6 Each table has three columns. Column one lists the adverse effects, column two lists relevant policies and the final column indicates the extent to which these policies would be expected to mitigate each identified adverse effect.
- 5.1.7 It is important to demonstrate the amount of mitigation that may be required to ensure a site can optimise sustainability performance. The level of intervention that may be required to facilitate effective mitigation varies and can help determine the eventual choice of preferred option in the plan. Sites which require low levels of intervention are likely to be preferable to sites that require complex and potentially unviable strategies.

⁵⁰ Broadland District Council (2015) Development Management DPD. Available at: https://www.broadland.gov.uk/downloads/file/1118/development_management_dpd_adopted [Date accessed: 22/04/22]

⁵¹ South Norfolk Council (2015) South Norfolk Local Plan, Development Management Policies Document. Available at: <https://www.south-norfolk.gov.uk/residents/planning/planning-policy/adopted-south-norfolk-local-plan/development-management-policies> [Date accessed: 22/04/22]

5.2 SA Objective 1 – Air Quality and Noise

5.2.1 **Table 5.1** presents the identified adverse impacts on air quality and noise and the likely impacts post-mitigation.

Table 5.1: Identified adverse impacts and potential mitigation for SA Objective 1 - Air Quality and Noise

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Exposure to air and noise pollution from main roads	GNLP Policy 2 seeks to protect air quality and minimise pollution, which includes the provision of electric vehicle infrastructure. Policies EN4 (Broadland) and DM3.14 (South Norfolk) seek to ensure that development proposals do not result in an unacceptable impact on air quality or noise pollution. Policy DM3.3 (South Norfolk) seeks to ensure that proposals for new Gypsy and Traveller sites are not approved where there are unsafe localised pollution levels.	These policies would not be expected to fully mitigate the impacts of transport associated emissions from new development on health for development proposals located in close proximity to main roads.
Exposure to noise pollution and vibrations from railway lines	Not addressed within GNLP strategic policies or district DM policies.	These policies would not be anticipated to mitigate potential adverse impacts on noise pollution and vibrations at development proposals located in close proximity to railway lines.

5.3 SA Objective 2 – Climate Change Mitigation and Adaptation

5.3.1 **Table 5.2** presents the identified adverse impacts on climate change mitigation and adaptation, and the likely impacts post-mitigation.

Table 5.2: Identified adverse impacts and potential mitigation for SA Objective 2 – Climate Change Mitigation and Adaptation

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Risk of surface water flooding	GNLP Policy 2 would be anticipated to mitigate the risk of surface water flooding that may arise as a result of development, through the requirement for development to incorporate sustainable drainage measures and contribute to the green infrastructure cover. Policies CSU5, EN1, EN3 (Broadland), DM1.4, DM4.2 and DM4.4 (South Norfolk) would be expected to ensure development proposals alleviate the risk of surface water flooding. Policy DM3.3 (South Norfolk) would ensure that Gypsy and Traveller sites include the provision of satisfactory foul and surface drainage.	Overall, these policies would be expected to mitigate the risk of surface water flooding and would seek to prevent the exacerbation of surface water flood risk in surrounding areas.

5.4 SA Objective 3 – Biodiversity, Geodiversity and Green Infrastructure

5.4.1 **Table 5.3** presents the identified adverse impacts on biodiversity, geodiversity and green infrastructure and the likely impacts post-mitigation.

Table 5.3: Identified adverse impacts and potential mitigation for SA Objective 3 – Biodiversity, Geodiversity and Green Infrastructure

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Threats or pressures to Habitats sites (SAC, SPA, Ramsar sites)	<p>GNLP Policy 3 seeks to address impacts of visitor pressure caused by residents of new development on Habitats sites. The policy would be expected to ensure that developments provide, or provide funding for, significantly higher amounts of appropriate amenity green infrastructure to protect Habitats sites identified within the HRA.</p> <p>Policies EN1, EN3 (Broadland), DM1.4, DM3.8, DM4.2 and DM4.4 (South Norfolk) could potentially help to safeguard and enhance biodiversity including at internationally designated sites.</p> <p>Policy DM3.3 (South Norfolk) would ensure that Gypsy and Traveller developments are not permitted where sites designated at international or national levels will be unacceptably harmed.</p>	<p>These policies alone would not be expected to mitigate potential adverse impacts on Habitats sites.</p> <p>The emerging HRA found that, subject to satisfactory policy modification with respect to nutrient neutrality, the Gypsy and Traveller sites will have no adverse effect upon the integrity of Habitats sites alone or in combination. As this policy wording has not yet been finalised, the impacts on these Habitats sites remain uncertain for the purpose of this SA report at the time of writing.</p>
Threats or pressures to SSSIs	<p>GNLP Policy 2 would seek to ensure that development proposals contribute towards green infrastructure network, and GNLP Policy 3 aims to ensure development does not result in harm to designated assets of the natural environment.</p> <p>Policies EN1, EN3 (Broadland), DM1.4, DM3.8, DM4.2 and DM4.4 (South Norfolk) could potentially help to safeguard and enhance biodiversity including at SSSIs.</p> <p>Policy DM3.3 (South Norfolk) would ensure that Gypsy and Traveller developments are not permitted where sites designated at national levels will be unacceptably harmed.</p>	<p>At the time of writing, it is uncertain whether the policies would be expected to mitigate potential adverse impacts on SSSIs associated with Nutrient Impact Zones.</p>
Threats or pressures to other designated and non-designated biodiversity sites and habitats (CWS and Priority Habitats)	<p>GNLP Policy 2 would contribute towards the protection and enhancement of the green infrastructure network.</p> <p>GNLP Policy 3 aims to conserve and enhance the natural environment, including priority habitats, networks and species, ancient trees and woodlands, geodiversity, avoid harm to designated or non-designated assets and ensure development proposals result in biodiversity net gain.</p> <p>Policies EN1, EN3 (Broadland), DM1.4, DM3.8, DM4.2 and DM4.4 (South Norfolk) could potentially help to safeguard and enhance biodiversity including at designated and non-designated biodiversity sites.</p>	<p>These policies would be expected to mitigate adverse impacts of development proposals on designated and non-designated biodiversity assets.</p> <p>There is some uncertainty regarding the mitigation potential at Site GNLP5023 which wholly coincides with lowland fens priority habitat. Site surveys are</p>

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
	Policy DM3.3 (South Norfolk) would ensure that Gypsy and Traveller developments are not permitted where sites designated at national or county levels will be unacceptably harmed.	recommended to assess the quality and extent of this habitat and inform any required site-specific mitigation, further to the policies listed in this table.

5.5 SA Objective 4 – Landscape

5.5.1 **Table 5.4** presents the identified adverse impacts on landscape and the likely impacts post-mitigation.

Table 5.4: Identified adverse impacts and potential mitigation for SA Objective 4 - Landscape

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Threaten or result in the loss of rural and locally distinctive landscape character	<p>GNLP Policies 2 and 3 would be expected to contribute towards mitigating negative impacts associated with development on Greater Norwich's locally distinctive landscape character and seek to conserve and enhance the special qualities of the built, historic and natural environment.</p> <p>Policies EN2, GC4 (Broadland), DM1.4, DM2.1, DM2.3, DM2.6, DM2.7, DM2.8, DM2.9, DM3.3, DM3.4, DM3.5, DM3.8, DM3.9, DM4.5, DM4.6 and DM4.9 (South Norfolk) seek to protect and enhance the local landscape character and distinctiveness of the surrounding environment.</p> <p>Policy DM3.3 (South Norfolk) sets out various criteria to help ensure that proposed Gypsy and Traveller sites integrate with existing settlements and do not have significant adverse impacts on the local landscape.</p>	These policies would be anticipated to mitigate adverse impacts on the landscape character at all potential development sites.
Change in views experienced by existing local residents	<p>GNLP Policies 2 and 3 would be expected to mitigate impacts on views experienced by local residents, to some extent, through ensuring that development takes account of the setting and character of the local area.</p> <p>Policies EN2, GC4 (Broadland), DM2.8, DM3.8 and DM4.6 (South Norfolk) would be expected to protect visual amenity and ensure development proposals incorporate designs which enhance appearance and retain important views.</p> <p>Policy DM3.3 (South Norfolk) would be expected to ensure that Gypsy and Traveller development is sited and designed to integrate into the local landscape including screening by vegetation or landform, and that development has regard to the amenity of nearby properties.</p>	These policies would be expected to mitigate the impact of development on views experienced by local residents.
Increase risk of urbanisation	GNLP Policy 3 seeks to conserve and enhance the natural environment, by ensuring that new development is located and designed to enhance local character and sense of place, taking account of local design guidance. GNLP Policy 2 would be	These policies may help to reduce some of the negative impacts associated with transition of new

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
of the countryside	<p>expected to help reduce the likelihood of urbanisation of the countryside and coalescence by maintaining strategic gaps.</p> <p>Policies EN2 (Broadland) and DM4.7 (South Norfolk) seek to protect strategic gaps between settlements.</p> <p>Policies GC4 (Broadland), DM1.3, DM3.13, DM4.4 and DM4.6 (South Norfolk) would be expected to ensure that new development is of an appropriate scale and form to retain the character of the surrounding area.</p> <p>Policy DM3.3 (South Norfolk) seeks to ensure that the scale of Gypsy and Traveller sites does not dominate the nearest settled community.</p>	<p>development into the countryside.</p> <p>However, due to the rural and undeveloped context in which affected proposed Gypsy and Traveller sites are situated, the policies would not be expected to fully mitigate these impacts.</p>

5.6 SA Objective 5 – Housing

5.6.1 No adverse impacts on housing anticipated.

5.7 SA Objective 6 – Population and Communities

5.7.1 **Table 5.5** presents the identified adverse impacts on population and communities and the likely impacts post-mitigation.

Table 5.5: Identified adverse impacts and potential mitigation for SA Objective 6 – Population and Communities

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Limited access to local services and facilities	<p>GNLP Policy 2 seeks to provide safe and sustainable access to on-site and local services including schools, healthcare, shops, leisure/community facilities and libraries. This policy also would be expected to help promote inclusive and safe communities, through providing access to these services and opportunities for social interaction.</p> <p>GNLP Policy 4 would be expected to provide transport improvements including improved bus, cycling and walking networks through the Transport for Norwich Strategy.</p> <p>Policies CSU2, CSU3, R1 (Broadland), DM1.2, DM2.4, DM2.5 and DM3.16 (South Norfolk) seek to protect existing community facilities from loss and encourage the development of new shops and facilities in local centres.</p> <p>Policies DM3.3 (South Norfolk) and H6 (Broadland) would be expected to ensure future residents of the proposed Gypsy and Traveller sites are not overly isolated from settlements and can access facilities to meet their daily needs.</p>	<p>These policies would be expected to mitigate the adverse impact on restricted access to local services and facilities and would help to promote community cohesion.</p>

5.8 SA Objective 7 – Deprivation

- 5.8.1 The SA process has not identified any significant adverse impacts on deprivation as a result of the development of reasonable alternative sites. However, measures outlined in policies could potentially enhance the sustainability performance under this objective (see **Table 5.6**).

Table 5.6: Identified adverse impacts and potential mitigation for SA Objective 7 – Deprivation

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
No significant adverse impacts on deprivation anticipated	<p>GNLP Policy 2 promotes the development of inclusive, resilient and safe communities.</p> <p>Policy GC4 (Broadland) seeks to create sustainable, inclusive and mixed communities, and Policy DM3.8 (South Norfolk) promotes inclusive design.</p> <p>Policies DM3.3 (South Norfolk) and H6 (Broadland) seek to ensure that Gypsy and Traveller sites are not overly isolated from existing settlements and Policy DM3.3 promotes integration with the surrounding community.</p>	These policies would be anticipated to have a minor positive impact on deprivation across Greater Norwich.

5.9 SA Objective 8 – Health

- 5.9.1 **Table 5.7** presents the identified adverse impacts on health and the likely impacts post-mitigation.

Table 5.7: Identified adverse impacts and potential mitigation for SA Objective 8 – Health

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Limited access to NHS hospital	<p>GNLP Policy 2 would be expected to ensure that development provides safe and sustainable access to existing healthcare facilities.</p> <p>GNLP Policy 4 seeks to deliver improvements to healthcare infrastructure and improved public transport, which could potentially improve site end users' access to NHS hospitals.</p> <p>Policies TS1, TS2, CG4, H5 (Broadland), DM3.8 and DM3.10 (South Norfolk) would be expected to improve connections to public transport and incorporate travel plans where required. These policies could potentially provide improved bus links to NHS hospitals.</p>	These policies would not be expected to fully mitigate the existing restricted access to these services, especially in terms of providing sustainable connections for rural areas of Greater Norwich to NHS hospitals.
Limited access to GP surgery	<p>GNLP Policy 2 would be expected to ensure that development provides safe and sustainable access to existing healthcare facilities.</p> <p>GNLP Policy 4 seeks to deliver improvements to healthcare infrastructure and improved public transport, which could potentially improve site end users' access to GP surgeries.</p> <p>Policies CSU2, CSU3 (Broadland), DM1.2 and DM3.16 (South Norfolk) seek to ensure community facilities including healthcare are provided and avoid the loss of existing facilities.</p>	<p>The policies would be likely to reduce adverse effects associated with access to GP surgeries for Sites GNLP5005 and GNLP5023 (in Wymondham) and Site GNLP0581/2043GT (in the outskirts of Norwich City).</p> <p>These policies would not be expected to fully mitigate the restricted access to GP</p>

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
	<p>Policies TS1, TS2, CG4, H5 (Broadland), DM3.8 and DM3.10 (South Norfolk) would be expected to improve connections to public transport and incorporate travel plans where required. These policies could potentially provide improved bus links to healthcare facilities.</p> <p>Policies DM3.3 (South Norfolk) and H6 (Broadland) would be expected to ensure future residents of the proposed Gypsy and Traveller sites are not overly isolated from settlements and can access facilities to meet their daily needs, which could potentially include GP surgeries.</p>	<p>surgeries for the other sites in the smaller, more rural settlements in South Norfolk and Broadland.</p>
Limited access to leisure facilities and services	<p>GNLP Policies 2 and 4 would be expected to improve access to existing leisure services through provision of safe and sustainable transport links.</p> <p>GNLP Policy 6 seeks to promote leisure industries including through the green infrastructure network, sustainable tourism initiatives, and additional leisure facility provision in Norwich city centre outlined in GNLP Policy 7.1.</p> <p>GNLP Policy 3 would be expected to provide additional opportunities for leisure and recreation through the provision of amenity green infrastructure.</p> <p>Policy RL1 (Broadland), DM2.4, DM2.5, DM2.9 and DM3.15 (South Norfolk) would be expected to provide recreational space and support the development of leisure proposals in appropriate locations.</p> <p>Policies TS1, TS2, CG4, H5 (Broadland), DM3.8 and DM3.10 (South Norfolk) would be expected to improve connections to public transport and incorporate travel plans where required. These policies could potentially provide improved bus links to leisure facilities.</p>	<p>These policies would not be expected to fully mitigate the existing restricted access to these services as all sites, except Site GNLP5005, are located in rural areas, or significantly outside the sustainable target distance to leisure facilities.</p>
Exposure to air pollution from main road	<p>GNLP Policy 2 seeks to protect air quality, which includes the provision of electric vehicle infrastructure.</p> <p>Policy EN4 (Broadland) and DM3.14 (South Norfolk) seek to ensure that development proposals do not result in an unacceptable impact on air quality or noise pollution.</p> <p>Policy DM3.3 (South Norfolk) seeks to ensure that proposals for new Gypsy and Traveller sites are not approved where there are unsafe localised pollution levels.</p>	<p>These policies would not be expected to fully mitigate the impacts of transport associated emissions from new development on health for development proposals located in close proximity to main roads.</p>
Limited access to public greenspace	<p>GNLP Policy 2 seeks to ensure that all development contributes towards multi-functional green infrastructure links.</p> <p>GNLP Policy 3 would be expected to ensure that developments provide, or provide funding for, significantly higher amounts of appropriate amenity green infrastructure to protect Habitats sites identified within the HRA.</p> <p>Policies EN2, EN3, RL1 (Broadland), DM1.2, DM1.4, DM3.15, DM4.4 (South Norfolk), DM2, DM3, DM8, DM26 and DM33</p>	<p>These policies would be expected to mitigate the limited access to public greenspace and community open spaces.</p>

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
	(Norwich) would help to ensure that all residential development proposals have good access to outdoor space, and that development would avoid the loss of existing open spaces.	

5.10 SA Objective 9 – Crime

- 5.10.1 The SA process has not identified any significant adverse impacts on crime as a result of the development of reasonable alternative sites. However, measures outlined in policies could potentially enhance the sustainability performance under this objective (see **Table 5.8**).

Table 5.8: Identified adverse impacts and potential mitigation for SA Objective 9 - Crime

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
No significant adverse impacts on deprivation anticipated	GNLP Policy 2 promotes the development of inclusive, resilient and safe communities. Policies GC4 (Broadland), DM3.8 and DM4.9 (South Norfolk) seek to create safe environments by using designs which address crime prevention and the safety of communities.	These policies would be anticipated to have a minor positive impact on crime across Greater Norwich.

5.11 SA Objective 10 – Education

- 5.11.1 **Table 5.9** presents the identified adverse impacts on education and the likely impacts post-mitigation.

Table 5.9: Identified adverse impacts and potential mitigation for SA Objective 10 - Education

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Limited access to primary schools	GNLP Policy 7.1 would support the development of a new primary school in Norwich and would be expected to ensure school capacity is increased throughout the Plan area in order to meet the identified needs. GNLP Policy 2 would be expected to provide improved safe and sustainable access to local schools across the Plan area. GNLP Policy 7.4 seeks to ensure that safe routes to schools are provided in rural communities, and along with GNLP Policy 7.5, seeks to ensure that any windfall development will be limited by the capacity of local primary schools. Policies CSU2, CSU3 (Broadland) and DM3.16 (South Norfolk) would also be expected to encourage the siting of new residential development in areas with good access to primary education, and the provision of new community facilities which could potentially include new primary schools.	These policies would be expected to improve access to primary schools, to some extent. However, detail about new primary schools and the capacity of existing primary schools is unknown. Until further detail is available, adverse impacts on sustainable access to primary education cannot be ruled out, particularly for development in rural settlements in Broadland and South Norfolk. Therefore, these policies would not be expected to fully mitigate this impact at this stage of the Plan preparation.

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
	<p>Policy DM3.3 seeks to ensure Gypsy and Traveller sites are located in areas with convenient access to schools, and seeks to ensure that consideration is given to the capacity of local infrastructure and that measures are put in place to address any lack of capacity.</p>	
<p>Limited access to secondary schools</p>	<p>GNLP Policy 4 provides a new high school in the North East growth area and would be expected to ensure school capacity is increased throughout the Plan area in order to meet the identified needs.</p> <p>GNLP Policy 2 would be expected to provide improved safe and sustainable access to local schools across the Plan area, and GNLP Policy 7.4 seeks to ensure that safe routes to schools are provided in rural communities.</p> <p>Policy CSU3 (Broadland) would be expected to help ensure development proposals have good access to secondary education.</p> <p>Policies TS1, TS2, CG4, H5 (Broadland), DM3.8 and DM3.10 (South Norfolk) would be expected to improve connections to public transport and incorporate travel plans where required. These policies could potentially provide improved bus links to secondary schools.</p> <p>GNLP Policy 4 would also be expected to improve access to higher education, through the implementation of a cross valley bus link between University of East Anglia and Norwich Research Park.</p> <p>Policy DM3.3 seeks to ensure Gypsy and Traveller sites are located in areas with convenient access to schools, and seeks to ensure that consideration is given to the capacity of local infrastructure and that measures are put in place to address any lack of capacity.</p>	<p>These policies would be expected to mitigate poor access to secondary schools through delivering a new secondary school in Norwich and improving public transport across the Plan area.</p>

5.12 SA Objective 11 – Economy

5.12.1 **Table 5.10** presents the identified adverse impacts on the economy and the likely impacts post-mitigation.

Table 5.10: Identified adverse impacts and potential mitigation for SA Objective 11 - Economy

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Net loss of employment floorspace	<p>GNLP Policy 6 seeks to improve employment opportunities across the Plan area in order to meet the identified need. It would be anticipated that this would mitigate any loss of employment floorspace as a result of residential development proposed with the GNLP, through the retention of a range of existing small and medium scale employment sites and encouraging provision of small-scale business opportunities in residential and commercial developments.</p> <p>GNLP Policy 2 could help to provide opportunities for working at home through allowing the delivery of broadband and fibre optic networks.</p> <p>Policies E1, E2, H4 (Broadland), DM2.1, DM2.2 and DM2.3 (South Norfolk) would be expected to ensure that existing employment sites are protected and that new employment opportunities are provided in line with local needs, including the promotion of home working.</p>	These policies would be expected to ensure that any loss of active employment floorspace would be mitigated.
Limited access to primary employment location	<p>GNLP Policy 4 would be expected to provide improved safe accessibility and infrastructure links to key employment areas including the Cambridge Norwich Tech Corridor and town centres and promote the growth of Norwich International Airport.</p> <p>GNLP Policy 6 seeks to meet the identified employment need and provide a range of small, medium and start-up business opportunities, as well as encourage the provision of local working opportunities within new and existing developments.</p> <p>Policy DM2.1 (South Norfolk) would be anticipated to ensure accessible employment opportunities are provided alongside new development. Furthermore, through seeking to encourage home working (Policy H4 in Broadland and DM2.3 in South Norfolk) this would contribute towards a reduced need to travel to work.</p>	Overall, these policies would be expected to mitigate restricted access to employment opportunities throughout the Plan area.

5.13 SA Objective 12 – Transport and Access to Services

5.13.1 **Table 5.11** presents the identified adverse impacts on transport and access to services and the likely impacts post-mitigation.

Table 5.11: Identified adverse impacts and potential mitigation for SA Objective 12 – Transport and Access to Services

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Limited access to bus stops	GNLP Policy 4 would be expected to improve access to bus stops through the implementation of the Transport for Norwich Strategy, including improvements to the bus network, developing the Park and Ride system, and providing a new cross valley bus link to the University of East Anglia. Policies TS1, TS2, CG4, H5 (Broadland), DM3.8 and DM3.10 (South Norfolk) would be expected to improve connections to public transport and incorporate travel plans where required.	These policies would be expected to mitigate restricted access to bus services and ensure that all residents have adequate public transport accessibility.
Limited access to train stations	GNLP Policy 4 promotes the enhancement of rail services, including improved journey times to London and Cambridge, and the East-West Rail Link. Improved bus links could potentially provide better connections to railway stations. Policies TS1, TS2, CG4, H5 (Broadland), DM3.8 and DM3.10 (South Norfolk) would be expected to improve connections to public transport and incorporate travel plans where required.	These policies would be expected to improve access to railway stations for development proposals within or in the outskirts of settlements which contain an existing railway station (i.e., Site GNLP0581/2043GT in the outskirts of Norwich City). However, these policies would not be anticipated to fully mitigate the restricted access to railway stations for the remaining sites, in the smaller, more rural settlements in Broadland and South Norfolk.
Lack of safe pedestrian access / access to road network	GNLP Policy 2 promotes safe and sustainable access to on-site and local services and facilities, and GNLP Policy 4 would be expected to improve the cycling and walking network, within the Transport for Norwich Strategy. Policies TS2, TS3, TS6 (Broadland), DM1.2, DM3.8, DM3.10 and DM3.11 (South Norfolk) would be likely to provide safe pedestrian access for all new development and promote highway safety and accessibility. Policy DM3.3 (South Norfolk) would ensure that proposed Gypsy and Traveller sites meet suitable access requirements to the site.	These policies would be expected to mitigate adverse impacts on accessibility, as they would provide improved access to the road, PRow and cycle networks and facilitate pedestrian access to local facilities.

5.14 SA Objective 13 – Historic Environment

5.14.1 **Table 5.12** presents the identified adverse impacts on the historic environment and the likely impacts post-mitigation.

Table 5.12: Identified adverse impacts and potential mitigation for SA Objective 13 – Historic Environment

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Alteration of character or setting of a Listed Building	<p>GNLP Policy 3 seeks to ensure that development proposals do not result in harm to designated and non-designated heritage assets or their historic character and continued or new uses are provided for heritage assets which retain their historic significance. GNLP Policy 2 would be expected to ensure that landscaping measures are incorporated within new developments which consider local characteristics and enhance local landscape, including that of heritage assets.</p> <p>Policies EN2, GC4 (Broadland), DM1.4, DM2.10 and DM4.10 (South Norfolk) would also be expected to ensure that heritage assets including Listed Buildings and their settings are preserved and enhanced in line with their significance. These policies would also help to ensure that development proposals have regard to the character and appearance of the surrounding historic environment within Conservation Areas.</p> <p>Policy DM3.3 (South Norfolk) would help to ensure that proposed developments for Gypsy and Traveller sites do not have a significant impact on heritage assets and their settings and promotes good screening using vegetation and/or landform.</p>	<p>These policies would be expected to mitigate negative impacts on the character and setting of Grade I, Grade II* and Grade II Listed Buildings.</p>

5.15 SA Objective 14 – Natural Resources, Waste and Contaminated Land

5.15.1 **Table 5.13** presents the identified adverse impacts on natural resources, waste and contaminated land and the likely impacts post-mitigation.

Table 5.13: Identified adverse impacts and potential mitigation for SA Objective 14 – Natural Resources, Waste and Contaminated Land

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Loss of greenfield sites, land with an ecological or landscape value	GNLP Policy 2 promotes resource efficiency, and GNLP Policy 3 seeks to protect high quality agricultural land. Policies GC4 (Broadland, DM1.4 and DM3.3 (South Norfolk) seek to encourage the efficient use of land and environmental resources, including prioritising development on previously developed land. Policy DM3.3 (South Norfolk) states that there is a preference for Gypsy and Traveller sites located on previously developed land or previously occupied agricultural yards and hard-standings.	All proposed sites for development of Gypsy and Traveller pitches in Greater Norwich, other than GNLP5013, comprise (wholly or partially) previously undeveloped land. These policies would not be expected to fully mitigate the loss of greenfield land.
Loss of best and most versatile soils	GNLP Policy 2 promotes resource efficiency, and GNLP Policy 3 seeks to protect high quality agricultural land. Policies DM2.8, DM2.9 and DM2.12 (South Norfolk) seek to ensure that high quality agricultural land is protected.	These policies would not be expected to mitigate the loss of ALC Grades 1, 2 and 3 land (potential BMV land) in Greater Norwich.

5.16 SA Objective 15 – Water

5.16.1 **Table 5.14** presents the identified adverse impacts on water and the likely impacts post-mitigation.

Table 5.14: *Identified adverse impacts and potential mitigation for SA Objective 15 - Water*

Identified adverse impact	Potential mitigating influence of GNLP strategic policies and adopted Local Plan DM policies	Commentary: Will the policies mitigate the identified adverse effects?
Risk of contamination of groundwater Source Protection Zones	<p>GNLP Policy 2 seeks to protect water quality and support a catchment approach to water management, including the use of sustainable drainage in order to meet high water efficiency requirements.</p> <p>GNLP Policy 3 seeks to conserve and enhance the natural environments, including increasing the provision of green infrastructure, which could potentially help to protect the quality of groundwater.</p> <p>Policies EN4, CSU5 (Broadland) and DM3.14 (South Norfolk), would be expected to ensure that all new developments include sustainable drainage, and that groundwater quality and aquifers are protected from pollution.</p> <p>Policy DM3.3 (South Norfolk) would ensure that Gypsy and Traveller sites include the provision of satisfactory foul and surface drainage, water supply and utilities.</p>	Together, these policies would be expected to mitigate negative impacts associated with development on nearby groundwater SPZs.
Risk of contamination of watercourses	<p>GNLP Policy 2 seeks to protect water quality and support a catchment approach to water management, including the use of sustainable drainage in order to meet high water efficiency requirements.</p> <p>GNLP Policy 3 seeks to conserve and enhance the natural environments, including increasing the provision of green infrastructure, which could potentially help to protect the quality of watercourses, and reduce the likelihood of pollutants entering watercourses.</p> <p>Policy 7.1 seeks to ensure development near the River Wensum is in accordance with the River Wensum Strategy which would be expected to prevent the worsening of water quality at this river.</p> <p>Policies EN1, EN4, CSU5 (Broadland) and DM1.4, DM2.9, DM3.14, DM4.2 (South Norfolk) would be anticipated to ensure that development proposals do not result in a deterioration of water quality.</p> <p>Policy DM3.3 (South Norfolk) would ensure that Gypsy and Traveller sites include the provision of satisfactory foul and surface drainage, water supply and utilities.</p>	These policies would not be expected to fully mitigate the potential adverse impacts on the contamination of some watercourses.

5.17 Post-mitigation site assessments

5.17.1 Following careful consideration of the mitigating effects of the GNLP strategic policies, Gypsy and Traveller site policies and adopted Local Plan DM policies on the assessment findings, the post-mitigation assessment findings for the 12 reasonable alternative Gypsy and Traveller sites considered in this report have been presented in **Table 5.15**.

5.17.2 The post-mitigation impacts indicate the optimal sustainability performance of each Gypsy and Traveller site, based on information available at the time of writing.

Table 5.15: Post-mitigation impacts of each site identified in the SA Report

Site Reference	SA Objective														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Air Quality & Noise	Climate Change Mitigation & Adaptation	Biodiversity	Landscape	Housing	Population & Communities	Deprivation	Health	Crime	Education	Economy	Transport	Historic Environment	Natural Resources	Water
GNLP5004	0	+	+/-	0	+	0	+	--	+	-	0	-	0	-	0
GNLP5005	-	+	+/-	0	+	+	+	-	+	-	+	+	0	-	-
GNLP0581/2043GT	+/-	+	+/-	-	+	0	+	-	+	+/-	+	0	0	-	0
GNLP5013	0	+	+/-	+	+	0	+	-	+	-	+	-	0	+	0
GNLP5014	0	+	+/-	0	+	0	+	--	+	-	+	+	0	-	0
GNLP5019	0	+	+/-	0	+	0	+	--	+	-	+	-	0	-	0
GNLP5020	0	+	+/-	0	+	0	+	--	+	-	0	-	0	-	0
GNLP5021	0	+	+/-	0	+	+	+	--	+	-	+	-	0	-	0
GNLP5022	0	+	+/-	0	+	0	+	--	+	-	+	-	0	-	0
GNLP5023	-	+	+/-	-	+	0	+	-	+	-	+	0	0	-	-
GNLP5024	0	+	+/-	0	+	0	+	--	+	-	0	-	0	-	0

5.17.3 All 12 reasonable alternative Gypsy and Traveller sites have been identified as resulting in negative impacts on some SA Objectives, although the majority of these are considered to be minor.

5.17.4 The best performing option could be identified as Site GNLP5013, because after the potential mitigating influence of the GNLP policies is taken into account, no major negative scores are identified, and positive scores are identified overall for seven of the 15 SA Objectives. However, the assessment of this site has also identified the potential for minor negative impacts across five SA Objectives. Site GNLP5005 also performs relatively well, with positive scores for seven SA Objectives but five minor negative scores.

- 5.17.5 A major negative impact has been identified for Sites GNLP5004, GNLP5014, GNLP5019, GNLP5020, GNLP5021, GNLP5022 and GNLP5024 under SA Objective 8, owing to the rural location of these sites, outside of sustainable target distances to healthcare facilities. Sites GNLP5014 and GNLP5021 could be identified as the worst performing out of the sites, as they both have one major negative impact and four minor negative impacts identified post-mitigation; although, the majority of SA Objectives have been identified as negligible or minor positive for these sites.
- 5.17.6 There is a degree of uncertainty regarding the impacts of all sites on biodiversity (SA Objective 3) owing to the emerging mitigation strategy regarding nutrient neutrality issues within Norfolk. Site GNLP5023 wholly coincides with priority habitat, and as such, there is also uncertainty regarding the potential to mitigate the proposed development at this location. Furthermore, at this stage, the impacts that could arise at Site GNLP0581/2043GT are uncertain for some SA Objectives, as the exact location of the Gypsy and Traveller pitches within the wider Costessey Contingency Site are unknown at the time of writing.

5.18 Recommendations

- 5.18.1 The proposed site allocation policies currently provide an overview of requirements to be taken into account upon development of each site. Recommendations to improve the site policies have been presented within the assessment text for each policy in **Chapter 4**.

6 Preferred Options

6.1 Reasonable alternatives

- 6.1.1 The SEA Regulations require that the SEA process considers “*reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme*” (Regulation 12) and gives “*an outline of the reasons for selecting the alternatives dealt with*” (Schedule 2).
- 6.1.2 The SEA process must record how reasonable alternatives were identified, described, and evaluated. The plan makers must identify all reasonable alternatives, providing an explanation as to their provenance and qualities that qualify them as reasonable.
- 6.1.3 The findings of the SEA can help with refining and further developing these options in an iterative and on-going way. The SEA findings do not form the sole basis for decision-making; other studies, the feasibility of the option and consultation feedback will also contribute to the decision of identifying a preferred option.

6.2 Site identification and screening

- 6.2.1 GNLP’s identification of reasonable alternative sites for Gypsy and Traveller sites has been carried out through a ‘Call for Sites’ exercise in 2016 and various Regulation 18 consultations carried out during the plan making process. However, prior to submitting the GNLP for independent examination in July 2021 no Gypsy and Traveller sites had been submitted for consideration.
- 6.2.2 Since the GNLP has been at examination work has been ongoing to identify Gypsy and Traveller sites. Discussions have taken place with various public and private landowners, as well as contacting the Gypsy and Traveller community directly. The result is that 12 reasonable alternative sites are identified, which are proposed by landowners who indicate a commitment to delivering them, and as such, these 12 sites have been considered in the SA process.
- 6.2.3 Three further sites were submitted in autumn 2021 via a public consultation for the South Norfolk Village Clusters Housing Allocations Plan (VCHAP) but they are considered unreasonable and are outside the scope of this SA process. These being sites previously dismissed on appeal for Gypsy and Traveller sites.

6.3 Selection and rejection of reasonable alternative sites

- 6.3.1 Following consideration of the SA information, in addition to other evidence base documents, ten Gypsy and Traveller sites are preferred for allocation in the emerging GNLP. One site is allocated as a contingency site, and one as a reasonable alternative.
- 6.3.2 **Table 6.1** presents an outline of the reasons for selecting each of the sites, provided by the Councils, in accordance with the requirements of the SEA Regulations.

Table 6.1: Reasons for selection of each reasonable alternative Gypsy and Traveller site

Site Reference & Name	Selected/ rejected	Outline reason (provided by the Councils)
GNLP5004 – Land off Buxton Road, Eastgate	Selected	This is a greenfield site which could provide 4 pitches for Gypsies and Travellers and does not have any major constraints to make the site unsuitable for development, therefore subject to achieving an acceptable visibility splay and undertaking site investigations as per the findings of the site assessment process GNLP5004 is considered suitable for allocation, subject to public consultation and further assessment.
GNLP5005 - Wymondham Recycling Centre, Strayground Lane	Selected	This site is a brownfield site currently used as Wymondham recycling centre. The landowner intends to close this facility, and thus an opportunity exists to redevelop it for 2 residential Gypsy and Traveller pitches, therefore subject to achieving mitigation measures with respect to water quality and possible contamination as per the findings of the site assessment process GNLP5005 is considered suitable for allocation, subject to public consultation and further assessment.
GNLP0581/2043GT - Land off Bawburgh Lane, north of New Road and east of the A47, Costessey (Contingency Site)	Selected – Contingency Site	This is a greenfield site being promoted as part of a residential led urban extension of approximately 800 homes site (ref: GNLP0581/2043). GNLP0581/2043GT is a variation of the contingency site which would provide 18 pitches for Gypsies and Travellers. The exact location of the Gypsy and Traveller site within the contingency site is yet to be determined and will be considered as part of master-planning exercise for the overall urban extension.
GNLP5013 – Ketteringham Recycling Centre (revised area)	Selected – Reasonable Alternative	This site is currently a depot facility but the landowner proposes to relocate, meaning the land could come forward as a Gypsy and Traveller site for 10 pitches. Due to this situation the deliverability of GNLP5013 is less certain and there are the constraints of the site itself. It is less accessible by walking and cycling because it is separated by the A11 from the nearest services and facilities in Hethersett, and there could be issues of contamination due to previous uses of the land. These factors mean GNLP5013 is a less favoured site but it could still be suitable to allocate, especially if other favoured site are withdrawn. GNLP5013 merits consultation and is selected as a reasonable alternative for further public consultation.
GNLP5014 – Land adjacent to A47	Selected	This is a newly proposed piece of land that is currently in agricultural use. Upon the dualling of the A47 and construction of a new junction with the B1140 (South Walsham Road) this land will be surplus for farming and the landowner is willing to bring forward a new Gypsy and Traveller site for 15 pitches. The site has some constraints, which are to do with its proximity to the A47, but issues to do with noise, air quality, and landscaping appear to be mitigatable. Subject to the A47 road improvement scheme going ahead, public consultation and further assessment, GNLP5014 appears suitable for allocation.
GNLP5019 – Land at Woodland Stable, Shortthorn Road, Stratton Strawless	Selected	This site currently comprises 9 pitches and a community building. The proposal is to submit a revised scheme for 8 pitches on an area of land that has been granted permission for 4 pitches. The proposal would expand the site to a total of 17 pitches. While somewhat remote from services, this is an existing Gypsy and Traveller site which the owners would be likely to progress quickly.
GNLP5020 – Land at Romany Meadow, The	Selected	This site currently comprises 6 pitches and the proposal is to expand on adjacent land to provide up to an additional 6 pitches. The site is not

Site Reference & Name	Selected/ rejected	Outline reason (provided by the Councils)
Turnpike, Carleton Rode		without constraints, which includes no walking route to services and facilities, but its allocation could be suitable subject to achieving mitigation measures and further public consultation. If approved, the Romany Meadow site would grow to a total of 12 pitches.
GNLP5021 – The Old Produce Shop, Holt Road, Horsford	Selected	This is an existing Gypsy and Traveller site for 1 pitch and the landowner wants to expand by adding a further 6 pitches. The land was previously a shop selling fruit and vegetables but has been a private Gypsy and Traveller site for nearly 10 years. The site already has a suitable access to the Holt Road, and since the site's original permission the Holt Road has been stopped-off to through traffic, following the construction of the A1270 Broadland Northway. Whilst disconnected from the nearest facilities in Horsford there are no constraints that would rule out adding further pitches development. Subject to public consultation and further assessment, GNLP5021 appears suitable for allocation and new pitches could be delivered within 5 years.
GNLP5022 – The Oaks, Foulsham	Selected	This site currently has 2 pitches and Broadland District Council is discussing regularising all the development on the site with the landowner. The landowner wants to expand the site by 5 pitches, bringing the total number of pitches to 7. The site is not without constraints, which includes no walking route to services and facilities, limitations on the access and surrounding road network, the presence of a gas pipeline, and some surface water flood risk on a part of the land. Development would need to be in the northern part of the site, as the gas pipeline runs east to west below the central part of the site. Despite these matters development potential is not ruled out, and so subject to achieving mitigation measures and public consultation, its allocation is suitable and additional pitches could come forward quickly over the next 1-3 years.
GNLP5023 – Strayground Lane, Wymondham	Selected	This is a newly proposed piece of land south of the Wymondham Recycling Centre, on Strayground Lane, for 10 pitches. Considerations for the site are highways constraints along Strayground Lane, the proximity to the Bays River Meadow County Wildlife Site, the possibility of contaminated land from the former landfill site, and neighbouring land uses. Subject to achieving mitigation measures for these constraints GNLP5023 is considered suitable for allocation, subject to public consultation and further assessment. 10 pitches is considered to be appropriate given the highway constraints posed by the narrowness of Strayground Lane and Whartons Lane and delivery would be likely to need to be delayed until after the waste and recycling centre has closed.
GNLP5024 – Upgate Street, Carleton Rode	Selected	This is an existing Gypsy and Traveller which currently comprises 2 pitches and the proposal is to expand within the current curtilage of the site by 4 pitches to grow the site to a total of 6 pitches. Considerations of the site includes the site access, that there is no walking route to services and facilities, there is a nearby SSSI and county wildlife site, and the site is adjacent to the Bunns Bank linear earthwork which elsewhere in its course is a Scheduled Monument. Nevertheless, these issues appear to be mitigatable and if allocated additional pitches would be deliverable within 5 years.

6.4 Reasonable alternative policies

- 6.4.1 The Councils have identified GNLP5013 as a reasonable alternative, and have identified an update to Policy GNLP0581/2043 relating to the proposed contingency site at Costessey.
- 6.4.2 Site GNLP5013 at Ketteringham is not part of the favoured approach, due to concerns over accessibility and integrations with neighbouring uses, although potential remains for this site. There are constraints to do with the site becoming vacant, due to the existing depot facility that operates from there, and also because there are constraints to do with access to services, and the possibility of contaminated land on site.
- 6.4.3 Regarding the Costessey contingency site, this relates to a large site in Costessey which is identified as a contingency site for housing in the submitted GNLP. The role of the contingency site has been discussed at the examination. The inspectors' conclusions on this have not yet been released. Subject to agreement from the landowners, the southern portion of the site is identified as a potential broad contingency location for a Gypsy and Traveller site. To ensure good planning, the need for a Gypsy and Traveller site at this broad location would need to be evidenced if and when the wider contingency site for housing is brought forward for development. For this site, uncertainty about delivery is the main constraint, because the promoters of this land have said construction of a Gypsy and Traveller site is dependent upon the entire development of circa 800 homes coming forward.
- 6.4.4 Each of the proposed site policies within the 'Site Policies for Gypsy and Traveller Permanent Residential Pitches Focused Consultation' document are deemed necessary in order to ensure that the identified need is addressed in the most sustainable way and that sites are deliverable, with policy criteria to address site-specific requirements. The Councils believe that a 'do nothing' approach for assessing these proposed site policies would not reflect the objective evidence.

7 Next steps

7.1 Consultation

- 7.1.1 This SA Report is subject to a six-week focused consultation alongside the GNLP 'Site Policies for Gypsy and Traveller Permanent Residential Pitches Focused Consultation' document, the Gypsy and Traveller Site Assessment Booklet, HELAA Addendum and the HRA.
- 7.1.2 Following the consultation period, responses will be considered by the Councils to inform the emerging GNLP as the examination stage progresses.

Appendix A: SA Framework

Theme	Over-arching Objective	Decision making criteria for site allocations and general policies	Suggested indicators
Air Quality and Noise (ref: SA1)	Minimise air, noise and light pollution to improve wellbeing.	<ul style="list-style-type: none"> Will it have a significant impact on AQMAs in Norwich city central and Hoveton? Will it minimise impact on air quality? Will it minimise the impact of light and noise pollution? 	<ul style="list-style-type: none"> Concentration of selected air pollutants: <ol style="list-style-type: none"> NO₂ PM₁₀ (particulate matter)
Climate Change Mitigation and Adaptation (ref: SA2)	Continue to reduce carbon emissions, adapting to and mitigating against the effects of climate change.	<ul style="list-style-type: none"> Will it minimise CO₂ emissions? Will it support decentralised and renewable energy generation? Will it minimise the risk of fluvial or surface water flooding? 	<ul style="list-style-type: none"> CO₂ emissions per capita Sustainable and renewable energy capacity permitted by type Number of planning permissions granted contrary to the advice of the Environment Agency on either flood defence or water quality grounds
Biodiversity, Geodiversity and Green Infrastructure (ref: SA3)	Protect and enhance the area's biodiversity and geodiversity assets and expand the provision of green infrastructure.	<ul style="list-style-type: none"> Will it minimise impact on designated sites and important species and habitats? Could it provide opportunities for bio- or geo-diversity enhancement? Could it contribute to green infrastructure networks? Will it help minimise the impact on air quality at designated sites? Will it ensure that current ecological networks are not compromised and future improvements in habitat connectivity are not prejudiced? 	<ul style="list-style-type: none"> Net change in Local Sites in "Positive Conservation Management" Percentage of SSSIs in: <ol style="list-style-type: none"> favourable condition; unfavourable recovering; unfavourable no change; unfavourable declining; or destroyed/ part destroyed. Number of Planning Approvals granted contrary to the advice of Natural England or Norfolk Wildlife Trust (on behalf of the County Wildlife Partnership) or the Broads Authority on the basis of adverse impact on site of acknowledged biodiversity importance.
Landscape (ref: SA4)	Promote efficient use of land, while respecting the variety of landscape types in the area.	<ul style="list-style-type: none"> Will it minimise impact on the landscape character of the area, including the setting of the Broads? Will it enable development of previously developed land? Will it make efficient use of land? 	<ul style="list-style-type: none"> Percentage of new and converted dwellings on Previously Developed Land Number of Planning Approvals granted contrary to the advice of the Broads Authority on the basis of adverse impact on the Broads Landscape

Theme	Over-arching Objective	Decision making criteria for site allocations and general policies	Suggested indicators
Housing (ref: SA5)	Ensure that everyone has good quality housing of the right size and tenure to meet their needs.	<ul style="list-style-type: none"> Will it ensure delivery of housing to meet needs in appropriate locations? Will it deliver affordable housing and other tenures to meet needs? Will it ensure a variety in the size and design of dwellings, to meet a range of circumstances and needs? 	<ul style="list-style-type: none"> Net housing completions Affordable housing completions House completions by bedroom number, based on the proportions set out in the most recent Sub-regional Housing Market Assessment Starter Homes completions
Population and Communities (ref: SA6)	Maintain and improve the quality of life of residents.	<ul style="list-style-type: none"> Will it enhance existing, or provide new community facilities? Will promote integration with existing communities? 	<ul style="list-style-type: none"> Distance and accessibility to key services and amenities Hectares of accessible open space per 1,000 population
Deprivation (ref: SA7)	To reduce deprivation.	<ul style="list-style-type: none"> Will it help to reduce deprivation? 	<ul style="list-style-type: none"> Indices of Multiple Deprivation/Lower Super Output Areas Health indicators
Health (ref: SA8)	To promote access to health facilities and promote healthy lifestyles.	<ul style="list-style-type: none"> Will it maximise access to health services, taking into account the needs of an ageing population? Will it promote healthy lifestyles? Will it avoid impact on the quality and extent of existing assets, such as formal and informal footpaths? 	<ul style="list-style-type: none"> Total hectares of accessible public open space (cumulative) provided as a consequence of a planning condition, S106 obligation or CIL investment within the plan period Percentage of physically active adults Access to health facilities Local air quality
Crime (ref: SA9)	To reduce crime and the fear of crime.	<ul style="list-style-type: none"> Will it help design out crime from new development? 	<ul style="list-style-type: none"> Indices of Multiple Deprivation/Lower Super Output Areas Rates of crime
Education (ref: SA10)	To improve skills and education.	<ul style="list-style-type: none"> Will it enable access to education and skills training? 	<ul style="list-style-type: none"> Local educational attainment levels Proximity to primary and secondary schools Capacity of primary and secondary schools Access to higher education opportunities
Economy (ref: SA11)	Encourage economic development covering a range of sectors and skill levels to improve employment opportunities for residents and maintain and enhance town centres.	<ul style="list-style-type: none"> Will it promote Greater Norwich as a regional economic centre? Will it promote employment land provision to support existing and future growth sectors? 	<ul style="list-style-type: none"> Amount of land developed for employment by type Annual count of jobs by BRES across the Plan area Employment rate of economically active population Percentage of workforce employed in higher occupations

Theme	Over-arching Objective	Decision making criteria for site allocations and general policies	Suggested indicators
		<ul style="list-style-type: none"> Will it promote a range of employment opportunities? Will it promote vibrant town centres? Will it promote the rural economy? 	
Transport and Access to Services (ref: SA12)	Reduce the need to travel and promote the use of sustainable transport modes.	<ul style="list-style-type: none"> Does it reduce the need to travel? Does it promote sustainable transport use? Does it promote access to local services? Does it promote road safety? Does it promote strategic access to and within the area? 	<ul style="list-style-type: none"> Percentage of residents who travel to work: <ol style="list-style-type: none"> By private motor vehicle; By public transport; By foot or cycle; or Work at, or mainly at, home. IMD Access to services and housing
Historic Environment (ref: SA13)	Conserve and enhance the historic environment, heritage assets and their setting, other local examples of cultural heritage, preserving the character and diversity of the area's historic built environment.	<ul style="list-style-type: none"> Does it enable the protection and enhancement of heritage assets, including their setting? Does it provide opportunities to reveal and conserve archaeological assets? Could it benefit heritage assets currently 'at risk'? 	<ul style="list-style-type: none"> Percentage of Conservation Areas with appraisals Heritage at risk – number and percentage of <ol style="list-style-type: none"> Listed buildings; and Scheduled Ancient Monuments.
Natural Resources, Waste and Contaminated Land (ref: SA14)	<p>Minimise waste generation, promote recycling and avoid the sterilisation of mineral resources.</p> <p>Remediate contaminated land and minimise the use of the best and most versatile agricultural land.</p>	<ul style="list-style-type: none"> Does it contribute to the minimisation of waste production and to recycling? Does it safeguard existing and planned mineral and waste operations? Will it help to remediate contaminated land? Does it avoid loss of the best and most versatile agricultural land (grades 1-3a)? Will there be adequate provision for waste and recycling facilities? 	<ul style="list-style-type: none"> Number of planning permissions granted on non-allocated sites on class 1, 2 or 3a agricultural land Percentage of land allocated for development, or subject to an extant planning permission of 5 or more dwellings that is identified as Grade 1 or 2 agricultural land value. Minerals and waste indicators and targets should be informed by the outputs of the adopted Minerals and Waste Plans for Norfolk.
Water (ref: SA15)	Maintain and enhance water quality and ensure the most efficient use of water.	<ul style="list-style-type: none"> Will it maximise water efficiency? Will it minimise impact on water quality? Will it impact on water discharges that affect designated sites? Will it contribute to achieving the River Basin Management Plan actions and objectives? 	<ul style="list-style-type: none"> Water efficiency in new homes See also flood section (Number of planning permissions contrary to the advice of the Environment Agency on either flood defence or water quality grounds)

Habitats Regulations Assessments

Sustainability Appraisals

Strategic Environmental Assessments

Landscape Character Assessments

Landscape and Visual Impact Assessments

Green Belt Reviews

Expert Witness

Ecological Impact Assessments

Habitat and Ecology Surveys



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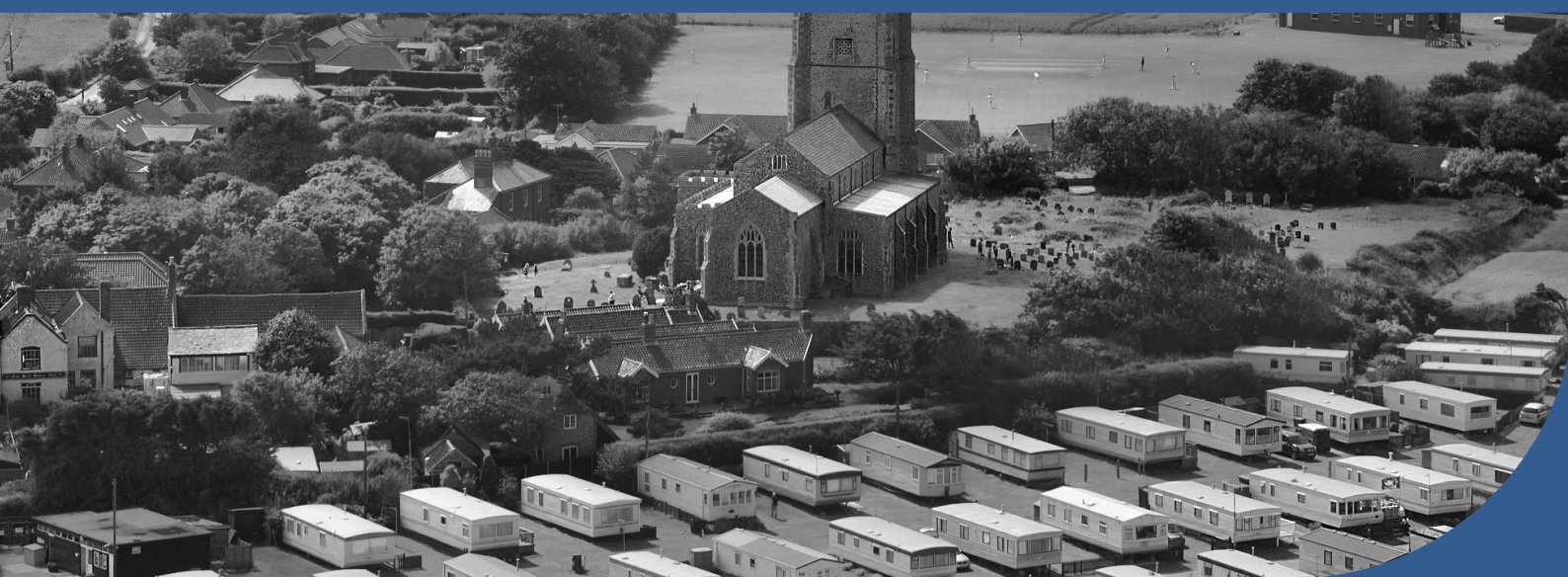
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Habitats Regulations Assessment of published Proposed Submission Greater Norwich Local Plan – Gypsy and Traveller sites Addendum

for

Greater Norwich Development Partnership

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Status: Issue

The Landscape Partnership Ltd is a practice of Chartered Landscape Architects, Chartered Town Planners and Chartered Environmentalists, registered with the Landscape Institute and a member of the Institute of Environmental Management & Assessment & the Arboricultural Association.

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Non-technical summary

The Landscape Partnership was commissioned by the Greater Norwich Development Partnership to undertake a Habitat Regulations Assessment (HRA) of proposed allocations for Gypsy and Traveller sites, as an addition to the Greater Norwich Local Plan (GNLP). This report is a Habitats Regulations Assessment of that addition to the GNLP. There are ten proposed site allocations for Gypsy and Traveller pitches, a reasonable alternative, and a contingency allocation of 18 pitches at the Costessey contingency housing allocation site. Three unreasonable alternatives are also assessed for completeness.

Impacts considered for the proposed distribution of pitches include water cycles (use and disposal); air pollution, especially from new roads and an increase or change in the pattern of distribution of road users; water pollution or enrichment resulting from discharge to water; and the impacts of increased visitors to European sites. In addition to considering the potential impacts of the growth proposed by the Gypsy and Travellers sites, other development in the GNLP area and the wider area was also considered for in-combination impacts.

No allocations will be within or close to any European site such that there would be construction impacts such as land-take or disturbance from the construction activities, and there will be no allocations within 1.5km of a European site so there would be no direct recreational impacts.

Natural England has advised all Local Planning Authorities in Norfolk that large developments (defined as fifty houses or more) include green space which is proportionate to its scale to minimise any predicted increase in recreational pressure to designated sites, by containing the majority of recreation within and around the developed site. No evidence has been provided to support the threshold of 50 or more dwellings, and it is assumed that each and every new home could potentially have an identical impact. Greater Norwich Local Plan requires all residential development to provide green infrastructure. If a development site is too small to provide green infrastructure on site, a contribution secured by S106 to green infrastructure elsewhere will be required. This requirement applies to Gypsy and Traveller sites as well as to standard housing.

The Green Infrastructure and Recreational Impact Avoidance Strategy (GIRAMS) proposes a tariff based payment taken from residential, and other relevant accommodation e.g. tourist accommodation, that will be used to fund packages of avoidance and mitigation measures to be delivered at Habitat Sites. Mitigation comprises a team of Rangers to influence visitor behaviour, signage, monitoring, a dog project, delivery of strategic mitigation projects, and various other measures. A tariff payment of £185.93 per dwelling (Gypsy and Traveller Pitch) has been set. The GIRAMS measures will be sufficient that the assessment is able to ascertain no adverse effect upon the integrity of any European site from the in-combination effects of residential developments across the plan area and beyond.

A new Country Park has been created by Broadland District Council between Felthorpe and Horstead, which is being designed and managed to attract a larger number of recreational visitors. It will also act to reduce visitor pressure on European sites by providing an attractive alternative destination for countryside visits.

There would be no impact on European sites from water abstraction as there would be no additional abstraction to meet water needs in the Local Plan area, including the Gypsy and Traveller sites.

On 16th March 2022, Natural England advised that Wensum SAC and The Broads SAC were being harmed by excess nitrate and phosphate in the water. New residential development would need to demonstrate that it would not exacerbate the existing problem by adding further nitrate and phosphate from sewage and run-off to these SAC sites. This requirement applies to Gypsy and Traveller pitches as well as to standard dwellings. The proposed pitch allocations are therefore in the same situation as housing allocations with respect to Nutrient Neutrality; all pitch allocations are within the catchments of either the River Wensum SAC or The Broads SAC / Ramsar. At the time of writing, it is anticipated that modification to the strategic policies of the GNLP will be made to be available for an Examination hearing. Policy amendments are expected to tie the delivery of housing growth more tightly to nutrient levels impacting on internationally protected habitats, including, as appropriate, a county-wide mitigation strategy. The availability of a mitigation strategy will affect the timing of the delivery of housing sites and Gypsy and Traveller pitches as opposed to the principle of their development. Subject to satisfactory policy modification with respect to Nutrient Neutrality, it is ascertained that the proposed allocations for Gypsy and Traveller sites will have no adverse effect upon the integrity of any European site acting alone, in combination with other development in the GNLP or any other plan or project.

1 Introduction

1.1 The plan being considered and context

- 1.1.1 Broadland District Council, Norwich City Council and South Norfolk Council, working with Norfolk County Council and Broads Authority, are working together to prepare the Greater Norwich Local Plan (GNLP). This will replace the Joint Core Strategy for Broadland, Norwich and South Norfolk (JCS), which was adopted in March 2011, and other more recently adopted 'lower tier' Development Plan Documents. The three local Planning Authorities have come together to form the Greater Norwich Development Partnership to deliver the GNLP.
- 1.1.2 The submission draft Greater Norwich Local Plan, and its Habitats Regulations Assessment, were Examined by Inspectors in February and March 2022. The Examination hearings were carried out virtually using internet video calls and the recordings of the hearing can be found at <https://www.youtube.com/channel/UCdRKsvFkvWzVLWhEQwY0x0w/videos> (accessed on 7th May 2022).
- 1.1.3 The Inspectors have not yet reported on the Examination. However, various questions have been asked by them of the Greater Norwich Development Partnership, including a question about recent issues regarding Nutrient Neutrality. The question, and the Greater Norwich development Partnership's response, is available on the Examination website¹.
- 1.1.4 This document is an Addendum to the Greater Norwich Local Plan Habitats Regulations Assessment dated July 2021. Since the Examination hearings, the Greater Norwich Development Partnership has proposed sites to be allocated for Gypsy and Traveller pitches, and a potential allocation for Gypsy and Traveller pitches within the contingency housing allocation at Costessey. **This addendum assesses the impact on European sites of the proposed allocations for Gypsy and Traveller pitches.** The methodology of the assessment is similar to that in the July 2021 HRA, with the exception of now including the assessment of waste water impacts. It is assumed that the impact of one Gypsy and Traveller site is similar to that of one house used by the settled community; there is no evidence to the contrary.
- 1.1.5 It is considered that there is a need for 53 Gypsy and Traveller pitches within the Plan period². Windfall sites may arise in addition to allocations, to meet demand.

1.2 The Greater Norwich Local Plan (GNLP)

- 1.2.1 The Submission Draft Greater Norwich Local Plan (GNLP) Strategy document follows previous iterations of the emerging Greater Norwich Local Plan. It provides the broad strategy for growth in Greater Norwich from 2018 to 2038 and supporting thematic policies.
- 1.2.2 The draft plan identifies where growth needed to 2038 should be built. There are plans in place already which identify locations for around 80% of the new homes, along with new jobs, green spaces and additional infrastructure (Section 1.2 above). The main locations include brownfield sites in Norwich, the major urban extension to its north-east, expanded strategic employment sites such as the Norwich Research Park and growth at most of our towns and larger villages. This plan provides additional sites in these areas to create new communities and support growth of the economy, as well as sites in villages to support rural services.
- 1.2.3 When adopted, the GNLP will supersede the current Joint Core Strategy and the Site Allocations documents in each of the three districts except for the smaller villages in South Norfolk that will be addressed through a new South Norfolk Village Clusters Housing Allocations Local Plan; and the Diss, Scole and Burston area, for which a Neighbourhood Plan is being produced which will allocate sites in these locations. The GNLP will not replace existing adopted Area Action Plans for Long Stratton, Wymondham and the Growth Triangle (NEGT) or Neighbourhood Plans, though in some cases additional allocations are made through the GNLP in these areas. The GNLP will also not amend existing adopted Development Management policies for the three districts except in

¹ <https://www.gnlp.org.uk/local-plan-examination-local-plan-examination-document-library-d-post-submission-examination/d5> accessed on 7th May 2022

² RRR Consultancy Ltd (June 2022) Greater Norwich Gypsy and Traveller Accommodation Assessment.

circumstances where limited policy changes, identified in this plan, are required to implement the strategy.

1.3 What are the Habitats Regulations?

- 1.3.1 The Conservation of Habitats and Species Regulations 2017 (as amended) generally follow the Birds Directive and Habitats Directive but unlike the Directives there is no role for the European Union; the UK Government has taken that role following the end of the Brexit transition period on 31st December 2020. The following paragraphs consider the case in England only, with Natural England given as the appropriate nature conservation body.
- 1.3.2 Special Protection Areas and Special Areas of Conservation are defined in the regulations as forming a national network of 'European sites'. The Regulations regulate the management of land within European sites, requiring land managers to have the consent of Natural England before carrying out management. Byelaws may also be made to prevent damaging activities and if necessary land can be compulsorily purchased to achieve satisfactory management.
- 1.3.3 The Regulations define competent authorities as public bodies or statutory undertakers. Competent authorities are required to make an appropriate assessment of any plan or project they intend to permit or carry out, if the plan or project is likely to have a significant effect upon a European site. The permission may only be given if the plan or project is ascertained to have no adverse effect upon the integrity of the European site. If the competent authority wishes to permit a plan or project despite a negative assessment, imperative reasons of over-riding public interest must be demonstrated, and there should be no alternatives to the scheme. The permissions process would involve the Secretary of State and the option of consulting the European Commission. In practice, there will be very few cases where a plan or project is permitted despite a negative assessment. This means that a plan such as the Greater Norwich Local Plan has to be assessed, and the assessment must either decide that it is likely to have no significant effect on a European site or ascertain that there is no adverse effect upon the integrity of the European site.

1.4 Habitats Regulations Assessment process

- 1.4.1 A Habitats Regulations Assessment is a step-by-step process which is undertaken in order to determine whether a project or plan will have a likely significant effect (LSE) upon a European site. Before a competent authority can authorise a proposal, they must carry out an Appropriate Assessment of a plan or project in line with procedure detailed in the Habitats Regulations. The whole procedure is called a Habitats Regulations Assessment, with the Appropriate Assessment being part of one of four stages necessary to complete an HRA. The results of the HRA are intended to influence the decision of the competent authority when considering whether or not to authorise a proposal.

Stages of Habitats Regulations Assessment

- 1.4.2 *Stage One of the HRA is 'Screening'.* Plans or projects will be investigated for their potential to have a likely significant effect upon a European site. If the plan is likely to have a significant effect, and is not connected to the management of the site, an Appropriate Assessment is required. Proposals that are found not likely to have a significant effect upon a European site will be 'screened out' at this stage and no further investigation will be required.
- 1.4.3 *Stage Two of the HRA is the 'Appropriate Assessment and the Integrity Test'.* The plan-making authority must undertake an Appropriate Assessment which seeks to provide an objective and scientific assessment of how the proposed Local Plan may affect the qualifying features and conservation strategies of European sites. The whole plan must be assessed, but a 'scoping' exercise helps decide which parts of the plan have potential to give rise to significant effects and therefore where assessment should be prioritised. Natural England is an important consultee in this process and the public may also be consulted.
- 1.4.4 The UK Government accepts the definition for the 'integrity' of a site as *'the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which the site is (or will*

be) designated. Other factors may also be used to describe the 'integrity' of a site. The plan-making authority must ascertain, using scientific evidence and a precautionary approach, that the plan will not adversely affect the integrity of a European site, prior to adopting the plan. Information provided in the Appropriate Assessment will be used when considering the Integrity test.

- 1.4.5 *Stage Three of the HRA is 'Imperative reasons of overriding public interest and compensatory measures'.* If the Competent Authority determines that there are imperative reasons of overriding public interest notwithstanding adverse impacts upon the integrity of the European site, and there are no alternatives, the plan may be given effect. In this case, the plan-making authority must notify the Secretary of State at least 21 days before authorisation; the Secretary of State may give a direction prohibiting the plan from being given effect. It is unlikely that this stage would be reached.

Consultations

- 1.4.6 Natural England is a statutory consultee, and so should be consulted at the draft and final plan stage. The public may also be consulted if it is considered appropriate, for example if the appropriate assessment is likely to result in significant changes to the plan. In practice, Natural England has been consulted upon previous stages of the Local Plan and HRA, and the HRA has been included in previous public consultations of the emerging Local Plan.

Iterations and revision

- 1.4.7 The process is iterative; the conclusions of an earlier assessment may result in changes to the plan, and so a revision of the assessment would be required. If the revised assessment suggests further plan changes, the iteration will continue.
- 1.4.8 Iterative revisions typically continue until it can be ascertained that the plan will not have an adverse effect on the integrity of any European site.
- 1.4.9 There are further provisions for rare cases where over-riding public interest may mean that a land-use plan may be put into effect, notwithstanding a negative assessment, where there are no alternatives to development, but these provisions are not expected to be routinely used.

Guidance and good practice

- 1.4.10 This report has taken account of published guidance and good practice. A key source of information which summaries of legislative requirements, good practice guidance and case law (Tyldesley and Chapman 2013, regularly updated)³ has been used during the writing of this report.

1.5 Why is Appropriate Assessment required?

- 1.5.1 The appropriate assessment process is required under the Conservation of Habitats and Species Regulations 2017 (as amended). Regulation 105 states that
- (1) Where a land use plan—
 - (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and
 - (b) is not directly connected with or necessary to the management of the site,the plan-making authority for that plan must, before the plan is given effect, make an appropriate assessment of the implications for the site in view of that site's conservation objectives.
 - (2) The plan-making authority must for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority specify.

³ Tyldesley, D., & Chapman, C. (2013). *The Habitats Regulations Assessment Handbook*. DTA Publications Ltd

(3) The plan-making authority must also, if it considers it appropriate, take the opinion of the general public, and if it does so, it must take such steps for that purpose as it considers appropriate.

(4) In the light of the conclusions of the assessment, and subject to regulation 107, the plan-making authority must give effect to the land use plan only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be).

(5) A plan-making authority must provide such information as the appropriate authority may reasonably require for the purposes of the discharge by the appropriate authority of the obligations under this chapter.

(6) This regulation does not apply in relation to a site which is—

(a) a European site by reason of regulation 8(1)(c); or

(b) a European offshore marine site by reason of regulation 18(c) of the Offshore Marine Conservation Regulations (site protected in accordance with Article 5(4) of the Habitats Directive).

1.5.2 The plan-making authorities, as defined under the Regulations, are Broadland District Council, Norwich City Council and South Norfolk District Council and the appropriate nature conservation body is Natural England.

1.5.3 This report is the assessment carried out on behalf of these three local authorities under Regulation 105. At Regulation 19 Submission Draft stage, this report determines any changes required so that the GNLP may progress to being adopted in due course.

1.6 European sites

1.6.1 European sites (also known as Natura 2000/N2K sites) are sites that have been classified or designated by Defra/Welsh Ministers or Natural England/Natural Resources Wales, as Special Protection Areas (SPA) for those sites where birds are the special interest feature, and Special Areas of Conservation (SAC) where the habitats or species (other than birds) are the reason for designation.

1.6.2 Wetlands of International Importance, designated under the Ramsar Convention, are not European sites. There may often be considerable overlap between the special interest features and boundaries of Ramsar sites, with European sites. However, for the purposes of planning and development, Government policy in the National Planning Policy Framework states that Ramsar sites should be treated equally/in the same way as European sites. The same applies for sites under consideration for designation including potential Special Protection Area (pSPA), Site of Community Importance (SCI), Candidate Special Area of Conservation (cSAC) and proposed Ramsar sites. In summary, although Appropriate Assessment only legally applies to European sites, National Planning Policy provides further obligations to ensure that all those sites previously mentioned are subject to assessment. Therefore, for the purposes of this report, the term 'European site(s)' refers to all sites under assessment.

1.6.3 As the interest features of the Ramsar sites are usually very similar to the interest features of the SPA and / or SAC designations, both geographically and ecologically, the assessment below, for clarity does not always repeat Ramsar site names. The assessment does however consider Ramsar sites fully, and if an assessment for a Ramsar site was found to differ from that for the respective SPA / SAC, this would be clearly identified.

1.6.4 European Marine Site (EMS) is a term that is often used for a SPA or SAC that includes marine components (i.e. land/habitats up to 12 nautical miles out to sea and below the Mean High Water Mark). A European Marine Site does not have a statutory designation of its own but is designated for the same reasons as the relevant SPA or SAC, and because of this they are not always listed as a site in their own right, to save duplication. For the purpose of this document, an EMS is referred to as an Inshore SPA (or SAC) with Marine Components and it will be made clear if an SPA/SAC has marine components.

1.7 Iteration and consultation

- 1.7.1 An interim Habitats Regulations Assessment (HRA)⁴ was published in January 2018. It is available on Greater Norwich Development Partnership's website⁵. It identifies in detail how internationally designated ecological habitats and wildlife sites in the wider area, including the Broads and the Norfolk coast, would be potentially impacted by recreational pressures likely to be generated by growth in Greater Norwich. It looked at 22 strategic growth options.
- 1.7.2 This report was issued to stakeholders, and a meeting was held with stakeholders on 3rd April 2018. Attendees were John Hiskett (Norfolk Wildlife Trust) and Andrea Kelly (Broads Authority) with Nick Sibbett (The Landscape Partnership (TLP)) and Paul Harris (Broadland District Council) representing Greater Norwich Development Partnership.
- 1.7.3 A second stakeholder meeting was held on 28th March 2019. Attendees were Nick Sibbett (TLP, for Greater Norwich Development Partnership), Paul Harris (Broadland District Council, for Greater Norwich Development Partnership), Mike Jones (Norfolk Wildlife Trust), Kate Warwick (Environment Agency), Louise Oliver (Natural England), and Philip Pearson (RSPB).
- 1.7.4 Anglian Water representatives were unable to attend the stakeholder meetings but provided advice by email.
- 1.7.5 A Habitats Regulations Assessment for the Regulation 18 Draft Plan dated December 2019 was published in January 2020. It was open for public consultation with the draft Local Plan from 29 January - 16 March 2020. Comments on the HRA were received from Natural England and Norfolk Wildlife Trust. Comments on the Local Plan relating to HRA issues were also received from RSPB. Concerns were expressed on a number of topics such as whether the Local Plan policies were strong enough to prevent harm to European sites, over-reliance on studies not yet completed including Water Cycle Study and Green Infrastructure Recreation Avoidance Strategy, and impact of the Norwich Western Link Road.
- 1.7.6 A Habitats Regulations Assessment for the Regulation 19 Submission Draft Plan dated December 2020 was published in February 2021. It was open for public consultation with the Proposed Submission Draft Local Plan from 1st February 2021 – 22nd March 2021. At that time the Habitats Regulations identified that the Water Cycle Study and GIRAMS were in draft stage. The Regulation 19 version (July 2021) of the HRA was amended following completion of the Water Cycle Study and updating the position of the GIRAMS for adoption by the local planning authorities.

⁴ Interim Habitats Regulations Assessment of Greater Norwich Local Plan Issues and Options stage, The Landscape Partnership, December 2017

⁵ https://gnlp.jdi-consult.net/documents/pdfs_14/reg.18_gnlp_interim_hra.pdf

2 European sites potentially affected

2.1 European sites

2.1.1 A search using Natural England's Interactive 'Magic Map'⁶ revealed that a number of European sites lie within, near or partially within the Greater Norwich area, i.e. the land within Broadland District Council (outside the Broads Authority area), South Norfolk District Council or Norwich City Council areas. Each European site is listed below with a brief description of its qualifying features and is shown on Figure 01. Because some of the European sites cross Local Planning Authority boundaries and because some of the European Sites are made up of component Sites of Special Scientific Interest (SSSI) which are located in different Planning Authority areas, no attempt has been made to differentiate those European sites and Ramsar sites which lie within the plan area, which lie within the boundaries of Broadland District, South Norfolk District and Norwich City Council areas and which are within Local Authority Districts beyond these.

2.1.2 Component Sites of Special Scientific Interest forming the European sites, and the European site Conservation Objectives, are presented in Appendix 1.

River Wensum SAC		
Site description summary	Qualifying features⁷	
<p>A calcareous lowland river considered one of the best areas in the UK for <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation. Also significant for the presence of Brook Lamprey, Bullhead and Desmoulin's whorl snail. One of the best areas in the UK for the native White-clawed Crayfish.</p> <p>At the upper reaches, run-off from calcareous soils rich in plant nutrients feeds beds of submerged and emerged vegetation characteristic of chalk streams. Lower, the chalk is overlain by boulder clay, resulting in aquatic plant communities more characteristic of rivers with mixed substrates.</p>	3260	Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation
	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>
	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)
	1092	<i>Austropotamobius pallipes</i> (White-clawed (or Atlantic steam) Crayfish)
	1163	<i>Cottus gobio</i> (Bullhead)
	1096	<i>Lampetra planeri</i> (Brook Lamprey)
	1016	<i>Vertigo moulinsiana</i> (Desmoulin's whorl snail)

Norfolk Valley Fens SAC		
Site description summary	Qualifying features⁸	
<p>A series of valley-head spring-fed fens, typified by black-bog-rush - blunt-flowered rush <i>Schoenus nigricans</i> - <i>Juncus subnodulosus</i> mire. There are also transitions to reedswamp, other fen and wet grassland types, and gradations from calcareous fens into acidic flush communities. Plant species present include marsh helleborine <i>Epipactis palustris</i>, narrow-leaved marsh-orchid <i>Dactylorhiza traunsteineri</i>, and alder <i>Alnus glutinosa</i> which forms carr woodland in places</p>	4010	North Atlantic wet heaths with <i>Erica tetralix</i>
	4030	European dry heaths
	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites)
	6410	Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (Molinion caeruleae)

⁶ <http://magic.defra.gov.uk/home.htm>

⁷ Taken from the Natura 2000 Standard data form for site UK0012647 River Wensum SAC dated 25-01-16.

⁸ Taken from the Natura 2000 Standard data form for site UK0012892 Norfolk Valley Fens SAC dated 25-01-16.

by streams. Marginal fens associated with pingos-pools originating from the thawing of large blocks of ice at the end of the last Ice Age support several large populations of Desmoulin's whorl snail <i>Vertigo moulinsiana</i> .	7150	Depressions on peat substrates of the Rhynchosporion
	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae
	7230	Alkaline fens
	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)
	1355	<i>Lutra lutra</i> (Eurasian Otter)
	1166	<i>Triturus cristatus</i> (Great Crested Newt)
	1014	<i>Vertigo angustior</i> (Narrow-mouthed whorl snail)
	1016	<i>Vertigo moulinsiana</i> (Desmoulin's whorl snail)

<i>The Broads SAC/ Broadland SPA, Ramsar</i>		
Site description summary	SAC qualifying features⁹	
<p>A low-lying wetland complex connecting the Bure, Yare, Thurne, and Waveney River systems. Wetland habitats form a mosaic of open water, reedbeds, carr woodland, grazing marsh, and fen meadow, with an extensive network of medieval peat excavations. The Site boasts a rich array of flora and fauna.</p> <p>The SPA is designated for supporting a number of rare or vulnerable (Article 4.1) Annex I bird species during the breeding season. In addition, the SPA is designated for supporting regularly occurring migratory (Article 4.2) species during the breeding season and over winter.</p>	3140	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.
	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation
	6410	Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (Molinion caeruleae)
	7140	Transition mires and quaking bogs
	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae
	7230	Alkaline fens
	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)
	4056	<i>Anisus vorticulus</i> (Little whorlpool ram's-horn snail)
	1903	<i>Liparis loeselii</i> (Fen Orchid)
	1355	<i>Lutra lutra</i> (Eurasian Otter)
	1166	<i>Triturus cristatus</i> (Great Crested Newt)

⁹ Taken from the Natura 2000 Standard data form for site UK0013577 The Broads SAC dated 25-01-16.

	1016	Vertigo moulinsiana (Desmoulin's whorl snail)
	SPA qualifying features¹⁰	
	A056	Anas clypeata (Shoveler) (over winter)
	A050	Anas penelope (Wigeon) (over winter)
	A051	Anas strepera (Gadwall) (over winter)
	A021	Botaurus stellaris (Bittern) (breeding)
	A081	Circus aeruginosus (Marsh Harrier) (breeding)
	A082	Circus cyaneus (Hen Harrier) (over winter)
	A037	Cygnus columbianus bewickii (Bewick's Swan) (over winter)
	A038	Cygnus cygnus (Whooper Swan) (over winter)
	A151	Philomachus pugnax (Ruff) (over winter)
	Ramsar qualifying features¹¹	
	H7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae Calcium-rich fen dominated by great fen sedge (saw sedge).
	H7230	Alkaline fens Calcium-rich springwater-fed fens.
	H91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Alder woodland on floodplains, and the Annex II species
	S1016	Vertigo moulinsiana (Desmoulin's whorl snail)
	S1355	Lutra lutra (Eurasian Otter)
	S1903	Liparis loeselii Fen Orchid
		Cygnus columbianus bewickii, NW Europe (Tundra (Bewick's) Swan)
		Anas penelope (Eurasian Wigeon)
		Anas strepera strepera (Gadwall)
		Anas clypeata (Shoveler)

Breydon Water SPA/Ramsar/SPA (Marine)		
Site description summary		SPA qualifying features¹²
An inland tidal estuary at the mouth of the River Yare and its confluence with the Rivers Bure and Waveney. Extensive areas of mud-flats form the only tidal flats on the east Norfolk coast. The Site also features much	A037	Cygnus columbianus bewickii (Bewick's (Tundra) Swan) (over winter)
	A151	Philomachus pugnax (Ruff) (concentration)

¹⁰ Taken from the Natura 2000 Standard data form for site UK9009253 Broadland SPA dated 25-01-16.

¹¹ Taken from the Ramsar Information Sheet for Broadland dated 21-09-94.

¹² Taken from the Natura 2000 Standard data form for site UK9009181 Breydon Water SPA dated 25-01-16.

<p>floodplain grassland, which lies adjacent to the intertidal areas. It is internationally important for wintering waterbirds, some of which feed in the Broadland Ramsar that adjoins this site at Halvergate Marshes.</p> <p>This SPA is part of the Breydon Water European Marine Site.</p>	A140	Pluvialis apricaria (Golden Plover) (over winter)
	A132	Recurvirostra avosetta (Avocet) (over winter)
	A193	Sterna hirundo (Common Tern) (breeding)
	A142	Vanellus vanellus (Northern Lapwing) (over winter)
		Waterbird assemblage
Ramsar qualifying features¹³		
	Internationally important waterfowl assemblage (greater than 20000 birds)	
	Over winter the site regularly supports internationally important numbers of: Bewick's Swan <i>Cygnus columbianus bewickii</i> and Lapwing <i>Vanellus vanellus</i>	

Great Yarmouth North Denes SPA		
Site description summary	Qualifying features¹⁴	
<p>Low dunes stabilised by marram grass <i>Ammophila arenaria</i> with extensive areas of grey hair-grass <i>Corynephorus canescens</i>. The Site supports important numbers of little tern <i>Sterna albifrons</i> that feed in waters close to the SPA.</p> <p>This SPA is part of the Great Yarmouth North Denes European Marine Site (EMS).</p>	A195	Sterna albifrons (Little Tern) (breeding)

Winterton – Horsey Dunes SAC		
Site description summary	Qualifying features¹⁵	
<p>The only significant area of dune heath on the east coast of England, which occur over an extremely base-poor dune system, and include areas of acidic dune grassland as an associated acidic habitat. These acidic soils support swamp and mire communities, in addition to common dune slack vegetation, including creeping willow <i>Salix repens</i> subsp. <i>argentea</i> and Yorkshire fog <i>Holcus lanatus</i>. The drought resistant grey hair-grass <i>Corynephorus canescens</i> is characteristic of open areas.</p>	2110	Embryonic shifting dunes
	2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")
	2150	Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)
	2160	Dunes with <i>Hippophae rhamnoides</i>
	2190	Humid dune slacks
	1166	<i>Triturus cristatus</i> (Great Crested Newt)

¹³ Taken from the Ramsar Information Sheet for Breydon Water dated Feb 2000.

¹⁴ Taken from the Natura 2000 Standard data form for site UK9009271 Great Yarmouth North Denes SPA dated 25-01-16.

¹⁵ Taken from the Natura 2000 Standard data form for site UK0013043 Winterton – Horsey Dunes SAC dated 25-01-16.

Paston Great Barn SAC		
Site description summary	Qualifying features¹⁶	
Nationally, this is an extremely rare example of a maternity roost of barbastelle bats <i>Barbastella barbastellus</i> in a building. A 16th century thatched barn with associated outbuildings. The maternity colony inhabits many crevices and cracks in the roof timbers.	1308	Barbastella barbastellus (Barbastelle bat) (permanent population)

Overstrand Cliffs SAC		
Site description summary	Qualifying features¹⁷	
Vegetated soft cliffs composed of Pleistocene clays and sands, subject to common cliff-falls and landslips. Vegetation undergoes cycles whereby ruderal-dominated communities develop on the newly exposed sands and mud, succeeded by more stable grassland and scrub vegetation. In areas where freshwater seepages occur there are fen communities and occasional perched reedbeds. The diverse range of habitats support a large number of invertebrate species.	1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts

Waveney & Little Ouse Valley Fens SAC		
Site description summary	Qualifying features¹⁸	
Calcareous fen containing extensive beds of great fen-sedge <i>Cladium mariscus</i> . Purple moor-grass – meadow thistle <i>Molinia caerulea</i> – <i>Cirsium dissectum</i> fen-meadows, associated with the spring-fed valley fen systems, occur in conjunction with black bog-rush – blunt-flowered rush <i>Schoenus nigricans</i> – <i>Juncus subnodulosus</i> mire and calcareous fens with great fen-sedge. Grazed areas of fen-meadow are more species-rich, and frequently support southern marsh-orchid <i>Dactylorhiza praetermissa</i> .	6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)
	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae
	1016	Vertigo moulinsiana (Desmoulin's whorl snail)

¹⁶ Taken from the Natura 2000 Standard data form for site UK0030235 Paston Great Barn SAC dated December 2015.

¹⁷ Taken from the Natura 2000 Standard data form for site UK0030232 Overstrand Cliffs SAC dated December 2015.

¹⁸ Taken from the Natura 2000 Standard data form for site UK0012882 Waveney and Little Ouse Valley Fens SAC dated December 2015.

Redgrave and South Lopham Fens Ramsar	
Site description summary	Qualifying features¹⁹
<p>An extensive area of spring-fed valley fen at the headwaters of the River Waveney which supports a variety of fen plant community types, including <i>Molinia</i>-based grasslands, mixed sedge-fen, and reed-dominated fen. Small areas of wet heath, willow carr, and birch woodland also occur, and the Site is known to support the fen raft spider <i>Dolomedes plantarius</i>.</p>	<p>The site is an extensive example of spring-fed lowland base-rich valley, remarkable for its lack of fragmentation.</p>
	<p>The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i>. This spider is also considered vulnerable by the IUCN Red List.</p>
	<p>The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i>. The diversity of the site is due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires.</p>

Breckland SPA/SAC	
Site description summary	SPA qualifying features²⁰
<p>A gently rolling plateau underlain by cretaceous chalk bedrock covered with thin deposits of sand and flint. The climate and free-draining soils has produced dry heath and grassland communities. Pingos with biological interest occur in some areas. The highly variable soils of Breckland, with underlying chalk being largely covered with wind-blown sands, have resulted in mosaics of heather-dominated heathland, acidic grassland and calcareous grassland that are unlike those of any other site. Breckland is the most extensive surviving area of the rare sheep's fescue – mouse-ear hawkweed – wild thyme <i>Festuca ovina</i> – <i>Hieracium pilosella</i> – <i>Thymus praecox</i> grassland type. A number of the water bodies within the site support populations of amphibians, including great crested newts <i>Triturus cristatus</i>.</p>	<p>A133 Burhinus oedicnemus (Stone Curlew) (breeding)</p>
	<p>A224 Caprimulgus europaeus (Nightjar) (breeding)</p>
	<p>A246 Lullula arborea (Woodlark) (breeding)</p>
	SAC qualifying features²¹
	<p>2330 Inland dunes with open Corynephorus and Agrostis grasslands</p>
	<p>3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation</p>
	<p>4030 European dry heaths</p>

¹⁹ Taken from the Ramsar Information Sheet for Redgrave and South Lopham Fen Ramsar dated May 2005.

²⁰ Taken from the Natura 2000 Standard data form for site UK9009201 Breckland SPA dated December 2015.

²¹ Taken from the Natura 2000 Standard data form for site UK0019865 Breckland SAC dated December 2015.

	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)
	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)
	1308	<i>Barbastella barbastellus</i> (Barbastelle bat)
	1166	<i>Triturus cristatus</i> (Great Crested Newt)

Benacre to Easton Bavents Lagoons SAC/Benacre to Easton Bavents SPA						
Site description summary	SAC qualifying features²²					
<p>Situated on the east coast of Suffolk, this site includes semi-natural broadleaved woodland, tall fen vegetation, shingle, dunes and grassland, saltmarsh and coastal lagoons. The habitats are important for breeding, wintering and passage birds.</p> <p>There are a series of percolating lagoons that have formed behind shingle barriers and are a feature of a geomorphologically dynamic system. The site supports a number of specialist lagoonal species.</p> <p>The SPA is part of the Benacre to Easton Bavents European Marine Site.</p>	1150 Coastal lagoons					
	91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)					
	SPA qualifying features²³					
	<table> <tr> <td>A021</td><td><i>Botaurus stellaris</i> (Bittern) (breeding)</td></tr> <tr> <td>A081</td><td><i>Circus aeruginosus</i> (Marsh Harrier) (breeding)</td></tr> <tr> <td>A195</td><td><i>Sterna albifrons</i> (Little Tern) (breeding)</td></tr> </table>	A021	<i>Botaurus stellaris</i> (Bittern) (breeding)	A081	<i>Circus aeruginosus</i> (Marsh Harrier) (breeding)	A195
A021	<i>Botaurus stellaris</i> (Bittern) (breeding)					
A081	<i>Circus aeruginosus</i> (Marsh Harrier) (breeding)					
A195	<i>Sterna albifrons</i> (Little Tern) (breeding)					
Component SSSI/s²⁴						
Pakefield to Easton Bavents SSSI	Covers 735.45ha and contains 51 units. 48.73% of area in Favourable condition, 38.98% of area in Unfavourable-Recovering condition, 8.73% of area in Unfavourable-No change condition, 3.11% Unfavourable-Declining condition, 0.45% of area Partially destroyed.					
SAC Conservation Objectives²⁵						
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats The structure and function (including typical species) of qualifying natural habitats, and The supporting processes on which qualifying natural habitats rely. 					
SPA Conservation Objectives²⁶						
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving	<ul style="list-style-type: none"> The extent and distribution of the habitats of the qualifying features 					

²² Taken from the Natura 2000 Standard data form for site UK0013104 Benacre to Easton Bavents Lagoons SAC dated December 2015.

²³ Taken from the Natura 2000 Standard data form for site UK9009291 Benacre to Easton Bavents SPA dated December 2015.

²⁴ Condition status taken from Natural England data on 17th June 2019.

²⁵ Taken from Natural England's European Site Conservation Objectives for Benacre to Easton Bavents Lagoons SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

²⁶ Taken from Natural England's European Site Conservation Objectives for Benacre to Easton Bavents SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site.
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Dew's Ponds SAC		
Site description summary	Qualifying features²⁷	
A series of 12 ponds located in rural East Suffolk, in formerly predominantly arable land. Great Crested Newt has been found in all ponds. Some of the arable land has been converted to grassland and there are also hedgerows and ditches.	1166	Triturus cristatus (Great Crested Newt)

The Wash and North Norfolk Coast SAC (inshore)		
Site description summary	Qualifying features²⁸	
The Wash is the largest embayment in the UK and is connected to the North Norfolk Coast via sediment transfer systems. Together The Wash and North Norfolk Coast form one of the most important marine areas in the UK and European North Sea coast, and include extensive areas of varying, but predominantly sandy, sediments subject to a range of conditions. Communities in the intertidal include those characterised by large numbers of polychaetes, bivalve and crustaceans. Subtidal communities cover a diverse range from the shallow to the deeper parts of the embayments and include dense brittlestar beds and areas of an abundant reef-building worm ('ross worm') Sabellaria spinulosa. The embayment supports a variety of mobile species, including a range of fish, otter Lutra lutra and common seal Phoca vitulina. The extensive intertidal flats provide ideal conditions for common seal breeding and hauling-out.	1110	Sandbanks which are slightly covered by sea water all the time
	1140	Mudflats and sandflats not covered by seawater at low tide
	1150	Coastal lagoons
	1160	Large shallow inlets and bays
	1170	Reefs
	1310	Salicornia and other annuals colonizing mud and sand
	1320	Spartina swards (Spartinion maritimae)
	1330	Atlantic salt meadows (Glaucopuccinellietalia maritimae)
	1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)
	1364	Halichoerus grypus (Grey Seal)
This SAC is part of The Wash and North Norfolk Coast European Marine Site.	1355	Lutra lutra (Eurasian Otter)
	1365	Phoca vitulina (Harbour/Common Seal)

North Norfolk Coast SPA (marine)/SAC (inshore)/Ramsar		
Site description summary	SAC qualifying features²⁹	
Important within Europe as one of the largest areas of undeveloped coastal habitat of its	1150	Coastal lagoons

²⁷ Taken from the Natura 2000 Standard data form for site UK0030133 Dew's Ponds SAC dated December 2015.

²⁸ Taken from the Natura 2000 Standard data form for site UK0017075 The Wash and North Norfolk Coast SAC dated December 2015.

²⁹ Taken from the Natura 2000 Standard data form for site UK0019838 North Norfolk Coast SAC dated December 2015.

<p>type, supporting intertidal mudflats and sandflats, coastal waters, saltmarshes, shingle, sand dunes, freshwater grazing marshes, and reedbeds. Large numbers of waterbirds use the Site throughout the year. In Summer, the Site and surrounding area are important for breeding populations of four species of tern, waders, bittern <i>Botaurus stellaris</i>, and wetland raptors including marsh harrier <i>Circus aeruginosus</i>. In Winter, the Site supports large numbers of geese, sea ducks, other ducks and waders using the Site for roosting and feeding. The Site is also important for migratory species during the Spring and Autumn.</p> <p>This SAC is part of the North Norfolk Coast European Marine Site.</p> <p>The SPA is designated for supporting a number of rare or vulnerable (Article 4.1) Annex I bird species during the breeding season. In addition, the SPA is designated for supporting regularly occurring migratory (Article 4.2) species during the breeding season and over winter.</p> <p>This SPA is part of The Wash and North Norfolk Coast European Marine Site (EMS).</p>	1220	Perennial vegetation of stony banks
	1420	Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)
	2110	Embryonic shifting dunes
	2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")
	2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")
	2160	Dunes with <i>Hippophae rhamnoides</i>
	2190	Humid dune slacks
	1355	<i>Lutra lutra</i> (Eurasian Otter)
	1395	<i>Petallophyllum ralfsii</i> (Petalwort)
	1166	<i>Triturus cristatus</i> (Great Crested Newt)
	SPA qualifying features³⁰	
	A040	<i>Anser brachyrhynchus</i> (Pink-footed Goose) (over winter)
	A050	<i>Anas penelope</i> (Wigeon) (over winter)
	A021	<i>Botaurus stellaris</i> (Bittern) (breeding)
	A675	<i>Branta bernicla bernicla</i> (Dark-bellied Brent Goose) (over winter)
	A143	<i>Calidris canutus</i> (Red Knot) (over winter)
	A081	<i>Circus aeruginosus</i> (Marsh Harrier) (breeding)
	A132	<i>Recurvirostra avosetta</i> (Avocet) (breeding and over winter)
	A195	<i>Sterna albifrons</i> (Little Tern) (breeding)
	A193	<i>Sterna hirundo</i> (Common tern) (breeding)
	A191	<i>Sterna sandvicensis</i> (Sandwich Tern) (breeding)
	WATR	Waterfowl assemblage
Ramsar qualifying features³¹		
	<p>The site is one of the largest expanses of undeveloped coastal habitat of its type in Europe. It is a particularly good example of a marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes. There are a series of brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds.</p>	

³⁰ Taken from the Natura 2000 Standard data form for site UK9009031 North Norfolk Coast SPA dated December 2015.

³¹ Taken from the Ramsar Information Sheet for North Norfolk Coast dated 13-06-08.

	Supports at least three British Red Data Book and nine nationally scarce vascular plants, one British Red Data Book lichen and 38 British Red Data Book invertebrates.
	98462 waterfowl peak count in winter (assemblages of international importance)
	<i>Sterna sandvicensis</i> (Sandwich Tern) (breeding)
	<i>Sterna hirundo</i> (Common Tern) (breeding)
	<i>Sterna albifrons</i> (Little Tern) (breeding)
	<i>Calidris canutus</i> (Red Knot) (over winter)
	<i>Anser brachyrhynchus</i> (Pink-footed Goose) (over winter)
	<i>Branta bernicla bernicla</i> (Dark-bellied Brent goose) (over winter)
	<i>Anas penelope</i> (Wigeon) (over winter)
	<i>Anas acuta</i> (Pintail) (over winter)

<i>Southern North Sea cSAC (offshore and inshore)</i>		
Site description summary	Qualifying features³²	
<p>The Southern North Sea site has been recognised as 'an area of predicted persistent high densities of harbour porpoise'. Therefore, the Southern North Sea site has been submitted to the EU and is a candidate for designation as an Inshore and Offshore SAC for the Annex II species, Harbour Porpoise.</p> <p>The Southern North Sea site extends down the North Sea from the River Tyne, south to the River Thames. The aim of the SAC is to support the maintenance of harbour porpoise populations throughout UK waters (the Southern North Sea supports higher number of porpoises compared to many other parts of their UK range). Seasonal differences in the use of the site by harbour porpoises which show the elevated densities of the species in some parts of the site compared to others during the summer and winter, have been identified. The main threats to harbour porpoise are from incidental catch, pollution and noise/physical disturbance.</p>	1351	<i>Phocoena phocoena</i> (Harbour Porpoise)

<i>Outer Thames Estuary SPA (marine)/Outer Thames Estuary Extension pSAC (marine)</i>		
Site description summary	Qualifying features³³	
This SPA is entirely marine and is designated because its habitats support 38% of the Great British population of over-wintering Red-throated Diver <i>Gavia stellata</i> , a qualifying species under Article 4.1 of the Birds	A001	<i>Gavia stellata</i> (Red-throated Diver) (over winter)

³² Taken from the Natura 2000 Standard Data Form for Site UK0030395 Southern North Sea SCI dated January 2017.

³³ Taken from the Natura 2000 Standard Data Form for Site UK9020309 Outer Thames Estuary SPA dated December 2015.

<p>Directive. The Outer Thames Estuary SPA covers vast areas of marine habitat off the east coast between Caister-on-Sea, Norfolk in the north, down to Margate, Kent in the south. The habitats covered by the SPA include marine areas and sea inlets where Red-throated Diver is particularly susceptible to noise and visual disturbance e.g. from wind farms and coastal recreation activities. Threats from effluent discharge, oil spillages and entanglement/drowning in fishing nets are significant.</p> <p>The addition of two new protected features and associated boundary amendments was consulted on in January to July 2016. The proposed extension would afford protection for Little tern and Common tern foraging areas, enhancing protection already afforded to their feeding and nesting areas in the adjacent coastal SPAs (Foulness SPA, Breydon Water SPA and Minsmere to Walberswick SPA).</p>		
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Haisborough, Hammond and Winterton SAC		
Site description summary	Qualifying features³⁴	
The site lies off the north east coast of Norfolk and contains a series of sandbanks as well as Sabellaria spinulosa reefs. Small numbers of Harbour Porpoise are regularly observed within the site boundary and a large colony of breeding Grey Seal is known adjacent to the site.	1110	Sandbanks which are slightly covered by sea water all the time
	1170	Reefs
	1364	Halichoerus grypus (Grey Seal)
	1351	Phocoena phocoena (Harbour Porpoise)

2.2 Other relevant Plans or Projects potentially affecting these sites

- 2.2.1 In addition to the potential impact that Greater Norwich Local Plan may have upon the nearby European sites described above, other plans/documents/guidance may also impact upon these sites, in particular the plans of the neighbouring local planning authorities. The most relevant documents are likely to be those concerned with planning policy and infrastructure provision.
- 2.2.2 The neighbouring local authorities as well as those that contain European sites within the Zone of Influence of the Greater Norwich Growth Area are listed below. Their planning policy documents, including adopted and emerging Local Plans are likely to be the most relevant when considering potential for cumulative impacts upon European sites.
- Broads Authority
 - Breckland Council
 - Borough Council of King's Lynn & West Norfolk
 - North Norfolk District Council
 - Great Yarmouth Borough Council
 - East Suffolk Council
 - Mid Suffolk District Council

³⁴ Taken from the Natura 2000 Standard data form for site UK0030369 Haisborough, Hammond and Winterton SAC dated December 2015.

- West Suffolk Council
- South Holland District Council
- Boston Borough Council
- East Lindsey District Council
- Norfolk County Council – Minerals site specific allocations DPD
- South Norfolk Village Clusters Housing Site Allocations Local Plan in progress. This plan will include sites for a minimum of 1,200 homes in addition to the 1,392 already committed in the village clusters.

2.2.3 Plans or projects connected with infrastructure planning and management also have potential to impact European sites, whether alone or in combination. Such plans are listed below and will need to be considered further in the report.

- Greater Norwich Water Cycle Study
- Green Infrastructure Strategy (2007) and Green Infrastructure Delivery Plan (2009)
- River Basin Management Plan for the Anglian Water Basin District (2015)
- North East Norwich Growth Triangle Green Infrastructure Delivery Plan (2016)
- East Broadland Green Infrastructure Delivery Plan (2015)
- West Broadland Green Infrastructure Project Plan (2018)
- Norwich River Wensum Green Infrastructure Strategy (not currently available)
- Green Infrastructure sections of the Wymondham Area Action Plan (2015)
- Green Infrastructure sections of the Long Stratton Area Action Plan (2016)

2.2.4 A Norwich Western Link Road is proposed by Norfolk County Council which is working towards a planning application and subsequent construction. Greater Norwich Local Plan recognises the existence of the proposed road but does not promote the road or take part in decision-making regarding the road's construction. See <https://www.norfolk.gov.uk/roads-and-transport/major-projects-and-improvement-plans/norwich/norwich-western-link/> for further details.

2.2.5 Anglian Water's 2019 Water Resource Management Plan outlines how Anglian Water will maintain a sustainable balance between water supplies and demand over the next 25 years. It describes how it proposes to maintain that balance by investing in demand management – metering and water efficiency for example – and developing new water resources. No new boreholes or increase in abstraction from existing boreholes are explicitly proposed.

2.2.6 Anglian Water's Long Term Water Recycling Plan (September 2018) sets out a long term strategy to identify the need for further investment by Anglian Water at existing water recycling centres or within foul sewerage catchments to accommodate the anticipated scale and timing of growth. Growth in Greater Norwich as well as in the remainder of the area served by Anglian Water is included in this plan.

3 Likely significant effects of Greater Norwich Local Plan proposed allocations for Gypsy and traveller sites on European sites

3.1 The sites being assessed

3.1.1 The proposed allocations for Gypsy and Traveller sites are included in Appendix 2. The allocations are listed in the table below. For completeness of assessment, a reasonable alternative site, a contingency site and unreasonable alternative sites are also included.

Reference	Address	Parish	Number of proposed pitches (approx.)
GNLP5004	Land off Buxton Road, Eastgate	Cawston	4
GNLP5005	Wymondham Recycling Centre off Strayground Lane	Wymondham	2
GNLP5009	Hockering Lane	Bawburgh	6
GNLP5014	Broad location south of A47 improvements	North Burlingham	15
GNLP5019	Woodland Stable, Shortthorn Road	Stratton Strawless	8
GNLP5020	Romany Meadow, The Turnpike	Carlton Rode	6
GNLP5021	The Old Produce, Holt Road	Horsford	6
GNLP5022	The Oaks	Foulsham	5
GNLP5023	Strayground Lane	Wymondham	10
GNLP5024	Ugate Street	Carleton Rode	4
GNLP5013 (Reasonable alternative)	Depot	Ketteringham	10
GNLP0581/2043	Contingency Site access from New Road	Costessey	18
VCHAP GT Site 1 and VCHAP GT site 2 (unreasonable alternatives)	Grove Farm, Middle Road	Denton	
VCHAP GT site 3 (unreasonable alternative)	London Road, Sutton	Wymondham	

3.2 Necessary or connected with management of European sites?

3.2.1 It is considered that the Gypsy and Traveller site proposed allocations are not necessary for, or connected with, the nature conservation management of any European sites.

3.3 Likely significant effects which might arise from policies and allocations within Greater Norwich Local Plan

3.3.1 There are a number of potential impacts arising from policies and allocations within the Local Plan. These include

- Increased recreational pressure: trampling of vegetation or disturbance to birds, or providing difficulties in site management for example.
- Increased pressure on water resources: The new homes and businesses would require a reliable source of drinking water which could affect wetlands from increased abstraction.
- Pollution impacts: Waste water discharge from new developments, including foul water discharges may reduce the water quality of rivers or wetlands.
- Pollution impacts: Additional traffic movements increasing emissions to air such as Nitrogen oxides NO_x and Sulphur dioxide SO₂ which have the potential to result in adverse impact upon vegetation or water quality.
- Increased urbanisation of the countryside: predation by cats, fly-tipping, increase in arson, vandalism of European site infrastructure such as fences, disturbance of livestock, etc.

3.3.2 There are no direct land-take impacts on any European site in the allocations.

3.3.3 Impacts arising from any of the above factors upon a designated European site could occur result from development of a single large housing site, for example in the immediate vicinity of Norwich; or through a combination of dispersed developments including the Gypsy and Traveller sites elsewhere in the Growth Area. Some European sites would be more vulnerable to recreational pressure whilst others might be more sensitive to other types of impacts. In isolated incidences, a European designated site may be sensitive to several different types of impact, for example both recreational pressure and an impact upon water resources.

3.3.4 There may be cumulative effects of a large number of smaller developments. For example, the recreational impact on European sites of a small residential development may in itself have imperceptible impact, but the total recreational impact of a number of residential developments could be significant.

3.4 Conclusion of assessment of likely significant effect ('screening' stage)

3.4.1 It is concluded that the proposed allocations for Gypsy and Traveller sites, as part of the Regulation 19 Submission Draft Local Plan, may be likely to have a significant effect upon one or more European sites. The Local Plan is not necessary for, or connected with, nature conservation management of European sites. It is concluded that an appropriate assessment of impacts is necessary.

4 Appropriate Assessment of proposed Gypsy and Traveller sites

4.1 Introduction to the Appropriate Assessment

- 4.1.1 This appropriate assessment considers impacts of the Gypsy and Traveller sites individually and collectively, and in the context of the whole Greater Norwich Local Plan. Cumulative impacts with other plans or projects are then considered.

4.2 Assessment of construction impacts on any European site

- 4.2.1 No allocations are within or close to any European site, so there would not be any construction impacts such as land-take or disturbance from the construction activities.

4.3 Increased recreational pressure: potential impacts.

- 4.3.1 Recreational use of a European site has the potential to:
- Cause damage to soils and vegetation through trampling and erosion;
 - Cause disturbance to sensitive species, particularly ground-nesting birds and wintering wildfowl.
 - Cause eutrophication as a result of dog fouling;
 - Cause littering, giving rise to potential animal mortality, nutrient enrichment and small-scale pollution
 - Prevent appropriate management or exacerbate existing management difficulties, for example grazing being restricted.
- 4.3.2 Different types of European sites are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex. Recreational pressure is likely to be generated by an increase in residents associated with the new housing but less so for employment development.
- Trampling pressure and mechanical/abrasive damage*
- 4.3.3 Most types of terrestrial European site can be affected by trampling, which in turn causes soil compaction and erosion, depending upon soil conditions, or changes to the vegetation. Motorcycle scrambling and off-road vehicle use can cause serious erosion, as well as disturbance to sensitive species but significant impacts can also arise from walkers, cyclists and horses, resulting in reduction in vegetation cover.
- 4.3.4 Studies in a variety of vegetation types have shown that low-growing, mat-forming grasses appear most resistant to trampling, while tall forbs (non-woody vascular plants other than grasses, sedges, rushes and ferns) were considered least resistant. Cover of hemicryptophytes and geophytes (plants with buds below the soil surface) was heavily reduced after two weeks of trampling pressure, but had recovered well after one year and as such these were considered to have resilience in respect of trampling pressure. Chamaephytes (plants with buds above the soil surface) were least resilient to trampling.
- 4.3.5 In practice this can mean changes to the vegetation community compromising the viability of taller growing fragile plant species in favour of species which have a leaf rosette which lies flat to the ground and often leading to a loss of rarer, more vulnerable plant species in favour of more robust, common species.
- 4.3.6 Dune habitat and other coastal ecosystems, heathlands and wetlands are amongst the most sensitive to trampling and erosion, whereas woodlands and meadowlands are more robust.
- Eutrophication*
- 4.3.7 Walkers with dogs contribute to pressure on sites through nutrient enrichment via dog fouling and the total volume of dog faeces deposited on sites can be surprisingly large. For example, at

Burnham Beeches National Nature Reserve over one year, Barnard³⁵ estimated the total amounts of urine and faeces from dogs as 30,000 litres and 60 tonnes respectively. Nutrient-poor habitats such as heathland, chalk grassland and certain types of fen vegetation are particularly sensitive to the fertilising effect of inputs of phosphates, nitrogen and potassium from dog faeces. Most impacts occur close to paths.

Disturbance

- 4.3.8 The deleterious effect of disturbance on birds stems from the fact that the birds are expending energy unnecessarily and the time they spend responding to disturbance is time that is not spent feeding. This can adversely affect the 'condition' and ultimately survival of the birds. In addition, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites, as they have to sustain a greater number of birds. Disturbance of ground-nesting birds may result in the bird leaving the nest and exposing the eggs or chicks to predators or bad weather. Disturbed areas become unavailable for nesting even though the habitat may otherwise be suitable.
- 4.3.9 Walkers with dogs have potential to cause greater disturbance to fauna as dogs are less likely to keep to marked footpaths and move more erratically and this has been shown by number of studies, with birds flushing more readily, more frequently, at greater distances and for longer periods of time when dogs are present, particularly off-lead.
- 4.3.10 Where increased recreational use is predicted to cause adverse impacts on a site, avoidance and mitigation should be considered. Avoidance of recreational impacts at European sites involves location of new development away from such sites or provision of an alternative recreational resource.

Site management

- 4.3.11 Public access can cause conflict between people and habitats in terms of compromising effective site management. Dogs, rather than people, tend to be the cause of many management difficulties, notably by worrying grazing animals or necessitating moving cattle away from footpaths.

4.4 European sites unlikely to be affected by recreational impacts

- 4.4.1 It is not likely that there would be a significant effect from recreational impacts on seven European sites. These sites are tabulated below, and the reasons why recreational impact is considered unlikely are given in the second column.

European site	Reason for no recreational impact
Paston Great Barn SAC	Small site with no public access
Overstrand Cliffs SAC	More-or-less vertical cliff which, although open to the public, in practice is rarely walked upon
Dews Pond SAC	Small site with no public access
Southern North Sea cSAC	Offshore site with no pedestrian access and low levels of dispersed recreational boating activity
Outer Thames Estuary SPA / pSAC extension	Offshore site with no pedestrian access and low levels of dispersed boating activity
Haisborough, Hammond and Winterton SAC	Offshore site with no pedestrian access and low levels of dispersed boating activity
River Wensum SAC	Aquatic interest is not affected by bankside recreation and public access to the river is in any case very limited. Boating is very limited in the SAC but encouraged downstream beyond the SAC in Norwich

³⁵ Barnard, A. (2003) Getting the Facts - Dog Walking and Visitor Number Surveys at Burnham Beeches and their Implications for the Management Process. *Countryside Recreation*, 11, 16 - 19

4.5 European sites potentially affected by recreational impacts

4.5.1 European sites potentially affected by recreational impacts are tabulated below. Distances from development at which recreational impacts might occur are summarised from Panter and Liley's 2016 visitor study in Norfolk³⁶. Most visits are for dog walking or walking with no dog.

European site	Potential recreational impact
Norfolk Valley Fens SAC	<p>These are a group of small scattered fens, some with limited value for walking / dog walking except for very local users, and varied access arrangements and parking facilities. Those fens with public access but no car park are likely to be visited by those within 1km only.</p> <p>Buxton Heath, Holt Lowes and Marsham Heath all have car parks, and some other sites might have informal roadside parking even if no car park exists. The median distance travelled by car to these sites is 3 – 6km although few people resident in the area travel further than 2km.</p>
The Broads SAC / Broadland SPA/Ramsar	<p>Many of the habitats present in the designated sites of the broads are wet or very wet and unlikely to be favoured for recreation, with public usage almost entirely restricted to well managed nature reserves which feature boat-trails, footpaths and boardwalks. Most car parks serving the Broads / Broadland are located in villages, where walking is not the prime attraction, or associated with nature reserves where visitors are well managed. Recreational impact might occur where there is a large car park providing access to habitat used by SPA birds where a nature conservation organisation is not managing the land as a nature reserve, but these locations are rare. Such localised examples might, for example include minor disturbance to bird species on Halvergate by people walking out from public car parks in Yarmouth (anecdotal evidence), but such usage is restricted for the most part to long-distance walkers along the footpath and there is no access to habitats at marsh level. Although few people may walk along the riverside adjacent to Halvergate Marshes, each walker could create significant disturbance (Andrea Kelly, meeting on 3rd April 2018). Other recreational impact would occur where development is within walking distance of a Broadland site, such as in adjacent or close-by villages, with, again, access being restricted to floodbank footpaths.</p> <p>Where people drive from home to a car park on the Broads, the median distance travelled is up to 28km although few people resident in the area travel further than 5km.</p> <p>The number of boats on the Broads is controlled by the Broads Authority, a Competent Authority under the Habitats Regulations. Boat numbers are out of the control of the Greater Norwich Development Partnership. Currently the Broads Authority does not limit the number of boat licences it issues, and the number of licences is declining.</p>
Breydon Water SPA / Ramsar	<p>Although a 'coastal' site, this is not an attractive site for family recreational purposes as access requires either a boat trip or a walk from Great Yarmouth Railway Station or from public parking within the town in order to gain access it. There are very limited circular walk opportunities, the only option including crossing and then walking alongside the busy A47 for a short distance. There</p>

³⁶ Panter, C., & Liley, D. (2016). Visitor Surveys at European Protected Sites across Norfolk during 2015 and 2016. Footprint Ecology

European site	Potential recreational impact
	are few visitors, who almost all come by car, and the median distance travelled is 12km although few people resident in the area travel further than 5km.
Great Yarmouth North Denes SPA	This site has an attractive beach in association with other coastal amenities. Car parks, including free beach-front parking, are readily available but appear to be used by holiday-makers because the median distance travelled by those who come from home is just 1km.
Winterton – Horsey Dunes SAC	The site has an attractive beach and circular walk options including a long-distance trail taking in the fragile dune system, with other major attractions including the seal colony. Car parks are readily available. Visitors do not keep to paths and can walk anywhere on or behind the dunes. The median distance to various parts of this site is up to 44km at Horsey Gap although visitor numbers are very low above a distance of 5km from home.
Waveney and Little Ouse Valley Fens SAC	<p>The Redgrave and South Lopham Fen component of the SAC is attractive to many visitors, and visitors are actively encouraged by the landowner and site manager, Suffolk Wildlife Trust. A modest increase in visitors would be acceptable as paths through the site are routed so as to avoid vulnerable habitats. Sensitive vegetation away from the path network is in any case avoided by visitors as usually wet or uncomfortable to walk on.</p> <p>Other component fens are small, and scattered fens, with limited value for walking / dog walking except for very local users, and varied access arrangements and parking facilities. Where parking exists, there is usually a managed access scheme in place. Those fens with public access are likely to be regularly visited by those living within 2km, similar to the Norfolk Valley Fens. There is no visitor data.</p>
Redgrave and South Lopham Fen Ramsar	The Redgrave and South Lopham Fen component of the SAC is attractive to many visitors, and visitors are actively encouraged by the landowner and site manager, Suffolk Wildlife Trust. A modest increase in visitors would be acceptable as paths through the site are routed so as to avoid vulnerable habitats. Sensitive vegetation away from the path network is in any case avoided by visitors as usually wet and uncomfortable to walk on. As above, the fen with public access is likely to be regularly visited by those within 2km only, similar to the Norfolk Valley Fens. There is no visitor data.
Breckland SPA / SAC	<p>Research has shown that even at honeypot sites, nesting of woodlark and nightjar continues. Modest increases in recreation are unlikely to affect these species. Nesting sites for stone-curlew are either closed for public access (heathland sites) in the nesting season, or are on farmland with no public access so disturbance would not occur. No likely recreational effect except in circumstances where a large increase in visitors to a little-disturbed part of the SPA would occur such as a large allocation adjacent to Breckland.</p> <p>Trampling of SAC vegetation is generally low, with visitors from distance often visiting a few honeypot visitor centres outside the SAC e.g. High Lodge visitor centre, West Stow Heath Country Park.</p> <p>Median distances travelled by people coming from home vary from 23 – 47km but visitor rates are low above 10km distant.</p>

European site	Potential recreational impact
Benacre to Easton Bavents SAC / SPA	Despite being remote from towns and villages, and with limited parking, this site is (in the experience of the report authors) already very popular with, and vulnerable to disturbance effects from visitors travelling from Norwich and Broadland towns and villages. The visitors then use several local circular walking routes, including a long-distance trail, which take in sections of coastal reedbed, heathland and dune systems. Some increase in recreational effect could occur as a consequence of major development in the southern Broads area or from site allocations in close proximity. There is no data on distance travelled but it could be reasonably similar to other eastern coastal sites with a 10km threshold distance.
The Wash and North Norfolk Coast SAC	The site is an attractive and accessible coast designated for marine and intertidal habitats / species. Car parks are readily available. The median distance travelled from home varies from 2km to 30km for most parts of this site, with Morston (S) having a median distance of 41km; but visitor rates are lower for residents living over 14km distant.
North Norfolk Coast SPA / SAC / Ramsar	The site is a very attractive and accessible coast with a range of habitats and landscapes, and including a variety of circular walk options and a long-distance path. Car parks are readily available. Car parks are readily available. The median distance travelled from home varies from 2km to 29km for most parts of this site, with Morston (S) having a median distance of 41km but visitor rates are very low for residents beyond 14km.

4.5.2 The Green Infrastructure and Recreational Impact Avoidance Strategy (GIRAMS) uses this data to set impact risk zones for each European site.

4.5.3 Using the Local Plan documents available at the time, Panter and Liley (2016) estimated the increase in visitor numbers from the housing allocated at that time. The Local Plan documents used were

- Broadland District Council Site Allocations DPD (Adopted 2016)
- Broadland District Council Growth Triangle Area Action Plan (Adoption Imminent at that time)
- Norwich City Site Allocations Plan (Adopted 2014)
- South Norfolk Council Site Allocations and Policies Document (Adopted 2015)
- South Norfolk Council Wymondham Area Action Plan (Adopted 2015)
- Breckland Site Specific policies and Proposals (Adopted 2012)
- North Norfolk Site Allocations (Adopted 2011)
- Great Yarmouth Borough Council, Awaiting Development Policies and Site Allocations DPD, Previous allocations used (2001)
- Borough Council of King's Lynn and West Norfolk Preferred Options for Detailed Policies and Sites 2013, not yet adopted at that time

4.5.4 Key findings relating to housing change, links to allocated new housing at that time and implications included:

- A 14% increase in access by Norfolk residents to the sites surveyed (in the absence of any mitigation), as a result of new housing during the current plan period.

- The increase will be most marked in the Brecks, where an increase of around 30% was predicted. For the Broads the figure is 14%; 11% for the East Coast; 9% for North Norfolk; 15% for Roydon & Dersingham; 28% for the Valley Fens and 6% for the Wash (note these figures relate to the surveyed access points only and to visits by Norfolk residents).

- 4.5.5 With a median dog walk length of around 3km, it is considered that a housing allocation within 1km of a European site access point (i.e. a site freely available for public entry / use) is likely to result in an increased visitor use of that European site, especially for regular dog walking, by people walking to the European site. Housing allocations greater than 1km distant are less likely to generate increased visitor use from people walking to that site, and above 1.5km distance there is likely to be little or no increased visitor use by people walking to the entry point. European sites with car parking provision would be likely to experience impacts resulting from development within a larger radius as described in the table above.
- 4.5.6 For parts of the North Coast, the Broads, and parts of the East Coast, the links between an increase in local housing and recreation impacts are less clear as these sites attract a high number of visitors coming from a wide geographical area, both inside and outside Norfolk. There are therefore likely to be pressures from overall population growth both from within the county and further afield.
- 4.5.7 Visitor access to European sites by the Greater Norwich Local Plan allocations compared to the 2016 study would be an increase in visitors because of the additional allocations in the GNLP and also bearing in mind completed housing development since the study. The distribution of the allocations in Greater Norwich are such that the European sites likely to have the larger increases in visitor numbers would be The Broads / Broadland, Winterton – Horsey Dunes, Norfolk Valley Fens (Marsham Heath), and North Norfolk Coast SPA / SACs / Ramsar.

4.6 Increased pressure on water resources

- 4.6.1 The new homes would require a reliable source of drinking water. Proposed employment facilities would need a source of water for the domestic needs of the employees, and might also need water for manufacturing or other industrial processes such as washing.
- 4.6.2 The east and southeast of England have been identified by Environment Agency in 2013 as a region which is currently experiencing considerable pressure on water resources with the deficit situation within both the Essex and Suffolk Water and the Anglian Water areas being considered to be 'serious' at the present time due to limited water resources and high levels of demand. This situation is unchanged across 4 different future growth and climatic scenarios³⁷ and the study concluded that both the Anglian Water area and Essex and Suffolk Water areas are currently experiencing 'Serious Stress', this being the highest level.
- 4.6.3 The Environment Agency has advised the Secretary of State that the areas classified as under 'Serious Stress' should be designated as 'Areas of serious water stress' for the purposes of Regulation 4 of the Water Industry (Prescribed Condition) Regulation 1999 (as amended).
- 4.6.4 Anglian Water (AW), in its 2019 Water Resources Management Plan has identified the relevant Resource Zones (RZ) to this Greater Norwich Local Plan area as being Norwich and the Broads, Norfolk Rural, and the North Norfolk Coast. The AW assessment takes into account planned and predicted growth and climate change. All Resource Zones are forecast to be in deficit (i.e. not enough water being available) to 2045 prior to measures in the plan intended to prevent the deficit being implemented.
- 4.6.5 Pressure on water resources resulting in reduction in water levels or flow in groundwater-fed wetlands, and in streams, rivers and waterbodies would be a likely consequence of increased water demand requiring greater water abstraction from groundwater or surface water. Surface water abstraction could have a direct impact upon water levels and stream flow; groundwater abstraction would potentially lead to reduced flows in any watercourses which derive a significant proportion of their water from spring flow and also reduced surface and sub-surface flow through

³⁷ Environment Agency and Natural Resources Wales. 2013. Water Stressed Areas Final Classification
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/244333/water-stressedclassification-2013.pdf

fen and mire habitats. Wetland European sites which are dependent upon a groundwater source may become too dry to support special interest features.

- 4.6.6 Water resources in the region are already under considerable pressure. For example, Environment Agency's Review of Consents work in 2009 resulted in the closure of a Public Water supply borehole in the vicinity of Sheringham and Beeston Regis Commons SSSI (part of the Norfolk Valley Fens SAC). A Public Water Supply borehole at Ludham in the vicinity of Catfield Fen (part of the Broads SAC) was closed in March 2021 to prevent further negative impact upon the flora and fauna of this groundwater-fed site³⁸.
- 4.6.7 Abstraction at a future major water supply borehole, could potentially give rise to an impact upon designated groundwater dependant wetland sites more than 10km away, depending upon the depth of the borehole, the nature of the strata from which abstraction is taking place and its relationship with local wetland sites. It is assumed that any future borehole might be as much as 10km from any proposed development location.
- 4.6.8 Depleted riverine flows may also result in an increased number, and severity of, saline incursion events and will also increase the concentration of pollutants and nutrients possibly to above set targets. Ground water abstraction from near-surface aquifers can also lead to saline incursion into the aquifer resulting in damage to coastal wetland sites, which receive a proportion of their irrigating water from groundwater.
- 4.6.9 A new body, Water Resources East (WRE) has been set up to address water demand deficit. It brings together partners from a wide range of industries including: water, energy, retail, the environment, land management and agriculture, to work in collaboration to manage these challenges, building on the area's unique opportunities for sustainable future growth, and pioneering a new approach to managing water resources.
- 4.6.10 Anglian Water's 2019 Water Resource Management Plan outlines how Anglian Water will maintain a sustainable balance between water supplies and demand over the next 25 years. It describes how it proposes to maintain that balance by investing in demand management – metering and water efficiency for example – and developing new water resources. Anglian Water's 2019 Water Resources Management Plan indicates that it will manage water resources by 'managing demand' from existing and proposed customers (ie supplying less water per customer) and by transferring water from other areas, with no increase in abstraction and no new abstractions. No new boreholes or increase in abstraction from existing boreholes are explicitly proposed and so there would be no impact on the water resources available to European sites.

4.7 Pollution impacts: Waste water discharge

- 4.7.1 Reduction of water quality, from increased discharges of sewage and surface water drainage, or from pollution incidents, either during, or after, construction has potential to impact upon riparian and wetland European sites downstream of a settlement. The types of habitat which might be sensitive to that change would depend very much upon the nature and scale of the impact.
- 4.7.2 It is assumed that waste water discharge from developments, including foul water discharges, would be treated, however may give rise to elevated levels of nitrates, and, depending upon whether phosphate stripping equipment is in place, phosphate, downstream of the discharge point. There is also potential for chemical spillages, or STW failure, to lead to discharge of untreated effluent.
- 4.7.3 Anglian Water is currently in the process of finalising a Long Term Water Recycling Plan which will set out a long term strategy to identify the need for further investment by Anglian Water at existing water recycling centres or within foul sewerage catchments to accommodate the anticipated scale and timing of growth. Anglian Water has a statutory duty to prevent pollution from sewage, so whilst there is a theoretical risk from water recycling centres there is also a mechanism in place to prevent the risk. Permits issued by Environment Agency are set for each water recycling centre and are specific to ensure sufficient water quality at the discharge point.

³⁸ <https://www.anglianwater.co.uk/news/anglian-water-completes-scheme-to-protect-unique-norfolk-environment/>

- 4.7.4 The impacts of water pollution would depend entirely on the nature of the effluent or chemicals being released and whether the release is slow or sudden, but may potentially result in consequences such as fish kill, extinction of invertebrate taxa, which are more sensitive to pollution or changes in Biological Oxygen Demand (BOD), loss of taxa of water plants which require low nutrient levels or eutrophication of floodplain fen habitats. These impacts could potentially affect Annex II European designated species such as white clawed crayfish, Desmoulins whorl snail, brook lamprey or bullhead, directly or indirectly and may also result in the loss of Annex I habitats such as *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation.

4.8 Pollution impacts: Additional traffic movements increasing emissions to air

- 4.8.1 The main airborne pollutants of concern in the context of their potential to give rise to adverse impacts upon European sites are oxides of nitrogen (NO_x), ammonia (NH₃) and sulphur dioxide (SO₂).
- 4.8.2 The primary pollutants SO₂, NO and NO₂ are oxidised in the atmosphere to form SO₄²⁻ and NO₃⁻ respectively, while NH₃ reacts with these oxidised components to form NH₄⁺ (ammonium). These pollutants known as aerosols can travel long distances, and together with primary pollutants can be deposited in the form of wet or dry deposition³⁹.
- 4.8.3 The Air Pollution Information System (APIS) provides a useful summary of the main pollutants, the effects they have on vegetation and other features for which European sites might be designated. Concentrations and deposition of air pollutants are assessed against a range of criteria to protect both human health and the environment. Environmental criteria include critical loads⁴⁰ for nitrogen deposition (kg Nitrogen ha⁻¹ year⁻¹) and acid deposition and critical levels for ammonia (µg m⁻³), sulphur dioxide (µg m⁻³), nitrogen dioxide (µg m⁻³), and ozone (ppb hours). There are some critical loads for heavy metals but these are not currently used to assess impacts. There are no critical levels or loads for other pollutants but in some cases there are other assessment criteria such as environmental quality standards (EQS) and environmental assessment levels (EAL) which are not relevant to the present study.
- 4.8.4 NO_x can have a directly toxic effect upon vegetation, but in addition to this, higher concentrations of NO_x or ammonia within the atmosphere will lead to greater rates of nitrogen deposition to soils, leading to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats. Most SAC sites are designated for the vegetation they support, and this is generally vegetation which would respond adversely to nutrient input, including increased input of Total Nitrogen. Both SO₂ and NO_x can lead to acid deposition and acidification of vegetation.
- 4.8.5 Housing development would be likely to give rise to increased levels of NO_x arising from increased vehicle movements. Ammonia release is generally associated with increased numbers of agricultural livestock and certain industrial processes, including the production of energy from waste, and is unlikely to arise as a direct consequence of the Great Norwich Growth Plan.
- 4.8.6 The table below summarises the main airborne pollutants and discusses the mechanisms by which these might potentially impact upon European sites.

Pollutant	Source	Potential effects on European sites	Significance
Sulphur Dioxide SO ₂	SO ₂ emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil,	Both wet and dry deposition of SO ₂ acidifies soils and freshwater, and consequently alters the species composition of vegetation and hence associated animal communities. Some habitats will be more at risk than	It is not anticipated that the development of the Growth Area would necessitate construction of new power-producing facilities and the demographic of local industry is unlikely to shift towards the types of

³⁹ <http://www.apis.ac.uk/starters-guide-air-pollution-and-pollution-sources>

⁴⁰ http://www.apis.ac.uk/overview/issues/overview_Cloudslevels.htm

Pollutant	Source	Potential effects on European sites	Significance
	and to a lesser extent, motor vehicles.	others depending on soil type and buffering capacity. The significance of impacts depends on levels of deposition and the sensitivity of the habitat.	processes which would result in high levels of combustion. Total SO ₂ emissions have decreased substantially in the UK since the 1980s and SO ₂ deposition is not considered to have potential to give rise to significant effects on vegetation and is not considered to be a significant factor in the context of this study
Ammonia (NH ₃)	Ammonia is released following decomposition of animal wastes. Levels will increase with expansion in numbers of livestock and certain specific industrial processes, including the production of energy from waste	Ammonia can give rise to an adverse effect on vegetation through deposition and the consequent eutrophication of vegetation, leading to changes in the species composition of vegetation and hence associated animal communities. Some habitats will be more at risk than others depending on the ability of the vegetation type to 'absorb' nutrients without adverse change taking place.	The nature of the industries associated with employment allocations in the Greater Norwich Growth Area are as yet uncertain, do not provide a clear source of ammonia emissions. Significant release of NH ₃ is unlikely to arise as a direct consequence of the Great Norwich Growth Plan and is not considered to be a significant factor in the context of this study.
Nitrogen oxides (NO _x)	Nitrogen oxides (nitrates (NO ₃), nitrogen dioxide (NO ₂) and nitric acid (HNO ₃)) are produced through combustion processes. About one quarter of the UK's emissions are from power stations, one-half from motor vehicles, and the rest from other industrial and domestic combustion processes.	Deposition of nitrogen oxides can lead to both soil and freshwater acidification. Some habitats will be more at risk than others depending on soil type and buffering capacity. Mosses, liverworts and lichens, which received their nutrients directly from the atmosphere are particularly vulnerable to elevated NO _x levels and grey dune and heathland ecosystems are perhaps the most sensitive. In addition, NO _x can cause eutrophication of soils and water. This alters the species composition of plant communities and hence associated animal communities. Some habitats will be more at risk than others depending on ability of the vegetation type to 'absorb' nutrients without adverse change taking place.	It is not anticipated that the development of the Growth Area would necessitate construction of new power-producing facilities, but domestic and commercial heating and vehicle emissions could potentially be substantial given the number of proposed homes. The significance of impacts will depend on the background level, levels of deposition and the sensitivity of the habitat. NO _x contributes to total N deposition – see below. Traffic-generated air pollution operates close to roads but falls off to almost nothing at a distance of 200m from the road ⁴¹ .

⁴¹ <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol11/section3/ha20707.pdf>

Pollutant	Source	Potential effects on European sites	Significance
Total Nitrogen (N)	The pollutants that contribute to nitrogen deposition derive mainly from NO _x and NH ₃ emissions.	Species-rich plant communities with relatively high proportions of slow-growing perennial species, bryophytes and lichens are most at risk from N eutrophication, due to its promotion of competitive and invasive species which can respond readily to elevated levels of N at the expenses of slow-growing species. The eventual impacts include changes in species composition, reduction of plant diversity, loss of sensitive species and an increased rate of succession in wetland ecosystems.	The significance of impacts will depend on levels of deposition and the sensitivity of the habitat, however background levels of Total N deposition across east Norfolk and north Suffolk is typically already within the critical load range for many of the sensitive habitats in the area ⁴² and in some instances exceed the upper end of the range ⁴³ . Total N is considered to be a potential significant factor in the context of this study for developments in close proximity to European sites with nutrient sensitive vegetation. Across the UK there has been a continued decline in Nitrogen Oxides since 1974, with emissions in 2017 being around half those in 2000 ⁴⁴ .
Ozone (O ₃)	A secondary pollutant generated by photochemical reactions from NO _x and volatile organic compounds (VOCs). These are mainly released by the combustion of fossil fuels. Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.	Concentrations of O ₃ above 40 ppb can be toxic to wildlife. Increased ozone concentrations may lead to a reduction in growth and altered species composition in seminatural plant communities.	Background levels in the region are typically below 30ppb ⁴⁵ . Significant combustion of oil and coal is unlikely to arise as a direct consequence of the Great Norwich Growth Plan and O ₃ is not considered to be a significant factor in the context of this study.

- 4.8.7 The distance over which additional traffic movements might give rise to emissions to air such as Nitrogen oxides NO_x which have the potential to result in adverse impact upon vegetation or water quality is closest to the road network and that, for NO_x, levels have fallen to the background level within 200m of the road.
- 4.8.8 A Natural England literature search study⁴⁶ into the effects of specific road transport pollutants, found that, combining evidence from two fumigation experiments and a transect study suggests that NO_x is the key phytotoxic component of exhaust emissions. While no new papers relating to

⁴² <http://www.pollutantdeposition.ceh.ac.uk/content/nitrogen-compounds>

⁴³ <http://www.apis.ac.uk/search-location>

⁴⁴

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/778483/Emissions_of_air_pollutants_1990_2017.pdf

⁴⁵ <https://uk-air.defra.gov.uk/assets/documents/reports/aeqeg/aeqeg-ozone-report.pdf>

⁴⁶ <https://publications.naturalengland.org.uk/file/5064684469223424>

roadside buffer zones were identified from recent literature, one group of researchers noted that based on their data and the literature, new road building and road expansion should avoid a buffer zone of up to 100–200m from sensitive sites, particularly those where bryophytes are an important component of habitats.

4.8.9 It is therefore surmised that the area affected by traffic emissions to air can be assumed to closely follow existing road corridors within the Growth Area and it is also assumed that any future road construction would be largely within the Growth Area.

4.8.10 The vegetation communities occurring within the study area and potentially at risk from atmospheric nitrogen deposition are as follows. It can be seen that dune systems are particularly vulnerable.

Habitat type (EUNIS code)	Critical load (CL) range (kgN/ha/yr)
Marine habitats	
Mid-upper saltmarshes (A2.53)	20-30
Pioneer & low-mid saltmarshes (A2.54 and A2.55)	20-30
Coastal habitats	
Shifting coastal dunes (B1.3)	10-20
Coastal stable dune grasslands (grey dunes) (B1.4)	8-15
Coastal dune heaths (B1.5)	10-20
Moist to wet dune slacks (B1.8)	10-20
Inland surface waters	
Dune slack pools (permanent oligotrophic waters) (C1.16)	10-20
Permanent dystrophic lakes, ponds and pools (C1.4)	3-10
Mire, bog and fen habitats	
Valley mires, poor fens and transition mires (D2)	10-15
Rich fens (D4.1)	15-30
Grasslands and tall forb habitats	
Non-Mediterranean dry acid and neutral closed grassland (E1.7)	10-15
Low and medium altitude hay meadows (E2.2) (includes floodplain grazing marsh)	20-30
<i>Molinia caerulea</i> meadows (E3.51)	15-25
Heathland, scrub & tundra	
<i>Erica tetralix</i> dominated wet heath (lowland)	10-20
Dry heaths (F4.2)	10-20

Habitat type (EUNIS code)	Critical load (CL) range (kgN/ha/yr)
Forest habitats (general):	
Broadleaved woodland (G1)	10-20

- 4.8.11 Nitrogen oxide pollution could affect European sites within 200m of new roads, existing roads where daily traffic flows will change by 1,000 AADT or more; or Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more; or daily average speed will change by 10 km/hr or more; or peak hour speed will change by 20 km/hr or more.

4.9 Increased urbanisation of the countryside

- 4.9.1 This class of impacts is closely related to recreational pressure in the sense that both types of impact arise from having an increased human population close to protected wildlife sites. The list of such impacts is extensive, but some of the more significant ones include the following:

Predation impacts from domestic pets

- 4.9.2 Predation by domestic cats can potentially affect small mammals, birds, amphibians and reptiles and results in injury, mortality and elevated levels of disturbance.
- 4.9.3 A survey undertaken in 1997 found that nine million British cats brought home 92 million prey items over a five-month period⁴⁷.
- 4.9.4 A large proportion of domestic cats are found in urban situations, and thus increasing urbanisation is likely to lead to increased cat predation. Domestic cats will potentially range up to 5km from home, although 60% of forays are over a distance of less than 400m⁴⁸ and the typical average distance for hunting excursions is around 375m⁴⁹ according to 20th century studies.
- 4.9.5 There have been two studies of cat ranging behaviour published in more recent years. These used GPS collars on cats in Berkshire/Hampshire villages⁵⁰ and in Reading⁵¹. Both studies found that cats within the village and in urban / suburban areas of Reading has smaller home ranges than expected, with most cats in the villages travelling a mean distance of 64.9m into natural habitats around the village, with some cats ranging over 300m into these areas. Cats living in properties adjacent to woodland or heathland caught no more birds than those with little access to natural habitats.
- 4.9.6 The Reading study found that cats in dense urban areas travelled up to 79m, in suburban areas up to 141m and in town edge areas up to 148m. The suppression of cat travelling distances in areas of higher housing density suggests that as urban development progresses into the countryside, the cats on the former development edge would reduce their range in response to expansion of development into the area of countryside they formerly visited.
- 4.9.7 The predation impact of cats is therefore not cumulative as the introduction of 'new' cats because new development generally results in a reduction of 'existing' cats' range. The recent research suggests that even a 400m buffer zone from European in relation to cat predation may be over-

⁴⁷ Woods, M. et al. 2003. Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review* 33, 2 174- 188

⁴⁸ Barratt, D.G. (1997). Home range size, habitat utilisation and movement patterns of suburban and farm cats *Felis catus*. *Ecography* 20 271-280

⁴⁹ Turner, D.C. & Meister, O. (1988). Hunting behaviour of the domestic cat. In: *The Domestic Cat: The Biology of Its Behaviour*. Ed. Turner, D.C. and Bateson, P. Cambridge University Press.

⁵⁰ Tara J Pirie, Rebecca L Thomas and Mark Fellowes (2022) Pet cats *Felis catus* from urban boundaries use different habitats, have larger home ranges and kill more prey than cats from the suburbs. *Landscape and Urban Planning*, 220, 1-10

⁵¹ Hugh J. Hanmer, Rebecca L. Thomas and Mark Fellowes (2017) Urbanisation influences range size of the domestic cat (*Felis catus*): consequences for conservation. *Journal of Urban Ecology*, 2017, 1-11

precautionary and the 1km separation from allocations is adequate to prevent cat predation on qualifying features of European sites.

Fly-tipping

4.9.8 Fly-tipping tends to take place only a short distance from development and affects land alongside or close to highways⁵²; often the terminus of a minor dead-end road, or adjacent to laybys on busier routes. The distance travelled will vary, but is likely to be usually less than 10km from source. Material dumped in this way is typically either household waste, including 'white goods' and green waste, tyres, or small-scale commercial waste. Depending upon the locality and nature of tipping, there may be harm to watercourses through pollution, damage to sensitive vegetation and in the case of green waste tipping in a woodland or wetland near to home, the release of alien invasive plant species into the wild; the species being dumped often being the more vigorous and hence potentially more invasive garden plants.

4.9.9 A 2016 report by Yorkshire Wildlife Trust⁵³ found that the greatest amount of fly-tipping and anti-social behaviour on its nature reserves, and theft from their nature reserves, were greatest when there were settlements within 100m. Where there were nature reserves 1km+ distant from the nearest settlement, these activities were still recorded but much less often.

Lighting

4.9.10 Light pollution can affect the foraging and commuting activities of bat species, although there may be minor impacts upon bird behaviour.

- The slower flying broad winged species, which include Barbastelle (a European site designated feature of Paston Great Barn SAC) generally avoid street lights⁵⁴ and well-lit areas.
- It is thought that insects are attracted to lit areas from further afield and this may result in adjacent habitats supporting reduced numbers of insects. This is a further impact on the ability of the light avoiding bats to be able to feed.
- Artificial lighting is thought to increase the chances of bats being preyed upon⁵⁵. Many avian predators will hunt bats which may be one reason why bats avoid flying in the day. Observations have been made of kestrels (diurnal raptors) hunting at night under the artificial light along motorways. Lighting can be particularly harmful if used along commuting corridors such as river corridors, tree lines and hedgerows used by bats.

4.9.11 These urbanisation impacts are most likely to occur when a European site is within 1km of a settlement and therefore an allocation within 1km of a European site might increase urbanisation effects.

4.10 Avoidance and mitigation for potential impacts of the proposed Gypsy and traveller sites

Locational mitigation

4.10.1 Proposed Gypsy and Traveller sites allocations are all over 1km from any European site. This avoids for any potential land-take impacts during construction, cat predation, air pollution (no polluting factories are allocated but in any case if they arise would be subject to project-level HRA), urbanisation of the countryside, and recreational impacts of people walking to a European site to start a greenspace walk.

4.10.2 With a median dog walk length of around 3km, it is considered that a Gypsy and Traveller allocation within 1km of a European site access point (i.e freely available for public entry / use) is likely to result in an increased visitor use of that European site, especially for regular dog walking, by people walking to the European site. Allocations greater than 1km distant are less

⁵²https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/595773/Flytipping_201516_statistical_release.pdf

⁵³ Rylatt, Garside and Robin (2017) Human Impacts on Nature Reserves – The Influence of Nearby Settlements. Yorkshire Wildlife Trust.

⁵⁴ http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk_final_version_version_3_may_09.pdf

⁵⁵ http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk_final_version_version_3_may_09.pdf

likely to generate increased visitor use from people walking to that site, and above 1.5km distance there is likely to be little or no increased visitor use by people walking to the entry point. The size of an allocation is also related to potential impact, with an allocation of, say, 100 dwellings likely to generate more visitor use of a European site than an allocation of 10 dwellings at the same distance.

- 4.10.3 The proposed Gypsy and Traveller sites are all over 1.5km from the nearest European sites, and most are significantly further. This avoids the likelihood of direct recreational impact arising from walks from the pitches to a European site.

Recreational impacts. Provision of green infrastructure

- 4.10.4 Natural England has advised all Local Planning Authorities in Norfolk (letter of 2019 within the GIRAMS report) that large developments (defined as fifty houses or more) include green space which is proportionate to its scale to minimise any predicted increase in recreational pressure to designated sites, by containing the majority of recreation within and around the developed site. This advice applies across the whole of Norfolk because Natural England considers that development of this scale anywhere in the county could have a likely significant effect on a European site.
- 4.10.5 No evidence has been provided to support the threshold of 50 or more dwellings, and it is considered that each and every new home may have an identical impact. Greater Norwich Local Plan requires all residential development to provide green infrastructure, in Policy 3. The requirement is not restricted to 50 or more dwellings as advised by Natural England. If a development site is too small to provide green infrastructure on site, a contribution secured by S106 to green infrastructure elsewhere will be required.

- 4.10.6 Policy 3 applies to Gypsy and Traveller pitches in the same way as it does to standard dwellings.

Recreational impacts. In-combination effects of all housing developments

- 4.10.7 The Green Infrastructure and Recreational Impact Avoidance Strategy (GIRAMS) proposes a tariff based payment taken from residential, and other relevant accommodation e.g. tourist accommodation, that will be used to fund package of avoidance and mitigation measures to be delivered at Habitat Sites. This consists of a team of Rangers to influence visitor behaviour, signage, monitoring, a dog project, providing strategic mitigation projects, and various other tasks. A tariff payment of £185.93 per household is in place across Norfolk to provide enough money to pay for the mitigation works. The GIRAMS has been finalised for adoption by the local planning authorities and contributions are currently being collected by Norwich City Council⁵⁶, Broadland District Council⁵⁷ and South Norfolk Council⁵⁸. This applies to Gypsy and Traveller pitches in the same way as it does to standard dwellings
- 4.10.8 It is considered that the GIRAMS measures described above would be sufficient that the assessment is able to ascertain no adverse effect upon the integrity of any European site, subject to the adoption of the GIRAMS and its implementation by the local planning authorities.

Provision of new Country Park

- 4.10.9 Broadland Country Park was created by Broadland District Council between Felthorpe and Horstead and opened in March 2021⁵⁹. This location is close to the Norwich Growth Triangle, and the site is being designed and managed to attract a larger number of recreational visitors. The Country Park will reduce visitor pressure on European sites by providing an attractive alternative.

Air pollution

- 4.10.10 No new roads are proposed in the Plan within 200m of any European site, and the siting of proposed allocations further than 1km from any European site indicates that road traffic

⁵⁶ https://www.norwich.gov.uk/info/20017/planning_applications/1181/supporting_plans_and_documentation accessed on 7th May 2022

⁵⁷ <https://www.southnorfolkandbroadland.gov.uk/planning-applications/apply/3> accessed on 7 May 2022

⁵⁸ <https://www.southnorfolkandbroadland.gov.uk/planning-applications/apply/4> accessed on 7 May 2022

⁵⁹ <https://www.southnorfolkandbroadland.gov.uk/broadlandcountrypark> accessed on 7th May 2022

associated with the developments would be sufficiently distant from European sites that there would be no pollution impacts.

Water resource use

- 4.10.11 A water cycle study by AECOM (March 2021) as evidence for the Greater Norwich Local Plan looked in detail into how new development can be supplied with water.
- 4.10.12 Anglian Water Services plans for the long term provision of water supplies through a five yearly planning cycle, through the production of statutory Water Resource Management Plans (WRMP). The WRMP sets out how changes in demand for water and changes in available water in the environment will be managed, including measures to manage how much water customers use (demand management) and measures to provide new sources of supply to current and future customers. The Anglian Water WRMP (2019) indicates that through the introduction of strategic demand management options and supply side schemes within the supply areas serving Greater Norwich Authorities, adequate water supplies will be available up to 2045 and will cater for the proposed levels of growth. No new abstraction from the environment is proposed
- 4.10.13 The Water Cycle Study confirms that Anglian Water's measures to improve efficiency of existing homes and businesses, reducing leakage by mending leaky watermains, and new homes being designed to be water-efficient, will mean that no new abstractions are required. Local Plan Policy 2 'Sustainable Communities' includes a requirement for housing development to meet the 'Building Regulations part G (amended 2016) water efficiency higher optional standard' which requires a calculated use of 110l per day.
- 4.10.14 Consequently it is clear that there would be no impact on European sites from water abstraction as there would be no additional abstraction to meet water needs.

Waste water discharge – 2021 GNLP HRA information, now superseded

- 4.10.15 The Water Cycle Study which forms part of the evidence base for the Local Plan (AECOM March 2021 Greater Norwich Water Cycle Study) looked in detail at discharge issues, including any risk of European sites having an increased nutrient loading. The report's summary states that

The WCS has identified that there are several WRCs within the study area that do not have sufficient capacity to treat all additional wastewater flows from the proposed level of growth within their catchments (Acle, Aylsham, Barnham Broom, Beccles, Ditchingham, Freethorpe, Long Stratton, Whitlingham Trowse, and Wymondham). The study also identified that some WRCs have capacity but using that capacity may impact significantly on the water quality and ecology of watercourses receiving the treated discharge (Cantley, Saxlingham and Woodton). Finally, future discharge volumes from Reepham and Foulsham WRC were also assessed, irrespective of capacity, due to their discharge within the River Wensum Special Area of Conservation (SAC). Water quality and ecological assessments have been undertaken for these future discharges focusing on demonstrating what is required to ensure no increase in pollution load as a result of growth.

The assessment has shown that subject to the revision of discharge permits and the implementation of the necessary treatment process upgrades (using conventional treatment technologies), changes in water quality as a result of additional discharge can be managed to ensure there is no overall increase in pollutant load, and no adverse change in water quality or connected water dependent ecologically protected sites as a result of growth.

However, the analysis has demonstrated that treatment upgrades required to deliver this outcome will be significant for several of the WRCs and this will require substantial investment from AWS over the longer term. This may affect phasing of development (up to 2025) in some locations of the study area, and longer term to 2030 in some cases. Key locations where this has been considered in the development of policy include Long Stratton, Wymondham and Whitlingham. It will be a requirement in these locations for development to demonstrate that there is sufficient capacity at WRC before that development can proceed.

Through their Water Recycling Long-term Plan, AWS have already identified a potential need for planned investment to upgrade WRC capacity at Aylsham, Long Stratton and Woodton in the plan period as well as increased drainage capacity at Whitlingham and Wymondham.

- 4.10.16 The July 2021 Habitats Regulations Assessment of the Greater Norwich Local Plan said that it was necessary to make improvements to Water Recycling Centres at Foulsham WRC and Reepham WRC to avoid an increase in nutrient discharge into River Wensum SAC, together with revised discharge permits from Environment Agency. This is not immediately necessary but would be required by 2025.
- 4.10.17 It is necessary to make improvements to Water Recycling Centres at Aylsham WRC (which are already programmed) and at Whitlingham Trowse WRC to avoid an increase in nutrient discharge into Broadland SAC/Ramsar, together with revised discharge permits from Environment Agency for those WRCs. This is not immediately necessary but would be required by 2025. Beyond 2025, if the improvements are not made, a moratorium on growth would be needed until the measures are in place.
- 4.10.18 Policy 4 of the Greater Norwich Local Plan committed the Greater Norwich planning authorities to working with utilities providers, to improve waste-water management including at Whitlingham Trowse WRC. This gave confidence in 2021 that the need for the improvements will be progressed.

Waste water discharge – 2022 update for Nutrient Neutrality

- 4.10.19 On 16th March 2022, Natural England wrote to partner Councils within Greater Norwich Development Partnership to advise that River Wensum SAC and The Broads SAC were being harmed by excess nitrate and phosphate in the water. The origin of these plant nutrients is from agricultural run-off, urban run-off (e.g. from fertilised gardens and dog fouling), treated water from Water Recycling Centres, and others. New residential development would need to demonstrate that it would not exacerbate the existing problem by adding further nitrate and phosphate from its sewage and run-off. Natural England's advice is provided in Appendix 3 for The Broads SAC / Ramsar and in Appendix 4 for River Wensum SAC. A calculator spreadsheet was also provided by Natural England to facilitate calculation of nutrient change from the current land use. Subsequently a different calculator developed by Royal Haskoning has been made available by Councils in Norfolk which Natural England advises is less precautionary than its calculator (Appendix 5). The Royal Haskoning work therefore supersedes the Natural England calculator.
- 4.10.20 This advice applies to Gypsy and Traveller pitches as well as to standard dwellings. The proposed pitch allocations are therefore in the same situation as housing allocations with respect to Nutrient Neutrality; all pitch allocations except that at Lingwood drain to Water Recycling Centres within the catchments of either the River Wensum SAC or The Broads SAC / Ramsar. Site-specific assessments and solutions may be proposed, and a strategic solution is being sought by partner Councils within Greater Norwich Development Partnership. At the time of writing, it is anticipated that modification to the strategic policies of the GNLP will be made by March 2023, to be available for an Examination hearing⁶⁰. Policy amendments are expected to tie the delivery of housing growth more tightly to nutrient levels impacting on internationally protected habitats, including as appropriate, a county-wide mitigation strategy. The availability of a mitigation strategy will affect the timing of the delivery of housing sites and Gypsy and Traveller pitches as opposed to the principle of their development.

4.11 Assessment of proposed allocations for Gypsy and traveller sites

- 4.11.1 Subject to satisfactory policy modification with respect to Nutrient Neutrality, it is ascertained that the proposed allocations for Gypsy and Traveller sites will have no adverse effect upon the integrity of any European site. This conclusion is made for the proposed allocations individually and collectively, including the contingency allocation in Costessey.

⁶⁰ <https://www.gnlp.org.uk/local-plan-examination-local-plan-examination-document-library-d-post-submission-examination/d5>
accessed on 7th May 2022

5 Conclusions

5.1 The Greater Norwich Local Plan with the proposed Gypsy and Traveller site allocations, acting alone

- 5.1.1 It is ascertained that the published Greater Norwich Local Plan regulation 19 Proposed Submission Draft together with additional allocations for Gypsy and Traveller sites would have no adverse affect upon the integrity of any European site acting alone, subject to satisfactory policy modification with respect to Nutrient Neutrality.

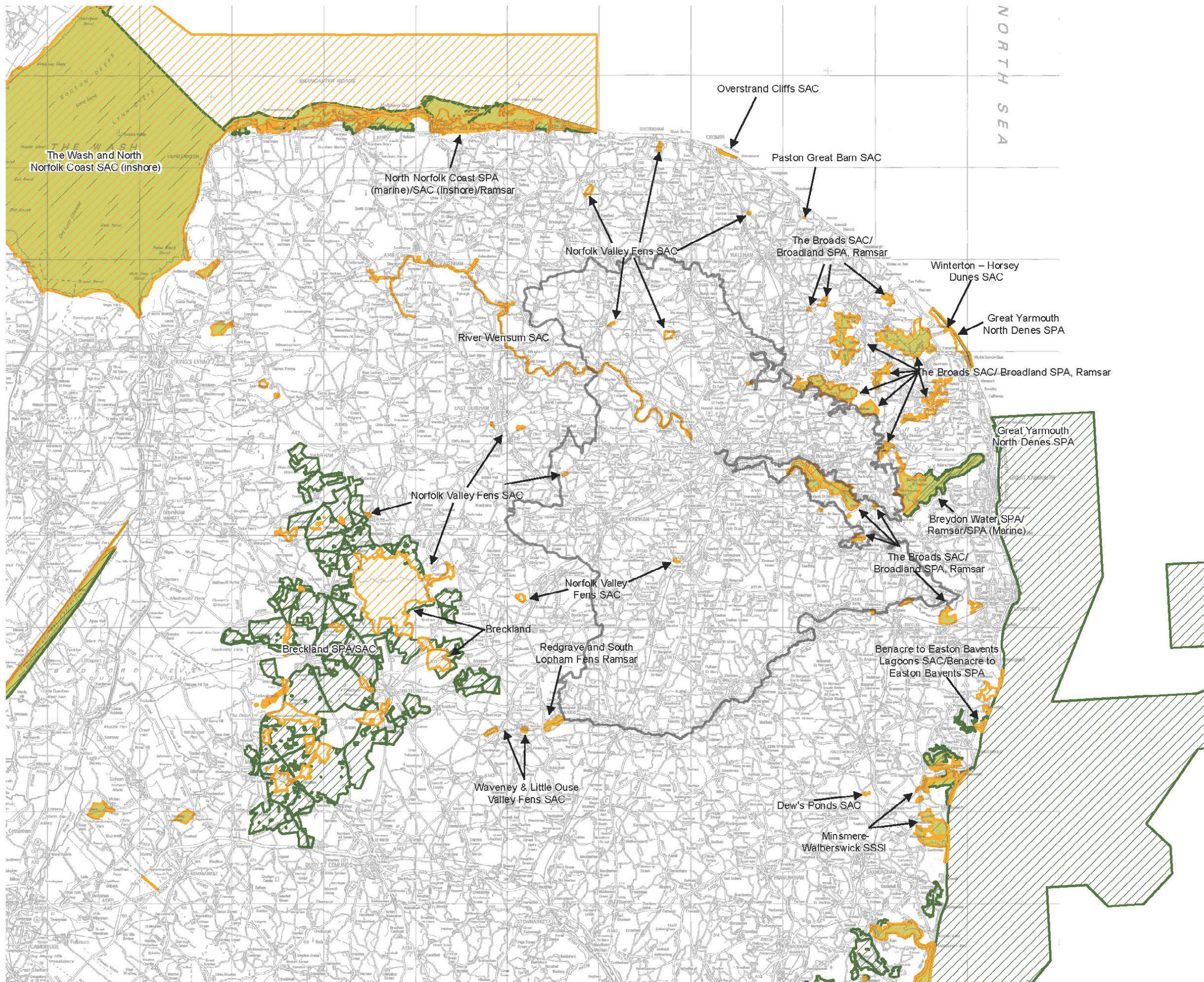
5.2 The Greater Norwich Local Plan in combination with other plans or projects

- 5.2.1 It is ascertained that the published Greater Norwich Local Plan regulation 19 Proposed Submission Draft together with additional allocations for Gypsy and Traveller sites would have no adverse affect upon the integrity of any European site, subject to satisfactory policy modification with respect to Nutrient Neutrality, in combination with any other Local Plan or other projects.

5.3 Overall conclusion

- 5.3.1 It is concluded that **subject to policy modification with respect to Nutrient Neutrality** there would be no adverse affect upon the integrity of any European site.

Figure 01



Key

-  Greater Norwich Boundary
-  Special Areas of Conservation
-  Special Protection Areas
-  RAMSAR

E16845 Greater Norwich Local Plan

European site locations

Figure 01

Scale 1:400,000 @ A3

August 2017



Appendix 1

European sites

River Wensum SAC		
Site description summary		Qualifying features⁶¹
<p>A calcareous lowland river considered one of the best areas in the UK for Ranunculion fluitantis and Callitriche-Batrachion vegetation. Also significant for the presence of Brook Lamprey, Bullhead and Desmoulin's whorl snail. One of the best areas in the UK for the native White-clawed Crayfish.</p> <p>At the upper reaches, run-off from calcareous soils rich in plant nutrients feeds beds of submerged and emerged vegetation characteristic of chalk streams. Lower, the chalk is overlain by boulder clay, resulting in aquatic plant communities more characteristic of rivers with mixed substrates.</p>	3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation
	7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae
	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
	1092	Austropotamobius pallipes (White-clawed (or Atlantic steam) Crayfish)
	1163	Cottus gobio (Bullhead)
	1096	Lampetra planeri (Brook Lamprey)
	1016	Vertigo moulinsiana (Desmoulin's whorl snail)
Component SSSI/s⁶²		
River Wensum SSSI		Covers 385.96ha and contains 55 units. 11.05% of area in Favourable condition, 47.70% of area in Unfavourable-Recovering condition, 41.25% of area in Unfavourable-No change condition.
Conservation Objectives⁶³		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;		<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.

Norfolk Valley Fens SAC		
Site description summary		Qualifying features⁶⁴
A series of valley-head spring-fed fens, typified by black-bog-rush - blunt-flowered		4010 North Atlantic wet heaths with Erica tetralix

⁶¹ Taken from the Natura 2000 Standard data form for site UK0012647 River Wensum SAC dated 25-01-16.

⁶² Condition status taken from Natural England data on 3 December 2019.

⁶³ Taken from Natural England's European Site Conservation Objectives for River Wensum SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁶⁴ Taken from the Natura 2000 Standard data form for site UK0012892 Norfolk Valley Fens SAC dated 25-01-16.

<p>rush <i>Schoenus nigricans</i> - <i>Juncus subnodulosus</i> mire. There are also transitions to reedswamp, other fen and wet grassland types, and gradations from calcareous fens into acidic flush communities. Plant species present include marsh helleborine <i>Epipactis palustris</i>, narrow-leaved marsh-orchid <i>Dactylorhiza traunsteineri</i>, and alder <i>Alnus glutinosa</i> which forms carr woodland in places by streams. Marginal fens associated with pingos-pools originating from the thawing of large blocks of ice at the end of the last Ice Age support several large populations of Desmoulin's whorl snail <i>Vertigo moulinsiana</i>.</p>	4030	European dry heaths
	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites)
	6410	Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (Molinion caeruleae)
	7150	Depressions on peat substrates of the Rhynchosporion
	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>
	7230	Alkaline fens
	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)
	1355	<i>Lutra Lutra</i> (Eurasian Otter)
	1166	<i>Triturus cristatus</i> (Great Crested Newt)
	1014	<i>Vertigo angustior</i> (Narrow-mouthed whorl snail)
	1016	<i>Vertigo moulinsiana</i> (Desmoulin's whorl snail)
Component SSSI/s⁶⁵		
Badley Moor SSSI	Covers 18.33ha and contains 4 units. 100% of area in Favourable condition	
Booton Common SSSI	Covers 8.19ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.	
Buxton Heath SSSI	Covers 67.32ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.	
Coston Fen, Runhall SSSI	Covers 7.11ha and contains 1 unit. 100% of area in Unfavourable-No change condition.	
East Walton and Adcock's Common SSSI	Covers 62.41ha and contains 3 units. 100% of area in Unfavourable-Recovering condition.	
Flordon Common SSSI	Covers 9.91ha and contains 2 units. 19.57% of area in Favourable condition, 80.43% of area in Unfavourable-Recovering condition.	
Foulden Common SSSI	Covers 139ha and contains 7 units. 24.74% of area in Favourable condition, 61.51% of area in Unfavourable-Recovering condition, 13.75% of area in Unfavourable-Declining condition.	
Great Cressingham Fen SSSI	Covers 14.33ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.	
Holt Lowes SSSI	Covers 49.91ha and contains 2 units. 30.07% of area in Favourable condition, 69.93% of area in Unfavourable-Recovering condition.	

⁶⁵ Condition status taken from Natural England data on 3rd December 2019.

Potter & Scarning Fens, East Dereham SSSI	Covers 6.20ha and contains 2 units. 100% of area in Unfavourable-Recovering condition.
Sheringham and Beeston Regis Commons SSSI	Covers 24.94ha and contains 2 units. 100% of area in Unfavourable-Recovering condition.
Southrepps Common SSSI	Covers 5.57ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Swangey Fen, Attleborough SSSI	Covers 48.39ha and contains 6 units. 44.44% of area in Favourable condition, 55.56% of area in Unfavourable-Recovering condition.
Thompson Water, Carr and Common SSSI	Covers 154.74ha and contains 11 units. 73.05% of area in Favourable condition, 22.72% of area in Unfavourable-Recovering condition, 4.24% of area in Unfavourable-Declining condition.
Conservation Objectives⁶⁶	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.

<i>The Broads SAC/ Broadland SPA, Ramsar</i>		
Site description summary	SAC qualifying features⁶⁷	
<p>A low-lying wetland complex connecting the Bure, Yare, Thurne, and Waveney River systems. Wetland habitats form a mosaic of open water, reedbeds, carr woodland, grazing marsh, and fen meadow, with an extensive network of medieval peat excavations. The Site boasts a rich array of flora and fauna.</p> <p>The SPA is designated for supporting a number of rare or vulnerable (Article 4.1) Annex I bird species during the breeding season. In addition, the SPA is designated for supporting regularly occurring migratory (Article 4.2) species during the breeding season and over winter.</p>	3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.
	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation
	6410	Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (Molinion caeruleae)
	7140	Transition mires and quaking bogs
	7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae
	7230	Alkaline fens
	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)

⁶⁶ Taken from Natural England's European Site Conservation Objectives for Norfolk Valley Fens SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁶⁷ Taken from the Natura 2000 Standard data form for site UK0013577 The Broads SAC dated 25-01-16.

	4056	Anisus vorticulus (Little whorlpool ram's-horn snail)
	1903	Liparis loeselii (Fen Orchid)
	1355	Lutra Lutra (Eurasian Otter)
	1166	Triturus cristatus (Great Crested Newt)
	1016	Vertigo moulinsiana (Desmoulin's whorl snail)
	SPA qualifying features⁶⁸	
	A056	Anas clypeata (Shoveler) (over winter)
	A050	Anas penelope (Wigeon) (over winter)
	A051	Anas strepera (Gadwall) (over winter)
	A021	Botaurus stellaris (Bittern) (breeding)
	A081	Circus aeruginosus (Marsh Harrier) (breeding)
	A082	Circus cyaneus (Hen Harrier) (over winter)
	A037	Cygnus columbianus bewickii (Bewick's Swan) (over winter)
	A038	Cygnus cygnus (Whooper Swan) (over winter)
	A151	Philomachus pugnax (Ruff) (over winter)
	Ramsar qualifying features⁶⁹	
	H7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae Calcium-rich fen dominated by great fen sedge (saw sedge).
	H7230	Alkaline fens Calcium-rich springwater-fed fens.
	H91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Alder woodland on floodplains, and the Annex II species
	S1016	Vertigo moulinsiana (Desmoulin's whorl snail)
	S1355	Lutra lutra (Eurasian Otter)
	S1903	Liparis loeselii Fen Orchid
		Cygnus columbianus bewickii, NW Europe (Tundra (Bewick's) Swan)
		Anas penelope (Eurasian Wigeon)
		Anas strepera strepera (Gadwall)
		Anas clypeata (Shoveler)

⁶⁸ Taken from the Natura 2000 Standard data form for site UK9009253 Broadland SPA dated 25-01-16.

⁶⁹ Taken from the Ramsar Information Sheet for Broadland dated 21-09-94.

Component SSSI/s ⁷⁰	
Alderfen Broad SSSI	Covers 21.34ha and contains 3 units. 8.65% of area in Favourable condition, 91.35% of area in Unfavourable-Recovering condition.
Ant Broads and Marshes SSSI	Covers 745.27ha and contains 35 units. 54.39% of area in Favourable condition, 39.18% of area in Unfavourable-Recovering condition.
Barnby Broad & Marshes SSSI	Covers 192.69ha and contains 24 units. 59.93% of area in Favourable condition, 40.07% of area in Unfavourable-Recovering condition.
Broad Fen, Dilham SSSI	Covers 38.43ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Bure Broads and Marshes SSSI	Covers 741.15ha and contains 14 units. 43.08% in Favourable condition, 46.85% in Unfavourable-Recovering condition, 10.07% in Unfavourable-No change condition.
Burgh Common and Muckfleet Marshes SSSI	Covers 121.54ha and contains 9 units. 27.72% of area in Favourable condition, 68.76% of area in Unfavourable-Recovering condition, 3.52% of area in Unfavourable-No change condition.
Calthorpe Broad SSSI	Covers 43.54ha and contains 3 units. 97.68% of area in Favourable condition, 2.32% of area in Unfavourable-Recovering condition.
Cantley Marshes SSSI	Covers 272.11ha and contains 3 units. 100% of area in Favourable condition.
Crostick Marsh SSSI	Covers 11.57ha and contains 1 unit. 100% of area in Unfavourable-No change condition.
Damgate Marshes, Acle SSSI	Covers 64.68ha and contains 10 units. 74.73% of area in Favourable condition, 25.27% of area in Unfavourable-Recovering condition.
Decoy Carr, Acle SSSI	Covers 56.01ha and contains 6 units. 70.21% of area in Favourable condition, 29.79% of area in Unfavourable-Recovering condition.
Ducan's Marsh, Claxton SSSI	Covers 3.58ha and contains 2 units. 100% of area in Unfavourable-Recovering condition.
Geldeston Meadows SSSI	Covers 13.98ha and contains 2 units. 97.18% of area in Unfavourable-No change condition, 2.82% of area in Unfavourable-Declining condition.
Hall Farm Fen, Hemsby SSSI	Covers 9.15ha and contains 1 unit. 100% of area in Favourable condition.
Halvergate Marshes SSSI	Covers 1432.72ha and contains 42 units. 72.75% of area in Favourable condition, 23.71% of area in Unfavourable-Declining condition, 3.54% of area in Unfavourable-No change condition.
Hardley Flood SSSI	Covers 49.79ha and contains 2 units. 100% of area in Favourable condition.
Limpenhoe Meadows SSSI	Covers 11.95ha and contains 1 unit. 100% of unit in Unfavourable-Recovering condition.

⁷⁰ Condition status taken from Natural England data on 17th June 2019.

Ludham – Potter Heigham Marshes SSSI	Covers 101.51ha and contains 6 units. 100% of area in Favourable condition.
Poplar Farm Meadows, Langley SSSI	Covers 7.55ha and contains 1 unit. 100% of area in Favourable condition.
Priory Meadows, Hickling SSSI	Covers 23.94ha and contains 2 units. 29.79% of area in Favourable condition, 70.21% of area in Unfavourable-Recovering condition.
Shallam Dyke Marshes, Thurne SSSI	Covers 69.80ha and contains 8 units. 4.44% of area in Favourable condition, 95.56% of area in Unfavourable-No change condition.
Smallburgh Fen SSSI	Covers 7.63ha and contains 1 unit. 100% of area in Favourable condition.
Sprat's Water and Marshes, Carlton Colville SSSI	Covers 57.14ha and contains 11 units. 80.48% of area in Favourable condition, 19.19% of area in Unfavourable-Recovering condition, 0.33% of area in Unfavourable-No change condition.
Stanley and Alder Carrs, Aldeby SSSI	Covers 42.68ha and contains 3 units. 100% of area in Unfavourable-Recovering condition.
Trinity Broad's SSSI	Covers 316.83ha and contains 23 units. 45.48% of area in Favourable condition, 41.98% of area in Unfavourable-Recovering condition, 12.54% of area in Unfavourable-No change condition.
Upper Thurne Broad's and Marshes SSSI	Covers 1185.93ha and contains 19 units. 63.97% of area in Favourable condition, 16.65% of area in Unfavourable-Recovering condition, 4.82% of area in Unfavourable-No change condition, 14.57% of area in Unfavourable-Declining condition.
Upton Broad & Marshes SSSI	Covers 195.44ha and contains 18 units. 7.43% of area in Favourable condition, 91.84% of Unfavourable-Recovering condition, 0.72% of area in Unfavourable-No change condition.
Yare Broad's and Marshes SSSI	Covers 744.46ha and contains 28 units. 39.22% of area in Favourable condition, 11.30% of area in Unfavourable-Recovering condition, 47.27% of area in Unfavourable-No change condition, 2.20% of area in Unfavourable-Declining condition.
SAC Conservation Objectives⁷¹	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.

⁷¹ Taken from Natural England's European Site Conservation Objectives for The Broad's SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

SPA Conservation Objectives⁷²	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site.

Breydon Water SPA/Ramsar/SPA (Marine)		
Site description summary	SPA qualifying features⁷³	
<p>An inland tidal estuary at the mouth of the River Yare and its confluence with the Rivers Bure and Waveney. Extensive areas of mud-flats form the only tidal flats on the east Norfolk coast. The Site also features much floodplain grassland, which lies adjacent to the intertidal areas. It is internationally important for wintering waterbirds, some of which feed in the Broadland Ramsar that adjoins this site at Halvergate Marshes.</p> <p>This SPA is part of the Breydon Water European Marine Site.</p>	A037	Cygnus columbianus bewickii (Bewick's (Tundra) Swan) (over winter)
	A151	Philomachus pugnax (Ruff) (concentration)
	A140	Pluvialis apricaria (Golden Plover) (over winter)
	A132	Recurvirostra avosetta (Avocet) (over winter)
	A193	Sterna hirundo (Common Tern) (breeding)
	A142	Vanellus vanellus (Northern Lapwing) (over winter)
		Waterbird assemblage
	Ramsar qualifying features⁷⁴	
	<p>Internationally important waterfowl assemblage (greater than 20000 birds)</p> <p>Over winter the site regularly supports internationally important numbers of: Bewick's Swan Cygnus columbianus bewickii and Lapwing Vanellus vanellus</p>	
Component SSSI/s⁷⁵		
Breydon Water SSSI	Covers 514.40ha and contains 15 units. 100% of area in Favourable condition.	
Halvergate Marshes SSSI	Covers 1432.72ha and contains 42 units. 72.75% of area in Favourable condition, 23.71% of area in Unfavourable-Declining condition, 3.54% of area in Unfavourable-No change condition.	

⁷² Taken from Natural England's European Site Conservation Objectives for Broadland SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁷³ Taken from the Natura 2000 Standard data form for site UK9009181 Breydon Water SPA dated 25-01-16.

⁷⁴ Taken from the Ramsar Information Sheet for Breydon Water dated Feb 2000.

⁷⁵ Condition status taken from Natural England data on 17th June 2019.

Conservation Objectives ⁷⁶	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site.

Great Yarmouth North Denes SPA		
Site description summary	Qualifying features ⁷⁷	
Low dunes stabilised by marram grass <i>Ammophila arenaria</i> with extensive areas of grey hair-grass <i>Corynephorus canescens</i> . The Site supports important numbers of little tern <i>Sterna albifrons</i> that feed in waters close to the SPA. This SPA is part of the Great Yarmouth North Denes European Marine Site (EMS).	A195	<i>Sterna albifrons</i> (Little Tern) (breeding)
Component SSSI/s ⁷⁸		
Great Yarmouth North Denes SSSI	Covers 100.75ha and contains 2 units. 100% of area in Favourable condition.	
Winterton – Horsey Dunes SSSI	Covers 426.95ha and contains 12 units. 67.92% of area in Favourable condition, 9.88% of area in Unfavourable-Recovering condition, 22.20% of area in Unfavourable-No change condition.	
Conservation Objectives ⁷⁹		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site. 	

Winterton – Horsey Dunes SAC

⁷⁶ Taken from Natural England's European Site Conservation Objectives for Breydon Water SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

⁷⁷ Taken from the Natura 2000 Standard data form for site UK9009271 Great Yarmouth North Denes SPA dated 25-01-16.

⁷⁸ Condition status taken from Natural England data on 17th June 2019.

⁷⁹ Taken from Natural England's European Site Conservation Objectives for Great Yarmouth North Denes SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

Site description summary	Qualifying features ⁸⁰
The only significant area of dune heath on the east coast of England, which occur over an extremely base-poor dune system, and include areas of acidic dune grassland as an associated acidic habitat. These acidic soils support swamp and mire communities, in addition to common dune slack vegetation, including creeping willow <i>Salix repens</i> subsp. <i>argentea</i> and Yorkshire fog <i>Holcus lanatus</i> . The drought resistant grey hair-grass <i>Corynephorus canescens</i> is characteristic of open areas.	2110 Embryonic shifting dunes
	2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")
	2150 Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)
	2160 Dunes with <i>Hippophae rhamnoides</i>
	2190 Humid dune slacks
	1166 <i>Triturus cristatus</i> (Great Crested Newt)
Component SSSI/s ⁸¹	
Winterton – Horsey Dunes SSSI	Covers 426.95ha and contains 12 units. 67.92% of area in Favourable condition, 9.88% of area in Unfavourable-Recovering condition, 22.20% of area in Unfavourable-No change condition.
Conservation Objectives ⁸²	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the qualifying natural habitats • The structure and function (including typical species) of the qualifying natural habitats, and, • The supporting processes on which the qualifying natural habitats rely.

Paston Great Barn SAC	
Site description summary	Qualifying features ⁸³
Nationally, this is an extremely rare example of a maternity roost of barbastelle bats <i>Barbastella barbastellus</i> in a building. A 16th century thatched barn with associated outbuildings. The maternity colony inhabits many crevices and cracks in the roof timbers.	1308 <i>Barbastella barbastellus</i> (Barbastelle bat) (permanent population)
Component SSSI/s ⁸⁴	
Paston Great Barn SSSI	Covers 0.96ha and contains 1 unit. 100% of area in Favourable condition.

⁸⁰ Taken from the Natura 2000 Standard data form for site UK0013043 Winterton – Horsey Dunes SAC dated 25-01-16.

⁸¹ Condition status taken from Natural England data via Magic Map on 7th March 2017.

⁸² Taken from Natural England's European Site Conservation Objectives for Winterton-Horsey Dunes SAC dated 30th June 2014-version

2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁸³ Taken from the Natura 2000 Standard data form for site UK0030235 Paston Great Barn SAC dated December 2015.

⁸⁴ Condition status taken from Natural England data on 17th June 2019.

Conservation Objectives⁸⁵	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the habitats of qualifying species • The structure and function of the habitats of qualifying species • The supporting processes on which the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.

Overstrand Cliffs SAC		
Site description summary	Qualifying features⁸⁶	
Vegetated soft cliffs composed of Pleistocene clays and sands, subject to common cliff-falls and landslips. Vegetation undergoes cycles whereby ruderal-dominated communities develop on the newly exposed sands and mud, succeeded by more stable grassland and scrub vegetation. In areas where freshwater seepages occur there are fen communities and occasional perched reedbeds. The diverse range of habitats support a large number of invertebrate species.	1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts
Component SSSI/s⁸⁷		
Overstrand Cliffs SSSI	Covers 57.75ha and contains 2 units. 100% of area in Favourable condition.	
Conservation Objectives⁸⁸		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the qualifying natural habitats • The structure and function (including typical species) of the qualifying natural habitats, and • The supporting processes on which the qualifying natural habitats rely. 	

Waveney & Little Ouse Valley Fens SAC		
Site description summary	Qualifying features⁸⁹	
Calcareous fen containing extensive beds of great fen-sedge <i>Cladium mariscus</i> . Purple moor-grass – meadow thistle <i>Molinia caerulea</i> – <i>Cirsium dissectum</i> fen-meadows, associated with the spring-fed valley fen systems, occur	6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinia caerulea</i>)

⁸⁵ Taken from Natural England's European Site Conservation Objectives for Paston Great Barn SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁸⁶ Taken from the Natura 2000 Standard data form for site UK0030232 Overstrand Cliffs SAC dated December 2015.

⁸⁷ Condition status taken from Natural England data on 17th June 2019.

⁸⁸ Taken from Natural England's European Site Conservation Objectives for Overstrand Cliffs SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁸⁹ Taken from the Natura 2000 Standard data form for site UK0012882 Waveney and Little Ouse Valley Fens SAC dated December 2015.

in conjunction with black bog-rush – blunt-flowered rush <i>Schoenus nigricans</i> – <i>Juncus subnodulosus</i> mire and calcareous fens with great fen-sedge. Grazed areas of fen-meadow are more species-rich, and frequently support southern marsh-orchid <i>Dactylorhiza praetermissa</i> .	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>
	1016	<i>Vertigo moulinsiana</i> (Desmoulin’s whorl snail)
Component SSSI/s ⁹⁰		
Blo’ Norton and Thelnetham Fen SSSI	Covers 21.32ha and contains 6 units. 35.08% of area in Favourable condition, 64.92% of area in Unfavourable-Recovering condition.	
Redgrave and Lopham Fens SSSI	Covers 127.03ha and contains 4 units. 100% of area in Unfavourable-Recovering condition.	
Weston Fen SSSI	Covers 49.73ha and contains 10 units. 49.79% of area in Favourable condition, 33.02% of area in Unfavourable-Recovering condition, 17.19% of area in Unfavourable-No change condition.	
Conservation Objectives ⁹¹		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none">• The extent and distribution of qualifying natural habitats and habitats of qualifying species• The structure and function (including typical species) of qualifying natural habitats• The structure and function of the habitats of qualifying species• The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely• The populations of qualifying species, and,• The distribution of qualifying species within the site.	

Redgrave and South Lopham Fens Ramsar	
Site description summary	Qualifying features⁹²
An extensive area of spring-fed valley fen at the headwaters of the River Waveney which supports a variety of fen plant community types, including <i>Molinia</i> -based grasslands, mixed sedge-fen, and reed-dominated fen. Small areas of wet heath, sallow carr, and birch woodland also occur, and the Site is known to support the fen raft spider <i>Dolomedes plantarius</i> .	The site is an extensive example of spring-fed lowland base-rich valley, remarkable for its lack of fragmentation.
	The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i> . This spider is also considered vulnerable by the IUCN Red List.

⁹⁰ Condition status taken from Natural England data on 17th June 2019.

⁹¹ Taken from Natural England's European Site Conservation Objectives for Waveney and Little Ouse Valley Fens SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁹² Taken from the Ramsar Information Sheet for Redgrave and South Lopham Fen Ramsar dated May 2005.

	The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i> . The diversity of the site is due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires.
Component SSSI/s⁹³	
Redgrave and Lopham Fens SSSI	Covers 127.03ha and contains 4 units. 100% of area in Unfavourable-Recovering condition.
Conservation Objectives	
n/a	

Breckland SPA/SAC		
Site description summary	SPA qualifying features⁹⁴	
A gently rolling plateau underlain by cretaceous chalk bedrock covered with thin deposits of sand and flint. The climate and free-draining soils has produced dry heath and grassland communities. Pingos with biological interest occur in some areas. The highly variable soils of Breckland, with underlying chalk being largely covered with wind-blown sands, have resulted in mosaics of heather-dominated heathland, acidic grassland and calcareous grassland that are unlike those of any other site. Breckland is the most extensive surviving area of the rare sheep's fescue – mouse-ear hawkweed – wild thyme <i>Festuca ovina</i> – <i>Hieracium pilosella</i> – <i>Thymus praecox</i> grassland type. A number of the water bodies within the site support populations of amphibians, including great crested newts <i>Triturus cristatus</i> .	A133	Burhinus oedicnemus (Stone Curlew) (breeding)
	A224	Caprimulgus europaeus (Nightjar) (breeding)
	A246	Lullula arborea (Woodlark) (breeding)
	SAC qualifying features⁹⁵	
	2330	Inland dunes with open Corynephorus and Agrostis grasslands
	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation
	4030	European dry heaths
	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)
	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
	1308	Barbastella barbastellus (Barbastelle bat)
	1166	Triturus cristatus (Great Crested Newt)

⁹³ Condition status taken from Natural England data on 17th June 2019.

⁹⁴ Taken from the Natura 2000 Standard data form for site UK9009201 Breckland SPA dated December 2015.

⁹⁵ Taken from the Natura 2000 Standard data form for site UK0019865 Breckland SAC dated December 2015.

Component SSSI/s⁹⁶ (within SPA, SAC or both)	
Barnham Heath SSSI	Covers 78.62ha and contains 2 units. 89.45% of area in Favourable condition, 10.55% of area in Unfavourable-Recovering condition.
Barnhamcross Common SSSI	Covers 69.08ha and contains 2 units. 100% of area in Unfavourable-Recovering condition.
Berner's Heath, Icklingham SSSI	Covers 235.86ha and contains 3 units. 97.09% of area in Favourable condition, 2.91% of area destroyed.
Breckland Farmland SSSI	Covers 13392.36ha and contains 70 units. 100% of area in Favourable condition.
Breckland Forest SSSI	Covers 18125.99ha and contains 7 units. 0.09% of area in Favourable condition, 99.91% of area in Unfavourable-Recovering condition.
Bridgham & Brettenham Heaths SSSI	Covers 439.91ha and contains 6 units. 12.75% of area in Favourable condition, 87.25% of area in Unfavourable-Recovering condition.
Cavenham – Icklingham Heaths SSSI	Covers 419.01ha and contains 27 units. 30.59% of area in Favourable condition, 65.03% of area in Unfavourable-Recovering condition, 1.78% of area in Unfavourable-No change condition. 2.59% destroyed.
Cranberry Rough, Hockham SSSI	Covers 81.13ha and contains 4 units. 21.62% of area in Favourable condition, 78.38% of area in Unfavourable-Recovering condition.
Cranwich Camp SSSI	Covers 13.10ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Deadman's Grave, Icklingham SSSI	Covers 127.33ha and contains 6 units. 14.17% of area in Favourable condition, 83.80% of area in Unfavourable-Recovering condition, 2.03% of area in Unfavourable-Declining condition.
East Wretham Heath SSSI	Covers 141.05ha and contains 6 units. 7% of area in Favourable condition, 89.08% of area in Unfavourable-Recovering condition, 3.92% of area in Unfavourable-Declining condition.
Eriswell Low Warren SSSI	Covers 7.42ha and contains 1 unit. 100% of area in Favourable condition.
Field Barn Heaths, Hilborough SSSI	Covers 17.86ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Foxhole Heath, Eriswell SSSI	Covers 85.17ha and contains 1 unit. 100% of area in Favourable condition.
Gooderstone Warren SSSI	Covers 21.63ha and contains 4 units. 100% of area in Unfavourable-Recovering condition.
Grime's Graves SSSI	Covers 66.12ha and contains 3 units. 26.79% of area in Favourable condition, 73.21% of area in Unfavourable-Recovering condition.
How Hill Track SSSI	Covers 3.11ha and contains 1 unit. 100% of area in Favourable condition.
Lakenheath Warren SSSI	Covers 588.33ha and contains 11 units. 1.62% of area in Favourable condition, 63.40% of area in

⁹⁶ Condition status taken from Natural England data via Magic Map on 3 December 2019.

	Unfavourable-Recovering condition, 34.99% of area in Unfavourable-No change condition.
RAF Lakenheath SSSI	Covers 111ha and contains 4 units. 100% of area in Favourable condition.
Little Heath, Barnham SSSI	Covers 46.25ha and contains 3 units. 13.52% of area in Favourable condition, 2.59% of area in Unfavourable-Recovering condition, 83.89% of area in Unfavourable-Declining condition.
Old Bodney Camp SSSI	Covers 32.76ha and contains 2 units. 100% of area in Favourable condition.
Rex Graham Reserve SSSI	Covers 2.76ha and contains 1 unit. 100% of area in Favourable condition.
Stanford Training Area SSSI	Covers 4677.96ha and contains 81 units. 42.12% of area in Favourable condition, 54.71% of area in Unfavourable-Recovering condition, 3.12% of area in Unfavourable-No change condition, 0.05% of area in Unfavourable-Declining condition.
Thetford Golf Course & Marsh SSSI	Covers 122.30ha and contains 8 units. 3.12% of area in Favourable condition, 67.83% of area in Unfavourable-Recovering condition, 29.05% of area in Unfavourable-No change condition.
Thetford Heaths SSSI	Covers 270.58ha and contains 4 units. 36.32% of area in Favourable condition, 57.06% of area in Unfavourable-Recovering condition, 6.62% of area in Unfavourable-No change condition.
Wangford Warren and Carr SSSI	Covers 67.79ha and contains 5 units. 22.65% of area in Favourable condition, 77.35% of area in Unfavourable-Recovering condition.
Weather and Horn Heaths, Eriswell SSSI	Covers 133.32ha and contains 3 units. 97.77% of area in Unfavourable-Declining condition, 2.23% of area Partially destroyed.
Weeting Heath SSSI	Covers 141.75ha and contains 6 units. 40.15% of area in Favourable condition, 38.97% of area in Unfavourable-Recovering condition, 20.88% of area in Unfavourable-No change condition.
West Stow Heath SSSI	Covers 44.30ha and contains 5 units. 14.51% of area in Favourable condition, 85.49% of area in Unfavourable-Recovering condition.
SPA Conservation Objectives⁹⁷	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and,

⁹⁷ Taken from Natural England's European Site Conservation Objectives for Breckland SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

	<ul style="list-style-type: none"> The distribution of the qualifying features within the site
SAC Conservation Objectives⁹⁸	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats and habitats of qualifying species The structure and function (including typical species) of qualifying natural habitats The structure and function of the habitats of qualifying species The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely The populations of qualifying species, and, The distribution of qualifying species within the site.

Benacre to Easton Bavents Lagoons SAC/Benacre to Easton Bavents SPA						
Site description summary	SAC qualifying features⁹⁹					
<p>Situated on the east coast of Suffolk, this site includes semi-natural broadleaved woodland, tall fen vegetation, shingle, dunes and grassland, saltmarsh and coastal lagoons. The habitats are important for breeding, wintering and passage birds.</p> <p>There are a series of percolating lagoons that have formed behind shingle barriers and are a feature of a geomorphologically dynamic system. The site supports a number of specialist lagoonal species.</p> <p>The SPA is part of the Benacre to Easton Bavents European Marine Site.</p>	1150 Coastal lagoons					
	91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)					
	SPA qualifying features¹⁰⁰					
	<table> <tr> <td>A021</td><td><i>Botaurus stellaris</i> (Bittern) (breeding)</td></tr> <tr> <td>A081</td><td><i>Circus aeruginosus</i> (Marsh Harrier) (breeding)</td></tr> <tr> <td>A195</td><td><i>Sterna albifrons</i> (Little Tern) (breeding)</td></tr> </table>	A021	<i>Botaurus stellaris</i> (Bittern) (breeding)	A081	<i>Circus aeruginosus</i> (Marsh Harrier) (breeding)	A195
A021	<i>Botaurus stellaris</i> (Bittern) (breeding)					
A081	<i>Circus aeruginosus</i> (Marsh Harrier) (breeding)					
A195	<i>Sterna albifrons</i> (Little Tern) (breeding)					
Component SSSI/s¹⁰¹						
Pakefield to Easton Bavents SSSI	Covers 735.45ha and contains 51 units. 48.73% of area in Favourable condition, 38.98% of area in Unfavourable-Recovering condition, 8.73% of area in Unfavourable-No change condition, 3.11% Unfavourable-Declining condition, 0.45% of area Partially destroyed.					
SAC Conservation Objectives¹⁰²						
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its	<ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats The structure and function (including typical species) of qualifying natural habitats, and 					

⁹⁸ Taken from Natural England's European Site Conservation Objectives for Breckland SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁹⁹ Taken from the Natura 2000 Standard data form for site UK0013104 Benacre to Easton Bavents Lagoons SAC dated December 2015.

¹⁰⁰ Taken from the Natura 2000 Standard data form for site UK9009291 Benacre to Easton Bavents SPA dated December 2015.

¹⁰¹ Condition status taken from Natural England data on 17th June 2019.

¹⁰² Taken from Natural England's European Site Conservation Objectives for Benacre to Easton Bavents Lagoons SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> The supporting processes on which qualifying natural habitats rely.
SPA Conservation Objectives¹⁰³	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> The extent and distribution of the habitats of the qualifying features The structure and function of the habitats of the qualifying features The supporting processes on which the habitats of the qualifying features rely The population of each of the qualifying features, and, The distribution of the qualifying features within the site.

Dew's Ponds SAC		
Site description summary	Qualifying features¹⁰⁴	
A series of 12 ponds located in rural East Suffolk, in formerly predominantly arable land. Great Crested Newt has been found in all ponds. Some of the arable land has been converted to grassland and there are also hedgerows and ditches.	1166	Triturus cristatus (Great Crested Newt)
Component SSSI/s¹⁰⁵		
Dew's Ponds SSSI	Covers 6.72ha and contains 4 units. 100% of area in Favourable condition.	
Conservation Objectives¹⁰⁶		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> The extent and distribution of the habitats of qualifying species The structure and function of the habitats of qualifying species The supporting processes on which the habitats of qualifying species rely The populations of qualifying species, and, The distribution of qualifying species within the site. 	

The Wash and North Norfolk Coast SAC (inshore)		
Site description summary	Qualifying features¹⁰⁷	
The Wash is the largest embayment in the UK and is connected to the North Norfolk Coast	1110	Sandbanks which are slightly covered by sea water all the time

¹⁰³ Taken from Natural England's European Site Conservation Objectives for Benacre to Easton Bavents SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

¹⁰⁴ Taken from the Natura 2000 Standard data form for site UK0030133 Dew's Ponds SAC dated December 2015.

¹⁰⁵ Condition status taken from Natural England data on 17th June 2019.

¹⁰⁶ Taken from Natural England's European Site Conservation Objectives for Dew's Ponds SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

¹⁰⁷ Taken from the Natura 2000 Standard data form for site UK0017075 The Wash and North Norfolk Coast SAC dated December 2015.

<p>via sediment transfer systems. Together The Wash and North Norfolk Coast form one of the most important marine areas in the UK and European North Sea coast, and include extensive areas of varying, but predominantly sandy, sediments subject to a range of conditions. Communities in the intertidal include those characterised by large numbers of polychaetes, bivalve and crustaceans. Subtidal communities cover a diverse range from the shallow to the deeper parts of the embayments and include dense brittlestar beds and areas of an abundant reef-building worm ('ross worm') <i>Sabellaria spinulosa</i>. The embayment supports a variety of mobile species, including a range of fish, otter <i>Lutra lutra</i> and common seal <i>Phoca vitulina</i>. The extensive intertidal flats provide ideal conditions for common seal breeding and hauling-out.</p> <p>This SAC is part of The Wash and North Norfolk Coast European Marine Site.</p>	1140	Mudflats and sandflats not covered by seawater at low tide
	1150	Coastal lagoons
	1160	Large shallow inlets and bays
	1170	Reefs
	1310	Salicornia and other annuals colonizing mud and sand
	1320	Spartina swards (<i>Spartinion maritimae</i>)
	1330	Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)
	1420	Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)
	1364	<i>Halichoerus grypus</i> (Grey Seal)
1355	<i>Lutra lutra</i> (Eurasian Otter)	
1365	<i>Phoca vitulina</i> (Harbour/Common Seal)	
Component SSSI/s		
The Wash SSSI	62045.64ha of which 67.98 is favourable, and 31.61% is unfavourable recovering. 0.41% of the area is unfavourable declining.	
Conservation Objectives ¹⁰⁸		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none">• The extent and distribution of the habitats of qualifying species• The structure and function of the habitats of qualifying species• The supporting processes on which the habitats of qualifying species rely• The populations of qualifying species, and,• The distribution of qualifying species within the site.	

North Norfolk Coast SPA (marine)/SAC (inshore)/Ramsar		
Site description summary		SAC qualifying features¹⁰⁹
<p>Important within Europe as one of the largest areas of undeveloped coastal habitat of its type, supporting intertidal mudflats and sandflats, coastal waters, saltmarshes, shingle, sand dunes, freshwater grazing marshes, and reedbeds. Large numbers of waterbirds use the Site throughout the year. In Summer, the Site and surrounding area are important for breeding populations of four species of tern, waders, bittern <i>Botaurus stellaris</i>, and wetland raptors including marsh harrier <i>Circus aeruginosus</i>. In Winter, the Site</p>	1150	Coastal lagoons
	1220	Perennial vegetation of stony banks
	1420	Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)
	2110	Embryonic shifting dunes
	2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")

¹⁰⁸ Taken from Natural England's European Site Conservation Objectives for The Wash and North Norfolk SAC dated 30th June 2014- version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

¹⁰⁹ Taken from the Natura 2000 Standard data form for site UK0019838 North Norfolk Coast SAC dated December 2015.

<p>supports large numbers of geese, sea ducks, other ducks and waders using the Site for roosting and feeding. The Site is also important for migratory species during the Spring and Autumn.</p> <p>This SAC is part of the North Norfolk Coast European Marine Site.</p> <p>The SPA is designated for supporting a number of rare or vulnerable (Article 4.1) Annex I bird species during the breeding season. In addition, the SPA is designated for supporting regularly occurring migratory (Article 4.2) species during the breeding season and over winter.</p> <p>This SPA is part of The Wash and North Norfolk Coast European Marine Site (EMS).</p>	2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")
	2160	Dunes with Hippophae rhamnoides
	2190	Humid dune slacks
	1355	Lutra Lutra (Eurasian Otter)
	1395	Petallophyllum ralfsii (Petalwort)
	1166	Triturus cristatus (Great Crested Newt)
	SPA qualifying features¹¹⁰	
	A040	Anser brachyrhynchus (Pink-footed Goose) (over winter)
	A050	Anas penelope (Wigeon) (over winter)
	A021	Botaurus stellaris (Bittern) (breeding)
	A675	Branta bernicla bernicla (Dark-bellied Brent Goose) (over winter)
	A143	Callidris canutus (Red Knot) (over winter)
	A081	Circus aeruginosus (Marsh Harrier) (breeding)
	A132	Recurvirostra avosetta (Avocet) (breeding and over winter)
	A195	Sterna albifrons (Little Tern) (breeding)
	A193	Sterna hirundo (Common tern) (breeding)
	A191	Sterna sandvicensis (Sandwich Tern) (breeding)
	WATR	Waterfowl assemblage
	Ramsar qualifying features¹¹¹	
	The site is one of the largest expanses of undeveloped coastal habitat of its type in Europe. It is a particularly good example of a marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes. There are a series of brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds.	
	Supports at least three British Red Data Book and nine nationally scarce vascular plants, one British Red Data Book lichen and 38 British Red Data Book invertebrates.	
	98462 waterfowl peak count in winter (assemblages of international importance)	
	Sterna sandvicensis (Sandwich Tern) (breeding)	
	Sterna hirundo (Common Tern) (breeding)	
	Sterna albifrons (Little Tern) (breeding)	

¹¹⁰ Taken from the Natura 2000 Standard data form for site UK9009031 North Norfolk Coast SPA dated December 2015.

¹¹¹ Taken from the Ramsar Information Sheet for North Norfolk Coast dated 13-06-08.

	Calidris canutus (Red Knot) (over winter)
	Anser brachyrhynchus (Pink-footed Goose) (over winter)
	Branta bernicla bernicla (Dark-bellied Brent goose) (over winter)
	Anas penelope (Wigeon) (over winter)
	Anas acuta (Pintail) (over winter)
Component SSSI/s¹¹²	
North Norfolk Coast SSSI	Covers 7862.29ha and contains 70 units. 97.82% of area in Favourable condition, 2.18% of area in Unfavourable-Recovering condition.
SAC Conservation Objectives¹¹³	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
SPA Conservation Objectives¹¹⁴	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site.

<i>Southern North Sea cSAC (offshore and inshore)</i>		
Site description summary	Qualifying features¹¹⁵	
The Southern North Sea site has been recognised as 'an area of predicted persistent high densities of harbour porpoise'. Therefore, the Southern North Sea site has been submitted to the EU and is a candidate for designation as an Inshore and	1351	Phocoena phocoena (Harbour Porpoise)

¹¹² Condition status taken from Natural England data on 17th June 2019.

¹¹³ Taken from Natural England's European Site Conservation Objectives for North Norfolk Coast SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

¹¹⁴ Taken from Natural England's European Site Conservation Objectives for North Norfolk Coast SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

¹¹⁵ Taken from the Natura 2000 Standard Data Form for Site UK0030395 Southern North Sea SCI dated January 2017.

Offshore SAC for the Annex II species, Harbour Porpoise.	
The Southern North Sea site extends down the North Sea from the River Tyne, south to the River Thames. The aim of the SAC is to support the maintenance of harbour porpoise populations throughout UK waters (the Southern North Sea supports higher number of porpoises compared to many other parts of their UK range). Seasonal differences in the use of the site by harbour porpoises which show the elevated densities of the species in some parts of the site compared to others during the summer and winter, have been identified. The main threats to harbour porpoise are from incidental catch, pollution and noise/physical disturbance.	
Component SSSI/s	
n/a	
Conservation Objectives¹¹⁶	
The focus of the Conservation Objectives for harbour porpoise sites is on addressing pressures that affect site integrity and would include:	<ul style="list-style-type: none"> • killing or injuring significant numbers of harbour porpoise (directly or indirectly); • preventing their use of significant parts of the site (disturbance / displacement); • significantly damaging relevant habitats; or • significantly reducing the prey base.
The Conservation Objectives document also contains the following guidance:	The seasonality in porpoise distribution should be considered in the assessment of impacts and proposed management.

<i>Outer Thames Estuary SPA (marine)/Outer Thames Estuary Extension pSAC (marine)</i>	
Site description summary	Qualifying features¹¹⁷
This SPA is entirely marine and is designated because its habitats support 38% of the Great British population of over-wintering Red-throated Diver <i>Gavia stellata</i> , a qualifying species under Article 4.1 of the Birds Directive. The Outer Thames Estuary SPA covers vast areas of marine habitat off the east coast between Caister-on-Sea, Norfolk in the north, down to Margate, Kent in the south. The habitats covered by the SPA include marine areas and sea inlets where Red-throated Diver is particularly susceptible to noise and visual disturbance e.g. from wind farms and coastal recreation activities. Threats from effluent discharge, oil spillages and entanglement/drowning in fishing nets are significant.	A001 <i>Gavia stellata</i> (Red-throated Diver) (over winter)

¹¹⁶ Taken from Natural England's Harbour Porpoise (*Phocoena phocoena*) possible Special Area of Conservation: Southern North Sea Draft Conservation Objectives and Advice on Activities dated January 2016.

¹¹⁷ Taken from the Natura 2000 Standard Data Form for Site UK9020309 Outer Thames Estuary SPA dated December 2015.

The addition of two new protected features and associated boundary amendments was consulted on in January to July 2016. The proposed extension would afford protection for Little tern and Common tern foraging areas, enhancing protection already afforded to their feeding and nesting areas in the adjacent coastal SPAs (Foulness SPA, Breydon Water SPA and Minsmere to Walberswick SPA).	
Component SSSI/s	
n/a	
Conservation Objectives¹¹⁸	
Subject to natural change, maintain or enhance the red-throated diver population and its supporting habitats in favourable condition.	

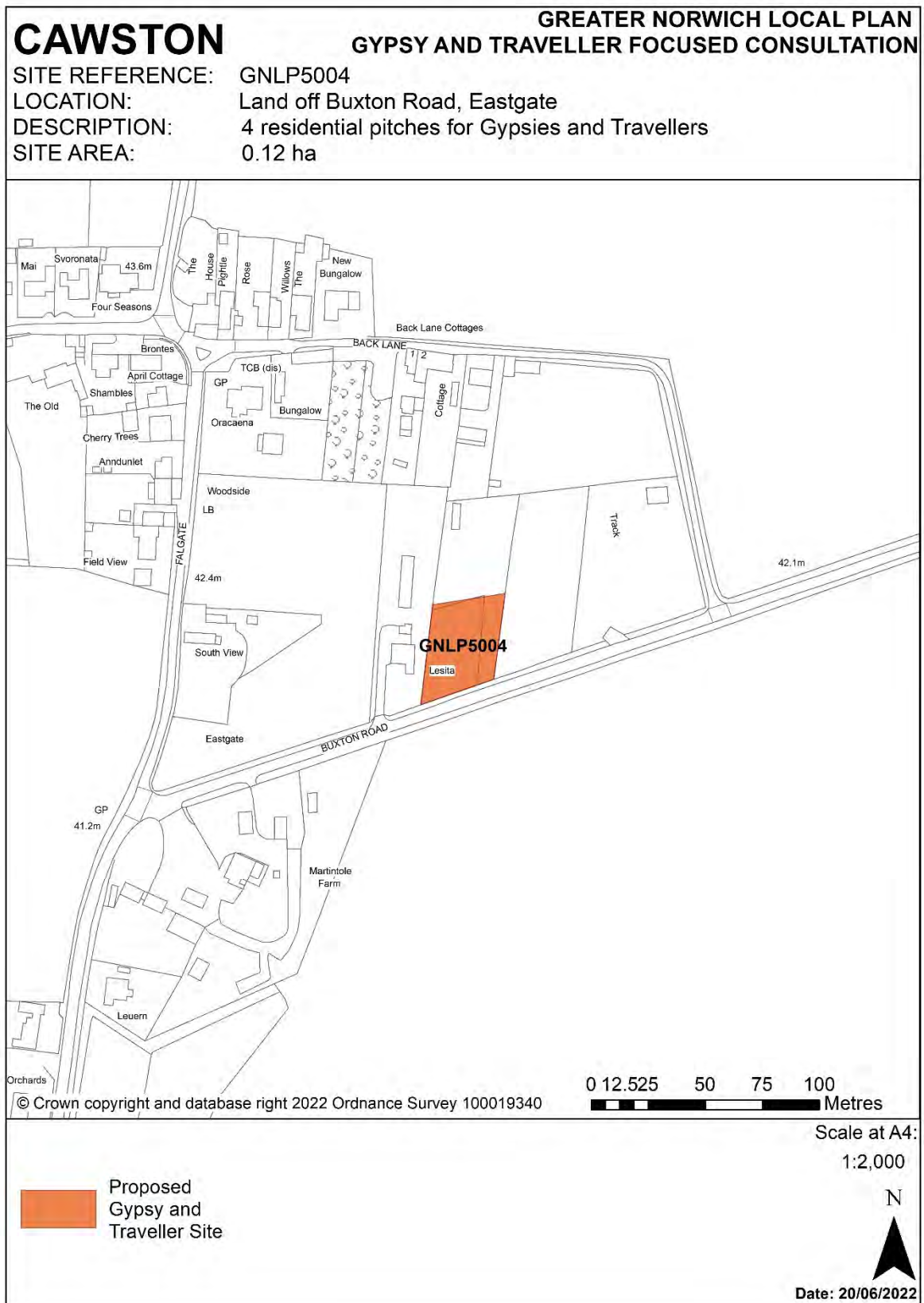
<i>Haisborough, Hammond and Winterton SAC</i>	
Site description summary	Qualifying features¹¹⁹
The site lies off the north east coast of Norfolk and contains a series of sandbanks as well as Sabellaria spinulosa reefs. Small numbers of Harbour Porpoise are regularly observed within the site boundary and a large colony of breeding Grey Seal is known adjacent to the site.	1110 Sandbanks which are slightly covered by sea water all the time
	1170 Reefs
	1364 Halichoerus grypus (Grey Seal)
	1351 Phocoena phocoena (Harbour Porpoise)
Component SSSI/s	
n/a	
Conservation Objectives¹²⁰	
For Annex 1 sandbanks which are slightly covered by seawater all the time:	Subject to natural change maintain the sandbanks in favourable condition, in particular the sub-features: <ul style="list-style-type: none"> • Low diversity dynamic sand communities • Gravelly muddy sand communities
For Annex 1 Sabellaria spinulosa reefs:	Subject to natural change maintain or restore the reefs in favourable condition

¹¹⁸ Taken from Natural England's Draft advice under Regulation 35(3) of The Conservation of Habitats and Species Regulations 2010 (as amended) and Regulation 18 of The Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 (as amended) for Outer Thames Estuary SPA Version 3.7 March 2013.

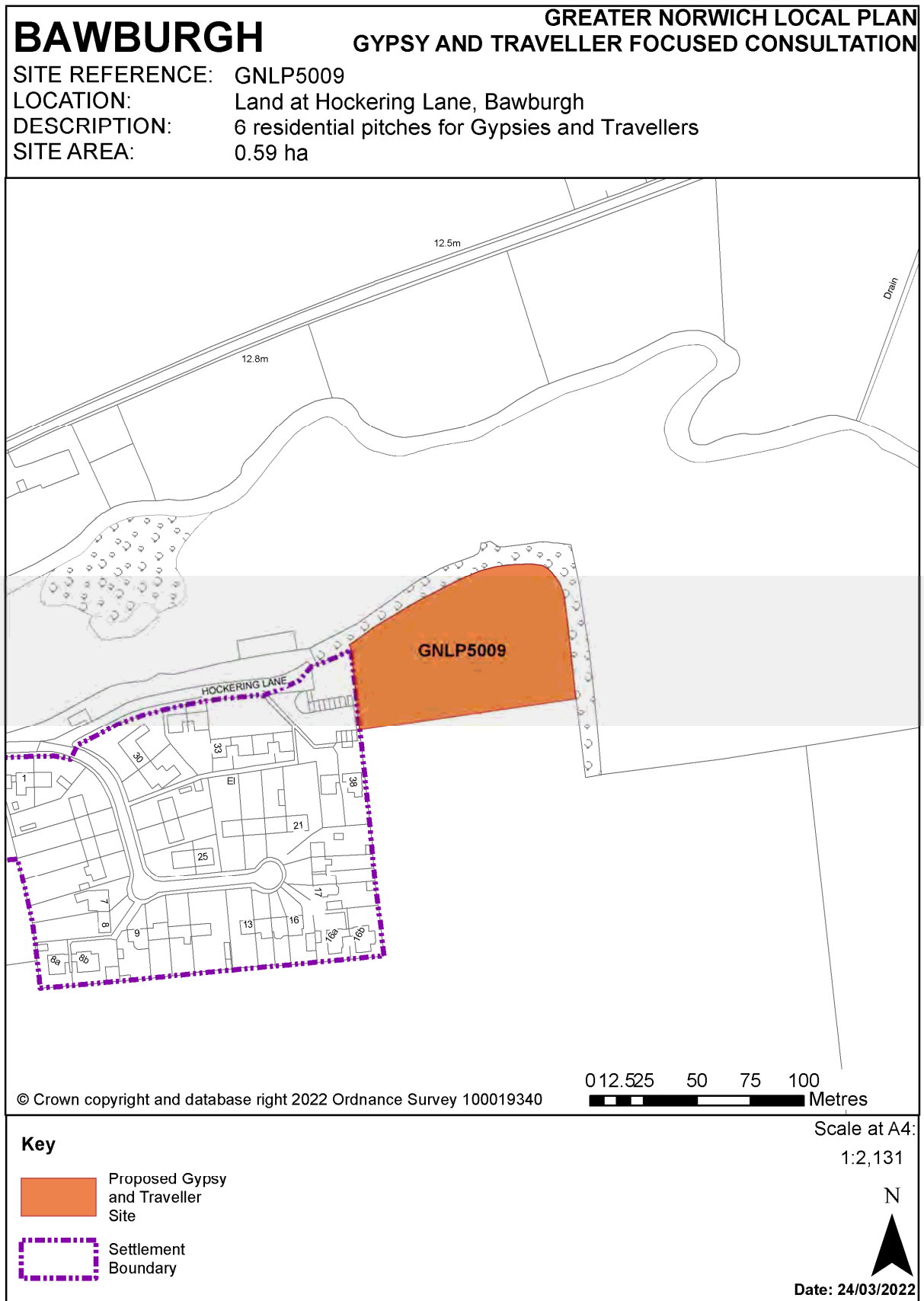
¹¹⁹ Taken from the Natura 2000 Standard data form for site UK0030369 Haisborough, Hammond and Winterton SAC dated December 2015.

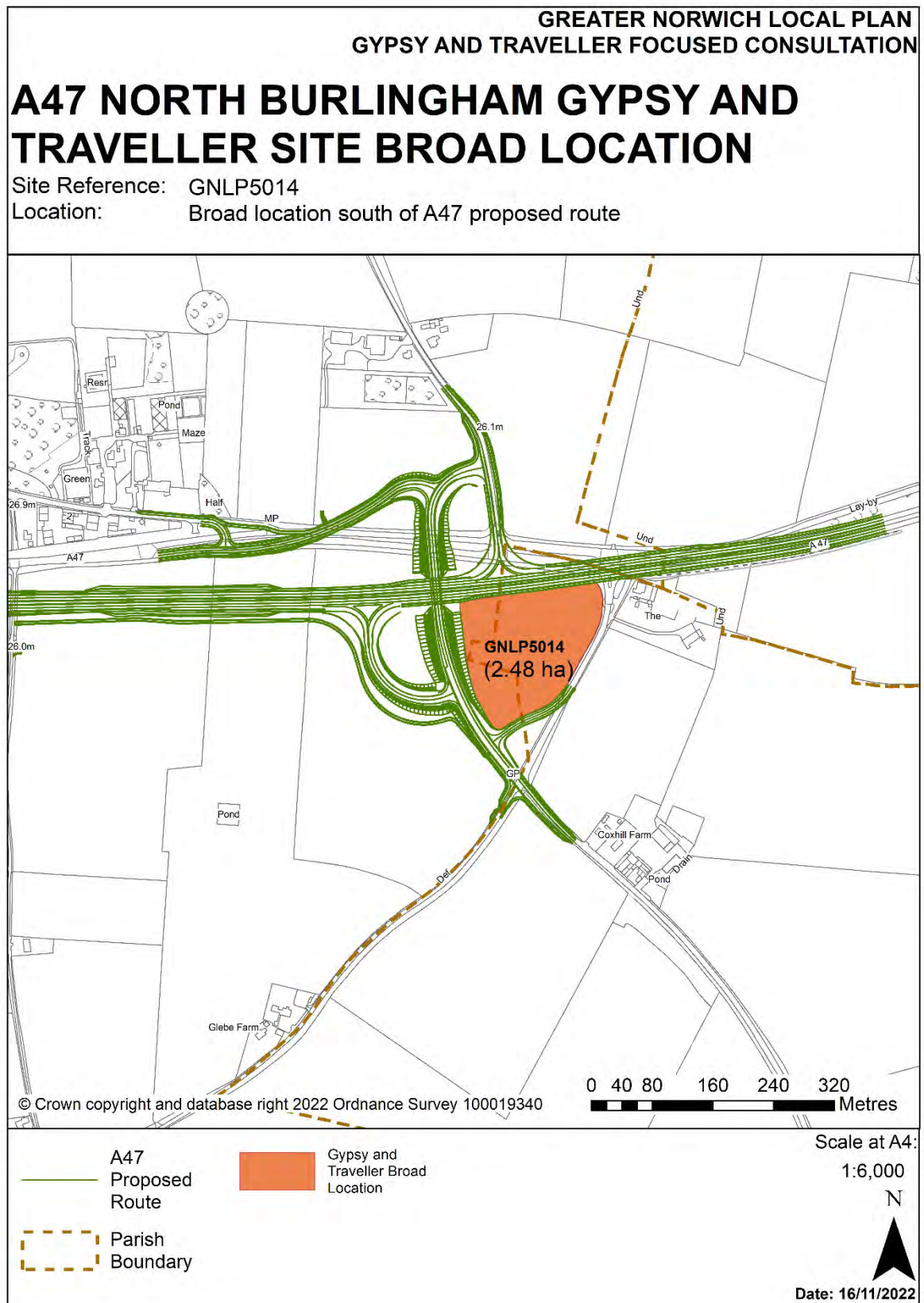
¹²⁰ Taken from JNCC and Natural England's Haisborough, Hammond and Winterton candidate Special Area of Conservation Formal advice under Regulation 35(3) of The Conservation of Natural Habitats and Species Regulations 2010 (as amended), and Regulation 18 of The Offshore Marine Conservation Regulations (Natural Habitats,&c.) Regulations 2007 (as amended). Version 6.0 (March 2013).

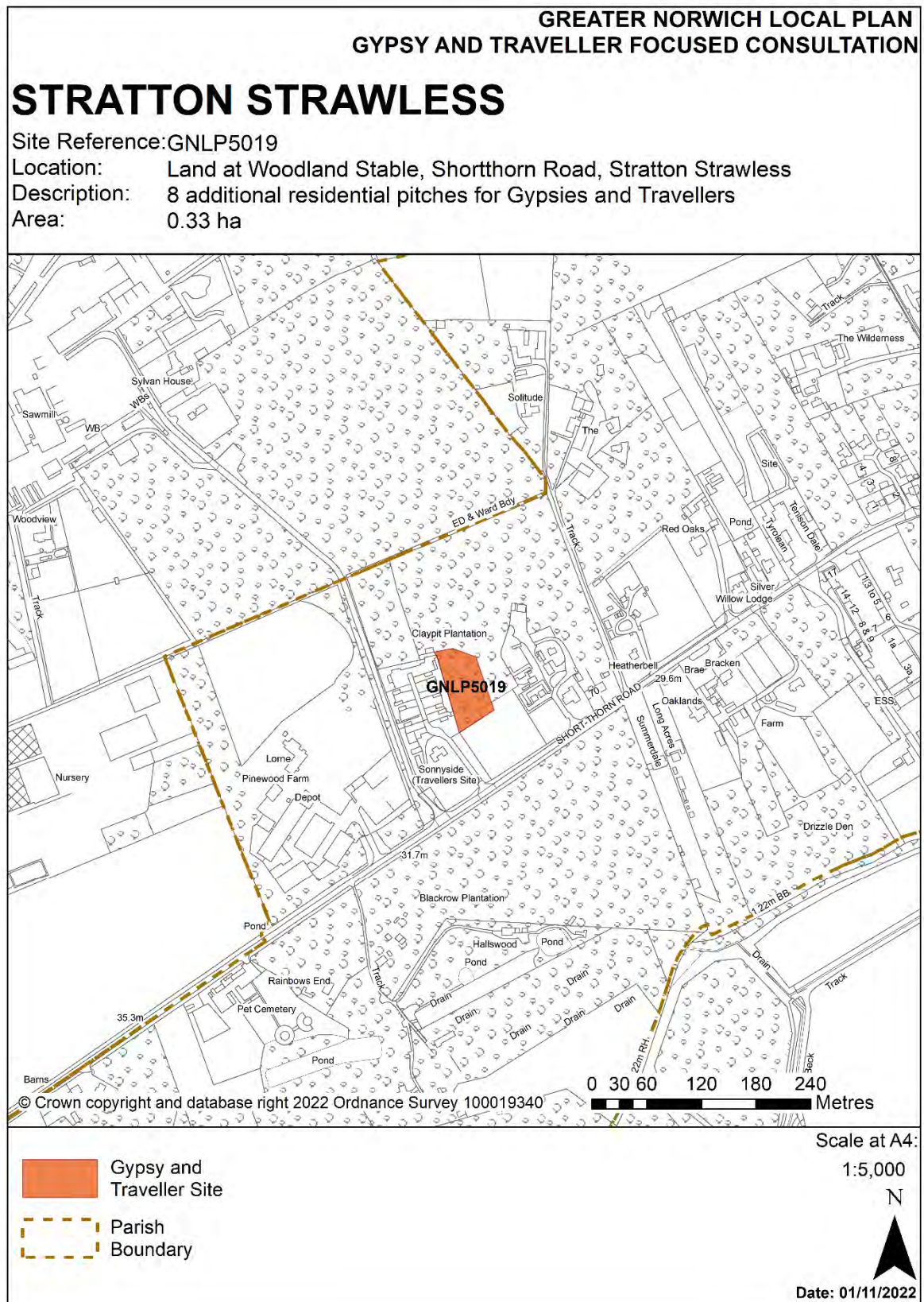
Appendix 2

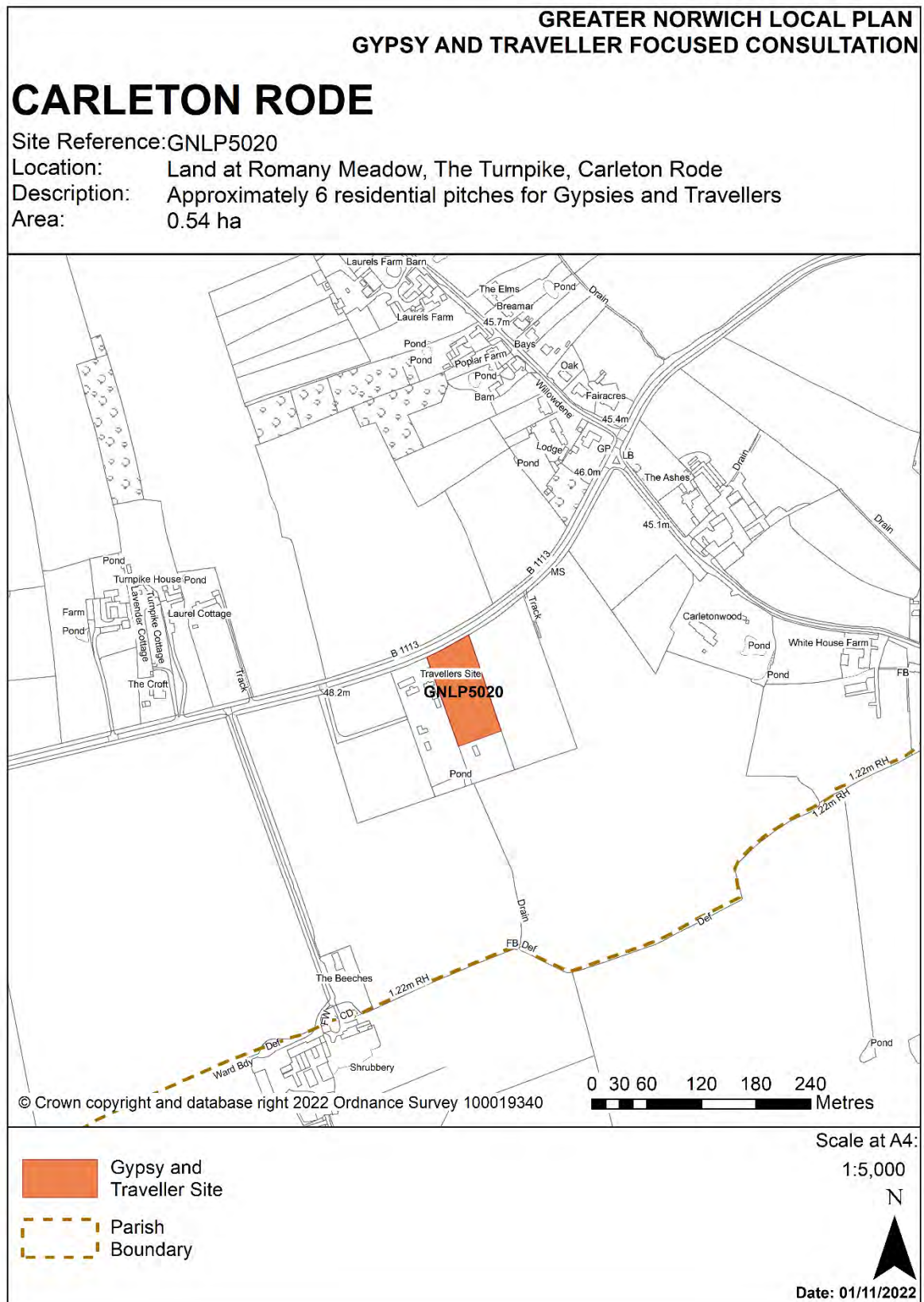


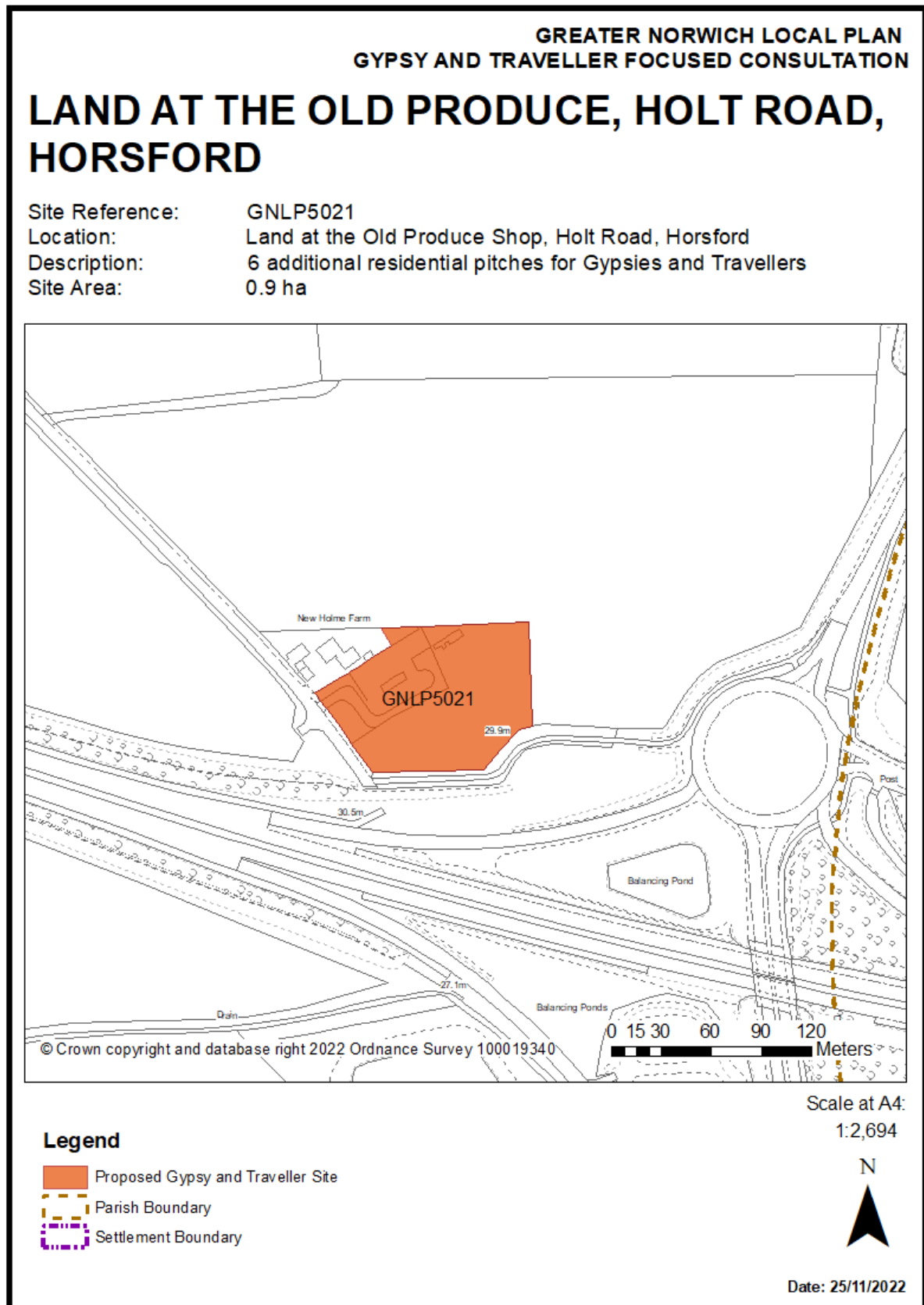


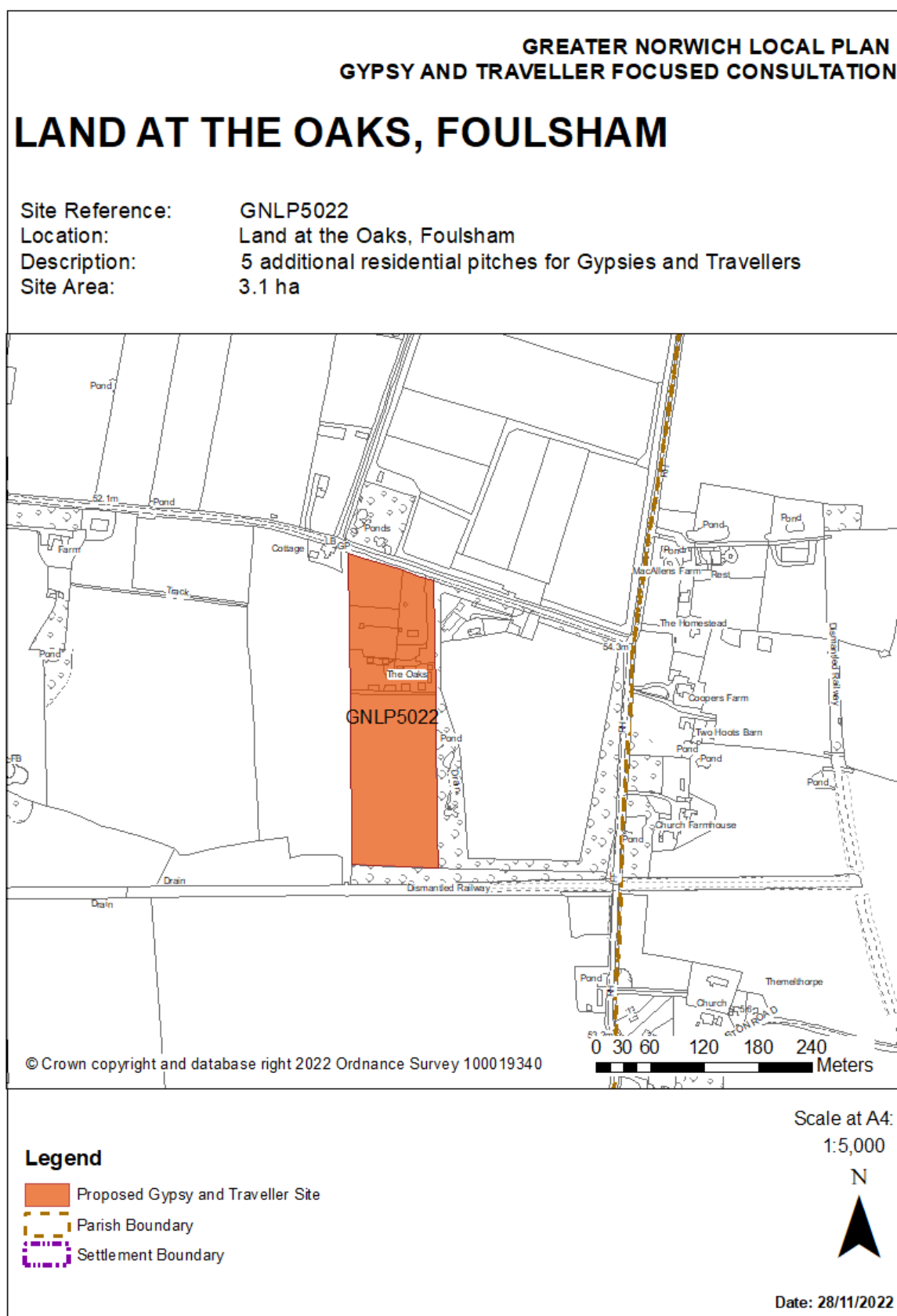






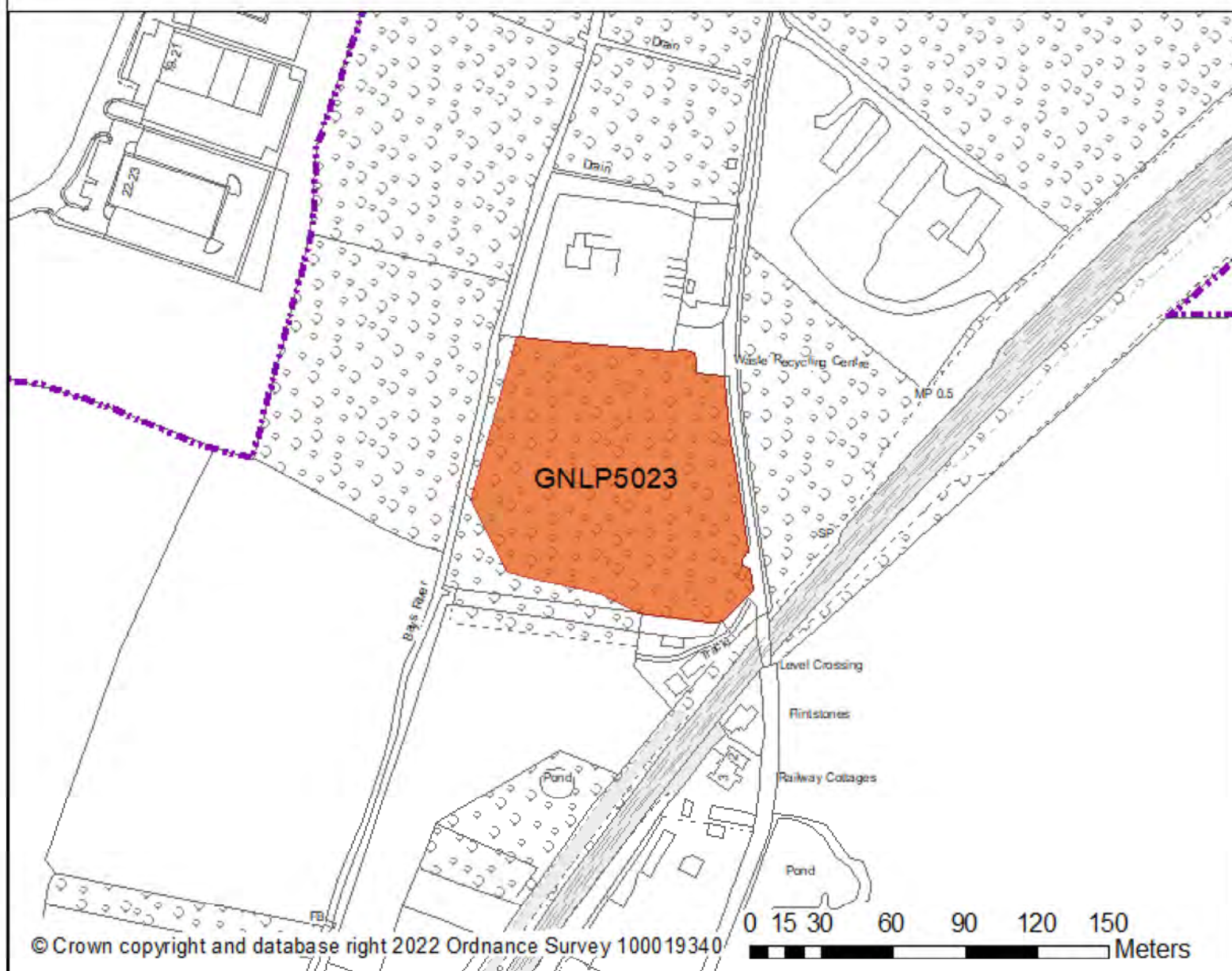






LAND AT STRAYGROUND LANE, WYMONDHAM

Site Reference: GNLP5023
Location: Land at Strayground Lane, Wymondham
Description: Approximately 10 residential pitches for Gypsies and Travellers
Site Area: 1.1 ha

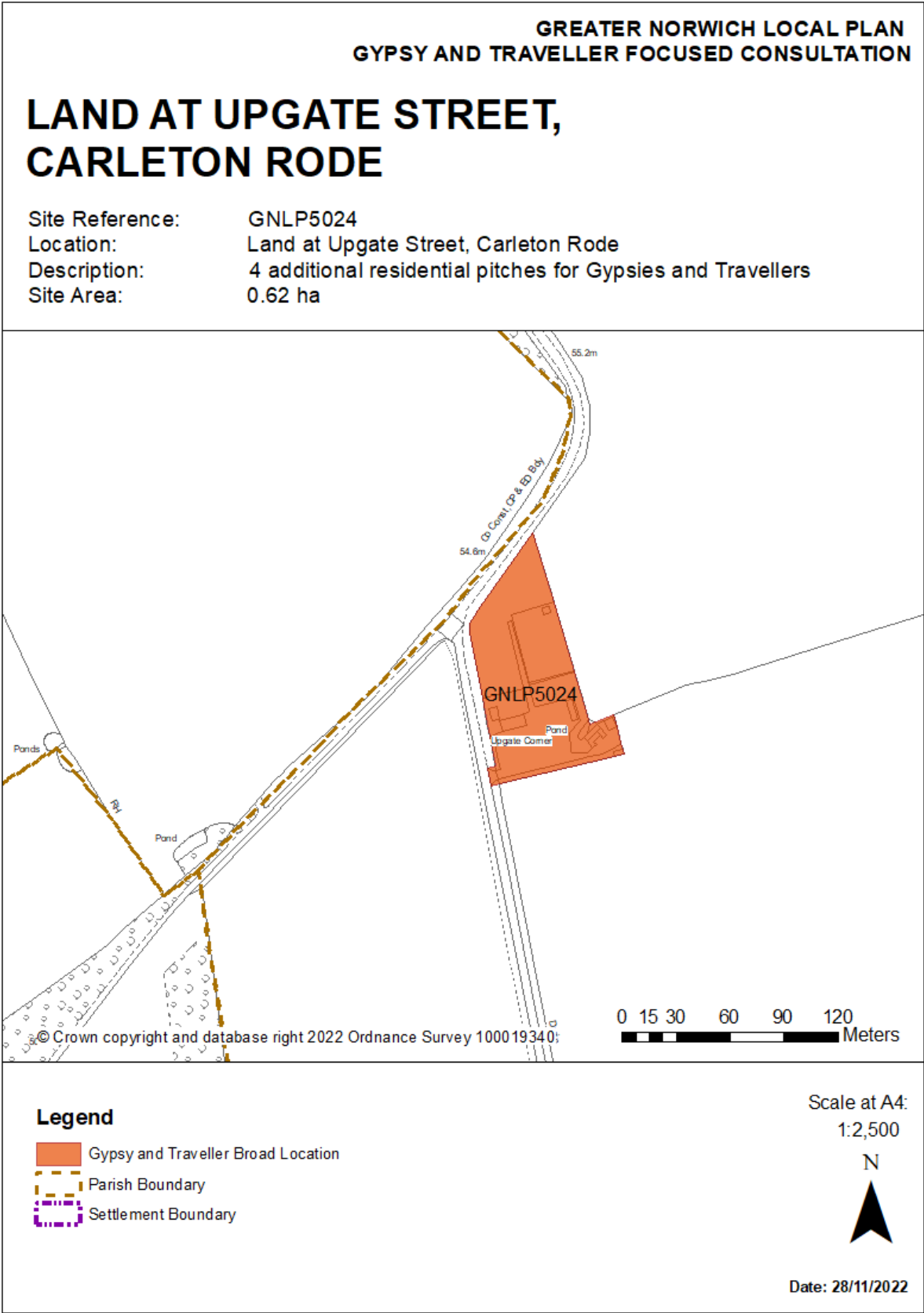


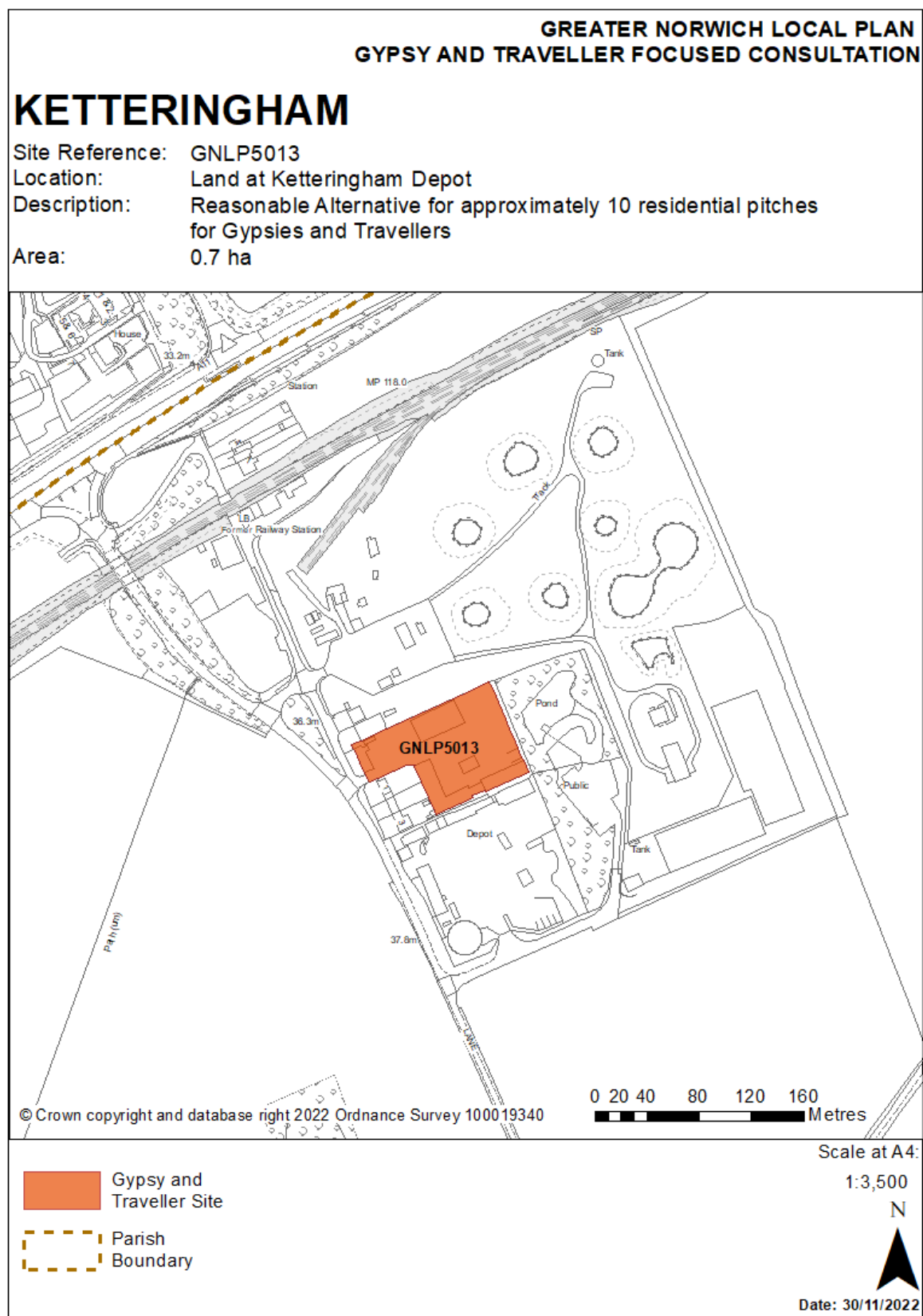
Legend

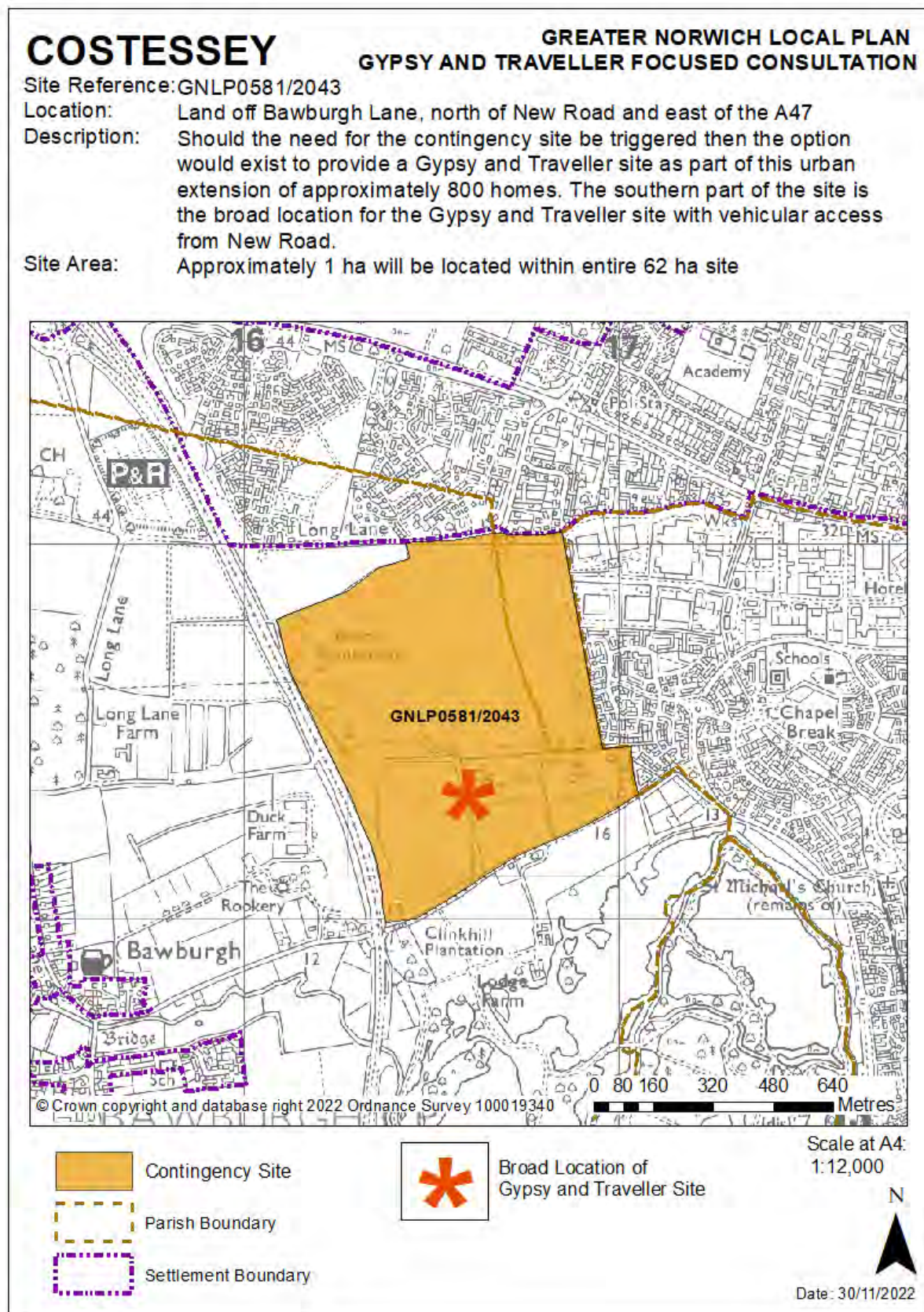
- Gypsy_and_Traveller_Broad_Location
- Parish Boundary
- Settlement Boundary

Scale at A4:
1:2,500

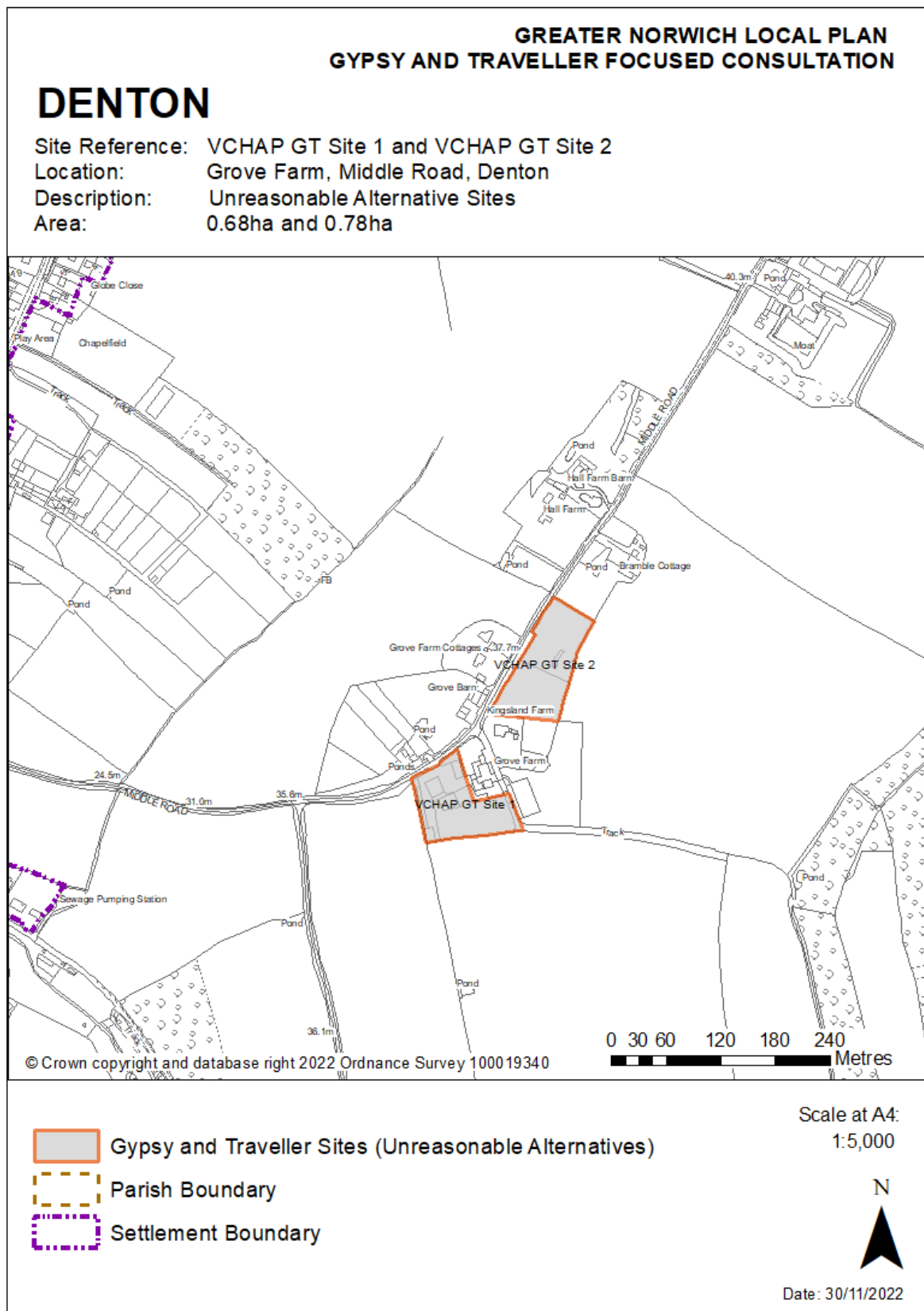




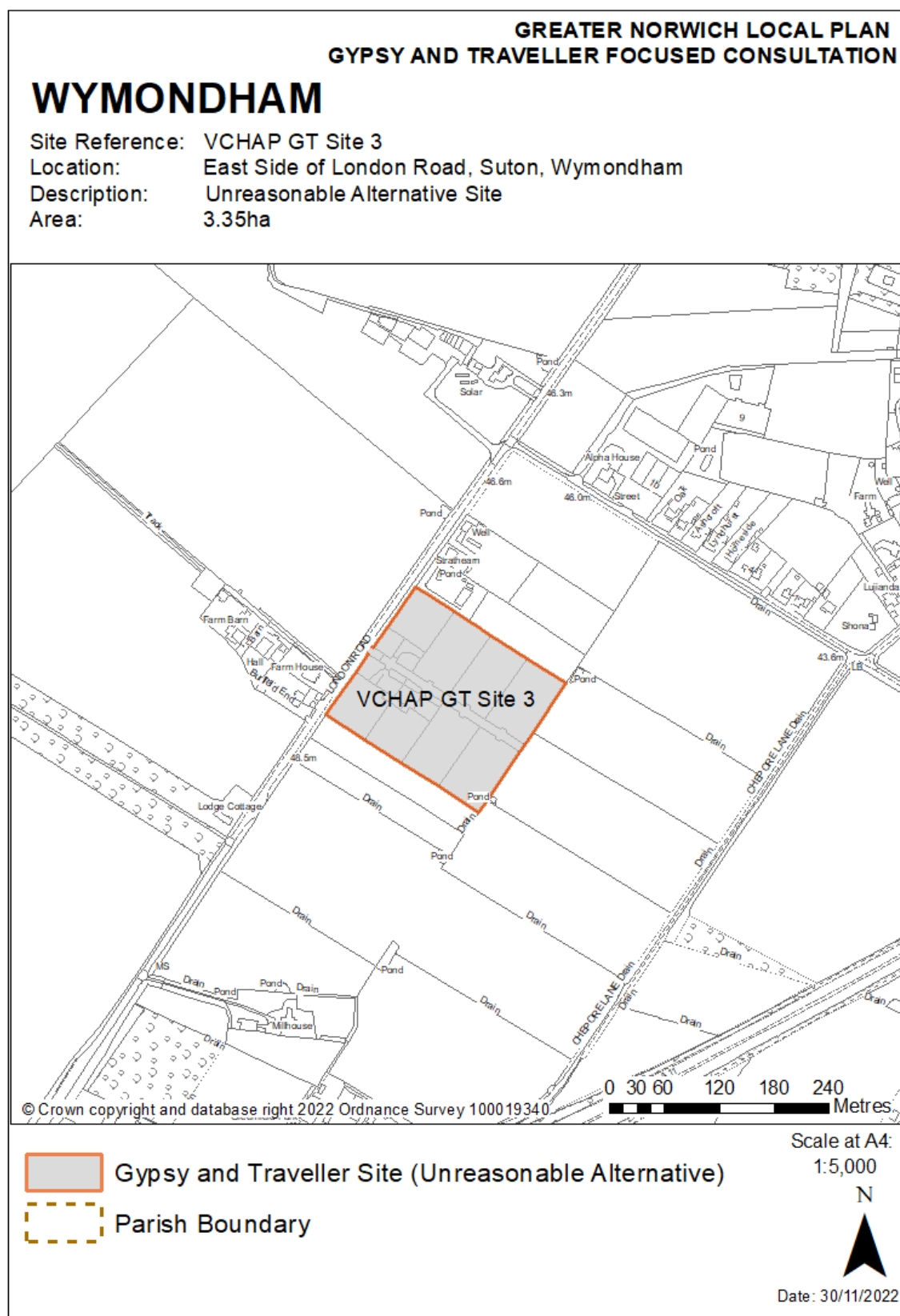




VCHAP Site 1 and Site 2, Middle Road, Denton



VCHAP Site 3, Land off London Road, Sutton, Wymondham



Appendix 3



Nutrient Budget Calculator Guidance Document

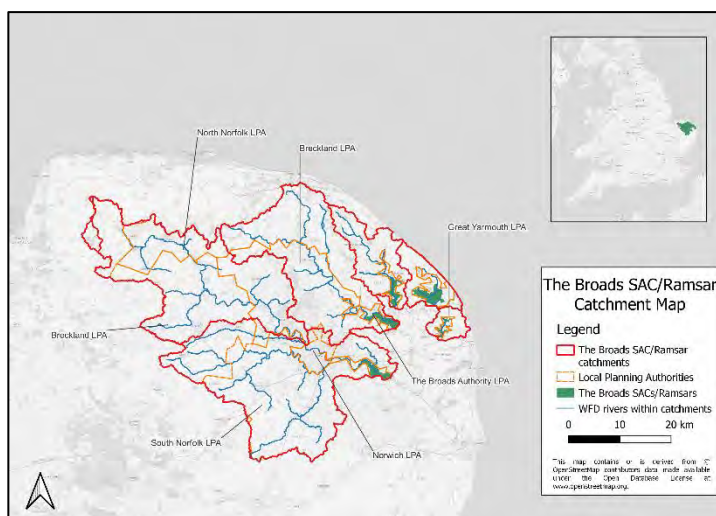
Guidance for completion of a nutrient budget using the nutrient budget calculator tool

Prepared by Ricardo Energy and Environment on behalf of Natural England

The Broads Special Area of Conservation (SAC) and Broadland Ramsar

The Broads SAC and Broadland Ramsar site are Habitats sites with water pollution and eutrophication considered a threat to its condition.

The fens of the Broads, located in East Anglia, contain several examples of naturally nutrient-rich lakes. Although artificial, having been created by peat digging in medieval times, these lakes and the ditches in areas of fen and drained marshlands support relict vegetation of the original Fenland flora, and collectively this site contains one of the richest assemblages of rare and local aquatic species in the UK.



The SAC and Ramsar are designated for several different significant habitats, including habitats made up of a range of important aquatic plant species from groups including stoneworts, pondweeds, water-milfoils and water-lillies. The sites are also a stronghold of little whirlpool ram's-horn snail and Desmoulin's whorl snail in East Anglia. The range of wetlands and associated habitats also provides suitable conditions for otters.

Increased levels of nitrogen and phosphorus entering aquatic environments via surface water and groundwater can severely threaten these sensitive habitats and species within the sites. The elevated levels of nutrients can cause eutrophication, leading to algal blooms which disrupt normal ecosystem function and cause major changes in the aquatic community. These algal blooms can result in reduced levels of oxygen within the water, which in turn can lead to the death of many aquatic organisms including invertebrates and fish.

The habitats and species within the site that result in designation as a SAC and Ramsar site are referred to as 'qualifying features.' Not all of these qualifying features will be sensitive to changes in nutrients within the sites. When completing an HRA involving nutrient neutrality, the Competent Authority (normally Local Planning Authority for developments) must identify and screen out qualifying features that are not sensitive to nutrients via a Habitats Regulations Assessment. Developers will be asked to submit information to support this process.

More detailed information on the qualifying features of the SAC and Ramsar and details of water quality data highlighting the current nutrient problems in the site are available in the Natural England The Broads SAC and Broadland Ramsar site evidence summary.

The requirement for Nutrient Neutrality

Special Areas of Conservation (SAC), Special Protection Areas (SPA), and Ramsar sites are some of the most important areas for wildlife in the United Kingdom. They are internationally important for their habitats and wildlife and are protected under the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). At some of these sites, there are high levels of nitrogen and phosphorus input to the protected water environment with sound evidence that these nutrients are causing eutrophication at these designated sites. These nutrient inputs currently mostly come either from agricultural sources or from wastewater from existing housing and other development. The resulting effects on ecology from an excessive presence of nutrients are impacting on protected habitats and species.

There is uncertainty as to whether new growth will further deteriorate designated sites, and/or make them appreciably more difficult to restore. The potential for future housing developments to exacerbate these impacts creates a risk to their potential future conservation status.

One way to address this uncertainty is for new development to achieve nutrient neutrality. Nutrient neutrality is a means of ensuring that development does not add to existing nutrient burdens and this provides certainty that the whole of the scheme is deliverable in line with the requirements of the Habitats Regulations.

Key Principles

The principles underpinning Habitats Regulations Assessments are well established¹. At the screening stage, plans and projects should only be granted consent where it is possible to exclude, on the basis of objective information, that the plan or project will have significant effects on the sites concerned². Where it is not possible to rule out likely significant effects, plans and projects should be subject to an appropriate assessment. That appropriate assessment must contain complete, precise and definitive findings which are capable of removing all reasonable scientific doubt as to the absence of adverse effects on the integrity of the site³.

Natural England has been reviewing the available evidence on Habitats sites which are in unfavourable condition due to elevated nutrient levels. Where plans or projects will contribute additional nutrients to Habitats sites which are close to or already in unfavourable condition for nutrients, then a robust approach to the Habitats Regulations Assessment (HRA) of the effects of plans and projects is required.

Where sites are close to or already in unfavourable condition for nutrients, it may be difficult to grant consent for new plans and projects that will increase nutrient levels at the Habitats site. Nutrient neutrality provides a means of effectively mitigating the adverse effects associated with increased nutrients from new plans and projects, by counter-balancing any additional nutrient inputs to ensure that there is no net change in the amount of nutrients reaching the features which led to a Habitats site being designated.

Where new residential development is proposed, the additional nutrient load from the increase in wastewater and/or the change in the land use of the development land created by a new residential development can create an impact pathway for potential adverse effects on Habitats sites that are already suffering from problems related to nutrient loading. This impact pathway is shown diagrammatically in Figure 1. HRAs of new residential developments therefore need to consider whether nutrient loading will result in 'Likely Significant Effects' (LSE) on a Habitats site. If an HRA cannot exclude a LSE due to nutrient loading, the Appropriate Assessment (AA) will need to consider whether this nutrient load needs to be mitigated in order to remove adverse effects on the Habitats site.

¹ See, amongst others Case C-127/02 *Waddervereniging and Vogelsbeschermingvereniging (Waddenzee)*; *R (Champion) v North Norfolk DC* [2015] EKC 52 (Champion); C-323/17 *People Over Wind, Peter Sweetman v Coillte Teoranta (People Over Wind)*; C-461/17 *Brian Holohan and Others v An Bord Pleanála (Holohan)*; Joined Cases C-293/17 and C-294/17 *Coöperatie Mobilisation for the Environment UA and Others v College van gedeputeerde staten van Limburg and Other* (the Dutch Nitrogen cases);

² Case C-127/02 *Waddervereniging and Vogelsbeschermingvereniging (Waddenzee)*

³ Case 164/17 *Grace & Sweetman v An Bord Pleanála (Grace & Sweetman)*

For those developments that wish to pursue neutrality, Natural England advises that a nutrient budget is calculated for new developments that have the potential to result in increases of nitrogen/phosphorus entering the international sites. A nutrient budget calculated according to this methodology and demonstrating nutrient neutrality is, in our view, able to provide sufficient and reasonable certainty that the development does not adversely affect the integrity, by means of impacts from nutrients, on the relevant internationally designated sites. This approach must be tested through the AA stage of the HRA. The information provided by the applicant on the nutrient budget and any mitigation proposed will be used by the local planning authority, as competent authority, to make an AA of the implications of the plan or project on the Habitats sites in question.

The nutrient neutrality calculation includes key inputs and assumptions that are based on the best available scientific evidence and research. It has been developed as a pragmatic tool. However, for each input there is a degree of uncertainty. For example, there is uncertainty associated with predicting occupancy levels and water use for each household in perpetuity. Also, identifying current land / farm types and the associated nutrient inputs is based on best available evidence, research and professional judgement and is again subject to a degree of uncertainty.

It is our advice to local planning authorities to take a precautionary approach in line with existing legislation and case law when addressing uncertainty and calculating nutrient budgets. This should be achieved by ensuring nutrient budget calculations apply precautionary rates to variables and adding a buffer to the Total Nitrogen/Total Phosphorus figure calculated for developments. A precautionary approach to the calculations and solutions helps the local planning authority and applicants to demonstrate the certainty needed for their assessments.

By applying the nutrient neutrality methodology, with the buffer, to new development, the competent authority may be satisfied that, while margins of error will inevitably vary for each development, this approach will ensure that new development in combination will avoid significant increases of nitrogen load from entering the internationally designated sites.⁴

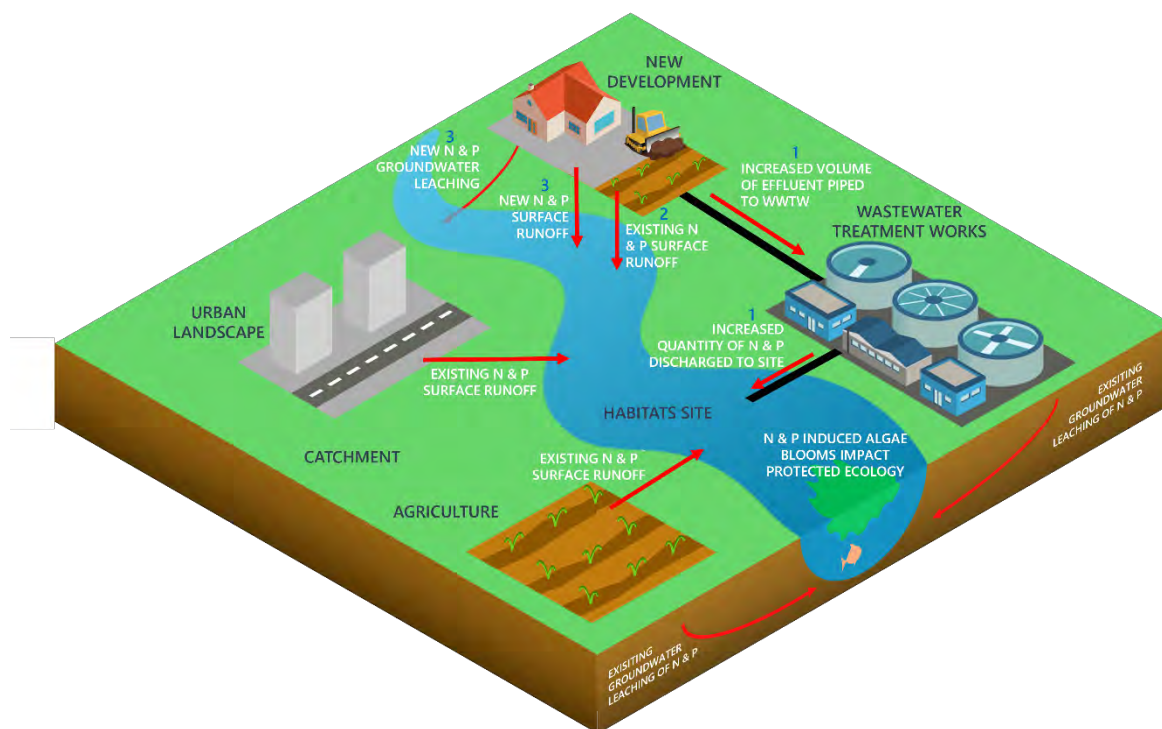
A HRA must be capable of removing all reasonable scientific doubt as to the absence of adverse effects on a Habitats site. Absolute certainty is not required, but the methodology used to evaluate potential adverse effects (and the measures intended to mitigate them) must effectively address any reasonable scientific doubt to achieve the required degree of certainty.

The first step in an AA that is applying nutrient neutrality is to understand whether a development will cause additional nutrient inputs to the Broads SAC and Broadland Ramsar site. This requires calculation of the amount of nutrients a new residential development will create, otherwise known as a nutrient budget.

If a nutrient budget shows that a new development will increase the nutrient input to the Broads SAC and Broadland Ramsar site and it is not possible to conclude no adverse effect on site integrity alone or in combination, then this is the amount of nutrients that require mitigating on an annual basis to achieve nutrient neutrality and therefore enable a conclusion of no adverse effect on site integrity to be reached.

⁴ This approach was expressly endorsed in *R (Wyatt) v Fareham BC* [2021] EWHC 1434 (Admin)

Figure 1: Diagram demonstrating the potential nutrient impact pathways from a new development to a Habitats site. An increase in nitrogen and phosphorus availability in aquatic ecosystems can lead to various problems, such as algae blooms, which can have detrimental impacts on the ecology of a Habitats site.



What is this guidance for?

This guidance document accompanies the Broads SAC and Broadland Ramsar site nutrient budget calculator. The nutrient budget calculator is used to calculate the change in nutrient input from a new residential development to the Broads SAC and Broadland Ramsar site. The calculator can be used to inform an AA which is looking to apply nutrient neutrality to show whether a new development will require nutrient mitigation and if so, the amount of nitrogen and phosphorus loading that requires counterbalancing through mitigation measures to enable a conclusion of no adverse effect on site integrity, alone or in combination.

The guidance document contains the following:

- Step-by-step instructions on how to collect the specific data required as inputs to the tool.
- Instructions on how to use the tool.

Who is the guidance for?

This guidance is for anyone who needs to complete a nutrient budget calculation to support an AA of residential development in the Broads SAC and Broadland Ramsar site catchment. The tool is primarily aimed at developers who need to complete a nutrient budget calculation to support a planning application and Local Planning Authorities who need to understand the mitigation requirements for future development or assess planning applications. It could also be used by communities or environmental groups wanting to understand the impacts of a local development on the nutrient inputs to the Broads SAC and Broadland Ramsar site.

Summary of how the calculator works.

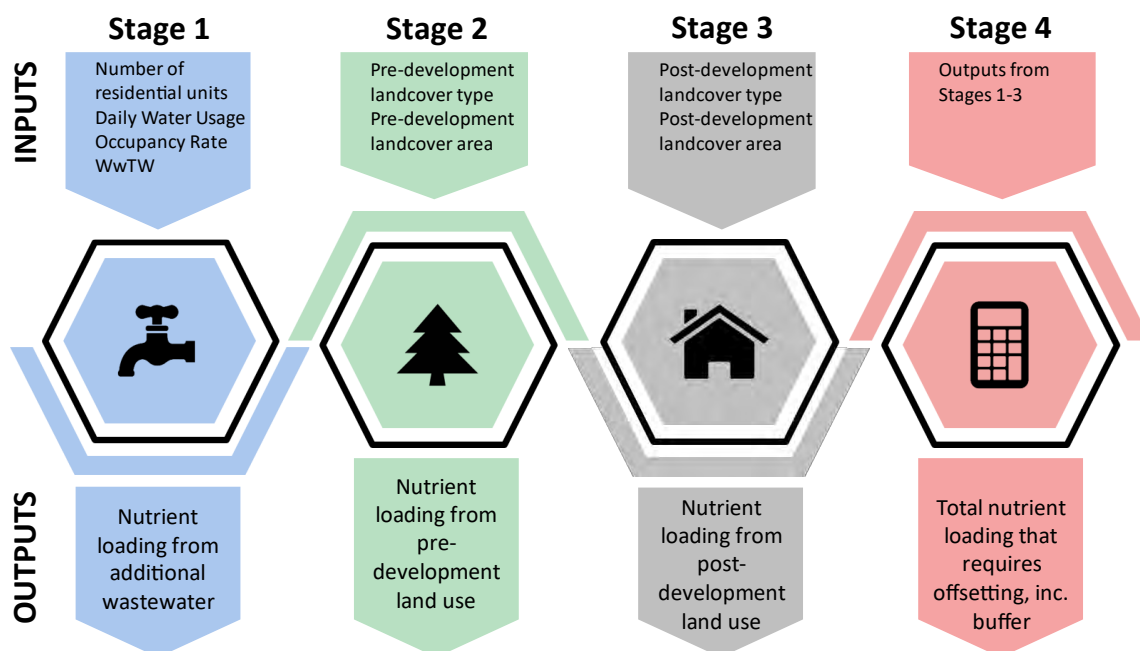
Overview

The nutrient budget calculator requires a set of inputs in order to calculate a new development's nutrient budget. The calculations are completed in four stages:

1. Calculate the increase in nutrient loading that comes from a development's wastewater.
2. Calculate the pre-existing nutrient load from current land use on the development site.
3. Calculate the future nutrient load from land use on the development site post-development.
4. Calculate the net change in nutrient loading from the development to the Broads SAC and Broadland Ramsar site with the addition of a buffer. The net change in nutrient loading + the buffer is the nutrient budget.

These key inputs and outputs for each stage can be shown schematically in Figure 2.

Figure 2: Schematic showing the key inputs and outputs associated with each stage of the nutrient budget calculation methodology



Note: the values that come pre-entered in this tool have been chosen based on research to select inputs that meet the HRA tests of beyond reasonable scientific doubt, best available evidence, in perpetuity and were chosen in accordance with the precautionary principle. It is highly inadvisable to edit the values in this tool without a sufficient evidence base to justify any changes.

Data Collection and preparation

The nutrient budget calculator requires a set of inputs as shown in Figure 2. This section does not provide instructions on how to gather development specific information, such as the number of properties being constructed, as this should be known by the developer and should be detailed in the planning application. The subsections below provide guidance on how to identify certain inputs that are needed to complete the calculations for each stage of the nutrient budget calculations. The information required is available from free to access data sources⁵. Most of the required inputs are for factors that are specific to the location of a development site or the hydrological catchment of the Broads SAC and Broadland Ramsar site.

The instructions below are divided by the stage where the data will be required. We advise that you collect and note down this data before starting to input information into each stage of the nutrient budget calculator.

Stage 2 & 3: Instructions for finding the Operational Catchment that the development is located within

- Go to this link: <http://environment.data.gov.uk/catchment-planning/>
- Search the location by place name, postcode etc. This will give a high-level view of the area. Use the zoom feature to find the exact location of the development.
- Click on the light blue area on the map in which the development is located. This will bring the user to the Operational Catchment page
- Make a note of the name of the Operational Catchment and select it from the dropdown list in the 'Catchment' cell when you get to this part of the calculator tool.

Stage 2: Instructions for finding the soil drainage type associated with the predominant soil type within the development site

- Go to this link: <http://www.landis.org.uk/soilscapes/#>
- Find your development site location on the map by using the search bar on the right side of the map in the 'Search' tab. Searching a location should generate a pop-up window in which you can view the soil information by clicking 'View soil information'. If this is not an option then click on the relevant soil type on the map and click on the 'Soil information' tab on the right-hand side of the map, below the 'Search' tab.
- The 'Soil drainage type' value can be found in the 'Soil information' under the title 'Drainage:'
- Make a note of this soil type and select the relevant soil drainage type from the drop-down list in the 'Soil drainage type' cell when you get to this part of the calculator tool.

Stage 2: Instructions for finding the annual average rainfall that the development site will receive

- Go to this link: <https://nrfa.ceh.ac.uk/data/station/spatial/34002>
- This link will bring the user to the Tas at Shotesham flow gauge catchment information page.
- Click on the dropdown list next to the title 'Select spatial data type to view:' on the left of the map and select 'Rainfall'.
- Select the Legend tab.
- Zoom in on the map to find the location of the development and find the corresponding rainfall range from the Legend. Note that you cannot search this map using location information and will need to 'surf' around the map to find your development site location.
- Make a note of the relevant rainfall band for your site and use it to select this rainfall band from the drop-down list in the 'Average annual rainfall' cell when you get to this part of the calculator tool.

⁵ Correct at the time of writing. These data sources are available from websites that currently have government funding but it should be noted that these datasets may become unavailable if funding is removed.

Stage 2: Instructions for finding out whether the development is in a Nitrate Vulnerable Zone (NVZ)

- Go to this link <http://mapapps2.bgs.ac.uk/ukso/home.html?layers=NVZEng>
- Enter the location of the development site in the search bar.
- Once the area has been located, click on the map where the development is located to find out if it is within an NVZ.
- Make a note of this information. It will be needed to select 'Yes' or 'No' from the 'Within Nitrate Vulnerable Zone (NVZ)' cell when you get to this part of the calculator tool.

Note: some of the values you select above will also be used in the Stage 3 calculations, however you only need to add the above details to the table in Stage 2 of the calculator and the required values for stage 3 will be carried through automatically.

How to use the calculator:

General tips

- The key below shows the colour coding used to highlight which cells need to be completed.
- When a cell is selected, instructions on how to fill out the cell that is selected are shown.
- Some cells will have values pre-populated, like the 'Water usage' input. The instructions for each cell will detail if an alternative value can be used.
- It is advisable to retain a default copy of this calculator tool workbook which has not had any development details added. "Save as" a new copy each time you calculate a budget for a new development in case any of the default values in the in the workbook get overwritten and are needed again.

Key:

	Values to be entered by the user
	Fixed or calculated values
	Lookup tables

Water usage (litres/person/day):	120
Development Proposal (dwellings):	100

Please enter the total number of dwellings that will be on the development site as of the completion date of the project.

...	Instructions	Site Information	Stage 1	Stage 2	Stage 3
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Stage 1: calculate the new nutrient load associated with the additional wastewater

In this section the user will need to enter:

- The date of first occupancy. *This is because some wastewater treatment works may be due an upgrade in 2025 that will change the nitrogen or phosphorus output from this works, which will in turn change the output from this stage of the calculations. If this is the case, it will be apparent in the calculated values if there is an upgrade to a treatment works that affects the nutrient budget.*

- The average occupancy rate of the development will need to be entered in people per dwelling for residential dwellings or units for other types of overnight accommodation which would result in an increase in overnight accommodation. The default setting for residential dwellings is the national occupancy rate of 2.4 people per dwelling. **Only change this value if there is sufficient evidence that a different occupancy rate is appropriate** (see Occupancy Rate Guidance section below for when a local or regional occupancy rate is acceptable).
- The number of dwellings / units⁶ that will be within the development at the time of completion.
- The wastewater treatment works that the development will connect to. If required this information can be obtained from the sewerage undertaker for the development site. If it is not feasible to connect to mains sewerage and a septic tank (ST) or package treatment plant (PTP) is being used, please select this option. Please be aware that if the total nitrogen (TN) or total phosphorus (TP) final effluent concentrations (in mg/l) are specified by the manufacturer, please select 'Septic Tank user defined' or 'Package Treatment Plant user defined' and enter the specified value in the cell where prompted. If you do not have a TP or TN value provided by the manufacturer, select the 'Septic Tank default' or 'Package Treatment Plant default' option and a value will be provided automatically.

Occupancy Rate Guidance:

As set out in the guidance below, the Local Planning Authority/Competent Authority will need to ensure that the occupancy rate is appropriate to development within their Authority area. **It is therefore recommended that the occupancy rate is agreed with the Local Planning Authority before completing the nutrient budget calculation.**

Competent authorities must satisfy themselves that the residents per dwelling/unit value used in this step of the calculation reflects local conditions in their area. The residents per dwelling value can be derived from national data providing it reflects local conditions. However, if national data does not yield a residents per dwelling/unit value that reflects local occupancy levels then locally relevant data should be used instead. Whichever figure is used, it is important to ensure it is sufficiently robust and appropriate for the project being assessed. **It is therefore recommended that project level Appropriate Assessments specifically include justification for why the competent authority has decided upon the occupancy rate that has been used.**

Further guidance is provided below.

National occupancy data

When using national occupancy data, the Office of National Statistics (ONS) national average value for the number of residents per dwelling of 2.4 is recommended. This value is derived from 2011 census data and is subject to change when the 2021 Census becomes available. This value can be used if the Local Planning Authority is satisfied that:

- It is appropriate for the level and type of housing development that is expected to come forward in the Local Planning Authority's area (a strategic assessment should be made of the development anticipated to come forward over the Local Plan period to ensure the use of average figures will not under/overestimate the level of impact)
- It corresponds to the local average in the area (it is not likely to overestimate or underestimate occupancy)

⁶ The term 'dwellings' has a specific legal meaning derived from the use classes order. To ensure that all relevant forms of development which would result in an increase in overnight accommodation such as hotel rooms, short term holiday lets etc are considered in the HRA process the term units is used

- It is based on data that is robust and doesn't underestimate the level of impact over time.

It may not be appropriate to use the national average occupancy rate for development types which are not included in the ONS data, such as student accommodation or houses in multiple occupation. For such developments, the Local Planning Authority should specify an appropriate occupancy rate in the project level Appropriate Assessment and explain how this figure was derived.

Locally relevant occupancy data

If the national average occupancy rate does not correspond with local conditions, then a locally relevant average residents per dwelling value may be more appropriate. If a Local Planning Authority decides to use a locally relevant value, that value needs to be supported by robust and sufficient evidence which should be included in the project level Appropriate Assessment. Key sources of evidence include:

- The average occupancy rate from the census for the relevant local administrative area, e.g. the county.
- The average occupation figures used by the Local Planning Authority to calculate population growth due to Local Plan development.
- The average occupation figures used by the local water company to plan for population growth and the impact on water resources and sewage treatment.

A local / regional average occupancy rate can be used provided that it is from a robust source which can show trends over a protracted period of time— such as from ONS derived data or from the annual English Housing Survey. Figures derived from data collected over short periods of time will not be acceptable as short-term data is unlikely to provide the required degree of certainty. The Local Planning Authority should ensure that any trend in occupancy rates or estimates of the average number of persons per household used will continue for perpetuity and would not underestimate the level of impact over time. A local / regional average occupancy rate would therefore need to be based on figures over at least a 5-year period⁷.

Local Planning Authorities will also need to satisfy themselves that a locally derived occupancy figure is appropriate for the level and type of housing development that is expected (a strategic assessment should be made of the development anticipated to come forward over the Local Plan period to ensure the use of average figures will not under/overestimate the level of impact).

Occupancy rates based on dwelling type

Should the nature or scale of development associated with a particular project proposal suggest that the use of an average occupancy rate is not appropriate, then the Local Planning Authority may decide to adopt an occupancy rate based on the dwelling types proposed for that particular project, provided it meets the criteria outlined above. This may be appropriate where a project proposer seeks consent for a development comprising certain dwelling types (e.g. flats and small 1 and 2 bed dwellings). If the Local Planning Authority decides to adopt a local approach based on determining occupancy rate by dwelling type, that approach should be used for all planning applications, rather than reverting back to the use of an average occupancy rate. This will ensure that the Local Planning Authority doesn't inadvertently underestimate total occupancy levels (and consequently water quality impacts) across its area by applying a lower residents per dwelling/unit value for developments comprising smaller units but failing to adopt a higher residents per dwelling/unit value for developments comprising larger units or a mix of units.

⁷ The figure of 5 years has been chosen as the minimum period of time over which occupancy rates can be calculated from as local plans and WRMPs are reviewed every 5 years, so represents a long enough period of time to capture any trends or changes.

Consistency in applying occupancy rates

The same occupancy rate should be used where there are several different impacts on Habitat sites which require strategic mitigation. The strategic approaches developed with local planning authorities to deal with in combination impacts on international sites elsewhere typically calculate mitigation requirements and contribution requirements based on current national average occupancy rates. Local Planning Authorities may decide to use a locally derived average occupancy rate instead, but this local occupancy rate must be used consistently across each type of impact and each Habitats site affected. Local Planning Authorities should not use different occupancy rates in their HRAs for the same dwelling types / size of units. Whilst the impacts will be different, occupancy rates will have been used to estimate the scale of impact and subsequently the scale of mitigation required on the protected sites. The types of impact will typically last in perpetuity. Care is therefore needed to ensure the adoption of an alternative occupancy rate based on an assessment of net population additions to a locality for nutrient budgeting does not undermine other existing strategic approaches, particularly where there are overlapping impacts within the locality.

Note: When 2021 Census data is available, the 2.4 value will be updated.

Note: if an ST or PTP is being used then a comprehensive maintenance regime is required as part of the application process. Please consult your Local Planning Authority for further advice on how to specify this maintenance regime and demonstrate that it is appropriately secured. If the ST or PTP which is being used has phosphate stripping capabilities, chemical dosing may be required. If chemical dosing is required, a robust management plan that details how chemicals are stored, the dilution rates, dosing frequencies, that any chemicals used will not have an environmental impact etc. must also accompany the planning application. PTPs with chemical dosing may not be appropriate in all cases.

Stage 2 - calculate the annual nutrient load from existing (pre-development) land use on the development site

In this section some environmental information about the development will need to be entered as well as the type and area of landcover that is being developed. The environmental information required is [described above](#).

Only the types and areas of land that are being altered by the development should be entered. For example, if two hectares of agricultural land within a ten-hectare development site are being retained in the same agricultural use, this area should not be included in the calculations.

In the 'Existing land use type(s)' column of the main table in Stage 2 of the calculator, each cell has drop-down list of land use types. This list contains seven agricultural land cover types to choose from and eight different non-agricultural land cover types that may be present on a pre-development site. Please find out what land use types are within the development before completing this tool. If there is a land use within the development area that is not in the list, please select the most similar land use type. Table 1 provides a description of the different land use types available within the calculator tool.

Table 1: Table of land use types included within the tool and their descriptions.

Land use types used in the calculator tool	Description
Cereals	Agricultural areas on which cereals, combinable crops and set aside are farmed.
General	Agricultural areas on which arable crops (including field scale vegetables) are farmed.
Horticulture	Agricultural areas on which fruit (including vineyards), hardy nursery stock, glasshouse flowers and vegetables, market garden scale vegetables, outdoor bulbs and flowers, and mushrooms are farmed.
Pig	Agricultural areas on which pigs farmed.
Poultry	Agricultural areas on which poultry are farmed.
Dairy	Agricultural areas on which dairy cows are farmed.
LFA	Agricultural areas on which cattle, sheep and other grazing livestock are farmed in locations where agricultural production is difficult. An area is classified as a Less Favoured Area (LFA) holding if 50 per cent or more of its total area is classed as LFA.
Lowland	Agricultural areas on which cattle, sheep and other grazing livestock are farmed. A holding is classified as lowland if less than 50 per cent of its total area is classed as a lowland grazing area.
Mixed	Agricultural areas in which none of the above categories are farmed or where it is too difficult to select a single category to describe the farm type.
Greenspace	Natural and semi-natural outdoor spaces provided for recreational use where fertilisers will not be applied and dog waste is managed, e.g. semi-natural parks. This does not include green infrastructure within the built urban environment, such as sports fields, gardens, or grass verges, as these are included in the residential urban land category.
Woodland	Natural and semi-natural outdoor wooded areas.
Shrub	Natural and semi-natural outdoor shrubland area.
Water	Areas of surface water, including rivers, ponds and lakes.
Residential urban land	Areas of houses and associated infrastructure. This is inclusive of roads, driveways, grass verges and gardens.
Commercial/industrial urban land	Areas that are used for industry. These are businesses that typically manufacture, process or otherwise generate products. Included in the definition of industrial land are factories and storage facilities as well as mining and shipping operations.
Open urban land	Area of land in urban areas used for various purposes, e.g. leisure and recreation - may include open land, e.g. sports fields, playgrounds, public squares or built facilities such as sports centres.
Community food growing	Areas that are used for local food production, such as allotments.

Stage 3: calculate the annual nutrient load from new (post-development) land use on the development site

In this section the user will need to select the type and area of the landcover present on the development site after the development has been completed.

In the 'New land use type(s)' column of the main table in Stage 3 of the calculator, each cell has a drop-down list of land use types containing eight non-agricultural land use types that may be present on the post-development site. Please find out what land use types are within the development before completing this part of the tool. If there is a land use within the development area that is not in the list (see Table 1 for land use type descriptions), please select the most similar land use type.

Stage 4: calculate the net change in nutrient loading for the site and the final annual nutrient budget for the development site:

This final stage automatically uses the results from Stages 1-3 and calculates the nutrient budget using the equation shown in Figure 3.

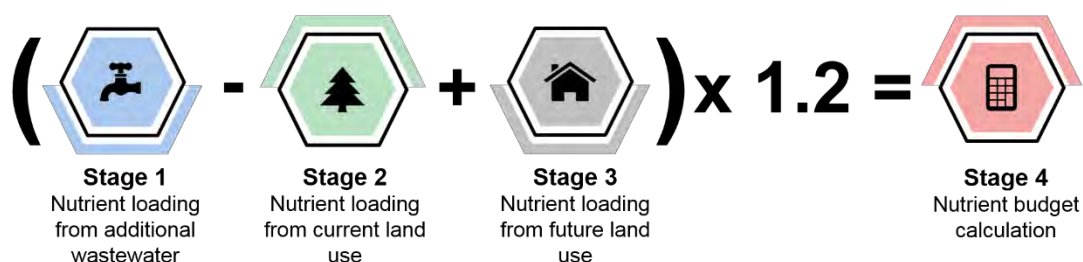
As Figure 3 shows, the output from Stage 4 of nutrient budget calculations is the balance of new sources of nitrogen and phosphorus from a development minus the existing sources of nitrogen and phosphorus from the pre-development site. To ensure the final figure is robust and suitably precautionary this balance is multiplied by 1.2, i.e. increased by a 20%, buffer'.

The 20% buffer is applied to account for the uncertainties that underlie the inputs to Stages 1-3 of the nutrient budget calculations, as well as accounting for some potential nutrient sources associated with new development that cannot be readily quantified. To cover all possible inputs to a nutrient budget with a high enough certainty to remove the need for the buffer would require extensive site-specific investigations. The 20% buffer is a means of accounting for the uncertainties within the nutrient budget calculations and providing confidence that mitigation of the nutrient budget will remove the risk of adverse effects on site integrity in the Broads SAC and Broadland Ramsar site.

The output in Stage 4 shows how much nutrient mitigation is required in kilograms per year to achieve nutrient neutrality.

If there are two values due to an upgrade occurring at the wastewater treatment works the development is connecting to, the calculator will show the total amount of nutrient mitigation that is needed before and after the upgrade.

Figure 3: The equation used to calculate the nutrient budget.



Designated Site Name:	The Broads SAC / Broadland Ramsar
Site Details:	
<p>From The Broads SAC citation:</p> <p>The Broads in East Anglia contain several examples of naturally nutrient-rich lakes. Although artificial, having been created by peat digging in medieval times, these lakes and the ditches in areas of fen and drained marshlands support relict vegetation of the original Fenland flora, and collectively this site contains one of the richest assemblages of rare and local aquatic species in the UK.</p> <p>The stonewort – pondweed – water-milfoil – water-lily (<i>Characeae</i> – <i>Potamogeton</i> – <i>Myriophyllum</i> – <i>Nuphar</i>) associations are well-represented, as are club-rush – common reed <i>Scirpo</i> – <i>Phragmitetum</i> associations. The dyke (ditch) systems support vegetation characterised by water-soldier <i>Stratiotes aloides</i>, whorled water-milfoil <i>Myriophyllum verticillatum</i> and broad-leaved pondweed <i>Potamogeton natans</i> as well as being a stronghold of little whirlpool ram's-horn snail <i>Anisus vorticulus</i> and Desmoulin's whorl snail <i>Vertigo moulinsiana</i> in East Anglia. The range of wetlands and associated habitats also provides suitable conditions for otters <i>Lutra lutra</i>.</p> <p>The Broads is the richest area for stoneworts (charophytes) in Britain. The core of this interest is the Thurne Broads and particularly Hickling Broad, a large shallow brackish lake. Within the Broads examples of <i>Chara</i> vegetation are also found within fen pools (turf ponds) and fen and marsh ditch systems. The Broads supports a number of rare and local charophyte species, including <i>Chara aspera</i>, <i>C. baltica</i>, <i>C. connivens</i>, <i>C. contraria</i>, <i>C. curta</i>, <i>C. intermedia</i>, <i>C. pedunculata</i>, <i>Nitella mucronata</i>, <i>Nitellopsis obtusa</i>, <i>Tolypella glomerata</i> and <i>T. intricata</i>.</p> <p>The complex of sites contains the largest blocks of alder <i>Alnus glutinosa</i> wood in England. Within the complex complete successional sequences occur from open water through reedswamp to alder woodland, which has developed on fen peat. There is a correspondingly wide range of flora, including uncommon species such as marsh fern <i>Thelypteris palustris</i>.</p> <p>This site contains the largest example of calcareous fens in the UK. The great fen-sedge <i>Cladium mariscus</i> habitat occurs in a diverse set of conditions that maintain its species richness, including small sedge mires, and areas where great fen-sedge occurs at the limits of its ecological range. The habitat type forms large-scale mosaics with other fen types, fen meadows (with purple moor-grass <i>Molinia caerulea</i>), open water and woodland, and contains important associated plants such as fen orchid <i>Liparis loeselii</i>, marsh helleborine <i>Epipactis palustris</i>, lesser tussock-sedge <i>Carex diandra</i>, slender sedge <i>C. lasiocarpa</i> and fibrous tussock-sedge <i>C. appropinquata</i>.</p> <p>There are also areas of short sedge fen (both black bog-rush – blunt-flowered rush <i>Schoenus nigricans</i> – <i>Juncus subnodulosus</i> mire and bottle sedge – moss <i>Carex rostrata</i> – <i>Calliergon cuspidatum/giganteum</i> mire), which in places form a mosaic with common reed – milk-parsley <i>Phragmites australis</i> – <i>Peucedanum palustris</i> fen. The Broads also contain examples of transition mire, that are relatively small, having developed in re-vegetated peat-cuttings as part of the complex habitat mosaic of fen, carr and open water.</p>	
Reason for European Site Designation:	
<p>The Broads Special Area of Conservation is designated for the following features :</p> <ul style="list-style-type: none"> • H3140 Hard oligo-mesotrophic waters with benthic veg of <i>Chara</i> spp. • H3150 Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> • H6410 <i>Molinia</i> meadows on calcareous, peat or clay-silt soil • H7140 Transition mires and quaking bogs • H7210 Calcareous fens with <i>C. mariscus</i> and species of <i>C. davallianae</i> • H7230 Alkaline fens • H91E0 Alluvial woods with <i>A. glutinosa</i>, <i>F. excelsior</i> • S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i> • S1355 Otter, <i>Lutra lutra</i> • S1903 Fen orchid, <i>Liparis loeselii</i> • S4056 Little ram's-horn whirlpool snail, <i>Anisus vorticulus</i> 	

The Broadland Ramsar is designated for the following features:

- Bewick's swan, *Cygnus columbianus bewickii* - Wintering
- Floodplain alder woodland
- Floodplain fen
- Gadwall, *Anas strepera* - Wintering
- Shoveler, *Anas clypeata* - Wintering
- Wetland invertebrate assemblage
- Wetland plant assemblage
- Wigeon, *Mareca penelope* – Wintering

Links to Conservation Advice:

[Conservation Objectives](#)

[Conservation Objectives Supplementary Advice](#)

[JNCC Ramsar Information Sheet](#)

Nutrient Pressure(s) for which the site is unfavourable:

Nitrogen

Phosphorus

Water Quality Evidence:

In the Conservation Objectives Supporting Advice for the Broads SAC it states for phosphorus to 'maintain and, where necessary, restore stable nutrient levels appropriate for lake type' and for nitrogen it states to 'maintain and restore a stable nitrogen concentration'.

Water Quality data is reported against the relevant SSSI units within the SAC for the five SSSIs within the Broads SAC where there is currently good evidence that they are unfavourable due to nutrients.

Ant Broads and Marshes

Unit name	SSSI Unit	Monitoring point ID	WQ Target		WQ Monitoring Data ¹		Compliance with target – Pass/Fail and % reduction needed to achieve the WQ Target	
			TP (ug/l)	TN (mg/l)	TP (ug/l)	TN (mg/l)	TP	TN
Barton Broad	33	BARTON BROAD (R.ANT) AN-ANT160	30	1.07	64	1.9	FAIL 53% reduction needed	FAIL 44% reduction needed
Instead Holmes	34	No monitoring	30	1.07			Unknown	Unknown
Catfield broad	35	No monitoring	30	1.07			Unknown	Unknown
Cromes Broad	36	CROMES BROAD EDGE SAMPLE FROM SHORE AN-ANT170E	30	1.07	44	1.7	FAIL 30% reduction needed	FAIL 58% reduction needed
Reedham Water	37	No monitoring	30	1.07			Unknown	Unknown

¹ Water Quality Monitoring data from EA WIMS database. Nutrient concentrations reported are the 2019 annual mean for Total Phosphorus (TP) and Total Nitrogen (TN).

Bure Broads and Marshes

Unit name	SSSI Unit	Monitoring point ID	WQ Target		WQ Monitoring Data ²		Compliance with target – Pass/Fail and % reduction needed to achieve the WQ Target	
			TP (ug/l)	TN (mg/l)	TP (ug/l)	TN (mg/l)	TP	TN
Decoy Broad	4	DECOY BROAD R.BURE AN-BUR158	30	1.07	74	3.04	FAIL 60% reduction needed	FAIL 65% reduction needed
Hoveton Great Broad	10	HOVETON GREAT BROAD AN-BUR158	30	1.07	70	2.5	FAIL 57% reduction needed	FAIL 57% reduction needed
Hudson's Bay	11	HUDSON'S BAY, HOVETON GREAT BROAD, R.BURE AN-BUR158HB	30	1.07	104	1.79	FAIL 72% reduction needed	FAIL 40% reduction needed
Ranworth Broad	12	RANWORTH BROAD AN-BUR170A	30	1.07	94	2.99	FAIL 68% reduction needed	FAIL 64% reduction needed
Cockshoot Broad	13	COCKSHOOT BROAD AN-BUR160A	30	1.46	49	1.37	FAIL 39% reduction needed	PASS
Ranworth Flood	14	Ranworth Flood AN-BUR170RF	30	1.07	1017*	3.16*	FAIL 97% reduction needed	FAIL 68% reduction needed

² Water Quality Monitoring data from EA WIMS database. Nutrient concentrations reported are the 2019 annual mean for Total Phosphorus (TP) and Total Nitrogen (TN).

*TP Data for Ranworth Flood is a mean of 7 samples for TP and 4 samples for TN taken in 2017

Trinity Broads SSSI

Unit name	SSSI Unit	Monitoring point ID	WQ Target		WQ Monitoring Data ³		Compliance with target – Pass/Fail and % reduction needed to achieve the WQ Target	
			TP (ug/l)	TN (mg/l)	TP (ug/l)	TN (mg/l)	TP	TN
Filby Broad	20	FILBY BROAD AN-FIL010	30	1.07	42	0.89	FAIL 29% reduction needed	PASS
Lily Broad	21	Lily Broad AN-LIL010	30	1.07	78**	1.19**	FAIL 62% reduction needed	FAIL 10% reduction needed
Ormesby Broad	22	ORMESBY BROAD AN-ORM010	30	1.07	52	1.24	FAIL 42% reduction needed	FAIL 14% reduction needed
Ormesby Little Broad	23	ORMESBY LITTLE BROAD AN-ROL020	30	1.07	50	0.94	FAIL 40% reduction needed	PASS
Rollesby Broad Sailing Club	24	ROLLESBY BROAD SAILING CLUB AN-ROL010	30	1.07	39	1.01	FAIL 23% reduction needed	PASS

³ Water Quality Monitoring data from EA WIMS database. Nutrient concentrations reported are the 2019 annual mean for Total Phosphorus (TP) and Total Nitrogen (TN).

** Data for Lily Broad is the mean of 5 (TN) and 8 (TP) samples from 2017.

Upper Thurne Broads and Marshes

Unit name	SSSI Unit	Monitoring point ID	WQ Target		WQ Monitoring Data ⁴		Compliance with target – Pass/Fail and % reduction needed to achieve the WQ Target	
			TP (ug/l)	TN (mg/l)	TP (ug/l)	TN (mg/l)	TP	TN
Heigham Sound	15	HEIGHAM SOUND (R.THURNE) AN-THR040	30	1.07	54	1.97***	FAIL 44% reduction needed	FAIL 45% reduction needed
Hickling Broad	16	HICKLING BROAD (R.THURNE) AN-THR030A	30	1.07	52	1.6	FAIL 42% reduction needed	FAIL 33% reduction needed

Horsey Mere	17	HORSEY MERE (R.THURNE) AN-THR020	30	1.46	51	2.22	FAIL 41% reduction needed	FAIL 34% reduction needed
R. Thurne Martham Broad	18	R.THURNE MARTHAM BROAD AN-THR060	30	1.07	33	No data	FAIL 9% reduction needed	Unknown
Martham South Broad	19	MARTHAM SOUTH BROAD (R.THURNE) AN-THR061	30	1.07	33	1.11***	FAIL 9% reduction needed	FAIL 4% reduction needed

⁴Water Quality Monitoring data from EA WIMS database. Nutrient concentrations reported are the 2019 annual mean for Total Phosphorus (TP) and Total Nitrogen (TN).

*** TN data is the mean for May 2019- Mar 2020.

Yare Broads and Marshes

Unit name	SSSI Unit	Monitoring point ID	WQ Target		WQ Monitoring Data ⁵		Compliance with target – Pass/Fail and % reduction needed to achieve the WQ Target	
			TP (ug/l)	TN (mg/l)	TP (ug/l)	TN (mg/l)	TP	TN
Surlingham Broad	11	No monitoring point					Unknown	Unknown
Rockland Broad	15	ROCKLAND BROAD OUTFLOW (SHORT DIKE) AN-YAR31010	30	1.07	217 (Jan – Dec 2019)	7.65 (Jan – Dec 2019)	FAIL 86% reduction needed	FAIL 86% reduction needed
Bargate broad	24	No monitoring point					Unknown	Unknown
Wheatfen Broad	25	WHEATFEN BROAD AN-YAR305	30	1.07	326 Feb – Dec 2017)	2.68 May – Dec 2017)	FAIL 91% reduction needed	FAIL 60% reduction needed
Strumpshaw Broad	26	STRUMPSHAW BROAD AN-YAR225	30	1.07	353 Feb – Dec 2017)	2.47 May – Dec 2017)	FAIL 92% reduction needed	FAIL 57% reduction needed
Buckingham Broad	27	No monitoring point					Unknown	Unknown
Hassingham Broad	28	No monitoring point					Unknown	Unknown

⁵Water Quality Monitoring data from EA WIMS database.

The condition of the waterbody and the habitats which support the designated features is in part dependent on the water quality within them.

The condition of the waterbody and the habitats which support the designated features is in part dependent on the water quality within them. Where excessive nutrients are present in a system this can lead to the occurrence of eutrophication, impacting on aquatic macrophyte flora and changes in water chemistry.

Recent Water Quality data shows Ant Broads and Marshes, Bure Broads and Marshes, Trinity Broads SSSI, Upper Thurne Broads and Marshes and Yare Broads and Marshes are exceeding (overall) the targets for Total Phosphorus and Total Nitrogen. Within these areas four units are achieving the target for TN: Cockshoot Broad, Filby Broad, Ormesby Little Broad and Rollesby Broad Sailing Club.

The water quality targets for the water bodies are also required for the water input into the wetland habitats and dyke features to avoid changes in species composition and the loss of characteristic and sensitive species.

Additional Information:

Habitat type impacted by nutrients – Standing Water

The Broads SAC and Broadland Ramsar are underpinned by multiple SSSIs. The component SSSIs being considered here include;

- Ant Broads and Marshes
- Bure Broads and Marshes
- Trinity Broads
- Upper Thurne
- Yare Broads and Marshes

SSSI interest features include:

Ant Broads and Marshes SSSI

- Assemblages of breeding birds - Lowland open waters and their margins
- Ditches
- Eutrophic lakes
- Floodplain fen (lowland)
- Invert. assemblage W211 open water on disturbed sediments
- Invert. assemblage W313 moss & tussock fen
- Invert. assemblage W314 reed-fen & pools
- Lowland mire grassland and rush pasture
- Ponds
- Population of Schedule 8 plant - *Liparis loeselii*, Fen Orchid
- Vascular plant assemblage
- Wet woodland

Bure Broads and Marshes SSSI

- Assemblages of breeding birds - Lowland fen without open water
- Eutrophic lakes
- Floodplain fen (lowland)
- Invert. assemblage W126 seepage
- Invert. assemblage W211 open water on disturbed sediments
- Invert. assemblage W313 moss & tussock fen
- Invert. assemblage W314 reed-fen & pools
- Lowland mire grassland and rush pasture
- Vascular plant assemblage
- Wet woodland

Trinity Broads SSSI

- Aggregations of breeding birds - Marsh harrier, *Circus aeruginosus*
- Aggregations of breeding birds - Pochard, *Aythya ferina*
- Aggregations of breeding birds - Shoveler, *Anas clypeata*
- Aggregations of breeding birds - Tufted duck, *Aythya fuligula*
- Aggregations of non-breeding birds - Bittern, *Botaurus stellaris*
- Aggregations of non-breeding birds - Pochard, *Aythya ferina*
- Aggregations of non-breeding birds - Shoveler, *Anas clypeata*
- Aggregations of non-breeding birds - Tufted duck, *Aythya fuligula*
- Assemblages of breeding birds - Lowland open waters and their margins
- Floodplain fen (lowland)
- Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and raised bog lagg
- Mesotrophic lakes
- Otter, *Lutra lutra*
- Vascular plant assemblage
- Wet woodland

Upper Thurne Broads and Marshes SSSI

- Aggregations of breeding birds - Avocet, *Recurvirostra avosetta*
- Aggregations of breeding birds - Bearded tit, *Panurus biarmicus*
- Aggregations of breeding birds - Bittern, *Botaurus stellaris*
- Aggregations of breeding birds - Marsh harrier, *Circus aeruginosus*
- Aggregations of breeding birds - Pochard, *Aythya ferina*
- Aggregations of non-breeding birds - Bewick's swan, *Cygnus columbianus bewickii*
- Aggregations of non-breeding birds - Gadwall, *Anas strepera*
- Aggregations of non-breeding birds - Shoveler, *Anas clypeata*
- Aggregations of non-breeding birds - Teal, *Anas crecca*
- Assemblages of breeding birds - variety of species
- Charophyte assemblage
- Ditches
- Floodplain fen (lowland)
- Invert. assemblage W314 reed-fen & pools
- Lowland mire grassland and rush pasture
- Mesotrophic lakes
- Nationally scarce plant - *Potamogeton coloratus*, Fen Pondweed
- Nationally scarce plant - *Thelypteris palustris*, Marsh Fern
- Nationally scarce plant - *Thyselium palustre*, Milk-parsley
- Vascular plant assemblage
- Wet woodland

Yare Broads and Marshes SSSI

- Aggregations of breeding birds - Cetti's warbler, *Cettia cetti*
- Aggregations of breeding birds - Gadwall, *Anas strepera*
- Aggregations of breeding birds - Marsh harrier, *Circus aeruginosus*
- Aggregations of non-breeding birds - Bean goose, *Anser fabalis*
- Aggregations of non-breeding birds - Hen harrier, *Circus cyaneus*
- Aggregations of non-breeding birds - Wigeon, *Anas penelope*
- Assemblages of breeding birds - Lowland open waters and their margins
- Ditches
- Eutrophic lakes
- Floodplain fen (lowland)
- Invert. assemblage W313 moss & tussock fen
- Invert. assemblage W314 reed-fen & pools

- Lowland mire grassland and rush pasture
- Vascular plant assemblage
- Wet woodland

Appendix 4



European protected sites requiring nutrient neutrality strategic solutions Scale: 1:190,000

Component SSSIs of River Wensum SAC

- Local Authorities
- SSSI subject to nutrient neutrality strategy
- Nutrient neutrality SSSI catchment
- National Parks





Nutrient Budget Calculator Guidance Document

Guidance for completion of a nutrient budget using the nutrient budget calculator tool

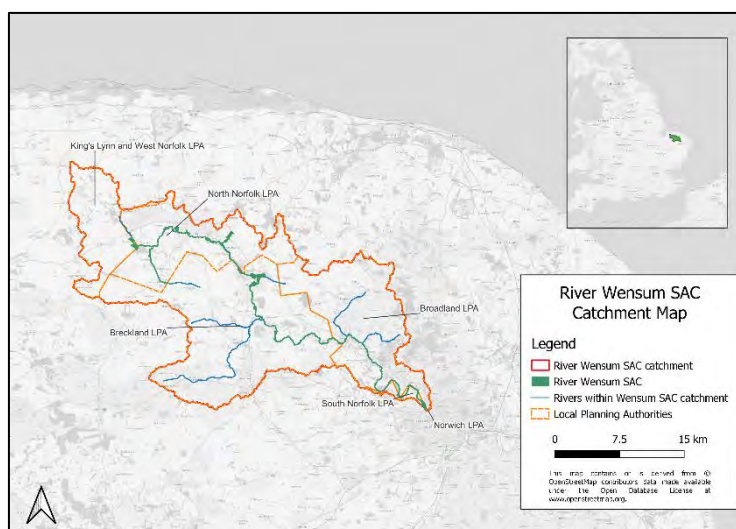
Prepared by Ricardo Energy and Environment on behalf of Natural England

River Wensum Special Area of Conservation (SAC)

The River Wensum SAC is a Habitats site with water pollution and eutrophication considered a threat to its condition.

The Wensum is a low gradient, groundwater dominated river originating in northwest Norfolk, flowing southeast to Norwich where it joins the River Yare.

Intensive arable land-use dominates the landscape on the higher plateaus and valley sides, and grazing marsh, fen, reedbed, scrub and scattered woodland characterise the floodplain.



The current river channel is the product of a long history of modification and management. Anthropogenic influences have had a dramatic effect on the ecology and hydrology of the River Wensum, in particular at sites up and downstream of mill structures, sites affected by excessive silt deposition, sites that are heavily maintained and sites that lack natural riparian vegetation.

Regardless of this, the river supports over 100 species of plants, including three species of water-crowfoot. The river also supports white-clawed crayfish and populations of Desmoulin's whorl snail, Brook lamprey and Bullhead.

Increased levels of nitrogen and phosphorus entering aquatic environments via surface water and groundwater can severely threaten these sensitive habitats and species within the SAC. The elevated levels of nutrients can cause eutrophication, leading to algal blooms which disrupt normal ecosystem function and cause major changes in the aquatic community. These algal blooms can result in reduced levels of oxygen within the water, which in turn can lead to the death of many aquatic organisms including invertebrates and fish.

The habitats and species within the Wensum that result in designation as a SAC are referred to a 'qualifying features.' Not all of these qualifying features will be sensitive to changes in nutrients within the River Wensum. When completing an HRA involving nutrient neutrality, the Competent Authority (normally Local Planning Authority for developments) must identify and screen out qualifying features that are not sensitive to nutrients via a Habitats Regulations Assessment. Developers will be asked to submit information to support this process.

More detailed information on the qualifying features of the SAC and details of water quality data highlighting the current nutrient problems in the river are available in the Natural England River Wensum SAC evidence summary.

The requirement for Nutrient Neutrality

Special Areas of Conservation (SAC), Special Protection Areas (SPA), and Ramsar sites are some of the most important areas for wildlife in the United Kingdom. They are internationally important for their habitats and wildlife and are protected under the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). At some of these sites, there are high levels of nitrogen and phosphorus input to the protected water environment with sound evidence that these nutrients are causing eutrophication at these designated sites. These nutrient inputs currently mostly come either from agricultural sources or from wastewater from existing housing and other development. The resulting effects on ecology from an excessive presence of nutrients are impacting on protected habitats and species.

There is uncertainty as to whether new growth will further deteriorate designated sites, and/or make them appreciably more difficult to restore. The potential for future housing developments to exacerbate these impacts creates a risk to their potential future conservation status.

One way to address this uncertainty is for new development to achieve nutrient neutrality. Nutrient neutrality is a means of ensuring that development does not add to existing nutrient burdens and this provides certainty that the whole of the scheme is deliverable in line with the requirements of the Habitats Regulations.

Key Principles

The principles underpinning Habitats Regulations Assessments are well established¹. At the screening stage, plans and projects should only be granted consent where it is possible to exclude, on the basis of objective information, that the plan or project will have significant effects on the sites concerned². Where it is not possible to rule out likely significant effects, plans and projects should be subject to an appropriate assessment. That appropriate assessment must contain complete, precise and definitive findings which are capable of removing all reasonable scientific doubt as to the absence of adverse effects on the integrity of the site³.

Natural England has been reviewing the available evidence on Habitats sites which are in unfavourable condition due to elevated nutrient levels. Where plans or projects will contribute additional nutrients to Habitats sites which are close to or already in unfavourable condition for nutrients, then a robust approach to the Habitats Regulations Assessment (HRA) of the effects of plans and projects is required.

Where sites are close to or already in unfavourable condition for nutrients, it may be difficult to grant consent for new plans and projects that will increase nutrient levels at the Habitats site. Nutrient neutrality provides a means of effectively mitigating the adverse effects associated with increased nutrients from new plans and projects, by counter-balancing any additional nutrient inputs to ensure that there is no net change in the amount of nutrients reaching the features which led to a Habitats site being designated.

Where new residential development is proposed, the additional nutrient load from the increase in wastewater and/or the change in the land use of the development land created by a new residential development can create an impact pathway for potential adverse effects on Habitats sites that are already suffering from problems related to nutrient loading. This impact pathway is shown diagrammatically in Figure 1. HRAs of new residential developments therefore need to consider whether nutrient loading will result in 'Likely Significant Effects' (LSE) on a Habitats site. If an HRA cannot exclude a LSE due to nutrient loading, the Appropriate Assessment (AA) will need to consider whether this nutrient load needs to be mitigated in order to remove adverse effects on the Habitats site.

¹ See, amongst others Case C-127/02 *Waddervereniging and Vogelsbeschermingvereniging (Waddenzee)*; *R (Champion) v North Norfolk DC* [2015] EKC 52 (Champion); C-323/17 *People Over Wind, Peter Sweetman v Coillte Teoranta (People Over Wind)*; C-461/17 *Brian Holohan and Others v An Bord Pleanála (Holohan)*; Joined Cases C-293/17 and C-294/17 *Coöperatie Mobilisation for the Environment UA and Others v College van gedeputeerde staten van Limburg and Other* (the Dutch Nitrogen cases);

² Case C-127/02 *Waddervereniging and Vogelsbeschermingvereniging (Waddenzee)*

³ Case 164/17 *Grace & Sweetman v An Bord Pleanála (Grace & Sweetman)*

For those developments that wish to pursue neutrality, Natural England advises that a nutrient budget is calculated for new developments that have the potential to result in increases of nitrogen/phosphorus entering the international sites. A nutrient budget calculated according to this methodology and demonstrating nutrient neutrality is, in our view, able to provide sufficient and reasonable certainty that the development does not adversely affect the integrity, by means of impacts from nutrients, on the relevant internationally designated sites. This approach must be tested through the AA stage of the HRA. The information provided by the applicant on the nutrient budget and any mitigation proposed will be used by the local planning authority, as competent authority, to make an AA of the implications of the plan or project on the Habitats sites in question.

The nutrient neutrality calculation includes key inputs and assumptions that are based on the best available scientific evidence and research. It has been developed as a pragmatic tool. However, for each input there is a degree of uncertainty. For example, there is uncertainty associated with predicting occupancy levels and water use for each household in perpetuity. Also, identifying current land / farm types and the associated nutrient inputs is based on best available evidence, research and professional judgement and is again subject to a degree of uncertainty.

It is our advice to local planning authorities to take a precautionary approach in line with existing legislation and case law when addressing uncertainty and calculating nutrient budgets. This should be achieved by ensuring nutrient budget calculations apply precautionary rates to variables and adding a buffer to the Total Nitrogen/Total Phosphorus figure calculated for developments. A precautionary approach to the calculations and solutions helps the local planning authority and applicants to demonstrate the certainty needed for their assessments.

By applying the nutrient neutrality methodology, with the buffer, to new development, the competent authority may be satisfied that, while margins of error will inevitably vary for each development, this approach will ensure that new development in combination will avoid significant increases of nitrogen load from entering the internationally designated sites.⁴

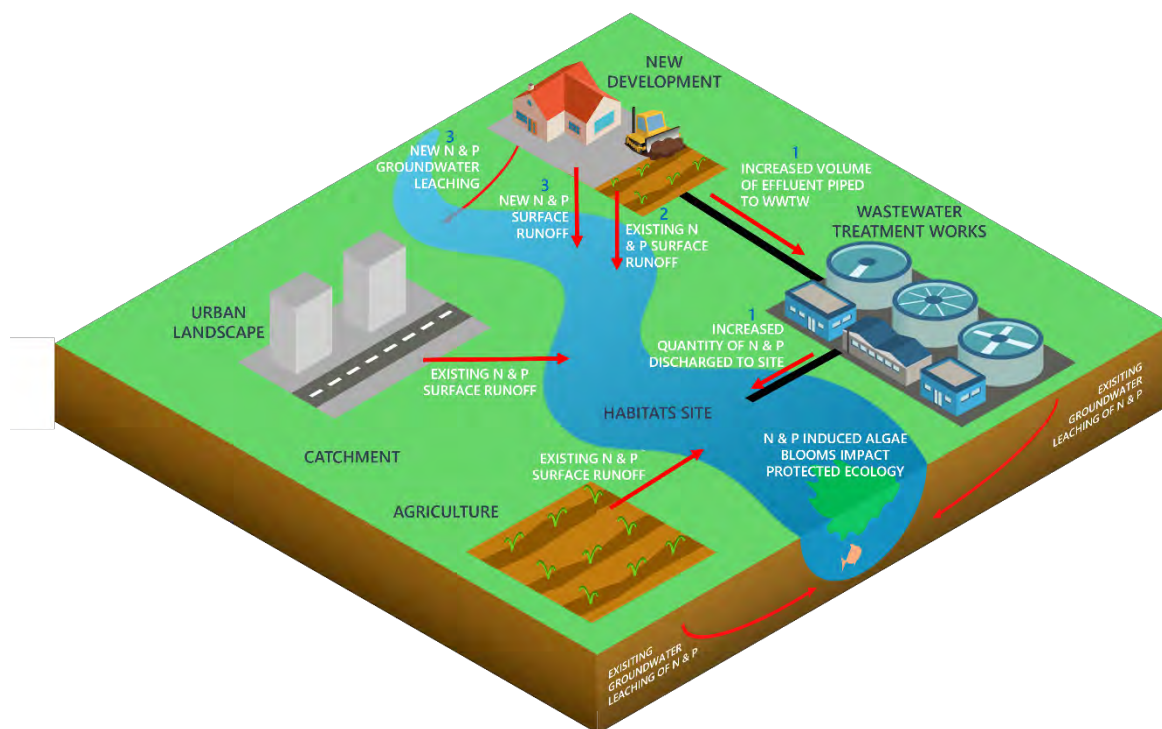
A HRA must be capable of removing all reasonable scientific doubt as to the absence of adverse effects on a Habitats site. Absolute certainty is not required, but the methodology used to evaluate potential adverse effects (and the measures intended to mitigate them) must effectively address any reasonable scientific doubt to achieve the required degree of certainty.

The first step in an AA that is applying nutrient neutrality is to understand whether a development will cause additional nutrient inputs to the River Wensum SAC. This requires calculation of the amount of nutrients a new residential development will create, otherwise known as a nutrient budget.

If a nutrient budget shows that a new development will increase the nutrient input to the River Wensum SAC and it is not possible to conclude no adverse effect on site integrity alone or in combination, then this is the amount of nutrients that require mitigating on an annual basis to achieve nutrient neutrality and therefore enable a conclusion of no adverse effect on site integrity to be reached.

⁴ This approach was expressly endorsed in *R (Wyatt) v Fareham BC* [2021] EWHC 1434 (Admin)

Figure 1: Diagram demonstrating the potential nutrient impact pathways from a new development to a Habitats site. An increase in nitrogen and phosphorus availability in aquatic ecosystems can lead to various problems, such as algae blooms, which can have detrimental impacts on the ecology of a Habitats site.



What is this guidance for?

This guidance document accompanies the River Wensum SAC nutrient budget calculator. The nutrient budget calculator is used to calculate the change in nutrient input from a new residential development to the River Wensum SAC. The calculator can be used to inform an AA which is looking to apply nutrient neutrality to show whether a new development will require nutrient mitigation and if so, the amount of phosphorus loading that requires counterbalancing through mitigation measures to enable a conclusion of no adverse effect on site integrity, alone or in combination.

The guidance document contains the following:

- Step-by-step instructions on how to collect the specific data required as inputs to the tool.
- Instructions on how to use the tool.

Who is the guidance for?

This guidance is for anyone who needs to complete a nutrient budget calculation to support an AA of residential development in the River Wensum SAC catchment. The tool is primarily aimed at developers who need to complete a nutrient budget calculation to support a planning application and Local Planning Authorities who need to understand the mitigation requirements for future development or assess planning applications. It could also be used by communities or environmental groups wanting to understand the impacts of a local development on the nutrient inputs to the River Wensum SAC.

Summary of how the calculator works.

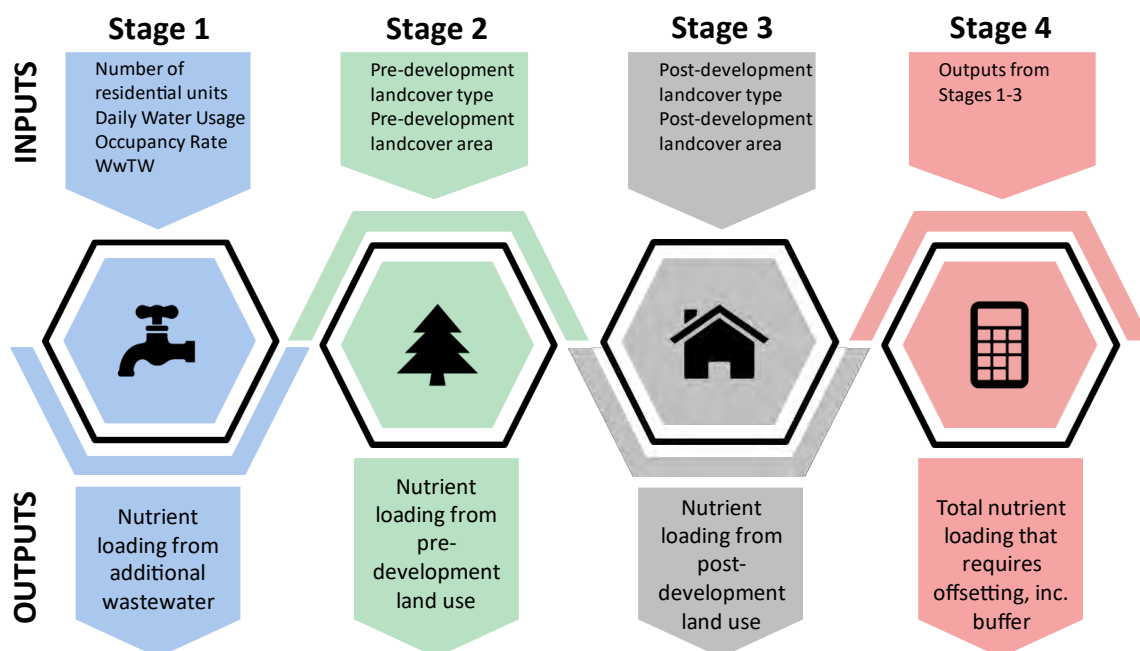
Overview

The nutrient budget calculator requires a set of inputs in order to calculate a new development's nutrient budget. The calculations are completed in four stages:

1. Calculate the increase in nutrient loading that comes from a development's wastewater.
2. Calculate the pre-existing nutrient load from current land use on the development site.
3. Calculate the future nutrient load from land use on the development site post-development.
4. Calculate the net change in nutrient loading from the development to the River Wensum SAC with the addition of a buffer. The net change in nutrient loading + the buffer is the nutrient budget.

These key inputs and outputs for each stage can be shown schematically in Figure 2.

Figure 2: Schematic showing the key inputs and outputs associated with each stage of the nutrient budget calculation methodology



Note: the values that come pre-entered in this tool have been chosen based on research to select inputs that meet the HRA tests of beyond reasonable scientific doubt, best available evidence, in perpetuity and were chosen in accordance with the precautionary principle. It is highly inadvisable to edit the values in this tool without a sufficient evidence base to justify any changes.

Data Collection and preparation

The nutrient budget calculator requires a set of inputs as shown in Figure 2. This section does not provide instructions on how to gather development specific information, such as the number of properties being constructed, as this should be known by the developer and should be detailed in the planning application. The subsections below provide guidance on how to identify certain inputs that are needed to complete the calculations for each stage of the nutrient budget calculations. The information required is available from free to access data sources⁵. Most of the required inputs are for factors that are specific to the location of a development site or the hydrological catchment of the River Wensum SAC.

The instructions below are divided by the stage where the data will be required. We advise that you collect and note down this data before starting to input information into each stage of the nutrient budget calculator.

Stage 2 & 3: Instructions for finding the Operational Catchment that the development is located within

- Go to this link: <http://environment.data.gov.uk/catchment-planning/>
- Search the location by place name, postcode etc. This will give a high-level view of the area. Use the zoom feature to find the exact location of the development.
- Click on the light blue area on the map in which the development is located. This will bring the user to the Operational Catchment page
- Make a note of the name of the Operational Catchment and select it from the dropdown list in the 'Catchment' cell when you get to this part of the calculator tool.

Note: the River Wensum SAC catchment is within a single Operational Catchment and so there is only one option that is pre-selected in the 'Catchment' cell of the calculator.

Stage 2: Instructions for finding the soil drainage type associated with the predominant soil type within the development site

- Go to this link: <http://www.landis.org.uk/soilscapes/#>
- Find your development site location on the map by using the search bar on the right side of the map in the 'Search' tab. Searching a location should generate a pop-up window in which you can view the soil information by clicking 'View soil information'. If this is not an option then click on the relevant soil type on the map and click on the 'Soil information' tab on the right-hand side of the map, below the 'Search' tab.
- The 'Soil drainage type' value can be found in the 'Soil information' under the title 'Drainage:'
- Make a note of this soil type and select the relevant soil drainage type from the drop-down list in the 'Soil drainage type' cell when you get to this part of the calculator tool.

Stage 2: Instructions for finding the annual average rainfall that the development site will receive

- Go to this link: <https://nrfa.ceh.ac.uk/data/station/spatial/34004>
- This link will bring the user to the Wensum at Costessey Mill flow gauge catchment information page.
- Click on the dropdown list next to the title 'Select spatial data type to view:' on the left of the map and select 'Rainfall'.
- Select the Legend tab.
- Zoom in on the map to find the location of the development and find the corresponding rainfall range from the Legend. Note that you cannot search this map using location information and will need to 'surf' around the map to find your development site location.

⁵ Correct at the time of writing. These data sources are available from websites that currently have government funding but it should be noted that these datasets may become unavailable if funding is removed.

- Make a note of the relevant rainfall band for your site and use it to select this rainfall band from the drop-down list in the 'Average annual rainfall' cell when you get to this part of the calculator tool.

Stage 2: Instructions for finding out whether the development is in a Nitrate Vulnerable Zone (NVZ)

- Go to this link <http://mapapps2.bgs.ac.uk/ukso/home.html?layers=NVZEng>
- Enter the location of the development site in the search bar.
- Once the area has been located, click on the map where the development is located to find out if it is within an NVZ.
- Make a note of this information. It will be needed to select 'Yes' or 'No' from the 'Within Nitrate Vulnerable Zone (NVZ)' cell when you get to this part of the calculator tool.

Note: some of the values you select above will also be used in the Stage 3 calculations, however you only need to add the above details to the table in Stage 2 of the calculator and the required values for stage 3 will be carried through automatically.

How to use the calculator:

General tips

- The key below shows the colour coding used to highlight which cells need to be completed.
- When a cell is selected, instructions on how to fill out the cell that is selected are shown.
- Some cells will have values pre-populated, like the 'Water usage' input. The instructions for each cell will detail if an alternative value can be used.
- It is advisable to retain a default copy of this calculator tool workbook which has not had any development details added. "Save as" a new copy each time you calculate a budget for a new development in case any of the default values in the in the workbook get overwritten and are needed again.

Key:

	Values to be entered by the user
	Fixed or calculated values
	Lookup tables

Water usage (litres/person/day):	120	
Development Proposal (dwellings):	100	
<div> <div>...</div> <div>Instructions</div> <div>Site Information</div> <div>Stage 1</div> <div>Stage 2</div> <div>Stage 3</div> </div>		

Please enter the total number of dwellings that will be on the development site as of the completion date of the project.

Stage 1: calculate the new nutrient load associated with the additional wastewater

In this section the user will need to enter:

- The date of first occupancy. *This is because some wastewater treatment works may be due an upgrade in 2025 that will change the nitrogen or phosphorus output from this works, which will in turn change the output from this stage of the calculations. If this is the case, it will be apparent*

in the calculated values if there is an upgrade to a treatment works that affects the nutrient budget.

- The average occupancy rate of the development will need to be entered in people per dwelling for residential dwellings or units for other types of overnight accommodation which would result in an increase in overnight accommodation. The default setting for residential dwellings is the national occupancy rate of 2.4 people per dwelling. **Only change this value if there is sufficient evidence that a different occupancy rate is appropriate** (see Occupancy Rate Guidance section below for when a local or regional occupancy rate is acceptable).
- The number of dwellings / units⁶ that will be within the development at the time of completion.
- The wastewater treatment works that the development will connect to. If required this information can be obtained from the sewerage undertaker for the development site. If it is not feasible to connect to mains sewerage and a septic tank (ST) or package treatment plant (PTP) is being used, please select this option. Please be aware that if the total nitrogen (TN) or total phosphorus (TP) final effluent concentrations (in mg/l) are specified by the manufacturer, please select 'Septic Tank user defined' or 'Package Treatment Plant user defined' and enter the specified value in the cell where prompted. If you do not have a TP or TN value provided by the manufacturer, select the 'Septic Tank default' or 'Package Treatment Plant default' option and a value will be provided automatically.

Occupancy Rate Guidance:

As set out in the guidance below, the Local Planning Authority/Competent Authority will need to ensure that the occupancy rate is appropriate to development within their Authority area. **It is therefore recommended that the occupancy rate is agreed with the Local Planning Authority before completing the nutrient budget calculation.**

Competent authorities must satisfy themselves that the residents per dwelling/unit value used in this step of the calculation reflects local conditions in their area. The residents per dwelling value can be derived from national data providing it reflects local conditions. However, if national data does not yield a residents per dwelling/unit value that reflects local occupancy levels then locally relevant data should be used instead. Whichever figure is used, it is important to ensure it is sufficiently robust and appropriate for the project being assessed. **It is therefore recommended that project level Appropriate Assessments specifically include justification for why the competent authority has decided upon the occupancy rate that has been used.**

Further guidance is provided below.

National occupancy data

When using national occupancy data, the Office of National Statistics (ONS) national average value for the number of residents per dwelling of 2.4 is recommended. This value is derived from 2011 census data and is subject to change when the 2021 Census becomes available. This value can be used if the Local Planning Authority is satisfied that:

- It is appropriate for the level and type of housing development that is expected to come forward in the Local Planning Authority's area (a strategic assessment should be made of the development anticipated to come forward over the Local Plan period to ensure the use of average figures will not under/overestimate the level of impact)

⁶ The term 'dwellings' has a specific legal meaning derived from the use classes order. To ensure that all relevant forms of development which would result in an increase in overnight accommodation such as hotel rooms, short term holiday lets etc are considered in the HRA process the term units is used

- It corresponds to the local average in the area (it is not likely to overestimate or underestimate occupancy)
- It is based on data that is robust and doesn't underestimate the level of impact over time.

It may not be appropriate to use the national average occupancy rate for development types which are not included in the ONS data, such as student accommodation or houses in multiple occupation. For such developments, the Local Planning Authority should specify an appropriate occupancy rate in the project level Appropriate Assessment and explain how this figure was derived.

Locally relevant occupancy data

If the national average occupancy rate does not correspond with local conditions, then a locally relevant average residents per dwelling value may be more appropriate. If a Local Planning Authority decides to use a locally relevant value, that value needs to be supported by robust and sufficient evidence which should be included in the project level Appropriate Assessment. Key sources of evidence include:

- The average occupancy rate from the census for the relevant local administrative area, e.g. the county.
- The average occupation figures used by the Local Planning Authority to calculate population growth due to Local Plan development.
- The average occupation figures used by the local water company to plan for population growth and the impact on water resources and sewage treatment.

A local / regional average occupancy rate can be used provided that it is from a robust source which can show trends over a protracted period of time— such as from ONS derived data or from the annual English Housing Survey. Figures derived from data collected over short periods of time will not be acceptable as short-term data is unlikely to provide the required degree of certainty. The Local Planning Authority should ensure that any trend in occupancy rates or estimates of the average number of persons per household used will continue for perpetuity and would not underestimate the level of impact over time. A local / regional average occupancy rate would therefore need to be based on figures over at least a 5-year period⁷.

Local Planning Authorities will also need to satisfy themselves that a locally derived occupancy figure is appropriate for the level and type of housing development that is expected (a strategic assessment should be made of the development anticipated to come forward over the Local Plan period to ensure the use of average figures will not under/overestimate the level of impact).

Occupancy rates based on dwelling type

Should the nature or scale of development associated with a particular project proposal suggest that the use of an average occupancy rate is not appropriate, then the Local Planning Authority may decide to adopt an occupancy rate based on the dwelling types proposed for that particular project, provided it meets the criteria outlined above. This may be appropriate where a project proposer seeks consent for a development comprising certain dwelling types (e.g. flats and small 1 and 2 bed dwellings). If the Local Planning Authority decides to adopt a local approach based on determining occupancy rate by dwelling type, that approach should be used for all planning applications, rather than reverting back to the use of an average occupancy rate. This will ensure that the Local Planning Authority doesn't inadvertently underestimate total occupancy levels (and consequently water quality impacts) across its area by applying a lower residents per dwelling/unit value for developments comprising smaller units but failing to adopt a higher residents per dwelling/unit value for developments comprising larger units or a mix of units.

⁷ The figure of 5 years has been chosen as the minimum period of time over which occupancy rates can be calculated from as local plans and WRMPs are reviewed every 5 years, so represents a long enough period of time to capture any trends or changes.

Consistency in applying occupancy rates

The same occupancy rate should be used where there are several different impacts on Habitat sites which require strategic mitigation. The strategic approaches developed with local planning authorities to deal with in combination impacts on international sites elsewhere typically calculate mitigation requirements and contribution requirements based on current national average occupancy rates. Local Planning Authorities may decide to use a locally derived average occupancy rate instead, but this local occupancy rate must be used consistently across each type of impact and each Habitats site affected. Local Planning Authorities should not use different occupancy rates in their HRAs for the same dwelling types / size of units. Whilst the impacts will be different, occupancy rates will have been used to estimate the scale of impact and subsequently the scale of mitigation required on the protected sites. The types of impact will typically last in perpetuity. Care is therefore needed to ensure the adoption of an alternative occupancy rate based on an assessment of net population additions to a locality for nutrient budgeting does not undermine other existing strategic approaches, particularly where there are overlapping impacts within the locality.

Note: When 2021 Census data is available, the 2.4 value will be updated.

Note: if an ST or PTP is being used then a comprehensive maintenance regime is required as part of the application process. Please consult your Local Planning Authority for further advice on how to specify this maintenance regime and demonstrate that it is appropriately secured. If the ST or PTP which is being used has phosphate stripping capabilities, chemical dosing may be required. If chemical dosing is required, a robust management plan that details how chemicals are stored, the dilution rates, dosing frequencies, that any chemicals used will not have an environmental impact etc. must also accompany the planning application. PTPs with chemical dosing may not be appropriate in all cases.

Stage 2 - calculate the annual nutrient load from existing (pre-development) land use on the development site

In this section some environmental information about the development will need to be entered as well as the type and area of landcover that is being developed. The environmental information required is [described above](#).

Only the types and areas of land that are being altered by the development should be entered. For example, if two hectares of agricultural land within a ten-hectare development site are being retained in the same agricultural use, this area should not be included in the calculations.

In the 'Existing land use type(s)' column of the main table in Stage 2 of the calculator, each cell has drop-down list of land use types. This list contains seven agricultural land cover types to choose from and eight different non-agricultural land cover types that may be present on a pre-development site. Please find out what land use types are within the development before completing this tool. If there is a land use within the development area that is not in the list, please select the most similar land use type. Table 1 provides a description of the different land use types available within the calculator tool.

Table 1: Table of land use types included within the tool and their descriptions.

Land use types used in the calculator tool	Description
Cereals	Agricultural areas on which cereals, combinable crops and set aside are farmed.
General	Agricultural areas on which arable crops (including field scale vegetables) are farmed.
Horticulture	Agricultural areas on which fruit (including vineyards), hardy nursery stock, glasshouse flowers and vegetables, market garden scale vegetables, outdoor bulbs and flowers, and mushrooms are farmed.
Pig	Agricultural areas on which pigs farmed.
Poultry	Agricultural areas on which poultry are farmed.
Dairy	Agricultural areas on which dairy cows are farmed.
LFA	Agricultural areas on which cattle, sheep and other grazing livestock are farmed in locations where agricultural production is difficult. An area is classified as a Less Favoured Area (LFA) holding if 50 per cent or more of its total area is classed as LFA.
Lowland	Agricultural areas on which cattle, sheep and other grazing livestock are farmed. A holding is classified as lowland if less than 50 per cent of its total area is classed as a lowland grazing area.
Mixed	Agricultural areas in which none of the above categories are farmed or where it is too difficult to select a single category to describe the farm type.
Greenspace	Natural and semi-natural outdoor spaces provided for recreational use where fertilisers will not be applied and dog waste is managed, e.g. semi-natural parks. This does not include green infrastructure within the built urban environment, such as sports fields, gardens, or grass verges, as these are included in the residential urban land category.
Woodland	Natural and semi-natural outdoor wooded areas.
Shrub	Natural and semi-natural outdoor shrubland area.
Water	Areas of surface water, including rivers, ponds and lakes.
Residential urban land	Areas of houses and associated infrastructure. This is inclusive of roads, driveways, grass verges and gardens.
Commercial/industrial urban land	Areas that are used for industry. These are businesses that typically manufacture, process or otherwise generate products. Included in the definition of industrial land are factories and storage facilities as well as mining and shipping operations.
Open urban land	Area of land in urban areas used for various purposes, e.g. leisure and recreation - may include open land, e.g. sports fields, playgrounds, public squares or built facilities such as sports centres.
Community food growing	Areas that are used for local food production, such as allotments.

Stage 3: calculate the annual nutrient load from new (post-development) land use on the development site

In this section the user will need to select the type and area of the landcover present on the development site after the development has been completed.

In the 'New land use type(s)' column of the main table in Stage 3 of the calculator, each cell has a drop-down list of land use types containing eight non-agricultural land use types that may be present on the post-development site. Please find out what land use types are within the development before completing this part of the tool. If there is a land use within the development area that is not in the list (see Table 1 for land use type descriptions), please select the most similar land use type.

Stage 4: calculate the net change in nutrient loading for the site and the final annual nutrient budget for the development site:

This final stage automatically uses the results from Stages 1-3 and calculates the nutrient budget using the equation shown in Figure 3.

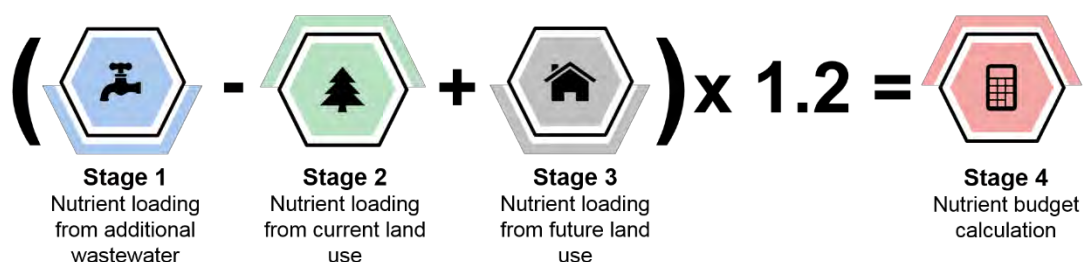
As Figure 3 shows, the output from Stage 4 of nutrient budget calculations is the balance of new sources of phosphorus from a development minus the existing sources of phosphorus from the pre-development site. To ensure the final figure is robust and suitably precautionary this balance is multiplied by 1.2, i.e. increased by a 20%, buffer'.

The 20% buffer is applied to account for the uncertainties that underlie the inputs to Stages 1-3 of the nutrient budget calculations, as well as accounting for some potential nutrient sources associated with new development that cannot be readily quantified. To cover all possible inputs to a nutrient budget with a high enough certainty to remove the need for the buffer would require extensive site-specific investigations. The 20% buffer is a means of accounting for the uncertainties within the nutrient budget calculations and providing confidence that mitigation of the nutrient budget will remove the risk of adverse effects on site integrity in the River Wensum SAC.

The output in Stage 4 shows how much nutrient mitigation is required in kilograms per year to achieve nutrient neutrality.

If there are two values due to an upgrade occurring at the wastewater treatment works the development is connecting to, the calculator will show the total amount of nutrient mitigation that is needed before and after the upgrade.

Figure 3: The equation used to calculate the nutrient budget.



Designated Site Name:	River Wensum SAC
Site Details:	
<p>From the River Wensum SAC citation:</p> <p>The Wensum is a naturally enriched, calcareous lowland river. The upper reaches are fed by springs that rise from the chalk and by run-off from calcareous soils rich in plant nutrients. This gives rise to beds of submerged and emergent vegetation characteristic of a chalk stream. Lower down, the chalk is overlain with boulder clay and river gravels, resulting in aquatic plant communities more typical of a slow-flowing river on mixed substrate.</p> <p>Much of the adjacent land is managed for hay crops and by grazing, and the resulting mosaic of meadow and marsh habitats, provides niches for a wide variety of specialised plants and animals. <i>Ranunculus</i> vegetation occurs throughout much of the river's length.</p> <p>Stream water-crowfoot <i>R. penicillatus</i> ssp. <i>pseudofluitans</i> is the dominant <i>Ranunculus</i> species but thread-leaved watercrowfoot <i>R. trichophyllus</i> and fan-leaved water-crowfoot <i>R. circinatus</i> also occur in association with the wide range of aquatic and emergent species that contribute to this vegetation type.</p> <p>The river should support an abundant and rich invertebrate fauna including the native freshwater crayfish <i>Austropotamobius pallipes</i> as well as a diverse fish community, including bullhead <i>Cottus gobio</i> and brook lamprey <i>Lampetra planeri</i>. The site has an abundant and diverse mollusc fauna which includes Desmoulin's whorl-snail <i>Vertigo moulinsiana</i>, which is associated with aquatic vegetation at the river edge and adjacent fens.</p>	
Reason for European Site Designation:	
<p>The River Wensum Special Area for Conservation is designated for the following features:</p> <ul style="list-style-type: none"> • H3260 Water courses of plain to montane levels with <i>R. fluitantis</i> • S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i> • S1092 Freshwater crayfish, <i>Austropotamobius pallipes</i> • S1096 Brook lamprey, <i>Lampetra planeri</i> • S1163 Bullhead, <i>Cottus gobio</i> <p>Links to Conservation Advice: Conservation Objectives Conservation Objectives Supplementary Advice</p>	
Nutrient Pressure(s) for which the site is unfavourable:	
Phosphorus	
Water Quality Evidence:	
<p>In the Conservation Objectives Supplementary Advice for the River Wensum SAC it states 'restore the natural nutrient regime of the river, with any anthropogenic enrichment above natural/background concentrations limited to levels at which adverse effects on characteristic biodiversity are unlikely'</p> <p>Water Quality data is reported against the respective SSSI units within the SAC. The data reported here are from the same monitoring points as those used in the River Wensum Diffuse Water Pollution Plan.</p>	

Unit name	SSSI Unit	Monitoring point ID	WQ Target	WQ Monitoring Data ¹	Compliance with target – Pass/Fail and % reduction needed to achieve the WQ Target
			Soluble Reactive Phosphorus (ug/l), annual mean	Orthophosphate, reactive as P (ug/l), mean	Compliance with target – Pass/Fail and % reduction needed to achieve the WQ Target
Wensum Above Confluence with Tat	45	R.Wensum Helhoughton Bridge An-Wen020	20	39.3 (Feb 2019 – Jan 2022)	FAIL 49% reduction needed
Tat Above Confluence with Wensum	46	R.Tat Tatterford Common (R.Wensum) An-Wen010	20	80.9 (Feb 2019 – Jan 2022)	FAIL 75% reduction needed
Confluence - Fakenham Mill	47	R.Wensum Sculthorpe Mill An-Wen040	30	45.2 (Feb 2019 – Jan 2022)	FAIL 34% reduction needed
		R.Wensum Goggs Mill Rd. Br. Hempton An-Wen045	30	46.1 (Jan 2019 – Dec 2021)	FAIL 35% reduction needed
Fakenham Mill - Great Ryburgh Mill	48	R.Wensum Great Ryburgh Bridge An-Wen070	30	59 (Oct 2011 – Sept 2014)	FAIL – older data 49% reduction needed
Great Ryburgh Mill - Bintree Mill	49	No Monitoring Point	30	-	Unknown
Bintree Mill - North Elmham Mill	50	R.Wensum County School Bridge An-Wen102	30	71.6 (May 2019 – Dec 2021)	58% reduction needed
North Elmham Mill - Elsing Mill	51	R.Wensum Swanton Morley Bridge An-Wen180	30	57.6 (Feb 2019 – Jan 2022)	FAIL 48% reduction needed
Elsing Mill - Lenwade Mill	52	R.Wensum Lyng Road Bridge An-Wen1905	30	64.9 (Jan 2019 – Dec 2021)	FAIL 54% reduction needed
Lenwade Mill - Taverham Mill	53	R.Wensum Great Witchingham Bridge An-Wen200	30	59.7 (Feb 2019 – Jan 2022)	FAIL 50% reduction needed
Taverham Mill - Hellesdon Mill	54	R.Wensum Taverham Bridge An-Wen235	30	63.8 April 2017 – March 2020)	FAIL 53% reduction needed

Langor Drain Above Conf. with Wensum	55	Kettlestone Str. Langer Br. (R.Wensum) An-Wen060	30	75 (Aug 2014 – Jul 2017)	FAIL 60% reduction needed
--	----	---	----	-----------------------------	------------------------------

¹Water Quality Monitoring data from EA WIMS database, the date range is in brackets. Any sample results below the level of detection (LOD) were taken at face values in the calculation of the mean. Following the rivers common standards monitoring guidance the mean of 3 years of data used where available.

The condition of the waterbody and the habitats which support the designated features is in part dependent on the water quality within them.

The occurrence of elevated nutrients in the waterbody can impact on the competitive interactions between high plant species and between higher plant species and algae, which can result in a loss of characteristic plant species. Changes in plant growth and community composition and structure can have implications for the wider food web, and the species present. Increased nutrients and the occurrence of eutrophication can also impact on the dissolved oxygen levels in the waterbody and substrate condition, also impacting on biota within the river.

Recent water quality measurements for the River Wensum within the SAC show phosphorus concentrations to be exceeding the targets for all unit where there is monitoring data. Any nutrients entering the catchment upstream of the locations which are exceeding their nutrient targets, will make their way downstream and have the potential to further add to the current exceedance. Therefore, for the River Wensum, the whole upstream catchment is included within the catchment map.

Additional Information:

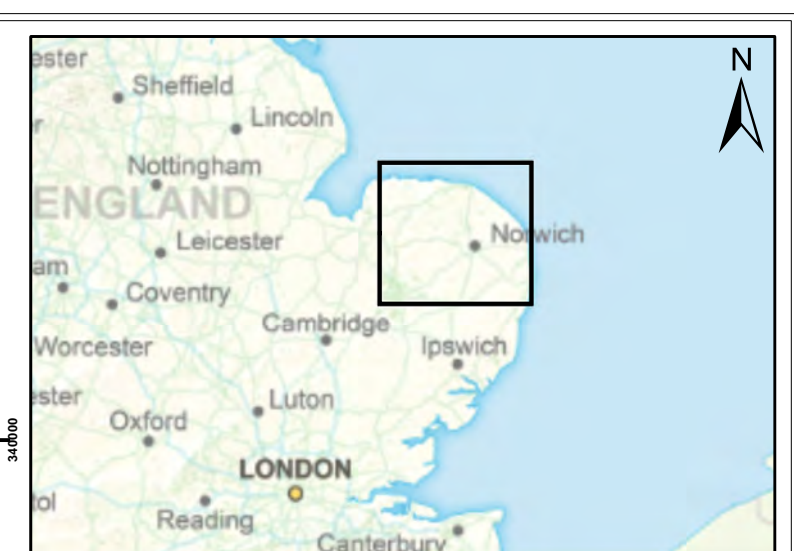
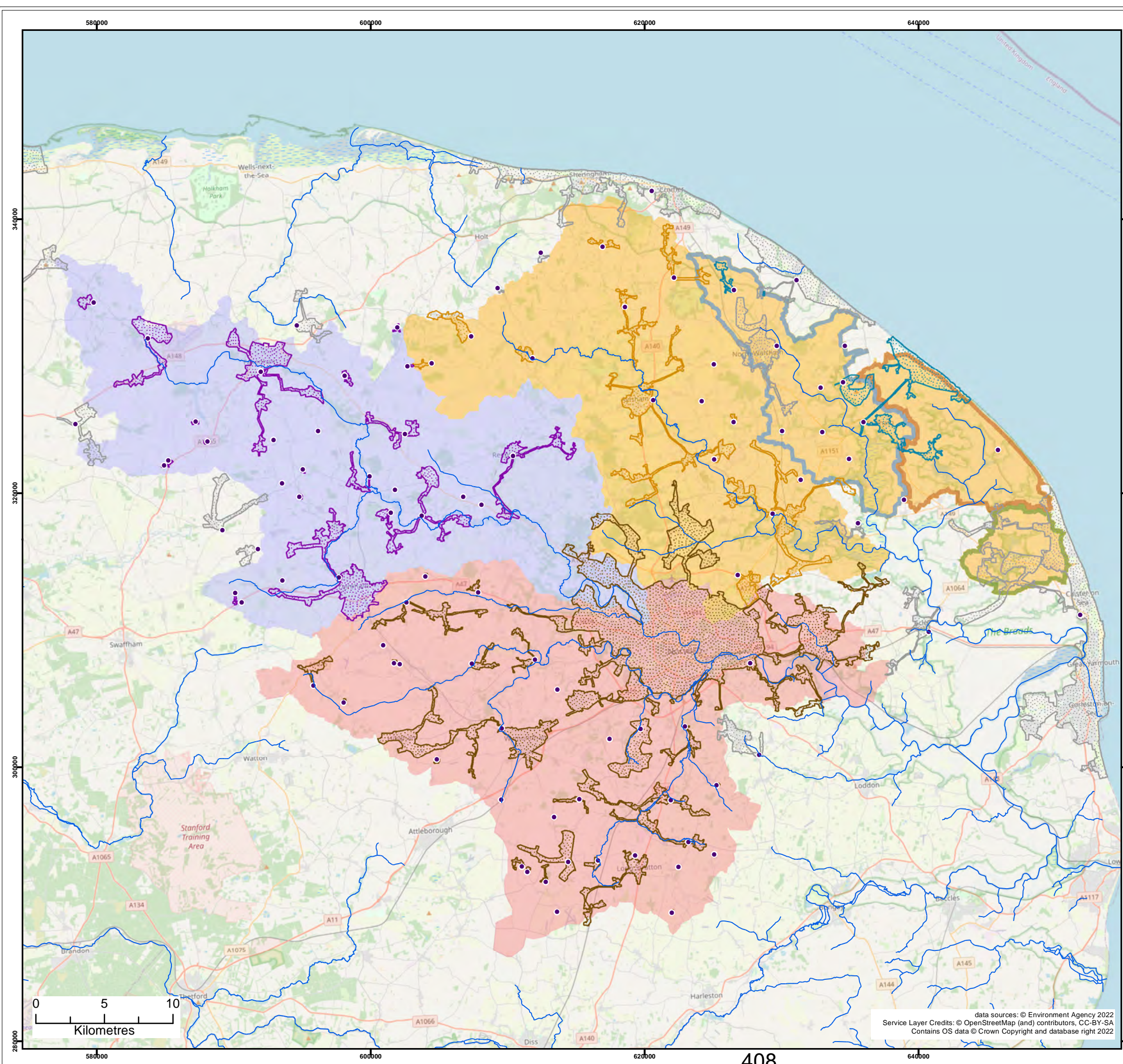
Habitat type impacted by nutrients - Riverine

The Special Area for Conservation is legally underpinned by the River Wensum SSSI

SSSI interest features include:

- River supporting habitat
- Rivers and Streams

Appendix 5



Legend:

- Wastewater Treatment Works
- Main Rivers
- WwTWs that do not drain into the catchment
- WwTWs within the catchment**
- River Bure
- River Bure - Ant Broad
- River Bure - Hickling Broad
- River Wensum
- River Yare
- Surface Water Catchments**
- River Wensum
- River Yare
- River Bure
- River Bure - Hickling Broad
- River Bure - Filby Broad
- River Bure - Ant Broad

Client: Norfolk Council

Project: Norfolk Nutrients Project

Title: Nutrient Catchment Map (overview)

Figure: 2 Drawing No: PC3719-RHD-ZZ-XX-DR-Z-0002

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	29/09/2022	GC	LB	A3	1:275,000

Co-ordinate system: British National Grid



data sources: © Environment Agency 2022
 Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA
 Contains OS data © Crown Copyright and database right 2022

REPORT

Norfolk Nutrient Budget Calculator

Technical Reference Report

Client: Norfolk Combined Authorities

Reference: PC3719-RHD-ZZ-XX-RP-Z-0001

Status: S0/P01.01

Date: 22 September 2022



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Document title: Norfolk Nutrient Budget Calculator

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Reference: PC3719-RHD-ZZ-XX-RP-Z-0001
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Project name: Norfolk Nutrient Strategy
Project number: PC3719
Author(s): Oliver Bowers & Ian Dennis

Drafted by: Oliver Bowers

Checked by: Oliver Bowers

Date: 21/09/2022

Approved by: Ian Dennis

Date: 22/09/2022

Classification

Project related

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Figure 2: Nutrient neutrality flow diagram

6

1.1 Introduction

1.1.1 Evidence-based approach

The Norfolk nutrient budget calculator is a regional specific tool designed to rapidly calculate the nutrient loading from new residential development in the catchments of the River Wensum SAC and the Broads SAC. This report presents the methods, principles and key assumptions on which the calculator is based.

The Norfolk nutrient budget calculator utilises the best available scientific evidence and research alongside the latest nutrient neutrality guidance from Natural England (2022). The calculator adopts a regional specific and accurate approach. As a result, some of the calculator inputs and assumptions deviate from those advised in the published guidance. The evidence to support these deviations is presented within this report.

Whilst the best available evidence and research was used, some inputs are based on professional judgement and the values used are subject to a degree of uncertainty. As such, a precautionary approach was applied in line with existing legislation and case law. Furthermore, a precautionary buffer is added to the total nutrient loading values for developments. Applying a precautionary approach provides reasonable certainty to the local planning authority that the development, in combination with other developments, will avoid significant increases in nutrient loading to the designated sites.

Under the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended) (herein referred to as the Habitats Regulations), a Habitats Regulations assessment must remove all reasonable scientific doubt as to the absence of adverse effects on a habitats site. However, absolute certainty is not required. In order to meet the requirements, scientific evidence was used instead of generic assumptions where possible.

1.1.2 Use of the calculator

The calculator is only applicable to developments that impact the River Wensum SAC and/or Broads SAC site or any water body that subsequently discharges into these sites. **Figure 1** presents the surface water catchment area that will impact nutrient contributions to the designated sites. **Appendix 1** provides a full list of the Water Recycling Centres (WRCs) that discharge into the surface drainage network upstream of the designated sites and could therefore supply nutrients to them. For any development proposals that would be located outside of the defined surface water catchment area, but would discharge effluent to a WRC within the surface water catchment, stages 2 and 3 do not apply. No assessment is necessary for any development proposals that would drain to a WRC that discharges outside of the surface water catchment.

The methodology applies to all developments that could result in a net increase in population, such as new homes, student accommodation, tourist attractions and tourist accommodation as these developments would have wastewater implications. Commercial developments are not typically included, as it is assumed that people working in a commercial building will live within the same catchment and the wastewater implications of the individuals are considered when assessing housing. Assessing both housing and commercial developments could therefore lead to 'double-counting'.

Figure 2 presents a flow diagram for the application of the methodology used in the Norfolk nutrient budget calculator. Details of each stage are presented below.

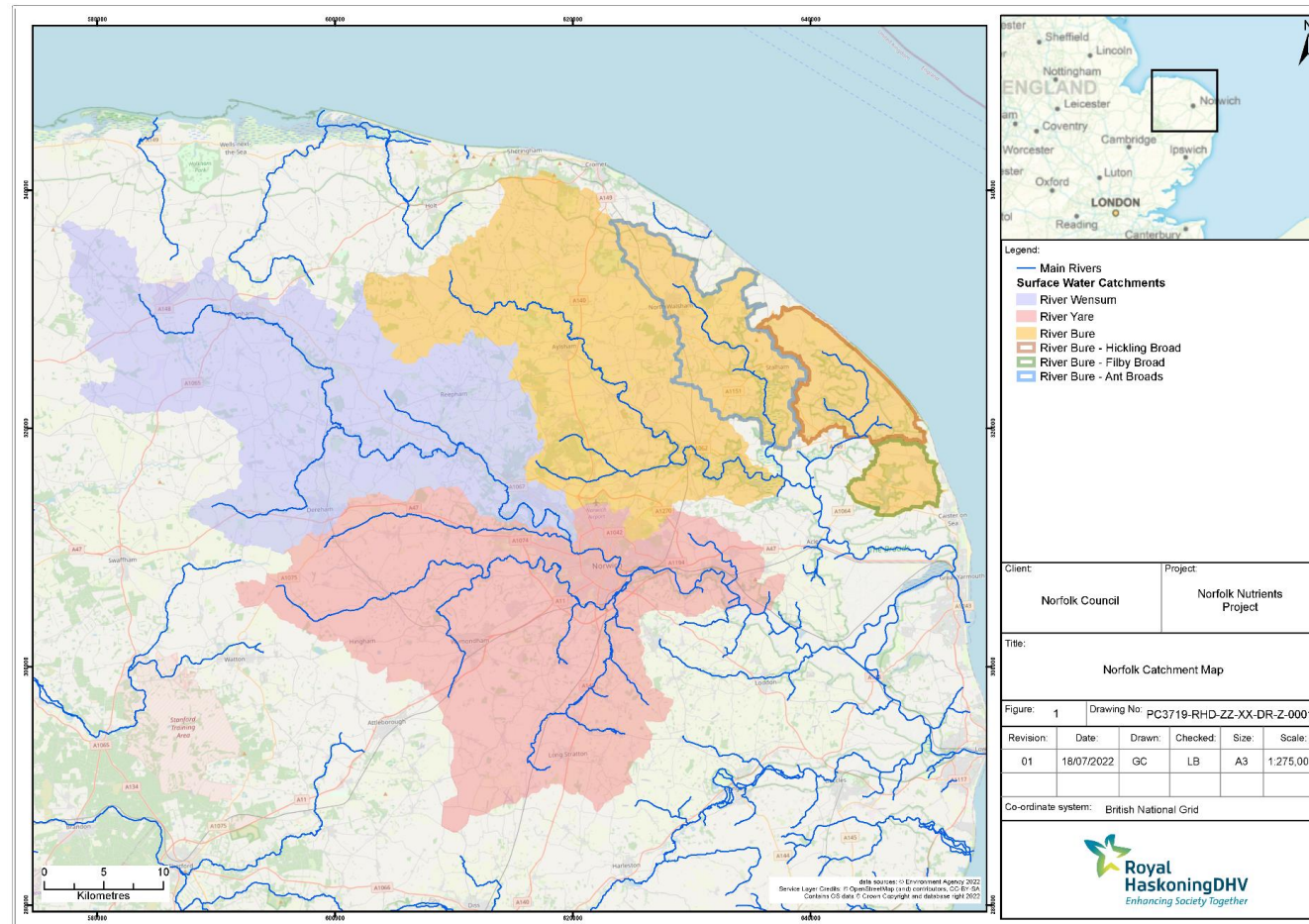


Figure 1: Surface water catchment map

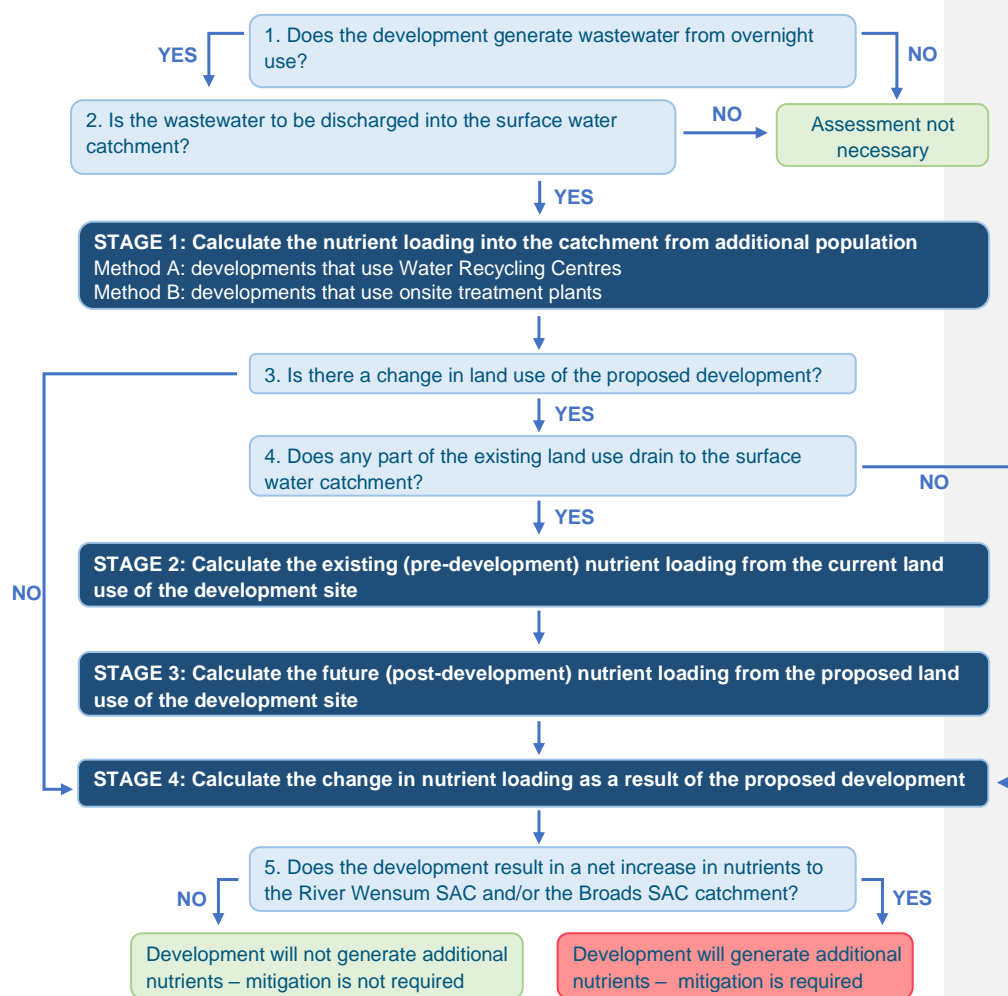


Figure 2: Nutrient neutrality flow diagram

1.2 Stage 1: Calculate nutrient loading from additional wastewater

1.2.1 Stage 1 methodology

Nutrient loading is calculated by multiplying the number of proposed dwellings by the assumed occupancy rate (persons/dwelling) to calculate the population increase from the development. This is then multiplied by the water usage (l/person/day) and the effluent discharge concentration (mg/l) to calculate the nutrient loading, which is converted into kg/yr.

$$\text{No. of dwellings} \times \text{Occupancy rate} = P_i \quad \text{Eq. 1}$$

Where P_i represents the population increase.

$$P_i \times \text{Water usage} = W \text{ (Litres per day)} \quad \text{Eq. 2}$$

Where W the wastewater volume generated.

$$W \times (\text{WRC discharge level}) = L_w \text{ (mg per day)} \quad \text{Eq. 3}$$

$$\frac{\text{Nutrient load}}{1000000} \times 365 = L_w \text{ (kg per year)} \quad \text{Eq. 4}$$

Where L_w represents the loading from wastewater.

1.2.2 Average occupancy rates

The current Natural England nutrient neutrality guidance (2022) derives average housing occupancy rates by considering the total population within a catchment against the total number of dwellings. This housing rate is then applied to all new developments within the catchment. This approach assumes that all new dwellings will result in an increase in the population within the catchment and ignores the fact that new dwellings will often be occupied by people who are already living within the catchment (and therefore already contributing to wastewater).

A more robust method of calculating the actual population change from new developments was used and a Norfolk specific occupancy rate of 1.89 persons/dwelling was derived (ORS, 2022). This value accounts for people moving within catchments and the impact of second homes / holiday homes.

This Norfolk average occupancy rate is applied to all residential dwellings within the catchment, regardless of the number of bedrooms. This consistent approach reduces the risk of underestimating or overestimating the total occupancy levels across the catchment. However, the Norfolk average occupancy rate is not appropriate for development types such as student accommodation or houses in multiple occupation, which are not included in the ONS data. In this case, an average occupancy of 1.65 persons/dwelling, derived from the Dorset Heathlands SPD (Dorset Council, 2020), is applied to additional rooms above 6 residents. The Dorset Heathlands SPD provides the best alternative estimate and is considered to be appropriate for use outside of Dorset.

In the case of hotels or guest houses, an average occupancy of 1.65 persons/dwelling is also assumed, alongside estimations on the number of weeks open per year (1-52) and typical occupancy (1-100%) which are applied as multipliers. Accounting for the number of weeks open and typical occupancy allows for the most accurate determination of the wastewater volume that will be produced by the development.

In the case of single bedroom student halls, bespoke occupancy rates should be agreed with the relevant Local Planning Authority.

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1.2.3 Water usage per person

The optional higher Building Regulations standard for water use per person of 110 litres/person/day is used within the calculator by default. When developments are built to 110 l/person/day, this value should be secured by the Local Planning Authority through a planning condition. However, the cells remains open and the user can choose to apply the Building Regulations legal maximum water use per person standard of 125 litres/person/day or a water use per person standard that is even greater than the optional higher standard.

Natural England nutrient neutrality guidance (2022) indicates that an additional 10 litres per person per day should be applied to the chosen water usage standard to account for potential changes to less water efficient fittings throughout the lifetime of the development. However, there is evidence in the literature to suggest that water usage per person per day does not increase over time. As such, this assumption was not adopted in the Norfolk nutrient budget calculator. For example, a recent report by Waterwise (2018) indicates that customer perception on water efficient fittings is positive, with 42% feeling that efficient showerheads and taps would perform the same and 39% thinking that they perform better than less efficient products. Furthermore, a recent Ofwat study found that it is possible to achieve average household consumptions of 50-70 litres per person per day in 50 years, without a reduction in the level of utility or quality of water use. Andrewartha and Scott (2018) found that the average water usage in properties built to a standard of 125 litres/person/day is actually 113.7 litres/person/day.

The Norfolk Nutrient budget calculator uses a default value of 110 l/person/day within the calculator and does not apply an additional 10 l/person/day as per Natural England guidance.

1.2.4 Wastewater discharge concentrations

1.2.4.1 Water Recycling Centre

In order to calculate the nutrient contribution from wastewater, an estimate is made on the nutrient concentrations in the treated wastewater generated by the new development. Wastewater from a new development is preferably treated at a mains water recycling centre (WRC), where nutrients are removed by treatment processes. Some WRCs have dedicated nutrient removal processes and the final effluent concentrations will comply with permitted concentrations. Other WRCs, usually more rural, will not have a permitted limit on the concentration of final effluent discharges.

Permitted WRCs are operated so that they have some headroom between the final effluent concentrations and the level that has to be met for compliance with the permit. This is to ensure that WRCs will remain compliant with their permits as well as to provide water quality benefits. Where a permit limit is set to decrease, water companies will sometimes operate at this lower concentration in advance of the permit changes. Natural England's guidance assumes that WRC discharge at 90% of their permit limit, and as such apply a multiplier of 0.9 to the permit limit. This makes a general assumption on the average discharge concentrations, which is likely to vary between each WRC, and typically represents an overestimation on the actual discharge concentrations in the final effluent from the WRCs.

A more catchment specific and evidence-based approach is to use measured discharge concentrations from the WRC within the catchment that operate under permit limits. However, due to potential future changes (either increases or decreases) in the discharge concentration, a precautionary approach was adopted which assumes that the WRCs discharge at one standard deviation¹ from the mean.

¹ Standard deviation is a statistic that measures the dispersion of a dataset relative to its mean. This is calculated as the square root of the variance using the formula $\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (X_i - \mu)^2}$ Where σ is the standard deviation, μ is the mean average, N is the sample size and X the observed values. A low standard deviation indicates the values tend to be close to the mean, while a high standard deviation indicates the values are spread out over a wider range. Under a normal distribution (i.e. bell-shaped curve), one standard deviation away from the mean in either direction account for 68.2% of the values.

The suitability of the standard deviation approach as a precautionary buffer was assessed by considering the % increase in flow (m³/day) as a result of projected growth at each permitted WRC. Where a WRC will see a flow increase of greater than 10%, it was assumed that this was significant growth and a further buffer was required on top of the standard deviation. The WRCs in this case were therefore assumed to operate at 90% of their permit. This approach ensures that future growth is considered without underestimating the wastewater loading. For the WRCs without sufficient data, the typical standard deviation discharge of 76% was applied to the permitted concentration.

The discharge concentration data was supplied by Anglian Water Services and ranges from January 2019 to June 2022. In order to ensure the calculator remains up to date with measured concentrations, a review of the measured data should be conducted at regular intervals and the calculator updated to reflect any changes. The calculator, at the time of completing the Habitats Regulations Assessment will represent the best available evidence at that time. Regularly reviewing the discharge concentration data ensures that is still the case going forward.

The calculator also incorporates post 2025 (Asset Management Plan (AMP) 7) and Post 2030 (AMP 8) discharge concentrations. Where the permit limit is not changing post 2025, the same discharge concentrations were assumed. Where the permit limit is changing (Aylsham, Southrepps and Swardeston) it was assumed that the WRC would operate at 90% of its updated permit limit. This will be reviewed once there is sufficient evidence regarding the post-2025 performance.

A statement from the Department for Levelling Up, Housing & Communities (21st July 2022) indicates that there will be a statutory obligation on Anglian Water to operate WRCs at the Technically Achievable Limit (TAL) within the catchment by 2030. The TAL is 0.25mg/l for Total Phosphorus (TP) and 10mg/l for Total Nitrogen (TN). The government will table an amendment to the Levelling Up and Regeneration Bill (LURB) which gives confidence that the upgrades will be in place by 2030 and enabling the use of the lower permit limits as part of a Habitats Regulations Assessment. The calculator adopts these new lower permit limits. However, due to a lack of data on performance at these significantly reduced limits, the calculator assumes the discharge concentrations would be at 90% of the permits.

Natural England guidance indicates that standard concentrations of 8 mg/l for TP and 27 mg/l for TN should be assumed for unpermitted WRCs. However, catchment specific default values are used within the Norfolk nutrient budget calculator of 6 mg/l TP and 25 mg/l TN.. These are the values used in Environment Agency WRC modelling of nutrient inputs from WRCs in Norfolk and represent the most locally relevant default values.

Table 1 presents the WRC concentrations used within the Norfolk nutrient budget calculator for the permitted sites. A full list of WRCs and their assumed discharge concentrations are provided in **Appendix A1**.

Table 1: Measured discharge concentrations of permitted WRCs

WRC	Permitted limit (mg/l)	P	Assumed concentration (mg/l)	P	Discharge %	Assumption applied
Aldborough	2		1.57		79	STDEV
Aylsham	1		0.9		72	Significant growth
Aylsham (post 2025)	0.6		0.54		76	90% of future permit
Belaugh	1		1.05		105	STDEV
Briston	1		0.69		69	STDEV
Bylaugh	2.5		1.89		76	STDEV
Coltishall	1		0.86		86	STDEV

WRC	Permitted limit (mg/l)	P	Assumed concentration (mg/l)	P	Discharge %	Assumption applied
Dereham	1		0.76		76	STDEV
Fakenham	1		0.9		69	Significant growth
Foulsham	1		0.89		89	STDEV
Long Stratton	1		0.74		74	STDEV
Ludham	1		0.67		67	STDEV
North Elham	1		0.62		62	STDEV
Rackheath	2		1.8		75	Significant growth
Reepham	1		0.83		83	STDEV
Roughton	2		1.34		67	STDEV
Sculthorpe	1		0.65		65	STDEV
Southrepps	3		2.28		76	Average discharge applied
Southrepps (post 2025)	0.5		0.45		76	90% of future permit
Stalham	1		0.86		86	STDEV
Swanton Morley	2		1.52		76	Average discharge applied
Swardeston (post 2025)	0.4		0.36		76	90% of future permit
Whitlingham	1		0.9		76	Significant growth
Wymondham	0.8		0.61		76	STDEV

1.2.5 On-site treatment plant

The Norfolk nutrient budget calculator adopts default discharge concentrations for TP and TN from Package Treatment Plants (PTPs) and Septic Tanks (STs) from the Natural England nutrient neutrality guidance (Natural England, 2022). Additionally, the Norfolk nutrient budget calculator also includes the option to select a ST serving multiple properties with a discharge concentration of 7mg/l TP (May and Woods, 2016). The default values used within the calculator are presented in **Table 2**.

Table 2: Default onsite treatment plants effluent concentrations

Treatment type	P removal (mg/l)	N removal (mg/l)
Default package treatment plant	9.7	72.9
Default multi-source septic tank	7	96.3
Default single-source septic tank	11.6	96.3

1.3 Stage 2 & 3: Calculate nutrient loading from land use

1.3.1 Stage 2 & 3 methodology

In order to calculate the net change in land use, the existing nutrient input from the current land within the proposed development footprint needs to be calculated. The nutrient input is calculated by multiplying the runoff coefficient for each specific land use type by the relevant area of each land use.

$$(A_1 \times C_1) + (A_2 \times C_2) \dots + (A_n \times C_n) = L_{\text{current}} \quad \text{Eq. 5}$$

Where **A** represents the Area in hectares, **C** the export coefficient and L_{current} the nutrient load from the current land uses.

Where land does not drain to the designated site surface water catchment it should be excluded from the calculation in Stages 2 and 3.

The nutrient load from the future land uses (L_{proposed}) utilises the same calculations as Equation 5.

1.3.2 Rainfall data

The rainfall data used within the Norfolk nutrient budget calculator differs from that used within the Natural England guidance. Rainfall data used within the Norfolk nutrient budget calculator for the catchment was derived from HadUK gridded which provided Standard Average Annual Rainfall (SAAR) for the period 2001-2021. This data provides the best available evidence for which to base the land use runoff coefficients. The HadUK data provides a more up to date dataset than the data proposed by Natural England which was collected between 1961 – 1990.

1.3.3 Agricultural runoff coefficients




























The Norfolk nutrient budget calculator employs the same methodology for deriving agricultural runoff coefficients as the Natural England guidance. TP and TN runoff coefficients (in kg/ha/yr) were derived using Farmscoper V5 (ADAS, 2022). The Upscale tool was used which derived runoff coefficients specific to the operational catchments of the Wensum, Yare and Bure as well as the Broadland Rivers Management catchment. Operational catchment values were used where possible. In the absence of operational catchment values, management catchment data was used. The agricultural runoff coefficients were modified to account for pollution incidents and illegal operations. Agricultural runoff coefficients for each operational catchment are provided in **Appendix A2**.

The agricultural runoff rates are dependent on the following:

- Farm type
- Operational catchment
- Soil types
- Average annual rainfall
- Whether the development is in a Nitrate Vulnerable Zone (NVZ)

Soil types are derived from Soilscape (Cranfield Soil and Agrifood Institute, 2022) and characterised into the following drainage categories to conform with the Farmscoper (**Table 3**). This is consistent with the approach outlined by Natural England (2022).

Table 3: Soil types by drainage category

Free draining			Impermeable - drained for arable			Impermeable - drained for arable and grassland		
Colour	ID	Name	Colour	ID	Name	Colour	ID	Name
	3	Shallow lime-rich soils over chalk or limestone		1	Saltmarsh soils		17	Slowly permeable seasonally wet acid loamy and clayey soils
	4	Sand dune soils		2	Shallow very acid peaty soils over rock		18	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
	5	Freely draining lime-rich loamy soils		8	Slightly acid loamy and clayey soils with impeded drainage		19	Slowly permeable wet very acid upland soils with a peaty surface
	6	Freely draining slightly acid loamy soils		9	Lime-rich loamy and clayey soils with impeded drainage			
	7	Freely draining slightly acid but base-rich soils		15	Naturally wet very acid sandy and loamy soils			
	10	Freely draining slightly acid sandy soils		16	Very acid loamy upland soils with a wet peaty surface			
	11	Freely draining sandy Breckland soils		20	Loamy and clayey floodplain soils with naturally high groundwater			
	12	Freely draining floodplain soils		21	Loamy and clayey soils of coastal flats with naturally high groundwater			
	13	Freely draining acid loamy soils over rock		22	Loamy soils with naturally high groundwater			
	14	Freely draining very acid sandy and loamy soils		23	Loamy and sandy soils with naturally high groundwater and a peaty surface			
				24	Restored soils mostly from quarry and opencast spoil			
				25	Blanket bog peat soils			
				26	Raised bog peat soils			
				27	Fen peat soils			

The Farmscoper Upscale tool uses existing data on operating farms within a catchment to predict the average runoff coefficients. The Farmscoper upscale tool does not contain data on farms within the catchment with a rainfall of less than 600 mm/yr. As a result, runoff coefficients derived for 600 – 700 mm/yr rainfall were also applied to the runoff coefficients between 500 – 600 mm/yr.

Allotments and community food growing land are derived using agricultural land export coefficients in line with the Natural England guidance (2022).

1.3.4 Non-agricultural land runoff coefficients

Non-agricultural land use coefficients were adopted from Natural England's nutrient neutrality guidance (2022) (Table 4). The Norfolk nutrient budget calculator also includes the option not select constructed wetlands as a land use. The Norfolk nutrient budget calculator uses default values for constructed wetlands that is intended to be used for guidance proposes only to provide the user with an indication of the likely area required. The default values were derived from expert opinion and literature (Land et al., 2016).

Table 4: Non-agricultural land runoff coefficients

Land Use classification	P runoff coefficient (kg/ha/yr)	N runoff coefficient (kg/ha/yr)
Greenspace	0.02	3
Woodland	0.02	3
Shrub / heathland / bracken / bog	0.02	3
Water	0.00	0
Constructed wetland	-8.00	-930
Set aside Land	0.02	3

1.3.5 Urban land runoff coefficients

The derivation of urban land use runoff coefficients is primarily based on Natural England's nutrient neutrality guidance (2022) and does not deviate from the proposed method (HR Wallingford Modified Rational Method). The urban land is categorised into residential, open urban and commercial/industrial land. The Norfolk nutrient budget calculator further sub-divides residential land into high-density, medium-density and low-density.. This allows for more specific land use types to be selected, increasing the accuracy of the calculator and limits the potential for overestimations or underestimations. The following definitions are used:

- High density residential - applies to urban cores (e.g. city centres)
- Medium density residential - applies to development in larger towns where there is a high percentage of development, but outside of core cities.
- Low density residential – rural developments

The HR Wallingford Modified Rational Method was used to calculate the nutrient loading:

Project related

$$L = R \times P_r \quad \text{Eq. 6}$$

Where L is the average runoff (mm/yr), R is the average rainfall (mm/yr) and P_r is the percentage runoff (%)

The percentage runoff was calculated using the following equation:

$$P_r = 0.829 \times PIMP + 0.078 \times U - 20.7 \quad \text{Eq. 7}$$

Where $PIMP$ is the percentage of land that is impervious (%) and U is the catchment wetness index.

The catchment wetness index is calculated using the following equation:

$$U = -129.5 + (0.424 \times R) - (2.28 \times 10^{-4} \times R^2) - (4.56 \times 10^{-8} \times R^3) \quad \text{Eq. 8}$$

Eq. 6 is combined with Event Mean Concentrations (EMCs) to calculate the urban runoff coefficients. The EMCs outlined in the Natural England nutrient neutrality guidance (2022) were adopted and are derived from Mitchel (2005). The EMCs used within calculations are presented in **Table 5**.

Table 5: EMCs for urban land use

Land use	P EMC (mg/l)	N EMC (mg/l)
Residential	2.85	0.41
Commercial / Industrial	1.52	0.30
Open urban land	1.68	0.22

The percentage of land that is impervious in selected urban land uses was derived from the available literature², and represents the average of reported mean values stated. Where a range of values was provided, the upper limits were taken in order to adopt a precautionary approach. To account for how nitrogen is more readily transported in the environment, an additional 20% was added to the TN impervious values. **Table 6** presents the impervious percentages used to derive urban land use runoff coefficients.

Table 6: Impervious percentages used for the various land use types

Land use	TP imperviousness (%)	TN imperviousness (%)
High density residential	61	81
Medium density residential	38	58
Low density residential	30	50
Commercial / Industrial	84	100
Open space urban	22	42

The literature values are further supported by measured data from ongoing projects within the catchment, which shows that land classified as either high density or medium density urban has a typical impervious cover of 45-50%.

Table 7 presents the urban runoff coefficients used with the calculator.

² Exum et al., (2005); Cappiella & Brown (2001); Chormanski et al., (2008); Lu & Weng (2006); Yancey (2008); Yang & Liu (2005); Wu & Murray (2003); Xu et al., (2018); Ferguson (1998); Jiang & Fu (2015); Boyd et al., (1993); New York State Department of Environmental Conservation (2015); Tilley & Slonecker (2006); ENSR (2005); Shahtahmassebi et al., (2018); National Land Cover Data (1992)

Table 7: Urban runoff coefficients derived for the Norfolk nutrient budget calculator

Rainfall band (mm/yr)	Midpoint (mm/yr)	Catchment wetness (U)	High density residential		Medium density residential		Low density residential		Commercial / Industrial		Urban open space	
			TP	TN	TP	TN	TP	TN	TP	TN	TP	TN
550-575	562.55	28.75	0.74	7.81	0.30	4.75	0.15	3.69	0.86	5.51	0.00	1.55
575-600	587.55	31.66	0.78	8.19	0.32	5.00	0.16	3.89	0.91	5.78	0.00	1.64
600-625	612.55	34.19	0.82	8.57	0.34	5.25	0.17	4.09	0.95	6.04	0.00	1.73
625-650	637.55	36.33	0.85	8.95	0.36	5.49	0.18	4.29	0.99	6.30	0.01	1.82
650-675	662.55	38.07	0.89	9.33	0.37	5.73	0.19	4.48	1.03	6.56	0.01	1.90
675-700	687.55	39.42	0.93	9.70	0.39	5.97	0.20	4.67	1.07	6.82	0.01	1.99
700-750	725.05	40.68	0.98	10.25	0.42	6.31	0.22	4.94	1.13	7.20	0.01	2.11
750-800	775.05	41.00	1.05	10.97	0.44	6.75	0.23	5.29	1.21	7.70	0.01	2.25
800-850	825.05	41.00	1.12	11.67	0.47	7.19	0.25	5.63	1.29	8.20	0.01	2.40
850-900	875.05	41.00	1.19	12.38	0.50	7.63	0.26	5.97	1.37	8.70	0.01	2.55

1.4 Stage 4: Calculating the nutrient budget

1.4.1 Stage 4 methodology

Stage 4 calculates the net change in the nutrient loading to the catchment as a whole due to the proposed development. This is calculated by summing the additional nutrients from wastewater (stage 1) and the difference between the nutrient load for the future (stage 3) and current land uses (stage 2). A precautionary buffer is then applied.

$$\text{Total nutrient loading} = 1.2 \times (L_W + (L_{\text{Proposed}} - L_{\text{Current}})) \quad \text{Eq. 9}$$

1.4.2 Precautionary buffer

Whilst the figures used throughout this model are based on scientific research and evidence and represent the best available evidence, there is some inherent uncertainty remaining. A precautionary buffer is used to recognise the uncertainty and provide, with reasonable certainty, that there will be no adverse effect on the integrity of the designated sites. As per Natural England guidance (2022), a 20% precautionary buffer is added to the total loading value.

1.5 Mitigation

The Norfolk nutrient budget calculator goes beyond the Natural England guidance and provides an indication of potential mitigation options. The mitigation tabs offer guidance on the change in land use that is required in order to achieve nutrient neutrality. The stages only apply to developments that will generate additional nutrients as outlined in Stage 4. The different tabs reflect the different mitigation requirements from reduction in permit limits. The mitigation tabs offer the option to implement either on-site or off-site.

1.5.1 Mitigation methodology

In the case of off-site mitigation, the excess nutrients as a result of the proposed development must equal the change in land use of the mitigation area.

$$\text{Total nutrient loading} = (L_{\text{Mitigationproposed}} - L_{\text{MitigationCurrent}}) \quad \text{Eq. 10}$$

Where $L_{\text{Mitigationproposed}}$ is the total nutrient loading from the proposed land use of the mitigation area and $L_{\text{Mitigationcurrent}}$ is the total nutrient loading from the current land use of the mitigation area.

Only land that is currently within the surface water catchment and may affect the designated sites, either by draining directly and draining to upstream locations, can be selected for mitigation land.

1.6 Zero-value calculator

The zero-value calculator is an additional feature included within the Norfolk nutrient budget calculator. The zero-value calculator shows the number of developments that can be built and occupied as a result of taking the entire development site out of agricultural use and partly into low-input use (e.g. semi-natural grassland) and a small part of the future use. This allows part of the development to progress and prevents delays while mitigation solutions are implemented. The calculator generates the number of properties that can be built for both TP and TN. Unless the difference in short-term mitigation can be sourced off-site, the lower number of dwellings applies.

1.6.1 Zero-value calculator methodology

The development will be 'zero value' or nutrient neutral when the wastewater contribution from the development is equal to the nutrient load from the land use change. In this case the precautionary buffer is not required because the value is not above zero.

$$L_W = ((L_{Proposed} + L_{low-input}) - L_{Current})) \quad Eq. 11$$

In order to calculate the maximum number of dwellings that could be permitted whilst remaining nutrient neutral, the permitted nutrient loading from wastewater that is neutral follows the opposite calculations to those in Stage 1.

$$\frac{L_W}{365} \times 1000000 = L_w \quad Eq. 12$$

$$\frac{L_w}{WRC \text{ discharge level}} = W \quad Eq. 13$$

$$\frac{W}{\text{water usage}} = P_i \quad Eq. 14$$

$$\frac{P_i}{\text{occupancy rate}} = \text{No. of dwellings} \quad Eq. 15$$

1.7 Summary

Table 8 below provides a summary of the key inputs and how these differ between the Natural England guidance and the Norfolk nutrient budget calculator.

Table 8: Summary comparison of key inputs

Calculator input	Natural England guidance	Norfolk nutrient budget calculator	Comment
Occupancy rate	2.4 persons/dwelling	1.89 persons/dwelling residential development	Use of regional specific value for Norfolk that accounts for movement of people already living within the catchment.
	Not included	1.65 persons/dwelling for houses in multiple occupation and hotels.	Provides more accurate estimation of wastewater volume from specific development types
Water usage	120 l/person/day	110 l/person/day	Use of 110 l/person/day as this is secured through policy
WRC P discharge concentrations	At 90% of permit limit for permitted sites	Use of one standard deviation from the mean. WRC with significant growth use 90% of permit.	Use of measured data rather than generalised assumptions for permitted sites.
	8 mg/l for unpermitted sites	6 mg/l for unpermitted sites	Use of regional specific default values used by Environment Agency.
WRC N discharge concentrations	27 mg/l	25 mg/l	Use of regional specific default values used by Environment Agency.
Onsite treatment plants	Default values used for PTP and ST from literature review	Default values used for PTP and ST from literature review. Addition of option to include STs serving multiple dwellings.	No difference in default values.
Rainfall	1961 – 1990 SAAR data	2001 – 2021 SAAR data	Use of more up to date data
Agricultural runoff rates	Derived using Farmscoper upscale model	Derived using Farmscoper upscale model	No difference in approach
Non-agricultural runoff rates	Default values derived from literature review	Default values derived from literature review	No difference in approach

Project related

Urban runoff coefficients	Derived using HR Wallingford Modified Rational Method. Default EMCs used from Mitchell (2005) and generic impervious values of 80% for P and 100% for N. Option of only residential land use.	Derived using HR Wallingford Modified Rational Method. Default EMCs used from Mitchell (2005) and impervious values derived from detailed literature review and catchment specific data. Option of high, medium and low density residential land use types.	Use of catchment specific data and adoption of values following detailed literature review, as opposed to generic assumptions. Use of more detailed land use types to improve accuracy of urban runoff coefficients.
Precautionary buffer	20%	20%	No difference in approach
Mitigation	Not included	Included	N/A
Zero-value calculator	Not included	Included	N/A

1.8 References

Agricultural Development and Advisory Service. (2022). Farmscoper Version 5.

Andrewartha, T. and Scott, R. (2018). Building Regulations Part G Analysis of Water Consumption, Essex and Suffolk Water

Boyd, M.J., Bufill, m.C., Knee, R.M. (1993). Pervious and impervious runoff in urban catchments, Hydrological Sciences Journal, 38:6, 463-478.

Cappiela, K. & Brown, K. (2001). Impervious Cover and Land Use in the Chesapeake Bay Watershed.

Chormanski, J., Van de Voorde, T., De Roeck, T., Batelaan, O., Canters, F. (2008). Improving Distributed Runoff Prediction in Urbanized Catchments with Remote Sensing based Estimates of Impervious Surface Cover.

Cranfield Soil and Agri-food Institute (2022). Soilscales.

Dorset Council. (2020). The Dorset Heathlands Planning Framework 2020-2025: Supplementary Planning Document.

ENSR (2005). Pilot TMDL Applications using the Impervious Cover Method.

Exum, L., Bird, S., Harrison, J., Perkins, C.A. (2005). Estimating and Projecting Impervious Cover in the Southeastern United States. US Environmental Protection Agency.

Ferguson, B.K. (1998). Introduction to Stormwater: Concept, Purpose, Design. New York: John Wiley & Sons.

Jiang, Y. & Fu, P. (2015). Assessing the Impacts of Urbanization-Associated Land Use/Cover Change on Land Surface Temperature and Surface Moisture: A Case Study in the Midwestern United States. *Remote Sensing*.

Land, M., Graneli, W., Grimvall, A., Hoffman, C., Mitsch, W., Tonderski, K., Verhoeven, J. (2016). How effective are created or restored freshwater wetlands for nitrogen and phosphorus removal? A systematic review. *Environ Evid*, 5:9

Lu, D. & Weng, Q. (2006). Use of impervious surface in urban land-use classification. *Remote Sensing of Environment*, 102, 146-160.

May, L. & Woods, H. (2016). Phosphorous in Package Treatment Plant effluents. *Natural England Commissioned Reports*, Number221.

Mitchell, G. (2005). Mapping hazard from urban non-point pollution: A screening model to support sustainable urban drainage planning. *Journal of Environmental Management*, 74(1), pp. 1-9.

National Land Cover Data (1992)

Natural England. (2020). Advice on Nutrient Neutrality for New Development in the Stour Catchment in Relation to Stodmarsh Designated Sites – For Local Planning Authorities. Final Version Report.

Natural England. (2022). Nutrient Neutrality Generic Methodology.

Project related

New York State Department of Environmental Conservation. (2015). The New York State Stormwater Management Design Manual: Appendix A.1 Pollutant Concentrations.

Shahtahmassebi, A. R., Wu, C., Blackburn, G.A., Zheng, Q., Huang, L., Shortridge, A., Shahtahmassebi, G., Jiang, R., He, S., Wang, K., Lin, Y., Clarke, K.C., Su, Y., Lin, L., Wu, J., Zheng, Q., Xu, H., Xue, X., Shen, Z. (2018). How do modern transportation projects impact on development of impervious surfaces via new urban area and urban intensification? Evidence from Hangzhou Bay Bridge, China. *Land Use Policy*, Volume 77, 479-497.

Tilley, J.S., & Slonecker, E.T. (2006). Quantifying the Components of Impervious Surfaces: U.S. Geological Survey Open-File Report 2006-1008, 33.

Waterwise. (2018) Advice on water efficient new homes for England.

Wu, C. & Murray, A.T. (2003). Estimating impervious surface distribution by spectral mixture analysis. *Remote Sensing of Environment*, 84, 493 – 505.

Xu, R., Liu, J., Xu, J. (2018). Extraction of High-Precision Urban Impervious Surfaces from Sentinel-2 Multispectral Imagery via Modified Linear Spectral Mixture Analysis. *Sensors*, 18, 2873.

Yancey, K. (2008). Impervious Surface Coefficients: A tool for environmental analysis and management.

Yang, X. & Liu, Z. (2005). Use of satellite-derived landscape imperviousness index to characterize urban spatial growth. *Computers, Environment and Urban Systems*, 29, 524–540

**A1 Appendix A1: Water Recycling Centre discharge
concentrations**

Project related

Water Recycling centres	Current TP discharge concentration (mg/l)	Post-2025 TP discharge concentration (mg/l)	Post-2030 TP discharge concentration (mg/l)	Current TN discharge concentration (mg/l)	Post-2030 TN permit limit (mg/l)
Aldborough Water Recycling Centre	1.57	1.57	0.23	25.0	9.00
Ashmanaugh	6.00	6.00	0.23	25.0	9.00
Ashwellthorpe Water Recycling Centre	6.00	6.00	0.23	25.0	9.00
Aylsham Water Recycling Centre	0.90	0.54	0.23	25.0	9.00
Barford Water Recycling Centre	6.00	6.00	0.23	25.0	9.00
Barnham Broom Water Recycling Centre	6.00	6.00	0.23	25.0	9.00
Barton Turf	6.00	6.00	0.23	25.0	9.00
Belaugh Water Recycling Centre	1.05	1.05	0.23	25.0	9.00
Billingford STW	6.00	6.00	0.23	25.0	9.00
Bircham Newton (Monks Close) WRC	6.00	6.00	0.23	25.0	9.00
Brisley	6.00	6.00	0.23	25.0	9.00
Briston Water Recycling Centre	0.69	0.69	0.23	25.0	9.00
Bunwell STW	6.00	6.00	0.23	25.0	9.00
Bylaugh Water Recycling Centre	1.89	1.89	0.23	25.0	9.00
Carleton Rode Church Road	6.00	6.00	0.23	25.0	9.00
Carleton Rode STW	6.00	6.00	0.23	25.0	9.00
Coltishall STW	0.86	0.86	0.23	25.0	9.00
Corpusty STW	6.00	6.00	0.23	25.0	9.00
Cranworth STW	6.00	6.00	0.23	25.0	9.00

Project related

Water Recycling centres	Current TP discharge concentration (mg/l)	Post-2025 TP discharge concentration (mg/l)	Post-2030 TP discharge concentration (mg/l)	Current TN discharge concentration (mg/l)	Post-2030 TN permit limit (mg/l)
Deopham STW	6.00	6.00	0.23	25.0	9.00
Dereham WRC	0.76	0.76	0.23	25.0	9.00
East Bilney STW	6.00	6.00	0.23	25.0	9.00
East Carleton - Wymondham Road STW	6.00	6.00	0.23	25.0	9.00
East Ruston STW	6.00	6.00	0.23	25.0	9.00
Fakenham (Old And New) WRC	0.90	0.90	0.23	25.0	9.00
Felmingham Water Recycling Centre	6.00	6.00	0.23	25.0	9.00
Forncett End STW	6.00	6.00	0.23	25.0	9.00
Forncett St. Peter STW	6.00	6.00	0.23	25.0	9.00
Foulsham Water Recycling Centre	0.89	0.89	0.23	25.0	9.00
Fritton School Lane STW	6.00	6.00	0.23	25.0	9.00
Fundenhall STW	6.00	6.00	0.23	25.0	9.00
Garvestone Reymerston Road STW	6.00	6.00	0.23	25.0	9.00
Garvestone, Dereham Road	6.00	6.00	0.23	25.0	9.00
Gateley STW	6.00	6.00	0.23	25.0	9.00
Great Melton STW	6.00	6.00	0.23	25.0	9.00
Gresham STW	6.00	6.00	0.23	25.0	9.00
Hardwick STW	6.00	6.00	0.23	25.0	9.00
Hempnall Water Recycling Centre	6.00	6.00	0.23	25.0	9.00
Hempnell - Silver Green STW	6.00	6.00	0.23	25.0	9.00
Hindolveston Church Lane	6.00	6.00	0.23	25.0	9.00

Project related

Water Recycling centres	Current TP discharge concentration (mg/l)	Post-2025 TP discharge concentration (mg/l)	Post-2030 TP discharge concentration (mg/l)	Current TN discharge concentration (mg/l)	Post-2030 TN permit limit (mg/l)
Hindolveston STW	6.00	6.00	0.23	25.0	9.00
Hockering STW	6.00	6.00	0.23	25.0	9.00
Horningtoft	6.00	6.00	0.23	25.0	9.00
Horsey - Bensleys Close STW	6.00	6.00	0.23	25.0	9.00
Honing STW	6.00	6.00	0.23	25.0	9.00
Little Fransham Crown Lane STW	6.00	6.00	0.23	25.0	9.00
Little Fransham Glebe STW	6.00	6.00	0.23	25.0	9.00
Long Stratton WRC	0.74	0.74	0.23	25.0	9.00
Mattishall STW	6.00	6.00	0.23	25.0	9.00
North Elmham STW	0.62	0.62	0.23	25.0	9.00
North Tuddenham STW	6.00	6.00	0.23	25.0	9.00
Rackheath Water Recycling Centre	1.80	1.80	0.23	25.0	9.00
Reepham Water Recycling Centre	0.83	0.83	0.23	25.0	9.00
Ridlington(Norfolk) STW	6.00	6.00	0.23	25.0	9.00
Roughton Water Recycling Centre	1.34	1.34	0.23	25.0	9.00
Saxlingham STW	6.00	6.00	0.23	25.0	9.00
Spooner Row School Lane STW	6.00	6.00	0.23	25.0	9.00
Sculthorpe STW	0.65	0.65	0.23	25.0	9.00
Shipdham STW	6.00	6.00	0.23	25.0	9.00
Shotesham The Grove STW	6.00	6.00	0.23	25.0	9.00
Skeyton STW	6.00	6.00	0.23	25.0	9.00

Project related

Water Recycling centres	Current TP discharge concentration (mg/l)	Post-2025 TP discharge concentration (mg/l)	Post-2030 TP discharge concentration (mg/l)	Current TN discharge concentration (mg/l)	Post-2030 TN permit limit (mg/l)
Sloley STW	6.00	6.00	0.23	25.0	9.00
Smallburgh STW	6.00	6.00	0.23	25.0	9.00
South Raynham	6.00	6.00	0.23	25.0	9.00
Southrepps STW	2.28	0.45	0.23	25.0	9.00
Sparham Norwich Road WRC	6.00	6.00	0.23	25.0	9.00
Sparham(Wells Close)	6.00	6.00	0.23	25.0	9.00
Stalham Water Recycling Centre	0.86	0.86	0.23	25.0	9.00
Stanfield STW	6.00	6.00	0.23	25.0	9.00
Stibbard Moor End STW	6.00	6.00	0.23	25.0	9.00
Stoke Holy Cross STW	6.00	6.00	0.23	25.0	9.00
Swanton Abbott STW	6.00	6.00	0.23	25.0	9.00
Swanton Morley Water Recycling Centre	1.52	1.52	0.23	25.0	9.00
Swanton Novers STW	6.00	6.00	0.23	25.0	9.00
Swardeston STW	6.00	0.36	0.23	25.0	9.00
Tibenham The Street STW	6.00	6.00	0.23	25.0	9.00
Weasenham All Saints STW	6.00	6.00	0.23	25.0	9.00
Weasenham St.Peter STW	6.00	6.00	0.23	25.0	9.00
Wendling STW	6.00	6.00	0.23	25.0	9.00
West Raynham STW	6.00	6.00	0.23	25.0	9.00
Whinburgh	6.00	6.00	0.23	25.0	9.00
Whitlingham Water Recycling Centre	6.00	6.00	0.23	25.0	9.00

Project related

Water Recycling centres	Current TP discharge concentration (mg/l)	Post-2025 TP discharge concentration (mg/l)	Post-2030 TP discharge concentration (mg/l)	Current TN discharge concentration (mg/l)	Post-2030 TN permit limit (mg/l)
Wyndham Water Recycling Centre	0.90	0.90	0.23	25.0	9.00

A2 **Appendix A2: Agricultural runoff coefficients**

Project related

Wensum – P runoff coefficients

	500-600 mm/yr						600-700 mm/yr						700-900 mm/yr					
Land Use	Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)		Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)		Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)	
Dairy	0.14	0.14	0.19	0.19	0.50	0.51	0.14	0.14	0.19	0.19	0.50	0.51	1.31	0.98	0.41	0.41	0.83	0.84
Lowland grazing	0.06	0.06	0.11	0.11	0.43	0.50	0.06	0.06	0.11	0.11	0.43	0.50	0.11	0.16	0.22	0.22	0.68	0.68
Mixed Livestock	0.06	0.06	0.28	0.29	0.55	0.60	0.06	0.06	0.28	0.29	0.55	0.60	0.14	0.18	0.60	0.60	0.94	0.95
Poultry	0.17	0.12	0.35	0.38	0.71	0.68	0.17	0.12	0.35	0.38	0.71	0.68	0.26	0.37	0.70	0.74	1.08	1.14
Pig	0.07	0.07	0.35	0.38	0.58	0.68	0.07	0.07	0.35	0.38	0.58	0.68	0.17	0.23	0.72	0.76	1.00	1.05
Horticulture	0.05	0.05	0.33	0.33	0.52	0.53	0.05	0.05	0.33	0.33	0.52	0.53	0.14	0.15	0.66	0.70	0.92	0.97
Cereals	0.05	0.05	0.34	0.34	0.56	0.56	0.05	0.05	0.34	0.34	0.56	0.56	0.15	0.15	0.73	0.73	0.98	0.98
General Arable	0.05	0.05	0.31	0.31	0.53	0.50	0.05	0.05	0.31	0.31	0.53	0.50	0.13	0.13	0.64	0.64	0.90	0.90
Allotment	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.13	0.13	0.13	0.13	0.13	0.13

Yare – P runoff coefficients

Project related

	500-600 mm/yr						600-700 mm/yr						700-900 mm/yr					
Land Use	Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)		Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)		Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)	
Dairy	0.14	0.14	0.27	0.28	0.83	0.85	0.14	0.14	0.27	0.28	0.83	0.85	1.31	0.98	1.31	0.98	1.31	1.31
Lowland grazing	0.09	0.09	0.15	0.15	0.51	0.51	0.09	0.09	0.15	0.15	0.51	0.51	0.16	0.16	0.26	0.25	0.80	0.78
Mixed Livestock	0.07	0.08	0.29	0.30	0.59	0.59	0.07	0.08	0.29	0.30	0.59	0.59	0.18	0.18	0.61	0.62	1.00	1.01
Poultry	0.16	0.18	0.39	0.43	0.60	0.65	0.16	0.18	0.39	0.43	0.60	0.65	0.37	0.37	0.80	0.85	1.06	1.26
Pig	0.08	0.10	0.35	0.38	0.58	0.62	0.08	0.10	0.35	0.38	0.58	0.62	0.23	0.23	0.77	0.82	1.00	1.12
Horticulture	0.05	0.05	0.31	0.31	0.52	0.52	0.05	0.05	0.31	0.31	0.52	0.52	0.15	0.15	0.64	0.66	0.92	0.92
Cereals	0.06	0.06	0.34	0.34	0.56	0.56	0.06	0.06	0.34	0.34	0.56	0.56	0.17	0.18	0.73	0.74	0.98	0.99
General Arable	0.05	0.05	0.29	0.29	0.49	0.49	0.05	0.05	0.29	0.29	0.49	0.49	0.15	0.15	0.61	0.62	0.85	0.86
Allotment	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.62	0.62	0.62	0.62	0.62	0.62

Bure – P runoff coefficients

Project related

Bure	500-600 mm/yr						600-700 mm/yr						700-900 mm/yr					
	Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)		Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)		Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)	
Dairy	0.14	0.14	0.28	0.28	0.88	0.90	0.14	0.14	0.28	0.28	0.88	0.90	1.31	0.98	1.31	0.98	1.31	1.31
Lowland grazing	0.10	0.10	0.16	0.16	0.50	0.50	0.10	0.10	0.16	0.16	0.50	0.50	0.17	0.16	0.28	0.25	0.85	0.78
Mixed Livestock	0.09	0.09	0.33	0.33	0.60	0.60	0.09	0.09	0.33	0.33	0.60	0.60	0.20	0.18	0.67	0.62	1.00	1.01
Poultry	0.16	0.16	0.41	0.44	0.71	0.75	0.16	0.16	0.41	0.44	0.71	0.75	0.34	0.37	0.80	0.85	1.20	1.26
Pig	0.08	0.08	0.38	0.42	0.62	0.68	0.08	0.08	0.38	0.42	0.62	0.68	0.21	0.23	0.77	0.82	1.06	1.12
Horticulture	0.05	0.05	0.33	0.33	0.53	0.53	0.05	0.05	0.33	0.33	0.53	0.53	0.16	0.15	0.66	0.66	0.96	0.92
Cereals	0.06	0.06	0.36	0.36	0.56	0.56	0.06	0.06	0.36	0.36	0.56	0.56	0.18	0.18	0.77	0.74	1.04	0.99
General Arable	0.05	0.05	0.32	0.32	0.50	0.50	0.05	0.05	0.32	0.32	0.50	0.50	0.15	0.15	0.65	0.62	0.91	0.86
Allotment	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.62	0.62	0.62	0.62	0.62	0.62

Wensum – N runoff coefficients

Project related

	500-600 mm/yr						600-700 mm/yr						700-900 mm/yr					
Land Use	Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)		Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)		Free draining		Impermeable (Drained for Arable)		Impermeable (Drained for Arable + Grassland)	
Dairy	35.87	35.87	12.05	12.15	11.17	11.30	35.87	35.87	12.05	12.15	11.17	11.30	22.54	18.10	17.17	17.32	12.96	13.11
Lowland grazing	12.94	13.02	8.87	8.93	7.97	9.68	12.94	13.02	8.87	8.93	7.97	9.68	17.55	22.39	13.66	13.75	9.62	9.65
Mixed Livestock	27.33	27.39	18.76	18.96	18.83	21.55	27.33	27.39	18.76	18.96	18.83	21.55	33.11	38.38	24.06	24.32	20.64	20.98
Poultry	244.30	231.58	144.04	149.96	138.11	140.47	244.30	231.58	144.04	149.96	138.11	140.47	273.57	287.23	177.92	185.52	141.39	152.82
Pig	93.57	93.25	59.54	61.69	56.34	79.38	93.57	93.25	59.54	61.69	56.34	79.38	109.91	147.90	73.20	75.97	60.56	64.79
Horticulture	22.09	22.39	15.49	15.52	15.97	16.00	22.09	22.39	15.49	15.52	15.97	16.00	26.42	26.19	19.08	19.09	17.12	17.02
Cereals	26.47	26.54	19.11	19.16	20.20	20.25	26.47	26.54	19.11	19.16	20.20	20.25	31.52	31.61	23.75	23.82	21.97	22.03
General Arable	25.28	25.35	17.62	17.67	18.23	19.17	25.28	25.35	17.62	17.67	18.23	19.17	29.97	30.05	21.72	21.77	19.48	19.52
Allotment	25.35	25.35	25.35	25.35	25.35	25.35	25.35	25.35	25.35	25.35	25.35	25.35	30.05	30.05	30.05	30.05	30.05	30.05

Yare – N runoff coefficients

Project related

Yare	500-600 mm/yr						600-700 mm/yr						700-900 mm/yr					
Land Use	Free draining		Impermeabl e (Drained for Arable)		Impermeabl e (Drained for Arable + Grassland)		Free draining		Impermeabl e (Drained for Arable)		Impermeabl e (Drained for Arable + Grassland)		Free draining		Impermeabl e (Drained for Arable)		Impermeabl e (Drained for Arable + Grassland)	
Dairy	35.87	35.87	22.72	24.35	18.31	18.64	35.87	35.87	22.72	24.35	18.31	18.64	22.54	18.10	22.54	18.10	22.54	22.54
Lowland grazing	16.52	16.42	11.24	11.32	9.85	9.87	16.52	16.42	11.24	11.32	9.85	9.87	22.39	22.39	17.62	17.59	11.91	11.76
Mixed Livestock	30.56	31.47	20.94	21.21	20.84	21.19	30.56	31.47	20.94	21.21	20.84	21.19	38.38	38.38	27.25	28.27	23.37	23.83
Poultry	257.38	243.03	158.74	165.42	146.43	156.49	257.38	243.03	158.74	165.42	146.43	156.49	287.23	287.23	187.03	195.03	157.06	160.54
Pig	101.74	125.44	64.59	67.00	60.94	64.61	101.74	125.44	64.59	67.00	60.94	64.61	147.90	147.90	97.81	101.80	65.71	86.47
Horticulture	21.86	22.15	15.39	15.50	15.96	15.99	21.86	22.15	15.39	15.50	15.96	15.99	26.19	26.19	19.05	19.13	17.12	17.15
Cereals	26.13	26.21	19.23	19.29	20.56	20.62	26.13	26.21	19.23	19.29	20.56	20.62	31.21	31.51	23.99	24.03	22.55	22.42
General Arable	24.70	24.77	17.41	17.46	18.16	18.20	24.70	24.77	17.41	17.46	18.16	18.20	31.17	31.25	21.56	22.76	19.53	20.53
Allotment	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	26.19	26.19	26.19	26.19	26.19	26.19

Bure – N runoff coefficients

Project related

Bure	500-600 mm/yr						600-700 mm/yr						700-900 mm/yr					
Land Use	Free draining		Impermeable (Drained for Arable)	Impermeable (Drained for Arable + Grassland)			Free draining		Impermeable (Drained for Arable)	Impermeable (Drained for Arable + Grassland)			Free draining		Impermeable (Drained for Arable)	Impermeable (Drained for Arable + Grassland)		
Dairy	35.87	35.80	24.09	24.35	19.06	19.43	35.87	35.80	24.09	24.35	19.06	19.43	22.54	18.10	22.54	18.10	22.54	22.54
Lowland grazing	18.15	18.29	12.39	12.48	9.65	9.68	18.15	18.29	12.39	12.48	9.65	9.68	25.00	22.39	19.50	17.59	13.14	11.76
Mixed Livestock	34.60	34.74	23.56	23.85	21.18	21.55	34.60	34.74	23.56	23.85	21.18	21.55	42.91	38.38	31.32	28.27	23.37	23.83
Poultry	228.65	227.66	141.90	147.63	138.11	147.41	228.65	227.66	141.90	147.63	138.11	147.41	268.72	287.23	175.37	195.03	148.53	160.54
Pig	89.80	89.51	57.34	82.66	74.68	79.38	89.80	89.51	57.34	82.66	74.68	79.38	105.49	147.90	97.81	101.80	80.36	86.47
Horticulture	22.63	22.69	15.78	15.82	15.97	16.00	22.63	22.69	15.78	15.82	15.97	16.00	26.79	26.19	19.08	19.13	17.34	17.15
Cereals	25.75	25.83	18.70	18.75	20.45	20.51	25.75	25.83	18.70	18.75	20.45	20.51	30.70	31.51	23.29	24.03	21.57	22.42
General Arable	27.73	2.80	19.36	19.40	19.12	19.17	27.73	2.80	19.36	19.40	19.12	19.17	32.90	31.25	23.83	22.76	21.38	20.53
Allotment	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	26.19	26.19	26.19	26.19	26.19	26.19

7 Oct 2022

Our ref: Norfolk Nutrient calculator response



FAO: Heads Planning, Development Management and Planning Policy

By email only

Dragonfly House
2 Gilders Way
Norwich NR3 1UB

Dear Sir/Madam

Consultation: Norfolk Nutrient Budget Calculator (Developed by Norfolk LPAs and Royal Haskoning)

Thank you for your email of 23 September from Trevor Wiggett, consulting Natural England on the nutrient budget calculator that the Norfolk Authorities have developed with support from Royal Haskoning, hereafter referred to as the 'Norfolk calculator'.

Natural England notes that the approach adopted in the Norfolk calculator is broadly consistent with that which underpins the Natural England nutrient budget calculator. This response therefore focusses on the elements of the Norfolk calculator for which a different approach, or different figures have been used.

Following a review of the information shared with Natural England, there are three elements of the Norfolk calculator where the approach differs from that in the Natural England calculator:

1. Occupancy rates
2. Water usage
3. WwTW discharge concentrations

Detailed comments and advice regarding the three aforementioned elements are set out below.

Occupancy rates:

As set out in the Natural England Nutrient Neutral Generic Methodology and the Natural England Calculator Guidance document; "Competent authorities must satisfy themselves that the residents per dwelling/unit value used in this step of the calculation reflects local conditions in their area. The residents per dwelling value can be derived from national data providing it reflects local conditions. However, if national data does not yield a residents per dwelling/unit value that reflects local occupancy levels then locally relevant data should be used instead. Whichever figure is used, it is important to ensure it is sufficiently robust and appropriate for the project being assessed."

The Norfolk calculator also includes a separate occupancy rate for houses with multiple occupancy (HMO) and for hotels/guest houses to be used when there is development with an additional number of rooms above six residents. For hotels/guesthouse developments, the calculator additionally allows for a bespoke

figure of number of weeks occupied per year and an average occupancy rate (0-100%). There is no information in the ORS report to explain how these figures have been derived, or to support using a different occupancy rate for HMOs/tourist accommodation. The Royal Haskoning report indicates that the average occupancy rate for hotels and HMOs comes from the Dorset Heaths SPD. This SPD specifies a 1.65 occupancy rate for 'flats' but with no detailed information as to how this has been derived.

Natural England would advise that suitable provisions should be put in place to ensure that should hotels/guesthouses revert to residential accommodation in the future, there is a mechanism to assess the potential for any resulting change in nutrient load. We would further advise that the number of weeks per year use, and average occupancy of hotels and tourism accommodation should be adequately evidenced to provide the necessary certainty required for Appropriate Assessment.

Natural England therefore support the use of locally relevant data to derive an appropriate occupancy figure for Norfolk. The Norfolk Authorities, as competent authority must be satisfied that the evidence underpinning the occupancy rate in the Norfolk calculator is sufficiently robust and appropriate. We would recommend that project level Appropriate Assessments which are informed by the Norfolk calculator specifically include justification for why the competent authority has decided upon the occupancy rate that has been used.

We would also recommend the Norfolk Authorities review the comments made by Justice Jay at the High Court in the Wyatt v Fareham Judicial Review, regarding the use of occupancy rates which are appropriate to the type of development being permitted.

Water Usage:

The Natural England methodology and calculator recommends the addition of 10 litres per person, per day to the Building Regulations standard being applied to the planning permission (e.g. 110 litres per person, per day). The Norfolk calculator has removed this additional 10 litres per person, per day and relies on the Building Regulations standard which is secured as part of the planning permission.

The Norfolk Authorities have referenced a study to support the removal of the additional 10 litres per person, per day. It is noted that this study is of homes built to the 125 litres per person, per day standard, rather than 110 litres. We would highlight that Natural England's methodology was informed by the analysis by Waterwise of homes in London built to a stricter 105 l/person/day under the Code for Sustainable Homes which showed that actual water usage ranged between 110 to 140.75 litres per person, per day, depending on the occupancy rates (<https://www.waterwise.org.uk/knowledge-base/advice-on-water-efficient-new-homes-for-england-september-2018/>).

Natural England advise that the removal of the additional 10 litres per person, per day makes the Norfolk calculator less precautionary than the approach set out in the Natural England methodology, and the Natural England calculator.

WwTW discharge concentrations:

The Norfolk calculator uses a hybrid approach of retaining the Natural England methodology for Waste-water Treatment Works (WwTW) with high levels of anticipated new connections, and current discharge concentrations with an additional precautionary uplift for WwTW with lower levels of anticipated new connections.

Water companies can increase the concentration of nutrients in the waste-water discharged from WwTW up to the level set in their Environment Agency permit without the requirement for any new consent or consultation. Therefore, the Norfolk Authorities must be satisfied that the figures used in the Norfolk calculator do not risk underestimating the nutrient load of new development connecting to WwTW with lower levels of anticipated growth. It is important to recognise that when undertaking an Appropriate Assessment, potential impacts need to be considered over the lifetime of the development proposal.

For WwTW which do not benefit from a discharge permit with a defined maximum nutrient concentration, the Norfolk calculator uses 6mg/litre for Total Phosphorus, and 25mg/litre for Total Nitrogen. We note that these are the national average values used by the Environment Agency for their planning purposes.

However, as these values represent the national average, there will be a variation in WwTW performance with some performing better, and others worse than this figure.

Natural England advise that the reduction (by 2mg/litre) in the values used in the Norfolk calculator for WwTW without a defined maximum nutrient concentration makes the Norfolk calculator less precautionary than the approach set out in the Natural England methodology, and the Natural England calculator.

The Norfolk calculator includes future discharge concentration values for WwTW which have upgrades planned as part of the Periodic Review (PR) process. This is consistent with the approach set out in the Natural England methodology, and the approach taken for the Natural England calculator. The Norfolk calculator also incorporates the Technically Achievable Limit (TAL) figure from 2030 (0.25mg/litre for Phosphorus and 10mg/litre for Nitrogen) which was announced as a requirement for water companies in nutrient neutrality areas by Defra Secretary of State in July 2022.

The announced requirement for water companies to achieve TAL will be legislated through the Levelling-up and Regeneration Bill. Natural England advise that until the Bill receives Royal Assent the requirement for TAL cannot be considered certain. We recommend that the pre-2030 figure is used to determine the mitigation requirement for new development until the legislation securing the requirement for water companies to achieve TAL is in place.

Summary of Natural England's Advice

As set out above, Natural England considers the Norfolk calculator to have reduced the level of precaution in the nutrient budget calculation in comparison to the methodology and calculator we have produced. A reduction in the level of precaution in the nutrient budget calculation will have a corresponding increase in the potential for the mitigation delivered to be insufficient to fully address the potential for adverse effect to the Broads SAC, and River Wensum SAC.

Natural England accepts that it is the decision of the Norfolk Authorities, as Competent Authority to determine the approach (and associated calculations) taken to Appropriate Assessment of new development proposals. We therefore recommend that the Authorities take legal advice to ensure the approach taken to inform Appropriate Assessment of new development proposals is robust and not open to legal challenge.

Natural England do not intend to raise objection to the Norfolk Authorities using the Norfolk calculator to inform their Appropriate Assessments, other than the specific inclusion of the TAL figure for WwTW from 2030 onwards. As highlighted, the 2030 upgrades are not yet in legislation and therefore cannot be considered sufficiently certain to form the basis of a nutrient budget for new development proposals. Therefore, any Appropriate Assessment which relies on these figures, in advance of the relevant legislation being in place, would lead to an objection by Natural England.

Consultation responses to Appropriate Assessments relating to nutrient neutrality, which do not rely on the TAL figure from 2030 will include the following advice from Natural England:

Natural England notes that the Authority's own calculator has been used to calculate the nutrient budget for this application. This calculator deviates from the Natural England nutrient neutral methodology. As set out in our letter dated 7 Oct 2022 your Authority must be satisfied that the calculator is based on robust evidence and takes a suitably precautionary approach.

I hope this information is helpful, please contact my colleague Helen Dixon in the first instance if you wish to discuss further helen.dixon@naturalengland.org.uk

Yours faithfully

Simon Thompson
Principle Adviser – Strategic Solutions
Strategy and Government Advice

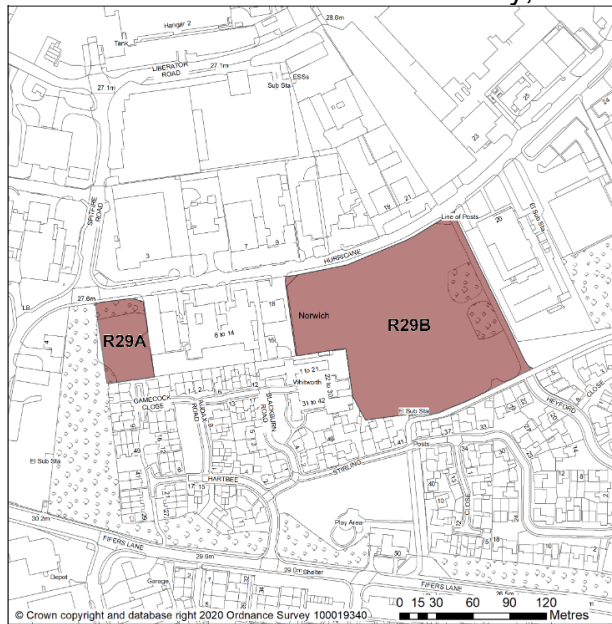
Appendix G

Outcomes from a Systematic Review of Existing and Proposed Allocations to Accommodate Gypsy and Traveller Pitches

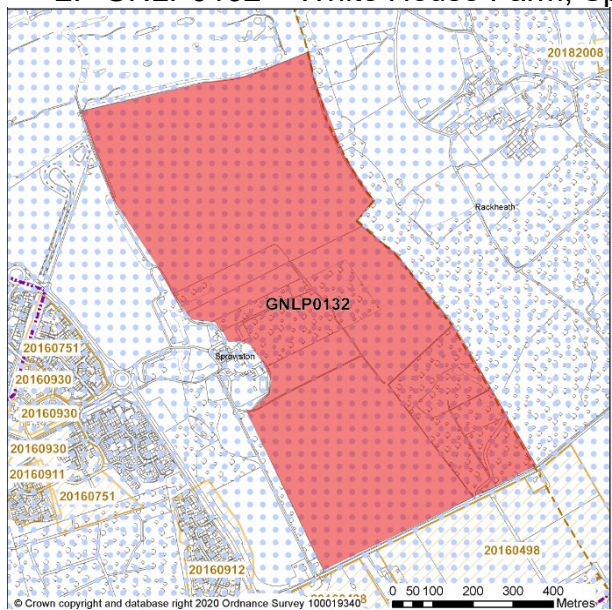
1. In attempting to find pitches for Gypsies and Travellers to include in the local plan the GNLP Team undertook a systematic review of all existing and proposed new site allocations.
2. This review began by narrowing down which sites genuinely offered some potential; so it ruled out sites likely being deleted from the plan, allocations where the use proposed (such as open space) is inconsistent with a Gypsy site, ruling out small sites of less than 50 homes where it would be financially unrealistic to provide a Gypsy site, and ruling out sites with a consent or planning application pending. The process undertaken, which involved officers from each of the three development management teams, left 8 sites with potential for further consideration.
 1. R29 – Sites at Hurricane Way, Norwich
 2. GNLP0132 – White House Farm, Sprowston
 3. HAR7 – Land south of Spirketts Lane, Harleston
 4. GNLP0354R – Land at Johnsons Farm, Wymondham
 5. GNLP3013 – Land north of Tuttle Lane, Wymondham
 6. GNLP0378R/2139R – Land west of Acle
 7. GNLP0125R – Land to west of West Lane, Horsham St Faith
 8. SWA1/GNLP0382 – Land to rear of Burlingham Road, South Walsham
3. For each of the 8 sites officers approached the relevant promoter/landowner during late October and early November, attempting to make contact both by telephone and email, but none have responded positively. Promoters or agents have either politely said they are not interested in this form of development on their site, or they have not replied to voicemails and emails.
4. As a result, it is concluded that there is no potential for existing and proposed allocation sites in the Greater Norwich Local Plan to provide Gypsy and Traveller accommodation pitches.

List of Sites

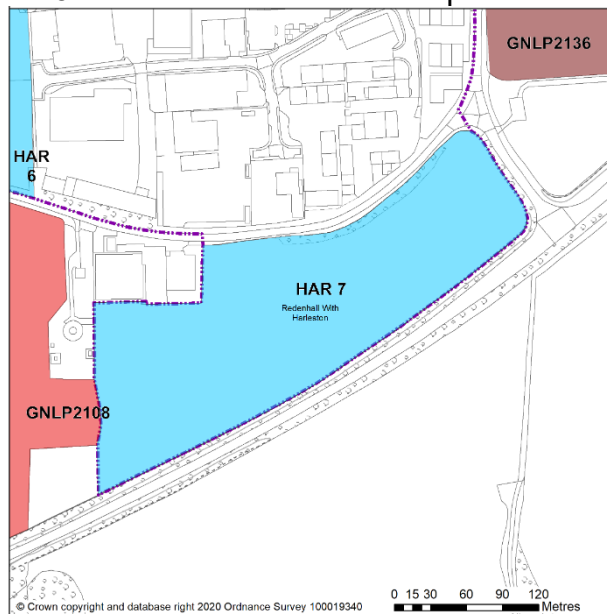
1. R29 – Sites at Hurricane Way, Norwich



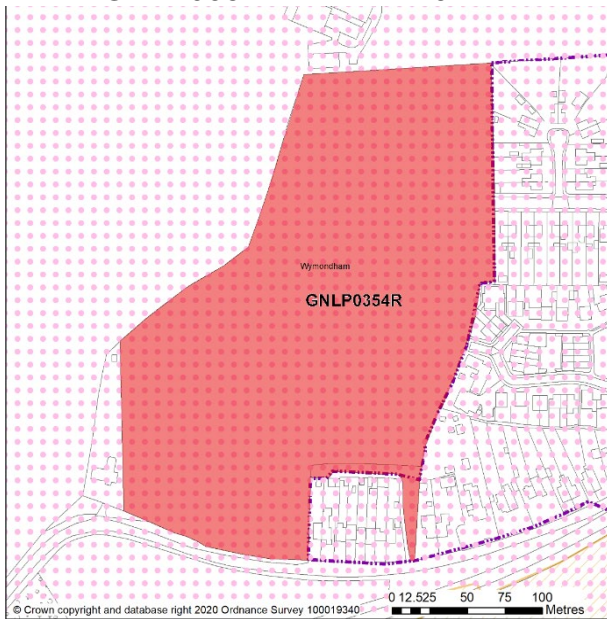
2. GNLP0132 – White House Farm, Sprowston



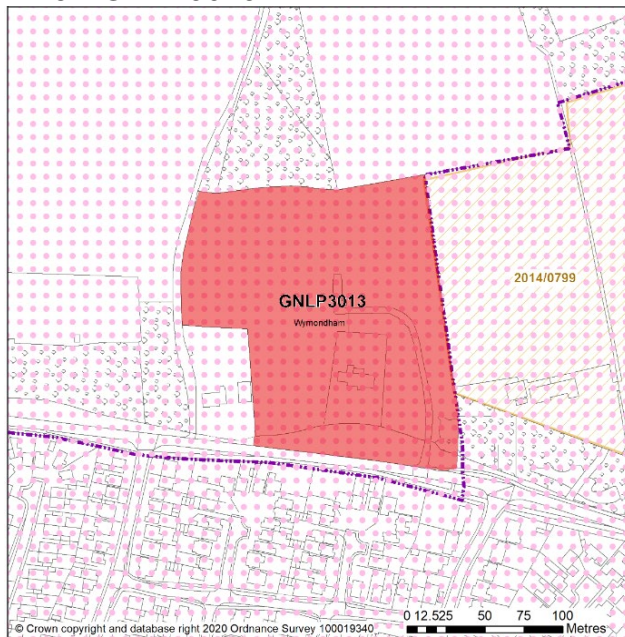
3. HAR7 – Land south of Spirketts Lane, Harleston



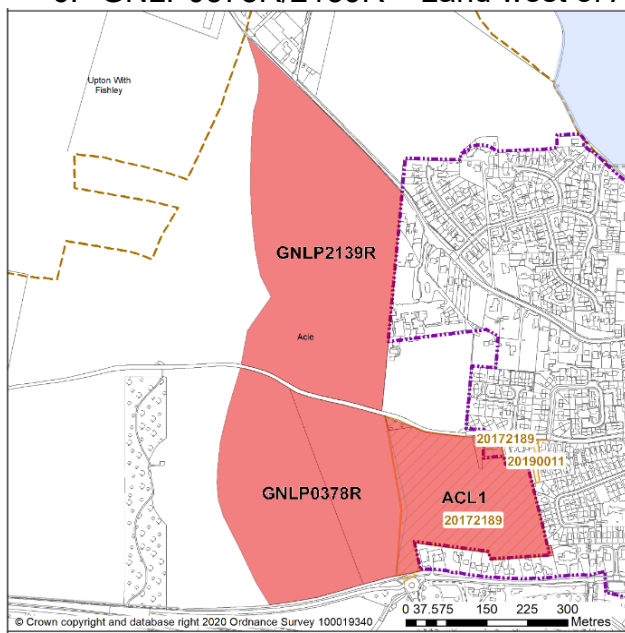
4. GNLP0354R – Land at Johnsons Farm, Wymondham



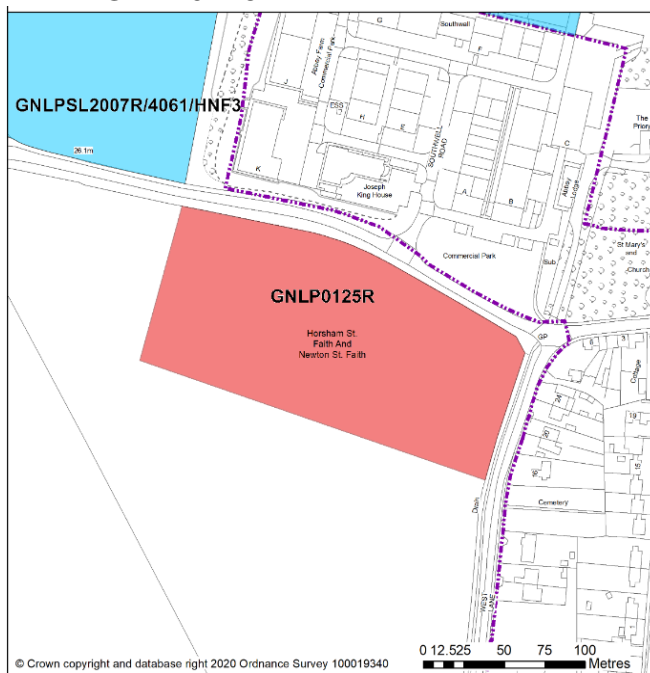
5. GNLP3013 – Land north of Tuttles Lane, Wymondham



6. GNLP0378R/2139R – Land west of Acle



7. GNLP0125R - Land to west of West Lane, Horsham St Faith



8. SWA1/GNLP0382 – Land to rear of Burlingham Road, South Walsham

