

APPENDIX L.4

ARCHAEOLOGICAL MONITORING REPORT
(ALISON McQUEEN & ASSOCIATES)



**ARCHAEOLOGICAL MONITORING
OF
TRIAL PIT INVESTIGATIONS
GROUSEMOUNT WIND FARM
AND A
PORTION OF BARNASTOOKA
WIND FARM
KILGARVAN
COUNTY KERRY**

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JUNE/JULY 2015 (A)

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1. INTRODUCTION

1.1 General

This is a specific report to describe the results of archaeological monitoring of trial pit investigations undertaken for Grousemount Wind Farm and a portion of Barnastooka Wind Farm, Kilgarvan, County Kerry (Figures 1 and 2). Archaeological monitoring of trial pits was carried out in the townlands of Barnastooka, Coolknoohil, Coolnagoppoge, Gortlahard, Grousemount, Ballagh, Knockanruddig, Cummeen Upper, and Gortlahard. This work was undertaken on behalf of ESB International, 18-21 St. Stephen's Green, Dublin 2.

Archaeological monitoring 'involves an archaeologist being present in the course of the carrying out of developments' and is defined as necessary in order to 'identify and protect archaeological deposits, features or objects which may be uncovered or otherwise affected by the works' (Department of Arts, Heritage, the Gaeltacht and Islands, 1999b).

1.2 Site Location & Access

The development site is located in upland mountain terrain. The eastern side of the development area is accessed by taking the R569 regional road to Kilgarvan/Kenmare, off the N22 Cork-Killarney national road. At Morley's Bridge (on the R569) the tertiary road (L3021) to E that follows the course of the Roughty River links to a local road (L11187), leading to Grousemount. The western side of the site (townland of Barnastooka) was accessed through private farmland and an existing trackway to the top of the Barnastooka ridge. The settlement of Kilgarvan is the nearest village, c. 9km to WNW on the R569, whilst Kenmare town is located c. 20km to W on the same regional route.

1.3 Monitoring Operations

Trial pit investigations were carried out by IGSL Ltd. This form of ground investigation is utilised to determine the soil characteristics and geology of the construction area. Trial pits associated with internal site roads were c. 100m apart, whereas those associated with turbines and borrow pits were closer together. The trial pits were excavated using a 13 tonne track machine. Each trial pit (L c. 3.0m, Wth c. 1.0m) was excavated up to a depth of c. 3m. The archaeologist monitored the excavation of each trial pit and also visually inspected the surrounding landscape for recorded and unrecorded archaeological features. Trial pits were backfilled upon completion of each investigation.

2. ARCHAEOLOGICAL MONITORING

2.1 General

The archaeological monitoring of trial pit investigations for the windfarm developments was carried out March to May 2015 with a one day revisit in July. The proposed operations were located in relatively close proximity to one recorded monument (RMP KE095-005----), an anomalous stone group, in the townland of Grousemount. No other recorded monument is documented within this development area.

2.2 Monitoring of Trial Pits

A total of 256 trial pits excavations were archaeologically monitored along internal site roads, turbine locations, borrow pit/repositories, the substation and associated substation access road. The ESB scope of works detailed that archaeological monitoring was required only at the borrow pit locations (TPR1-TPR8), the revised site access route (TP1-TP25) and an additional site access route (TP219-TP234) on the Barnastooka side of the development. Certain areas of the Barnastooka Wind Farm were deemed by ESBI not to require archaeological monitoring, i.e. where previous archaeological investigations had been carried out under license (No. 10E0201). All trial pits were monitored across the area of the Grousemount Wind Farm.

A total of 13 trial pits (TP72, TP79-TP87, TP91-TP93) were excavated along the access road to the substation and a further 3 trial pits (TPS1-TPS3) were excavated within the substation footprint. The results for this archaeological monitoring have been detailed in a specific report for the substation & associated access route (McQueen, May 2015) and are also incorporated into the current document.

An additional 16 trial pits (TP219-TP234) were commissioned for another access road on the eastern side of the development. This report also included information for the borrow pits/repositories (TPR3-TPR6). The results for this archaeological monitoring have been detailed in a separate report for the additional access road (McQueen, July 2015) and are also incorporated into the current document.

2.2.1 Barnastooka Wind Farm

The Barnastooka Wind Farm including access routes and repositories are located within the townlands of Barnastooka, Coolknoohil, Coolnagoppoge and Gortlahard, primarily in upland mountain pasture (c. 150-340m OD) with occasional rock outcrop (see Figure 1). The access roads approach the main wind farm area on a generally E-facing slope. The repositories are on a SE-facing slope. The turbines are located around the Barnastooka ridge.

2.2.2 Grousemount Wind Farm

The Grousemount Wind Farm including access roads, substation and repositories are located within the townland of Grousemount, Ballagh, Knockanruddig, in upland mountain pasture (c. 340-360m OD) with occasional rock outcrop (see Figure 2). The proposed access road is located on a generally W-facing slope and the proposed substation is located on a generally N-facing slope.

2.3 Stratigraphy

The vegetation within this area consisted dominantly of mollinia grass, with occasional mixtures of heathers, sedges, mosses and other grass species. The terrain was uneven, with

a wide range of sloping ground and rock outcrop in places. There were numerous small streams and occasional drainage activity on the hillsides, as well as evidence of old turf-cutting banks.

In summary, different peat horizons were noted in the profile of the trial pits, however no in-situ archaeology was evident in any of the pits opened during the Site Investigations at Barnastooka and Grousemount Wind Farms.

2.4 Results of Monitoring

The data for each trial pit has been grouped as per ESBI map sheet number.

2.4.1 Barnastooka Repositories A, B & C (TPR1-TPR8) (Figure 3: ESBI Sheet 1)

The following trial pits are located within the townlands of Coolnagoppoge and Barnastooka.

TPR1

Located in area of mosses, grasses and sedges. Evidence of old turf-cutting in antiquity, within the vicinity. Sod D 0.03m; Peat D 1.2m.

TPR2

Located in area of mollinia, steep rock outcrop adjacent to E.
Sod D 0.05m; Peat D 0.25m – 0.5m.



Plate 1: From S. SW-facing section of TPR2.

TPR3

Located in area of grasses and mosses.
Sod D 0.03m; Mid-greyish brown clayey silt D 0.07m.

TPR4

Located in area of grasses and mollinia.
Sod D 0.05m; Peat D 0.5m.

TPR5

Located in area of grass, on a SE-facing slope.
Sod D 0.03m; Mid-greyish brown clayey silt D 0.15m.

TPR6

Located in area of mosses and mollinia, rock outcrop nearby to W.
Sod D 0.05m; Peat D 1.0m.

TPR7

Located in an area of mollinia.
Sod D 0.05m; Peat D 0.8m.

TPR8

Located in an area of mollinia.
Sod D 0.05m; Peat D 0.7m.

2.4.2 Barnastooka Revised Access Road (TP1-TP25) (Figures 3 & 4: ESBI Sheets 1 & 2)

The following trial pits are located within the townlands of Coolnagappoge and Barnastooka.

TP1

Located in area of mollinia, on a NW-facing slope.
Sod layer D 0.05m; Mid-greyish brown silt D 0.2m.

TP2

Located in area of mollinia and rushes, on W-facing slope of field to E of Roughty river.
Sod layer D 0.05; Peat D 0.8m



Plate 2: From S. S-facing section of TP2.

TP3

Located in area of mollinia and bog myrtle, on a gentle NNW-facing slope. Occasional tree roots visible in section face at D c. 0.8m. Sod D 0.05m; Peat D 1.4m

TP4

Located in area of mollinia tussocks and occasional rushes. Occasional stones within peat.
Sod D 0.05m; Peat D 0.4m.

TP5

Located in an area of mollinia and rushes. Existing road nearby to E.
Sod D 0.05m; Peat 0.15m - 0.2m.

TP6

Located in grasses and mollinia. Open land-drain to SE.
Sod D 0.03m; Peat D 2.2m.

The upper stratigraphy (D 0.2m) was disturbed possibly due to cast up material derived from nearby drain. The remains of a tree trunk (L c. 3m; diam. c. 0.35m) was preserved naturally within the peat at a D c. 1.0m. This was inspected and there were no tool marks evident.

TP7

Located in improved pasture.

Sod D 0.03m. Mid-greyish brown sandy silt D 0.07m.

TP8

Located in an area of grass and rushes.

Sod D 0.03m; Mid-greyish brown clayey silt D 0.35m.

TP9

Located in improved pasture.

Sod D 0.1m; Mid-greyish brown silty sand D 0.55m.

TP10

Located in improved grass pasture, near entrance to field. Quarrying evident to E.

Sod D 0.03m; Mid-greyish brown silty sand D 0.07m.

TP11

In improved pasture, at base of E-facing slope.

Sod D 0.03m; Mid-greyish brown silty sand D 0.2m.

TP12

In improved pasture, on an E-facing slope.

Sod D 0.03m; Mid-greyish brown clayey silt D 0.2m.

TP13

In improved pasture.

Sod D 0.03m; Mid-greyish brown clayey silt D 0.4m



Plate 3: From SW. S-facing section of TP13.

TP14

In improved pasture, on NE-facing slope. Small tree roots visible in section.

Sod D 0.03m; Mid-greyish brown clayey silt D 0.25m.

TP15

Located in area of mollinia, on a ridge (general long axis N-S).

Sod D 0.05m; Peat D 0.3m.

TP16

Located in area of mollinia and mosses. Existing trackway to N.
Sod D 0.05m; Peat D 1.1m.

TP17

Located in area of mollinia, rushes and grasses, existing trackway adjacent to N.
Sod D 0.05m; Black silty peat D 0.25m.

TP18

Located in area of grasses and mollinia. Existing trackway adjacent to N.
Sod D 0.03m; Mid-greyish brown clayey silt D 0.07m.

TP19

Located in area of mollinia, on a S-facing slope.
Sod D 0.05m; Peat D 0.2m.

TP20

Located in area of mollinia.
Sod D 0.05m; Peat D 0.5m.

TP21

Located in area of grasses and mollinia, on a S-facing slope.
Sod D 0.03m; Mid-greyish brown clayey silt D 0.12m.



Plate 4: From E. E-facing section of TP21.

TP22

Located in area of mollinia, on a S-facing slope.
Sod D 0.05m; Peat D 0.2m.

TP23

Located in area of mollinia, on a SW-facing slope.
Sod D 0.05m; Peat D 0.2m.

TP24

Located in area of mosses and mollinia, on a SE-facing slope.
Sod D 0.03m; Mid-greyish brown clayey silt D 0.15m.

TP25

Located in area of mollinia.
Sod D 0.05m; Peat D 1.1m.

2.4.3 Barnastooka TP26-TP27, TP29-TP31, TP36-39, TPT31A, TPT33A-TPT34A

(Figure 3: ESBI Sheet 1)

The following trial pits are located in the townland of Barnastooka.

TP26

Located in area of grasses and mollinia, to NW of old field system associated with disused stone houses. Sod D 0.05m; Peat D 0.2m.



Plate 5: From W. W-facing section of TP26.

TP27

Located in area of mollinia. Remains of low, stone boundary wall (long axis generally N-S) to immediate N.
Sod D 0.05m; Peat D 0.15m.

TPT31A

Located in area of mollinia, on a SE-facing slope.
Sod D 0.05m; Peat D 0.15m.

TP29

Located in area of mollinia, on a SE-facing slope.
Sod D 0.05m; Peat D 0.35m.

TP30

Located in area of mollinia, on a S-facing slope.
Sod D 0.05m; Peat D 0.4m.

TP31

Located in area of mollinia, on a S-facing slope.
Sod D 0.05m; Peat D 0.4m.

TPT33A

Located in area of mollinia, on a SE-facing slope.
Sod D 0.05m; Peat D 0.55m.

TP36

Located in area of mollinia and mosses, on a SE-facing slope. Hut Site AR3 was located c. 16m to N of TP36, therefore the location of the trial pit was moved a further 4m to S in order to obtain the required archaeological buffer zone.

Sod D 0.05m; Peat D 0.45m.

TP37

Located in area of mollinia, on a SE-facing slope.

Sod D 0.05m; Peat D 0.15m.

TP38

Located in area of mollinia tussocks, on a SE-facing slope.

Sod D 0.05m; Peat D 0.35m.

TPT34A

Located in area of mollinia tussocks, on a SE-facing slope.

Sod D 0.05m; Peat D 0.65m.



Plate 6: From SE. E-facing section of TPT34A.

TP39

Located in area of mollinia and sedges, on an E-facing slope.

Sod D 0.05m; Peat D 0.15m.

2.4.4 Barnastooka TP49-TP55, TPT25A, TPT27A (Figure 4: ESBI Sheet 2)

TP49

Located in area of mollinia and heather, on a gentle SE-facing slope. Evidence of turf-cutting in antiquity, within the vicinity to E and W.

Sod D 0.05m; Peat D 0.45m.

TP50

Located in area of mollinia, on a gentle E-facing slope. Evidence of turf-cutting in antiquity, within vicinity to NW.

Sod D 0.05m; Peat D 0.25m.

TP51

Located in area of mollinia, on a gentle E-facing slope. This trial pit appears to be in an area of cutaway bog (associated with turf cutting) where vegetation has regrown.

Sod D 0.05m; Peat D 0.15m.

TPT27A

Located in area of mollinia tussocks. A rectangular enclosure AR9 is located c. 15m to E of this trial pit.

Sod D 0.05m; Peat D 0.3m.

TP52

Located in area of mollinia, on an E-facing slope.

Sod D 0.05m; Peat D 0.4m.

TP53

Located in an area of mollinia, on an ESE-facing slope.

Sod D 0.05m; Peat D 0.15m.

TPT25A

Located in area of mollinia, on an E-facing slope.

Sod D 0.05m; Peat D 0.2m.



Plate 7: From W. SW-facing section of TPT25A.

TP54

Located in area of mollinia, on an E-facing slope.

Sod D 0.05m; Peat D 0.65m.

TP55

Located in an area of mollinia, on a SE-facing slope.

Sod D 0.05m; Peat D 0.4m.

2.4.5 Grousemount TP64-TP71, TP73-TP78, TPT1-TPT6, TPB1 (Figure 6, ESBI Sheet 1)

These trial pits are located in the townland of Grousemount.

TPT1

Located in area of mollinia. Rock outcrop nearby.

Sod D 0.05m; Peat D 0.25m.

TP64

Located in area of mollinia and occasional rushes. Rock outcrop nearby.

Sod D 0.05m; Peat D 0.75m.

TP65

Located in area of mollinia and grasses, on a S-facing slope. Rock outcrop nearby.
Sod D 0.05m; Peat D 0.25m.

TPT2

Located in area of mollinia and grasses, on a S-facing slope. Rock outcrop nearby.
Sod D 0.05m; Peat D 0.2m.

TP66

Located in area of mollinia and grasses, on a S-facing slope. Rock outcrop nearby.
Sod D 0.05m; Peat D 0.25m.

TPT3

Located in area of mollinia. Rock outcrop nearby. Three previously unrecorded hut sites (AR55-AR57) are located to SE of this trial pit.
Sod D 0.05m; Peat D 0.55m.

TP67

Located in area of grasses and rushes.
Sod D 0.03m; Peat D 0.2m – 0.6m.

TP68

Located in area of mollinia and occasional mosses.
Sod D 0.03m; Peat D 0.1m.

TP69

Located in area of mollinia and occasional mosses, on a S-facing slope.
Sod D 0.03m; Peat D 0.25m.

TP70

Located in area of mosses and occasional mollinia, on a S-facing slope. Adjacent to NE of tertiary road.
Sod D 0.02m; Peat D 0.4m.

TP71

Located in area of grasses, moss and rushes, on a NW-facing slope.
Sod D 0.03m; Peat D 0.2m.

TPT4

Located in level area of mollinia.
Sod D 0.05m; Peat D 0.3m

TP73

In rough pasture, on W-facing slope. Branch preserved naturally in peat at D c. 0.5m.
Sod D 0.05m; Peat D 1.3m.

TP74

In rough pasture of grasses, mollinia and heather, on a steep WNW-facing slope.
Sod D 0.05m; Peat D 0.25m.

TP75

Located in area of mollinia, heather and moss, on a W-facing slope.
Sod D 0.05m; Peat D 0.25m

TPB1

Located in area of mollinia, on a NW-facing slope.
Sod D 0.05m; Peat D 0.6m.

TPT5

Located in level area of mollinia and moss; surrounding landscape has a NW-facing slope.
Sod D 0.05m; Peat D 0.5m.



Plate 8: From SW. SW-facing section of TPT5.

TP76

Located in area of mollinia and heather, on a NW-facing slope. Disused turf-cutting bank nearby.
Sod D 0.05m; Peat D 0.3m.

TP77

Located in area of mollinia and heather, in cutaway bog, on a W-facing slope.
Sod D 0.05m; Peat 0.3m.

TP78

Located in a generally level area of sedges, mollinia and rushes. Adjacent cutaway bog.
Sod D 0.05m; Peat D 0.35m.

TPT6

Located in a generally level area of mollinia.
Sod D 0.05m; Peat D 0.4m.

2.4.6 Grousemount Substation Access Road (TP72, TP79-TP87, TP91-TP93)

(Figure 13)

The following trial pits are located within the townland of Grousemount.

TP72

Located in area of low grasses, to N of small stream and to immediate S of road. In close proximity to a small 'bothy' type stone dwelling CH1.
Sod layer D 0.03m; topsoil is a light greyish brown sandy silt D 0.05m – 0.1m.

TP79

Located in pasture of grasses and rushes, in close proximity to a small 'bothy' type stone dwelling CH1 and the remains of a long, rectangular vernacular structure CH2.

Sod layer D 0.03m; Peat D 0.5m.

TP80

Located in pasture, predominantly of grasses. Distinct peat layers were evident in this profile.

Sod layer D 0.03m; Peat D 1.0m.

TP81

Located in pasture, predominantly of grasses.

Sod layer D 0.05m, Peat D 0.15m.

TP82

Located in an area of well-grazed mollinia and sphagnum moss. The ground slopes downwards to W.

Sod layer D 0.05m; Peat D 0.3m.

TP83

Located in an area of mollinia tussocks.

Sod layer D 0.05m; Peat D 1.1m.

TP84

Located in an area of mollinia, grasses and mosses, c. 200m to WNW of the anomalous stone group (RMP KE095-005----), a recorded monument.

Sod layer D 0.05m; Peat D 0.3m.

TP85

Located in area of mollinia, near large rock outcrop. On relatively steep WSW-facing slope. This trial pit is located c. 100m to W of the anomalous stone group (RMP KE095-005----), a recorded monument at its closest point.

Sod layer D 0.05m; Peat D 0.25m.

TP86

Located in an area of mollinia tussocks, on a W-facing slope. This trial pit is c. 100m to WSW of the anomalous stone group (RMP KE095-005----), below the 'plateau' of where these stones are situated.

Sod layer D 0.05m; Peat D 0.9m.

TP87

Located in an area of mollinia,

Sod layer D 0.05m; Peat D 0.9m.

TP91

Located in area of mollinia, on a slight NNW-facing slope.

Sod layer D 0.05m; Peat D 0.45m.

TP92

Located in area of grasses, sphagnum and sedges. Near an area of rock outcrop.

Sod layer D 0.05m; Peat D 1.0m.

TP93

Located in level area of mollinia tussocks.

Sod layer D 0.05m; Peat D 1.5m.

2.4.7 Grousemount Substation Footprint (TPS1 – TPS3) (Figure 13)

The following trial pits are located within the townland of Grousemount.

TPS1

Located within a relatively level area of mollinia tussocks.

Sod layer D 0.05m; Peat D 1.0m.

TPS2

Located within a relatively level area of mollinia tussocks.

Sod layer D 0.05m; Peat D 1.2m.

TPS3

Located within an area of mollinia tussocks, on a gentle N-facing slope.

Sod layer D 0.05m; Peat D 0.8m.

2.4.8 Grousemount TP88-TP90, TP94-TP111, TPT7-TPT10, TPT12

(Figure 7: ESBI Sheet 2)

These trial pits are located in the townland of Grousemount.

TP88

Located in area of mollinia.

Sod D 0.05m; Peat D 0.5m.

TP89

Located in area of mollinia.

Sod D 0.05m; Peat D 0.35m.

TP90

Located in area of mollinia.

Sod D 0.05m; Peat D 0.45m.

TPT7

Located in area of mollinia.

Sod D 0.05m; Peat D 0.75m.

TP94

Located in area of mollinia.

Sod D 0.05m; Peat D 1.4m.

TP95

Located in area of mollinia tussocks, on a N-facing slope. Rock outcrop nearby to SE.

Sod D 0.05m; Peat D 0.3m.

TP96

Located in area of mollinia, on a N-facing slope.

Sod D 0.05m; Peat D 0.7m.

TP97

Located in area of mollinia and moss, on a N-Facing slope.
Sod D 0.05m; Peat D 0.2m.



Plate 9: From SW. W-facing section of TP97.

TP98

Located in an area of mosses and mollinia.
Sod D 0.05m; Peat D 0.2m.

TPT10

Located in an area of mollinia, on a gradual NE-facing slope.
Sod D 0.05m; Peat D 1.0m.

TP99

Located in an area of mollinia and heather.
Sod D 0.05m; Peat D 0.6m.

TP100

Located in an area of mosses and mollinia.
Sod D 0.05m; Peat D 0.4m.

TPT8

Located in an area of mollinia and heather.
Sod D 0.05m; Peat D 0.5m.

TP101

Located in an area of mollinia, on a NE-facing slope.
Sod D 0.05m; Peat D 1.1m.

TP102

Located in an area of mollinia and heather.
Sod D 0.05m; Peat D 0.25m.

TP103

Located in a level area of mollinia and heather.
Sod D 0.05m; Peat D 1.2m.

TP104

Located in an area of mollinia and heather, on a W-facing slope.
Sod D 0.05m; Peat D 0.4m.

TP105

Located in a level area of mollinia and heather, on a W-facing slope.
Sod D 0.05m; Peat D 1.15m.



Plate 10: From S. SE-facing section of TP105.

TPT9

Located in level area of mollinia and occasional rushes.
Sod D 0.05m; Peat D 1.0m.

TP106

Located in level area of heather and mollinia.
Sod D 0.05m; Peat D 0.65m.

TP107

Located in level area of mollinia.
Sod D 0.05m; Peat D 1.0m.

TP108

Located in level area of mollinia.
Sod D 0.05m; Peat D 1.15m.

TP109

Located in level area of mollinia and heather.
Sod D 0.05m; Peat D 1.7m.

TP110

Located in area of mollinia and heather, on a N-facing slope.
Sod D 0.05m; Peat D 0.4m.

TP111

Located in area of mollinia and heather, on a N-facing slope.
Sod D 0.05m; Peat D 0.2m.

TPT12

Located in area of mollinia and heather.

Sod D 0.05m; Peat D 0.15m

2.4.9 Grousemount TP112-TP137, TPT11, TPT13-TPT15, TPB4 (Figure 8: ESBI Sheet 3)

These trial pits are located in the townland of Grousemount.

TP112

Located in area of mollinia and heather, on a N-facing slope.

Sod D 0.05m; Peat D 0.7m.



Plate 11: From N. NE-facing slope of TP112.

TP113

Located in area of mollinia and heather, on a gradual WSW-facing slope.

Sod D 0.05m; Peat D 0.15m.

TP114

Located in level area of mollinia. This trial pit was located c. 16m to SW of hut site AR19. The trial pit was moved c. 4m to SW in order to obtain the required 20m archaeological buffer zone around this monument.

Sod D 0.05m; Peat D 1.0m.

TPB2

This trial pit could not be excavated as five previously unrecorded hut sites AR19, AR21-AR23 & AR29 are at this location.

TPB3

This trial pit could not be excavated as five previously unrecorded hut sites AR19, AR21-AR23 & AR29 are at this location.

TP115

Located in area of mollinia, grasses and heather.

Sod D 0.05m; Peat D 0.45m.

TP116

Located in area of mollinia and heather, on a SW-facing slope.

Sod D 0.05m; Peat D 0.3m.

TP117

Located in area of mollinia, on a W-facing slope.
Sod D 0.05m; Peat D 0.7m.

TP118

Located in area of mollinia and heather, on a W-facing slope.
Sod D 0.05m; Peat D 0.8m.

TP119

Located in area of mollinia and heather, on a W-facing slope.
Sod D 0.05m; Peat D 0.7m.

TP120

Located in area of mollinia, occasional rushes and heather.
Sod D 0.05m; Peat D 1.6m.

TP121

Located in area of mollinia and heather.
Sod D 0.05m; Peat D 0.2m.

TPT14

Located in area of mollinia and heather, on a W-facing slope.
Sod D 0.05m; Peat D 0.8m.



Plate 12: From S. SE-facing section of TPT14.

TPT15

Located in an area of heather and grasses, on a gentle W-facing slope. Sod D 0.05m; Peat D 0.5m.

TP122

Located in area of sedges, mollinia and heather, on a W-facing slope.
Sod D 0.05m; Peat D 0.15m.

TP123

Located in area of mollinia and heather, on a W-facing slope.
Sod D 0.05m; Peat D 0.2m.

TP124

Located in area of grass, heather and rock outcrop, on a W-facing slope.
Sod D 0.05m; Peat D 0.15m.

TP125

Located in area of grasses and heather, on a N-facing slope. Large natural erratic, partially covered in heather, c. 10m to S.
Sod D 0.05m; Peat D 0.3m.

TP126

Located in an area of grasses, on a N-facing slope.
Sod D 0.05m; Peat D 0.15m.

TPT13

Located on a small, level area covered by heather and mollinia. On a very steep N-facing slope, overlooking valley.
Sod D 0.05m; Peat D 0.5m.

TP127

Located in area of heather and mollinia.
Sod D 0.05m; Peat D 0.45m.

TP128

Located in area of mollinia and heather, on a very gradual NW-facing slope.
Sod D 0.05m; Peat D 0.2m.

TPT11

Located in area of mollinia. This trial pit was located c. 10m to N of Semi-Circular Enclosure AR30. The trial pit was moved a further c. 10m to N in order to maintain the required 20m buffer zone around this monument.
Sod D 0.05m; Peat D 0.75m.

TP129

Located in area of mollinia and heather, on a SSW-facing slope.
Sod D 0.05m; Peat D 0.65m.



Plate 13: From SE. E-facing section of TP129.

TP130

Located in an area of mollinia.
Sod D 0.05m; Peat D 0.65m.

TP131

Located in an area of mollinia, on a steep SSW-facing slope.
Sod D 0.05m; Peat D 0.5m.

TP132

Located in area of mollinia and heather, on a W-facing slope.
Sod D 0.05m; Peat D 0.1m.

TP133

Located in an area of mollinia, on a W-facing slope.
Sod D 0.05m; Peat 0.3m.

TP134

Located in an area of mollinia and heather.
Sod D 0.05m; Peat D 0.45m.

TP135

Located in an area of mollinia.
Sod D 0.05m; Peat D 0.15m.

TP136

Located in an area of mollinia.
Sod D 0.05m; Peat D 0.15-0.2m.

TPB4

Located in an area of mollinia.
Sod D 0.05m; Peat 0.65m.



Plate 14: From S. SW-facing section of TPB4.

TP137

Located in an area of mollinia and heather, on a steep NW-facing slope.
Sod D 0.05m; Peat D 0.15m.

2.4.10 Grousemount TP138-TP160, TPT16-TPT19 (Figure 9: ESBI Sheet 4)

These trial pits are located in the townlands of Grousemount, Ballagh and Knockanruddig.

TP138

Located in an area of mollinia and heather, on a N-facing slope.
Sod D 0.05m; Peat D 0.15m.

TP139

Located in an area of mollinia and heather, on a gradual NW-facing slope.
Sod D 0.05m; Peat D 0.25m.

TP140

Located in an area of mollinia, to immediate E of Roughty River.
Sod D 0.05m; Peat D 1.1m.

TP141

Located in an area of mollinia to immediate W of Roughty River.
Sod D 0.05m; Peat D 1.25m.

TP142

Located in an area of mollinia, on a generally E-facing slope. Hut site AR39 is located c. 50m to N of this trial pit.
Sod D 0.05m; Peat D 0.15m.

TP143

Located in an area of mollinia and rock outcrop, on a generally E-facing slope.
Sod D 0.05m; Peat D 0.3m

TP144

Located in an area of mollinia, on a gradual E-facing slope.
Sod D 0.05m; Peat D 0.35m.

TP145

Located in an area of mollinia, on a general E-facing slope.
Sod D 0.05m; Peat D 0.3m.

TPT16

Located in a small level area of mollinia.
Sod D 0.05m; Peat D 0.4m.

TP146

Located in an area of mollinia and heather.
Sod D 0.05m; Peat D 0.25m.

TP147

Located in an area of mollinia, on an E-facing slope.
Sod D 0.05m; Peat D 0.15m.

TP148

Located in an area of mollinia and heather, on a SE-facing slope.
Sod D 0.05m; Peat D 0.2m.



Plate 15: From S. S-facing section of TP148.

TP149

Located in an area of mollinia, on an E-facing slope.
Sod D 0.05m; Peat D 0.15m

TP150

Located in an area of mollinia and heather, on an E-facing slope.
Sod D 0.05m; Peat D 1.1m.

TPT18

Located in an area mollinia, on an E-facing slope.
Sod D 0.05m; Peat D 0.6m.

TP151

Located in an area of mollinia, rushes and grass.
Sod D 0.05m; Peat D 1.1m.

TP152

Located in an area of mollinia.
Sod D 0.05m; Peat D 0.2m.

TP153

Located in an area of mollinia and heather, on an E-facing slope.
Sod D 0.05m; Peat D 0.3m.

TP154

Located in an area of mollinia and heather.
Sod D 0.05m; Peat D 0.4m.

TPT17

Located in area of mollinia and heather, on a S-facing slope.
Sod D 0.05m; Peat D 0.35m.

TP155

Located in an area of mollinia and heather, on a gradual SE-facing slope.
Sod D 0.05m; Peat D 1.35m.

TP156

Located in an area of mollinia and heather, on an E-facing slope.
Sod D 0.05m; Peat D 1.2m.



Plate 16: From NE. N-facing section of TP156.

TPT19

Located in an area of mollinia and heather. A very steep cliff edge is located within close proximity to NW.
Sod D 0.05m; Peat D 0.5m.

TP157

Located in an area of mollinia, on an ESE-facing slope.
Sod D 0.05m; Peat D 0.95m.

TP158

Located in an area of mollinia and heather, on a SE-facing slope.
Sod D 0.05m; Peat D 0.95m.

TP159

Located in an area of heather, mollinia and sphagnum moss.
Sod D 0.05m; Peat D 0.25m.

TP160

Located in an area of heather, bog cotton and sphagnum moss, on a NE-facing slope.
Sod D 0.05m; Peat D 0.3-0.55m.

2.4.11 Grousemount TP161-TP170, TPB5-TPB8 (Figure 10: ESBI Sheet 5)

These trial pits are located in the townland of Ballagh and Knockanruddig.

TP161

Located in an area of heather and bog cotton, on an E-facing slope.
Sod D 0.05m; Peat D 0.4m.

TP162

Located in an area of heather and mosses, on a SE-facing slope. Anomalous Stone Group AR44 is located c. 20m to NW of this trial pit.

Sod D 0.05m; Peat D 0.2m.

TP163

Located in a level area of grasses. Steep cliff edge in close proximity to E.

Sod D 0.05m; Peat D 0.55m.

TP164

Located in an area of heather and mollinia, at the base of a short, N-facing slope.

Sod D 0.05m; Peat D 1.15m.

TP165

Located in a level area of heather, bog cotton and sphagnum moss.

Sod D 0.05m; Peat D 0.1m.

TP166

Located in an area of grasses and heather, on a N-facing slope.

Sod D 0.05m; Peat D 0.55m.



Plate 17: From S. S-facing section of TP166.

TP167

Located in an area of heather and bog cotton, on a N-facing slope.

Sod D 0.05m; Peat D 0.15m.

TP168

Located in an area of bog cotton and heather, on a NE-facing slope.

Sod D 0.05m; Peat D 0.1m.

TP169

Located in a level area of bog cotton, heather and mosses.

Sod D 0.05m; Peat D 1.7m.

TP170

Located in an area of bog cotton, heather and mosses, on a gentle E-facing slope.

Sod D 0.05m; Peat 0.1m.

TPB5

Located in an area of bog cotton, mosses and heather.
Sod D 0.05m; Peat D 0.1m.

TPB6

Located in an area of bog cotton, heather and moss.
Sod D 0.05m; Peat D 0.15m.

TPB7

Located in an area of bog cotton, moss and heather, on a gentle N-facing slope.
Sod D 0.05m; Peat D 0.4m.

TPB8

Located in an area of bog cotton, heather and moss, on an E-facing slope.
Sod D 0.05m; Peat D 0.35m.

2.4.12 Grousemount TP171-TP203, TPT20-TPT24 (Figures 11 & 12: ESBI Sheets 6 & 7)

These trial pits are located in the townland of Knockanruddig.

TP171

Located in an area of bog cotton and heather, on a gentle N-facing slope.
Sod D 0.05m; Peat D 0.6-1.25m.

TP172

Located in an area of bog cotton and heather, on an E-facing slope between two ridges of rock outcrop (long axis E-W).
Sod D 0.05m; Peat D 0.3m.

TP173

Located in an area of grasses, rushes and mosses, on a steep NE-facing slope.
Sod 0.05m; Peat D 0.3m.

TP174

Located in an area of mollinia, heather and mosses, on a general E-facing slope between two rock outcrop ridges (long axis E-W).
Sod D 0.05m; Peat D 0.35m.



Plate 18: From S. S-facing section TP174.

TP175

Located in a level area of mollinia.

Sod D 0.05m; Peat D 1.5m.

TP176

Located in a level area of mollinia and sphagnum moss.

Sod D 0.05m; Peat D 1.1.

TP177

Located in a level area of bog cotton and mollinia. Turf-cutting activity carried out in antiquity is evident to E and S of this location.

Sod D 0.05m; Peat D 1.85m.

TP178

Located in a level area of mollinia and bog cotton.

Sod D 0.05m; Peat D 0.95m.

TP179

Located in a level area of mollinia and bog cotton.

Sod D 0.05m; Peat D 0.65m.

TP180

Located in a level area of mollinia and mosses; disused turf-cutting banks to N.

Sod D 0.05m; Peat D 0.35m.

TP181

Located in a level area of bog cotton and mollinia. Disused cut-away bog clearly visible to W.

Sod D 0.05m; Peat D 0.35m.

TP182

Located in an area of mollinia, on a gentle NE-facing slope.

Sod D 0.05m; Peat D 0.4m.

TP183

Located in a level area of mollinia. A possible hut site AR47 is located in this area. The location of the trial pit was moved 20m to S of this feature in order to maintain the required 20m archaeological buffer zone.

Sod D 0.05m; Peat D 0.6m.

TP184

Located in an area of mollinia, on a gentle E-facing slope.

Sod D 0.05m; Peat D 0.35m.

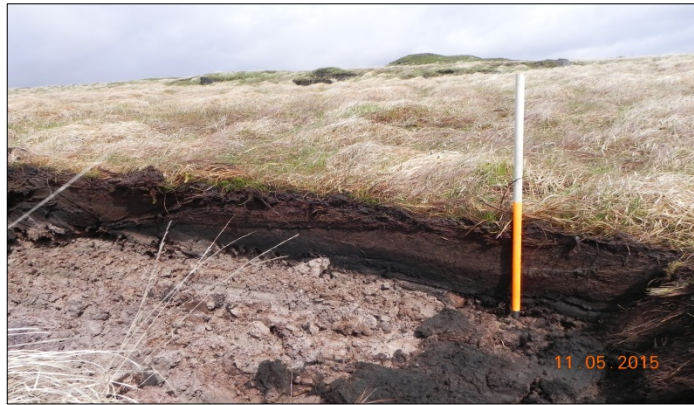


Plate 19: From SW. SW-facing section of TP184.

TP185

Located in an area of mollinia and mosses, on a gentle E-facing slope.
Sod D 0.05m; Peat D 0.55m.

TPT21

Located in an area of mollinia, on a S-facing slope.
Sod D 0.05m; Peat D 0.35m.

TP186

Located in an area of mollinia, on a S-facing slope.
Sod D 0.05m; Peat D 0.4m.

TP187

Located in an area of mollinia, on a S-facing slope.
Sod D 0.05m; Peat D 0.25m.

TP188

Located in an area of mollinia and bog cotton, on a S-facing slope.
Sod D 0.05m; Peat D 0.15m.

TPT20

Located in an area of mollinia, on a gradual S-facing slope.
Sod D 0.05m; Peat D 0.35m.

TP189

Located in a level area of bog cotton and mollinia.
Sod D 0.05m; Peat D 1.1m.



Plate 20: From SE. S-facing section of TP189.

TPT22

Located in a level area of bog cotton and mollinia.
Sod D 0.05m; Peat D 2.2m.

TP190

Located in an area of bog cotton and mollinia, on a N-facing slope.
Sod D 0.05m; Peat D 0.2m.

TP191

Located in an area of mollinia, on a N-facing slope.
Sod D 0.05m; Peat D 0.65m.

TP192

Located in an area of heather and mollinia, on a steep N-facing slope.
Sod D 0.05m; Peat D 0.2m.

TPT23

Located in an area of mollinia.
Sod D 0.05m; Peat D 0.25m.

TP193

Located in an area of mollinia and bog cotton. Rock is visible in this area and immediately under peat.
Sod D 0.05m; Peat D 0.2-0.55m.

TP194

Located in a level area of heather, mollinia and sphagnum moss.
Sod D 0.05m; Peat D 0.5-1m

TP195

Located in an area of heather and mollinia, on a steep N-facing slope.
Sod D 0.05m; Peat D 0.35m.

TPT24

Located in a level area of mollinia.
Sod D 0.05m; Peat D 1.5m.

TP196

Located in a level area of bog cotton and mollinia.

Sod D 0.05m; Peat D 0.3m.



Plate 21: From NE. N-facing section of TP196.

TP197

Located in a level area of bog cotton and mollinia.

Sod D 0.05m; Peat D 0.7m.

TP198

Located in a level area of mollinia, bog cotton and heather.

Sod D 0.05m; Peat D 1.3m.

TP199

In a relatively level area of mollinia.

Sod D 0.05m; Peat D 0.35m.

TP200

Located in an area of mollinia, on a steep N-facing slope.

Sod D 0.05m; Peat D 0.3m.

TP201

Located in a level area of mollinia.

Sod D 0.05m; Peat D 1.1m.

TP202

Located in an area of sphagnum, mollinia and rock outcrop.

Sod layer D 0.05m; No peat.

TP203

Located in an area of mollinia, sphagnum moss and heather, on a N-facing slope.

Sod D 0.05m; Peat D 0.2-0.35m.

2.4.13 Grousemount TP204-TP218 (Figure 12: ESBI Sheet 7)

These trial pits are located in the townlands of Knockanruddig, Cummeen Upper & Barnastooka.

TP204

Located in a level area of mollinia and heather.
Sod D 0.05m; Peat D 0.35m.

TP205

Located in an area of mollinia and sphagnum moss, on a steep N-facing slope.
Sod D 0.05m; Peat D 0.8m.

TP206

Located in an area of mollinia, on a steep N-facing slope.
Sod D 0.05m; Peat D 0.1m.

TP207

Located in an area of mollinia, on a steep N-facing slope.
Sod D 0.05m; Peat D 0.1m.

TP208

Located in an area of mollinia and moss, on top of a natural rock, to immediate W of a waterfall.
Sod D 0.05m; Peat D 0.2m (max.)



Plate 22: From W. W-facing section to TP208.

TP209

Located in an area of mollinia and sphagnum, on a N-facing slope.
Sod D 0.05m; Peat D 0.2m.

TP210

Located in an area of mollinia, on a gentle N-facing slope.
Sod D 0.05m; Peat D 0.6m.

TP211

Located in an area of mollinia, on a gentle N-facing slope.
Sod D 0.05m; Peat 1.55m.

TP212

Located in a level area of mollinia, rushes and rock outcrop.
Sod D 0.05m; Peat D 0.15m.

TP213

Located in a level area of mollinia, rushes and rock outcrop.
Sod D 0.05m; Peat D 0.1m.

TP214

Located in an area of mollinia and grasses, on a gentle NE-facing slope.
Sod D 0.05m; Peat D 1.45m.

TP215

Located in an area of mollinia and mosses, on a very gentle E-facing slope.
Sod D 0.05m; Peat D 0.2m.



Plate 23: From SW. S-facing section of TP215.

TP216

Located in an area of mollinia, rushes and sphagnum moss, on a S-facing slope.
Sod D 0.05m; Peat D 2m.

TP217

Located in an area of mollinia and rushes, on a SE-facing slope.
Sod D 0.05m; Peat D 1.7m.

TP218

Located in an area of mollinia, on a SE-facing slope.
Sod D 0.05m; Peat D 0.4m.

2.4.14 Barnastooka Additional Access Road (TP219-TP232)

(Figures 14 & 15: ESBI Sheets 1 & 2)

The following trial pits are located within the townlands of Coolnagoppoge, Coolknoohill and Gortlahard.

TP219

Located in an area of mollinia, on W-side of a field boundary (long-axis NE-SW) which comprises of a grass covered, drystone wall (Wth 0.75m; H 0.7m).
Sod layer D 0.05m; Peat D 0.25m.

TP220

Located in level area of mollinia. A rock outcrop ridge is located nearby to S. Evidence of disused, low, turf-cutting banks in this vicinity.

Sod layer D 0.05m; Peat D 0.7m.

TP221

Located in an area of mollinia, on a gentle N-facing slope.

Sod layer D 0.05m; Peat D 1.2m.

TP222

Located in an area of mollinia, rushes and grasses. Partially-decayed tree root visible in upper portion of section face. Sod layer D 0.05m; Peat D 0.8m.

TP223

Located on an existing trackway (long-axis NE-SW) which has a low growth of heather and mollinia. Thin sod layer over a gravelly backfill material of the trackway, over natural subsoil.

Sod layer D 0.1m; Backfill of trackway D 0.3-0.4m.

TP224

Located on W-side of an existing trackway, in an area of mollinia.

Sod layer D 0.05m; Peat Layer D 0.4m.

TP225

Located on the W-side of an existing trackway. Disturbance of soil profile due to construction of trackway at this location. Hut site AR54 is located 60m to NE of this trial pit.

Sod layer 0.15m; gravelly backfill of trackway D 0.3m; Peat layer D 0.1m.

TP226

Located in an area of mollinia and rushes. Hut site AR 54 located 50m to W of this trial pit.

Sod layer 0.05m; Peat D 0.1m

TP227

Located in an area of grass and rushes. Rock outcrop in this general vicinity.

Sod D 0.05m; Thin, peaty soil D 0.1m.

TP228

Located in area of mollinia and rushes, on a NE-facing slope.

Sod layer D 0.05m; Peat D 0.3m.

TP229

Located in an area of grass, rushes and bog myrtle, on a NE-facing slope.

Sod layer D 0.04m; Peat D 0.15m.

TP230

Located in area of mollinia and rushes, on a NE-facing slope. Decaying stone (black in colour) immediately under sod layer. Sod layer D 0.1m over a natural subsoil.

TP231

Located in an area of mollinia and rushes, on a NE-facing slope.

Sod layer D 0.05m; Peat D 0.1m.

TP232

Located in a level area of mollinia tussocks and rushes.
Sod layer D 0.05m; Peat D 0.4m.

TP233 and TP234

Both of these trial pits are located in an improved pasture field which has been closed off for silage at present. They are situated on the E-side of the Roughty River and to W of a recently felled area of forestry. Trial pit investigation in both of these areas is forthcoming.



Plate 24: From SW. General view of silage field location for TP233 & TP234.

3. SUMMARY

3.1 General

A total of 256 trial pits were archaeologically monitored for Grousemount Wind Farm and a portion of Barnastooka Wind Farm. These were located in areas of proposed roadways, access routes, tower bases, repositories and the substation area. The site investigations encompassed a large area, covering a number of townlands. The depths of peat along the entire development varied substantially from 0.1m – 2.0m.

3.2 Conclusions

No sub-surface archaeological finds, features or deposits were recovered during monitoring of the trial pit investigations. By its nature, this type of investigation is limited for archaeological purposes.



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24th July 2015

Please note that any recommendations are subject to approval by the relevant authorities who may issue additional or alternative mitigation.

4. REFERENCES

Abbreviations

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McQueen, A. July 2015. *Archaeological monitoring of 18 Trial Pits: Additional Entrance Access & Repositories, Barnastooka, Kilgarvan, Co. Kerry*. Unpublished.

McQueen, A. June/July 2015 (B). 'Recorded monuments, previously unrecorded monuments & cultural heritage features noted during archaeological monitoring of trial pit investigations Grousemount Wind Farm and a portion of Barnastooka Wind Farm, Kilgarvan, Co. Kerry. Unpublished.

Measurement Abbreviations

c.	-	<i>circa</i>
dims.	-	Dimensions
Dth	-	Depth
H	-	Height
int.	-	internal
ext.	-	external
L	-	Length
Wth	-	Width
N-S	-	North to South, linear axis
N->S	-	North to South, curvilinear and clockwise
NTS	-	Not to scale

Personal Communication

Ed Fitzgerald, Civil Engineering Consultant, ESB International, St Stephen's Green, Dublin.

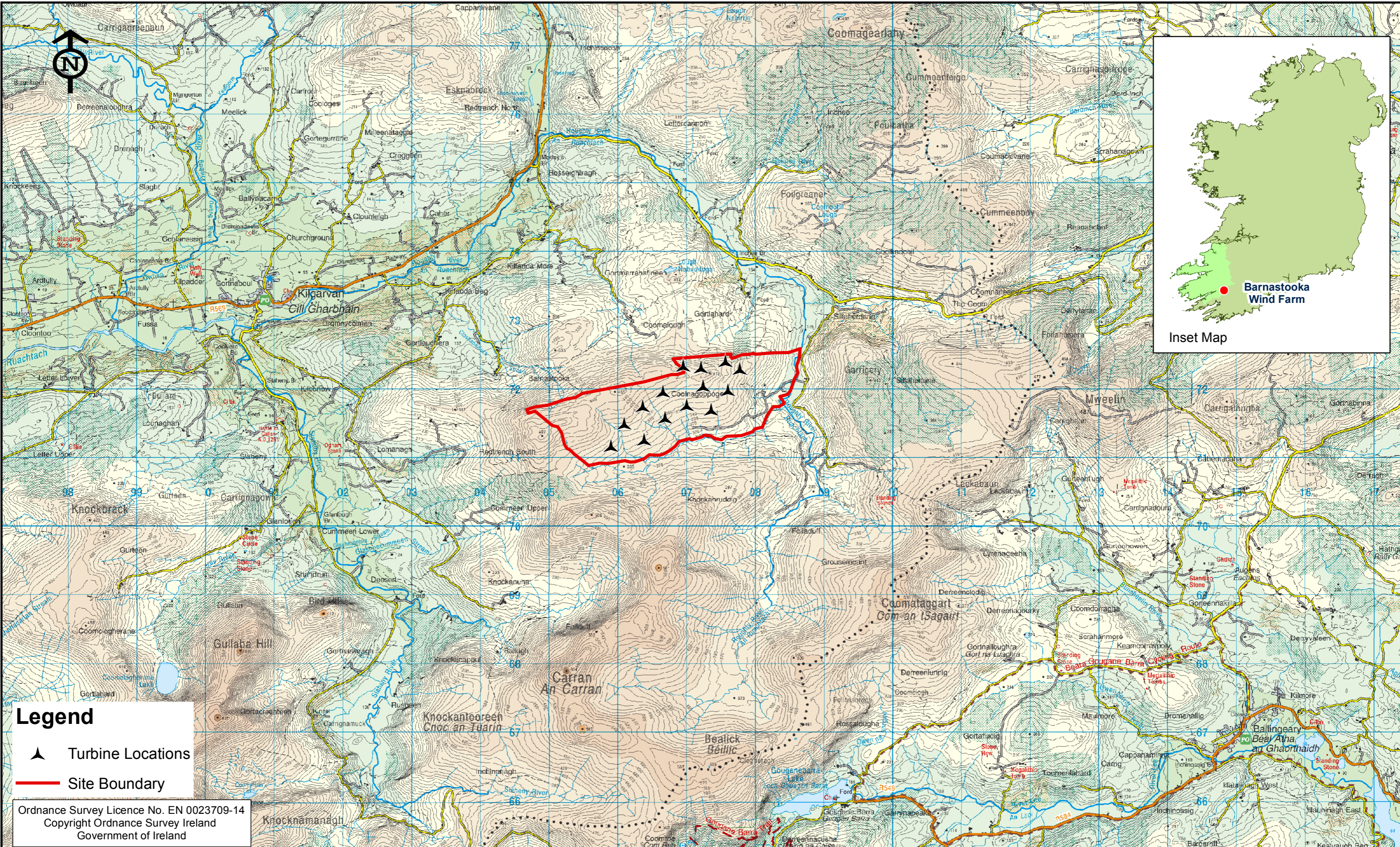
Patrick Flynn, Geotechnical Engineer, IGSL Ltd, Unit F, M7 Business Park, Naas, Co. Kildare.

Gerry Kelly, Senior Consultant, ESB Wind Development, 18-21 St Stephen's Green, Dublin.

John Lucy, Grousemount, Kilgarvan. Mr Lucy is a local landowner and farmer at Grousemount.

Joe O' Connor, Geotechnical Engineer, IGSL Ltd, Unit F, M7 Business Park, Naas, Co. Kildare.

Susan Stack, Civil Engineer, Civil & Environmental Engineering, ESB International, Stephen Court, 18-21 St Stephen's Green, Dublin.



Legend

- Turbine Locations
- Site Boundary

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Rev	Revision Description	Date
0	Issued for construction	11.11.14

ESB INTERNATIONAL

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 Dublin 2, Ireland Tel: +353 (0) 1 703 8000 Fax: +353 (0) 1 703 8088
 Email: marketing@esbi.ie Web: www.esbi.ie

Client
ESB WIND DEVELOPMENT LTD.

Project
Barnastooka Wind Farm

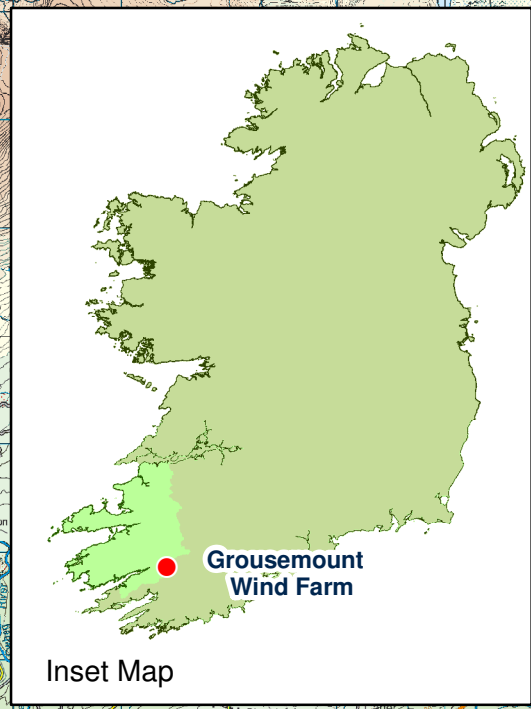
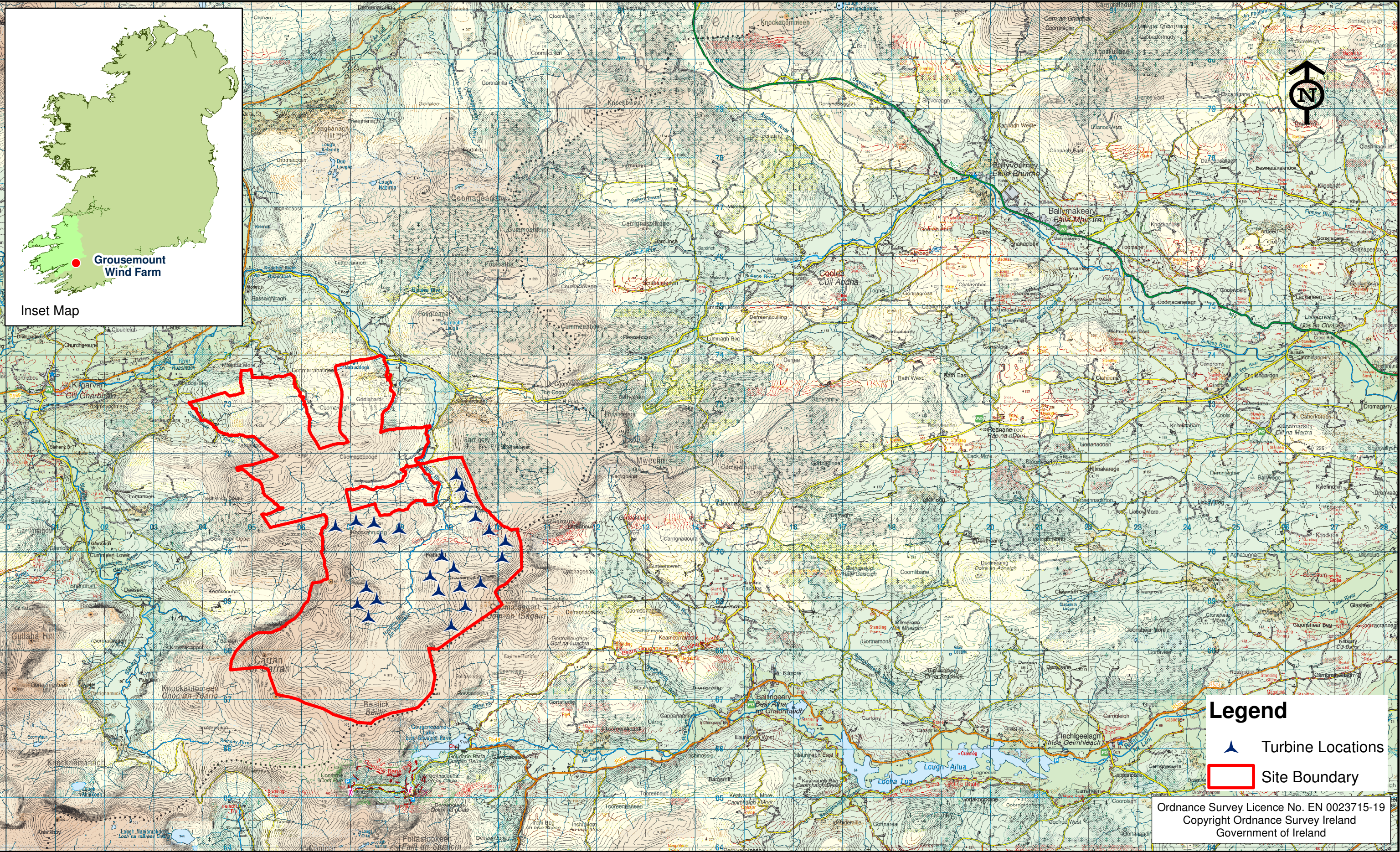
Title
Site Location Map

Production Unit
Civil Building & Environment



DRAWN BY E.O'Shea	VERIFIED BY R.Canavan	APPROVED BY P.Moran	REVISION 0	APPROVED DATE 11/11/2014
CLIENT REF. 00-00	NO. OF SHEETS 00-00	SHEET SIZE A3	SCALE 1:50,000	
MAP REFERENCE W78035-F105-010-D-0002				

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Legend

-  Turbine Locations
-  Site Boundary

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Rev	Revision Description	Date
0	Issued for site investigation	12.03.15

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Client
ESB WIND DEVELOPMENT LTD.

Project
Grousemount Wind Farm

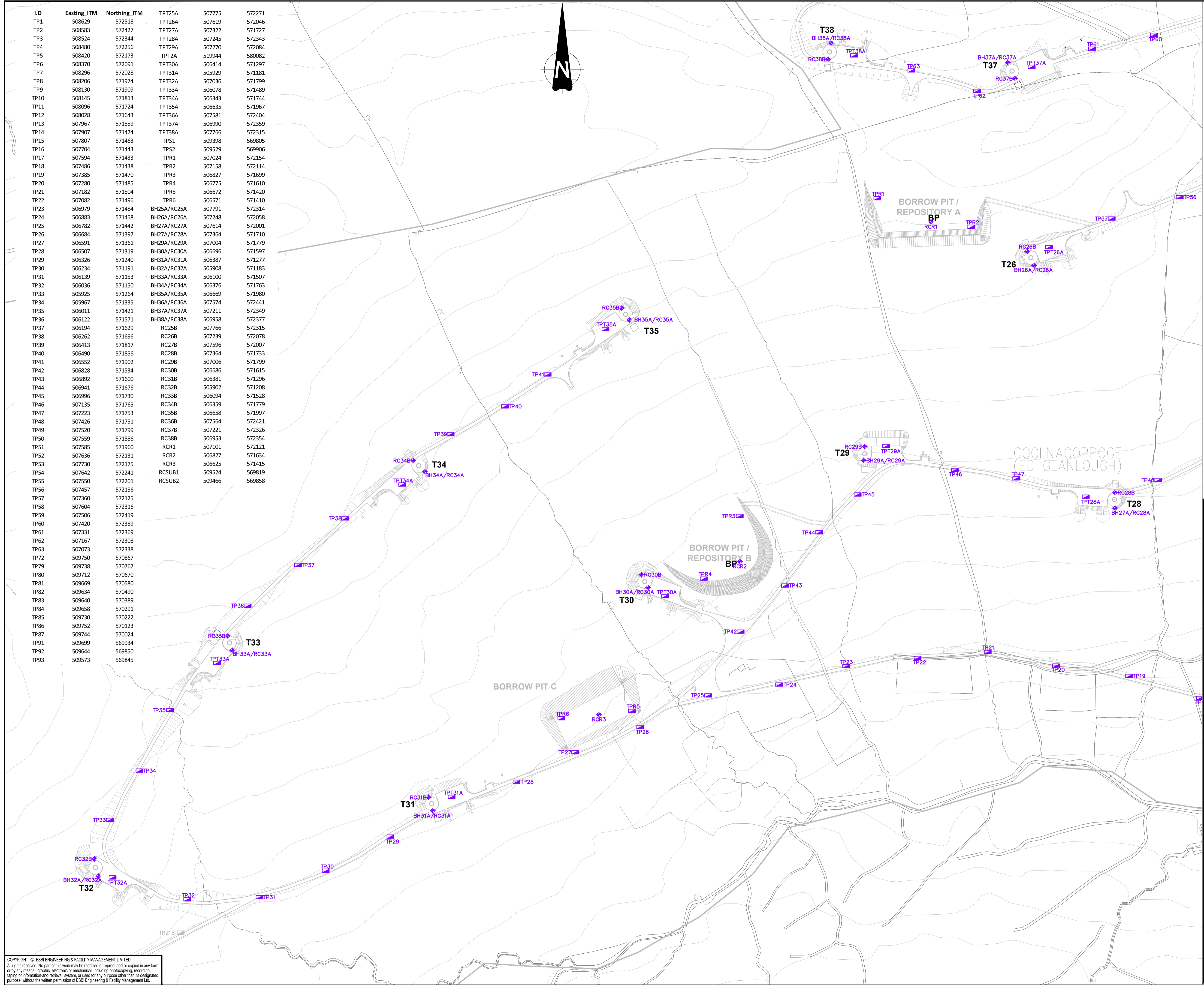
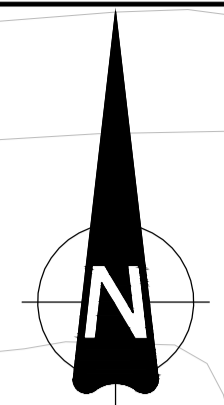
Title
Site Location Map

Production Unit
Civil & Environmental Engineering

DRAWN BY	VERIFIED BY	APPROVED BY	REVISION	APPROVED DATE
E.O'Shea	D.Shiels	S.Shanley	0	12/03/2015
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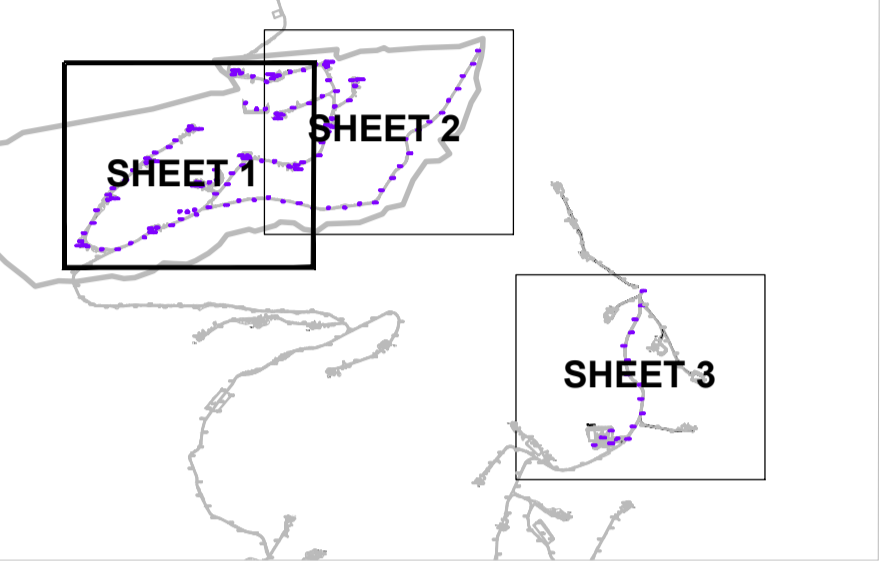
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LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- SITE BOUNDARY
- CONTOURS
- REPOSITORIES
- SHELL & AUGER BOREHOLE LOCATION
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- GROUSEMOUNT TRIAL PIT LOCATION (SEPERATE CONTRACT)



KEY PLAN

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REV.	DATE	REVISION DESCRIPTION	DRN	VER	APP
1	10.03.15	ISSUED FOR SITE INVESTIGATION	E.O'S	D.S	S.S
0	11.11.14	ISSUED FOR CONSTRUCTION	E.O'S	R.C	P.M

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **BARNASTOOKA WIND FARM**

Contract:

Drawing Title: **SITE INVESTIGATION LOCATIONS**

Production Unit: **Civil & Environmental Engineering**

ESB INTERNATIONAL

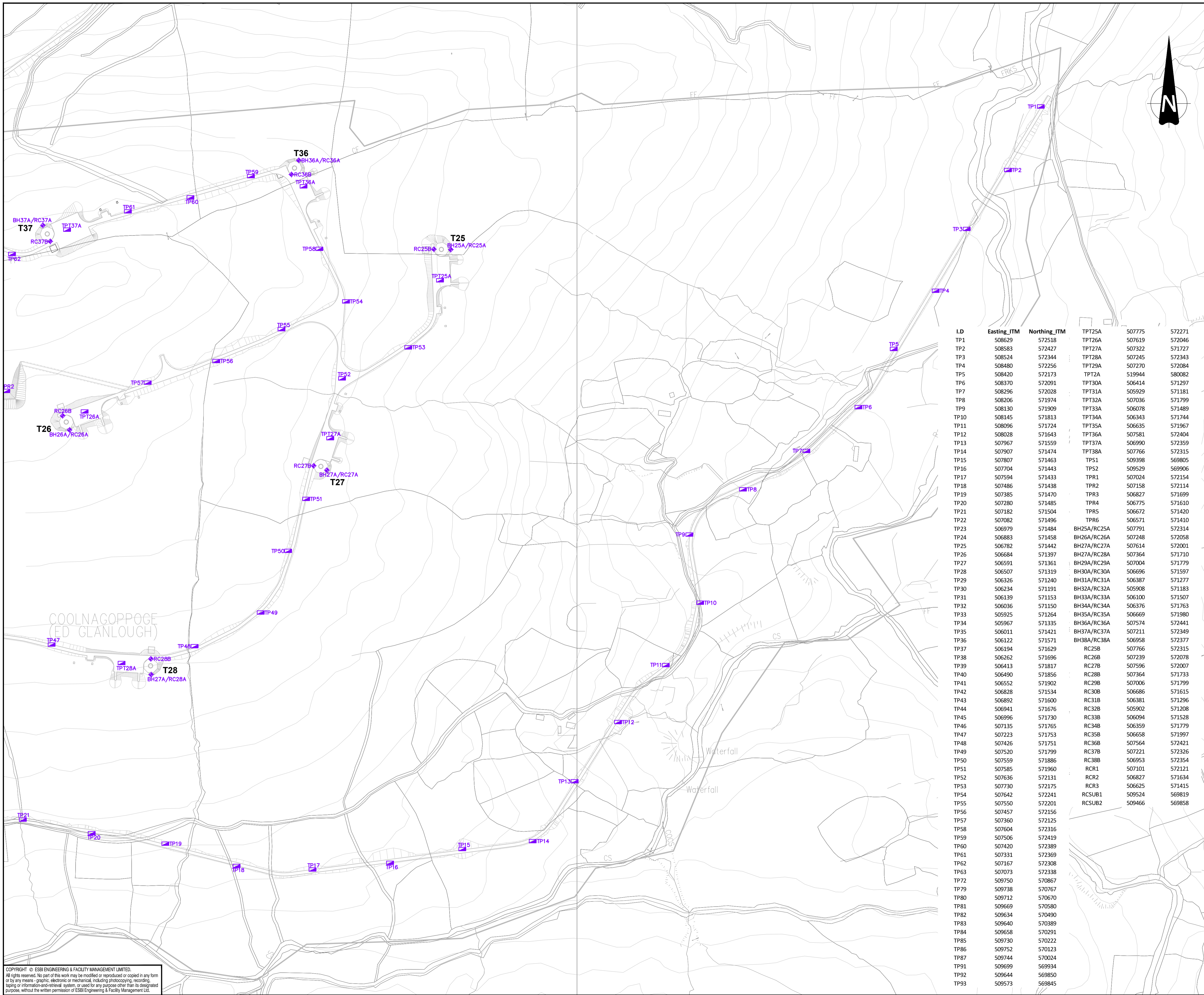
ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 7038000 Fax: +353 (0) 1 7038088
Email: marketing@esbi.ie Web: www.esbi.ie
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DRAWN	VERIFIED	APPROVED	APPRO DATE
E.O'Shea	D.Shields	S.Shanley	10.03.2015

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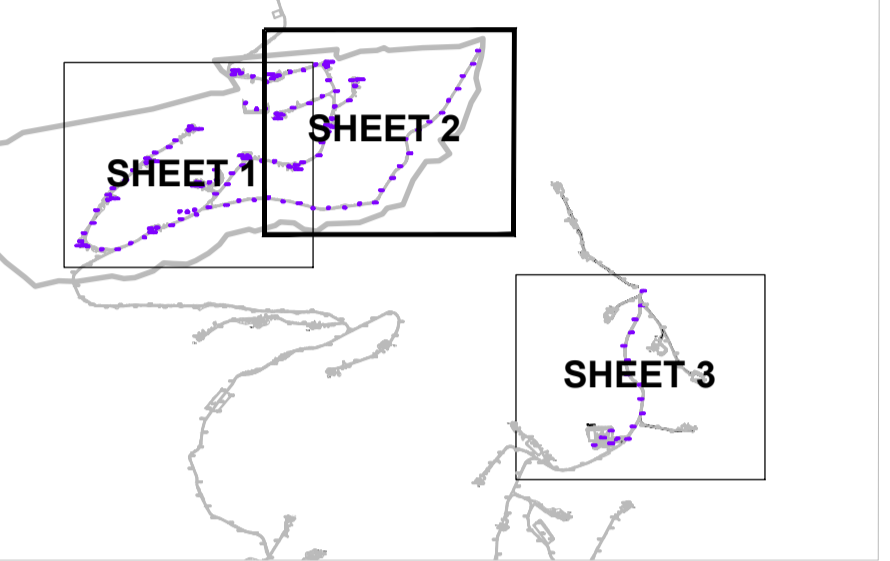
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LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- SITE BOUNDARY
- CONTOURS
- REPOSITORIES
- SHELL & AUGER BOREHOLE LOCATION
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- GROUSEMOUNT TRIAL PIT LOCATION (SEPERATE CONTRACT)



KEY PLAN

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REV.	DATE	REVISION DESCRIPTION	DRN	VER	APP
1	10.03.15	ISSUED FOR SITE INVESTIGATION	E.O.S	D.S	S.S
0	11.11.14	ISSUED FOR CONSTRUCTION	E.O.S	R.C	P.M

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **BARNASTOOKA WIND FARM**

Contract: _____

Drawing Title: **SITE INVESTIGATION LOCATIONS**

Production Unit: **Civil & Environmental Engineering**

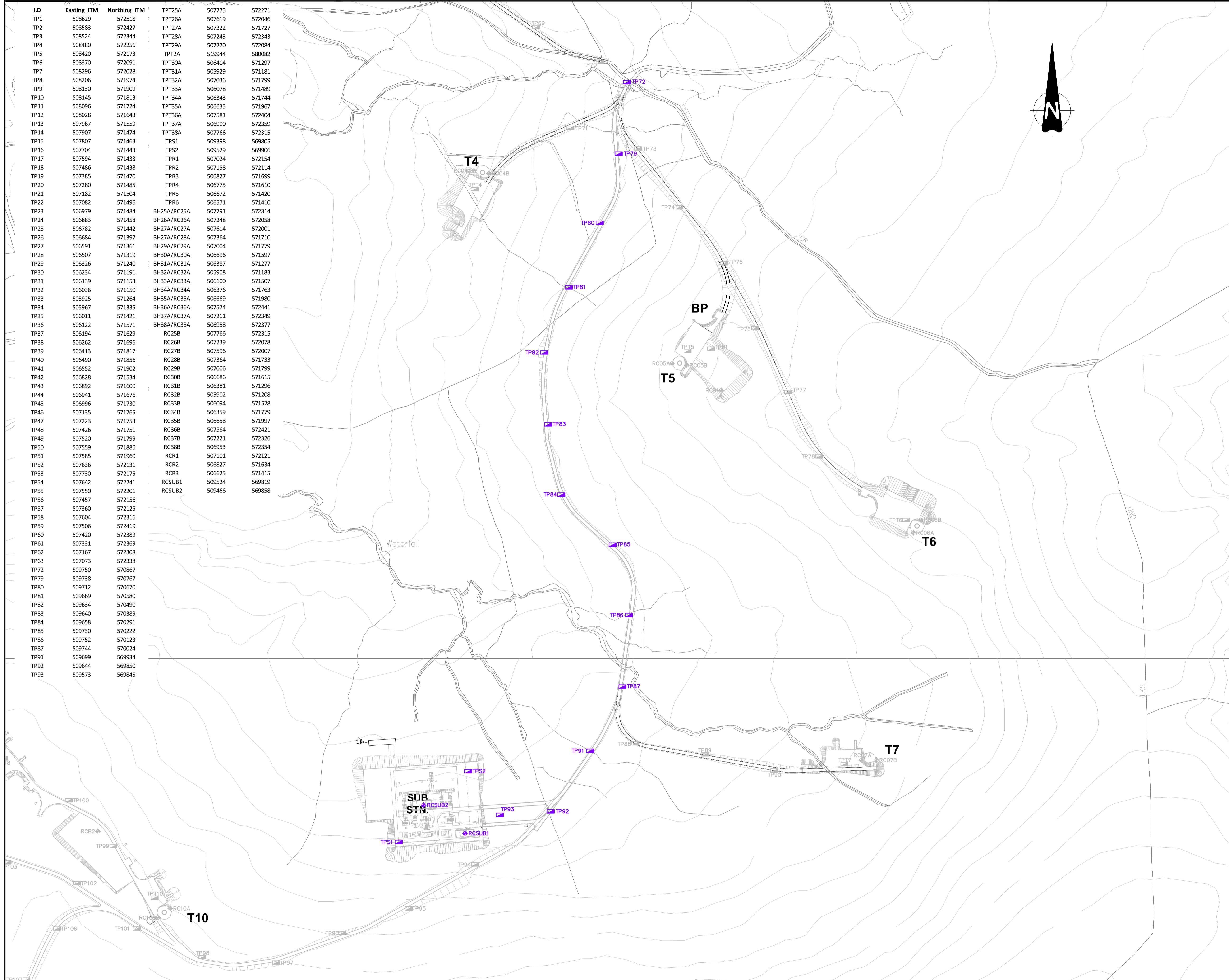
ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 7038000 Fax: +353 (0) 1 7038088 Email: marketing@esbi.ie Web: www.esbi.ie

DRAWN	VERIFIED	APPROVED	APPRO DATE
E.O'Shea	D.Shiels	S.Shanley	10.03.2015

CLIENT REF	No. of Sites	SIZE	REV	SCALE
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DRAWING NUMBER: **W78035-F105-010-D-0003**

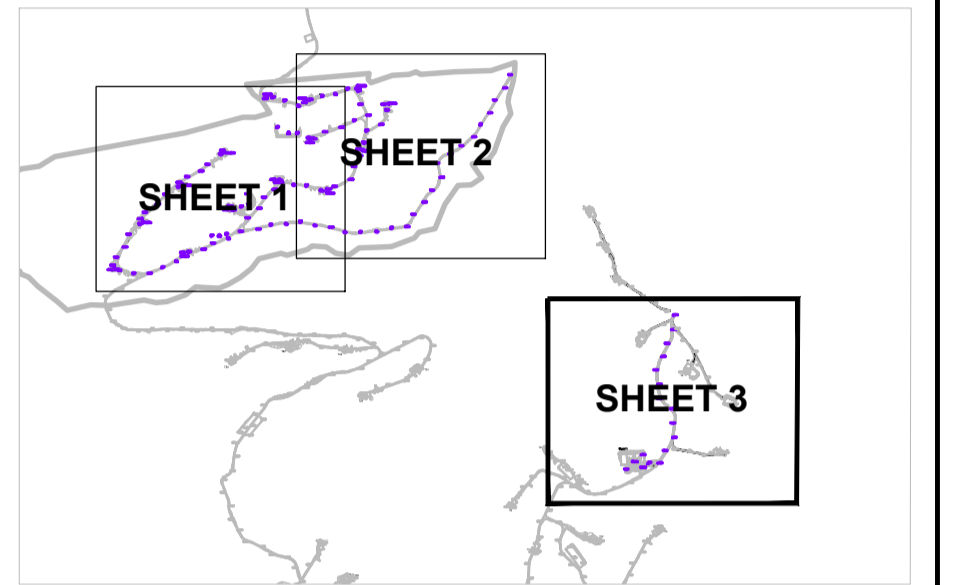
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TP2	508583	572427	TPT26A	507619	572046
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TP74	509699	569934			
TP75	509644	569850			
TP76	509573	569845			

LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- SITE BOUNDARY
- CONTOURS
- REPOSITORIES
- SHELL & AUGER BOREHOLE LOCATION
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- GROUSEMOUNT TRIAL PIT LOCATION (SEPERATE CONTRACT)



KEY PLAN

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REV.	DATE	REVISION DESCRIPTION	DRN	VER	APP
1	10.03.15	ISSUED FOR SITE INVESTIGATION			E.O.S. D.S. S.S.
0	11.11.14	ISSUED FOR CONSTRUCTION			E.O.S. R.C. P.M.

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **BARNASTOOKA WIND FARM**

Contract:

Drawing Title: **SITE INVESTIGATION LOCATIONS**

Production Unit: **Civil & Environmental Engineering**

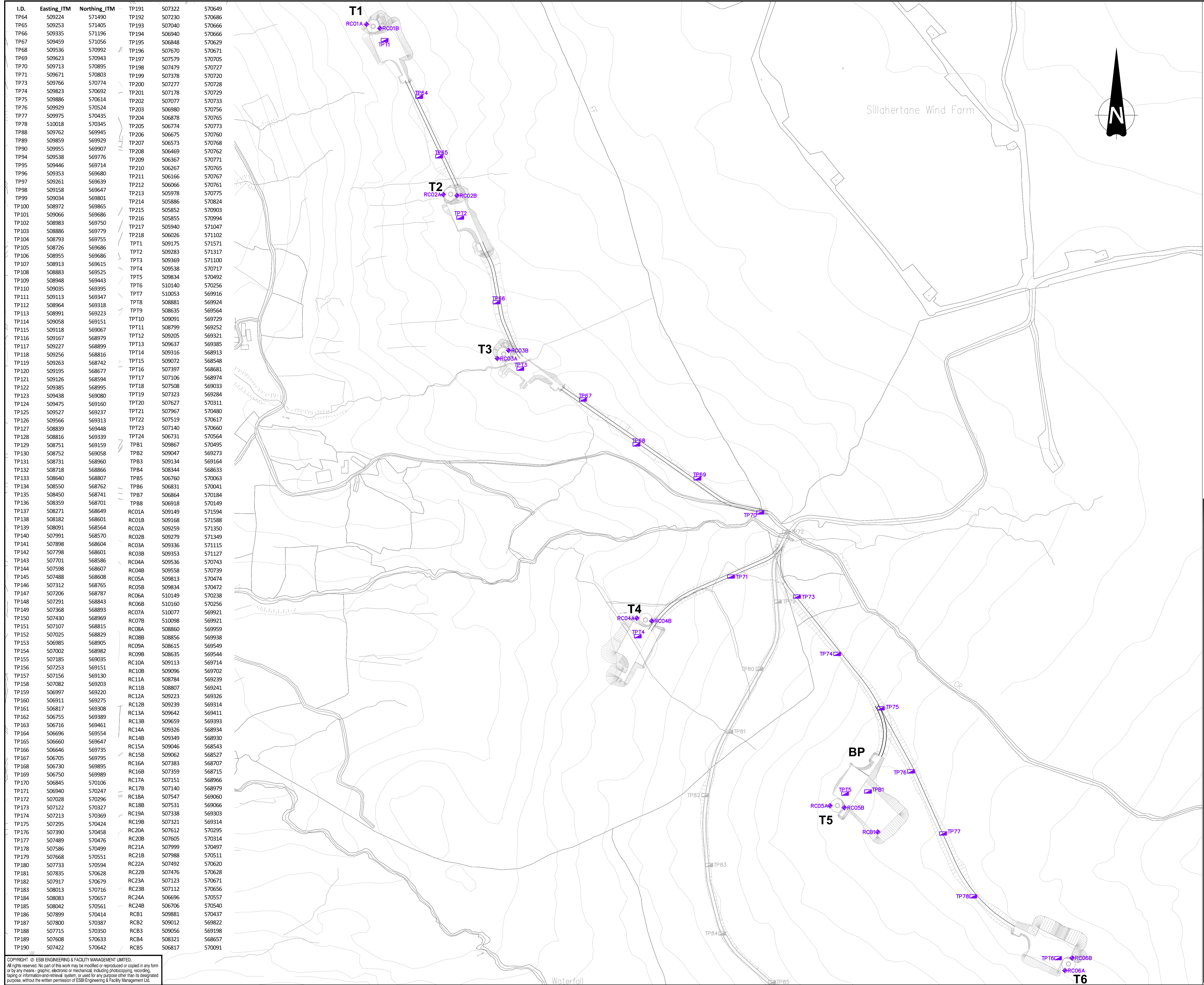
ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 7038000 Fax: +353 (0) 1 7038088
Email: marketing@esbi.ie Web: www.esbi.ie
ESB International is a trading name of ESBI Engineering and Facility Management Limited
Registered Office: as above Registered in Ireland No. 155249

DRAWN	VERIFIED	APPROVED	APPRO DATE
E.O'Shea	D.Shiels	S.Shanley	10.03.2015

CLIENT REF	No. of Sites	SIZE	REV	SCALE
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DRAWING NUMBER: **W78035-F105-010-D-0003**

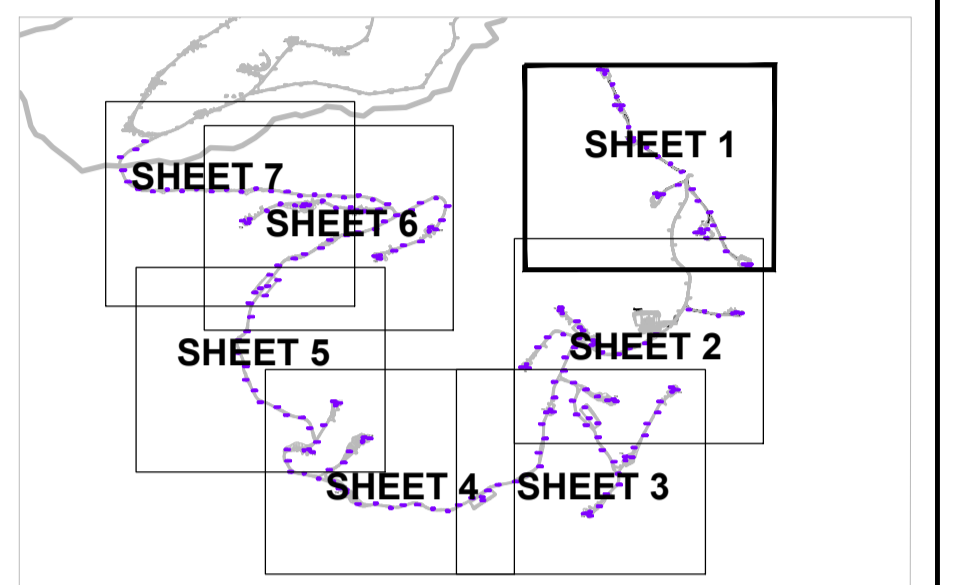
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TP96	509353	569680	TP211	506166	570767
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LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- CONTOURS
- REPOSITORIES
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- BARNASTOOKA TRIAL PIT LOCATION (SEPERATE CONTRACT)



KEY PLAN

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REV.	DATE	REVISION DESCRIPTION	E.O.S	D.S	S.S
0	11.03.15	ISSUED FOR SITE INVESTIGATION			

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract:

Drawing Title: **SITE INVESTIGATION LOCATIONS**

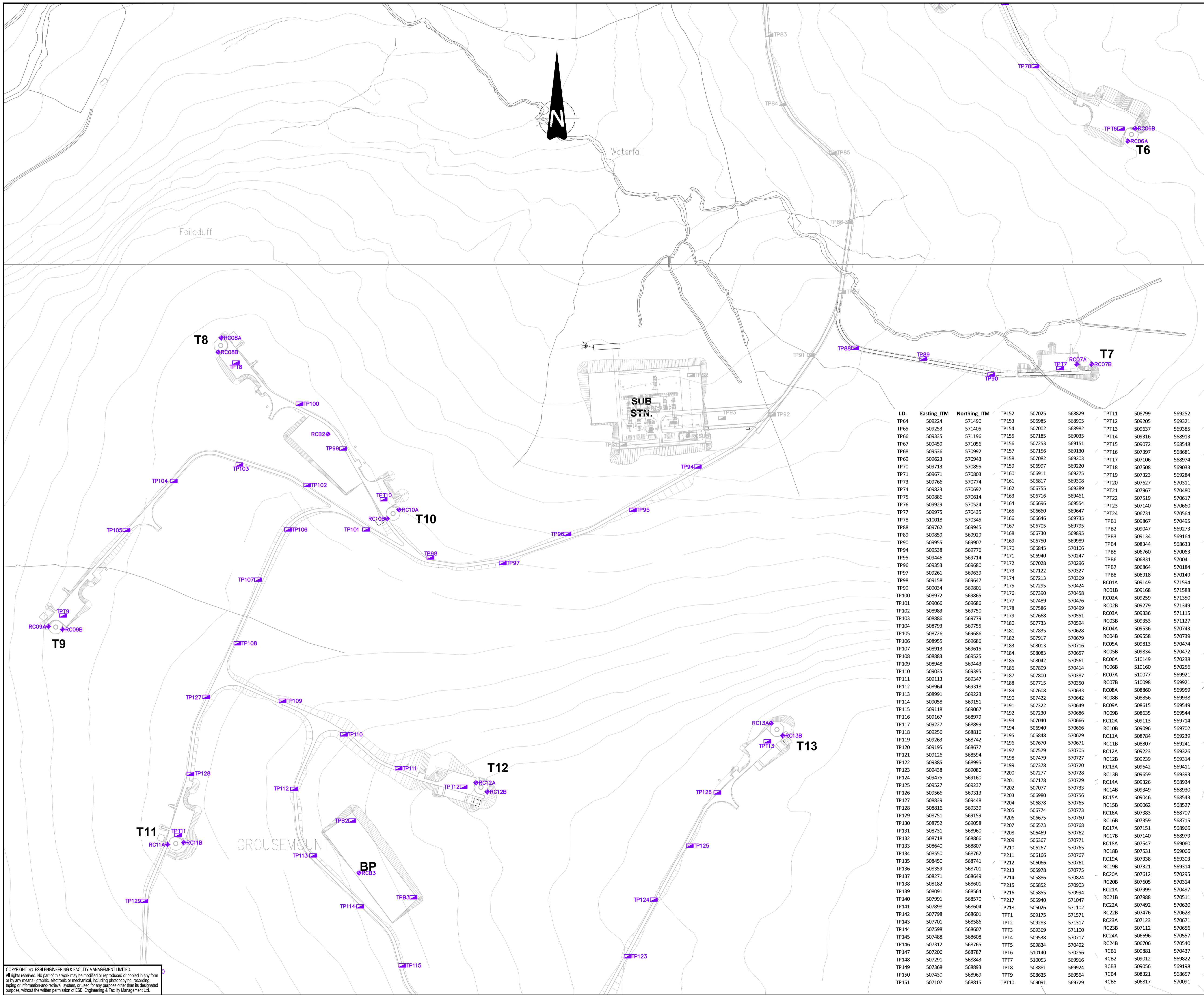
Production Unit: **Civil & Environmental Engineering**

ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000 Fax: +353 (0) 1 7038088
Email: marketing@esbi.ie Web: www.esbi.ie
ESB International is a trading name of ESBI Engineering and Facility Management Limited
Registered Office: as above Registered in Ireland/No. 155249

DRAWN	VERIFIED	APPROVED	APPRO DATE
E.O.Shea	D.Shiels	S.Shanley	11.03.2015

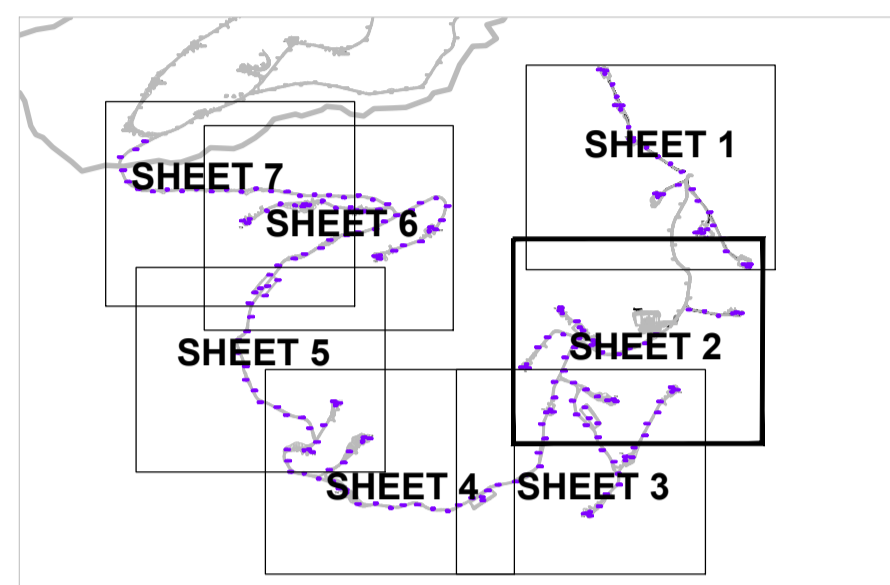
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LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- CONTOURS
- REPOSITORIES
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- BARNASTOOKA TRIAL PIT LOCATION (SEPERATE CONTRACT)

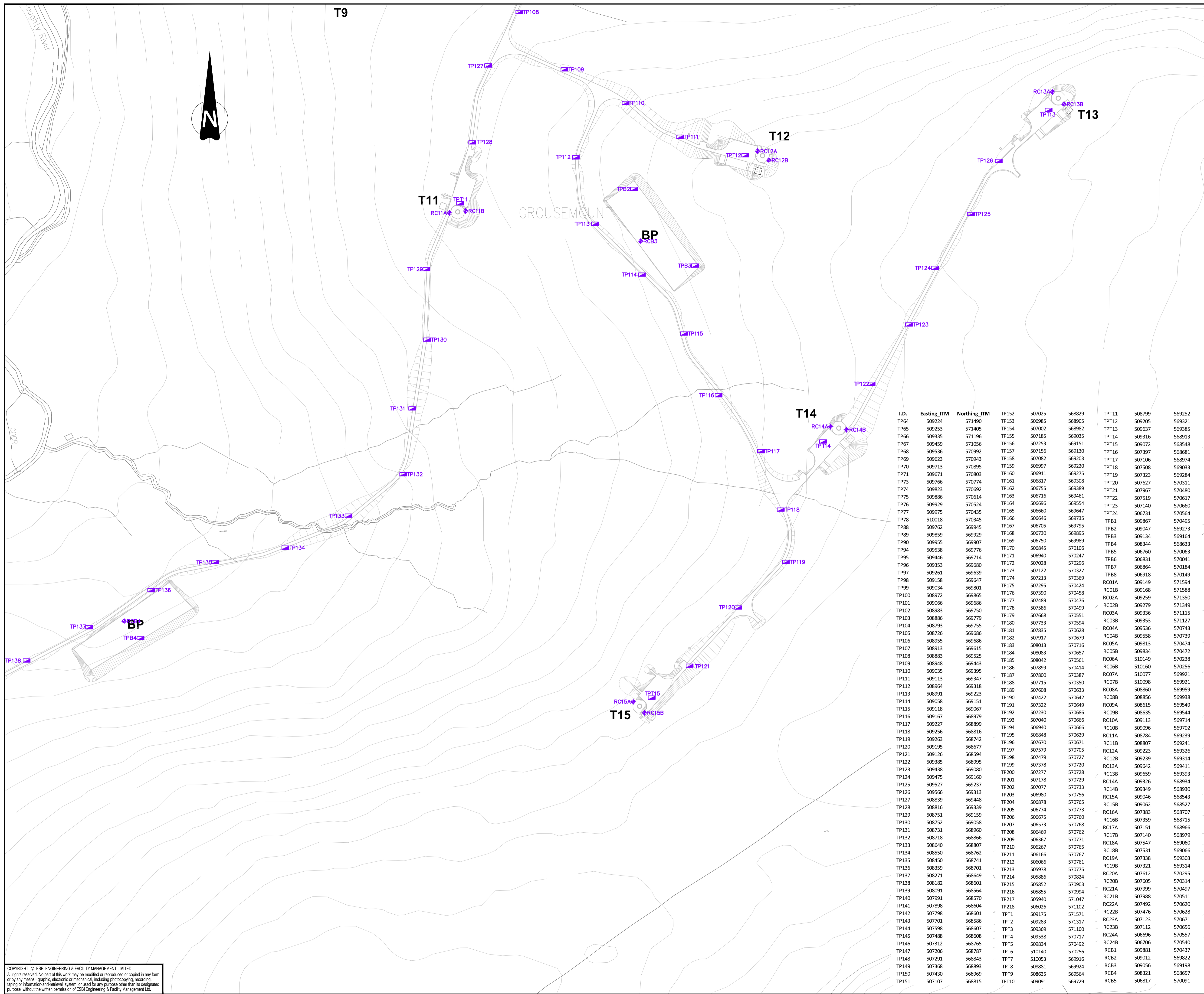


KEY PLAN
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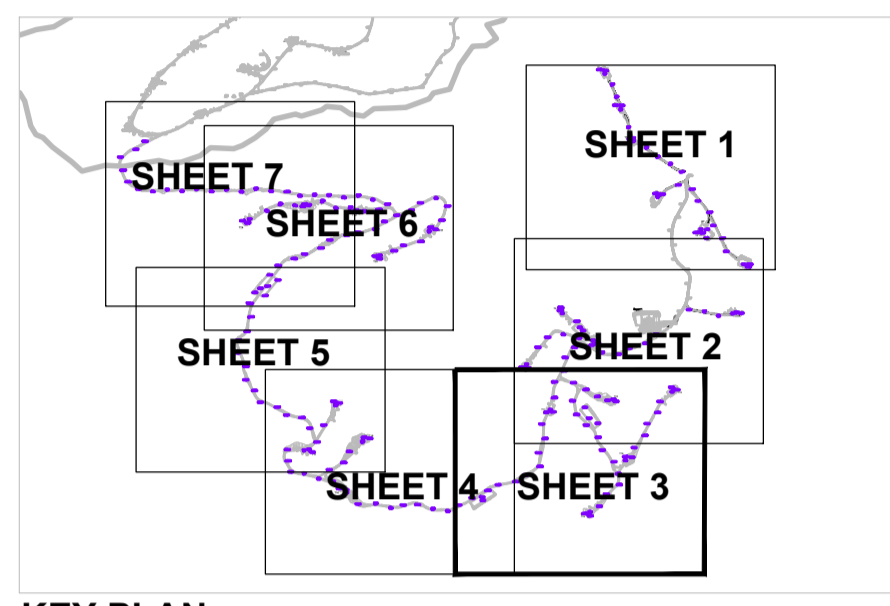
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REV.	DATE	REVISION DESCRIPTION	E.O.S.	D.S.	S.S.
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PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED					
TENDER	<input type="checkbox"/>	CLIENT APPROVAL	<input type="checkbox"/>	CONSTRUCTION	<input type="checkbox"/>
	<input type="checkbox"/>	AS-BUILT	<input type="checkbox"/>	REVISED	<input type="checkbox"/>
Client	ESB WIND DEVELOPMENT LTD.				
Project	GROUSEMOUNT WIND FARM				
Contract					
Drawing Title	SITE INVESTIGATION LOCATIONS				
Production Unit	Civil & Environmental Engineering				
ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 7038000 Fax: +353 (0) 1 7038088 Email: marketing@esbi.ie Web: www.esbi.ie ESB International is a trading name of ESB Engineering and Facility Management Limited Registered Office: as above Registered in Ireland/No. 155249					
DRAWN	VERIFIED	APPROVED	APPD DATE		
E.O'Shea	D.Shiels	S.Shanley	11.03.2015		
CLIENT REF	No. of Sites	SIZE	REV	SCALE	
	2/7	A1	1	1:2,500	
DRAWING NUMBER					
W78035-F105-010-D-0005					



LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- CONTOURS
- REPOSITORIES
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- BARNASTOOKA TRIAL PIT LOCATION (SEPERATE CONTRACT)



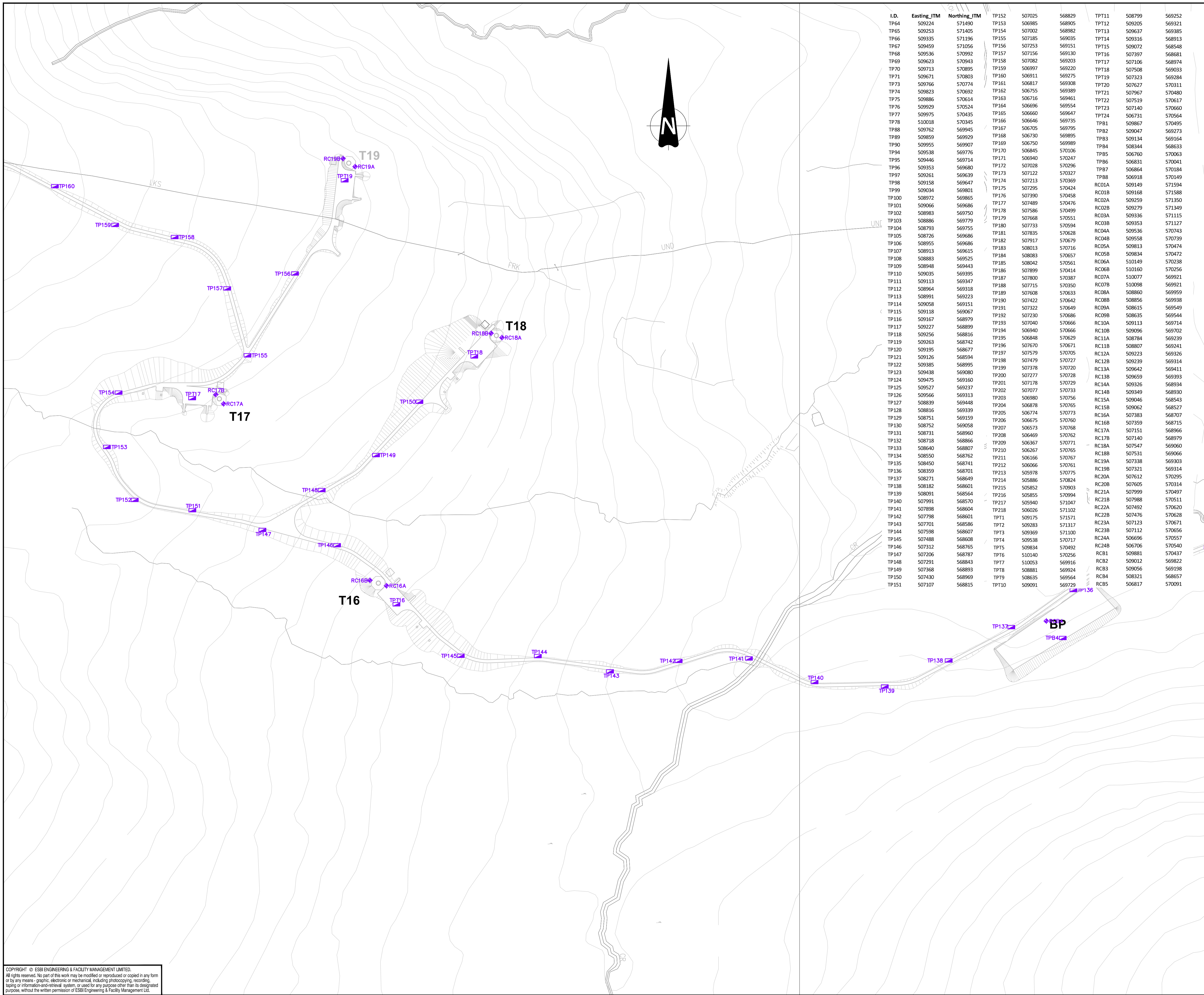
KEY PLAN

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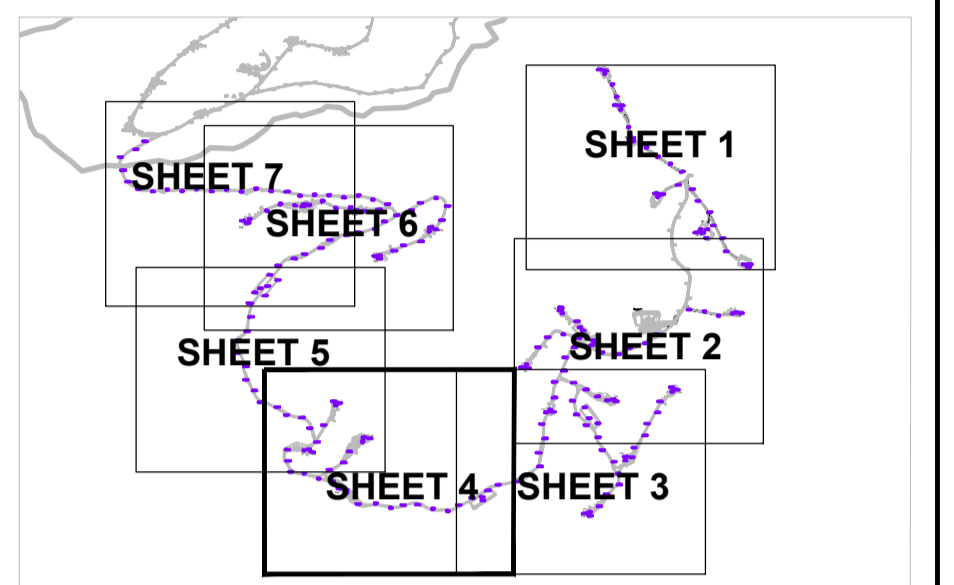
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REV	DATE	REVISION DESCRIPTION	E.O.S	D.S	S.S
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PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED					
TENDER	<input type="checkbox"/>	CLIENT APPROVAL	<input type="checkbox"/>	CONSTRUCTION	<input type="checkbox"/>
	<input type="checkbox"/>	AS-BUILT	<input type="checkbox"/>	REVISED	<input type="checkbox"/>
Client	ESB WIND DEVELOPMENT LTD.				
Project	GROUSEMOUNT WIND FARM				
Contract					
Drawing Title	SITE INVESTIGATION LOCATIONS				
Production Unit	Civil & Environmental Engineering				
ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 7038000 Fax: +353 (0) 1 7038088 Email: marketing@esbi.ie Web: www.esbi.ie ESB International is a trading name of ESB Engineering and Facility Management Limited Registered Office: as above Registered in Ireland No. 155249					
DRAWN	VERIFIED	APPROVED	APPRO DATE		
E.O'Shea	D.Shields	S.Shanley	11.03.2015		
CLIENT REF	No. of Sites	SIZE	REV	SCALE	
	3/7	A1	1	1:2,500	
DRAWING NUMBER					
W78035-F105-010-D-0005					



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- LEGEND:**
- WIND FARM ACCESS TRACK
 - TURBINE LOCATION
 - SITE BOUNDARY
 - CONTOURS
 - REPOSITORIES
 - ROTARY BOREHOLE LOCATION
 - TRIAL PIT LOCATION
 - BARNASTOOKA TRIAL PIT LOCATION (SEPERATE CONTRACT)



KEY PLAN

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REV.	DATE	REVISION DESCRIPTION	DRN	VER	APP
0	11.03.15	ISSUED FOR SITE INVESTIGATION			

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract:

Drawing Title: **SITE INVESTIGATION LOCATIONS**

Production Unit: **Civil & Environmental Engineering**

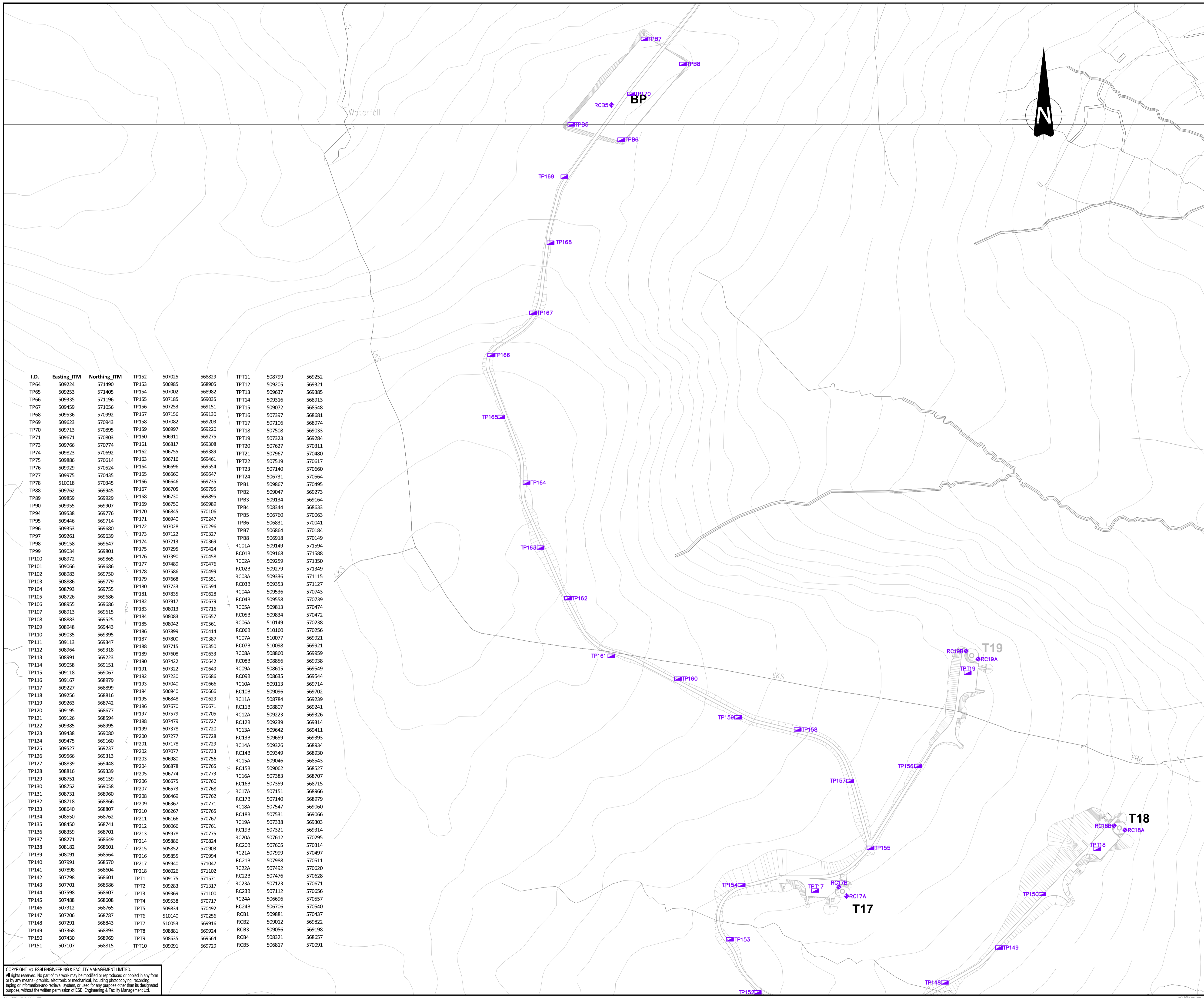
ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 7038000 Fax: +353 (0) 1 7038088 Email: marketing@esbi.ie Web: www.esbi.ie
ESB International is a trading name of ESB Engineering and Facility Management Limited Registered Office: as above Registered in Ireland/No. 155249

DRAWN	VERIFIED	APPROVED	APPRO DATE
E.O'Shea	D.Shiels	S.Shanley	11.03.2015

CLIENT REF	No. of Shts	SIZE	REV	SCALE
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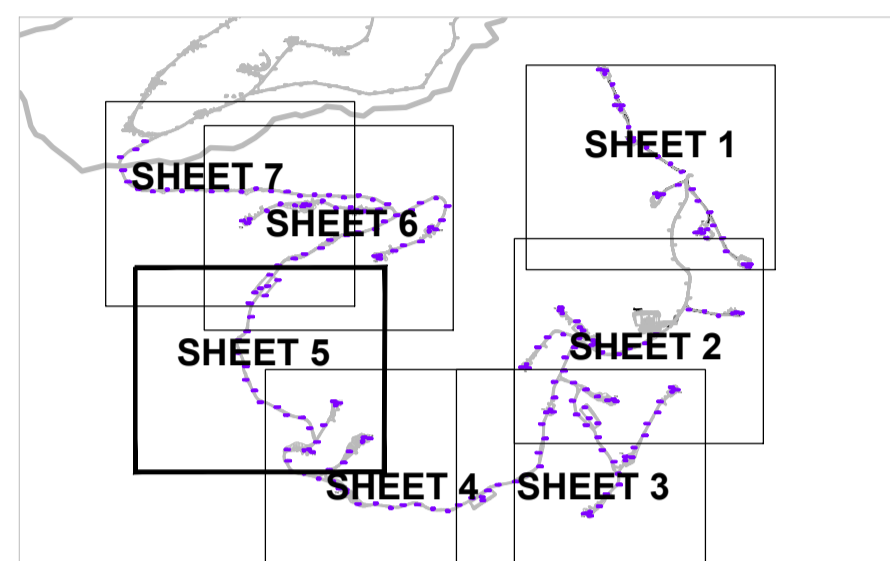
DRAWING NUMBER: **W78035-F105-010-D-0005**

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LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- SITE BOUNDARY
- CONTOURS
- REPOSITORIES
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- BARNASTOOKA TRIAL PIT LOCATION (SEPERATE CONTRACT)



KEY PLAN

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Copyright Ordnance Survey Ireland/Government of Ireland

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REV.	DATE	REVISION DESCRIPTION	DRN	VER	S.S
0	11.03.15	ISSUED FOR SITE INVESTIGATION			

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract:

Drawing Title: **SITE INVESTIGATION LOCATIONS**

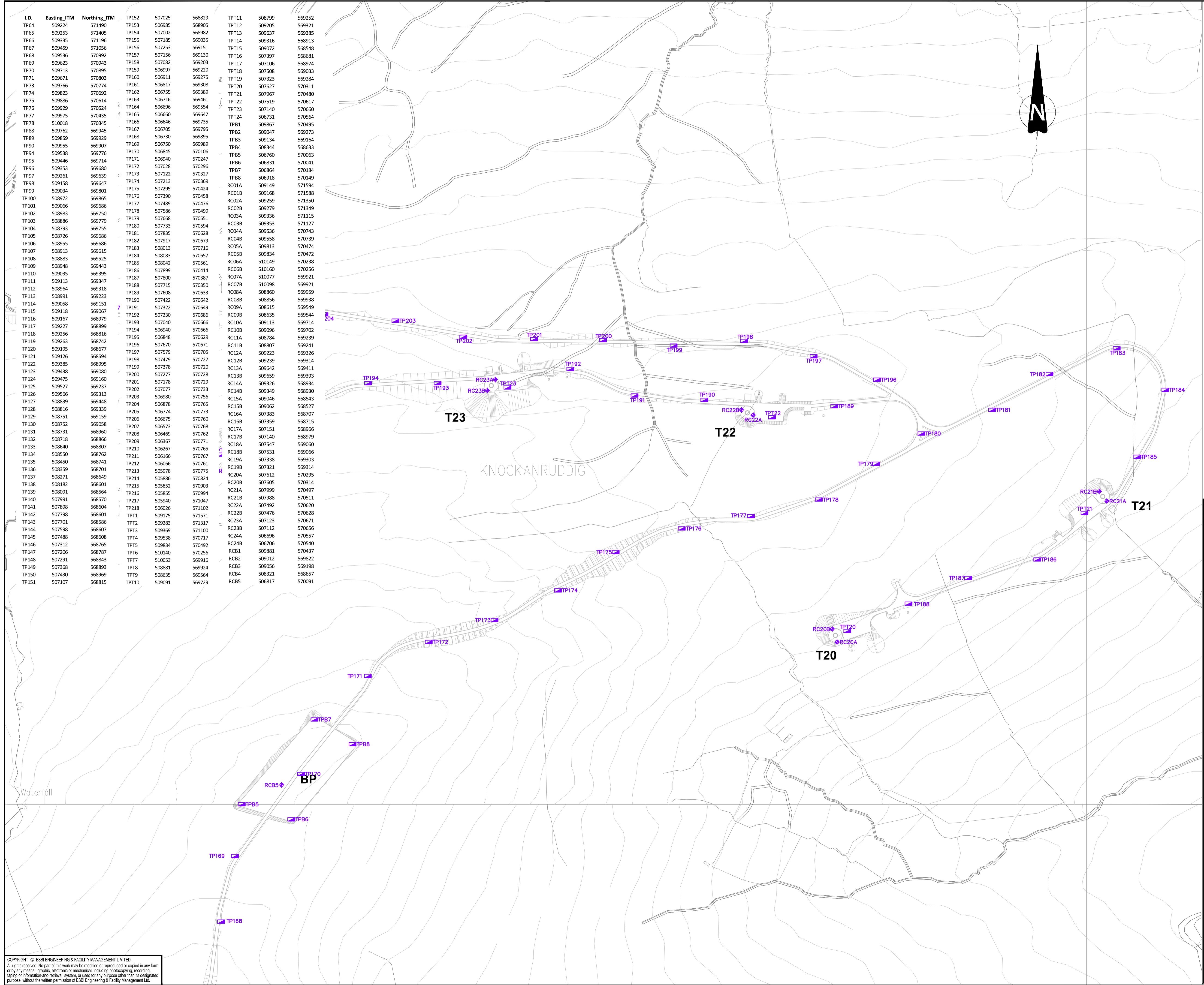
Production Unit: **Civil & Environmental Engineering**

ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 7038000 Fax: +353 (0) 1 7038088 Email: marketing@esbi.ie Web: www.esbi.ie

DRAWN	VERIFIED	APPROVED	APPRO DATE
E.O'Shea	D.Shields	S.Shanley	11.03.2015

DRAWING NUMBER: **W78035-F105-010-D-0005**

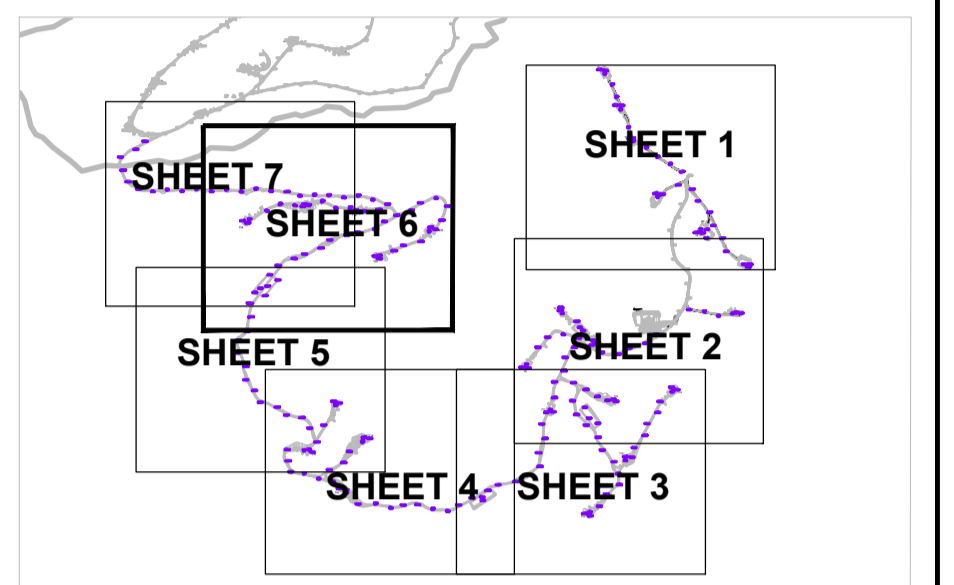
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LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- SITE BOUNDARY
- CONTOURS
- REPOSITORIES
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- BARNASTOOKA TRIAL PIT LOCATION (SEPERATE CONTRACT)



KEY PLAN

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REV.	DATE	REVISION DESCRIPTION	DRN	VER	APP
0	11.03.15	ISSUED FOR SITE INVESTIGATION			E.O.S. D.S. S.S.

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract:

Drawing Title: **SITE INVESTIGATION LOCATIONS**

Production Unit: **Civil & Environmental Engineering**

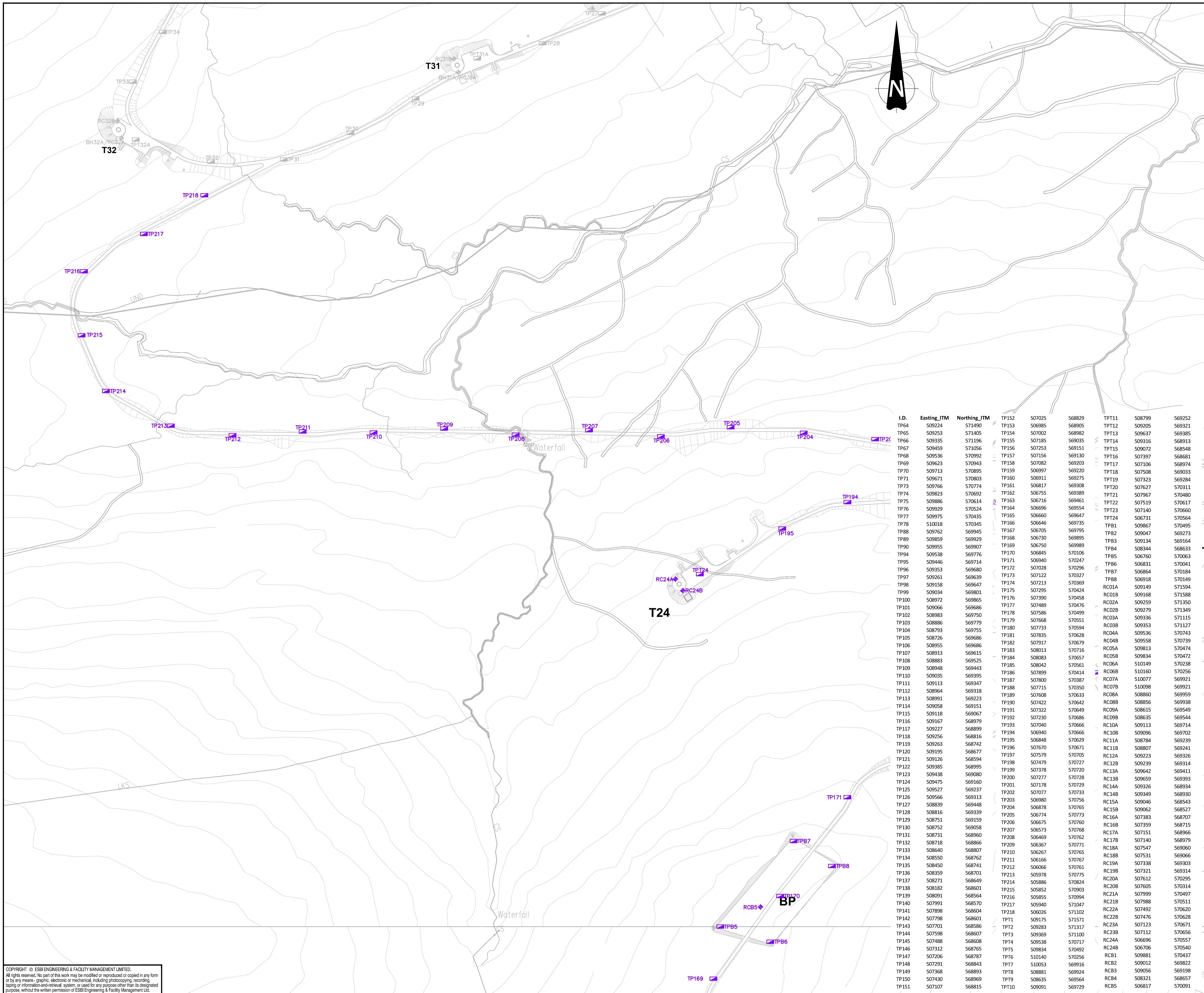
ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 7038000 Fax: +353 (0) 1 7038088
Email: marketing@esbi.ie Web: www.esbi.ie
ESB International is a trading name of ESBI Engineering and Facility Management Limited
Registered Office: as above Registered in Ireland/No. 155249

DRAWN	VERIFIED	APPROVED	APPRO DATE
E.O'Shea	D.Shields	S.Shanley	11.03.2015

CLIENT REF: 6/7 No. of Sites: A1 SIZE: REV: 1 SCALE: 1:2,500

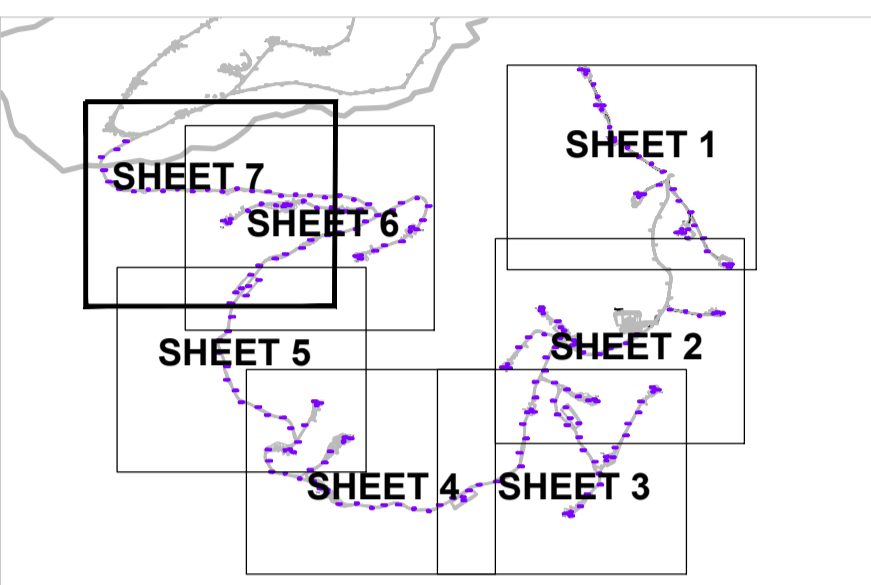
DRAWING NUMBER: **W78035-F105-010-D-0005**

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LEGEND:

- WIND FARM ACCESS TRACK
- TURBINE LOCATION
- SITE BOUNDARY
- CONTOURS
- REPOSITORIES
- ROTARY BOREHOLE LOCATION
- TRIAL PIT LOCATION
- BARNASTOOKA TRIAL PIT LOCATION (SEPERATE CONTRACT)



KEY PLAN
 Ordnance Survey Licence No. EN 0023715-19
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REV.	DATE	REVISION DESCRIPTION	DRN	VER	APP
0	11.03.15	ISSUED FOR SITE INVESTIGATION			

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED
 CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract: [Blank]

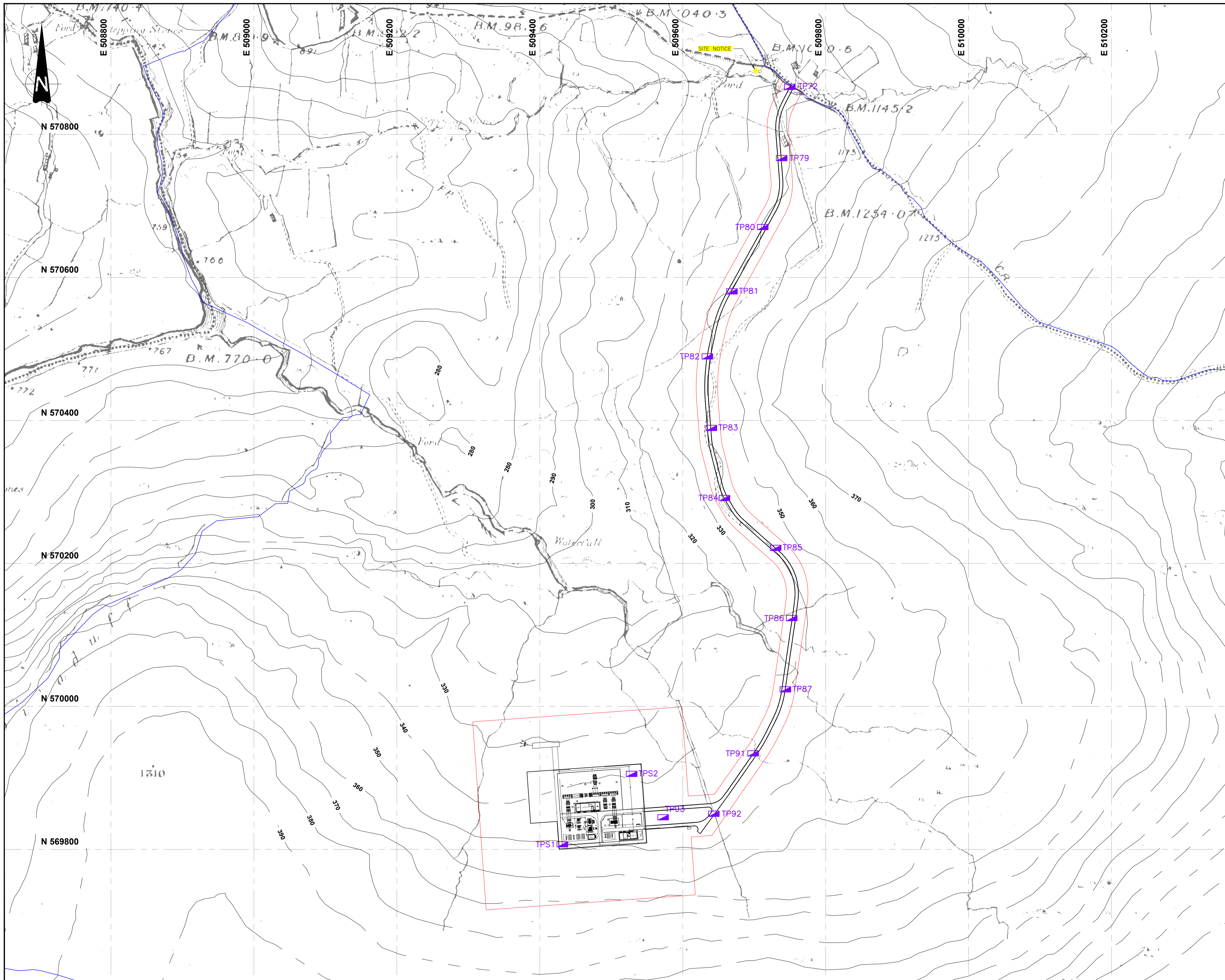
Drawing Title: **SITE INVESTIGATION LOCATIONS**

Production Unit: **Civil & Environmental Engineering**

ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000 Fax: +353 (0)1 7038088
 Email: marketing@esbi.ie Web: www.esbi.ie
 ESB International is a trading name of ESB Engineering and Facility Management Limited
 Registered Office: as above Registered in Ireland/No. 155249

DRAWN	VERIFIED	APPROVED	APPRO DATE
E.O'Shea	D.Shiels	S.Shanley	11.03.2015

DRAWING NUMBER: **W78035-F105-010-D-0005**



Legend:

- Site Boundary
- Site Ownership Boundary
- Proposed Track Layout
- TP8 Trial Pit Locations

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TP52	509529	569906

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The following 6 inch maps are shown in this drawing:
 Kerry - Sheet 95 & Cork - Sheet 68

REV.	DATE	REVISION DESCRIPTION	DRN	PRO	VER	APP
1	01.04.15	ISSUED FOR PLANNING		LMcM	DS	SS RL
0	20.02.15	ISSUED FOR PLANNING		SB	KS	SS RL

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract:

Drawing Title: **COOMATAGGART 110 kV STATION AND GROUSEMOUNT IPP SUBSTATION SITE INVESTIGATION LOCATIONS**

Production Unit: **WIND DEVELOPMENT**

ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (01) 703800
 Web: www.esb.ie
 Registered Office: as above Registered in Ireland No. 471139

DRAWN	PRODUCED	VERIFIED	APPROVED	APPRO DATE
E.O'Shea	C.Fearn	G.Kelly	S. Shanley	26.05.2015

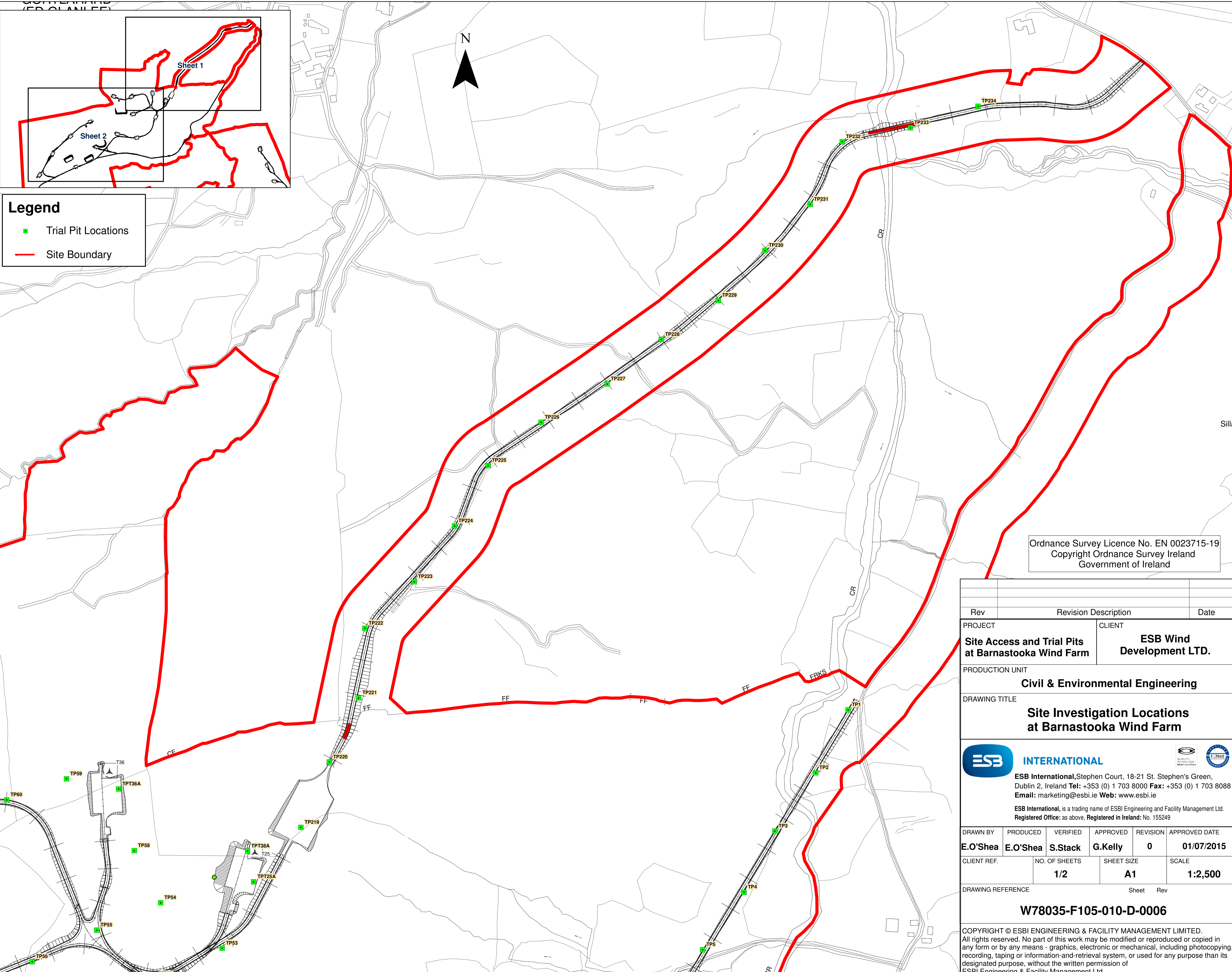
CLIENT REF: No. of Sheets: 1, SIZE: A1, REV: 0, SCALE: 1:2500

DRAWING NUMBER: **QR320171-P03-0012**

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N 569600

Trial Pit	Easting (TM)	Northing (TM)	Trial Pit	Easting (TM)	Northing (TM)
TP1	507882	572125	TP145	507488	568008
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TP3	508824	572348	TP147	507206	568787
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TP5	508420	572171	TP149	507468	568811
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TP7	508206	572028	TP151	507207	568815
TP8	508206	571974	TP152	507205	568820
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TP10	508445	571813	TP154	507002	568807
TP11	508096	571724	TP155	507185	568805
TP12	508203	571443	TP156	507251	569151
TP13	507967	571559	TP157	507165	569151
TP14	507907	571474	TP158	507082	569203
TP15	507807	571463	TP159	506997	569220
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TP17	507594	571433	TP161	506817	569308
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TP21	507181	571504	TP165	506503	569647
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TP23	506979	571484	TP167	506305	569875
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TP25	506782	571442	TP169	506104	570106
TP26	506684	571397	TP170	506008	570224
TP27	506591	571361	TP171	505913	570347
TP28	506507	571319	TP172	505828	570466
TP29	506426	571280	TP173	505732	570587
TP30	506334	571191	TP174	505633	570709
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TP32	506146	571100	TP176	505422	570945
TP33	506052	571064	TP177	505312	571061
TP34	505967	571035	TP178	505208	571174
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TP42	505314	571534	TP186	504469	572054
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TP45	505156	571730	TP189	504242	572395
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TP48	505036	571751	TP192	504041	572742
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TP133	501215	570000	TP277	501611	582934
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TP135	501123	570000	TP279	501561	583174
TP136	501077	570000	TP280	501536	583294
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TP142	500801	570000	TP286	501386	584014
TP143	500755	570000	TP287	501361	584134
TP144	500709	570000	TP288	501336	584254



Legend

- Trial Pit Locations
- Site Boundary

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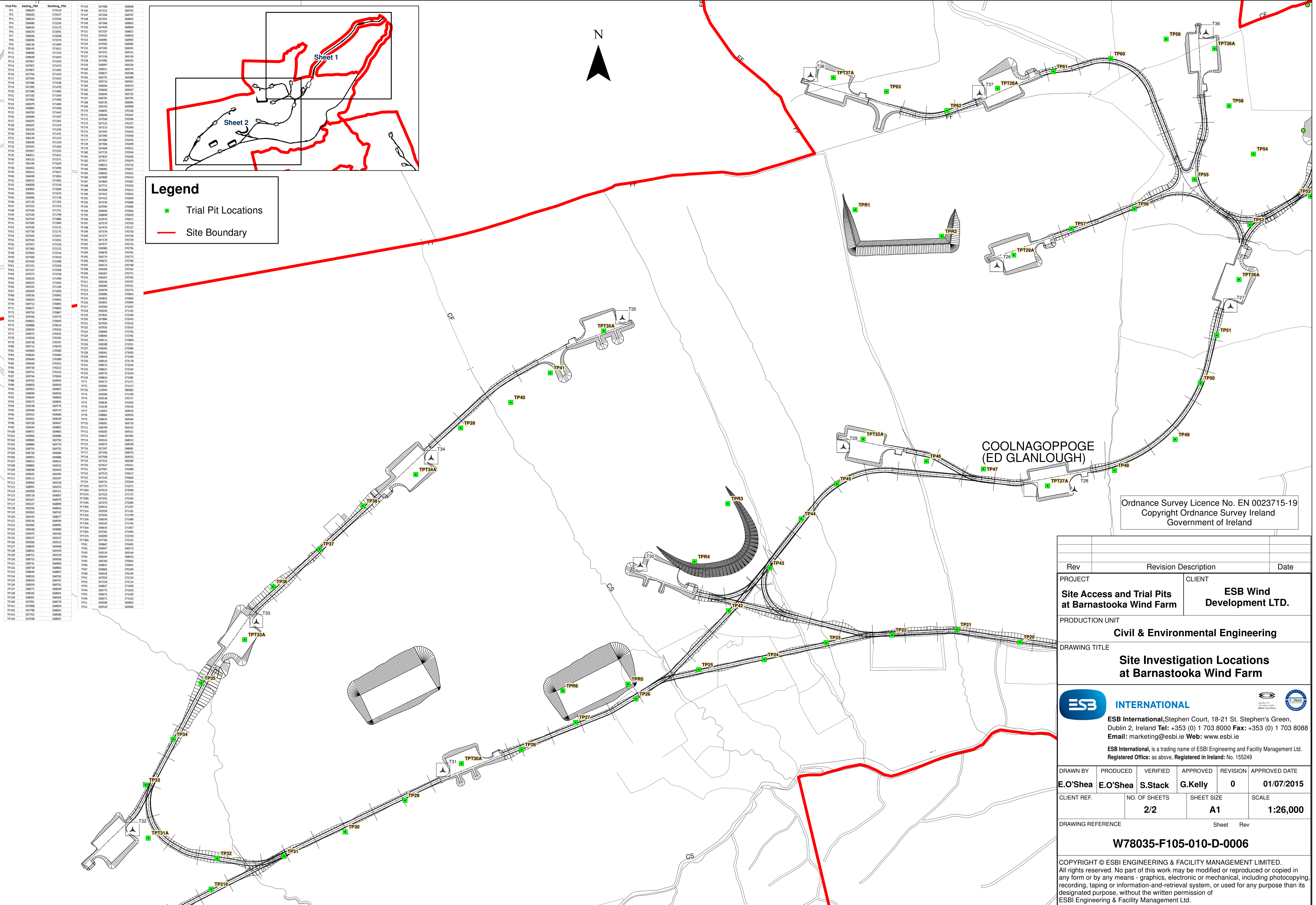
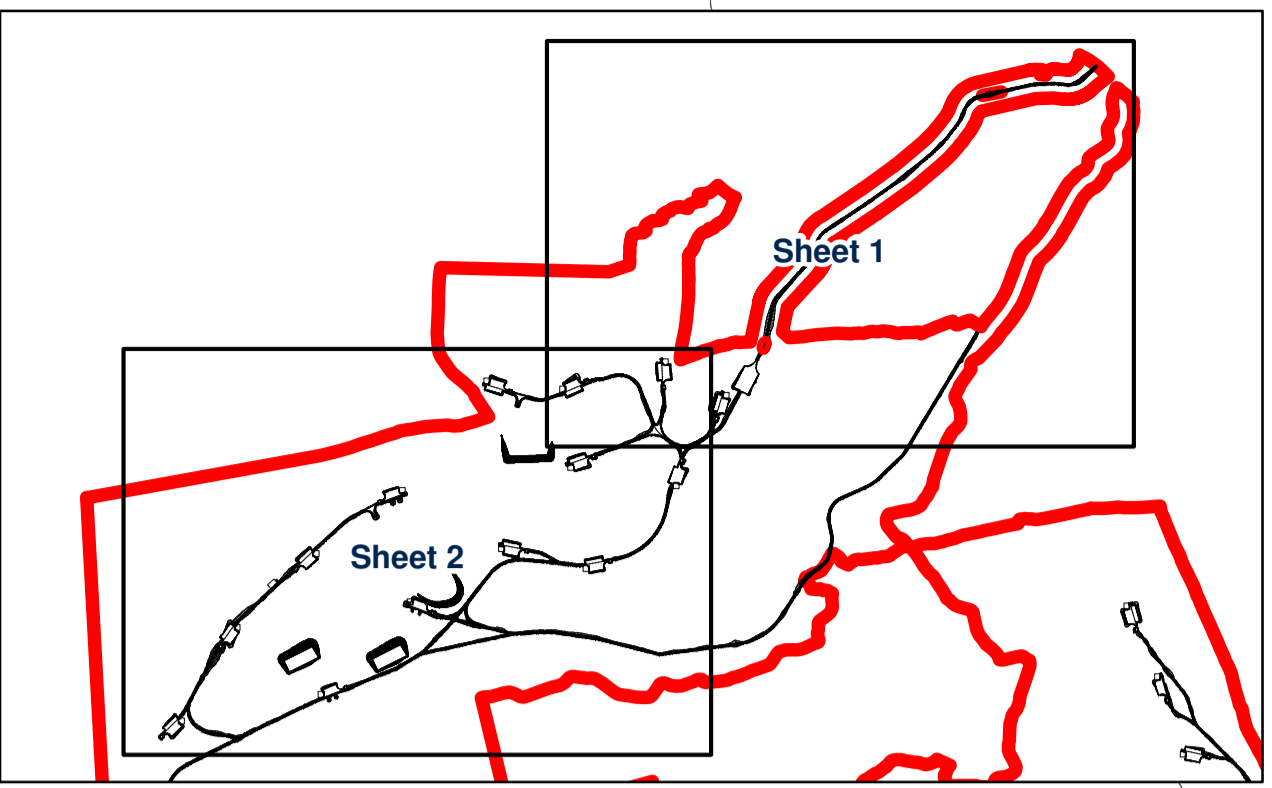
Rev	Revision Description	Date

PROJECT	CLIENT				
Site Access and Trial Pits at Barnastooka Wind Farm	ESB Wind Development LTD.				
PRODUCTION UNIT	Civil & Environmental Engineering				
DRAWING TITLE	Site Investigation Locations at Barnastooka Wind Farm				
ESB International, Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0) 1 703 8000 Fax: +353 (0) 1 703 8088 Email: marketing@esbi.ie Web: www.esbi.ie ESB International, is a trading name of ESBI Engineering and Facility Management Ltd. Registered Office: as above, Registered in Ireland: No. 155249					
DRAWN BY	PRODUCED	VERIFIED	APPROVED	REVISION	APPROVED DATE
E.O'Shea	E.O'Shea	S.Stack	G.Kelly	0	01/07/2015
CLIENT REF.	NO. OF SHEETS	SHEET SIZE	SCALE		
	1/2	A1	1:2,500		
DRAWING REFERENCE		Sheet Rev			
W78035-F105-010-D-0006					
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Trial Pit	Easting_UTM	Northing_UTM	Trial Pit	Easting_UTM	Northing_UTM
TP1	50820	57228	TP145	50788	56906
TP2	50823	57237	TP146	50792	56915
TP3	50824	57244	TP147	50794	56923
TP4	50830	57256	TP148	50795	56931
TP5	50830	57273	TP149	50797	56939
TP6	50830	57289	TP150	50799	56947
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TP8	50836	57317	TP152	50802	56963
TP9	50838	57328	TP153	50803	56971
TP10	50845	57333	TP154	50805	56979
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TP13	50767	57359	TP157	50810	57003
TP14	50767	57414	TP158	50811	57011
TP15	50767	57463	TP159	50812	57019
TP16	50774	57443	TP160	50813	57027
TP17	50794	57443	TP161	50814	57035
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TP19	50785	57470	TP163	50816	57051
TP20	50780	57485	TP164	50817	57059
TP21	50782	57505	TP165	50818	57067
TP22	50782	57486	TP166	50819	57075
TP23	50799	57486	TP167	50820	57083
TP24	50683	57458	TP168	50821	57091
TP25	50692	57442	TP169	50822	57099
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TP29	50636	57340	TP173	50826	57131
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TP31	50638	57393	TP175	50828	57147
TP32	50636	57359	TP176	50829	57155
TP33	50652	57324	TP177	50830	57163
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TP35	50661	57341	TP179	50832	57179
TP36	50622	57324	TP180	50833	57187
TP37	50624	57269	TP181	50834	57195
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TP40	50640	57190	TP184	50837	57219
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TP42	50628	57134	TP186	50839	57235
TP43	50662	57165	TP187	50840	57243
TP44	50641	57176	TP188	50841	57251
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TP46	50735	57195	TP190	50843	57267
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TP49	50720	57199	TP193	50846	57291
TP50	50769	57186	TP194	50847	57299
TP51	50745	57180	TP195	50848	57307
TP52	50736	57180	TP196	50849	57315
TP53	50730	57215	TP197	50850	57323
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TP57	50760	57229	TP201	50854	57355
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TP76	50711	57589	TP220	50873	57507
TP77	50711	57609	TP221	50874	57515
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TP143	50711	58929	TP287	50940	58043
TP144	50711	58949	TP288	50941	58051

Legend

- Trial Pit Locations
- Site Boundary



COOLNAGOPPOGE
(ED GLANLOUGH)

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Rev	Revision Description	Date
PROJECT		
Site Access and Trial Pits at Barnastooka Wind Farm		CLIENT ESB Wind Development LTD.
PRODUCTION UNIT Civil & Environmental Engineering		
DRAWING TITLE Site Investigation Locations at Barnastooka Wind Farm		
DRAWN BY E.O'Shea		PRODUCED E.O'Shea
VERIFIED S.Stack		APPROVED G.Kelly
REVISION 0	APPROVED DATE 01/07/2015	
CLIENT REF.	NO. OF SHEETS 2/2	SHEET SIZE A1
DRAWING REFERENCE W78035-F105-010-D-0006		SCALE 1:26,000

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