Chapter 2: Design Iteration and Proposed Varied Development

Tables

Figures

2.1. Site Description

2.1.1. The site of the Proposed Varied Development (**Figure 1.1: Site Location Plan**) (hereafter referred to as "the Site") remains as per the Consented Development. The Site is located on the Glenmoriston Estate, north-west of Invermoriston. The British National Grid (BNG) reference for the approximate centre point of the Turbine Development Area is 239512, 820991.

2.1.2. The Site boundary is situated on land adjoining to the east of the operational Bhlaraidh Wind Farm. It is a site that has strong proven wind resource, as well as existing access tracks and other infrastructure connecting into the local road network, which would be utilised during the construction and operational phases, thereby considerably reducing requirements for new tracks and other infrastructure.

2.1.3. Located west of Loch Ness and the Great Glen, on an area of high rocky plateau the surrounding landscape is open, undulating moorland features several rocky outcrops, small hills, many lochs, lochans, watercourses, areas of bog, tracks, hydroelectric infrastructure and turbines of the Operational Development. There are several distinctive summits, including Meall Fuar-mhonaidh which slopes steeply down to the Great Glen. To the west, this plateau transitions to a rugged, exposed landscape of large mountains, while to the north and south, there are the wooded glens of Glen Urquhart and Glen Moriston, and to the north, the farmed broad Strathglass valley.

2.1.4. The low lying areas of the glens and river valleys contain the majority of settlement and transport infrastructure. There is very little settlement in higher level areas and land use tends to be limited to grazing (sheep and deer) and country pursuits (e.g. shooting and fishing). Man-made features in the area include transmission towers (particularly those of the Beauly-Denny overhead line), hydro-electric infrastructure and wind turbines.

2.1.5. The closest private dwelling is approximately 2.4km from the nearest proposed turbine.

2.1.6. The Site Enabling Works for the Consented Development are complete, with constructed infrastructure shown in **Figure: 1.2 Site Layout Plan**.

2.2. Design Evolution

2.2.1. The design of the original 18 turbine scheme was defined and iterated through a rigorous process by the 2021 EIA and technical teams, taking cognisance of the constraints and opportunities present at the site. The key factors in determining the layout and technology were minimising impacts to sensitive habitats, avoiding areas of deeper peat, ornithological sensitivities, and minimising landscape and visual impacts as much as possible. The design of the site was repeatedly reviewed via design workshops, before ultimately being fixed immediately prior to the Section 36 application submission in August 2021.

2.2.2. The design was further altered as the process of consultation proceeded through planning. The consultation response received from The Highland Council (THC) dated 15 February 2022 raised no objection to the application for the Consented Development, subject to the removal of three turbines. The revised 15 turbine layout, design considerations and alterations to the environmental assessment are presented in the 2022 AIR. The 15 turbine layout was awarded Section 36 planning consent in August 2022.

2.2.3. The decision by the Scottish Ministers in 2022 to grant the Section 36 consent and deemed planning permission for the Consented Development has established the suitability of the Site for a large-scale wind farm.

2.2.4. In 2024, the Site Enabling Works were completed, detailed design of the main works was underway, and documents required to satisfy pre-commencement planning conditions were submitted to The Highland Council. In late 2024, the project was paused due to unfavourable economics. A feasibility review concluded that increasing WTG tip heights would significantly boost energy output, requiring a design review to optimize layout for engineering and environmental constraints.

2.2.5. Due to the increase in tip height, and resultant change to wake zones and increased safety buffer for topple distance, some turbines required to be repositioned. The design review process involved the following:

i. The Applicant consulted with ASH Design and Assessment Ltd (the project's landscape and visual consultant) to ensure the revised turbine locations also minimised impacts and presented the least change in landscape and visual effects.

ii. Once the revised turbine locations were selected, the track layout to the turbine positions, hard stand orientations, turning head locations and borrow pits were reviewed by the project engineering team and optimised using detailed ground investigation data collected in 2022 (to inform

detailed design of the Site Enabling Works) and in 2023 (to inform detailed design of the main works prior to financial investment decision). This engineering optimisation ensured earthworks were minimised and unnecessary infrastructure was removed wherever possible (e.g. removal of borrow pit close to T17).

iii. All infrastructure realignments were reviewed to ensure avoidance or minimisation of environmental constraints wherever possible. The Proposed Varied Development design review has considered all data gathered for the Consented Development (as included in the 2021 EIAR and 2022 AIR), as well as any additional environmental survey data gathered to satisfy the pre-commencement elements of Planning Conditions to the Section 36 consent.

2.2.6. Summary explanations of how engineering and environmental constraints have informed the current optimal proposed varied design at each turbine location are presented on **Figures 2.1a-o: Infrastructure Design Review.**

2.2.7. Throughout this EIAR, it will be demonstrated that all available information (contained in the previous EIAR and AIR, Planning Condition documents, and field observations from the pre-works checks and surveys undertaken by the ECoW during ground investigation and Site Enabling Works) has been considered during the relevant assessments. Documents which have been submitted to satisfy conditions and have supported the impact assessments for the Proposed Varied Development have been included in **Technical Appendices 3.6a-i:**

3.6a	**Habitat Management Plan (WSP, September 2024)**
3.6b	**Biogenic Carbon Report (WSP, June 2024)**
3.6c	**Biodiversity Net Gain (BNG) Assessment Report (WSP, September 2024)**
3.6d	**Deer Management Plan (WSP, June 2024)**
3.6e	**Construction Environmental Management Plan (CEMP) (SSE, May 2024)**
3.6f	**Private Water Supply Risk Assessment (Natural Power, June 2024)**
3.6g	**Water Quality and Fish Monitoring Plan (WQFMP) (RPS/SSE, v.2, July 2024)**
3.6h	**Species Protection Plan (Natural Power, Nov 2022)**
3.6i	**Breeding Bird Protection Plan (Natural Power, Nov 2022)**

2.2.8. The layout of the Proposed Varied Development presents the current optimised design for the required height of turbines. As with the Consented Development layout, the Proposed Varied Development layout has been informed through detailed engineering assessment work and consideration of all available environmental survey data and constraints as described above. A

compilation of the main environmental constraints considered as part of the Proposed Varied Development design review is presented on **Figure 2.10: Environmental Constraints**.

2.3. Description of the Proposed Varied Development

2.3.1. The Proposed Varied Development would include the following key components:

- Up to 15 Wind Turbine Generators (WTGs) of up to 230m tip height, with an
- expected capacity of 93-108MW;
- Turbine foundations, crane hardstanding and associated laydown area at each WTG location;
- Approximately 21km of on-site access tracks comprising approximately 13.5km upgraded existing access track and approximately 7.9km of new access track. (Approx 1.5km built during Enabling Works);
- A network of underground cabling to connect each wind turbine to the on-site substation;
- Six No. Watercourse and culvert crossings (one of which already constructed as
- part of site enabling works);
- Seven No. Borrow Pits (two utilised during Enabling Works, five potentially utilised during Main Works) (temporary)
- A LiDAR unit to collect meteorological and wind speed data;
- Any other associated ancillary works required.

2.3.2. The location of these elements of the Proposed Varied Development are clearly shown in **Figure 1.2: Site Layout Plan** and **Figure 1.3: Wider Site Layout Plan**

2.3.3. The locations of the proposed WTGs and associated infrastructure may be subject to micrositing, both during the Detailed Design phase (to maximise efficiency of material balance and to minimise disruption to Peat), and during Construction (due to unforeseen technical issues, such as encountering of Geological Faults within excavations).

2.3.4. The Applicant seeks to retain the micrositing allowance as per Planning Condition 10 (and sub-parts thereof) stated in the S36C Decision Letter for the Consented Development with the exception of the micro-siting allowance of three turbines. Details of the reduced micro-siting allowances are provided in paragraph 2.7.4.

2.3.5. A larger micrositing allowance may be required to ensure optimum routing of any cross-country cable routes; it is proposed that the wording of any future

condition provides the opportunity to agree any alterations to the proposed cross country cable locations beyond the 50m micrositing in order to optimise their routes following detailed design with respect to this specific piece of infrastructure.

2.3.6. In addition to the permanent components, the construction phase would comprise the following temporary facilities:

- Site compound areas, including welfare facilities, site cabins, storage and parking;
- Batching plant facilities for temporary concrete batching plants

2.3.7. This Chapter is supported by the figures presented in **Table 2.1:**

Table 2.1: Proposed Development & EIAR Supporting Figures

Figure Title	Information Source	Comment
Figure 2.1a – 2.1o: T01-T15 Design Review	New information	Presents summary of design iteration and rationale for the proposed varied development.
Figure 2.2: Typical Turbine Elevation	New Information	Presents indicative dimensions of likely candidate turbine.
Figure 2.3: Typical Turbine Foundation	New Information	Presents indicative dimensions of likely foundation requirements to suit proposed 230m tip height turbines.
Figure 2.4: Typical Crane Hardstanding	New Information	This presents a typical crane hardstand layout for indicative purposes only.
Figure 2.5: Indicative Substation Layout - Elevations	PP 21/04080/S36 Planning Condition 9 – Design of sub-station, ancillary buildings and other ancillary development	Presents indicative diagrams showing the front, side, and rear elevations of the substation compound.
Figure 2.6: Indicative Substation Plan Layout	PP 21/04080/S36 Planning Condition 9 – Design of sub-station, ancillary buildings and other ancillary development	Presents an indicative sub-station layout design.
Figure 2.7: Typical Access Track Cross Section	2021 EIAR	Presents typical Access Track Cross Section.
Figures 2.8: Typical LiDAR Plan and Elevation	2021 EIAR	Presents typical LiDAR Plan and Elevation.

Figure Title	Information Source	Comment
Figure 2.9: Typical Construction Compound Plan Layout	2021 EIAR	Presents indicative cross-sectional dimensions of a typical access track build.

2.4. Proposed Varied Development Components

2.4.1. The following sections detail how the components and installation of the Proposed Varied Development differ from the Consented Development.

Wind Turbine Generators (WTGs)

WTG Specification

2.4.2. The Proposed Varied Development comprises 15 three-bladed horizontal axis WTGs. The WTGs are automatically controlled to ensure each turbine faces directly into the wind. As a result of this, the orientation of the WTGs would alter with changes in wind direction.

2.4.3. The final choice of turbine will be dependent on economics and available technology at the time of construction but would have a maximum blade tip height of up to 230m. **Figure 2.2: Typical Turbine Elevation** shows indicative dimensions for the proposed turbine envelope.

Table 2.2: Turbine Parameters Assumed for the Purposes of Assessment within this EIA Report

Details	Consented	Varied
Rotor diameter (nominal) (m)	158	A nominal diameter of 163
Blade length (nominal) (m)	72.4-77.4	73.6 - 79.7
Hub height (nominal) (m)	101 – 105	148.5 - 149
Tip height (max) (m)	180	230
Indicative power output (MW)	100.8	93 - 108
Candidate turbine model	uncertain	uncertain

2.4.4. **Table 2.3** below provides the Grid Reference numbers for the Proposed Varied Development turbine locations vs the Consented Development turbine locations.

Table 2.3: WTG Grid References

WTG No.	Grid Reference	Easting	Northing	WTG No.	Grid Reference	Easting	Northing
T01	Consented	238385	821688	T09	Consented	239348	820077
	Proposed	**238401**	**821692**		**Proposed**	**239315**	**820040**
T02	Consented	238364	821034	T10	Consented	239501	820920
	Proposed	**238367**	**820992**		**Proposed**	**239569**	**820831**
T03	Consented	238925	821693	T11	Consented	238876	821220
	Proposed	238945	821833		Proposed	238945	821306
T04	Consented	239380	821326	T12	Consented	239955	821460
	Proposed	239499	821334		Proposed	240026	821464
T05	Consented	239523	822070	T15	Consented	239933	820784
	Proposed	239556	821951		Proposed	240119	820823
T06	Consented	238277	822170	T16	Consented	239852	820120
	Proposed	238277	822170		Proposed	239848	820102
T07	Consented	238704	820694	T17	Consented	240372	821198
	Proposed	238746	820686		Proposed	240450	821190
T08	Consented	238771	820273				
	Proposed	238776	820250				

2.4.5. The WTGs would generate electricity in wind speeds between approximately 3m/s and 25m/s (7mph to 56mph). At wind speeds greater than this the WTGs would reduce production output and eventually shut down for self-protection.

2.4.6. The turbine towers would be of tapering tubular rolled steel plate construction. The blades would be made from fibre-reinforced epoxy. The finish of the WTGs is proposed to be semi-matt pale grey colour.

2.4.7. A transformer and switchgear would be required for each turbine, which would be located within the structure of each turbine.

2.4.8. Full details of the proposed WTGs would be provided to the Energy Consents Unit and THC prior to the commencement of development in line with Planning Condition requirements.

2.4.9. Aviation lighting on the WTGs is proposed as per the scheme approved by the Civil Aviation Authority (Refer to **Chapter 15: Aviation and Radar**).

WTG Bases - Foundations

2.4.10. Dependent on the ground conditions at each wind turbine location, a piled or gravity foundation would be used to support the wind turbines. Details of the typical turbine base foundations can be seen in **Figure 2.3: Typical Turbine Foundation**. The new foundations require approximately 1160m^3 of concrete and 156 tonnes of steel reinforcement, an increase of approximately 300m^3 of concrete in comparison to the original foundations.

2.4.11. Finalised, site-specific designs would be developed once the final candidate turbine is selected and detailed intrusive ground investigations are undertaken during the detailed design phase.

WTG Bases - Hardstandings

2.4.12. The hardstandings for the Proposed Varied Development have increased in size to support the taller WTGs. The revised footprint for each hardstand reflects a worst-case scenario, with a total area of approximately 4,546.5m². This includes both permanent and temporary zones. The permanent area, measuring around 2,160m², will remain in place to support ongoing operational and maintenance activities. The temporary area, approximately 2,386.5m², is designated for construction-related functions such as component laydown, storage, and installation aids required for the safe assembly of wind turbine generator (WTG) components, including crane operations. The temporary laydown area will be reinstated when construction is completed. The combined permanent and temporary areas of this new hardstand is an increase of

750.5m^2 per hardstand when compared to the Consented Development. The final permanent area is an increase of 285m^2 when compared to the Consented Development.

2.4.13. As has already been stated, the hardstands have not only increased in size, but as is shown in **Figure 1.4: Varied Development Vs Consented Development Layout** and further explained in detail in **Figure 2.1a-2.1o: T01-T15 Design Review**, some hardstands have been rotated to optimise engineering and earthworks constraints, as well as avoiding or minimising environmental impacts (e.g. on habitats, peat and watercourses).

WTG Installation

2.4.14. WTG components including towers, blades, drivetrains, hubs and nacelles are likely to be transported from the port of entry to the Proposed Varied Development using suitable abnormal load vehicles. The port of entry and delivery route remains the same as for the Consented Development.

2.4.15. On arrival onto the Site, the WTG components would be delivered and offloaded at the hardstanding of the WTG to be erected. The process for installation has not changed when compared to the Consented Development.

Access Tracks

Access Track Layout

2.4.16. The access track layout[1] is shown on **Figure 1.2: Site Layout Plan**. As with the Consented Development, access from the Site entrance on the A887 to the Site would be achieved by utilising the existing tracks developed as part of the Operational Bhlaraidh Wind Farm. The existing tracks are typically constructed to a high standard with a running width of around 5m. Approximately 13.5km of the existing tracks would be utilised to access the Proposed Varied Development. Approximately 7.9km of new track would be constructed as part of the Proposed Varied Development.

2.4.17. As with the Consented Development, new access tracks would generally be 5.5m wide running surface, plus 0.5m shoulders each side, as illustrated in **Figure 2.7: Typical Access Track Cross Section,** except where locally widened at bends, corners and at Passing Places, as required to suit WTG Supplier requirements**.** Some localised widening on bends and corners of the existing access tracks would also be required to access the WTGs during both

[1] Subject to a 50m micrositing limit subject to approval of specialist advisers.

construction and operation. The access tracks would be designed to incorporate passing places that would be suitable for construction plant and 4x4 traffic.

Access Track Construction

2.4.18. It is anticipated that site access tracks would be constructed with locally (on site) won graded rock from borrow pits and, where necessary, geotextiles with the surface course comprising of a durable unbound graded rock surfacing material.

2.4.19. Where appropriate, peat and soil from excavations on site would be utilised for reinstatement along both sides of the track verges and allowed to regenerate naturally as detailed within the Construction and Environmental Management Plan (CEMP) **(**refer to **2021 EIAR, Volume 4, Technical Appendix 2.1: Outline CEMP,** as updated by the planning condition 13 approved CEMP provided in **Technical Appendix 3.6e: CEMP).** It is expected that all construction methodologies, good practice and embedded mitigation presented in the CEMP will be adopted for the construction of the Proposed Varied Development and therefore this information is not repeated in this EIAR. The CEMP will be reviewed prior to construction and updated if required due to any changes to regulatory or good practice requirements at the time.

Access Track Watercourse Crossings

2.4.20. The proposed routes for the Site tracks have been designed to minimise watercourse crossings by a combination of avoidance and by using existing crossings wherever possible. This remains true for the Proposed Varied Development and the number of major watercourse crossings has not changed. The Watercourse Crossing Schedule has been updated to reflect minor changes to the position of some of the identified 'Additional Crossings', due to modification of the Site Layout. This is presented in **Technical Appendix 9.1**.

2.4.21. All watercourse crossings will be designed based on the principles presented within the 2021 Watercourse Crossing Assessment and in line with best practice and current guidance at the time of construction.

Drainage

2.4.22. Schematic drainage design has not changed for the Proposed Varied Development. All indicative drainage drawings attached to the outline CEMP (refer to **2021 EIAR, Volume 4, Technical Appendix 2.1: Outline CEMP)** are still current and have not been replicated in this EIAR. A detailed drainage design will be completed during the Detailed Design stage of the project.

Temporary Construction Compounds

2.4.23. Temporary construction compounds containing welfare; offices; parking for cars and plant; and storage facilities, would be required for construction workers at the locations shown on **Figure 1.3: Wider Site Layout Plan.** This is unchanged from the Consented Development.

LiDAR

2.4.24. A single permanent Light Detection and Ranging (LiDAR) station would be constructed to collect meteorological data for the operational life of the Proposed Varied Development and has been located to ensure it obtains the best quality data for the Site. **Figure 1.2: Site Layout Plan** indicates its location, and an indicative plan and elevation are shown on **Figure 2.8: Typical LiDAR Plan and Elevation**. It is assumed that the LiDAR would typically have a reinforced concrete foundation of 4.7m x 3.7m. The inclusion, and location, of the LiDAR station has not changed when compared with the Consented Development.

Substation

2.4.25. The Proposed Varied Development would connect to the electricity transmission network using an on-site substation, as shown on the site layout plan on **Figure 1.2.** An indicative elevation and plan of the substation is shown on **Figure 2.5: Indicative Substation Layout - Elevations** and **Figure 2.6: Indicative On-Site Substation**. The Substation platform has been constructed during the Site Enabling Works phase of the Consented Development and there is a reduced footprint from the original consent. The total constructed area is 16,857m^2 (reduced from 19,500m^2 i.e. ~15% reduction on substation platform area from the Consented Development layout).

Operations and Welfare

2.4.26. As with the Consented Development, an operations and welfare facility would be provided within the substation compound area, as shown on **Figure 2.5: Indicative Substation Layout - Elevations** and **Figure 2.6: Indicative Substation Plan Layout.**

On-site Electrical Cabling

2.4.27. The electrical cabling for the Proposed Varied Development has not changed when compared to the Consented Development, except in the case that the routing of the cabling will be altered slightly to mirror the changes to the access track route as described above. The cross-country cable routes have also been amended slightly to route to the revised turbine locations.

Grid Connection

2.4.28. There is no change to the grid connection compared to the Consented Development. The grid connection from the on-site substation to the National Grid is subject to a separate consent application by the Network Operator (Scottish and Southern Electricity Networks).

2.5. Associated Development Components

Concrete Batching

2.5.1. As with the Consented Development, concrete batching is anticipated to be undertaken on site at the same location as the Consented Development. The proposed location of the batching plant is shown on the layout in plan on **Figure 1.2 Site Layout Plan.**

Borrow Pits

2.5.2. The borrow pits anticipated to be used for the Proposed Varied Development are shown in in **Figure 1.3: Proposed Varied Development Layout Plan**. Of the 8no. Borrow Pits available in the original Consent, the following changes are noted:

- BP05, adjacent to T17, has been REMOVED from the proposal and will not be utilised.

- BP01 & BP06-H were utilised and reinstated during the Enabling Works Phase and will not be reused during the Main Works Phase.

2.5.3. As such, a maximum total of 5no. Borrow Pits are anticipated to be used for the Main Works Phase (2no. already used during Enabling Works), for a total of 7no. Borrow Pits (down from 8). Further reduction in borrow pit area or number of borrow pits will be prioritised and determined during the Detailed Design phase (post-consent).

Borrow Pit Reinstatement

2.5.4. Following construction, the utilised borrow pits would be reinstated with a suitable restoration profile. Reinstatement methodology is as described within the 2021 EIAR and the approved CEMP (**Technical Appendix 3.6e: CEMP)** and it is expected that the measures presented in these documents will be adopted during construction of the Proposed Varied Development and therefore they are not required to be duplicated for the purposes of this EIAR. Prior to commencement of works, an updated Borrow Pit Assessment Report may be required to satisfy planning condition 19.

2.6. Construction Programme

2.6.1. It is expected that many of the above operations would be carried out concurrently, although predominantly in the order identified in **Table 2.4** to minimise the overall length of the construction programme. A typical construction period for a wind farm of this size is estimated to be approximately 18 months. The indicative construction programme is illustrated in **Table 2.4,** with the final period dependent on weather and ground conditions experienced at the Site. This remains unchanged from the Consented Development.

2.6.2. Site reinstatement would be programmed and carried out to allow rehabilitation of disturbed areas as early as possible to minimise storage of excavated material on vegetation. Details on reinstatement are provided in **Technical Appendix 3.6e: CEMP**.

Table 2.4: Indicative Construction Programme

Quarter	1	2	3	4	5	6
Site Establishment						
Borrow Pit Operation						
Access Track Construction						
Turbine Bases and Hardstandings						
Concrete Works						
Cable Delivery and Installation						
Turbine Delivery & Erection						
Wind Farm Commissioning						
Reinstatement & Restoration						

Working Hours

2.6.3. Working hours are as proposed for the Consented Development:

- Construction activities are anticipated to be between 07.00 and 19.00 hours Mondays to Fridays, and 07.00 to 14.00 hours on Saturdays. No working activities would be planned on Sundays. In the event of work being required out with these hours, e.g. abnormal load deliveries, commissioning works or emergency mitigation works, the Planning Authority would be notified prior to these works taking place, wherever possible.
- Any blasting on site shall only take place between the hours of 10.00 to 16.00 on Monday to Friday inclusive and 10.00 to 12.00 on Saturdays with no blasting taking place on a Sunday or on National Public Holidays, unless otherwise approved in advance in writing by the Planning Authority.

2.7. Environmental Management during Construction

2.7.1. All mitigation and environmental management activities proposed as part of the Consented Development shall be adopted during construction of the Proposed Varied Development.

2.7.2. Prior to construction works, sensitive ecological areas, and other specific sensitive locations (e.g. cultural heritage assets, watercourses) would be marked out as appropriate on site by specialist advisers (e.g. the ECoW) to avoid unnecessary encroachment and protect sensitive areas during construction. The Principal Contractor would ensure no vehicle movements or other activities take place out with the approved working area.

Micrositing

2.7.3. There may be a requirement to microsite elements of the Proposed Varied Development as a result of additional constraints encountered during site works. Turbines (with the exception of T16, T9 and T8 as detailed in the following paragraph), access tracks, underground cables and crane hard standing areas may be microsited within 50m of the positions shown on **Figure 1.2: Site Layout Plan**. Beyond this, agreement would be sought from the Planning Authority in consultation with SEPA. Any micrositing would require agreement of the specialist advisors (e.g. the ECoW) as appropriate.

2.7.4. As part of the scoping exercise for the Proposed Varied Development, consultation was undertaken with the Joint Radio Company (JRC). JRC raised concerns with regard to the potential impacts of Turbines 16, 9 and 8 on the required exclusion zone for a telecommunication link. In response to this consultation, it was agreed that the following restricted micrositing allowances should apply:

- Maximum of 25m micrositing for T16
- Maximum of 25m micrositing for T09
- Maximum of 40m micrositing for T08

2.7.5. For details of this objection and additional correspondence refer to **Technical Appendix 3.2: Scoping Opinion** and **Technical Appendix 3.3: Further Scoping Consultation**

Construction Environmental Management Plan (CEMP)

2.7.6. As has already been stated within this Chapter, the outline CEMP submitted with the 2021 EIAR (**2021 EIAR, Volume 4, Technical Appendix 2.1: Outline CEMP)** was updated and approved post-consent to satisfy planning condition

13 (**Technical Appendix 3.6e**). The CEMP provides information on the appropriate measures to be taken for the avoidance, minimisation and control of adverse, environmental impact associated with construction activities. The requirements presented in the CEMP are relevant to the construction of the Proposed Varied Development and therefore a CEMP is not required to be updated or duplicated for the purposes of this EIAR. The CEMP will be reviewed prior to the commencement of development for the Proposed Varied Development and may be updated to take into account changes to relevant environmental regulations, Planning Consent for the Proposed Varied Development, any consultation feedback, or post-consent updated surveys and as required.

Site Environmental Management

2.7.7. The Principal Contractor would have overall responsibility for environmental management on the Site. The services of specialist advisors, such as the project ECoW, would be retained as appropriate to be called on as required to advise on specific issues. The Principal Contractor and the Applicant would ensure construction activities are carried out in accordance with the mitigation measures outlined in this EIA Report and those detailed in the CEMP.

2.7.8. Contractors would be required to adhere to the following to reduce or mitigate the environmental effect of the construction process:

- the conditions of any granted consent;
- relevant environmental regulations; and
- any other relevant mitigation measures identified in this EIA Report.

2.7.9. A copy of any conditions of consent and the CEMP would be incorporated into tender documents and form part of the contract between the Applicant and/or Developer and the Principal Contractor. The selection criteria for the Principal Contractor would include a requirement to evidence completion of similar projects with successful implementation of environmental management.

Waste Management

2.7.10. Waste management requirements will not change from those contained in the CEMP (**Technical Appendix 3.6e)** and will comply with all regulations and guidance at the time of construction.

Health and Safety Related Issues

2.7.11. As with the Consented Development, health and safety would be initially addressed as part of the Pre-Construction Information Pack prepared by the Principal Designer for the project under the Construction (Design and Management) Regulations 2015. The Principal Contractor would be required to prepare a Construction Phase Health and Safety Plan and forward information to the Principal Designer during the works to enable the Health and Safety File to be completed.

2.7.12. Turbines are designed to be safe and are built to withstand extreme wind conditions. The turbines selected for the Proposed Varied Development would have the appropriate health and safety certification.

2.7.13. In accordance with Sections 6(1)(g) and (h) of the Land Reform (Scotland) Act 2003, access rights are not exercisable while building or civil engineering works, or working of minerals, are being carried out. This will be applied throughout the construction working area for health and safety reasons. Measures to manage public access during construction and operation are provided within the Outdoor Access Plan which was submitted and approved by THC to satisfy Planning Condition 26. No changes to the plan are required for the Proposed Varied Development. As the plan has not informed any aspect of this EIA it is not included for reference herein.

2.7.14. An Operations and Maintenance Manual for the design life of the wind farm would be prepared, which would cover all operational and decommissioning procedures.

Site Reinstatement

2.7.15. Reinstatement works are generally undertaken during construction (and immediate post-construction phase) and aim to address any areas of ground disturbance and changes to the landscape as part of the construction works. Reinstatement is undertaken as soon as practical following the construction works in each area, such as the re-dressing of road and track verges (and other areas that may be disturbed as a result of the construction process).

2.7.16. It is expected that all site reinstatement requirements presented therein and within the 2024 CEMP will remain the same for the construction of the Proposed Varied Development and therefore an updated CEMP is not required to for the purposes of this EIAR.

Forestry

2.7.17. An assessment of the impacts on forestry was scoped out of the **2021 EIAR** for the Consented Development**.** There is no change expected as a result of Proposed Varied Development, and therefore it has also been scoped out of this EIAR. For further information relating to forestry and the scoping exercise for this EIAR, refer to **Technical Appendix 3.1: Scoping Report**, **Technical Appendix 3.2 Scoping Opinion** and **Technical Appendix 3.3 Further Scoping Consultation.**

Consultations with the Local Community during Construction

2.7.18. Consultation with the local community during the construction of the Proposed Development is an important consideration for the Applicant and the Principal Contractor. A Community Liaison Group (CLG) was established for the Consented Development which held its first meeting in August 2023 with subsequent meetings in November 2023 and July 2024. Representatives from Strathglass, Glen Urquhart and Fort Augustus community councils were invited to attend. The CLG was put on hiatus when the decision to revise the Consented Development. The CLG would be reinstated prior to the construction of the Proposed Varied Development in order to provide the local community with information about key construction activities and a mechanism by which concerns from within the local community could be shared and discussed. A Community Liaison Plan was submitted and approved by THC to satisfy Planning Condition 27. No changes to the plan are required for the Proposed Varied Development. As the plan has not informed any aspect of this EIA it is not included for reference herein.

Site Operation and Maintenance

2.7.19. Site operation and maintenance requirements are as per the Consented Development. Once commissioned, it is expected that the Proposed Varied Development would require the continued use of the current existing infrastructure within the Site. Routine maintenance, inspections and servicing would be carried out on each turbine as required at the Proposed Varied Development, including major component and blade inspections. Appropriate maintenance works would be carried out routinely, and immediately following any unexpected events on site, such as failure of a generator or gearbox.

Operation Environmental Management Plan (OEMP)

2.7.20. As per the commitment for the Consented Development, the Applicant will develop and implement an Operation Environmental Management Plan (OEMP) on commissioning of the Proposed Development. Similar to CEMP the OEMP will set out how the Applicant will manage and monitor environmental effects throughout operation. The OEMP will be developed in consultation with NatureScot, SEPA and THC where required and will include but not be limited to:

- details on the track, watercourse crossing and turbine maintenance;
- the control and monitoring of noise;
- the control and monitoring of surface and groundwater;
- a pollution prevention plan and a pollution incidence response plan;
- details of how the Applicant will abide by the local and national legislative requirements e.g. The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended); and
- a Habitat Management Plan and relevant protected species management plans (if required).

Ice Throw

2.7.21. As with the Consented Development, turbines will be fitted with vibration sensors which shut the turbines down should any imbalance that might be caused by icing be detected. In addition, mitigation measures in place for the Operational Development would benefit the Proposed Development. These include: Service crews are trained regarding the potential for ice throw; Ice risk conditions are monitored by the operational wind farm staff; and Public notices are in place at access points alerting members of the public and staff accessing the Site of the possible risk of ice throw under certain weather conditions.

Risks of Major Accidents and/or Disaster

2.7.22. As with the Consented Development, during operation, routine maintenance inspections will be completed in order to ensure the safe and compliant operation of all built infrastructure.

Track Maintenance

2.7.23. Frequency of track maintenance depends largely on the volume and nature of the traffic using the track, with weathering of the track surface also having an appreciable effect. Heavy plant is particularly wearing and on-going track maintenance would be undertaken as necessary throughout the year. Safe access and management of silt run off from weathered track material would be maintained all year round.

2.7.24. There would be no public vehicular access to the Site.

Site Decommissioning

2.7.25. Decommissioning proposals remain the same as for the Consented Development. The decommissioning period for a wind farm of this size is estimated to be 12 months.

2.7.26. Detailed decommissioning proposals would be established and agreed with relevant authorities prior to commencement of decommissioning activities.

2.7.27. Decommissioning of the wind farm would be undertaken at the end of its operational lifespan.