Combined Cumulative Impact Ardleigh & Little Bromley (ALBA)

Introduction:

1. This paper is submitted on behalf of Ardleigh Parish Council and Little Bromley Parish Council ("the Parish Councils") in response to the Examining Authority's continuing consideration of cumulative effects arising from the Norwich to Tilbury project and associated infrastructure proposals within the Ardleigh and Little Bromley Area ("ALBA"). It is submitted to help illustrate the Parish Councils response to GEN 2.3 of EXQ2.

2. The paper focuses on the concentration of major energy infrastructure proposed within and around ALBA, including the East Anglia Connection Node ("EACN"), the North Falls and Five Estuaries offshore windfarm substations, the proposed Tarchon Interconnector converter station and associated battery storage proposals.

3. The purpose of the paper is not to repeat earlier submissions but to assist the Examining Authority in considering whether the cumulative effects of these projects have been adequately assessed and understood. The Parish Councils maintain the position that this has not happened.

4. In particular, the paper addresses:

    a. the geographical concentration of nationally significant energy infrastructure within ALBA;
    b. the cumulative effects of that concentration on landscape character, visual amenity, agriculture, ecology, transport and local communities;
    c. the adequacy of the Applicant's cumulative assessment methodology;
    d. the Applicant's conclusion that no additional mitigation is required notwithstanding the identification of major adverse and significant cumulative effects; and
    e. the need for a more integrated assessment of the combined effects of these projects on Ardleigh, Little Bromley and neighbouring communities.

5. The Parish Councils submit that the cumulative effects experienced within ALBA are not properly understood when the various projects are considered in isolation and that a more holistic assessment is required in order for the Examining Authority to reach a fully informed recommendation.

Geographical Concentration of Electricity Infrastructure within ALBA

6. The purpose of this section is to try to assist the ExA to appreciate the sheer scale of the work being proposed. There are five projects which converge in the same small rural area within ALBA (See Appendix B):

a. EACN (National Grid): Ardleigh/Little Bromley / Lawford area
b. North Falls substation: adjacent to EACN
c. Five Estuaries substation: adjacent to EACN
d. Battery Storage unit: adjacent to EACN
e. Tarchon converter station: within 5 km of EACN, refined search centred on Little Bromley

7. In effect, this is a planned energy hub concentration within the ALBA.

8. To date North Falls, Five Estuaries the Battery storage unit and Tarchon have been treated as separate projects to the National Grid Norwich to Tilbury project and yet they contribute significantly to the overall negative cumulative effect of siting the EACN in the ALBA.

9. Although the precise location of the Tarchon converter has yet to be decided we know it will be within 5km of the EACN and that it will cover 10ha. The combined land take for the five projects will be circa 95ha or between 130 and 150 football pitches. Most, if not all, will be on Grade1 BMV land which is currently farmed.

10. Of course, within the ALBA it is not just the land take of the five projects but also the 5km of Underground cable route, up to 220m wide in some cases and the 21 50m high pylons and cable arrays. In addition, there will be multiple haul roads, access roads, construction compounds and drainage systems.

11. This will result in a networked industrial landscape. This is discussed further in what follows.

Cumulative effects of the concentration of infrastructure on ALBA

Landscape & visual impact

12. The multiple substations, converter station and battery storage will result in large industrial buildings occupying a vast area of previously flat agricultural landscape with trees and hedgerows. The pylons and the cable arrays that will surround the village on three sides are the most visually damaging as most are angle pylons.

13. This will result in a loss of the rural skyline and the industrialisation of the countryside. Permanently adversely impacting the rural nature and setting of the ALBA.

Land use & agriculture

14. The land take is BMV land, predominantly grade 1 with some grade 2 & 3. Many of the farms will become unviable as fields with pylons will lead to fragmentation of fields Those in the undergrounding swathe will find that the ground will be permanently damaged

15. There are 4 active mineral quarries currently and 7 other potential sites have been identified for future extraction of sands and gravel including very high value and rare silica sands. Some of which could be lost as a result of the developments.

16. This will result **in** long-term degradation of agricultural viability and loss of some of the most valuable agricultural land in the country.
17. There is also potential loss of minerals,

Traffic & construction

18. Simultaneous construction phases likely over 5+ years with road closures, noise and vibration and unprecedented volumes of construction traffic on rural lanes and through villages.

19. Proposed working hours from 7am and 7pm with slightly reduced hours at weekends and Bank Holidays.

20. **This will lead to** sustained disruption over multiple years and risk the health and wellbeing of the communities of the ALBA

Drainage & water environment

21. Large impermeable surfaces, extensive trenching and altered drainage patterns will create flood risk and groundwater disruption.

Ecological fragmentation

22. Hedgerow removal, wildlife corridor severance and habitat loss will lead to a breakdown of rural ecological networks

Cumulative "energy hub" effect

23. The ALBA becomes one of the largest electricity infrastructure hubs in the UK
    a. National Grid hub (EACN)
    b. Two offshore wind substations
    c. One international interconnector converter station
    d. Battery Storage

24. This is a deliberately planned strategic industrialisation of a rural parish landscape

CONCLUSIONS IN OBJECTION TO THE SCHEME

Over-concentration of infrastructure

25. The Parish Councils object strongly to the unprecedented concentration of major energy infrastructure proposed within the Ardleigh and Little Bromley area.

26. The Norwich to Tilbury project establishes the East Anglia Connection Node (EACN) as a large new 400 kV substation hub. This is then compounded by the proposed North Falls and Five Estuaries offshore windfarm substations, both of which are to be located adjacent to, and dependent upon, the EACN.

27. The Tarchon Interconnector further intensifies this concentration by proposing a converter station within a 5 km radius of the same node, with consultation material indicating a refined search area centred on Little Bromley.
28. Taken together, these projects would result in the co-location of:
    a. A major National Grid transmission hub
    b. Two large offshore wind substations
    c. An HVDC interconnector converter station

29. This represents a level of infrastructure concentration wholly out of scale with the rural character of the area.

National Grids cumulative impact assessment

30. National Grid has updated it's response to cumulative effects in the document:

Document: 6.17.1 Environmental Statement Chapter 17 - Cumulative Effects - Response Update.

31. The Parish Councils consider that this response update is still inadequate for the following reasons:

32. As in **Exa Q2 Gen2.3** we question the assessment methodology, For example in *Table 2.2 Assessment of inter-project cumulative effects from clusters of other development with the Project (see below)* there are many examples of where the **Significance of Effect** is rated as **Major adverse and significant** and yet under the heading **Additional Mitigation** it states No additional mitigation measures were identified in addition to those already identified for landscape and visual receptors detailed in **6.13 Environmental Statement Chapter 13 – Landscape and Visual [APP-226]**

33. A specific example of this is for **Effects on Bromley Heaths LCA (Project Section C)** which covers all the projects that affect the **ALBA** i.e. the EACN, North Falls, Five Estuaries, Tarcon and Battery Storage, Martells Quarry extension, Food Storage facility and Asphalt plant, as can be seen from the table below the **inter project cumulative effect** is rated: **Major adverse and significant** but **Additional Mitigation** is: No additional mitigation measures were identified in addition to those already identified for landscape and visual receptors detailed in **6.13 Environmental Statement Chapter 13 –Landscape and Visual [APP-226]**

Residual Effects from the Project	Clusters of Other Developments Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Effects on Bromley Heaths	DCO8, DCO9, ECC27, T3, T17 DCO15 T34	The Bromley Heaths LCA extends from the northeastern edge of	**Major adverse and significant** inter-project cumulative	**No additional mitigation measures** were

LCA (Project Section C)		Colchester near the A12 to the eastern edge of the ZOI near Horsley Cross and Little Bentley, and includes the settlements at Ardleigh and Lawford. During construction, assuming all other developments would be built at the same time as the Project, there **Major adverse and significant** inter-project cumulative landscape effects are anticipated should the construction periods of all other development and the Project overlap. This includes where other developments affect a larger proportion of the LCA in close proximity to the Project, such as the landscape to the No additional mitigation measures were identified in addition to those already identified for landscape and visual receptors detailed in 6.13 Environmental Statement Chapter 13 – National Grid | May 2026 | Norwich to Tilbury 16 Residual Effects from the Project Clusters of Other Developments Considered Inter-Project Cumulative Effect from the Project and Clusters of Other Development Significance of Effect Additional Mitigation would be effects on the landscape through the introduction of	landscape effects are anticipated should the construction periods of all other development and the Project overlap. This includes where other developments affect a larger proportion of the LCA in close proximity to the Project, such as west of Litte Bromley where the onshore substations and battery storage area are located, and in areas where other developments are in close proximity to the Project such as near the A12. **Major adverse and significant** inter-project cumulative landscape effects are also anticipated at operation (and maintenance). Significant effects are identified on this receptor in isolation in **6.13 Environmental Statement Chapter 13 - Landscape and Visual [APP226].**	identified in addition to those already identified for landscape and visual receptors detailed in **6.13 Environmental Statement Chapter 13 – Landscape and Visual [APP-226]**

		construction activity relating to the Project, the Five Estuaries Offshore Wind Farm onshore substation and grid connection (DCO8), the North Falls Offshore Wind Farm onshore substation and grid connection (DCO9), the Tarchon onshore convertor station (DCO15), the Battery storage adjacent to Lawford Substation (T3), the western extension to Martells Quarry (ECC27), a Food storage and distribution facility (T17) to the east of the A12 and erection of an asphalt plant east of Old Ipswich Road North (T34). At operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and the other developments described above.		

34. This is a common theme throughout the project. The reason for no Additional Measures appears to be the reliance on **6.13 Environmental Statement Chapter 13 –Landscape and Visual [APP-226]** which explains the three levels of mitigation:
    a. Embedded Mitigation
    b. Standard Mitigation
    c. Additional Mitigation

35. National Grid maintains that no Additional Mitigation is required as even when there are "**major adverse effects"** identified they are covered by Embedded or Standard Mitigation.

36. This assumption is highly questionable. For example, extracted from APP - 226:

Embedded Mitigation

13.6.2 Environmental appraisal has been an integral part of the Project design from the outset, which has meant that the Project has been able to avoid environmentally sensitive features, including landscape and visual features, as far as reasonably practicable.
13.6.3 National Grid has also embedded measures into the design of the Project to avoid or reduce significant effects that may otherwise be experienced during construction and operation (and maintenance) of the Project.
13.6.4 Embedded measures are those that are intrinsic to and built into the design of the Project, which are presented in Table 4.2 in Chapter 4: Project Description (document reference 6.4). Embedded measures relevant to Landscape and Visual include:

- *Sensitive routeing and siting of the alignment and Order Limits – as far as practicable, effects on identified environmental (including landscape and visual, ecology and heritage assets) and socio-economics receptors have been avoided and reduced*

37. Embedded Mitigation has clearly not been applied to The Norwich to Tilbury Project. In the case of ALBA and other locations on the route. 13.62, 13.63 and 13.6.4 (bullet 1) have clearly been ignored as there is little evidence that alternative routeing or locations have been seriously considered. The use of "*as far as practicable"* is the get out phrase that the ExA has picked up on.

38. As we have stated in previous submissions there has been no consultation or evidence that alternative routeing and locations have ever been properly assessed.

Standard Mitigation

13.6.5 Standard mitigation measures, comprising management activities and techniques, would be implemented during construction of the Project to limit effects through adherence to good site practices and achieving legal compliance.

39. Standard mitigation is in fact not mitigation at all as it is not applied to provide mitigation in a particular case but is just standard legally compliant construction practice generally applied

Safety and Security

40. All projects converge at the EACN at Ardleigh /Little Bromley and neighbouring Lawford which results in a large potential target for terrorism, with the ALBA becoming the potential victim of any ensuing explosion, fire or other related catastrophe.

41. The Tendring Peninsula is the sunniest and driest place in the UK and with tinder-dry crops and stubble fields for many months of the year, fire is always a hazard. Crop and stubble fires spread extremely quickly with "wildfires" becoming increasingly common in the UK - so any proposals

must consider these issues and the impact/increased risk that construction and siting of electricity infrastructure will pose for local communities and the security of the nation's power supplies. As witnessed in Ukraine, exposed clustered infrastructure is extremely vulnerable.

42. Access to the sites is along country lanes and fire and rescue services are many miles away. Battery storage is now known to be extremely difficult to control and extinguish if a fire occurs.

Land take

43. Ardleigh Parish currently in only 15% built on, and this generously includes agricultural buildings like glass houses. Little Bromley is even less developed. This is essential quantification of why we are classified as a 'rural parishes ', something that is cherished by residents and part of the USP of living here.

44. The Parish Councils believe that:

    a. Even though NG have produced tables which include projects that are in geographical proximity the cumulative harms are not being properly assessed
    b. When the assessment is combined it is focussing on the construction phase and maintenance but does not seem to appreciate the long-term cumulative effect on the communities of the sheer volume of new infrastructure.
    c. The construction and maintenance phase will be devastating but the permanent loss of amenity and rural character can never be restored to the communities.
    d. There is no proper integrated assessment of combined effects on:
        i. Ardleigh
        ii. Little Bromley
    e. Other neighbouring Parishes

45. Appendices A, B and C show the locations of the three projects including Pylon and cable routes. The only way to appreciate the cumulative effect of these four projects would be to combine the four projects onto one map.

46. Appendix D Produced by National Grid at the request of the Norwich to Tilbury ExA shows the EACN and the two windfarm substation but fails to show the wider context of cumulative effect of the five projects on ALBA.

47. The Parish Councils consider that:

    a. The combined effect of these five projects represents an over-concentration of nationally significant infrastructure in a single rural locality, resulting in unacceptable cumulative harm. As well as a health and security risk

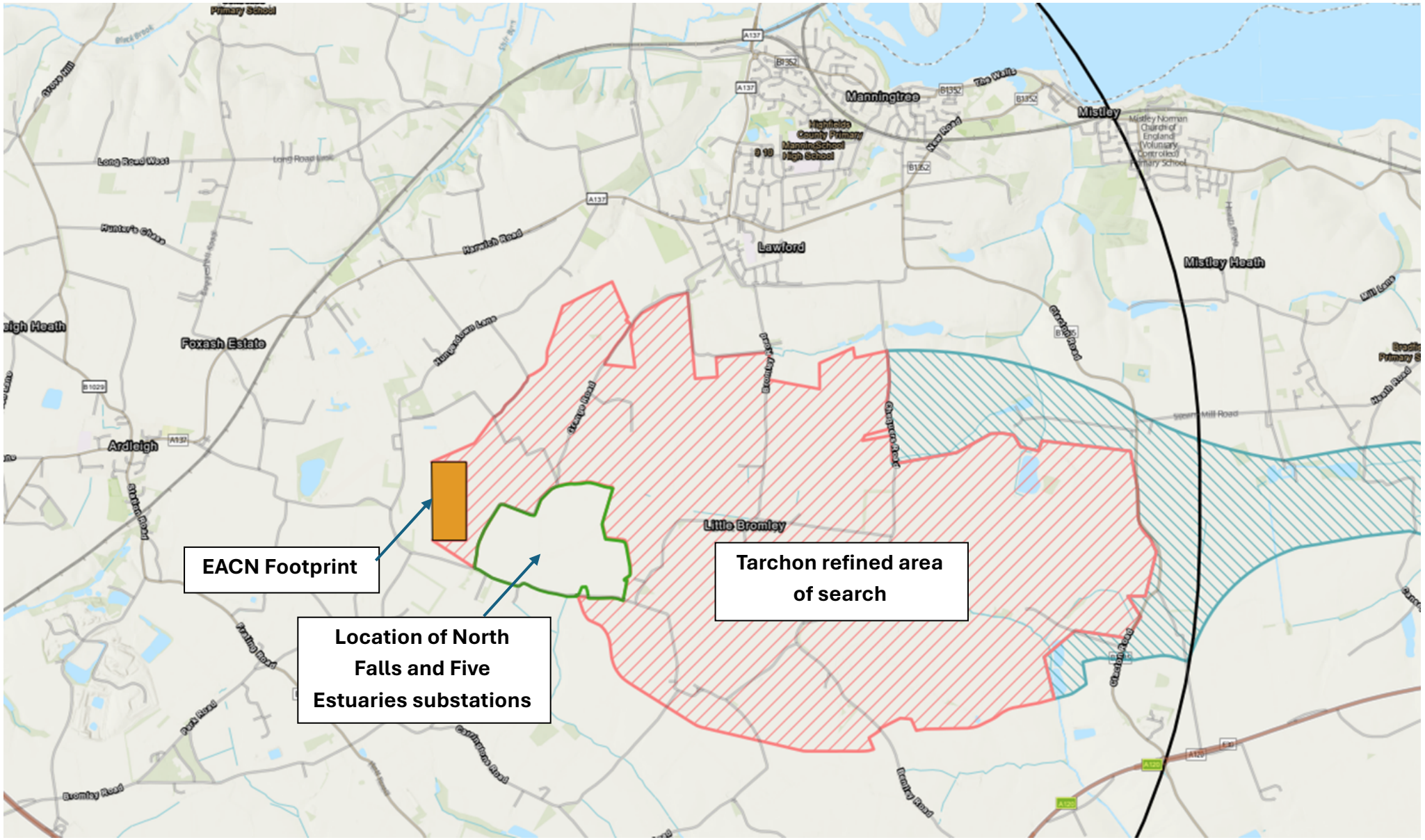
b. Until a full, integrated cumulative assessment is undertaken, including maximum design scenarios across all projects, the proposals must be strongly resisted.

c. These are not five separate projects, but a single, cumulative energy super-hub being created in a rural parish area. Appendix E shows the scale of current and proposed developments in the area.

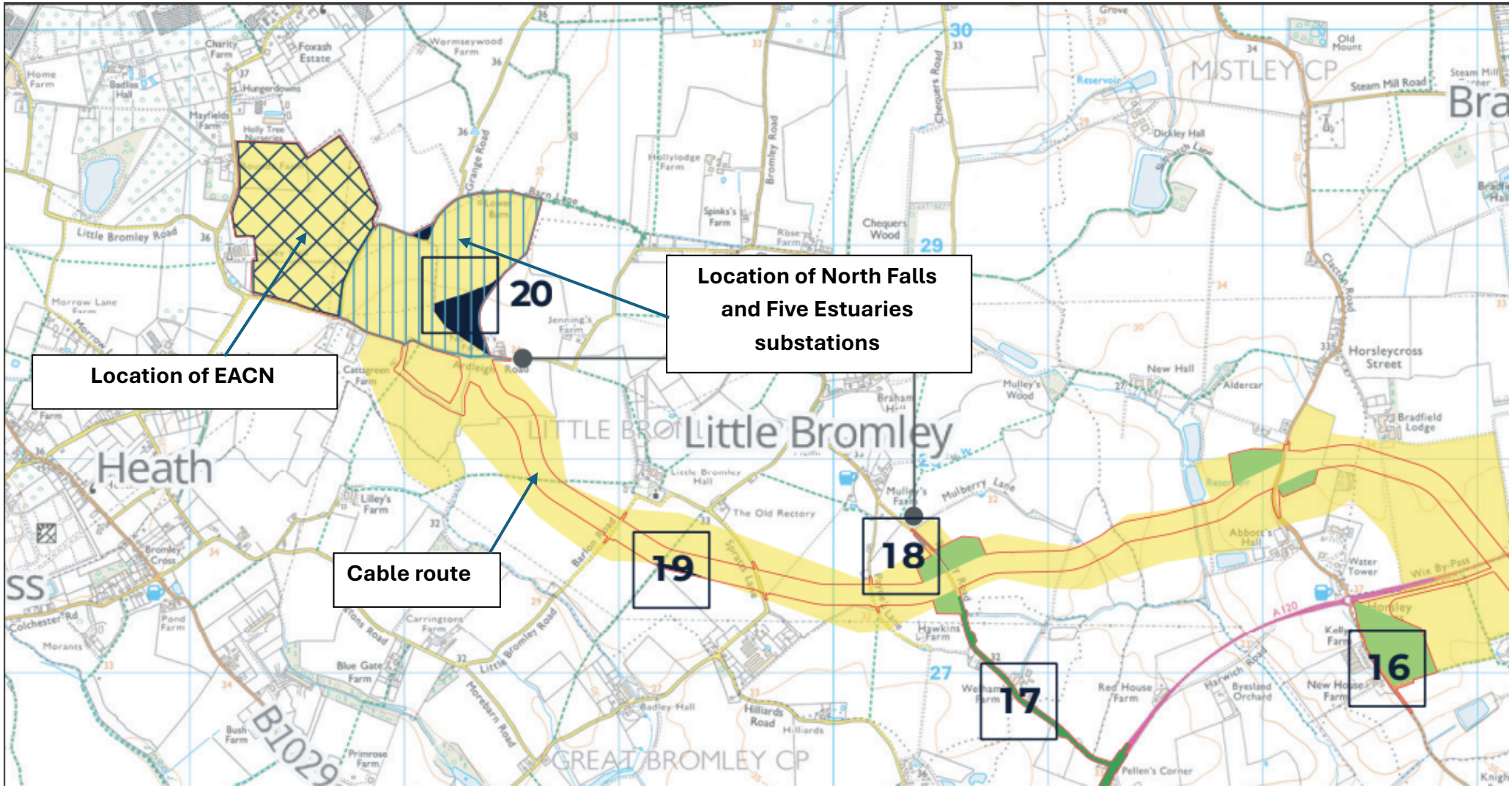
Note: This has been partially produced by AI drawing on documents produced by the five projects.

Ardleigh and Little Bromley Parish Councils
10th June 2026

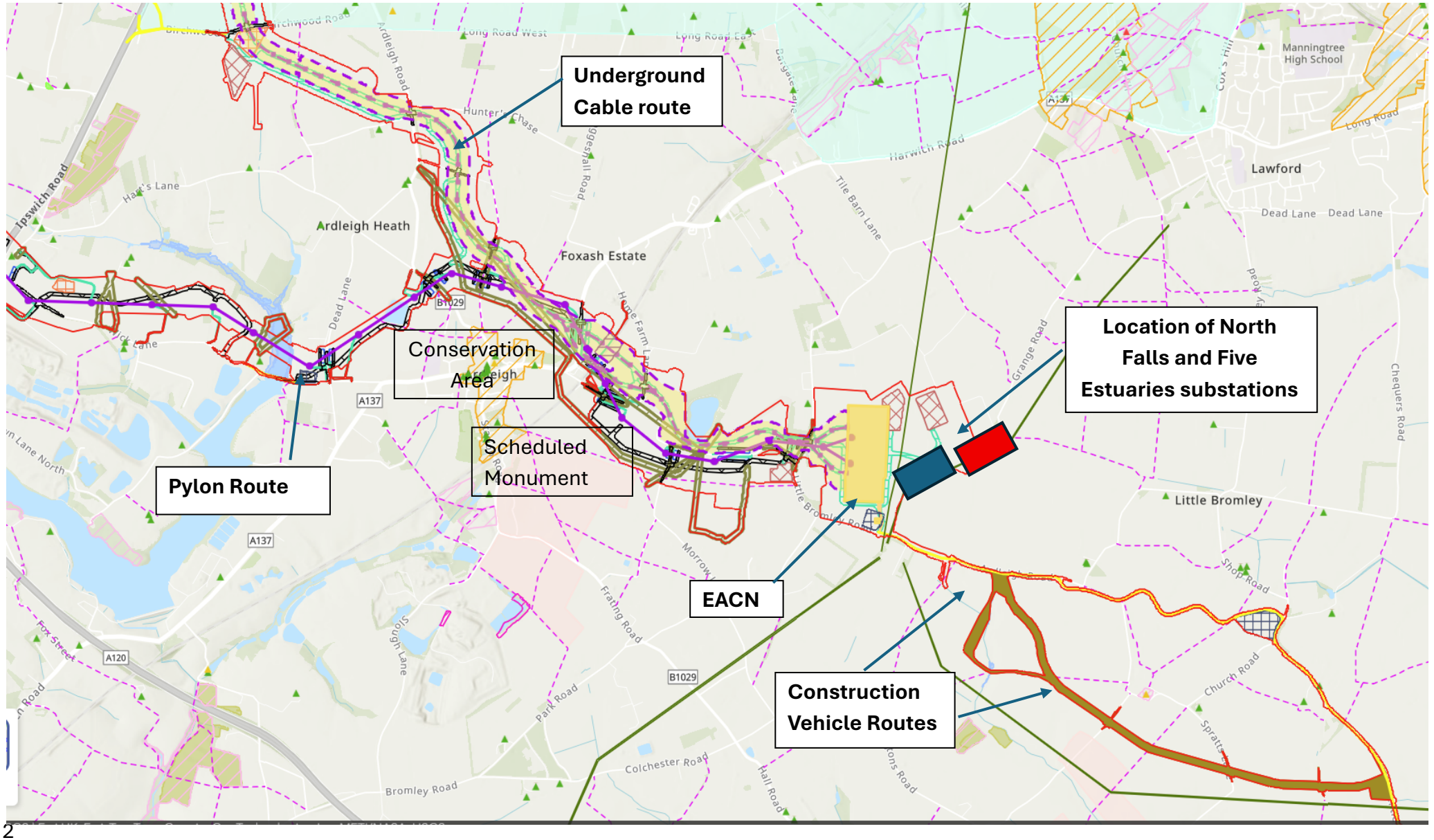
Appendix A Map showing the Tarchon refined search area and the proximity to the windfarm substations and the EACN



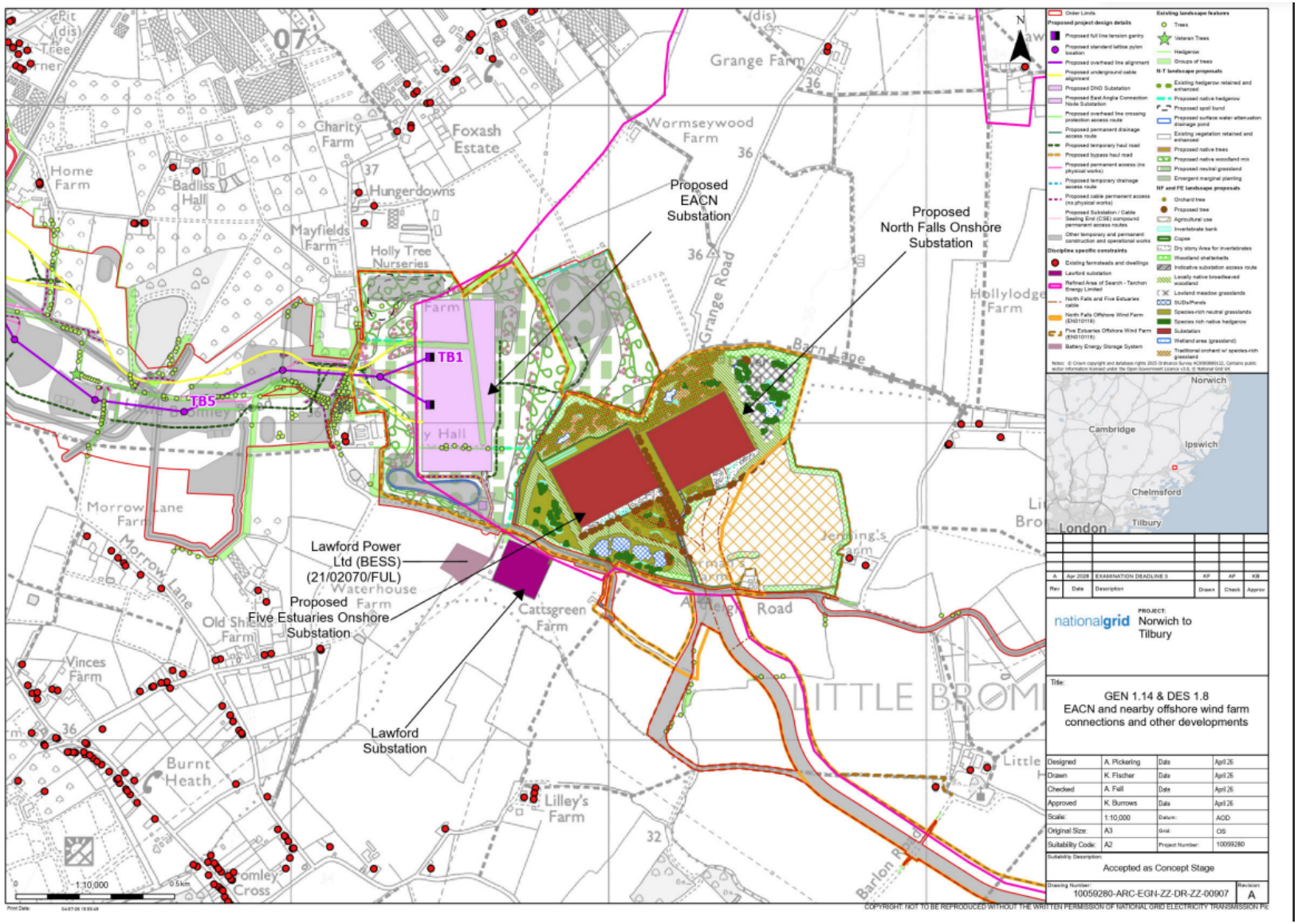
Appendix B Shows the location of the windfarm substations and the cable route



Appendix C Shows Three substations, underground cable route and the pylon route. Note the size of the Substation sites in comparison to the Ardleigh Conservation area and the proximity of the Scheduled Monument to the cable and Pylon routes.



Appendix D Map produced by National Grid at the request of the Norwich to Tilbury ExA. It shows the EACN and the two windfarm substations



Appendix E

This map shows the scale of the current and proposed developments in the area.