13.1 APPENDIX 13.1

The proposed development site is described according to Clongawny Bog, Drinagh Bog and Kennedys Cross (proposed junction accommodation works along turbine delivery route). Each area is described according to turbine, proposed roads, compounds, substation etc.

13.1.1 Clongawny Bog

13.1.1.1 Turbine 1

Turbine 1 is located in the Clongawny side of the proposed development in an area now largely overgrown with reeds and grass on the field surfaces. Some uncolonised field surfaces are also present. Peat depths in this location are not likely to exceed 1.5m in depth.

Plate 1: Turbine 1 location looking NNE

Plate 2: T1, hardstand looking south over peat fields.

Plate 3: Junction of proposed road between T1 and T2 looking north.

13.1.1.2 Turbine 2

Turbine 2 is located in an area similar to T1 in that many drains are overgrown with reeds and vegetation. Some of the field surfaces are growth free however. Peat depths in the area of T2 are likely to be approximately up to 1.5m in depth with shallower peat to the south, up to 0.5m (minimum).

Plate 4: General vicinity of Turbine 2 looking at hardstand looking north.

Plate 5: Proposed road to T2 looking north.

Plate 6: Proposed road to T2 looking south.

13.1.1.3 Turbine 3

This is located to the south-west of T2, also in raised bog. It is located in the southern parcel of land within Clongawny bog. Peat depths are likely to be up to 2.5 to 3m in the area of the turbine. The proposed road in this location was wheel rutted with machine tracks evident. The ground was soft and wet underfoot.

Plate 7: Proposed road from T2 to T3 looking south-west, intersected by bog railway just to north of proposed road.

Plate 8: Continuation of proposed road to T3 looking northeast.

Plate 9: Continuation of proposed road to T3 looking southwest (turbine location in background)

Plate 10: T3 turbine base looking west.

Plate 11: T3 hardstand (western extent) looking east.

Plate 12: Proposed road to T4 looking southwest.

Plate 13: Continuation of proposed road to T4 looking south west. Meenwaun turbines in background.

13.1.1.4 Turbine 4

This turbine is located to the south-west of Turbine 3 in an area of milled peat with overgrown drains in some locations. Peat fields surfaces were generally free of vegetative growth and had been freshly milled. Peat depths may vary between 1.5 to 2m in depth in this location.

Plate 14: Continuation of proposed road to T4 looking southwest.

Plate 15: T4 turbine base looking north.

13.1.1.5 Turbine 5

Turbine 5 is located to the southeast of Turbine 3 in an area of milled peat. The peat depths in this location are likely to measure up to 2.5m or more. Peat fields were free of growth and freshly milled. Many drains were also free of vegetative growth allowing a clear visual assessment of the drain sections.

Plate 16: Proposed road from Turbine 4 to Turbine 5 looking north.

Plate 17: Hardstand for T5 looking south.

Plate 18: Area of T5 turbine base looking south.

13.1.1.6 Clongawny Met Mast and Compound

A proposed met mast and compound are proposed to be located to the southwest of Turbine 5. Peat depths in this location are likely to be approximately 3.5 to 4m.

Plate 19: Area of proposed compound associated with Clongawny met mast.

Plate 20: Area of proposed met mast looking southwest.

13.1.1.7 Turbine 6

Turbine 6 is located to the west of T1 and T2 turbines. Peat depths measure between 1-2m in this location. Drains are overgrown with reeds in many locations with surface water apparent on many field surfaces.

Plate 21: Proposed road from T1/T2 to Turbine 6 looking north-east.

Plate 22: Proposed road from T1/T2 to T6 from same location as above looking south-west.

Plate 23: Proposed road just to east of T6 turbine looking northwest.

Plate 24: General vicinity of Turbine 6 and hardstand looking northeast.

Plate 25: Turbine 6 base looking southwest.

Plate 26: Proposed road to T7 from T6 looking west. Note peat removed from this location.

13.1.1.8 Turbine 7

This turbine is located to the west of Turbine 6 in an area which is largely overgrown including both field surfaces and drains. The peat depths vary from 1 to 2m.

Plate 27: Proposed road just to northeast of T7 looking southwest.

Plate 28: T7 location looking southwest.

13.1.1.9 Turbine 8

This area is largely overgrown with trees and bushes, in particular the northern portion of the proposed road from T7 to T8.

Plate 29: Proposed road to T8 looking north into overgrown drains.

Plate 30: Proposed turbine location T8, note overgrown surfaces and drains.

13.1.1.10 Turbine 9 and compound to the northeast

This turbine is located to the southwest of T6 and to the southeast of T7. Peat depths here may vary between 1m and 1.5m in depth. A proposed compound is located to the northeast of the turbine.

Plate 31: Proposed road to compound and T9 from T1/T2 turbines looking south-west.

Plate 32: Area of proposed compound looking south.

Plate 33: Proposed road just to northeast of T9 looking southwest.

Plate 34: Hardstand for T9 looking southwest. Meenwaun turbines in background.

Plate 35: T9 turbine base looking southwest.

Plate 36: Proposed road leading to T10 turbine (just to west of T9) looking northwest.

Plate 37: Continuation of proposed road to T10 looking north-west.

Plate 38: Proposed road to T10 looking northwest.

13.1.1.11 Turbine 10

This is located 700m to the southwest of Turbine 7. Peat depths are likely to measure 1-1.5m in this location. Drains and some field surfaces are overgrown.

Plate 39: Area of T10 hardstand looking northeast.

Plate 40: T10 turbine base looking northeast.

13.1.1.12 Turbine 11

The area of the north-western section of the proposed road from T10 to T11 is within dense tree cover and vegetation with drains fully overgrown. The south-eastern extent as well as the area of the proposed turbine is less overgrown however. Peat depths in this location are likely to be 0.5 to 1m. Turbine 11 is the closest to the cluster of recorded monuments located within Clongawny bog. These monuments and the results of the walkover survey are described in Section 13.3.1.3 of Chapter 13 of the EIAR.

Plate 41: Area of proposed road from T10 to T11 looking northwest through dense tree cover.

Plate 42: Continuation of proposed road to T11 towards the southeast looking northwest.

Plate 43: Continuation of proposed road into T11 looking southeast.

Plate 44: Northern portion of proposed hardstand for T11 looking north.

Plate 45: T11 turbine base looking west.

Plate 46: General vicinity of T11 looking southwest. Meenwaun turbines in background.

13.1.1.13 Temporary Construction Compound 2 - Clongawny East

This is located at the eastern side of the Clongawny bog portion of the proposed development site. Peat depths here measure 0.5 – 1m approximately.

Plate 47: Proposed road to the south of the proposed construction compound looking east. Note dearth of peat in this location. Natural clay exposed in places.

Plate 48: Continuation of proposed road in a south westerly direction towards T1 and T2, looking southwest.

Plate 49: Area of proposed compound looking East (ITM E607588, N715102).

13.1.1.14 Proposed Dedicated Amenity Link - Clongawny Bog (West side of EIAR Site Boundary).

A dedicated section of amenity pathway will extend from the windfarm site road at T10/T11 in the direction of Timolin townland to the western site boundary. This trail is proposed in an area where peat depths vary from 1m along the eastern end to 2.5m towards the west.

Plate 50: View facing west along laneway at western boundary of Clongawny bog.

Plate 51: View facing east along laneway at western boundary of Clongawny Bog

Plate 52: View facing west along laneway at western boundary of Clongawny Bog

Plate 53: Section of trail that traverses bog adjacent to existing industrial railway looking south east toward T10 in distance.

13.1.1.15 Proposed Security Hut at Clongawny Bog

Two security huts form part of the development proposal, one in Clongawny bog and the second in Drinagh bog. Both are located just off the National road N62 at the proposed main construction entrances (east and west) to the north of the existing briquette factory.

Plate 54: Clongawny security hut looking east (southern section)

Plate 55: Clongawny security hut, northern section (backfilled trial pit visible in this location).

13.1.1.16 Proposed Underpasses

Two permanent underpasses are proposed as part of the proposed development. The first will pass beneath the N62, immediately north of Derrinlough Briquette Factory. This underpass will provide amenity connectivity between Clongawny and Drinagh Bogs and will also be used during the operational phase for wind farm maintenance.

A second underpass is proposed in Clongawny bog immediately west of the first. This underpass will pass beneath an existing Bord na Móna railway line and will also be used for amenity purposes and for wind farm maintenance during the operational phase.

The construction of both underpasses will require the excavation of a significant amount of peat.

Plate 56: Area of proposed railway underpass looking west.

Plate 57: Continuation of proposed road from western railway underpass towards eastern underpass of N62, looking East at N62.

Plate 58: Area of proposed road underpass looking east from western side of N62. Looking east

13.1.2 Drinagh Bog

13.1.2.1 Proposed Access Road to Drinagh Bog

The access road is located mainly along an existing track which skirts to the north of the existing Derrinlough Peat Briquette Factory from the public road in an easterly direction.

Plate 59: Proposed construction access track commencing at N62 looking east.

Plate 60: Proposed access to the Drinagh section of the windfarm looking east.

Plate 61: Continuation of proposed (and existing) access road looking northeast.

Plate 62: Location where proposed access road enters the Drinagh section of the windfarm site, looking east.

13.1.2.2 Proposed Construction Compound (Drinagh West)

This proposed compound is located just north of where the proposed road enters this section of the windfarm. Peats depths here are likely to measure 1m-1.5m.

Plate 63: Location of proposed construction compound (Drinagh West) looking northeast.

Plate 64: Central section of proposed compound looking north.

13.1.2.3 Turbine 12

This is located to the south of the proposed construction compound described above. Peat depths in the area of Turbine 12 are likely to measure 0.5 -1m.

Plate 65: Proposed road from T19 to T12 looking south with internal railway track on higher ground in background.

Plate 66: Area of proposed hardstand associated with T12, looking northwest in overgrown area of the bog.

Plate 67: Location of proposed turbine base for T12 looking northeast.

Plate 68: Proposed road from T12 to T13 looking south.

Plate 69: View towards western section of Drinagh bog, under water looking west.

13.1.2.4 Turbine 13

Turbine 13 is located to the south of Turbine 12 in milled peat with overgrown drains. Surface water is apparent in many areas in this location. According to peat depth data, peat may vary between 0.5 to 1.5m in depth in this location.

Plate 70: Continuation of proposed road from T12 to T13 looking north along peat field surface with overgrown drains to east and west.

Plate 71: General vicinity of hardstand and base for T13 looking south.

13.1.2.5 Turbine 14

This turbine is located to the southeast of Turbine 13 in milled peat. Peat depths here may measure up to 1.5m in depth. Surface water was also apparent over much of this section of the bog. Conditions were notably wet underfoot.

Plate 72: Location of proposed turbine base T14 looking north.

Plate 73: Proposed road to T15 looking east. Drains overgrown in this area.

Plate 74: Continuation of proposed road from T14 to T15 further east, looking west along milled peat surfaces.

Plate 75: Continuation of proposed road to T15 looking east.

13.1.2.6 Turbine 15

This turbine is located further to the east of turbine 14, also in milled peat. Drains are overgrown, although some peat field surfaces are free of vegetative growth. Peat depths may measure 0.5m to 1m in this location.

Plate 76: Location of proposed T15 turbine base looking north.

13.1.2.7 Turbine 16

This is located to the northwest of Turbine 15, also in milled peat. Peat depths measure between 0.5 and 1.5m in this location.

Plate 77: General view of context in which turbine 16 is located some 90m to the north, looking north.

Plate 78: T16 turbine base looking north (excavated trial pit within base).

Plate 79: Eastern extent of T16 hardstand looking west through dense vegetation.

Plate 80: Proposed road to T16 from east looking west.

Plate 81: Continuation of proposed road from T16 looking east.

Plate 82: Area approximately 280m to the north of T16 showing flooded bog surfaces looking west.

Plate 83: Proposed road from T16 to proposed construction compound and T17 further to the north, looking north.

13.1.2.8 Proposed Temporary Construction Compound (Drinagh East)

This construction compound is located to the south of T17 turbine in an area largely overgrown with trees and vegetative growth on the field surfaces. Peat depths here measure 0.5 to 1m.

Plate 84: Construction compound looking south.

Plate 85: Construction compound looking north.

Plate 86: Centre of construction compound looking south.

Plate 87: Proposed road between construction compound and T17 looking north.

Plate 88: Same location as above looking south over Bord na Mona railway.

13.1.2.9 Turbine 17

Turbine 17 is located in an area overgrown with trees. Drains and field surfaces are covered and not possible to inspect. Peat probing data suggests peat depths approximately 0.5 – 1m in this area.

Plate 89: Area of proposed turbine base T17 looking north.

Plate 90: Proposed road to T17 looking north through dense vegetation.

Plate 91: Proposed road to T18 looking north.

13.1.2.10 Turbine 18

This turbine is located to the north of T16 in an area overgrown with trees and dense vegetation within the drains and on the field surfaces. Peat depths in T18 are relatively shallow measuring 0.5 1-1m.

Plate 92: Central portion of hardstand looking south.

Plate 93: Proposed T18 turbine base looking south.

13.1.2.11 Turbine 19

This turbine is located to the northeast of the proposed construction compound (west). The area is overgrown with trees and vegetation within both drains and field surfaces. Peat depths are between 0.5m and 1.5m.

Plate 94: Proposed road to T19 looking north.

Plate 95: Area of turbine base covered with trees within drains and briars on field surfaces.

Plate 96: Hardstand for Turbine 19 looking north.

13.1.2.12 Turbine 20

Turbine 20 is located to the west of T18 and to the north of T19 in an overgrown area of Drinagh bog. Peat depths measure 0.5 -1m. The area is largely overgrown with trees and grass.

Plate 97: Proposed road to T20 from northeast looking southwest.

Plate 98: Proposed road looking northeast, just to north of hardstand for T20.

Plate 99: General vicinity of turbine base T20 looking west.

13.1.2.13 Turbine 21

Turbine 21 is the northernmost turbine within the Drinagh section of bog. It is located to the north of T18 in a mixture of milled peat surfaces and some areas of dense overgrowth and trees. Peat depths measure 1-1.5m.

Plate 100: Location of T21 turbine base looking north.

Plate 101: Hardstand for T21 looking north.

Plate 102: Proposed road to T21 form T18 looking north.

13.1.2.14 Proposed Met Mast and Compound

The proposed met mast and associated compound are located in the southwestern side of Drinagh bog and to the west of Turbine 13. The area consists of milled peat. Natural[1] clay has been exposed in some locations.

Plate 103: General view of proposed compound and met mast looking south.

[1] ***natural*** *is a term to denote a layer (stratum) in the stratigraphic record where there is no evidence of anthropogenic activity*

Plate 104: Proposed construction compound looking east.

Plate 105: View towards eastern end of construction compound looking east.

Plate 106: Proposed met mast location looking south.

13.1.2.15 Proposed Security Hut at Drinagh Bog

The security hut is proposed to be located in an overgrown area just north of the peat briquette factory. The area also contains large mounds of deposited / milled peat.

Plate 107: Location of proposed security hut at Drinagh bog looking north.

13.1.2.16 Proposed road and underground cable route from T21 to substation site

A proposed road extends in a northerly direction from T21 as far as the site boundary and then travels along the boundary in the direction of the proposed substation compound. An internal underground cable will be placed along or adjacent to this road to connect the windfarm to the proposed substation.

Plate 108: Proposed road looking south/southwest taken from just inside site boundary (north of proposed substation).

Plate 109: Continuation of proposed road (and cable route) looking southwest.

Plate 110: Continuation of proposed road in a southerly direction looking southwest taken from area to northwest of proposed substation site.

Plate 111: Continuation of proposed road looking south/southwest.

Plate 112: Proposed road where it turns southeast along site boundary.

Plate 113: Continuation of proposed road looking southeast, adjacent to industrial railway.

Plate 114: Proposed road looking southwest.

Plate 115: Memorial located adjacent to proposed road at ITM E610460, N718066.

Plate 116: Detail of memorial plaque for Joe Flanagan who died tragically in Drinagh Bog in 1956.(https://www.bordnamonalivinghistory.ie/article-detail/looking-back-50-years-some-memories-of-boora/)

Plate 117: Proposed road continuing south of the memorial plaque looking south/southeast.

Plate 118: Continuation of road looking south/southwest.

Plate 119: Continuation south of proposed road, looking southwest.

Plate 120: Proposed road continuing north of forestry (north-east of T21).

Plate 121: Proposed road looking west before it turns south to T21.

Plate 122: Proposed road towards T21 taken from just south of site boundary looking south.

13.1.2.17 Proposed Grid Connection Route

The windfarm will connect to the National Grid via an underground cable or an overhead line from the substation site as far as the overhead line which traverses the northern section of the Drinagh site. This area was assessed as part of the walkover survey and is located within the EIAR site boundary. The short connection will extend north from the substation site in the direction of the existing overhead line to the north.

Plate 123: Line of the proposed grid connection route looking in the direction of the proposed substation site to the south.

Plate 124: Route of proposed grid connection looking in the direction of the existing 110kV line to the north.

Plate 125: Location where grid connection meets the existing overhead line polesets to the east.

13.1.2.18 Proposed substation site

A large portion of the proposed substation site is overgrown with grass, trees and reeds both within drains and on the field surfaces. Some field surfaces are growth-free however.

Plate 126: Example of ground within the area of the proposed substation site looking southeast form northern boundary.

Plate 127: Proposed substation site looking southwest from northern extent.

Plate 128: Proposed substation site looking south along overgrown peat field looking south.

Plate 129: Proposed substation site looking southwest taken from central area.

Plate 130: Proposed substation site looking northwest taken from centre.

13.1.2.19 Proposed Construction compound 5 adjacent to Substation site

The site of the proposed compound is similar to proposed substation site in that it is largely overgrown both on fields and drains.

Plate 131: Proposed compound looking south-west.

Plate 132: Proposed compound looking southeast from same location.

13.1.2.20 Proposed Drinagh North Construction Access Road

Construction traffic will access the Drinagh side of the proposed windfarm from the regional road R357 in southerly direction towards the EIAR site boundary. This is located adjacent to an existing industrial railway track.

Plate 133: Northern extent of Drinagh Construction Access road looking north towards R357.

Plate 134: Southern end of Drinagh Construction Access road looking north.

13.1.2.21 Proposed Dedicated Amenity Links (Drinagh Bog)

13.1.2.21.1 *Amenity Link South to Whigsborough walking trail*

This trail is located along the southern section of the Drinagh bog along the EIAR site boundary. It will provide future potential connectivity to the proposed Whigsborough walking trail to the south.

Plate 135: Proposed route of the amenity trail which will connect into proposed windfarm site roads for T13 and T14 turbine, looking north.

Plate 136: Route of amenity trail looking east along EIAR site boundary.

Plate 137; Route of proposed trail looking east before it extends north into windfarm site in the direction of T13 and T14.

13.1.2.21.2 Amenity Link Southwest (Drinagh)

This link provides access from T15 internal access road to the public road to the east (L7005) which traverses the Drinagh area. A cluster of Recorded Monuments are located in the south-east corner and are described in Section 13.3.1.3 of Chapter 13 of the EIAR.

Plate 138: Western section of amenity trail looking west towards T15 across overgrown peat bog.

Plate 139: Trail looking northeast from same location.

Plate 140: Continuation of trail looking northeast.

Plate 141: Trail looking southwest from same location.

Plate 142: Trail looking northeast across overgrown drains.

Plate 143: Corner of trail where it turns east looking southwest.

Plate 144: Trail looking west along industrial railway tracks.

Plate 145: Commencement of trail looking west.

13.1.2.21.3 Amenity Link North (Drinagh)

This link will provide access through North Drinagh and Derrybrat bog to the R437 to facilitate potential future connection to Lough Boora Discovery park to the east of the site. It will also provide access to the general Stonestown area to the north. This amenity link is located along an informal path through the bog (grown over peat field) and also alongside the industrial railways.

Plate 146: Amenity link looking south/southeast (northern extent of trail).

Plate 147: Continuation of trail looking southeast.

Plate 148: As above looking East/southeast (to east of substation site).

Plate 149: Continuation of trail looking east/southeast.

Plate 150: Trail looking south.

Plate 151: Trail looking north through trees / overgrown bog.

Plate 152: Trail continuing in a southern direction looking west.

Plate 153: Trail looking north through overgrown peat field, Flooded bog to the west and dense overgrowth to the east.

Plate 154: Trail looking north

Plate 155: Amenity trail looking east just outside EIAR site boundary to east.

Plate 156: Trail further east looking west.

Plate 157: Amenity link looking East along industrial railway.

Plate 158: trail looking west near to where it begins at R437 regional road.

Plate 159: Commencement of trail at east near to R437 road looking west.

13.1.2.21.4 Proposed Amenity Carpark (Drinagh)

A carpark is proposed to be located just south of the Regional road R357 in order to provide access to the proposed amenity pathways which extend from here in a southerly direction. The area of the proposed carpark is grown over with grass but is assumed to be peat underneath.

Plate 160: Proposed amenity car park in Drinagh bog looking north.

13.1.3 Turbine Delivery Route

It is proposed that the turbine components will be delivered via the M6 before turning south onto the N52 at Kilbeggan. The route follows the N52 south, bypassing Tullamore to the east and passing through the settlements of Blue Ball, Kilcormac and Five Alley. Deliveries will turn right onto the N52 (at the junction known as Kennedy's Cross) and will proceed northwards towards Cloghan to the proposed site entrances, immediately north of Derrinlough Briquette Factory. A new section of road will be required at Kennedy's cross to allow the delivery vehicles to negotiate this junction. This is the only location where accommodation works will be required along the haul route.

The area was subject to a walkover survey. A stream runs from east to west to the south of the proposed road diversion and is located within the tract of trees to the south.

Plate 161: Proposed road looking east towards N52.

Plate 162: Proposed road diversion looking east towards N52.

Plate 163: Continuation of proposed road in a westerly direction looking east.

Plate 164: Proposed road were it exits at N62 looking west.

Plate 165: Proposed road from same location as above looking east.