APPENDIX 4-3

PEAT AND SPOIL MANAGEMENT PLAN

FEHILY TIMONEY

DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

PEAT & SPOIL MANAGEMENT PLAN

CAHERMURPHY WEST WIND FARM

Prepared for: **MKO Ltd**

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Unit 6, Bagenalstown Industrial Park, Bagenalstown,
Co. Carlow, R21 XW81, Ireland
T: +353 59 9723800 E: info@ftco.ie
CORK | DUBLIN | CARLOW

www.fehilytimoney.ie

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CAHERMURPHY WEST WIND FARM

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Abstract: Fehily Timoney and Company (FT) were engaged by McCarthy Keville O'Sullivan (MKO) to compile a Peat and Spoil Management Plan (PSMP) for the Proposed Cahermurphy West 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 roads and will be handled and placed/reinstated onsite. The report also provides construction details for the types of roads 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.100 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 Principal Geotechnical Engineer, MSc in Geotechnical Engineering). Ian is a Technical Director with Fehily Timoney and has 25 years' experience in geotechnical engineering.

1.2 Project Description

Fehily Timoney and Company (FT) was engaged in March 2024 by MKO to compile a Peat and Spoil Management Plan for the Proposed Project.

The Proposed Wind Farm site is located in County Clare, approximately 5km north of the village of Kilmihil and 25km southwest of Ennis.

The Proposed Wind Farm site comprises predominantly commercial forestry underlain by blanket peat with a mainly man-made drainage network.

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.

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 will be carried out by the appointed construction stage designer prior to any construction work commencing on site. This will take account of the consented project details and any conditions imposed by that consent. This will 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 site the contents of the peat and spoil management plan and peat stability monitoring programme will be implemented in full and updated (if required to comply with any planning conditions or requirements of the planning authority) 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 site. It should be noted that the control of water quality and drainage measures for site is outlined in detail in the relevant chapter (Chapter 9) 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 will 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 localised peat movement.

1.5 Ground Conditions

Ground conditions across the Site are described in the Geotechnical & Peat Stability Assessment Report (FT, 2026).

Ground investigations were carried out at the Proposed Wind Farm site by Irish Drilling Limited (IDL) under the supervision of FT in September 2019, with further ground investigation undertaken during January and September 2024. A copy of the factual report produced by IDL is included in Appendix E and F of the Geotechnical & Peat Stability Assessment Report (FT, 2026).

Ground investigations in the form of trial pits were carried out on the following dates:

- 18th and 19th September 2019 (14 no. trial pits)
- 3rd to the 9th January 2024 (17 no. trial pits)
- 30th September 2024 (5 no. trial pits)

Two number rotary cored boreholes were undertaken at the borrow pit locations on the 3rd and 4th January 2024.

The trial pits were carried out at turbine locations and along access roads to provide details of ground and groundwater conditions below the surface peat layer, to confirm the suitability of the overburden as a bearing stratum for the access roads and hardstands, and to confirm the suitability of the rock within the borrow pits for reuse in the construction of the Proposed Wind Farm.

The rotary coreholes undertaken at the borrow pit locations confirmed the presence of intact bedrock (Siltstone and Sandstone) at depths of between 2.6 and 4.5m bgl. In both coreholes the bedrock is overlain by a granular layer (from 1.5m bgl) which represents a zone of weathered bedrock. Rock strength descriptions range from weak to extremely strong. The trial pits recorded that peat is underlain by a mixture of slightly gravelly Silt and sandy Gravel, with bedrock recorded at the base of the majority of the trial pits.

1.6 Relevant Guidance

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

- 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 Proposed Wind Farm the activities that will generate peat and spoil are as follows:

(1) Upgrade of existing access tracks (excavate and replace, and floating tracks) including temporary widening of local road to facilitate deliver of turbine components

(2) Construction of new excavated roads through peat

(3) Excavation and placement of arisings

(4) Excavations in peat for turbine bases, hardstands and other infrastructure foundations

(5) Excavations in peat for underground cables

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

2.2 Road Construction Types

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

(1) Buildability considerations

(2) Maximising use of existing infrastructure

(3) Minimising excavation arisings

(4) Serviceability requirements for construction and wind turbine delivery and maintenance vehicles

(5) Requirement to minimise disruption to peat hydrology

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

The proposed road construction techniques to be considered are given in Table 2-1.

This report includes the most suitable type of road construction envisaged for each section of access road based on the ground/site conditions recorded during the site walkovers. 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 (ROADEX II, 2004).

Table 2.1: General Road Construction Techniques

Construction Method	Site Conditions			Comment
	Construction Type	Peat Depth (m)	Slope Inclination (degs)	
Upgrade of existing access roads	Type A	-	Varies	Upgrade existing excavated access roads to the required width and finished with a layer of selected granular fill – Drawing P23-230-0600-0005
Construction of new excavated roads through peat	Type B	Normally proposed where less than 1.5m, locally up to 3.0m	Varies	New access road construction technique envisaged for various locations on site – Drawing P23-230-0600-0005

Further details on access road construction types A and B are given in Sections 3 and 4 of the report.

3. UPGRADE OF EXISTING ACCESS ROADS – TYPE A

Up to 4.5km of existing access roads requiring upgrade are present across the Proposed Wind Farm site and have been in operation for a significant number of years. The existing access roads were constructed using both floating and excavate and replace construction techniques. Based on the site walkover carried out by FT the existing access roads were noted as being in relatively good condition. Upgrade works will involve both widening and resurfacing of the existing access road. The proposed locations for upgrade of the existing access roads on site are shown in Drawing P23-230-0600-0005 and details are shown in Drawing P23-230-0600-0006.

3.1 Upgrading Existing Access Tracks Construction Methodology

This methodology includes procedures that will be included in the construction methodology to minimise any adverse impact on peat stability. Any existing floating access roads will be upgraded to founded roads. The methodology is not intended to cover all aspects of construction such as drainage and environmental considerations, which are assessed in Chapter 4 and 9 of the EIAR.

(1) Access road construction will be to the line and level requirements as per design.

(2) For upgrading of existing excavated access roads (Type A) the following guidelines will be implemented in full:

  (a) Excavation of the widened section of access road will take place to a competent stratum beneath the peat (glacial deposits) and backfilled with suitable granular fill.

  (b) Benching of the excavation will be required between the existing section of access road and the widened section of access road where the depth of excavation required exceeds 500mm.

  (c) The surface of the existing access road will be overlaid with an average of 250mm of selected granular fill.

  (d) Access roads will be finished with a layer of capping across the full width of the track.

  (e) A layer of geogrid/geotextile may be required at the surface of the existing access road and at the base of the widened section of access road (to be confirmed by the designer).

  (f) For excavations in peat, side slopes will be not greater than 1 (v): 3 (h). This slope inclination will be reviewed during construction. Where areas of weaker peat are encountered then slacker slopes will be required to ensure stability.

(3) The finished road width will have a running width of 5m, with wider sections on bends and corners.

(4) On side long sloping ground any road widening works required will be done on the upslope side of the existing access road, where possible.

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

The excavation of peat and spoil and founding of access roads on competent stratum below the base of peat for new access roads will be carried out at various locations on the site. The proposed locations for new excavated access roads on site are shown in drawing P23-230-0600-0005 and details are shown in drawing P23-230-0600-0007.

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

4.1 Excavated 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 assessed in Chapter 4 and 9 of the EIAR.

(1) Prior to commencing the construction of the excavated roads movement monitoring posts will be installed in areas where the peat depth is greater than 2.0m.

(2) Interceptor drains will be installed upslope of the access road alignment to divert any surface water away from the construction area.

(3) Excavation of roads will be to the line and level given in the design requirements. Excavation will take place to a competent stratum (glacial deposits) beneath the peat.

(4) The road sub-formation will be proof rolled following stripping of the peat. where soft spots are noted following the proof roll, these will be excavated and replaced with granular fill.

(5) Road construction will be carried out in sections of up to 20m lengths i.e., no more than 20m of access road will be excavated without replacement with stone fill.

(6) Excavation of materials with respect to control of peat stability:

  (a) Where Acrotelm (to about 0.3 to 0.4m of peat) is required for landscaping, it 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.

(7) Once excavated, non-catotelm peat will be temporarily stored in localised areas adjacent to excavations for roads and hardstands before being placed into the permanent peat storage areas within the borrow pits or within the peat storage areas. All temporary peat placement areas will be upslope of founded roads/hardstands and will be inspected by the Project Geotechnical Engineer before material is stored in the area.

(8) Excavation side slopes in peat will be not greater than 1 (v): 3 (h). This slope inclination will be reviewed during construction. If areas of weaker peat are encountered, then side slopes will be supported with granular fill. Battering of the side slopes of the excavations will be carried out as the excavation progresses.

(9) End-tipping of stone onto the road during the construction/upgrading of the access road will be carefully monitored to ensure that excessive impact loading, which may adversely affect the adjacent peat, is limited.

(10) The excavated access road will be constructed with an average of 750mm of selected granular fill. Granular fill will be placed and compacted in layers in accordance with the TII Specification for Road Works.

(11) Access roads will be finished with a layer of capping across the full width of the road.

(12) A layer of geogrid/geotextile will be required at the surface of the competent stratum, where cohesive material is present to prevent mixing of the underlying material with the granular fill.

(13) 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 road 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.

(14) A final surface layer will be placed over the excavated road and graded to accommodate wind turbine construction and delivery traffic.

(15) The construction and upgrading of access 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.

The following general construction guidelines will be implemented for the access roads on site.

(1) Where existing drainage crosses the road then it will be necessary to ensure that this drainage is not affected by settlement of the upgraded access road. Cross drains comprising flexible perforated pipes within a permeable stone fill surround will be used to maintain the existing drainage.

(2) End-tipping of stone onto the road during the construction/upgrading of the access road will be carefully monitored to ensure that excessive impact loading, which may adversely affect the adjacent peat, is limited.

(3) The construction and upgrading of access roads in areas of deep peat (greater than 2m) will be inspected on a routine basis during the works, particularly before/following trafficking by heavy vehicular loads.

5. EXCAVATION AND STORAGE OF PEAT AND SPOIL

5.1 Excavation and Storage of Arisings 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 4 and 9 of the EIAR.

(1) All excavated peat and spoil will be permanently stored in the two no. borrow pits (see drawing P23-230-0600-0005) or in one of the designated peat and spoil management areas around five turbine locations (T01, T02, T03, T06 and T07).

(2) Further details on the construction and reinstatement of the two no. borrow pits are given in Section 5.4.

(3) Further details on the placement of excavated material to designated peat and spoil management areas close to turbines are given in Section 5.5.

(4) Some of the peat, in particular the acrotelm (upper layer of the peat), excavated during construction will be used for landscaping purposes.

5.2 Summary of Peat and Spoil Volumes on Site

A summary of the excavated peat and spoil volumes calculated for the Proposed Wind Farm site is given in Table 5-1.

Table 5.1: Summary of Excvated Peat and Spoil Volumes on Site

Infrastructure Element (1)	Proposed Dimensions	Peat Volume (m^3) (2)	Spoil (non-peat) Volume (m^3) (2) and (3)	Comment
8 no. Turbines and Hardstands	28m diameter excavation footprint for turbine foundation with 100 x 35m hardstand area.	31,000	41,000	Hardstanding area and foundation footprint
Access Roads	5m running surface with 6m wide development footprint.	34,000	16,000	
Temporary Construction Compounds	Hardstanding area of 75 x 35m.	1,300	700	
Substation	Hardstanding area of 130 x 65m	2,000	6,800	
Met Mast	10 x 10m foundation footprint and 30 x 30m hardstanding area (met mast).	150	450	
Grid Connection	25km in length	-	16,000	
Borrow Pits	2 no. borrow pits.	11,000	21,000	Borrow pit footprint
	Total =	**79,450m^3**	**101,950m^3**	**Total = 181,400m^3 (peat and spoil volume) (4)**

Note (1) The location of the infrastructure elements on site are shown on Drawing P23-230-0600-0005.

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

Note (3) The excavated spoil volumes have been determined based on a cut-fill assessment carried out for the site, see Section 11 of this report for further details.

Note (4) It should be noted that the excavated rock volume from the borrow pits is not included in the total volume quoted above in Table 5-1, see the cut-fill assessment in Section 11 of this report for further details The excavated rock volume will be re-used on site as part of the construction works for the development and hence will not require reinstatement on site.

5.3 Summary of Peat and Spoil Management Areas on Site

A summary of the peat and spoil management areas which form part of the Proposed Wind Farm is given in Table 5-2.

Table 5.2: Summary of Peat and Spoil Management Areas on Site

Location [1]	Peat and Spoil Volume (m^3)	Comment
Peat placement within clear fell areas around turbines	31,000	1.2m in height across specific areas shown in Drawing P23-230-0600-0005. See Section 5.5 of the report and Drawing P23-230-0600-0010 for further details.
Borrow Pits	165,000	See Drawing P23-320-0600-0008 to 0009 for further details
Landscaping [2]	16,000	It is estimated that approximately 2,000m^3 of peat will be required for landscaping and ballast backfill purposes at each of the 8 no. turbine locations.
Total =	**212,000m^3**	

Note (1) The location of the proposed borrow pits at the site are shown on Drawing P23-230-0600-0005.

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

5.4 Summary of Construction Phasing

The Proposed Wind Farm will be constructed in 4 phases, as detailed below. This will allow for the borrow pits to be developed and backfilled in stages. An outline of the Phasing is provided below:

a. Phase 1: Construction of site roads, Temporary Construction Compounds, Met Mast foundation and excavation of borrow pits (84,600m^3 of peat and spoil generated).
   i. All fill material will come from the on-site borrow pits
   ii. All excavated material will be transferred to borrow pits once cells have been created

b. Phase 2: Construction of hardstands and foundation bases for turbines T01, T02, T05 and T06 (45,400m^3 of peat and spoil generated).
   i. Fill material to be taken from Northern and Southern Borrow Pits.
   ii. Excavated peat to be placed in clearfell storage areas around T01, T02 and T06 and any excess to be placed in the Borrow Pits
   iii. All excavated spoil to be placed within the borrow bits

c. Phase 3: Construction of hardstands and foundation bases for turbines T03, T04, T07 and T08 (26,600m^3 of peat and spoil generated).
   i. Fill material to be taken from BP1
   ii. Excavated peat to be placed in clearfell storage areas around T03, T04 and T07 and any excess to be placed in the Borrow Pits

iii. All excavated spoil to be placed within the Borrow Pits

d. Phase 4: Construction of on-site substation (8,800m^3 of peat and spoil generated).
   i. Fill material to be taken from borrow pits
   ii. Excavated material to be transferred to Borrow Pits

The above phasing works are estimated to take 10-12 months in total.

5.5 Guidelines for the Construction and Reinstatement of Borrow Pits

Two number locations have been identified as borrow pits and are shown on Drawing P23-230-0600-0005. The peat depth within the development footprint of the borrow pits is less than 1.0m. The borrow pit locations were selected based on the shallow depth of peat and overburden and accessibility from the existing forestry tracks. Bedrock within the borrow pits will be a mixture of sandstone and siltstone, based on GSI mapping and the results of the intrusive ground investigation (trial pits and boreholes, see Section 1.5). Bedrock recovered from the rotary cored boreholes is described as weak to strong thinly bedded grey and dark grey Siltstone, and extremely strong thinly bedded greenish grey Sandstone. Both rock types are suitable for reuse within the Proposed Wind Farm.

An excavatability assessment has been undertaken based on the findings of the ground investigation. This assessment takes the rock strength test results and the spacing of the discontinuities to provide an assessment of whether rock can be excavated, ripped, broken, or requires blasting. The results from BH01 and BH02 indicate that the rock in the borrow pits can be removed by ripping and breaking.

Upon removal of the rock from the borrow pits, it is proposed to reinstate the borrow pits using excavated peat and spoil. The excavated rock from the borrow pits will be used in the construction of the infrastructure elements (turbine bases, roads, etc.) at the wind farm. The contractor excavating the rock will be required to develop the borrow pits in a way which will allow the excavated peat and spoil to be placed safely. It is proposed to construct cells within the borrow pits for the placement of the excavated peat and spoil in separate cells. 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 guidelines for the borrow pits.

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

Drawings P23-230-0600-0008 to 0009 show construction details for the borrow pits.

The borrow pits will be constructed as follows:

(1) Peat and overburden will be removed and temporarily stored in localised areas adjacent to the borrow pit locations before being placed into the permanent peat storage areas within the borrow pits. The rock within the proposed borrow pit footprints will be removed by excavation and breaking based on the rock excavatability, which was determined from the ground investigation carried out at the proposed borrow pits.

(2) It is proposed to construct the borrow pits so that the base of the borrow pits are below the level of the adjacent section of access road.

(3) Slopes within the excavated rock formed around the perimeter of the borrow pits will be formed at stable inclinations to suit local in-situ rock conditions. Exposed sections of the rock slopes will be left with irregular faces and declivities to promote re-vegetation and provide a naturalistic appearance.

(4) The stability of the rock faces within the borrow pits 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 rock conditions to be identified and suitable mitigation measures to be applied such as removal of loose rock.

(5) It will be necessary to construct rock buttresses founded on in-situ rock within the borrow pits to create individual cells (up to 4 no. depending on the borrow pit). The cells will be opened in sequence and filled as needed. The rock buttresses will be constructed of rock fill from the borrow pit excavated, placed and compacted in layers. The founding stratum for each rock buttress will be inspected and approved by the Project Geotechnical Engineer.

(6) The rock buttresses will be constructed in stages to allow infilling of peat and spoil within cells. The buttress will be constructed of selected rock fill and placed and compacted in suitable layers to form a buttress of sufficient stability to retain the placed peat and spoil.

(7) Infilling of the peat and spoil will commence at the back edge of the borrow pit and progress towards the borrow pit entrance/rock buttress, allowing the borrow pit to be developed and infilled in cells. Peat will be placed in two cells on the upslope side of the borrow pit with overburden spoil in the other two cells. The contractor excavating the rock will be required to develop the borrow pits in a way which will allow the excavated peat and spoil to be reinstated safely.

(8) A number of rock buttresses to form cells within the borrow pits will be required to ensure access for trucks and excavators can be achieved. See Drawings P23-230-0600-0008 to 0009 for the location of the rock buttresses. The locations of the rock buttresses shown on Drawings P23-230-0600-0008 to 0009 for the borrow pits are indicative only and may change subject to local conditions encountered on site during construction.

(9) The rock buttresses will be wide enough (up to 4m) to allow construction traffic access for tipping and grading during the placement of the excavated peat and spoil. The permanent side slopes of the rock buttresses will be constructed at between 40 to 60 degrees.

(10) The internal rock buttresses will be founded on bedrock i.e., competent strata. The founding stratum for the rock buttress will be inspected and approved by the Project Geotechnical Engineer.

(11) In order to prevent water retention occurring behind the buttresses, the buttress will be constructed of coarse boulder fill with a high permeability. The buttress will be constructed of well graded granular rock fill of 100mm up to 500mm in size. In addition, drains will be placed through the buttresses close to the ground surface to allow surface water to drain from the surface of the placed peat.

(12) The use of temporary access ramps and long reach excavators during the placement of the excavated peat and spoil will be required.

(13) 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. The surface of the placed spoil will have a maximum grade of 5°. The surface of the spoil will also be higher than the surface of the peat in the adjacent upslope cell.

(14) As the internal berms are slightly higher than the retained peat, drains will be provided at regular intervals through the berms, at the same level as the top of the peat surface, to prevent ponding of water within the repositories. These drains will be 150mm diameter flexible plastic drainage pipe or equivalent.

(15) A layer of geogrid to strengthen the surface of the placed peat within the borrow pits will be required.

(16) 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.

(17) Temporary control of groundwater within the borrow pits will be required. A temporary pump and suitable outfall locations will be required during construction.

(18) Settlement ponds will be constructed at the lower side/outfall location of the borrow pits and are shown on the drainage drawings.

(19) 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 pits.

(20) Supervision by the Project Geotechnical Engineer will be carried out for the development of the borrow pits.

(21) All the above-mentioned general guidelines and requirements will be implemented by the Contractor during construction.

5.6 Designated Peat and Spoil Management Areas within Turbine Clearfell Areas

The following commitments for the placement of peat within permanent clearfell areas around 6 no. turbines will be implemented during construction. These areas have been selected based on a combination of the depth of peat, the recorded peat strength in the area and the slope angle. A check of peat stability in each area was also undertaken, allowing for the additional loading from 1.2m of stored peat, and these results are included on the Peat Stability Assessment Report (FT, 2026).

(1) Excavated peat will be placed/spread across the clearfell areas around 6 no. of the proposed turbines. These locations are shown in Drawing P23-230-0600-0005.

(2) The peat placed within the areas shown on Drawing P23-230-0600-0005 will be restricted to a maximum height of 1.2m. Any weak/liquified peat (if encountered) will be placed within the proposed borrow pits and not stored within these areas.

(3) The placement of peat within the management areas will require the use of long reach excavators and low ground pressure machinery 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 peat placement area progresses. This will reduce the likelihood of debris run-off and reduce the risk of instability of 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 and spoil 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 site.

(9) Supervision by the Project Geotechnical Engineer will be carried out for 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.

6. 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 soft overburden.

Similarly, crane hardstandings, construction compound, substation platforms and met mast foundations are to be founded on competent mineral soil and/or rock which will require excavation through peat and overburden. Excavations for the borrow pits will also remove the peat and non-peat spoil overlying the rock.

6.1 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 assessed in Chapters 4 and 9 of the EIAR.

(1) With respect to placement of arisings from excavations the commitments given in Section 5 will be followed.

(2) All excavations within peat will be adequately supported or peat slopes are to 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 side slopes will be supported with granular fill.

(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 is to be fed into an established watercourse or drainage ditch following suitable treatment, as described in Chapter 4 and the CEMP (Appendix 4-5) of the EIAR.

7. EXCAVATIONS FOR UNDERGROUND CABLES

A connection between the Cahermurphy West Wind Farm and the national electricity grid will be necessary to export electricity. It is proposed that the Cahermurphy West Wind Farm will connect to the national grid via an existing substation (Moneypoint) located in Moneypoint Power Station to the south of the Proposed Wind Farm. The Proposed Grid Connection is c.25km in length and will follow existing and proposed tracks and the public road corridor.

The Proposed Grid Connection construction methodology, including proposals for water crossings on the underground cabling routes is described in the EIAR.

It is proposed to excavate the trenches for the underground cable at a uniform level within the footprint of the access roads and TDR. The grid connection route will encounter shallow peaty topsoil (<0.5m) and till derived from Namurian sandstones and shales and will be constructed on solid ground to Eirgird specifications.

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 assessed in Chapters 4 and 9 of the EIAR.

(1) With respect to placement of arisings from excavations the guidelines given in Section 8 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 are to 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 pits for storage. Any pavement materials containing tar will be transported to an authorised waste facility.

8. GENERAL MEASURES 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 (as a minimum), the general measures below together with the specific measures above.

(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 will be assessed by a 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 wind farm 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 road settlement, disrupted surface, closed-up drains) and drainage conditions (e.g., blocked drains, absence of water in previously flowing drains, springs, etc).

9. INSTRUMENTATION

9.1 Movement Monitoring Posts

To monitor possible peat movements, it is proposed to install sighting posts upslope and downslope of the access road at staggered intervals at locations where the peat depth is greater than 2m. Additional monitoring locations will be provided at infrastructure locations with deeper peat deposits. Details of sighting posts are given below.

(1) A line of sighting posts will comprise:

(a) A line of wooden stakes (proposed to be 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. It is recommended that the posts are located along the road at 10m intervals in areas of deep peat (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 useful by 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.

10. CONTINGENCY MEASURES

10.1 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 there are 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, as appropriate, 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).

10.2 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 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.

10.3 Check Barrages

Whilst it is not anticipated from the analysis undertaken that a peat slide will occur on 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 1000mm.

The rock fill for the check barrage will be sourced from the borrow pits on 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 at least 2m and side slopes of 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 roads on the wind farm 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).

11. CUT & FILL EARTHWORKS ASSESSMENT

FT carried out an assessment for the site which estimates the total volume of cut and fill earthworks required for the construction of the wind farm. The cut & fill assessment is graphically presented on Drawing P23-230-0600-0011.

The outputs from the cut & fill earthworks assessment includes the following:

- Plan drawings of the entire site showing an outline of cut & fill earthworks at all infrastructure elements (Drawing P23-230-0600-0011)
- Preliminary cut & fill earthwork volumes (see Table 11-1 of this report)

A summary of the basis for the cut & fill earthworks assessment is included in Appendix A of this report.

A summary of the cut & fill earthwork volumes is given in Table 11-1.

11.1 Commentary on Earthworks Volumes

This section of the report should be read in conjunction with Sections 5.2 and 5.3 of the report which summarises the estimated peat and spoil volumes for site and the placement/reinstatement areas on site.

In summary the following points are given,

1) The total volume of spoil (peat and non-peat superficial deposits) requiring placement/reinstatement on site is estimated at 199,850m^3. This material will be excavated and placed/reinstated to the borrow pits, with 26,000m^3 stored across clearfell areas near turbines and 16,000m^3 used for landscaping around the turbines.

2) The estimated quantity of available rock within the borrow pit is 180,000m^3. Conservative assumptions were made in estimating the quantity of rock available in the borrow pits.

3) Note a number of assumptions were made during the cut & fill assessment, see Appendix A. A bulking factor of 15% (peat) and 10% (spoil) has been applied to the excavation volumes.

Table 11.1: Summary of Cut & Fill Earthworks Volumes

Infrastructure Element	Description	Total Earthwork Volume [1] & [2] – Peat	Earthwork Volume [3] – Estimated non-peat overburden material	Earthwork Volume [4] - Estimated rock volume only	Stone Volume Requirements	Comment
		Cut (m^3)	Cut (m^3) [3]	Cut (m^3)	(m^3)	
8 no. Turbines and Hardstands	25m diameter excavation footprint for turbine foundation with 95 x 35m hardstand area	31,000	41,000	-	86,000	
Access Roads	Proposed 5m running surface with 6m wide development footprint	34,000	16,000	-	51,000	
Various Infrastructure Locations	Includes substation, 1 no. construction compounds and met mast	3,450	7,950	-	12,000	
Grid Connection	21.6km in length	-	16,000[5]			
Borrow Pits	2 no. Borrow Pits	11,000	21,000	180,000	40,000	Estimated potential rock volume from borrow pits is **185,000m^3**.
	Total =	**79,450**	**101,950**		**189,000**	

Notes
Note (1) The total earthwork volumes includes peat, non-peat superficial deposits and rock from the borrow pit.
Note (2) The earthwork volumes quoted for the non-peat material were calculated based on the total earthwork volume (peat & non-peat material) minus the peat volumes calculated and presented in Table 5-1 within Section 5.2 of this report.
Note (3) The in-situ rock volume from the borrow pits was estimated based on available ground investigation data to define rockhead level.
Note (4) It should be noted that the earthwork volumes given in Table 11-1 are subject to confirmatory design.
Note (5) Does not include volume of material to be disposed of off-site in a licensed facility

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.

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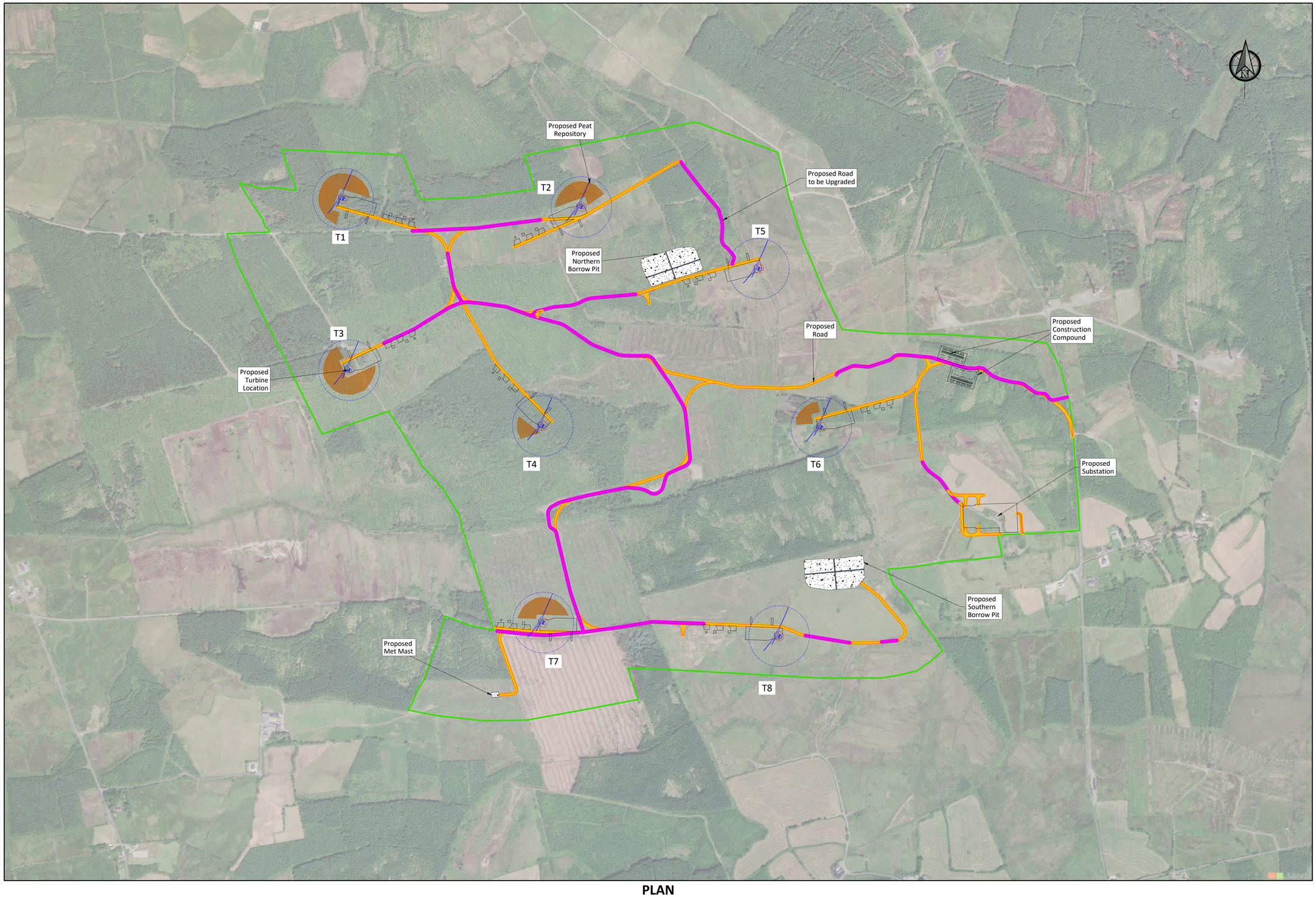
DRAWINGS



Legend:

EIAR Site Boundary

Road Type Legend:

Type A - Upgrade of Existing Excavated Access Tracks

Type B - New Excavate & Replace Access Road

0m 50m 100m 150m 200m 250m 300m 350m 400m 450m 500m

Scale 1:5000

PLAN

Scale 1:5000

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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT: CAHERMURPHY WEST

CLIENT: MKO

SHEET: ROAD CONSTRUCTION TYPES PLAN

Date: 12.02.26

Project number: P23-230

Scale (@ A1): 1:5000

Drawn by: POR

Checked by: IH

Drawing Number: P23-230-0600-0005

(Sheet set subset 0600)

Rev: P02

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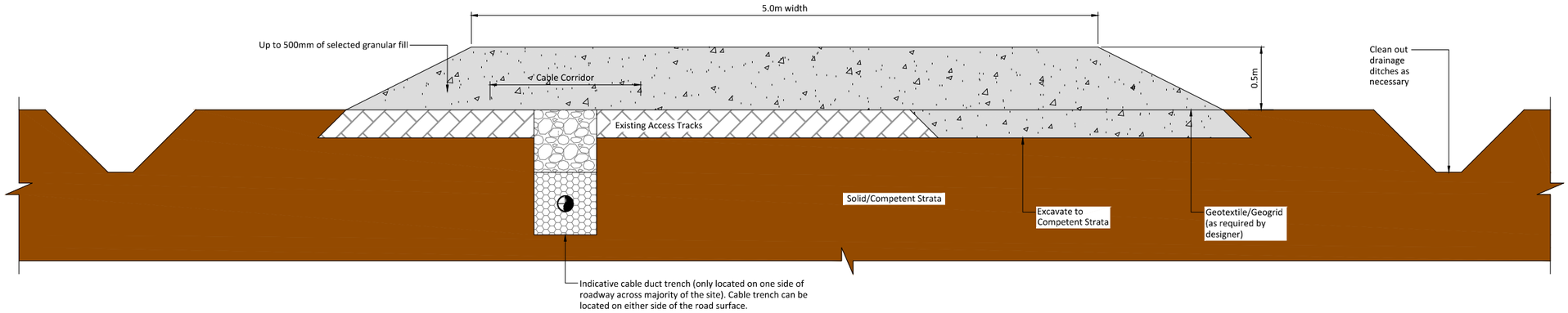
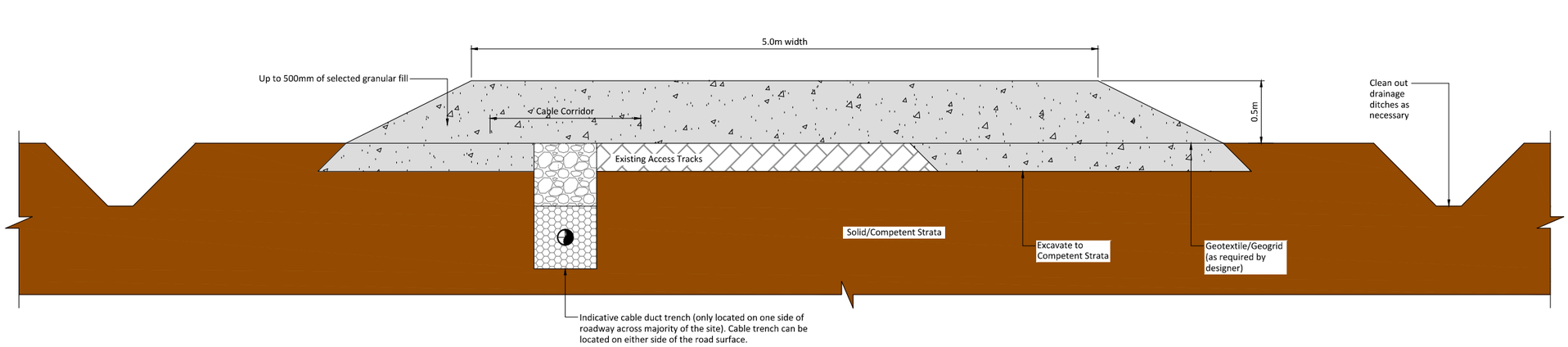
13 February 2026





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P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT: CAHERMURPHY WEST		CLIENT: MKO	
SHEET: TYPE A - UPGRADE OF EXISTING EXCAVATED ACCESS ROAD	Date: 12.02.26	Project number: P23-230	Scale (@ A1) Scale N/A
	Drawn by: POR	Drawing Number: P23-230-0600-0006	Rev: P02
	Checked by: IH		

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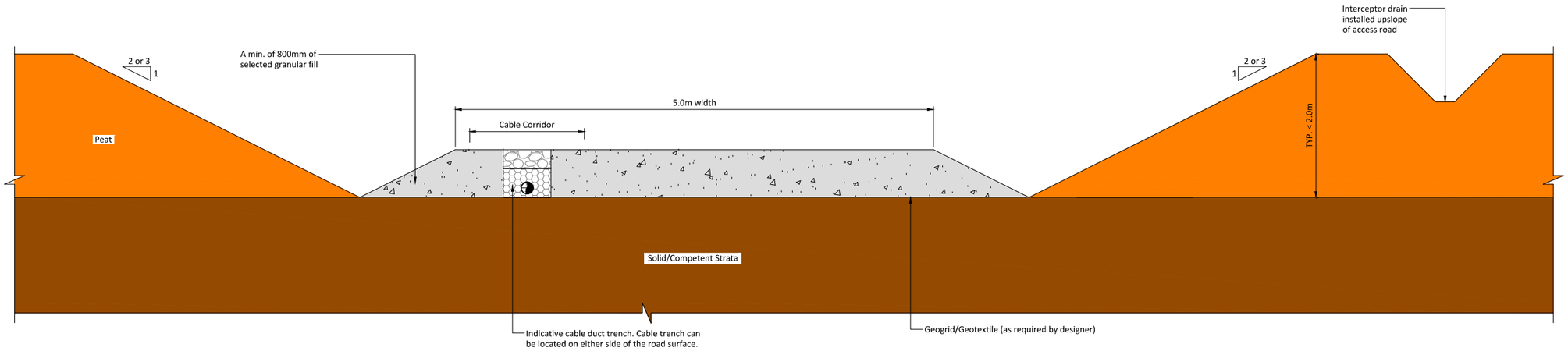
12 February 2026



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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT: CAHERMURPHY WEST

CLIENT: MKO

SHEET: TYPE B - NEW EXCAVATE AND REPLACE ACCESS TRACK

Date: 12.02.26
Drawn by: POR
Checked by: IH

Project number: P23-230
Scale (@ A1) Scale N/A
Drawing Number: P23-230-0600-0007
Rev: P02
(Sheet set subset 0600)

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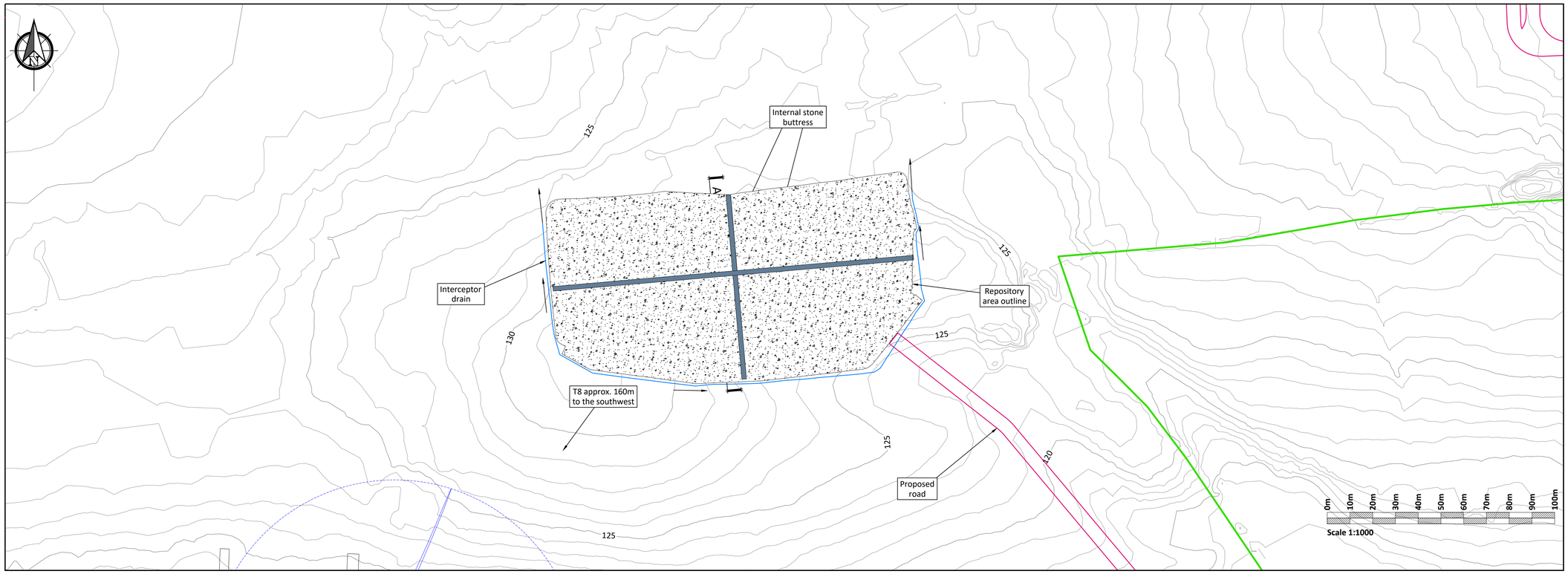
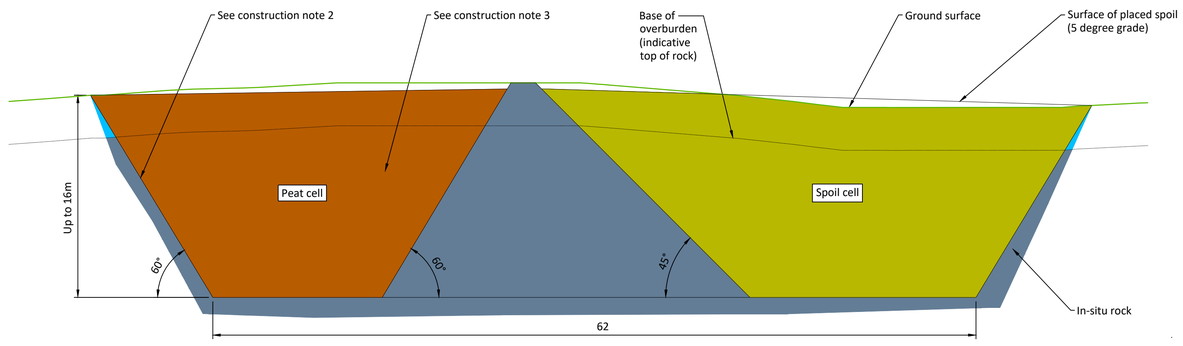
12 February 2026



PLAN (SOUTHERN BORROW)

Scale 1:1000



Section Scales:

1:1 Horizontal
1:1 Vertical

(No exaggeration on vertical scale i.e. true scale)

SECTION A - A

Scale 1:250

Legend:

EIAR Site Boundary

Borrow Pit Construction Notes:

(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 road.

(2) 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.

(3) 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.

(4) 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.

(5) The borrow pit will be developed in cells, with two cells for storage of peat and two for spoil/overburden.

(6) The rock buttress will be founded on competent strata. The founding stratum for the rock buttress will be inspected and approved by the Project Geotechnical Engineer.

(7) In order to prevent water retention occurring behind the buttresses, the buttresses will be constructed of coarse boulder fill with a high permeability.

(8) 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.

(9) Control of groundwater within the borrow pit will be required and measures will be determined as part of the ground investigation programme.

(10) 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.

(11) A perimeter drain will be installed around the individual cells, which will outfall to a settlement pond on the downslope side of the borrow pit (not shown on plan).

(12) All the above-mentioned general guidelines and requirements will be confirmed by the designer prior to construction.

(13) Further guidelines on the construction of the borrow pit is included within Section 5.4 of the Peat & Spoil Management Plan.

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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT	CAHERMURPHY WEST
CLIENT	MKO
SHEET	BORROW PIT 2 PLAN AND SECTION
Date	12.02.26
Drawn by	POR
Checked by	IH
Project number	P23-230
Scale (@ A1)	As Shown
Drawing Number	P23-230-0600-0008
Rev	P02

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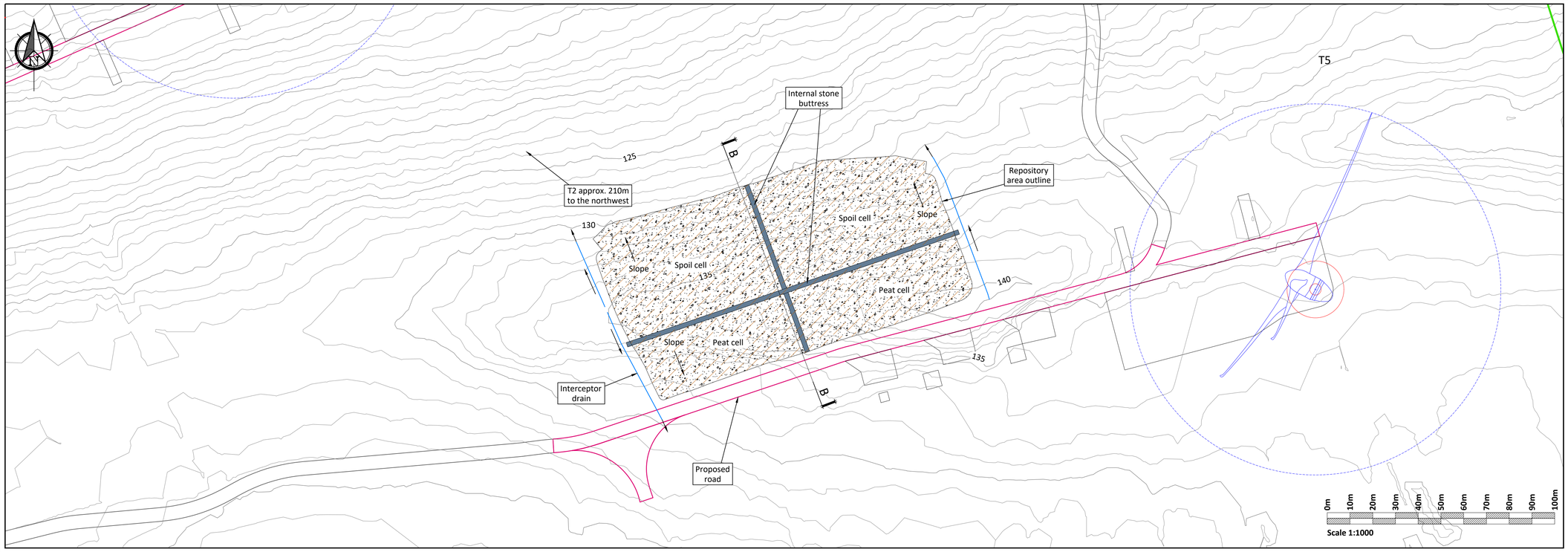
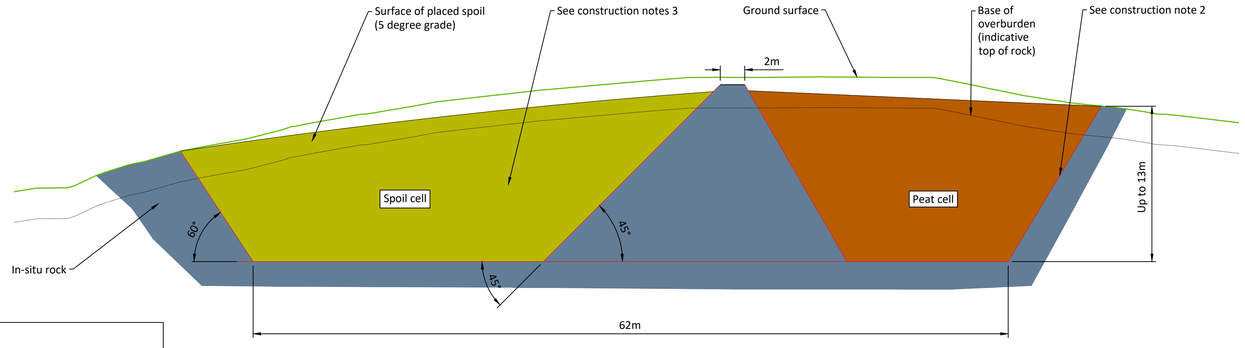
13 February 2026



PLAN (NORTHERN BORROW)

Scale 1:1000



Section Scales:

1:1 Horizontal
1:1 Vertical

(No exaggeration on vertical scale i.e. true scale)

SECTION B - B

Scale 1:250

Borrow Pit Construction Notes:

(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 road.

(2) 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.

(3) 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.

(4) 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.

(5) The borrow pit will be developed in cells, with two cells for storage of peat and two for spoil/overburden.

(6) The rock buttress will be founded on competent strata. The founding stratum for the rock buttress will be inspected and approved by the Project Geotechnical Engineer.

(7) In order to prevent water retention occurring behind the buttresses, the buttresses will be constructed of coarse boulder fill with a high permeability.

(8) 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.

(9) Control of groundwater within the borrow pit will be required and measures will be determined as part of the ground investigation programme.

(10) 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.

(11) A perimeter drain will be installed around the individual cells, which will outfall to a settlement pond on the downslope side of the borrow pit (not shown on plan).

(12) All the above-mentioned general guidelines and requirements will be confirmed by the designer prior to construction.

(13) Further guidelines on the construction of the borrow pit is included within Section 5.4 of the Peat & Spoil Management Plan.

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P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT: CAHERMURPHY WEST		CLIENT: MKO	
SHEET: BORROW PIT 1 PLAN AND SECTION	Date: 12.02.26	Project number: P23-230	Scale (@ A1): As Shown
	Drawn by: POR	Drawing Number: P23-230-0600-0009	Rev: P02
	Checked by: IH	(Check set subset 0600)	

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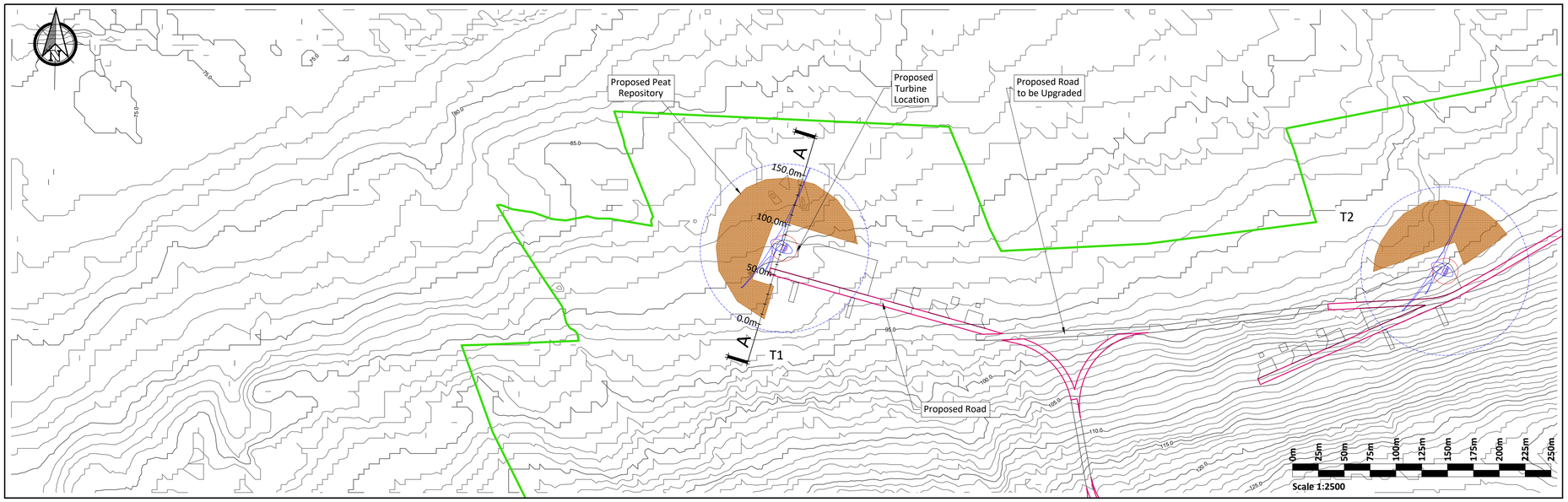
13 February 2026



PLAN

Scale 1:2500

Legend:

EIAR Site Boundary

Construction Notes Peat Repository Areas:

(1) An interceptor drain will also be installed upslope of the peat repository areas.

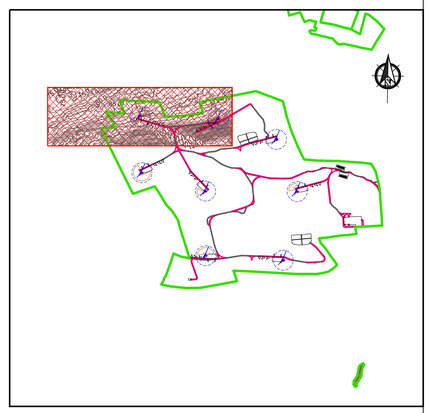
(2) A silting pond will be required at the lower side of the peat repository areas.

(3) It is important that the surface of the stored peat be shaped to allow efficient run-off of water from the stored spoil.

(4) Supervision by a geotechnical engineer or appropriately competent person is recommended for the construction of the peat repository area.

(5) All the above-mentioned general guidelines and requirements will be implemented during construction.

(6) Further guidelines on the construction of the peat storage area are included within Section 5.4 of the Peat & Spoil Management Plan.

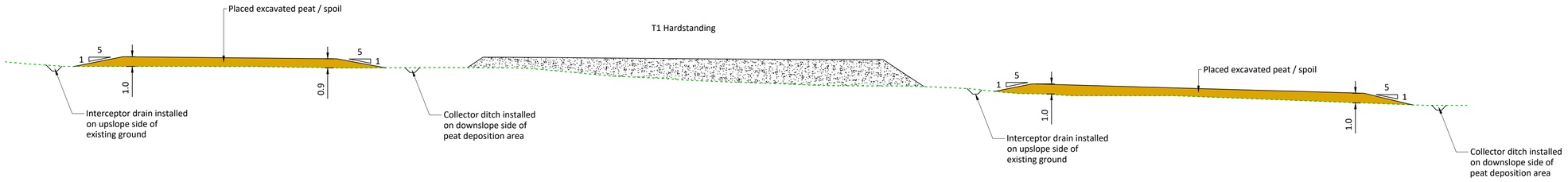


KEYPLAN

Scale 1:25000

Construction Notes:

1) Spoil heap may consist of peat and overburden from local excavations.
2) Stored material should be shaped to allow suface water to run-off.
3) Placed / spread spoil should be allowed to re-vegetate naturally from plant species in the area.
4) Supervision by suitably qualified is required during the works.



TYPICAL SECTION A - A

Scale 1:250

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P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT	CAHERMURPHY WEST
CLIENT	MKO
SHEET	PEAT AND SPOIL PLACEMENT WITHIN CLEAR FELL AREAS - TYPICAL DETAILS
Date	12.02.26
Project number	P23-230
Scale (@ A1)	As Shown
Drawn by	POR
Checked by	IH
Drawing Number	P23-230-0600-0010
	(Sheet set subset 0600)
Rev	P02

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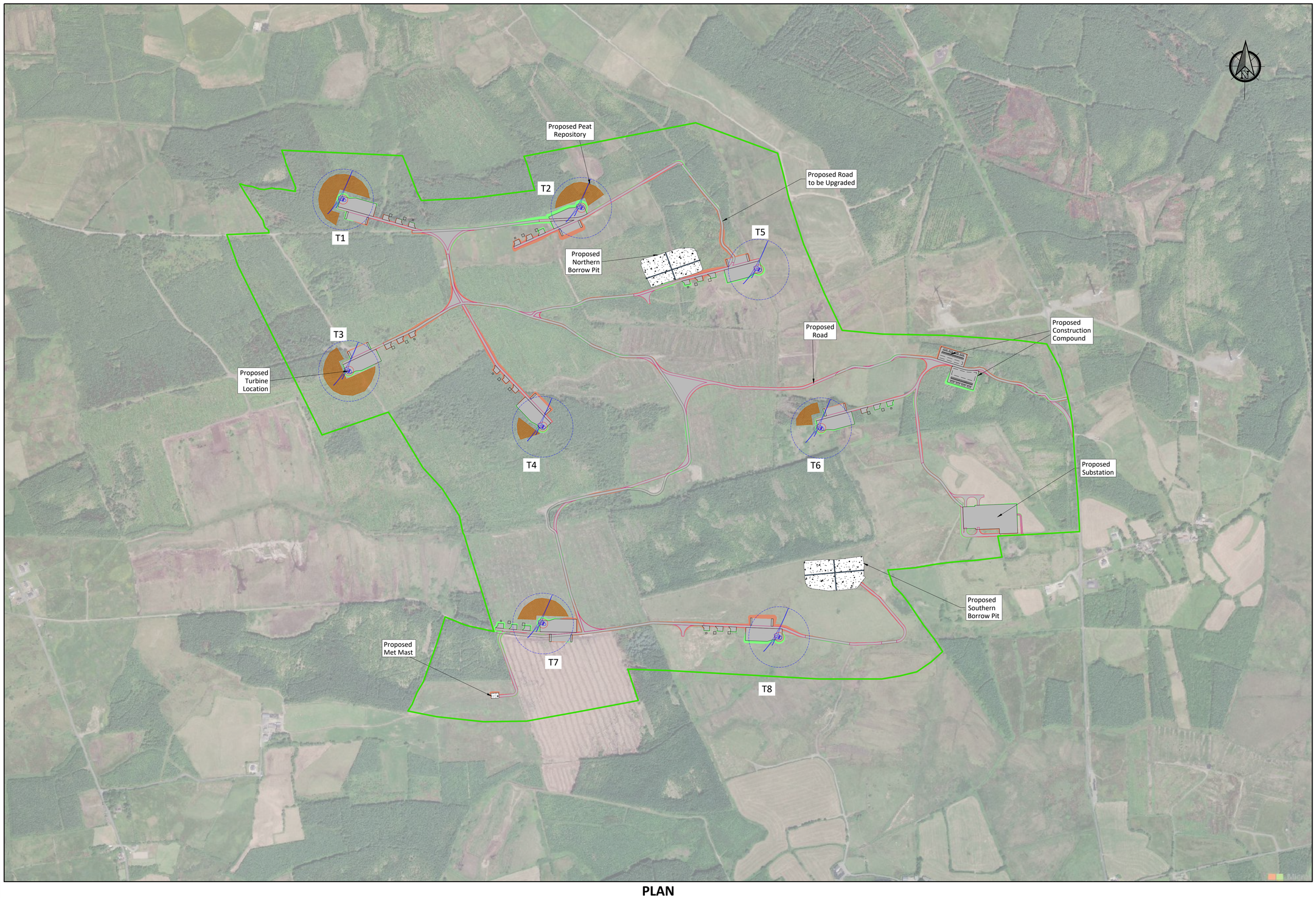
13 February 2026



Legend:

EIAR Site Boundary

Cut / Fill Legend:

Areas of Cut

Areas of Fill

Pavement

0m 50m 100m 150m 200m 250m 300m 350m 400m 450m 500m

Scale 1:5000

PLAN

Scale 1:5000

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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT: CAHERMURPHY WEST		CLIENT: MKO	
SHEET: PLAN DRAWING OF CUT/FILL EARTHWORKS ON SITE	Date: 12.02.26	Project number: P23-230	Scale (@ A1): 1:5000
	Drawn by: POR	Drawing Number: P23-230-0600-0011 (Sheet set subset 0600)	Rev: P02
	Checked by: IH		

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13 February 2026

.

Legend:

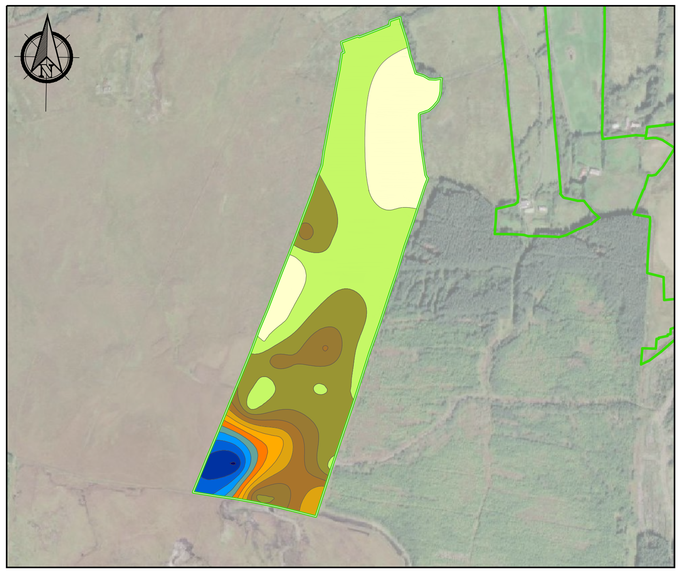
EIAR Site Boundary

PLAN - AREA 1

Scale 1:5000

PLAN - AREA 2

Scale 1:5000



PLAN - AREA 3

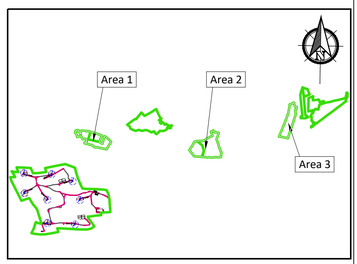
Scale 1:5000

Peat Depth Legend:

- ≥ 0 < 0.5
- ≥ 0.5 < 1
- ≥ 1 < 1.5
- ≥ 1.5 < 2
- ≥ 2 < 2.5
- ≥ 2.5 < 3
- ≥ 3 < 3.5
- ≥ 3.5 < 4
- ≥ 4 ≤ 4.5
- ≥ 4.5 ≤ 5
- ≥ 5 ≤ 5.5
- ≥ 5.5 ≤ 6
- ≥ 6 ≤ 6.1

0m 50m 100m 150m 200m 250m 300m 350m 400m 450m 500m

Scale 1:5000



KEYPLAN

Scale 1:70000

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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT: CAHERMURPHY WEST		CLIENT: MKO	
SHEET: PEAT DEPTH CONTOUR PLAN - PROPOSED HEN HARRIER ENHANCEMENT LANDS	Date: 12.02.26	Project number: P23-230	Scale (@ A1): As Shown
	Drawn by: POR	Drawing Number: P23-230-0600-0012 (Sheet set subset 0600)	Rev: P02
	Checked by: IH		

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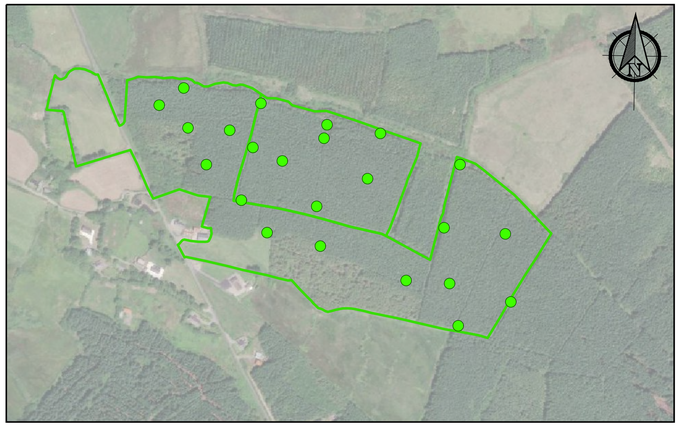
13 February 2026

.

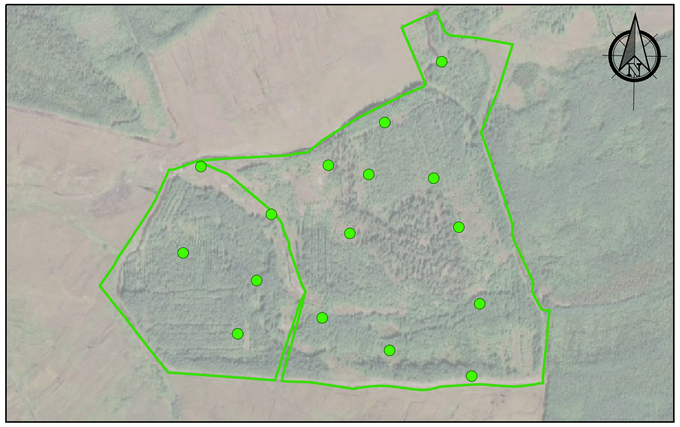
Legend:

EIAR Site Boundary



PLAN - AREA 1

Scale 1:5000



PLAN - AREA 2

Scale 1:5000

Factor of Safety Legend:

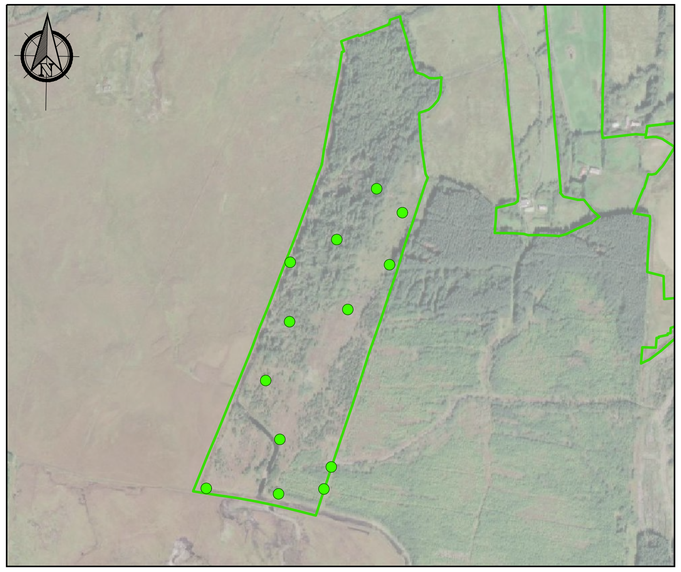
0 < 1.0

≥ 1.0 < 1.3

≥ 1.3

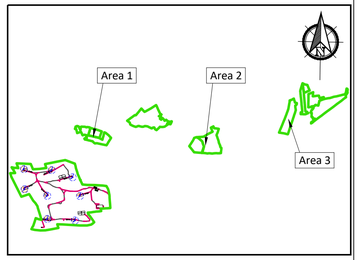
Increasing Stability

No Peat Recorded
At This Location



PLAN - AREA 3

Scale 1:5000



KEYPLAN

Scale 1:70000

0m 50m 100m 150m 200m 250m 300m 350m 400m 450m 500m

Scale 1:5000

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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	08.01.26
P02	FOR INFORMATION	BDH	12.02.26

PROJECT: CAHERMURPHY WEST

CLIENT: MKO

SHEET: FACTOR OF SAFETY PLAN – SHORT TERM CRITICAL CONDITION (UNDRAINED) - PROPOSED HEN HARRIER ENHANCEMENT LANDS

Date: 12.02.26

Project number: P23-230

Scale (@ A1): As Shown

Drawn by: POR

Checked by: IH

Drawing Number: P23-230-0600-0013

(Sheet set subset 0600)

Rev: P02

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13 February 2026

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APPENDIX A

Assumptions for Cut & Fill Earthworks Assessment

Assumptions for Cut/Fill Earthwork Assessment

Main Infrastructure Locations

Appendix A provides a summary of the main assumptions for the cut/fill earthworks assessment.

Table A1 provides a summary of the assumptions regarding the dig depths adopted for the cut/fill assessment for the main infrastructure elements at Cahermurphy West wind farm.

The assumed excavation footprint for the turbine foundation is the turbine base diameter of 25m plus 1m working room all around the base i.e., 27m.

Table A1: Summary of the dig depths at the main infrastructure locations

Turbine	Easting	Northing	Average Peat Depth for Turbines (m)	Dig depth for Turbine Foundation (m) [1]	Average Peat Depth for Crane Hardstands (m)	Max Dig depth for Associated Crane Hardstand (m) [2]
T1	507772	669761	0.5	3.0	0.5	0.7
T2	508411	669739	0.25	3.0	0.25	0.45
T3	507788	669301	0.45	3.0	0.45	0.65
T4	508308	669151	1.1	3.0	1.1	1.3
T5	508887	669573	0.35	3.0	0.35	0.55
T6	509055	669148	1.6	3.0	1.6	1.8
T7	508309	668624	0.7	3.0	0.7	0.9
T8	508942	668587	0.4	3.0	0.4	0.6
Infrastructure Element	**Easting**	**Northing**	**Average Peat Depth (m)**	**Max Dig depth for Infrastructure Element (m) [3] & [4]**		
Substation	509454	668887	0.1	0.3		
Construction Compound 1	509404	669338	0.5	0.7		
Met Mast	508187	668428	0.55	1.55		

Notes

(1) Founding depths for the turbines was assumed to be the average peat depth + 1m to a competent stratum. To be confirmed at detailed design stage following confirmatory ground investigation. A minimum dig depth of 3m is assumed for each turbine foundation. For the purpose of this assessment, it is assumed that all turbine foundations will be gravity type founded bases i.e., no piled foundations.

(2) Founding depths for the crane hardstands was assumed to be the average peat depth + 0.2m to a competent stratum. To be confirmed at detailed design stage following confirmatory ground investigation. In areas of steeper terrain (say greater than 10% gradient), for the crane hardstandings and for the purpose of this assessment, it was endeavoured to balance the earthworks for the footprint of the hardstands, where possible.

(3) For the construction compounds and substation, the founding depth was assumed to be the average peat depth +0.2m to a competent stratum. To be confirmed at detailed design stage following confirmatory ground investigation. In areas of steeper terrain (say greater than 10% gradient), for the compounds and substation platform and for the purpose of this assessment, it was endeavoured to balance the earthworks for the footprint of the platforms, where possible.

(4) For the met mast the founding depth was assumed to be the average peat depth +1.0m to a competent stratum. To be confirmed at detailed design stage following confirmatory ground investigation.
(5) Note the maximum dig depths stated in the Table above are indicative and for information purposes only and are subject to confirmation at detailed design stage following a confirmatory ground investigation.

Access Roads

The following assumptions for the cut/fill assessment are given in relation to the access roads.

- Typical gradient requirements from turbine suppliers were assumed for the cut & fill assessment i.e., maximum gradients of 10 to 12%. A maximum gradient of 12% has been assumed for straight sections of access road on site.
- For the purpose of the assessment, it is assumed that the existing access tracks on site are 3m in width.
- There are 3 types of access tracks/roads proposed/present on site, which include:
    - Existing excavated and replace type access tracks - some excavation works as a result of localised widening will be required. It is assumed that widening will typically take place on both sides of the road. In areas of side long ground/steeper terrain (say greater than 5% gradient), widening of existing tracks will take place on the upslope side of the road. Assumed dig depth to competent strata for both cases are 0.3m below the base of the peat.
    - New proposed excavate & replace type access roads – excavation work will be required. Assumed dig depth to competent strata was 0.3m below the base of the peat.

Borrow Pits

The cut/fill assessment for the borrow pits is based on the cross-section drawings (Drawings P23-230-0600-0008 to 0009) included in this report. The borrow pits were sized to allow for the reinstatement of the excavated peat volume generated on site and to accommodate the estimated site-won stone fill requirements.

General Assumptions

A 1(v): 1(h) configuration for all excavation faces was assumed for the cut & fill earthworks assessment, except for excavations in rock at the borrow pit where a configuration of 1(v): 0.7(h) i.e., 60 degrees was assumed.

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