



Debbie Flaherty
Consents Manager
Energy Consents Unit
By Email Only: Debbie.flaherty@gov.scot

23 September 2021

Dear Ms Flaherty,

Proposed Corriegarth 2 Wind Farm: Response to SEPA Objection Letter

I am writing with regards to the objection that the Scottish Environment Protection Agency ('SEPA') submitted (via Email) to the Scottish Government's Energy Consents Unit ('ECU') on 12 August 2021, in relation to the proposed Corriegarth 2 Wind Farm ('the Development').

In the letter, SEPA objects to the Development on the grounds that SEPA concerns raised in response to both the Scoping and Gatecheck Reports in February 2020 and August 2020 (respectively) have not been addressed. The SEPA Objection states:

"Unfortunately, the site design submitted appears to be unchanged since we previously provided comment, and no additional justification provided as to why the layout represents an acceptable environmental solution. We highlight that it is estimated that the current layout will result in the excavation of a very large volume of peat (355,284 m³) and it must be clearly demonstrated that every effort has been taken to minimise peat disturbance and carbon loss."

Chapter 3: Site Selection and Design of the Environmental Impact Assessment Report (EIA Report) sets out the Development design process including the specific steps taken to avoid and minimise disturbance to the peat on Site. Whilst, as with many wind farm developments, consideration of landscape and visual impacts has led much of the design process (e.g., avoiding the higher ground surrounding the Site) avoidance of on-site constraints also played a key part in the design process. As demonstrated in Section 3.6 of the EIA Report, the design sought to avoid areas of deep peat; the key objective of avoiding siting turbines in peat greater than 1.5 m deep being met (Table 3.3).

Extensive peat probing was undertaken during the EIA and design process. Initial probing at the start was used to inform the early turbine locations; this was followed by more intensive, targeted probing undertaken as the design process progressed, with the data provided being used to inform turbine and infrastructure locations.

As demonstrated in Chapter 3: Site Selection and Design the key design criteria consistently used to inform the site layout were landscape and visual effects, hydrology, and deep peat. The steps taken to avoid impacting peat are particularly apparent in the later stages of the design process with the location of turbines and tracks being "nudged" or micro-sited to avoid known areas of deeper peat and minimise disturbance; these efforts included the realignment of tracks and re-orientation of turbine hardstandings/laydown areas.

Chapter 3: Site Selection and Design of the EIA Report should be referred to for the full design process details; however, the key points relating to minimising impacts on peat are summarised below:

- **Pre-scoping layout:** largely landscape led (peat information not available at this stage).
- **Scoping layout:** layout was based on the findings of the Phase 1 peat survey and the majority of the EIA baseline survey work. Key design changes included:
 - Reduction in landscape and visual effects by reduction in turbine height and numbers; and
 - Identification of appropriate areas to site turbines where peat depths were shallowest based upon Phase 1 peat survey of 100 m intervals across the Site.
- **June 2020 – 16 turbines:** The key considerations for the June 2020 design workshop were peat and landscape and visual. Following the findings of the Phase 2a peat surveys (targeted probing at the turbine locations at 10 m centres as a cross-hair) turbines were further repositioned to areas of lesser peat extent and depth whilst continuing to avoid 50 m buffers around watercourses.

The key design changes which influenced the June 2020 Layout are set out in Table 3.1. of the EIA Report – those relating specifically to peat and hydrology were:

EIA Report Table 3.1 Extract

Turbine No.	Key Design Changes from THC Consultation Layout to Design Day-June 2020 Layout
T16	Removed from layout following feedback from the Council in respect to views from the east (VP3) and north (VP5), and the presence of ecological constraints associated with GWDTEs which prevented relocation of this turbine
T3	Relocated from between two watercourses
T4, T7, T14, T15, T18	Moved from >2 m into 1.5 m of peat or less
T5, T9, T10, T13	Moved from 1.5 m to 1 m of peat or less

- **Final Layout (Application):** The key consideration at design freeze was final refinements for landscape visibility and peat depth as detailed in Table 3.2 of the EIA Report (excerpts relating to peat provided below):

EIA Report Table 3.2 Extract

Turbine No.	Key Design Changes from Design Day-June 2020 to Turbine Freeze
T2	Previously T20 and moved from 2 m into <1.5 m of peat
T4, T5, T7, T9, T10, T12, T14, T16 (previously T18)	Moved to maintain spacing, keeping turbines in 1.5 m or less of peat, and maintain balanced visual composition of layout in views from the west (VP3)
T8	Moved from >2 m of peat into 1.5 m of peat

As demonstrated in Table 3.3 of the EIA Report all turbines are located in areas of peat less than 1.5 m deep.

At each stage of the design moves the location of access tracks and hardstanding/laydown areas were considered alongside the turbine locations and routed in order to minimise earthworks, avoid watercourse crossings, and wherever possible avoid deep peat.

In addition to the above summary we have addressed SEPA's comments that the design is unchanged since they provided comment in their email of 31 August 2020. The comments received from SEPA were considered by the design team at the time; however, for the reasons set out below, based on our specific site knowledge and technical expertise, the team considered that the best technical and environmental solution was achieved by the final layout submitted with the application. The points raised in SEPA's email are addressed below (in green text).

Tracks

1. The overall track length should be shortened by losing some of the links between turbines, this could also reduce the number of watercourse crossings and further reduce peat disturbance.

During the design process a track layout based on "spokes" or spurs from Corriegarth 1 (rather than a continuous link between the Corriegarth 2 turbines) was considered however this approach was rejected as it would have resulted in: limited reduction in water course crossings; and required crossings to be located in a less favourable positions and increased earth works.

In particular the location of the link between the southern turbines (T1 – T7) and the existing site was selected following due consideration of peat depths and topography, the maintenance of the 50 m watercourse buffer, and limiting the crossing of the River E. Although the number of watercourses could be reduced by branching off existing wind farm tracks and crossing the River E tributary it was considered that such a track design would have a greater impact as the crossings locations would be over a more substantial watercourse compared to crossing closer to the head of the minor tributaries. The impact would be further increased due to the orientation of the shorter tracks, traversing against the topography, which would require significantly increased earthworks to deliver the required track gradient (to comply with turbine manufacturers delivery specifications).

2. The section of track between T11 and T12 appears to have been moved northwards onto deeper peat. The track should be re-routed south onto shallower peat.

The refined track alignment was aligned and orientated to benefit and minimise the peat disturbance at the turbine foundation locations (T11 and T12). Use of a shorter section of floating track in this location is deemed a better technical and environmental solution than routing the track around the area of slightly deeper peat.

3. It should be considered whether the track layout to T8 can be refined, or possibly if T8 should be removed from layout due to environmental constraints. The current layout links T8 to both T7 and T9 which results in excessive track length, development on deep peat and the need for a watercourse crossing.

If T8 is to remain as part of the layout, the following options should be explored, (1) Remove the section of track from T8 to T9 thereby reducing overall track length and removing the need for a watercourse crossing; or (2) Re-route the section of track to directly link T7 to T8 thereby avoiding the area of deep peat the track crosses in the current layout design.

The section of track between turbines T7, T8 and T9 is key to optimising the access which follows on to T10 – T13. Where required 'floating tracks' will be used to minimise impacts on peat.

The re-routing of the track to be directly between T7 and T8 would result in that section of track lying perpendicular to the direction of the contours which would create a steep section of track requiring significant earthworks and, based on our experience of construction on similar sites, a 'floating track' solution as proposed is more appropriate in this location.

Turbines and infrastructure

4. With regards to the revised turbine and infrastructure locations, it looks like there could be some further opportunities to minimise the environmental impacts by making some slight modifications. Move T1 slightly to the NW to remove it from the watercourse buffer.

Moving T1 NW would result in increased landscape and visual effects. In its current location it is only the crane hardstanding which overlaps the watercourse buffer; this is an area which requires to be clear of any obstructions for lifting, and therefore will not be subject to any ground breaking during construction.

5. Align infrastructure at T4 from NW to SE along the shallower peat.

In order to maintain the 50 m watercourse buffer, and based on our site knowledge and technical opinion, T4 is in the best location to minimise impacts on deep peat. Likewise the current track arrangement, is also aligned with, and dictated by, the topography in order to reduce earthworks required.

6. Move T5 slightly east onto shallower peat.

A move east would impact a small pocket of deeper peat which up until now has been avoided. T5 crane hardstand has been orientated to accommodate the track orientation designed to minimise the impact on peat.

7. Flip T6, T9 and T12 onto the opposite side of the track where the peat appears to be shallower.

The changes proposed here could be captured through micro-siting, as there are marginal refinements that could improve the impact on peat. Any such micro-siting would take into account topography and the detailed site investigation results.

8. Maintain original positioning for T14 as the modifications result in a longer track and more peat disturbance.

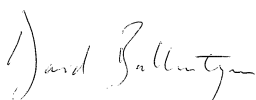
Minor movement of T14 was required to reduce the visual horizontal extent of the turbine layout whilst maintaining a balanced visual composition from key landscape receptors. A micro-siting move of up to 50 m is possible between the two turbines and crane hardstand arrangements presented on Figure 3369-DR-P0001A, which would reduce the impact on peat. Any such movements would be informed by the detailed site investigations.

Conclusion

We trust the above detailed commentary demonstrates that the key onsite constraints of deep peat, hydrology, and topography were fully considered during the design process and every step was taken to minimise impacts on these. The rationale behind the design demonstrates that the layout has been chosen, wherever possible, to minimise impacts on, and in particular reduce the need for excavation of, deep peat on site. The previous figures circulated are appended again in Appendix A for information.

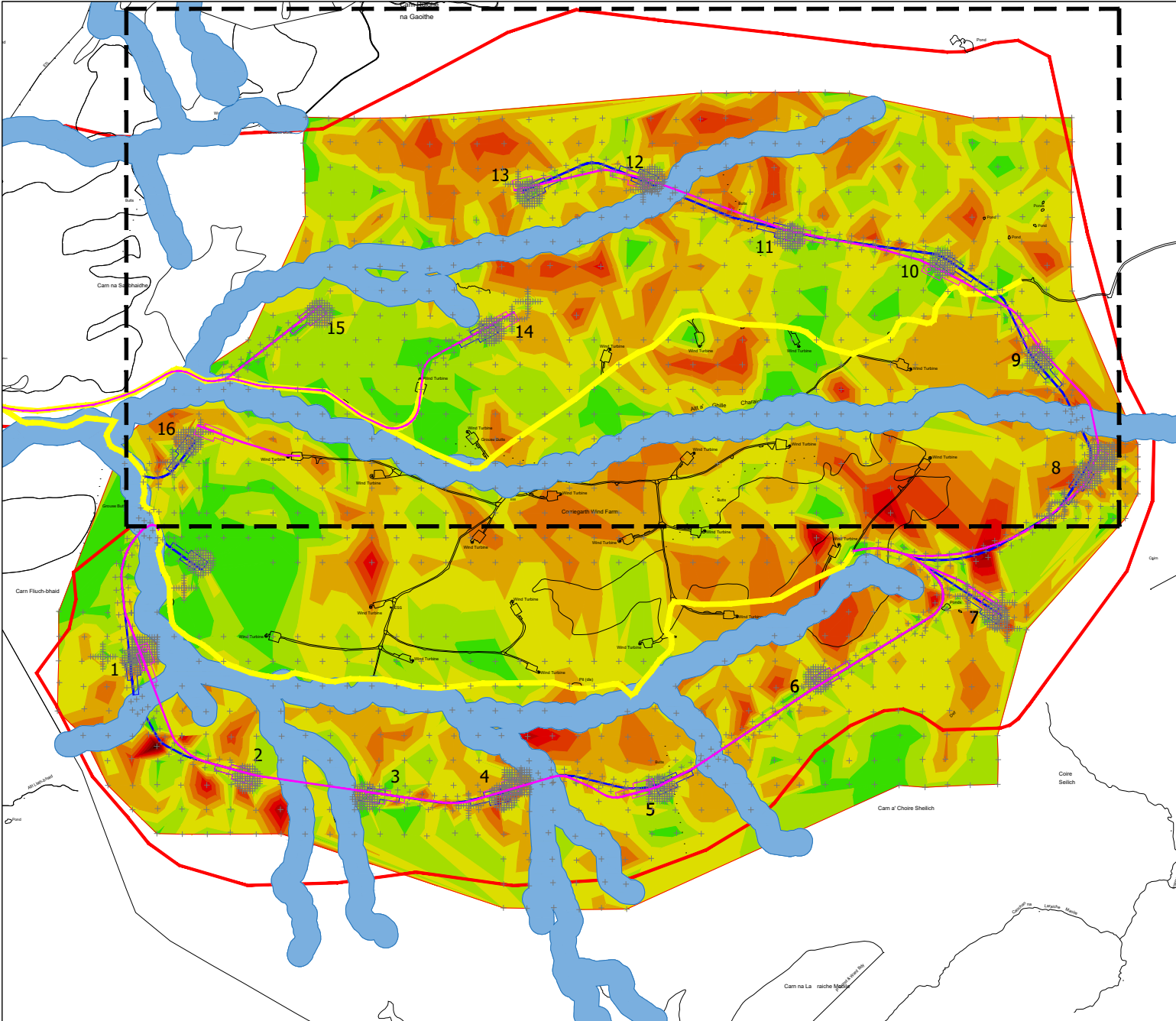
The developer and I would be happy to discuss the foregoing in detail with you if that would be of assistance.

Yours sincerely,



David Ballentyne
Principal Engineer

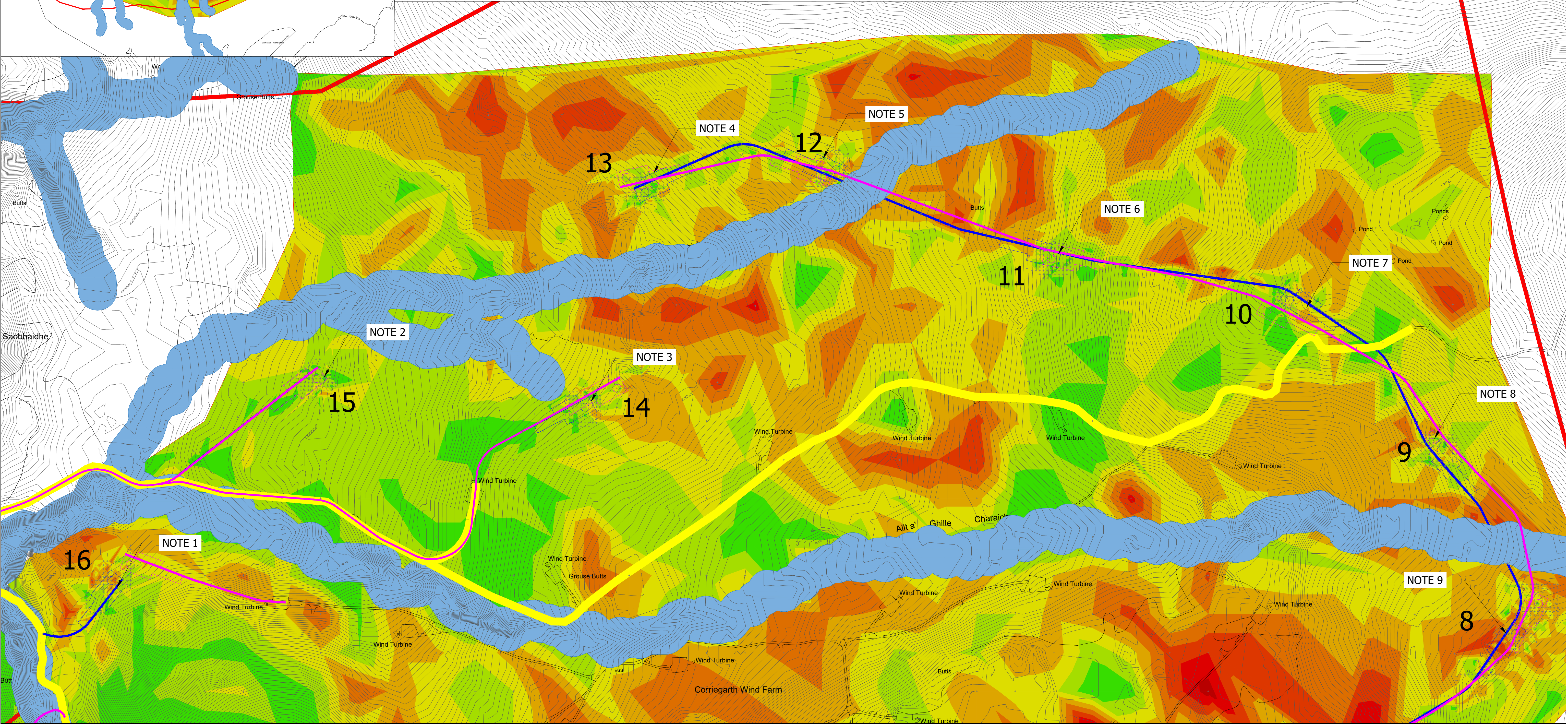
Appendix A



- KEY:
- PLANNING BOUNDARY
 - EXISTING WIND FARM TRACKS
 - LAYOUT FOLLOWING PEAT PROBING
 - INITIAL PROPOSED LAYOUT
 - WATERCOURSE BUFFER

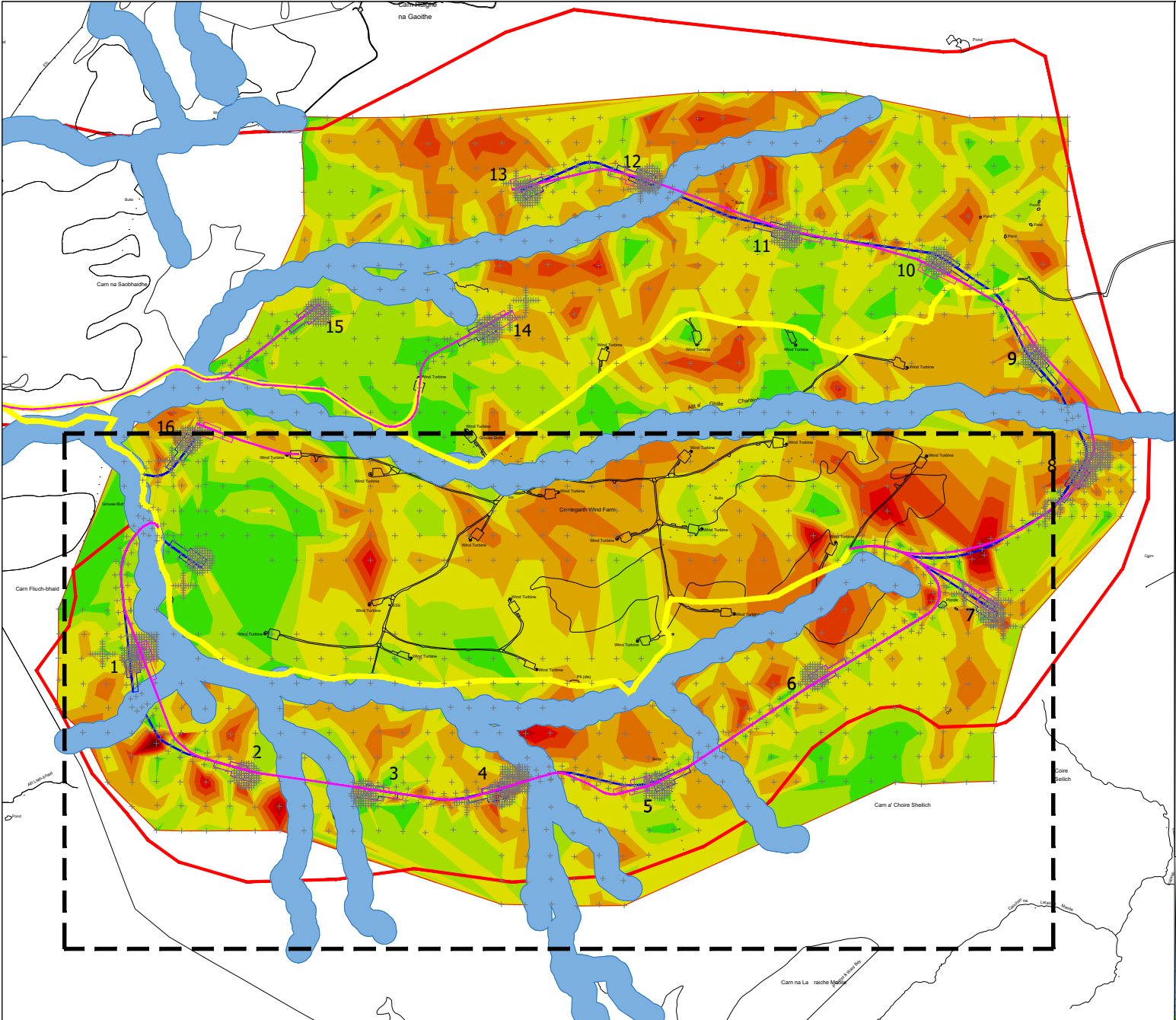
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3	1.00	1.50	
4	1.50	2.00	
5	2.00	2.50	
6	2.50	3.00	
7	3.00	3.50	
8	3.50	4.00	
9	4.00	4.50	
10	4.50	5.00	
11	5.00	5.50	

- NOTE 1: TURBINE LOCATION MOVED NORTH-EAST AND CRANE HARDSTAND ROTATED TO BE OUT WITH DEEP PEAT.
NOTE 2: NO CHANGES TO TURBINE LOCATION FROM PREVIOUS ITERATION.
NOTE 3: TURBINE LOCATION MOVED DUE TO LANDSCAPE AND WIND YEILD PURPOSES AND GENERALLY TO PEAT OF SIMILAR DEPTHS.
NOTE 4: TURBINE LOCATION MOVED NORTH-WEST. CRANE HARDSTANDING ROTATED TO BE OUT WITH DEEPER PEAT AND ACHIEVE REQUIRED TRACK GRADIENT.
NOTE 5: TURBINE LOCATION MOVED DUE TO LANDSCAPE AND WIND YEILD PURPOSES AND GENERALLY TO PEAT OF SIMILAR DEPTHS.
NOTE 6: NO TURBINE LOCATION CHANGES. CRANE HARDSTANDING ROTATED TO BE OUT WITH DEEP PEAT.
NOTE 7: TURBINE LOCATION MOVED SOUTH-WEST TO BE OUT WITH DEEP PEAT.
NOTE 8: TUBINE LOCATION MOVED NORTH TO BE OUTWITH DEEP PEAT. CRANE HARDSTANDING ROTATED TO BE OUTWITH DEEP PEAT.
NOTE 9: TURBINE LOCATION MOVED NORTH-EAST TO SHALLOWER AREA OF PEAT.
NOTE 10: TURBINE LOCATION MOVED NORTH TO SHALLOWER AREA OF PEAT.
NOTE 11: NO CHANGES TO TURBINE LOCATION PROPOSED.
NOTE 12: TURBINE LOCATION MOVE NOTH-WEST TO BE OUT WITH DEEP PEAT
NOTE 13: TURBINE LOCATION MOVED NORTH-EAST TO SHALLOWER PEAT
NOTE 14: TURBINE LOCATION MOVED EAST TO SHALLOWER PEAT
NOTE 15: NO CHANGE TO TURBINE LOCATION
NOTE 16: TURBINE LOCATION MOVED TO SHALLOWER PEAT AND OUT WITH WATERCOURSE BUFFER.
NOTE 17: TURBINE DROPPED FROM ARRAY



Plot Date: 24 August 2020 14:31:51
File Name: P:\PROJECTS\3369 CORRIEGARTH WIND FARM EXT\CAD01.WORKING\01.DRAWINGS\3369-DR-P-0011

				Client		Purpose of issue PRELIMINARY		Project Title CORRIEGARTH WIND FARM EXTENSION		Drawing Title 1 OF 2 PROPOSED SITE LAYOUT CONSTRAINTS AND DESIGN EVOLUTION		Designed KB	Drawn KB	Checked DB	Approved TAT	Arcus Consultancy Services 7th Floor 145 St. Vincent Street Glasgow, G2 5SR Tel: +44 (0)141 221 9997 Fax: +44 (0)141 221 5610 www.arcusconsulting.co.uk	
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- KEY:
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Project Title

CORRIEGARTH WIND FARM EXTENSION

Drawing Title

2 OF 2 PROPOSED SITE LAYOUT CONSTRAINTS AND DESIGN EVOLUTION

Designed KB

Drawn KB

Checked DB

Approved TAT

21/07/20

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