

APPENDIX 7.6

Hen Harrier Roost Survey Report

BALLINLA WIND FARM ORNITHOLOGICAL SURVEYS

Hen Harrier Winter Roost Survey Report (Winter 2023-2024)

Prepared for:



Date: September 2025

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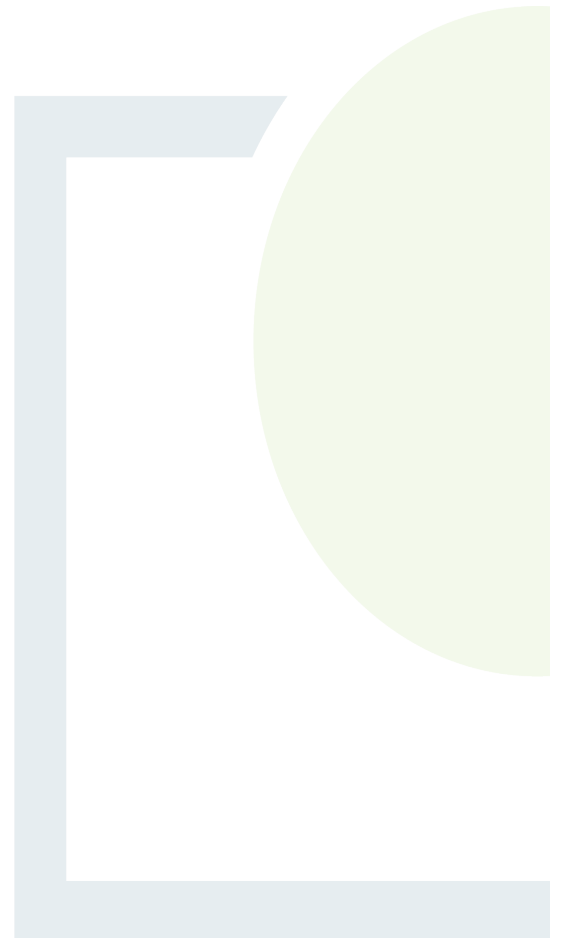


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1. INTRODUCTION

Ornithological surveys at the proposed Ballinla wind farm site in Co. Offaly were undertaken between summer 2021 to winter 2022-23 inclusive, comprising four seasons of vantage point (VP) surveys, hinterland surveys, breeding wader surveys, breeding and wintering bird transects. Surveys were undertaken in accordance with '*Recommended bird survey methods to inform impact assessment of onshore wind farms*' (SNH, 2017).

These surveys detected hen harrier activity within the VP study area during both winter 2021-22 and winter 2022-23, focused primarily in an area of recolonising cutover bog to the south of the proposed wind farm with open areas, birch scrub. Two observations in winter 2021-22 recorded behaviour indicative of an individual hen harrier roosting transiently in birch scrub to the south of the proposed wind farm. There were no records of potential roosting behaviour in winter 2022-23.

To further investigate potential for hen harrier winter roosting in the locality, dedicated winter roost surveys were undertaken in winter 2023-24, focusing on potentially suitable roosting habitat adjacent to the proposed wind farm. This report details the results of those surveys, and additionally draws information from other surveys including 2021-2023 VP surveys and additional VP surveys conducted to investigate whooper swan activity during winter 2023-24 in order to provide a comprehensive assessment of hen harrier activity at the proposed site.



2. METHODOLOGY

The methodology used to survey for hen harrier roosting activity adhered to the *Irish Hen Harrier Winter Survey* (IHHWS) (O'Donoghue, 2019) and Hardey et al. (2013).

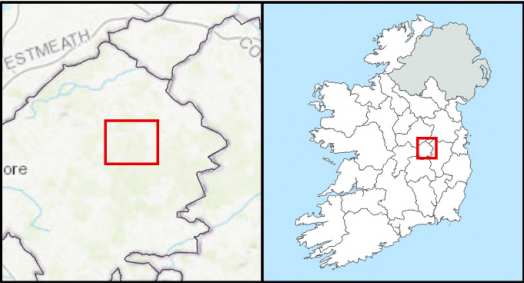
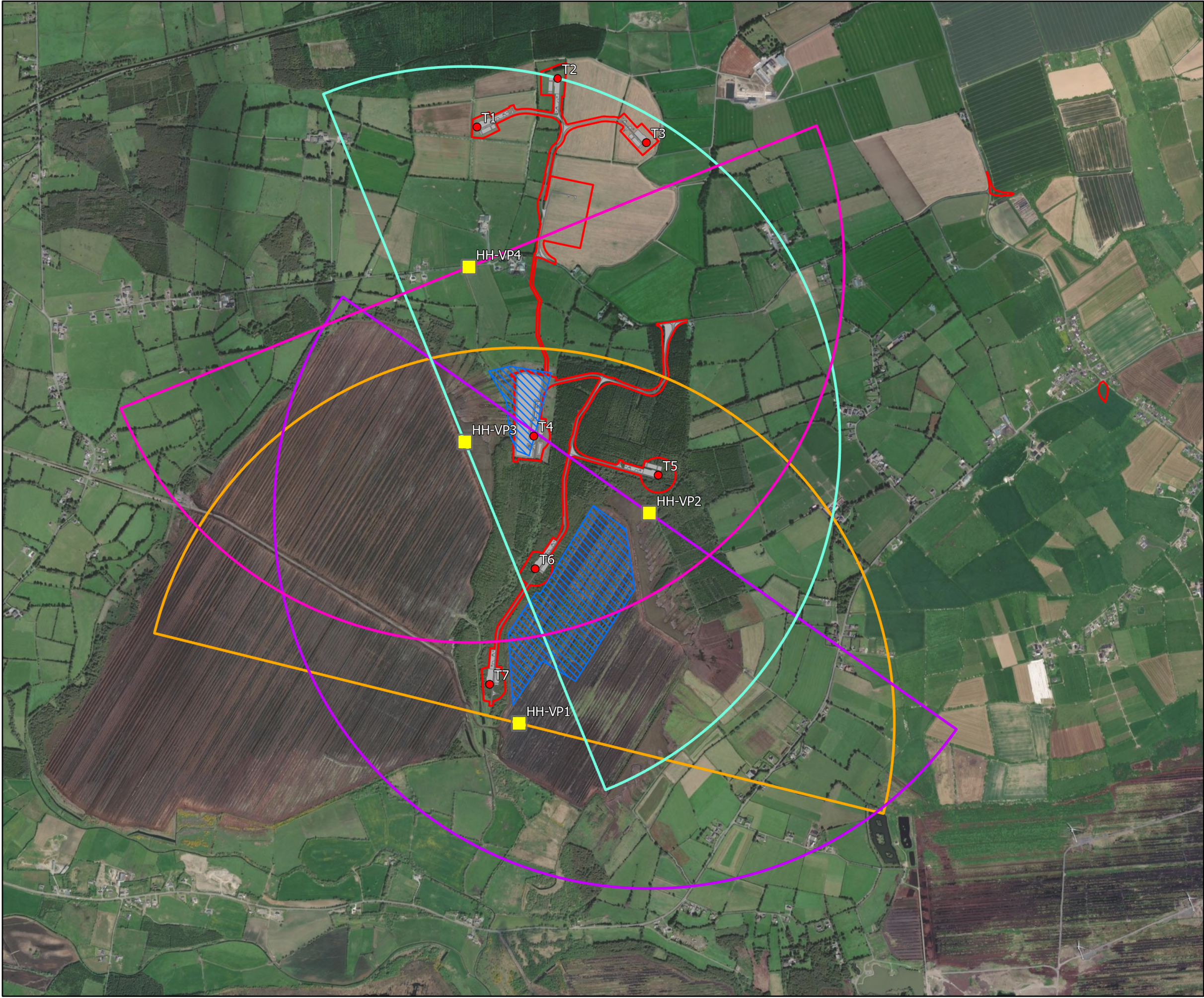
Potentially suitable areas of hen harrier roosting habitat were identified based on a desktop study and field observations gathered during the previous two years of surveys. These 'target areas' comprised of scrub and scrub/open woodland mosaic are shown in Figure 2-1.

Four experienced observers were stationed at four separate vantage points (VPs) overlooking the two target areas suitable for hen harrier roosting at Ballinla.

For each target area, two surveyors simultaneously conducted VP surveys starting three hours prior to dusk and continuing until observations are no longer feasible in the dark per IHHWS guidelines (O'Donoghue, 2019). IHHWS guidelines state that surveyors must be present at least 40 minutes before dusk, and as such the survey effort completed exceeds that required by IHHWS guidelines. Surveyors recorded all hen harrier flight lines and searched for potential roosting behaviour.

Flight durations were recorded in the following height bands: 0-15 m, 15-30 m, 30-100 m, 100-200 m and >200 m. Other additional non-target species were also recorded where observed. The same surveyors covered the same locations for the entire survey period to prevent inter-observer variability.

The locations of the VPs and viewsheds are shown in Figure 2-1.



- Legend**
- Site Boundary
 - Site Layout
 - HH Roost Target Areas
 - HH Viewshed 1
 - HH Viewshed 2
 - HH Viewshed 3
 - HH Viewshed 4
 - HH Vps
 - Turbine Locations

TITLE: Hen Harrier Roost Watch VP Locations and Viewshed Analysis (Winter 2023-24)	
PROJECT: Ballinla Wind Farm, Co. Offaly	
FIGURE NO:	2.1
CLIENT:	Statkraft
SCALE: 1:20,000	REVISION: 0
DATE: 18/08/2025	PAGE SIZE: A3



3. RESULTS - ADDITIONAL WINTER SURVEYS (2023-24 & 2024-25)

It is noted that no hen harrier activity was observed during winter 2024-25 VP surveys.

3.1 Winter Roost Surveys (2023-24)

A total of two hen harrier observations were recorded during the roost surveys.

The first was a female observed flying south-west over agricultural land and partially intact marginal blanket bog c. 900m south-east of the proposed wind farm (see flight line 769 in Appendix 1). This observation occurred at 14:35 (c. 2.5 hours before dusk) on 20 November 2023, and the flight activity recorded was indicative of commuting.

The second observation recorded a potential but unconfirmed hen harrier flying very low into woodland (Target Area 2) (see flight line 791 in Appendix 1). This bird was not positively identified due to poor light, in addition to low flight level and brief duration of observation (10 seconds total). This record was on 11 December 2023 at 15:38 (c. 70 minutes before dusk).

3.2 Incidental Observations During Whooper Swan VPs (2023-24)

A total of six hen harrier observations were recorded during winter 2023-24 VP surveys for whooper swan activity.

A juvenile male hen harrier was observed flying fast and low from VP3 on 22nd December 2023 at 10:00. This bird flew around the western, northern and eastern margins of the recolonising cutover bog to the south of the proposed wind farm (to the east of T6/T7 and south of T5) (Target Area 1) before turning east and then looping back south/west over farmland and cutover bog before flying out of sight. See flight 961 line in Appendix 1.

A female hen harrier was observed flying low from west to east over farmland near VP1. This bird was being mobbed by hooded crows. Ther observation occurred at 08:35 on 27 January 2024 (see flight line 920 in Appendix 1). This activity occurred over intensive farmland located 1.7 km form the proposed wind farm, and 2.9 km from the nearest area of potential roosting habitat (Target Area 2).

On 04 March 2024, a small female hen harrier was observed on three separate occasions hunting low (0-15m) over the recolonising cutover bog to the south of the proposed wind farm (Target Area 1). These observations occurred at 10:35, 10:40 and 11:05 and flight activity consisted of the low quartering flight typical of hunting hen harrier (see flight lines 973, 974 and 976 in Appendix 1).

On 05 March 2024, the same female observed hunting the previous day was seen again (identified by a missing primary on her right wing), this time flying to the north of T4 over Target Area 2. This observation also recorded hunting activity, however the flight heights ranged from the 0-15m up to the 100-200m altitude band rather than remaining low for the duration of recorded flight activity.



4. OVERVIEW OF HEN HARRIER ACTIVITY ACROSS ALL SURVEYS

In order to provide a comprehensive overview of hen harrier across all survey periods, previous survey results are summarised here alongside the results for winter 2023-24 detailed above in Section 3.

Table 4-1 details the hen harrier observations recorded across all surveys, and each record is linked to flight line mapping by the Flightline ID/Bird ID in column 1. Hen harrier flight activity is mapped in Appendix 2.

Hen harrier activity was focused primarily on the recolonising blanket bog to the south of the proposed wind farm (Target Area 1 is located in this area). Only a small amount of hen harrier activity was recorded outside this area (two records around Target Area 2 and one record to the north-east of the proposed wind farm).

Across all surveys, a total of 23 hen harrier observations were recorded; it should be noted however that a number of these records are composed of observations of an individual bird hunting in the area for an extended period (e.g. three consecutive records of the same female hunting between 10:35-11:05 on 04 March 2024; five consecutive records of the same female hunting between 09:00 - 10:10 on 12 March 2022; two consecutive records of a hen harrier hunting between 10:35 - 11:35 on 19 January 2022). The occurrence of a second hen harrier after two sightings of the same bird on 19 March 2022 is also noted.

When the occurrence of multiple observations of the same birds during short time periods is taken into account, the total number of discrete instances of individual birds using the study area is 16.

The most frequently recorded behaviours were hunting and flying, including commuting flight.

A total of three records (Bird IDs 6 and 7 from 2021-22, and Flight line ID 791 from 2023-24) are considered to be indicative of roosting due to behaviour and time of observations. The tentative identification of a hen harrier flying into Target Area 2 on 11 December 2023 must be considered to be a roosting hen harrier on a precautionary basis. Similarly, the two observations of females flying into wooded areas near the southern tip of the proposed site require categorisation as roosting due to timing and flight patterns, albeit with a positive species identification. No habitual roosting or roost site was observed.

Both male and female adults and juveniles were observed. All observations were during winter and no evidence of breeding was observed.

Table 4-1: Summary of hen harrier activity across all surveys

Flightline ID/Bird ID	Date/Time	Activity/Location	Dawn/Dusk	Potential roosting?
Winter 2023-24				
979	05/03/2024 14:10	Hunting female Target Area 2	06:31 18:49	No
976	04/03/2024 10:35	[same] hunting female Target Area 1	06:33 18:48	No
974	04/03/2024 10:40	[same] hunting female Target Area 1	06:33 18:48	No



Flightline ID/Bird ID	Date/Time	Activity/Location	Dawn/Dusk	Potential roosting?
973	04/03/2024 11:05	Hunting female Target Area 1	06:33 18:48	No
920	27/01/2024 08:35	Female, mobbed by hooded crows North-west of proposed wind farm	07:42 17:40	No
961	22/12/2023 10:00	Juvenile male flying around margins of Target Area 1	07:58 16:54	No
791	11/12/2023 15:38	Potential hen harrier flying into Target Area 2	07:50 16:51	Yes
769	20/11/2023 14:35	Commuting female South-east of Target Area 1	07:22 17:04	No
Year 2 (2022-23)				
3	29/12/2022 09:30	Hunting bird (sex/age not determined) Target Area 1	08:00 16:59	No
2	22/10/2022 10:10	Male flying along eastern margin of Target Area 1	07:32 18:52	No
1	14/10/2022 14:45 - 16:05	Male hunting for prolonged period. Multiple flight lines associated with record. Also perched and preened for 20 minutes. Target Area 1	07:17 19:09	No
Year 1 (2021-22)				
12	12/03/2022 10:10	Female hunting in northern part of Target Area 1	06:15 19:01	No
11	12/03/2022 10:05	[same] female hunting over cutover bog and farmland east of Target Area 1	06:15 19:01	No



Flightline ID/Bird ID	Date/Time	Activity/Location	Dawn/Dusk	Potential roosting?
10	12/03/2022 10:00	[same] female hunting east of Target Area 1, then flying to Target Area 1	06:15 19:01	No
9	12/03/2022 09:40	[same] female hunting over recolonising cutover bog and farmland east of Target Area 1	06:15 19:01	No
8	12/03/2022 09:00	[same] female hunting over recolonising cutover bog south of Target Area 1	06:15 19:01	No
7	06/02/2022 16:25	Female same as bird from 04/02/2022, same route to roost in general area south of proposed wind farm.	07:26 17:58	Yes
6	04/02/2022 17:05	Female flew west around dusk. Assumed to have flown to roost in general area south of proposed wind farm.	07:30 17:54	Yes
5	04/02/2022 16:05	Female hunting. Quartering westward over farmland and conifer plantation east of Target Area 1	07:30 17:54	No
4	19/01/2022 12:00	Second hen harrier, flying south-west over recolonising cutover bog east of Target Area 1	07:51 17:27	No
3	19/01/2022 11:35	[same] hen harrier flying east over farmland	07:51 17:27	No
2	19/01/2022 10:35	Hen harrier flying along northern and eastern margins of Target Area 1	07:51 17:27	No
1	05/01/2022 13:25	Ringtail hen harrier flying low through Target Area 1, moving west, the south before flying west away from the proposed wind farm	08:00 17:07	No



5. HEN HARRIER COLLISION RISK

No hen harriers were observed breeding on site, so potential collision risk is significantly reduced due to the absence of the territorial display known as 'sky-dancing', which often occurs across potential turbine collision height (PCH). Hen harrier have been documented as occasionally soaring or arriving at winter roosts 'at height' (Watson, 1977); however, no habitual roosting was observed, and flight activity associated with transient/casual use of the proposed site by roosting birds was all below 30m.

Literature suggests flying at low heights is a 'ubiquitous trait' of hen harriers, supported by a number of studies (e.g. Whitfield and Madders, 2006). The species has a high published avoidance rate (99%) in relation to wind turbines (SNH, 2017).

There was one record of hen harrier flying within the 30-100m and 100-200m height bands for 10 seconds in each. This was the only time hen harrier were observed flying above 30m across all surveys, representing 0.7% of overall flight activity for this species. A total of 75% of hen harrier flight activity was recorded in the 0-15m height band, which is below PCH. A total of 24.3% of flight time was within the 15-30m height band, which overlaps the lower extent of PCH by 7m (minimum blade swept height is 23m).

The predicted number of collisions assuming a 99% avoidance rate is 0.00 per year, resulting in no collisions over the entire operational lifespan of the windfarm (35 years).

The flight habits and concentration of flight time at low altitudes observed during surveys, established flight characteristics and published avoidance rate, in addition to the low collision probability as indicated by the CRM support the conclusion that collision risk for hen harrier is *Negligible*, resulting in a *Long-term Not Significant* effect.



6. HABITAT LOSS/DISPLACEMENT/DISTURBANCE

6.1 Construction Phase

6.1.1 Habitat Loss

A total of c. 5ha of the open/scrubby mixed broadleaved/conifer woodland near T4 where casual unconfirmed hen harrier roosting was recorded on 11th December 2023 (Flight line ID 791) will be lost within the proposed peat deposition area and T4 hard standing. While this loss would equate to c. 9.5% of the overall resource of mixed broadleaved/conifer woodland within the biodiversity study area, when considering the scrubby sub-type in this particular woodland block (northern HH Roost Target Area in Figure 2.1), loss of potentially suitable roosting habitat affecting this area would be c. 58%. While this represents a relatively high proportion of this particular woodland block, the realised effect of habitat loss will be lower, due to the isolated/casual use of this area for roosting observed, and the abundance of suitable displacement habitats in the locality and wider landscape. Considering these factors, the effect of habitat loss will be a **Long-term, Slight to Moderate** effect.

6.1.2 Disturbance

Depending on the level of habituation to disturbance, a buffer zone of 300-750m is suggested to protect both breeding and non-breeding Hen Harriers from pedestrian and aircraft disturbance, but habituation to disturbance influences the size of the buffer required and further studies on the impacts of human disturbance are required to help inform such decisions (Goodship and Furness, 2022). The same study also noted that a buffer zone at the lower end of this range may be sufficient to protect individuals that have some habituation to disturbance. Based on the observed infrequent occurrence of casual roosting near the Proposed Development, potential for disturbance to roosting birds exists.

Although use of this area is infrequent (just one observation of potential hen harrier roosting) there is potential for disturbance effects to occur. While hen harrier has very high sensitivity as a receptor, the observed infrequent use of the proposed site and the presence of similar habitat in the wider area results in a **Short-term, Moderate** effect prior to mitigation.

6.2 Operational Phase

6.2.1 Disturbance/Displacement

The area of potentially suitable winter roosting habitat for hen harrier to the norther of T4 which would remain following proposed peat deposition is located between 210-350m from the closest turbine i.e. T4. Considering the suggested buffer of 300-750m for pedestrian and aircraft disturbance noted in Goodship and Furness (2022), there is some potential for disturbance of hen harrier potentially using this area to arise from operational noise from T4. However, due to the highly infrequent/transient use of this area observed, in addition to the abundance of suitable displacement habitats in the locality and wider landscape, the magnitude of this disturbance to roosting hen harrier remains negligible.

Noise disturbance/visual intrusion unlikely to deter foraging hen harrier as evidence suggests birds may continue to utilise wind farms post construction (Robinson et al., 2012).

The effect of operational disturbance/displacement is assessed as a **Long-term Not Significant** effect.



7. DISCUSSION

Considering the patterns of activity recorded across all surveys, there is strong evidence that wintering hen harrier habitually hunt in the recolonising cutover bog to the south of the proposed development. This species may also hunt in the surrounding area, and the survey results also indicate hen harrier are active in the wider region and commute through the area in which the site is located. As such, the recolonising cutover bog to the south of the proposed site is considered to form part of a network of hunting grounds within a landscape-scale mosaic used by wintering hen harrier. The high coverage of cutover bog in various stages of recolonisation within the wider region, in addition to a mosaic of agricultural and wooded habitats, provides suitable wintering habitat for hen harrier.

No evidence of breeding hen harrier was recorded, with all observations occurring during winter.

Breeding hen harrier favour upland habitats including scrub, heath and pre-thicket conifer plantation. The nearest breeding hen harrier stronghold is the Slieve Bloom Mountains c. 25 km south of the proposed site (designated as an SPA for hen harrier). While some birds remain to overwinter in breeding areas, many hen harriers leave the upland breeding territories to disperse and range widely in the lowlands during winter, including coastal areas.

During winter, hen harriers use roost sites to rest at night, from which they can disperse to roam hunting grounds in the surrounding the hinterland. Hen harrier roost sites can be communal (frequently used by several individuals), or solitary (used by individual birds regularly and/or infrequently). The numbers of wintering hen harriers using each roost site can vary throughout the winter (often in response to factors such as weather, prey availability of, disturbance and the presence of predators). Occasionally, certain sites can be used by both wintering and breeding hen harrier, resulting in the presence of hen harriers all year round. Due to their central ecological importance to hen harriers, the protection of roost sites is a key element the conservation of this species (O'Donoghue, 2019).

While surveys detected transient roosting on three occasions, there is no indication that any habitual or communal roost is present within the study area (wind farm and surrounding habitats potentially suitable for roosting). Traditional winter roost sites used by multiple hen harriers, in addition to other species on a multi-annual basis are of high conservation concern (O'Donoghue, 2021); surveys have demonstrated that no sites of this type are present within the study area, and that the roosting observed is transient and opportunistic.

There is wide availability of potential roosting habitat in the region represented by cutover bogs recolonising with scrub and woodland, providing remote and undisturbed roosting areas. These regional conditions equate to an abundance of potential roosting areas, providing adequate displacement habitat which reduces the potential for temporary unsuitability of a casual roost site (e.g. due to construction disturbance) to result in significant effects.

There is a limited risk of disturbance to roosting hen harrier during construction and operation of the proposed wind farm. However, due to the transient and casual use of the area indicated by surveys and availability of suitable displacement habitat in the surrounding region and indeed within the immediate surroundings of the proposed wind farm (adopting a conservative 500m disturbance buffer around turbine locations buffer there would still be suitable roosting habitat in the study area available for use by hen harrier), any potential disturbance is unlikely to result in significant effects (potential disturbance/displacement effects are assessed to range from **Not significant** to **Moderate**).



Mitigation to avoid disturbance to winter roosting hen harrier potentially occurring casually near the proposed development during construction is recommended. The primary approach should be to avoid/minimise site clearance and other works near potential hen harrier roosting areas (see Figure 2-1) during the winter season. If this cannot be implemented, working hours in the vicinity of these areas should be restricted to avoid night, dawn and late afternoon/dusk, in addition to use of monitoring surveys.

As noted in Section 5, due to recorded flight activity, characteristic flight patterns of this species, absence of breeding activity and predicted low collision risk calculated by the CRM, collision risk for hen harrier using this site has been assessed as **Negligible**.

Survey results have demonstrated the importance of the recolonising bog south of the proposed site as a hunting ground for wintering hen harrier. There is some limited potential for hen harrier to avoid parts of this area during construction, however the long-term viability of this foraging area will not be affected by operation of the proposed wind farm. Noise disturbance/visual intrusion is unlikely to deter foraging hen harrier as evidence suggests birds may continue to utilise wind farms post construction (Robinson et al., 2012).

There is limited potential for cumulative effects to occur in conjunction with other wind farm projects in terms of disturbance to potential winter roosting habitats; however, this is limited to an **Imperceptible** level.



8. REFERENCES

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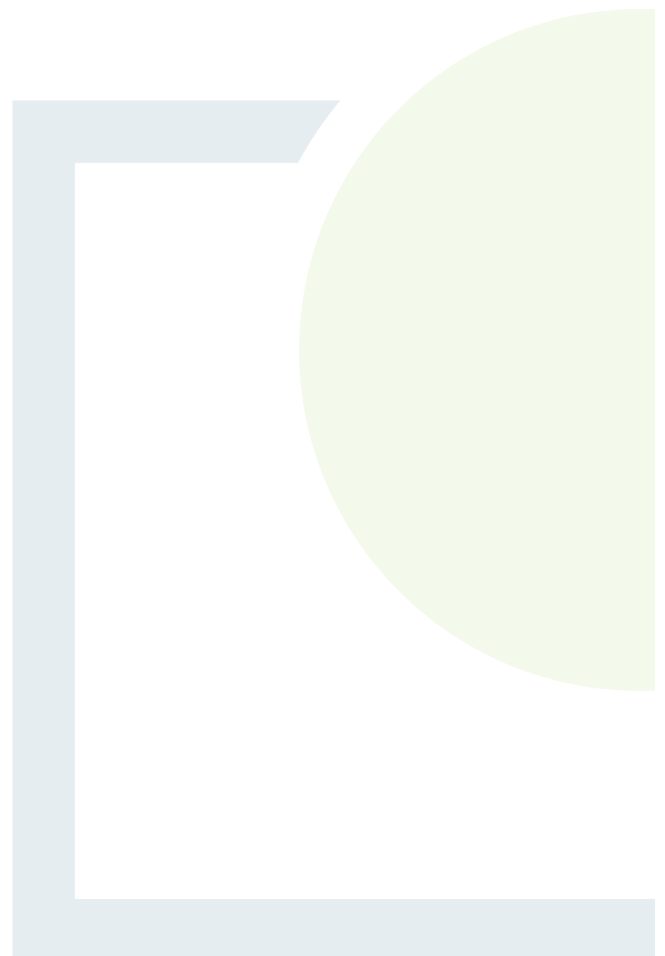
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DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

APPENDIX 1

Hen Harrier VP Survey Details
Winter 2023-24



HHVP	Date	Start	End	Cloud (Oktas)	Precipitation	Wind Speed (Beaufort)	Wind Direction
4	16/10/2023	16:06:00	19:06:00	2	Dry	3	ESE
3	16/10/2023	15:40:00	19:15:00	Not Recorded	Dry	1	W
1	24/10/2023	16:00:00	19:00:00	4	Showers	1	E
2	24/10/2023	16:00:00	19:00:00	4	Showers	1	E
4	25/10/2023	15:45:00	18:45:00	7	Dry	3	SE
3	25/10/2023	15:41:00	18:49:00	Not Recorded	Dry	1	SE
1	30/10/2023	15:00:00	18:00:00	6	Showers	2	E
2	30/10/2023	15:00:00	18:00:00	6	Showers	2	E
4	15/11/2023	14:10:00	17:10:00	3	Dry	3	W
3	15/11/2023	14:11:00	17:12:00	6	Dry	1	W
1	17/11/2023	14:30:00	17:30:00	8	Showers	2	SE
2	17/11/2023	14:30:00	17:30:00	8	Dry	2	SE
3	20/11/2023	14:04:00	17:08:00	7	Dry	4	NW
4	20/11/2023	14:05:00	17:05:00	6	Dry	4	NW
1	20/11/2023	14:30:00	17:30:00	6	Showers	not recorded	NW
2	20/11/2023	14:30:00	17:30:00	6	Showers	4	NW
4	11/12/2023	13:40:00	16:55:00	3	Dry	3	SE
3	11/12/2023	13:50:00	16:50:00	8	Dry	2	S
1	14/12/2023	14:00:00	17:00:00	7	Dry	2	W
2	14/12/2023	14:00:00	17:00:00	7	Dry	1	SW
3	19/12/2023	13:48:00	16:56:00	3	Dry	3	W
1	23/12/2023	13:30:00	16:30:00	6	Dry	2	SW
2	23/12/2023	13:30:00	16:30:00	6	Dry	2	SW

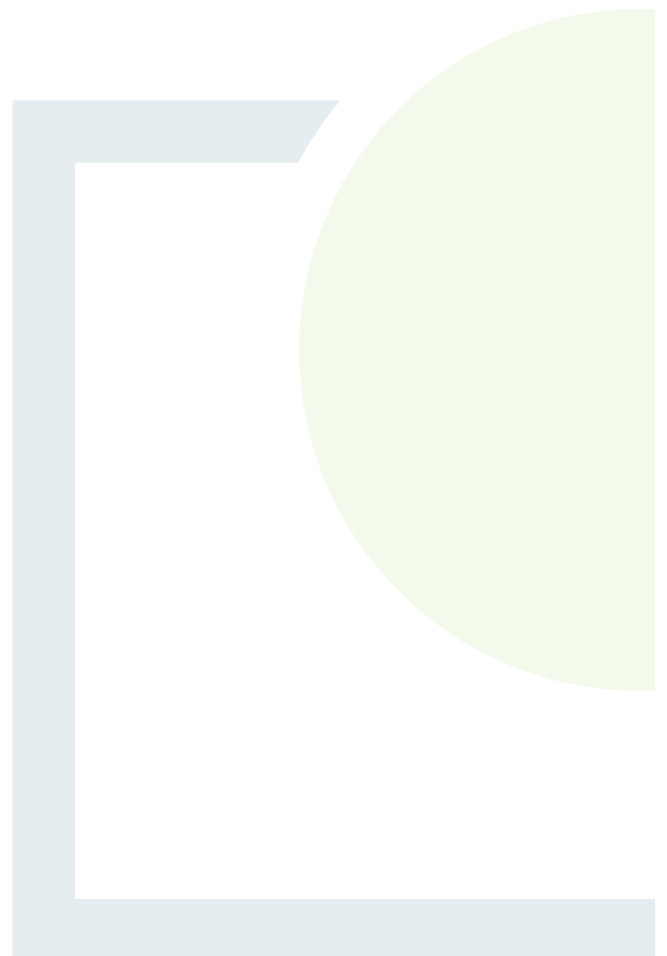
HHVP	Date	Start	End	Cloud (Oktas)	Precipitation	Wind Speed (Beaufort)	Wind Direction
3	08/01/2024	14:12:00	17:10:00	4	Dry	1	E
3	16/01/2024	14:20:00	17:20:00	Not Recorded	Dry	3	SW
4	16/01/2024	14:10:00	17:20:00	3	Dry	4	SW
1	26/01/2024	14:00:00	17:30:00	3	Dry	4	SW
2	26/01/2024	14:30:00	17:30:00	3	Dry	4	SW
1	30/01/2024	14:30:00	17:30:00	5	Dry	4	SW
2	30/01/2024	14:30:00	17:30:00	5	Dry	4	SW
3	13/02/2024	15:15:00	18:15:00	8	Rain	1	NE
4	13/02/2024	15:00:00	18:20:00	8	Dry	3	NE
2	18/02/2024	15:24:00	18:24:00	7	Dry	2	SW
1	19/02/2024	15:24:00	18:24:00	7	Dry	3	SW
2	19/02/2024	15:24:00	18:24:00	7	Dry	2	SW
3	20/02/2024	15:19:00	18:20:00	5	Dry	3	W
4	20/02/2024	15:00:00	18:23:00	3	Dry	4	W
1	28/02/2024	15:40:00	18:40:00	6	Dry	3	SW
2	28/02/2024	15:40:00	18:40:00	6	Dry	2	SW
2	07/03/2024	15:30:00	18:30:00	7	Showers	3	E
1	07/03/2024	15:30:00	18:30:00	7	Showers	3	E
3	12/03/2024	16:00:00	19:00:00	8	Drizzle	2	SW
4	12/03/2024	15:50:00	19:10:00	8	Showers	4	SW
3	19/03/2024	16:20:00	19:10:00	8	Showers	1	SE
4	19/03/2024	16:10:00	19:20:00	8	Showers	2	S
2	20/03/2024	16:30:00	19:30:00	6	Dry	3	N
1	20/03/2024	16:30:00	19:30:00	6	Dry	3	N



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

APPENDIX 2

Hen Harrier Records
Winter 2021-22
Winter 2022-23
Winter 2023-24



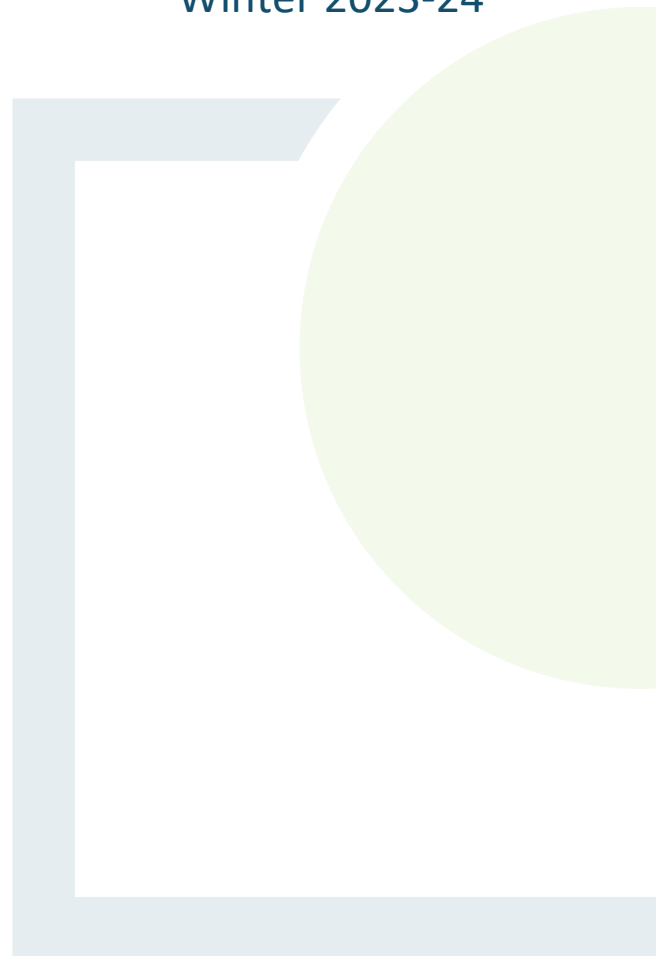
VP	Date	Bird ID	Species	Quantity	Time	Duration	0-15m	15-30m	30-100m	100-200m	>200m	Notes
3	05/01/2022	1	Hen Harrier	1	13:25	10	10	0	0	0	0	Flying low over bog
3	19/01/2022	2	Hen Harrier	1	10:35	600	600	0	0	0	0	Hunting low over bog
3	19/01/2022	3	Hen Harrier	1	11:35	30	30	0	0	0	0	Hunting over farmland
3	19/01/2022	4	Hen Harrier	2	12:00	20	20	0	0	0	0	No Notes
3	04/02/2022	5	Hen Harrier	1	16:05	600	600	0	0	0	0	Hunting, then flew out of view at edge of plantation
3	04/02/2022	6	Hen Harrier	1	17:05	15	15	0	0	0	0	Flew west
3	06/02/2022	7	Hen Harrier	1	16:25	100	10	90	0	0	0	Female, same as bird from 04/02/2022, same route to roost
3	12/03/2022	8	Hen Harrier	1	09:00	15	15	0	0	0	0	Hunting, same bird
3	12/03/2022	9	Hen Harrier	1	09:40	5	5	0	0	0	0	Hunting, same bird
3	12/03/2022	10	Hen Harrier	1	10:00	5	5	0	0	0	0	Hunting, same bird

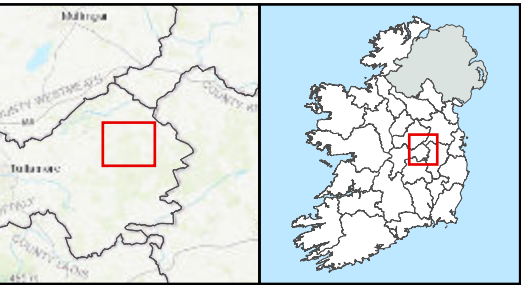
VP	Date	Bird ID	Species	Quantity	Time	Duration	0-15m	15-30m	30-100m	100-200m	>200m	Notes
3	12/03/2022	11	Hen Harrier	1	10:05		5	0	0	0	0	Hunting, same bird
3	12/03/2022	12	Hen Harrier	1	10:10	5	5	0	0	0	0	Hunting, same bird
3	14/10/2022	1	Hen Harrier	1	14:45	725	480	245	0	0	0	Hunting. Spent 20 minutes preening on bog. Last record was at 16:05
3	22/10/2022	2	Hen Harrier	1	10:10	180	0	180	0	0	0	No Notes
3	29/12/2022	3	Hen Harrier	1	09:30	10	10	0	0	0	0	No Notes
2	20/11/2023	769	Hen Harrier	1	14:35	45	45	0	0	0	0	Ringtail
3	11/12/2023	791	Hen Harrier	1	15:38	10	10	0	0	0	0	No Notes
1	27/01/2024	920	Hen Harrier	1	08:35	35	35	0	0	0	0	Low flight east, HC mobbing- ringtail
3	22/12/2023	961	Hen Harrier	1	10:00	20	10	10	0	0	0	Juvenile male flew fast, low and out of view behind hedges
3	04/03/2024	976	Hen Harrier	1	10:35	120	120	0	0	0	0	Small ringtail hunting
3	04/03/2024	974	Hen Harrier	1	10:40	60	60	0	0	0	0	Same bird hunting

VP	Date	Bird ID	Species	Quantity	Time	Duration	0-15m	15-30m	30-100m	100-200m	>200m	Notes
3	04/03/2024	973	Hen Harrier	1	11:05	120	120	0	0	0	0	Same bird missing one primary on right wing
4	05/03/2024	979	Hen Harrier	1	14:10	40	10	10	10	10	0	Hunting, same bird as 973,974 and 976. Missing primary on right wing

APPENDIX 3

Hen Harrier Flightlines
Winter 2021-22
Winter 2022-23
Winter 2023-24





Legend

Site Boundary

SNH Buffer

Turbine Locations

Bird ID, Date, Time

1,05/01/2022,13:25

2,19/01/2022,10:35

3,19/01/2022,11:35

4,19/01/2022,12:00

5,04/02/2022,16:05

6,04/02/2022,17:05

7,06/02/2022,16:25

8,12/03/2022,09:00

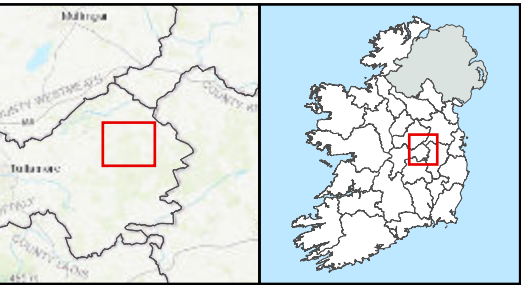
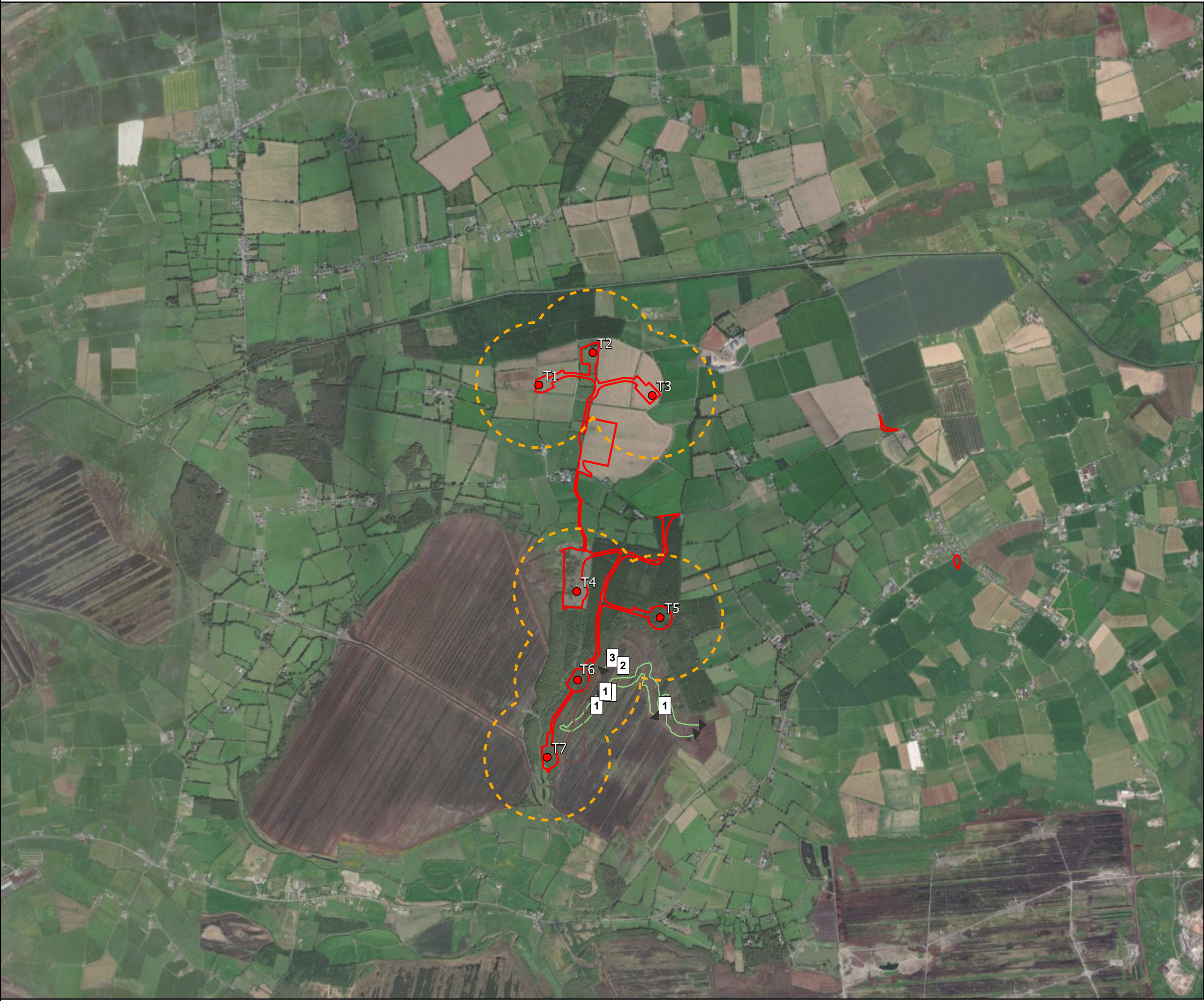
9,12/03/2022,09:40

10,12/03/2022,10:00

11,12/03/2022,10:05

12,12/03/2022,10:10

TITLE:		Hen Harrier	
PROJECT:		Ballinla Wind Farm	
FIGURE NO:		--	
CLIENT:		Statkraft	
SCALE:	1:30,000	REVISION:	0
DATE:	08/08/2025	PAGE SIZE:	A3

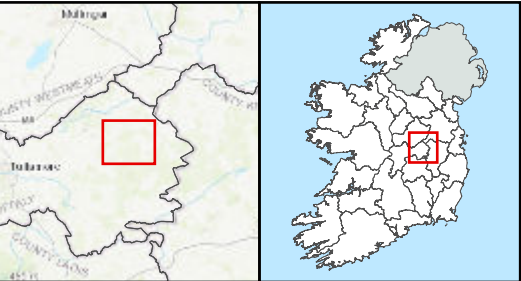
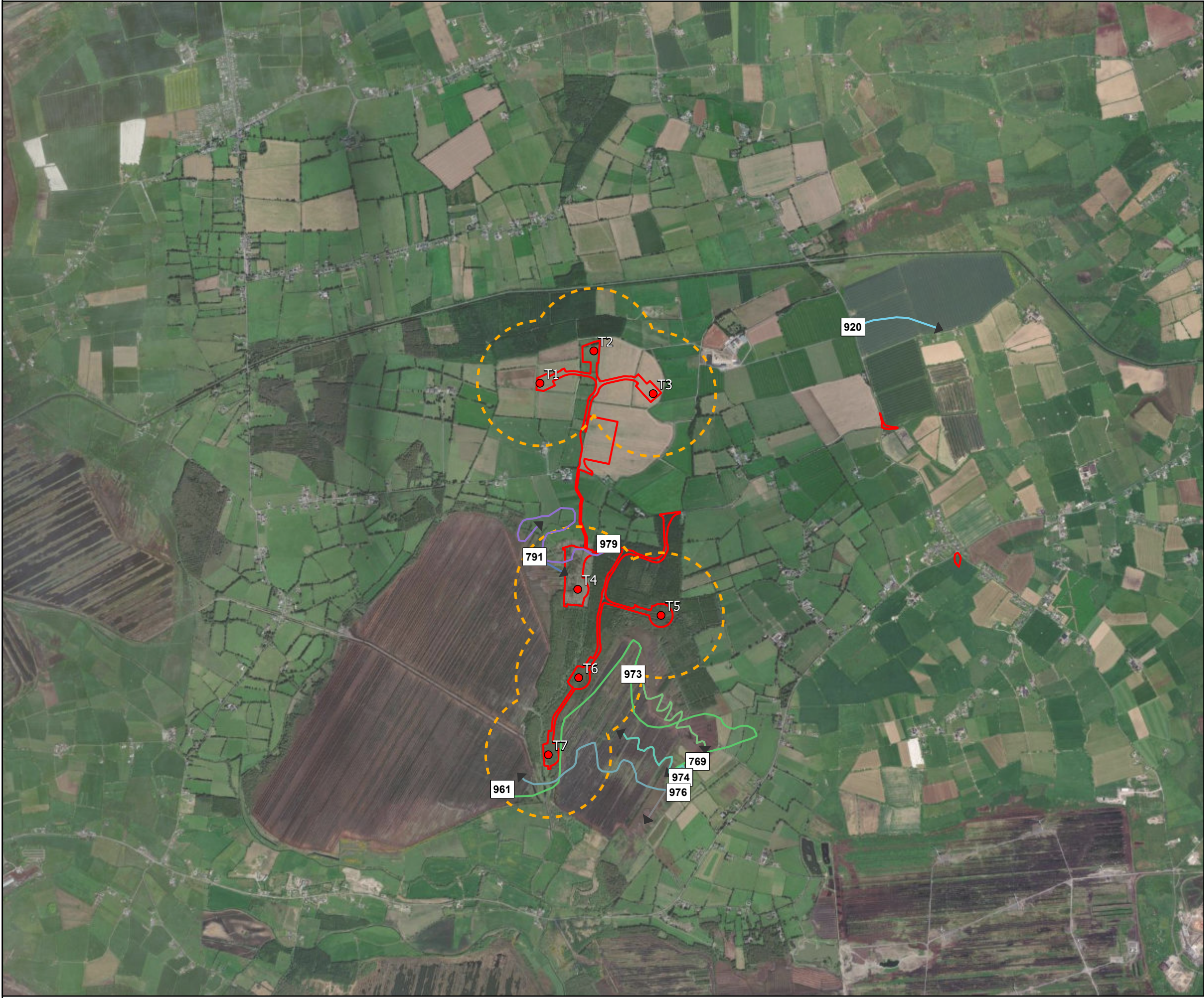


- Legend**
- Site Boundary
 - SNH Buffer
 - Turbine Locations

Bird ID, Date, Time

- 1,14/10/2022,14:45
- 2,22/10/2022,10:10
- 3,29/12/2022,09:30

TITLE:		Hen Harrier	
PROJECT:		Ballinla Wind Farm	
FIGURE NO:		--	
CLIENT:		Statkraft	
SCALE:	1:30,000	REVISION:	0
DATE:	08/08/2025	PAGE SIZE:	A3



Legend

Site Boundary

SNH Buffer

Turbine Locations

ID, Date, Time

769, 20/11/2023, 14:35

791, 11/12/2023, 15:38

920, 27/01/2024, 08:35

961, 22/12/2023, 10:00

973, 04/03/2024, 10:35

974, 04/03/2024, 10:40

976, 04/03/2024, 11:05

979, 05/03/2024, 14:10

TITLE:		Hen Harrier	
PROJECT:		Ballinla Wind Farm	
FIGURE NO:		--	
CLIENT:		Statkraft	
SCALE:	1:30,000	REVISION:	0
DATE:	08/08/2025	PAGE SIZE:	A3



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