

Appendix 2.4: EIA Briefing Note: Peat

Northern Gateway JPA 1.1

April 2025

Introduction

1. Northern Gateway Development Vehicle LLP (the 'JV') are intending to submit an outline planning application to Bury Council (BC) and Rochdale Borough Council (RBC) for a largely B2/B8 project for the development, referred to as the 'Proposed Scheme'. The Proposed Scheme includes for c. 209.83 hectares (ha) of the land, known as JPA 1.1 Heywood / Pilsworth (Northern Gateway) within the Places for Everyone development plan document (adopted 21 March 2024). The outline planning application (the Application') will be supported by an EIA.
2. The EIA must consider the direct and indirect impacts of the 'whole project', referred to as the 'Project for Assessment'. The Project for Assessment includes the residual part of the JPA 1.1 allocation¹, future 'highways infrastructure' (some of which will be required to facilitate the Proposed Scheme), clean water infrastructure upgrades along Pilsworth Road and additional land that may be required to deliver Biodiversity Net Gain (BNG) or compensatory habitat². The Project for Assessment boundary (the 'Assessment Boundary' – see **Vol 1: ES Figure 1.1**) will therefore include for a greater spatial footprint which extends to c. 570.05 ha of land.
3. A single EIA is being prepared for the Project for Assessment and an EIA Scoping Report has been prepared and submitted to BC and RBC as part of a request for a Scoping Opinion on the 17th October 2024.
4. A Scoping Opinion has not been received to date. However, consultation responses on the EIA Scoping Report from Natural England (NE), Greater Manchester Environment Unit (GMEU) and Lancashire Wildlife Trust (LWT) have raised concerns regarding the potential impacts on peat within the Assessment Boundary. The consultation responses from NE, GMEU and LWT are provided in **Appendix 2.2**.

Purpose of Note

5. As part of the EIA Scoping Report for the Project for Assessment, the potential for the presence of peat and associated constraints was established. Effects associated with this have been considered across many different technical topics areas due to the multidisciplinary nature of potential effects to Peat.
6. Since the submission of the EIA Scoping Report on the 17th October 2024, the boundary of the Project for Assessment has been amended and now excludes the area subject to a DCO

¹ Excluding the South Heywood development for which planning permission has already been approved and construction commenced; and the land required for the Simister Island Junction Improvement works currently subject to DCO Examination.

² This is identified as the potential off-site ecological mitigation area (POSEMA).

Examination for the junction improvement works for Simister Island³. The boundary for the Proposed Scheme (the 'Application Boundary') has also be confirmed and is shown in **Vol 1: ES Figure 1.2**. In addition to boundary changes further baseline information confirming the location of peat has also been obtained and reviewed.

7. This note provides a summary of the findings from the EIA Scoping Report and additional information collated in a single and summarised format.

Existing Information

BGS Mapped Area

8. Peat deposits are indicated in the far southwest of the Assessment Boundary, on the British Geological Society (BGS) mapping⁴ (BGS Sheet 85 Manchester, Bedrock and Superficial 2011) and is shown in **Vol 1: ES Figure 13.5**. The area of peat shown on the BGS mapping is approximately 38ha and is located within the wider Assessment Boundary and outside of the Application Boundary.

Ground Investigations

9. There are a number of existing ground investigations detailing the location and extent of peat within the Assessment Boundary. Ground investigation information is available from the following sources:
 - Ground investigation undertaken for the DCO application for Simister Island⁵;
 - Ground investigation for Unsworth Moss Farm⁶;
 - BGS Archive⁷;
 - NCB boreholes; and
 - WYG Ground Investigation for South Heywood.

Review of Ground Investigations within the BGS Mapped Area

10. Two ground investigations have been undertaken within the area identified as potential peat by the BGS. These include a site investigation undertaken for the DCO application for Simister Island, which although outside of the Assessment Boundary provides useful information on the area identified by the BGS as potential for peat. A further site investigation within the Assessment Boundary has been undertaken for Unsworth Moss Farm (the report for which has been provided by BC).
11. Both reports have been reviewed by Tetra Tech to establish the accuracy of the BGS plans.

³ <https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/TR010064>

⁴ <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>

⁵ Ian Farmers Investigation, 2021.

⁶ CC Geotechnical Limited (2023) Ground Investigation at Unsworth Moss Farm, Bury, M24 4SH

⁷ <https://mapapps2.bgs.ac.uk/geoindex/home.html>

12. The locations of the exploratory holes from the Unsworth Moss investigations within the Assessment Boundary are shown in **Vol 1: ES Figure 13.5**. The exploratory holes cover the area identified as potential peat by the BGS.
13. The Ground Investigation at Unsworth Moss Farm, Bury, M24 4SH, November 2023, describes 31no. window sample boreholes to 3.00m bgl, all of which did not record peat (blue boreholes shown on **Vol 1: ES Figure 1.1**).
14. The M60/M62/M66 Simister Island Interchange, 2021 ground investigation describes 22no. exploratory hole logs Peat (pink boreholes shown on **Vol 1: ES Figure 13.5**). Of the 22no. exploratory holes only 4no. locations, recorded peat. All surveyed peat deposits are shown to be outside of the Assessment Boundary.
15. The description and location of the exploratory holes where peat is present, are shown in **Vol 1: ES Figure 13.5**; the descriptions are as follows:
 - WS-N04A: 0.25 - 1.20m bgl. Soft grey mottled brown slightly sandy clay with occasional pockets of fibrous Peat;
 - BH-N19: 1.20 - 2.00m bgl. Loose Light brown slightly peaty gravelly slightly clayey silty SAND. Peat is present as small pockets / bands;
 - BH-N07: 3.00 - 5.50m bgl. Medium dense, greyish brown, slightly clayey, silty sand. Samples recorded as predominantly peat between 4.00 - 4.45m and 5.00 - 5.50m, 5.50 - 6.20m; and
 - WS-N04: 0.30 - 1.20m bgl. Soft grey mottled brown slightly gravelly slightly sandy slightly clayey SILT. Between 0.70 - 1.20m: Occasional fibrous peat pockets.
16. It should be noted that the exploratory hole descriptions also show that there are approximately 3m of 'made ground' present within the vicinity of BH-N07 and therefore peat deposits are approximately the same depth as the surrounding ground level. The descriptions of the findings within these exploratory holes confirm that where peat is recorded it occurs as a secondary to a main constituent and is typically described as "small pockets". The survey data confirms that the superficial strata present below comprises of Glacial Till, which is very unlikely to contain any peat or be underlain by any peat.

Review of Ground Investigations outside of the BGS Mapped Area but within the Assessment Boundary

17. Further ground investigations data is available from the NCB, BGS Archive (Pilsworth opencast boreholes) and the WYG report (cable percussion / rotary boreholes) to the north of the Assessment Boundary in proximity of Stock Nook Farm, Higher Barn and Higher Fields. The locations of the boreholes are shown on **Vol 1: ES Figures 13.4 and 13.5**.
18. Approximately 277 borehole locations have been reviewed, 4 locations have recorded peat. The description and location of the exploratory holes where peat is present, are shown in **Vol 1: ES Figure 13.5**; the descriptions are as follows:
 - BH 135: 0.00 -6.40m bgl; Sand with peat traces (openhole drilled);

- BH 136: 1.30 -12.60m bgl; sand with peat traces (openhole drilled);
 - BH 137: 1.85 – 3.00m blg; peat (openhole drilled); and
 - BH 207: 0.50 - 3.00m bgl; Very soft clay peat (openhole drilled).
19. The descriptions of these boreholes confirm ‘traces of peat’ in some opencast mining boreholes near Stock Nook Farm (BH 135 and 136). Borehole (BH 137) indicates 1.15m of ‘peat’; however, it should be noted that this borehole is ‘open hole’ which provide less accurate date. Boreholes 135 to 137 are located within Assessment Plot BB.
20. Similarly, in BH207, in Application Plot D, there is reference to a 2.50m thick ‘soft clay peat’, which occurs in a low point onsite determined by openholing and as such is anticipated to be organic clay.

Summary of peat within the Assessment and Application Boundaries

21. Based on the above review the presence of peat within the Application Boundary and wider Assessment Boundary are as follows:
- **Application Boundary:** one borehole location within Application Plot D (BH 207). This is an isolated pocket of peat and is anticipated to be organic clay; and
 - **Assessment Boundary:** a further three boreholes have recorded peat within Assessment Plot BB (BH 135 to 137). Two of these boreholes record ‘peat traces’ with one isolated borehole recording 1.15m of peat.

Potential Effects of Peat Loss

22. The loss of or disturbance to peat, has the potential following effects:
- Loss of a soil resource;
 - Increase in potential for below ground archaeological remains;
 - Loss of biodiversity;
 - Changes to hydrological regime;
 - Decrease in water quality due to disturbance of peat deposits;
 - Loss of a carbon sink; and
 - Geotechnical constraints.

23. The potential effects are discussed below.

Loss of a soil resource

24. The ground investigations, as described above, have indicated that peat is not present within the Assessment Boundary, other than in pockets/thin bands in a very localised area in the north.

25. This is consistent with the Soil Survey mapping⁸, which does not indicate the presence of peat soils in the Assessment Boundary but identifies the most prevalent to be the Brickfield 3 association which is characterised by fine loamy, fine loamy over clayey and clayey soils.
26. Therefore, any disturbance or removal of the limited peat in the Assessment Boundary in the context of a resource is not considered to be likely or significant and will not be considered further in the EIA or reported in the Environmental Statement (ES) for the Project for Assessment.

Increase in potential for below ground archaeological remains

27. The waterlogged / oxygen free environment of peat can result in the potential for exceptional preservation of natural and cultural organic remains. However, given that there are only pockets of peat within a very small area, it is not considered that the potential for archaeological remains to be present are over and above that within the rest of the Assessment Boundary.
28. The effects of truncation, disturbance, or removal of known and unknown archaeological remains across the Assessment Boundary will be considered in the ES for the Project for Assessment.

Loss of biodiversity

29. The habitat in the area where peat pockets have been recorded are identified as predominantly modified grassland (as shown on the Habitat Features Plan, **Vol 1: ES Figure 11.15**). However, the presence of modified grassland is not linked to the presence of peat and no habitats identified on the Assessment Boundary are considered typical of a peatland.
30. The loss of habitat across the Assessment Boundary will be considered in the ES for the Project for Assessment.

Changes to hydrological regime

31. There is potential that, as a result of the changes to hardstanding areas in both the construction and operational stages of the Project for Assessment, there may be changes to the hydrological regime.
32. However, as detailed above, ground investigations confirm that there is no thick continuous peat layer located within the Assessment Boundary. Therefore, no effects on hydrological links through peat layers are anticipated to occur from disturbance and installation of the Project for Assessment.
33. It is therefore considered that hydrological effects on peat will not be significant and will now not be assessed within the ES.
34. This would concur with the conclusions of the assessment from the DCO application for Simister Island⁹ improvement works; which has comparable presence of peat; which states that:

'as the soil survey and ground investigation found isolated pockets of thin peat layers and remnant buried peat that are not contiguous and are unlikely part of a wider hydrological

⁸ Soil Survey of England and Wales (1984). Soils of Northern England (1:250,000), Sheet 1.

unit, they would therefore be ineligible for restoration according to the International Union for Conservation of Nature (IUCN) classification (IUCN, 2023).'

Decrease in water quality due to disturbance of peat deposits

35. Disturbance of peat as a result of construction activities can lead to a decrease in water quality of receiving watercourses through sediment disturbance and runoff. It is considered that given the presence of limited poor quality peat within the Assessment Boundary and tertiary mitigation measures (such as a Construction Environmental Management Plan) that the potential of sediment disturbance and runoff to watercourses is unlikely to be significant.
36. However, the construction activities and tertiary mitigation measures will be considered within the ES to ensure that the effects of the potential decrease in water quality due to disturbance of poor quality peat deposits are assessed¹⁰.

Loss of a carbon sink

37. As described above, the records of peat are limited to isolated 'pockets of peat' located sporadically within a small area (>0.001ha) of the Assessment Boundary. The potential loss of peat and associated release of carbon dioxide from the Project for Assessment is therefore considered negligible when considered in the context of the Assessment Boundary (c. 570.05 ha).
38. It is difficult to determine whether the peat within the Assessment Boundary is 'active'¹¹ and therefore providing an increasing carbon store. However, the presence of limited pockets of peat, suggests it is likely to be 'inactive'¹².
39. The peat resource within the Assessment Boundary is considered to be on a similar scale as the peat recorded within the DCO assessment for the Simister Island improvement works. The DCO assessment identified that extraction of peat soil excavation (net change in carbon stocks in the soil) would result in the loss of approximately 3,140 (TCO2e) the impact of which is considered to be not significant. As the Assessment Boundary is likely to contain peat on a similar scale, it is likely that any extraction of peat as a result of the Project for Assessment is unlikely to be significant and will not be assessed within the ES.

Geotechnical constraints

40. The limited pockets of peat is not considered to present a geotechnical constraint to the Project for Assessment. Foundation design across the Assessment Boundary is likely to be variable dependent on the structure loading as well as the compressibility of superficial deposits.

Summary

41. Peat deposits are indicated in the southwest of the Assessment Boundary on BGS geological mapping. However, two ground investigations have confirmed that there are no peat deposits within the Assessment Boundary.

¹⁰ ES Vol 1: Chapter 12: Hydrology, Flood Risk and Water Quality.

¹¹ Active peatland is described as areas where peat is currently forming and accumulating.

¹² Peatlands lacking current peat formation.

42. BGS archive borehole data has confirmed that four boreholes to the north of the Assessment Boundary (three within Assessment Plot BB and one within Application Plot D) have recorded limited and isolated pockets of peat.
43. The limited presence of peat within the Assessment Boundary will not provide a constraint in terms of geotechnical design and is unlikely to be significant in terms of loss of a soil resource or carbon store, hydrological regime or increase the potential for archaeological remains to be present which are over and above that within the rest of the Assessment Boundary.
44. No peatland specific habitats have been identified in the Assessment Boundary.
45. The potential effects of the loss of peat are considered unlikely to be significant and will not be considered further within the ES. This is with the exception of the potential decrease in water quality due to disturbance of peat deposits, which will be considered in the ES.
46. The above conclusions are based on the review of the existing ground investigations. It is acknowledged that there are areas of the Assessment Boundary where existing ground investigation data is not available.
47. The presence of limited pockets of peat within the Application Boundary will be validated through ground investigations which will be managed through planning condition.
48. The mitigation associated with the Planning Application will be controlled by planning condition or other mechanism. Any mitigation associated with peat in the residual part of the Project for Assessment cannot be the responsibility of the JV.

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