



Islandmore Wind Farm

Environmental Impact Assessment
Report

Annex 6.2: Peat & Spoil
Management Plan

Islandmore Wind Farm Limited



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

ISLANDMORE WIND FARM

PEAT & SPOIL MANAGEMENT PLAN

Prepared for: **Galetech Energy Services Ltd**



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ISLANDMORE WIND FARM PEAT AND SPOIL MANAGEMENT PLAN

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Abstract: Fehily Timoney and Company (FT) were engaged by Galetech Energy Services (GES) to compile a Peat and Spoil Management Plan (PSMP) for the proposed Islandmore wind farm. The purpose of this report is to provide a Peat and Spoil Management Plan for the construction phase of the wind farm. The report describes how peat and spoil which will be excavated from infrastructure locations such as turbine bases and tracks and will be handled and placed/reinstated onsite. The report also provides construction details for the types of tracks which will be put in place at the Site and proposed peat and spoil placement/reinstatement areas which will be developed at the Site.

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1. INTRODUCTION

1.1 Fehily Timoney and Company

Fehily Timoney and Company (FT) is an Irish engineering, environmental science and planning consultancy with offices in Cork, Dublin and Carlow. The practice was established in 1990 and currently has c.110 members of staff, including engineers, scientists, planners and technical support staff. We deliver projects in Ireland and internationally in our core competency areas of Waste Management, Environment and Energy, Civils Infrastructure, Planning and GIS and Data Management.

This Report was written by Ian Higgins (FT Technical Director, PGeo, MSc in Geotechnical Engineering). Ian is a Technical Director with Fehily Timoney and has over 25 years' experience in geotechnical engineering.

1.2 Project Description

Fehily Timoney and Company (FT) was engaged in September 2023 by Galetech Energy Services (GES) to compile a Peat and Spoil Management Plan (PSMP) for the proposed Islandmore wind farm site (the 'Proposed Development').

The proposed Islandmore wind farm is located approximately 2.5km north of Ballaghaderreen, Co. Roscommon.

The Islandmore Wind Farm site comprises an area of approximately 1.82km². The surrounding landscape is predominantly flat with land-use comprising forestry and cutaway peatland.

1.3 Purpose

The purpose of this report is to provide a peat and spoil management plan with particular reference to peat stability for the construction phase of the project. The report describes how peat and spoil which will be excavated from infrastructure locations such as turbine bases and tracks, will be handled and placed/reinstated onsite. The report also provides construction details for the types of tracks which will be put in place at the Site and proposed peat and spoil placement/reinstatement areas which will be developed at the Site.

This peat and spoil management plan also includes a monitoring programme which will be implemented during the construction phase of the wind farm and a contingency plan should peat instability/failure occur at the Site.

As for all construction projects, a detailed engineering construction design must be carried out by the appointed construction stage designer prior to any construction work commencing on the Site. This must take account of the consented project details and any conditions imposed by that consent. This must include a detailed peat stability assessment to account for any changes in the environment which may have occurred in the time leading up to the commencement of construction and a peat and spoil management plan to allow for the most appropriate geotechnical and environmental led solutions to be developed for the management of peat and spoil.

As work is carried out on the Site the contents of the peat and spoil management plan and peat stability monitoring programme will be implemented in full and updated (if required) in the Construction & Environmental Management Plan (CEMP) for the construction phase.



This Peat and Spoil Management Plan contains some drainage guidelines for construction works and for management of peat on the Site. It should be noted that the control of water quality and drainage measures for the Site is outlined in detail in Chapter 3 – Description of the Project, and Chapter 9 – Water of the Environmental Impact Assessment Report (EIAR).

1.4 Peat Instability Definition

Peat instability in this report is defined as a mass movement of a body of peat that would have a significant adverse impact on the surrounding environment. Peat instability excludes localised movement of peat that would occur below a floating access road, creep movement or localised erosion type events.

Adherence to the peat and spoil management plan should reasonably minimise the potential for all such peat movements. However, it is noted that due to the soft ground nature of the peat terrain it is not possible to completely avoid such localised peat movement as described above.

1.5 Relevant Guidance

The relevant guidance used and referred to throughout this report includes;

- Geological Survey of Ireland (DCEE)/National Parks and Wildlife (DHLGH), 2024. Assessment of main contributing factors leading to three major peatland failures in Leitrim, Kerry and Donegal.
- Good Practice during Windfarm Construction (NatureScot, 2024);
- Guidance on Developments on Peatland: Site Surveys (Scottish Government, Scottish Natural Heritage and SEPA, 2017;
- Munro, R, 2004. Dealing with bearing capacity problems on low volume roads constructed on peat. Roadex II Northern Periphery;
- Scottish Natural Heritage/Forestry Commission Scotland, 2010. Floating Roads on Peat;
- Scottish Natural Heritage, 2015. Constructed Tracks in the Scottish Uplands. Scottish Natural Heritage.



2. CONSTRUCTION ACTIVITIES COVERED BY PEAT AND SPOIL MANAGEMENT PLAN

2.1 Construction Activities

For the construction phase of the Islandmore wind farm the activities that will generate peat and spoil are as follows:

- (1) Upgrade of existing public roads (as floating roads)
- (2) Construction of new excavated tracks through peat
- (3) Excavation and placement of arisings
- (4) Excavations in peat and overburden for borrow pits
- (5) Excavations in peat for turbine bases, hardstands and other infrastructure foundations
- (6) Excavations for underground cables

Peat and spoil management of the above construction activities are covered individually in this report.

2.2 Track Construction Types

To provide access within the Site and to connect the wind turbines and associated infrastructure existing public roads will need to be upgraded and new access tracks will need to be constructed. The road construction preliminary design has taken into account the following key factors:

- (1) Buildability considerations
- (2) Maximising use of existing infrastructure
- (3) Minimising excavation arisings
- (4) Peat stability
- (5) Serviceability requirements for construction and wind turbine delivery and maintenance vehicles
- (6) Requirement to minimise disruption to peat hydrology

Whilst the above key factors are used to determine the track design the actual construction technique employed for a particular length of track will be determined by the prevailing ground conditions encountered along that length of track.

The general track construction techniques to be considered are given in Table 2-1.

This report describes the most suitable type of track construction for each section of access track based on the ground/site conditions recorded during the site walkovers. It should be noted that this report does not include a detailed design for the access tracks for the Proposed Development. This report includes the most suitable type of track construction envisaged for each section of access track based on the ground/site conditions recorded during the site walkovers and intrusive site investigation works. Where floating tracks are proposed in this report, a proposed methodology is presented, however a detailed design will be carried out prior to construction commencing on the Site. These measures are based on available guidance, including 'Constructed Tracks in the Scottish Uplands (Scottish Natural Heritage, 2nd Edition ,2015), Floating Roads on Peat (Scottish



Natural Heritage/Forestry Commission Scotland, 2010) and 'Dealing with Bearing Capacity Problems on Low Volume Roads Constructed on Peat (ROADDEX II, 2004).

Table 2.1: General Track Construction Techniques

Construction Method	Typical Site Conditions			Comment
	Construction Type	Typical Peat Depth (m)	Typical Slope Inclination (degs)	
Upgrade of existing public roads	Type A	<2.5	Varies	Upgrade existing floated public roads to the required width and finished with a layer of selected granular fill – Drawing P23-215-0600-0006
Construction of new excavated tracks through peat	Type B	Typically, less than 1.5m	Varies	New access track construction technique envisaged for limited locations on the Site – Drawing P23-215-0600-0007
Construction of new floating tracks over peat	Type C	>2.0	<3	New access track construction technique envisaged for various locations on the Site – Drawing P23-215-0600-0008

Further details on access track construction types A to C are given in Sections 3 to 5 of the report.



3. UPGRADE OF EXISTING PUBLIC ROADS – TYPE A

Short sections of existing public roads requiring upgrade are present across the Site and have been in operation for a significant number of years. The existing roads appear to have been constructed using a floating construction technique. Upgrade works will involve the widening of the existing roads. The proposed locations for upgrade of the existing roads on the Site are shown in Drawing P23-215-0600-0005 and details are shown in Drawing P23-215-0600-0006.

3.1 Upgrading Existing Public Road Construction Methodology

This methodology includes procedures that will be included in the construction to minimise any adverse impact on peat stability. The methodology is not intended to cover all aspects of construction such as drainage and environmental considerations, which are discussed separately in Chapter 3 of the EIAR.

- (1) Road construction will be to the line and level requirements as per design/planning conditions.
- (2) For upgrading of existing public roads constructed using a floated construction technique (Type A – Drawing P23-215-0600-0006) the following guidelines apply:
 - (a) Prior to commencing floating road construction movement monitoring posts will be installed in areas where the peat depth is greater than 2m and will be placed at 10m intervals along these sections.
 - (b) Construction of upgraded floating public road will be in accordance with appropriate design from the designer.
 - (c) The surface of the existing public road will be graded/tidied up prior to the placement any geogrid/geotextile, where necessary (to prevent damaging the geogrid/geotextile).
 - (d) Where granular fill has been used in the existing public road make-up, a layer of geogrid will be placed on top of the existing access track.
 - (e) The basal geogrid on the widened section will be overlaid with an average of 1000mm of selected granular fill.
 - (f) Additional geogrid and granular fill may be required in certain sections of the works, such as where excessive rutting is noted in the road (to be confirmed by the designer).
 - (g) Stone delivered to the floating road construction will be end-tipped onto the constructed floating road. Direct tipping of stone onto the peat will not be carried out.
 - (h) To avoid excessive impact loading on the peat due to concentrated end-tipping all stone delivered to the floating road will be tipped over at least a 10m length of constructed floating road.
 - (i) Following end-tipping suitable machinery will be employed to spread and place the tipped stone over the base geogrid along the line of the road.
- (3) At transitions between upgraded floating and existing/upgraded excavated roads a length of about 10m shall have all peat excavated and replaced with suitable fill, with the geogrid extended into this fill. The surface of this fill will be graded to accommodate wind turbine construction and delivery traffic.
- (4) The finished road width will have a running width of 5m, with wider sections on bends and corners.
- (5) On side long sloping ground any road widening works required will be done on the upslope side of the existing road, where possible.



- (6) A final surface layer will be placed as per design requirements, to provide a finished road profile and graded to accommodate wind turbine construction and delivery traffic.
- (7) The construction of roads in areas of deep peat (greater than 2m) will be inspected on a routine basis (by the Site Manager/Ecological Clerk of Works/Project Geotechnical Engineer) during the works, particularly before/following trafficking by heavy vehicular loads.



4. CONSTRUCTION OF NEW EXCAVATED TRACKS THROUGH PEAT – TYPE B

The excavation of peat and spoil and founding of access tracks on competent stratum (below the peat) for new access tracks will be carried out at various locations on the Site. The proposed locations for new excavated access tracks on the Site are shown in Drawing P23-215-0600-0005 and details are shown in Drawing P23-215-0600-0007.

Excavate and replace type access tracks are the conventional method for construction of access tracks on peatland sites and the preferred construction technique for this site provided sufficient placement/reinstatement capacity is available on the Site for the excavated peat.

4.1 New Excavated Track Construction Methodology

This methodology includes procedures that will be adopted in the construction to minimise any adverse impact on peat stability. The methodology is not intended to cover all aspects of construction such as drainage and environmental considerations, which are discussed in Chapter 3 of the EIAR.

- (1) Prior to commencing the construction of the excavated tracks, movement monitoring posts will be installed in areas where the peat depth is greater than 2.0m, and in areas identified within the peat stability risk assessment (see Geotechnical & Peat Stability Assessment, FT, 2026) as requiring monitoring.
- (2) Interceptor drains will be installed upslope of the access track alignment to divert any surface water away from the construction area.
- (3) Excavation of tracks will be to the line and level given in the design requirements. Excavation will take place to a competent stratum beneath the peat.
- (4) Construction will be carried out in sections of approximately 20m lengths i.e. no more than 20m of access track will be excavated without replacement with stone fill. This length will be reduced to 5m in areas identified within the peat stability risk assessments.
- (5) Excavation of materials with respect to control of peat stability:
 - (a) Acrotelm (to about 0.3 to 0.4m of peat) will be required for landscaping and will be stripped and temporarily stockpiled for re-use as required. Acrotelm stripping will be undertaken prior to main excavations.
 - (b) Where possible, the acrotelm will be placed with the vegetation part of the sod facing the right way up to encourage growth of plants and vegetation.
 - (c) All catotelm peat (peat below about 0.3 to 0.4m depth) will be transported immediately on excavation to the designated placement areas.
- (6) Once excavated, non-catotelm peat will be temporarily stored in localised areas adjacent to excavations for tracks and hardstands before being placed into the permanent peat storage areas within the borrow pit, at the designated peat storage areas or reused for landscaping purposes. All peat placement areas will be upslope of founded tracks/hardstands and will be inspected by the Project Geotechnical Engineer before material is stored in the area. No material is to be sidecast or stored on the in-situ peat on the downslope side of the access tracks.
- (7) Unsupported excavation side slopes in peat will be not greater than 1 (v): 3 (h). This slope inclination will be reviewed during construction, as appropriate. Should areas of weaker peat be encountered



then slacker slopes will be required. Battering of the side slopes of the excavations will be carried out as the excavation progresses.

- (8) End-tipping of stone onto the tracks during the construction of the access track will be carefully monitored to ensure that excessive impact loading, which may adversely affect the adjacent peat, is limited.
- (9) The excavated access tracks will be constructed with a minimum of 750mm of selected granular fill. Granular fill to be placed and compacted in layers in accordance with the TII Specification for Road Works.
- (10) Access tracks will be finished with a layer of capping across the full width of the track.
- (11) A layer of geogrid/geotextile may be required at the surface of the competent stratum.
- (12) Where slopes of greater than 5 degrees are encountered along with relatively deep peat (i.e. greater than 2m) and where it is proposed to construct the access track perpendicular to the slope contours it is best practice to start construction at the bottom of the slope and work towards the top, where possible. This method avoids any unnecessary loading to the adjacent peat and greatly reduces any risk of peat instability.
- (13) Where the above is not possible, a specific Risk Assessment Method Statement (RAMS) from the contractor will be produced, detailing how the downslope works will be undertaken, including that all plant would operate from the already constructed section of track, with no loading of the peat on the downslope slope and limiting the length of ground to be stripped/excavated at any one time. Movement monitoring posts (as described in Section 10) will also be installed downslope of the works area to allow for ongoing monitoring during the construction works.
- (14) A final surface layer will be placed over the excavated track and graded to accommodate wind turbine construction and delivery traffic.
- (15) The construction and upgrading of access tracks in areas of deep peat (greater than 2m) will be inspected on a routine basis (by the Site Manager/Ecological Clerk of Works/Project Geotechnical Engineer) during the works, particularly before/after trafficking by heavy vehicular loads.



5. CONSTRUCTION OF NEW FLOATED TRACKS OVER PEAT – TYPE C

The use of new floated access tracks will be limited on the Site to areas of flatter terrain, i.e., less than a 3 degree slope. The proposed locations for floating tracks across the are shown in drawing P23-215-0600-0005 and details shown in drawing P23-215-0600-0008. Floating tracks are not proposed on areas of sidelong ground.

A confirmatory stability analysis will be carried out by the designer where it is proposed to install floating access tracks over the peat prior to any construction work commencing on the Site.

Floating tracks minimise impact on the peat, particularly peat hydrology. As there is no excavation required no peat arisings are generated. However, where the underlying peat has insufficient bearing capacity or due to topographic restrictions an excavate and replace type access track may be more suitable (see Section 4), although this is not anticipated at the location of the floated tracks.

5.1 Floating Track Construction Methodology

This methodology includes procedures that will be included in the construction to minimise any adverse impact on peat stability. The methodology is not intended to cover all aspects of construction such as drainage and environmental considerations, which are assessed in Chapter 3 of the EIAR.

Note: Details of geogrid arrangement will be provided by the specialist geogrid provider/designer.

- (1) Prior to commencing floating track construction movement monitoring posts will be installed in areas where the peat depth is greater than 2m.
- (2) Base geogrid will be laid directly onto the existing peat surface along the line of the track in accordance with geogrid provider's requirements.
- (3) The typical make-up of the new floated access track will be up to 1,000mm of selected granular fill with 2 no. layers of geogrid with possibly the inclusion of a geotextile separator (drawing P23-215-0600-0008).
- (4) Granular fill will be placed and compacted in layers in accordance with the TII Specification for Road Works, Series 600 (2024).
- (5) Following the detailed design of the floated access tracks it may be deemed necessary to include pressure berms either side of the access track in some of the deeper peat areas. The inclusion of a 2 to 5m wide pressure berm (typically 1.0m in height) either side of the access track will reduce the likelihood of potential bearing failures beneath the access track.
- (6) The finished track width will be 5m, with wider sections on bends and corners.
- (7) Stone delivered to the floating track construction will be end-tipped onto the constructed floating track. Direct tipping of stone onto the peat will not be carried out.
- (8) To avoid excessive impact loading on the peat due to concentrated end-tipping all stone delivered to the floating track will be tipped over at least a 10m length of constructed floating track.
- (9) Where it is not possible to end-tip over a 10m length of constructed floating track then dumpers delivering stone to the floating track will carry a reduced stone load (not greater than half full) until such time as end-tipping can be carried out over a 10m length of constructed floating track.
- (10) Following end-tipping a suitable bulldozer will be employed to spread and place the tipped stone over the base geogrid along the line of the track.



- (11) A final surface layer will be placed over the full width of the floating track, as per design requirements, to provide a track profile and graded to accommodate wind turbine construction and delivery traffic.



6. EXCAVATION AND STORAGE OF PEAT AND SPOIL

6.1 Excavation and Storage of Arisings Methodology

This methodology includes procedures that are to be included in the construction phase to minimise any adverse impact on peat stability. The methodology is not intended to cover all aspects of construction such as drainage and environmental considerations, described in Chapter 3 of the EIAR.

- (1) All excavated peat and spoil will be either temporarily stockpiled locally at turbine hardstands, or transported immediately on excavation to the borrow pit (see drawing P23-215-0600-0005) or to one of the designated peat placement areas alongside the access tracks or adjacent to the turbine locations.
- (2) Further details on the construction and reinstatement of the borrow pit are given in Section 6.4.
- (3) Further details on the placement of excavated material to designated peat placement areas close to turbines are given in Section 6.5.
- (4) Some of the peat, in particular the acrotelm (upper layer of the peat), excavated during construction will be used for landscaping purposes.

6.2 Summary of Peat and Spoil Volumes on Site

A summary of the excavated peat and spoil volumes calculated for the Proposed Development are given in Table 6-1.



Table 6.1: Summary of Excavated Peat and Spoil Volumes on Site

Infrastructure Element ^(Note 1)	Proposed Dimensions	Peat Volume (m ³) ^(Note 2)	Spoil (non-peat) Volume (m ³) ^(Note 2)	Comment
10 no. Turbines and Hardstands	27m diameter excavation footprint for turbine foundation with 65 x 25m or 105 x 25m hardstand area.	120,000	12,000	Hardstanding area and foundation footprint. Allowance included for mini-crane pads and blade finger hardstands associated with the main hardstand.
Access Tracks	Assumed 5m running surface with 6m wide development footprint.	8,500	700	Allowance includes for widening on bends, at junctions, laybys, and tie-ins to hardstands.
Temporary Construction Compounds	Hardstanding area of 40 x 60m.	-	-	Compounds will be floated, no peat/spoil to be excavated.
Substation	Hardstanding area of 70 x 125m.	13,000	1,000	
Borrow Pit		8,000	8,000	
	Total =	149,500m³	21,700m³	Total = 171,200m³ (peat and spoil volume)

Note (1) The location of the infrastructure elements on the Site are shown on Drawing P23-215-0600-0005.

Note (2) A factor of 10% (bulking factor of 10%) has been applied to the excavated peat and spoil volumes to allow for expected increase in volume upon excavation and to allow for a variation in ground conditions across the Site.



6.3 Summary of Peat and Spoil Placement/Reinstatement Areas on Site

A summary of the proposed peat and spoil placement/reinstatement areas at the Site are given in Table 6-2.

Table 6.2: Summary of Peat and Spoil Placement/Reinstatement Areas on Site

Location ⁽¹⁾	Peat and Spoil Volume (m ³)	Comment
Borrow Pit	46,000	See Drawing P23-215-0600-0009 for further details
Peat placement in peat storage areas	106,800	1.5m in height in designated peat storage areas, where slopes are relatively shallow (<5 degrees) (Drawing P23-215-0600-0005)
Landscaping ⁽²⁾	24,000	It is estimated that 1,500m ³ of peat will be required for landscaping purposes at each of the 10 no. turbine locations. 500m ³ of spoil will be used as ballast backfill at each turbine location. An additional 2,000m ³ of landscaping is proposed at each of the temporary construction compounds.
Total =	176,800m³	

Note (1) The location of the proposed borrow pit at the Site is shown on Drawing P23-215-0600-0005.

Note (2) Some of the acrotelm (upper layer of the peat) excavated during construction will be used for landscaping purposes.

6.4 Construction and Reinstatement of Borrow Pit

One location has been identified as an on-site borrow pit (adjacent to T05) and is shown on Drawing P23-215-0600-0009. The peat depth within the development footprint of the borrow pit is generally less than 1m. The borrow pit location was selected based on the shallow depth of peat and overburden and accessibility from the existing tracks. Bedrock within the borrow pit will be a sandstone, based on GSI mapping, site observations and ground investigation findings, and will be suitable for reuse within the Proposed Development. Estimated rock and storage volumes are provided in Table 6.3. The deficit between the volume of stone excavated from the borrow pit and the required stone volume will be made up through the use of imported stone from external sources.

Upon removal of the bedrock from the borrow pit, it is proposed to reinstate the borrow pit using excavated peat and spoil. The excavated rock from the borrow pit will be used in the construction of the infrastructure elements (turbine bases, tracks, etc.) at the wind farm. The contractor excavating the rock will be required to develop the borrow pit in a way which will allow the excavated peat and spoil to be placed safely. It is proposed to construct cells within the borrow pit for the placement of the excavated peat and spoil. This is to allow for the safe placement and grading of the peat and spoil using dumper trucks and excavators. The text below provides design and construction commitments for the borrow pit.

It should be noted that there are significant excavation works required in order to develop the borrow pit at the Site. Excavation works will be undertaken and supervised by experienced contractor and suitably qualified



personnel. The text below provides some design and construction guidelines for the borrow pit. The maximum depth of the borrow pit is 10m.

Table 6.3: Summary of Borrow Pit Volumes

Borrow Pit No.	Estimated Rock Volume (m ³)	Storage Capacity (m ³)
1	40,000	46,000

Drawing P23-215-0600-0009 shows the proposed plan and cross-section of the borrow pit.

The borrow pit will be constructed as follows:

- (1) It is proposed to construct the borrow pit so that the base of the borrow pit is below the level of the adjacent section of access track.
- (2) Slopes within the excavated bedrock formed around the perimeter of the borrow pits will be formed at stable inclinations to suit local conditions, at an angle of 45-60 degrees.
- (3) The stability of the slopes within the borrow pit will be inspected by the Project Geotechnical Engineer upon excavation to ensure stability during construction works and in the long term. This inspection will allow unfavourable conditions to be identified and suitable mitigation measures to be applied.
- (4) Infilling of the peat and spoil will commence at the back edge of the borrow pit and progress towards the borrow pit entrance, allowing the borrow pit to be developed and infilled in cells. The contractor excavating the rock will be required to develop the borrow pit in a way which will allow the excavated peat and spoil to be reinstated safely.
- (5) The use of temporary access ramps and long reach excavators during the placement of the excavated peat and spoil will be required.
- (6) The surface of the placed peat and spoil will be shaped following backfill using excavators to allow efficient run-off of surface water from the placed arisings towards the perimeter of the borrow pit.
- (7) A layer of geogrid to strengthen the surface of the placed peat and spoil within the borrow pit will be required.
- (8) An interceptor drain will also be installed upslope of the borrow pit. This drain will divert any surface water away from the borrow pit and hence prevent water from ponding and lodging during construction and also when reinstated.
- (9) Temporary control of groundwater within the borrow pit will be required and exact measures will be determined as part of the confirmatory ground investigation programme. A temporary pump and suitable outfall locations will be required during construction.
- (10) A settlement pond will be constructed at the lower side/outfall location of the borrow pit.
- (11) The acrotelm will be placed with the vegetation part of the sod facing the right way up to encourage growth of plants and vegetation at the surface of the peat and spoil within the borrow pit.
- (12) Supervision by the Project Geotechnical Engineer will be carried out for the development of the borrow pit.
- (13) All the above-mentioned requirements will be implemented by the Contractor during construction.



6.5 Designated Peat/Spoil Placement Areas

The following commitments for the placement of peat and spoil alongside the access tracks and as landscaping around turbines will be implemented during construction. These areas have been selected based on the depth of peat and the slope angle. A check of peat stability in each area was also undertaken, allowing for the additional loading from 1.5m of stored peat, and these results are included on the Peat Stability Assessment Report (FT, 2026). The works to prepare these areas will involve the removal of the existing surface vegetation; however, any tree stumps and roots remain in place. As such there is only minimal disturbance to the ground, and this activity is not considered to significantly reduce the strength of the in-situ peat or have a significant negative impact on the stability of the in-situ peat.

- (1) Excavated peat will be placed/spread in designated peat storage areas. These locations are shown in Drawing P23-215-0600-0005.
- (2) The peat placed within the areas shown on Drawing P23-215-0600-0005 will be restricted to a maximum height of 1.5m. Weak/liquified peat (if any is encountered) must be placed within the borrow pit and not stored within these areas.
- (3) The placement of peat and spoil within the placement areas will require the use of long reach excavators, low ground pressure machinery and possibly bog mats in particular for drainage works.
- (4) Where there is any doubt as to the stability of the peat surface then no material will be placed on to the peat surface. The risk of peat instability is reduced by not placing any loading onto the peat surface.
- (5) The surface of the placed peat will be shaped to allow efficient run-off of surface water. Shaping of the surface of the peat will be carried out as placement of peat within the placement area progresses. This will reduce the likelihood of debris run-off and reduce the risk of instability in the placed peat.
- (6) Finished/shaped side slopes in the placed peat will be not greater than 1 (v): 4 (h). This slope inclination will be reviewed during construction, as appropriate.
- (7) The acrotelm will be placed on the finished surface with the vegetation part of the sod facing the right way up to encourage growth of plants and vegetation at the surface of the placed peat within the placement areas.
- (8) Movement monitoring instrumentation will be placed around the areas where peat has been placed. The locations where monitoring is required will be identified by the Project Geotechnical Engineer on the Site.
- (9) Supervision by the Project Geotechnical Engineer will be undertaken during the works.
- (10) An interceptor drain will be installed upslope of the designated peat placement areas to divert any surface water away from these areas. This will help ensure stability of the placed peat and reduce the likelihood of debris run-off.
- (11) All the above-mentioned general guidelines and requirements will be undertaken by the Contractor during construction.



7. EXCAVATIONS IN PEAT FOR TURBINE BASES, HARDSTANDINGS AND INFRASTRUCTURE FOUNDATIONS

The turbine bases will be founded on competent founding strata which will require excavation through peat and any soft overburden. Some turbine bases will require a piled solution following confirmatory ground investigations by the Contractor.

Similarly, crane hardstandings and the substation platform are to be founded on competent mineral soil which will also require excavation through peat and spoil. Excavations for the borrow pit will also require the removal of peat and non-peat spoil overlying the rock.

7.1 Methodology

This methodology includes procedures that will be included in the construction to minimise any adverse impact on peat stability. The methodology is not intended to cover all aspects of construction such as drainage and environmental considerations, which are covered in Chapter 3 of the EIAR.

- (1) With respect to placement of arisings from excavations the commitments given in Section 6 are to be followed.
- (2) All excavations within peat will be adequately supported or peat slopes will be battered to a safe slope inclination typically of 1(v): 3(h). This slope inclination will be reviewed during construction, as appropriate. Where areas of weaker peat are encountered then slacker slopes will be required.
- (3) Excavations will be kept reasonably free from water at all times. Water will be prevented from being impounded within excavations by either using drainage channels cut into the excavation face or by pumping.
- (4) Where water is channelled or pumped from an excavation then this water will be fed into an established watercourse or drainage ditch following suitable treatment, as described in Chapter 4 of the EIAR.



8. EXCAVATIONS FOR UNDERGROUND CABLES (GRID CONNECTION)

A 110kV grid connection between the Islandmore Wind Farm and the national electricity grid will be necessary to export electricity. It is proposed that the Islandmore Wind Farm will connect to the national grid via an underground cable extending to the existing Tonroe 100kV substation.

The proposed underground electrical cabling construction methodology, including proposals for water crossings on the underground cabling routes is described in Chapter 3 of the EIAR.

It is proposed to install the underground cable at a uniform level within the footprint of the access tracks and the public roads linking the Site to the Tonroe 100kV substation. The grid connection route will encounter peat and till derived from sandstone and will be constructed on solid ground to Eirgrid specifications.

8.1 Methodology

This methodology includes procedures that are to be included in the construction to minimise any adverse impact on peat stability. The methodology is not intended to cover all aspects of construction such as drainage and environmental considerations, which are described in Chapter 3 of the EIAR.

- (1) With respect to placement of arisings from excavations the guidelines given in Section 6 will be followed.
- (2) All excavations within peat will be adequately supported or peat slopes will be battered to a safe slope inclination typically of 1(v): 3(h). This slope inclination will be reviewed during construction, as appropriate. Where areas of weaker peat are encountered then slacker slopes will be required.
- (3) Similarly, all excavations within non-peat overburden for the cable trench will be adequately supported or battered to a safe slope inclination typically of 1(v): 1.5 or 2(h). This slope inclination will be reviewed during construction, as appropriate.
- (4) Excavations will be kept reasonably free from water at all times.
- (5) Any overburden excavated from the cable trench will be transported to the borrow pit for storage. Any pavement materials containing tar will be transported to an authorised waste facility.



9. GENERAL COMMITMENTS FOR GOOD CONSTRUCTION PRACTICE

To minimise the risk of construction activity causing potential peat instability the Construction Method Statements (CMS) for the project will also implement, but not be limited to, the general measures below together with the specific measures.

- (1) Uncontrolled concentrated water discharge onto peat slopes identified as being unsuitable for such discharge will be avoided. All water discharged from excavations during work will be piped over areas specifically assessed as being unsuitable and hence directly into suitable drainage lines.
- (2) All excavations will be suitably supported to prevent collapse and development of tension cracks.
- (3) Avoidance of placing fill and excavations in the vicinity of steeper peat slopes, that is at the crest or toe of the slope.
- (4) Installation and regular monitoring of geotechnical instrumentation during construction in areas of possible poor ground, such as deeper peat deposits (see Section 9).
- (5) Site reporting procedures will be implemented to ensure that working practices are suitable for the encountered ground conditions. Ground conditions to be assessed by suitably experienced geotechnical engineer.
- (6) Regular briefing of all site staff (e.g. toolbox talks) to provide feedback on construction and ground performance and to promote reporting of any observed change in ground conditions.
- (7) Routine inspection of the Site by the Contractor and Project Geotechnical Engineer will be undertaken and will include an assessment of ground stability conditions (e.g. cracking, excessive floating track settlement, disrupted surface, closed-up drains) and drainage conditions (e.g. blocked drains, absence of water in previously flowing drains, springs, etc).



10. INSTRUMENTATION

10.1 Movement Monitoring Posts

To monitor possible peat movements, it is proposed to install sighting posts upslope and downslope of the access tracks at staggered intervals at locations where the peat depth is greater than 2.0m. Additional monitoring locations will be required at infrastructure locations with deeper peat deposits, as determined by the Designer or Project Geotechnical Engineer. Details of sighting posts are given below.

- (1) A line of sighting posts will comprise:
 - (a) A line of wooden stakes (typically 1 to 1.5m long) placed vertically into the peat to form a straight line.
 - (b) The sighting line will comprise 6 no. posts at 5m centres that is a line some 25m long.
 - (c) A string line will be attached to the first and last posts and all intervening posts will be adjusted so they are just touching the string line.
- (2) Lines of sighting posts will be placed across the existing slope about 5m away from the area to be worked. The posts will be located along the track at 10m intervals in areas of deep peat (say greater than 2.0m). Where there are relatively steeper slopes or softer ground a sighting line will be placed down the slope, or at any location where monitoring is deemed necessary by the Designer or the Project Geotechnical Engineer.
- (3) Each line of sighting posts will be uniquely referenced with each post in the line given a reference. The post reference will be marked on each post (e.g. reference 1-1, 1-2, 1-3, 1-4, 1-5, 1-6 for posts in line 1).
- (4) The sighting lines will be monitored at the beginning of each working day, and during the day where considered appropriate (e.g. when working activity is concentrated at a specific location).
- (5) Monitoring of the posts will comprise sighting along the line and recording any relative movement of posts from the string line.
- (6) Where increased movements are recorded the frequency of monitoring will be increased.
- (7) A monitoring record will be kept of the date, time and relative movement of each post, if any. This record will be updated and stored as a spreadsheet.



11. CONTINGENCY MEASURES

11.1 Excessive Movement

Where there is excessive movement or continuing peat movement recorded at a monitoring location or identified at any location within the Site but no apparent signs of distress to the peat (e.g. cracking, surface rippling) then the following will be carried out.

- (1) All activities (if any) will cease within the affected area.
- (2) Increased monitoring at the location will be carried out. The area will be monitored until such time as movements have ceased.
- (3) Re-commencement of activities will only start following a cessation of movement and agreement with all parties (Contractor/Engineer/Designer).

11.2 Onset of Peat Slide

In the unlikely event where there is the onset or actual detachment of peat (e.g. cracking, surface rippling) then the following will be carried out.

- (1) On alert of a peat slide incident, all activities (if any) in the area will cease and all available resources will be diverted to assist in the required mitigation procedures.
- (2) Action will be taken to prevent a peat slide reaching any watercourse. This will take the form of the construction of check barrages on land. Due to the terrain and the inability to predict locations it may not be possible to implement any on-land prevention measures, in this case a watercourse check barrage will be implemented.
- (3) All relevant authorities will be notified if a peat slide event occurs on the Site.
- (4) For localised peat slides that do not represent a risk to a watercourse and have essentially come to rest the area will be stabilised initially by rock infill, if required. The failed area and surrounding area will then be assessed by the engineering staff and stabilisation procedures implemented. The area will be monitored, as appropriate, until such time as movements have ceased.

11.3 Check Barrages

Whilst it is not anticipated based on the analysis undertaken that a peat slide will occur on the Site, as a contingency a check barrage procedure is included below.

The check barrage procedure deals with preventing a peat slide from moving downstream within a watercourse.

The most effective method of preventing excessive peat slide debris from travelling downstream in a watercourse is the use of a check barrage. A check barrage comprises the placement of rock fill across a watercourse. The check barrage is a highly permeable construction that will allow the passage of water but will prevent peat debris from passing through. Rock fill will comprise well-graded coarse rock pieces from about 300mm up to typically 1000mm.

The rock fill for the check barrage will be sourced from the borrow pit on the Site.



The size of the barrage will vary depending on the scale of the peat debris to be contained and the geometry of the watercourse at the barrage location. In general, due to the low speed of a peat slide there is generally little impact force and most of the lateral load is due to fluid pressure on the upslope face of the barrage.

The check barrage will fill the entire channel width of the watercourse up to a height of 3 to 4m with a crest width of typically 2m and side slopes of about 45 degrees depending on the geometry of the barrage location.

The check barrage procedure is as follows:

- (1) Access to the check barrage location will be along the existing access tracks on the Site and/or along public roads, where possible. When it is necessary to form the barrage then rock fill will be placed across the watercourse to effectively block the passage of peat debris.
- (2) Operatives employed to carry out the construction of the check barrage will be inducted by means of a briefing by on-site supervisors as to the proposed location of the check barrage.
- (3) The check barrage provides containment for peat debris in the highly unlikely event of a major peat slide. Further remedial measures, should they be required, will be assessed by the Contractor and the Project Geotechnical Engineer, and carried out as soon as physically possible when the location and extent of the failure is established.
- (4) Where a barrage was constructed as a precaution and no peat debris reached the watercourse then the barrage will be removed as soon as any measures to prevent further peat sliding is agreed with all parties (Contractor/Engineer/Designer).



12. REFERENCES

Munro, R, 2004. Dealing with bearing capacity problems on low volume roads constructed on peat. Roadex II Northern Periphery.

Scottish Natural Heritage/Forestry Commission Scotland, 2010. Floating Roads on Peat.

Scottish Natural Heritage, 2015. Constructed Tracks in the Scottish Uplands. Scottish Natural Heritage.

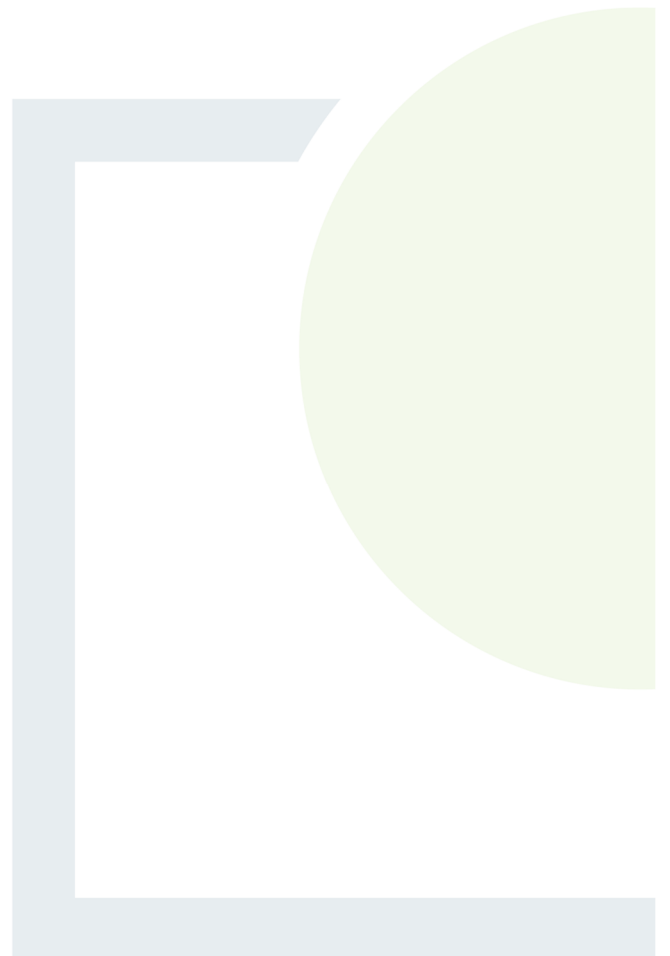
Good Practice during Windfarm Construction (NatureScot, 2024).

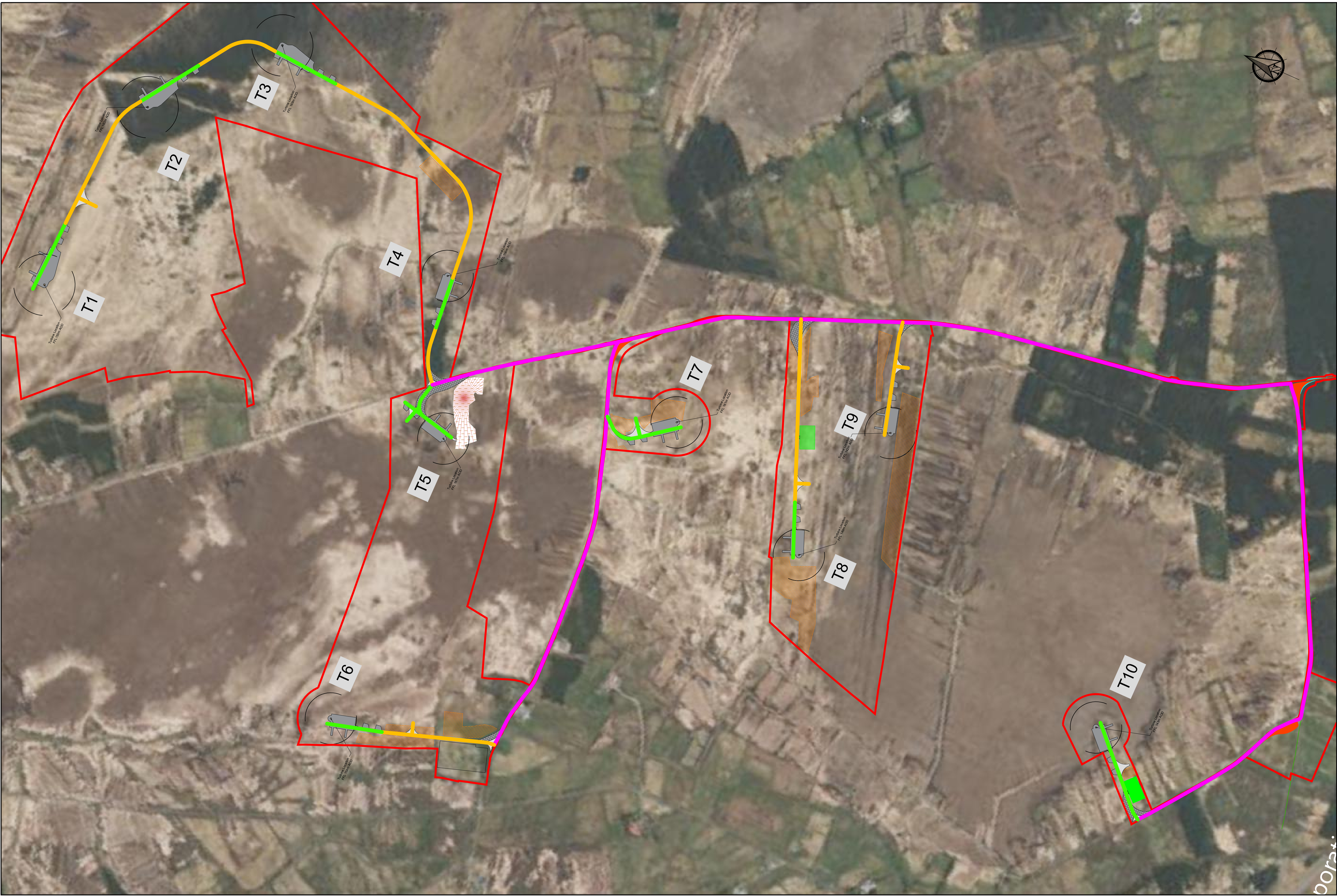
Guidance on Developments on Peatland: Site Surveys (Scottish Government, Scottish Natural Heritage and SEPA, 2017).



DESIGNING AND DELIVERING
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DRAWINGS





Legend:

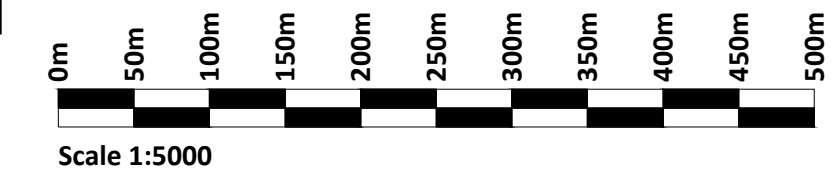
- EIA Study Boundary
- Proposed Borrow Pit
- Peat Storage Area
- Proposed Temporary Construction Compound
- Proposed Substation Area
- Proposed Turbine & Hardstanding

Road Type Legend:

- Type A - Upgrade of Existing Floating Public Road
- Type B - New Founded Track
- Type C - New Floating Track

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PLAN
Scale 1:5000





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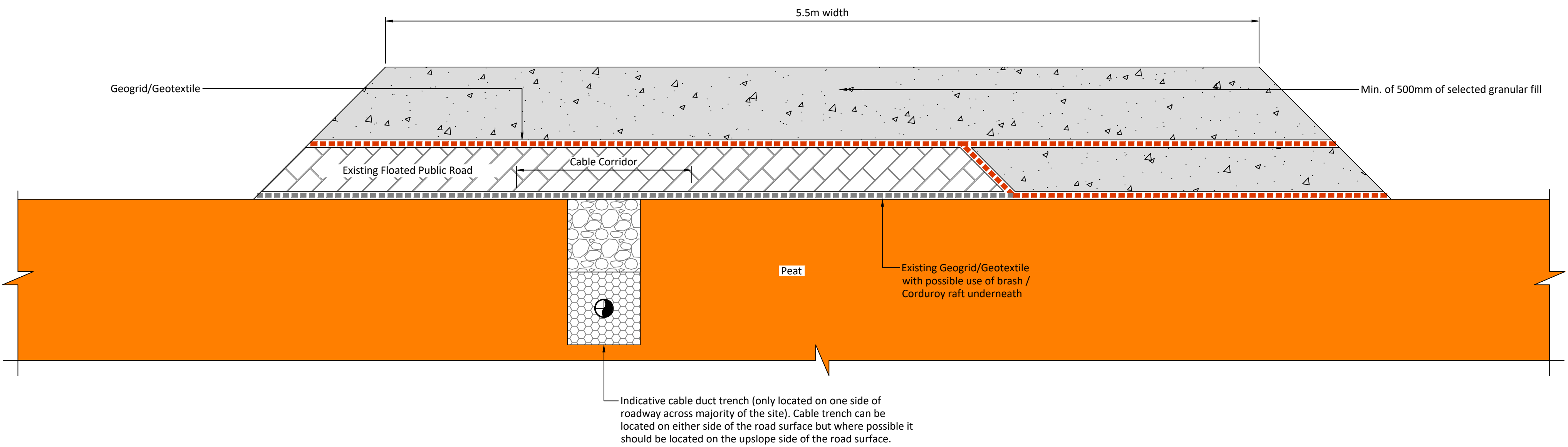
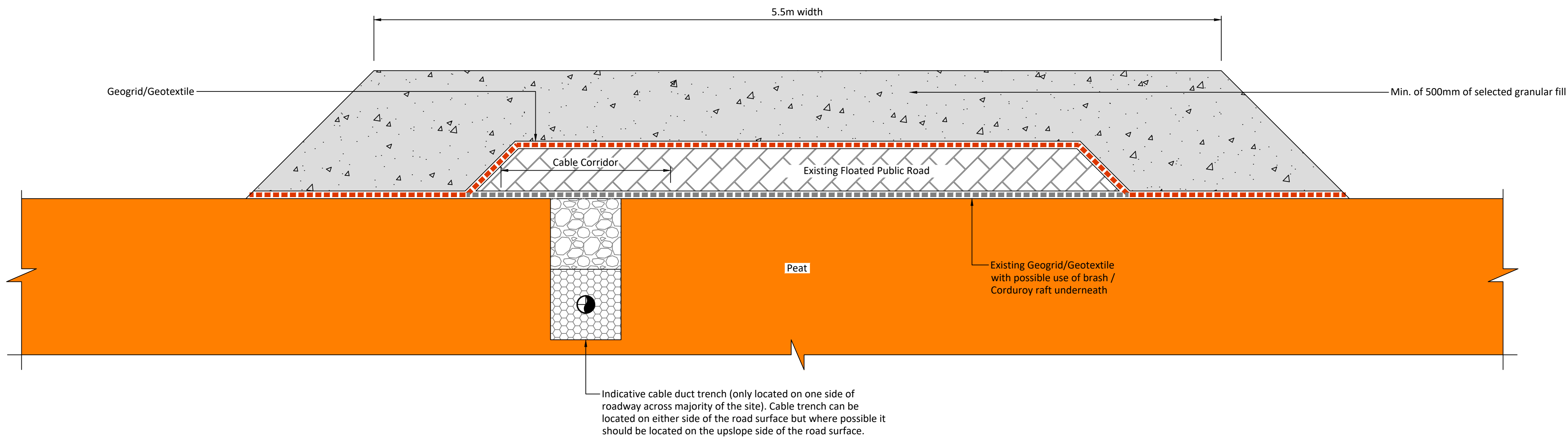
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Rev.	Description	App By	Date
P01	ISSUE FOR INFORMATION	BDH	22.04.26

PROJECT		CLIENT		
ISLANDMORE WIND FARM				
SHEET		Date	22.04.26	Project number
ROAD AND TRACK TYPE LAYOUT PLAN		Drawn by	IS	P23-215
		Checked by	IH	Drawing Number
				P23-215-0600-0005
				Scale (@ A1)
				1:5000
				Rev
				P01

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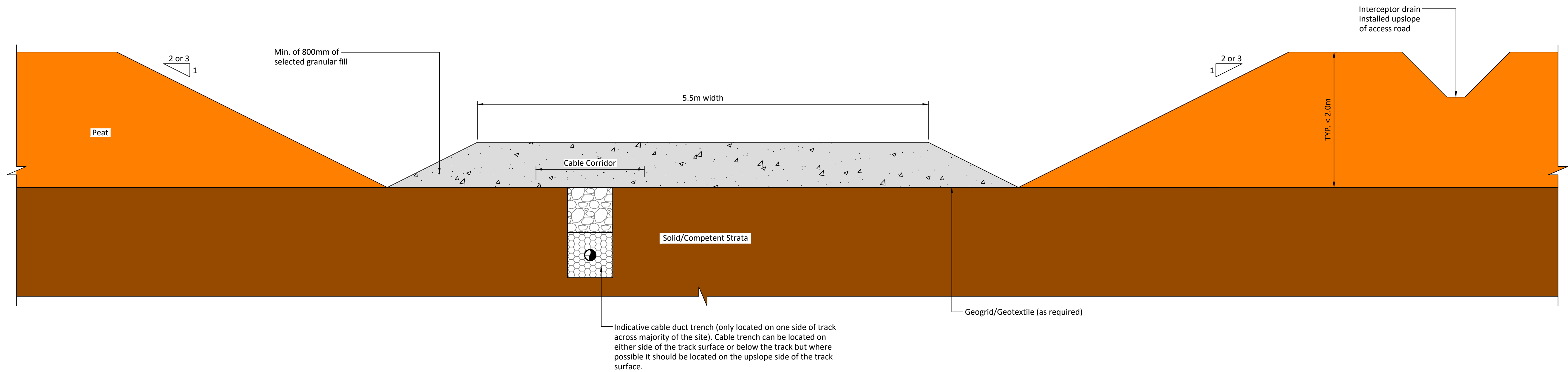
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Rev.	Description	App By	Date
P01	ISSUE FOR INFORMATION	BDH	22.04.26

PROJECT		CLIENT		
ISLANDMORE WIND FARM				
SHEET		Date	Project number	Scale (@ A1)
UPGRADE OF EXISTING FLOATING ROAD DETAIL		22.04.26	P23-215	1:20
		Drawn by	Drawing Number	Rev
		IS	P23-215-0600-0006	P01
		Checked by		
		IH		

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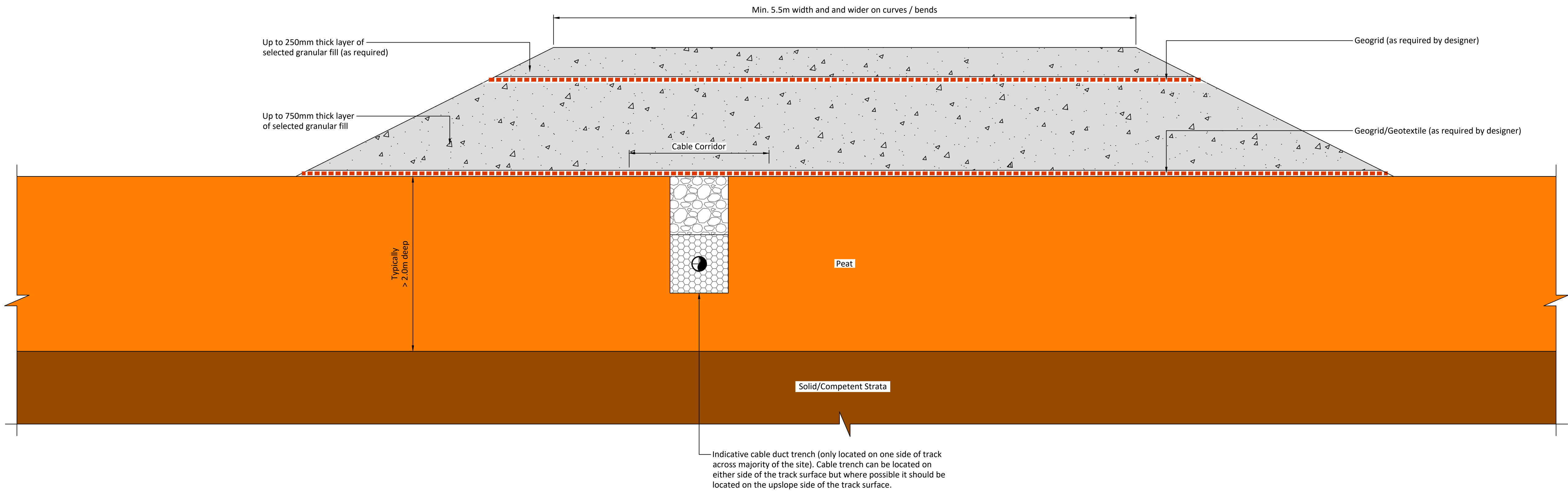
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P01	ISSUE FOR INFORMATION	BDH	22.04.26

PROJECT		CLIENT		
ISLANDMORE WIND FARM				
SHEET		Date	Project number	Scale (@ A1)
NEW EXCAVATE AND REPLACE ACCESS TRACK		22.04.26	P23-215	1:25
		Drawn by	Drawing Number	Rev
		IS	P23-215-0600-0007	P01
		Checked by	(Sheet not subject to B03)	
		IH		

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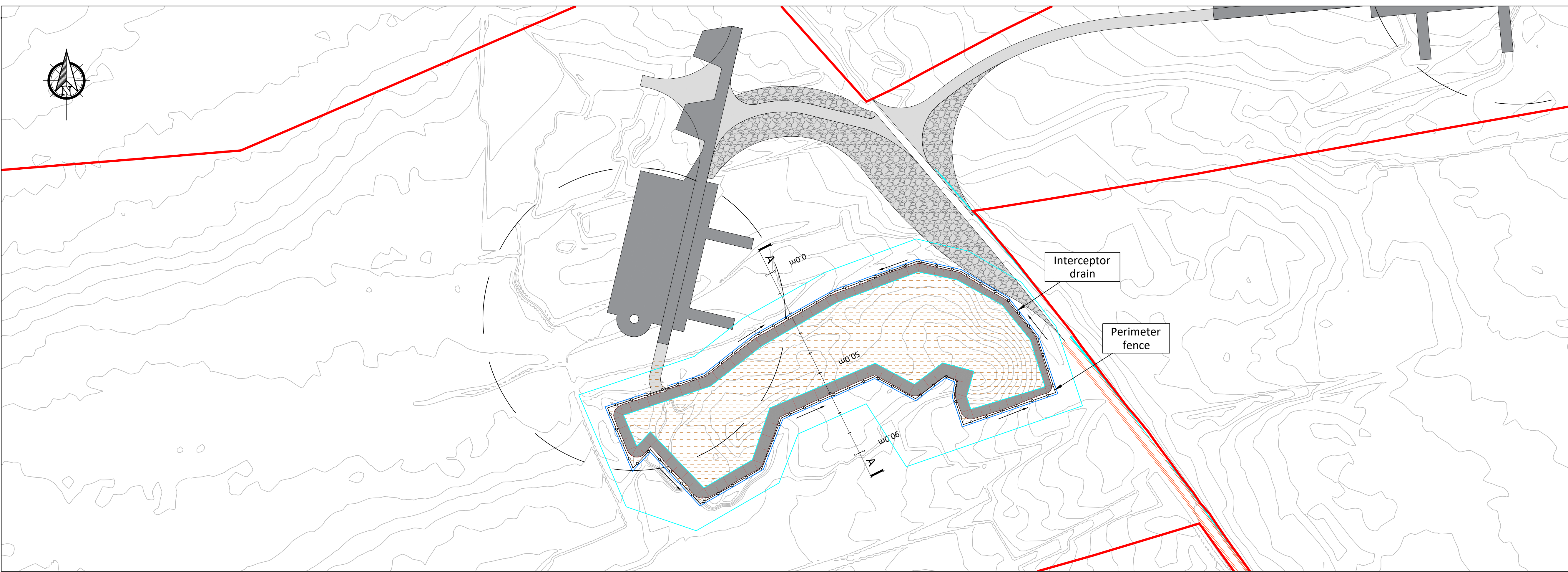
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Rev.	Description	App By	Date
P01	ISSUE FOR INFORMATION	BDH	22.04.26

PROJECT	ISLANDMORE WIND FARM				CLIENT	
	NEW FLOATING TRACK DETAIL					
SHEET	Date	22.04.26	Project number	P23-215	Scale (@ A1)	1:20
	Drawn by	IS	Drawing Number	P23-215-0600-0008		Rev
	Checked by	IH				P01

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PLAN

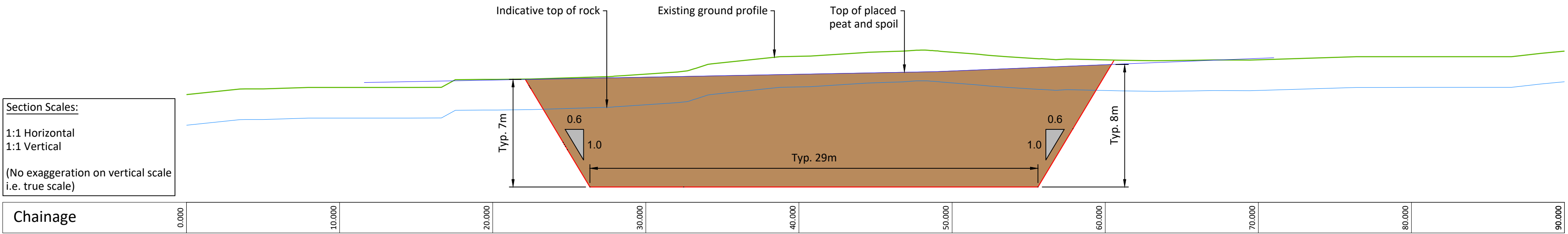
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- Legend:**
- EIAR Study Boundary
 - Proposed Borrow Pit
 - Proposed Perimeter Fence
 - Proposed Interceptor Drain

Borrow Pit Construction Notes:

- It is proposed to construct the borrow pit so that the base of the borrow pit is below the level of the adjacent section of access road.
- Slopes within the excavated rock formed around the perimeter of the borrow pit will be formed at stable inclinations to suit local in-situ rock conditions.
- Infilling of the peat & spoil will commence at the back edge of the borrow pit and progress towards the borrow pit entrance/rock buttress. Excavation and infilling of the borrow pit will need to be sequenced and programmed.
- The contractor excavating the rock will sequence the borrow pit construction in a way which will allow the excavated peat & spoil to be reinstated safely.
- The surface of the placed peat & spoil will be shaped to allow efficient run-off of surface water from the placed arising's. The finished surface of the spoil cells will have a maximum grade of 5 degrees.
- Control of groundwater within the borrow pit will be required and measures will be determined as part of the ground investigation programme.
- An interceptor drain will be installed around the upslope side of the borrow pit to capture surface water flow and divert it around the borrow pit.
- All the above-mentioned general guidelines and requirements will be confirmed by the designer prior to construction.
- Further guidelines on the construction of the borrow pit is included within Section 5.4 of the Peat & Spoil Management Plan.



Section Scales:
1:1 Horizontal
1:1 Vertical
(No exaggeration on vertical scale
i.e. true scale)

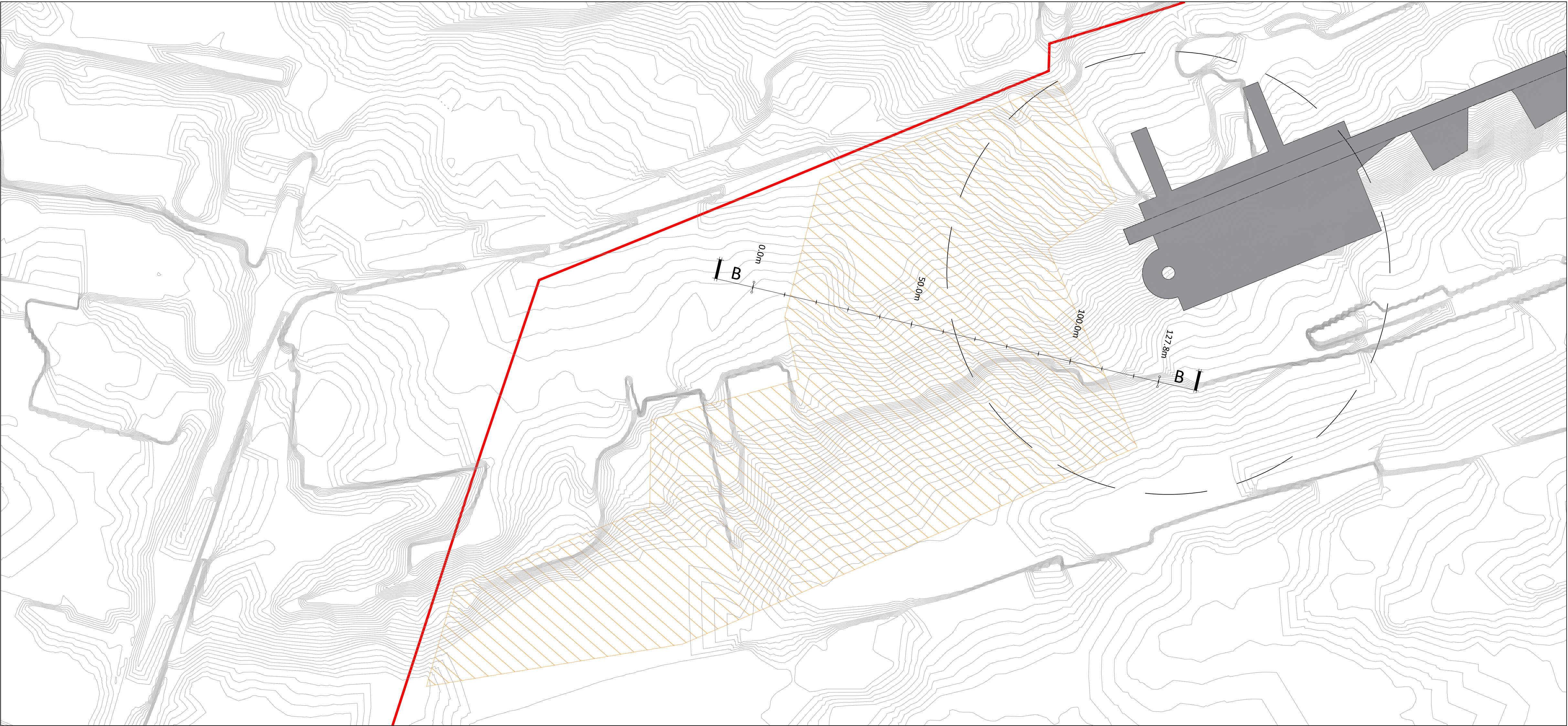
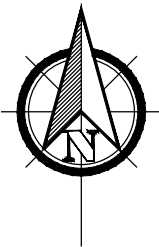
SECTION A-A

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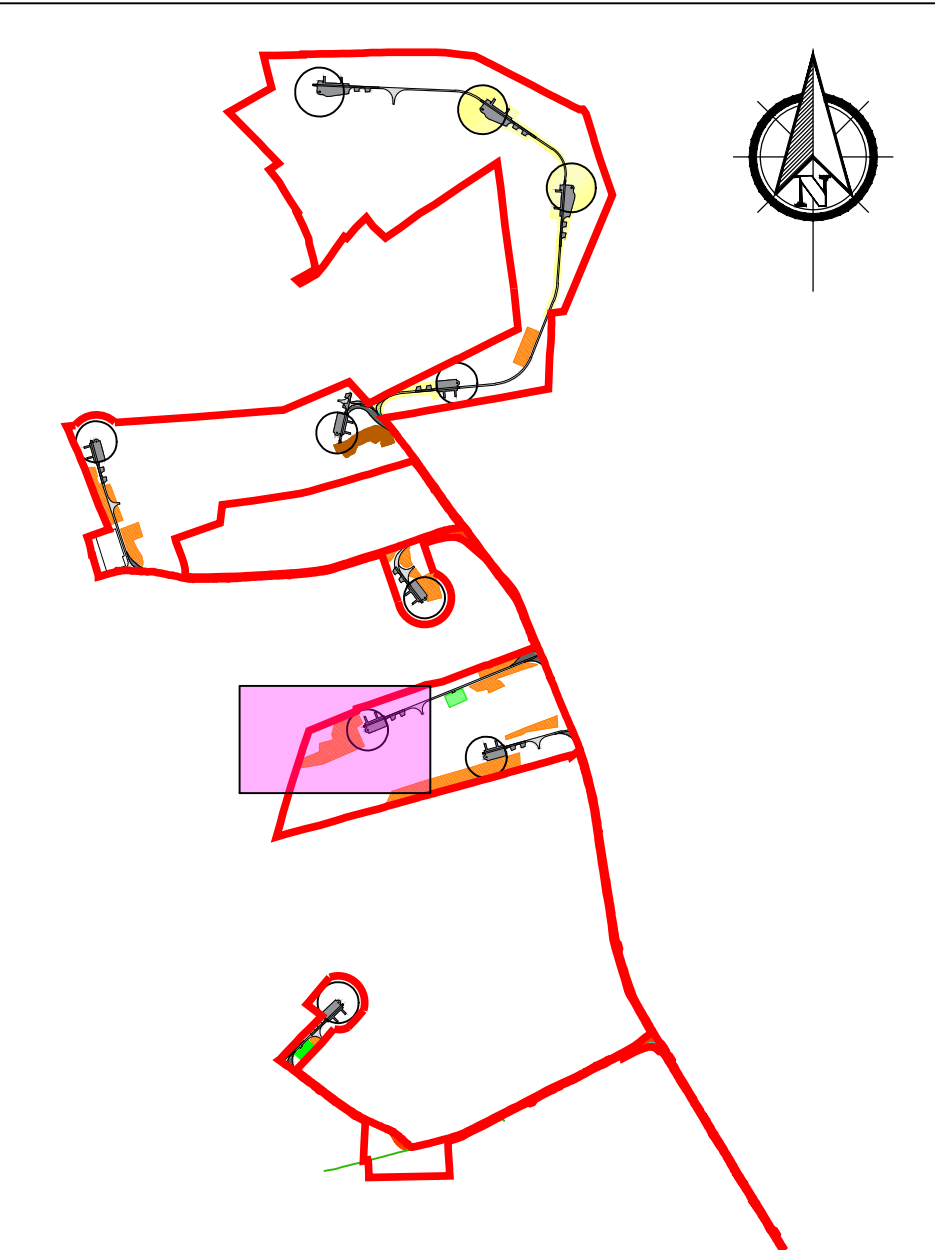
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ISLANDMORE WIND FARM							
SHEET	BORROW PIT 1 PLAN AND SECTION	Date	22.04.26	Project number	P23-215	Scale (@ A1)	1:1000
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		Checked by	IH	P23-215-0600-0009			P01
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PLAN

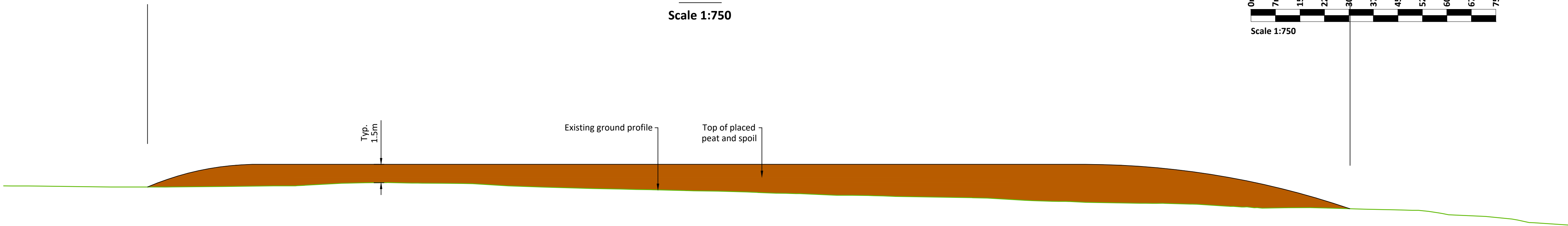
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- Legend:
- EIAR Study Boundary
 - Peat Storage Area
 - Proposed Turbine & Hardstanding



KEY PLAN

Scale 1:25000



SECTION B-B

Scale 1:200

Chainage	0+000	10+000	20+000	30+000	40+000	50+000	60+000	70+000	80+000	90+000	100+000	110+000	120+000	127+835
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P01	ISSUE FOR INFORMATION	BDH	22.04.26

PROJECT	ISLANDMORE WIND FARM			CLIENT			
SHEET	DESIGNATED PEAT AND SPOIL MANAGEMENT AREAS			Date	22.04.26	Project number	P23-215
				Drawn by	IS	Drawing Number	P23-215-0600-0010
				Checked by	IH	Scale (@ A1)	1:750
						Rev	P01

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