

Tomlinson's Dairies – Phase 2 Cold Store Extension Ecological Appraisal

Tomlinson's Dairies Ltd

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Summary

Ecus Ltd was commissioned by Tomlinson's Dairies Ltd in July 2016 to undertake an Ecological Appraisal of a section of the Dairy site at the Five Crosses Industrial Estate, Minera, Wrexham.

Tomlinson's Dairies Limited has recently been selected by J. Sainsbury to process 100 million litres of milk and cream for sale in their stores in Wales and parts of England from July 2017. In order to help facilitate the required increase in output and the associated increase in employment, Tomlinson's Dairies Limited needs to increase the size of its cold storage facilities through the extension of the existing main dairy building and to re-organise and extend on-site car parking to facilitate employee parking and the circulation and manoeuvring of goods vehicles.

The Dairy site comprises a large production facility with hardstanding for car parking and vehicle turning areas, with scattered buildings. Natural habitats within/adjacent to the Phase 2 application area include hard standing, semi-improved and marshy grassland, scattered scrub, tall ruderal vegetation, scattered trees and hedgerow which are considered to be of importance for nature conservation at no greater than the site level.

No badger setts were identified on site, but a number of field signs were noted on site which suggest they are present in and pass through the wider area. The proposed development is unlikely to affect the local badger population, but in accordance with best practice, precautionary measures should be adopted during the construction phase of the development and all deep excavations should be covered overnight unless completely fenced off. Any unfenced/uncovered shallow excavations should have a scaffold board or equivalent placed in them of sufficient length to act as a ramp to allow any badgers to exit should they fall in. This approach will also help protect hedgehogs, which also have potential to cross the site from time to time.

Nesting birds have potential to use the mature hedgerow during the breeding season (March – August inclusive). It is recommended that any hedgerow removal should be scheduled outside of bird breeding season i.e. undertaken between September and February inclusive. If it is not possible to schedule removal for these months, a nesting bird check should be undertaken by a suitably qualified ecologist no more than two days prior to clearance. Any active nests identified would require an exclusion zone to be put in place until it is confirmed that chicks have fledged and/or the nest is no longer in use.

Roosting bats have been ruled out as a receptor in relation to B1 and B2 and no further inspection or nocturnal survey in relation to trees T1 and T2 is recommended. However, mitigation measures will apply if plans change which result in direct impacts to either of the mature trees.

No other ecological constraints to development have been identified during the Ecological Appraisal.

Ecological enhancement recommendations appropriate to the site have been included within the report.

1. Introduction

- 1.1.1 Ecus Ltd was commissioned by Tomlinson's Dairies Limited in July 2016 to undertake an Ecological Appraisal of a section of the Dairy site at the Five Crosses Industrial Estate, Minera, Wrexham (central National Grid Reference: SJ 27809 52279). The appraisal was commissioned to inform the emerging Wrexham Local Plan.
- 1.1.2 The purpose of the survey was to carry out an extended Phase 1 habitat survey and to review the potential for the site to contain, or be used by, species protected under both UK and European nature conservation legislation, namely the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (as amended). Any impacts upon these habitats or species likely to result from the proposed development were then assessed.
- 1.1.3 This report details the findings of the survey work and subsequent assessment and relates to the development proposed within the planning application for the Phase 2 extension of the Dairy. Methodologies employed are described including site surveys and evaluation and the need for any further survey work and/or mitigation measures are included, where appropriate.

2. Methodology

2.1 Desk Study and Data Consultation

- 2.1.1 Data consultation with the North Wales Environmental Information Service (known as, and hereafter referred to as, 'Cofnod') was undertaken by Ecus Ltd in March 2016 as part of a previous ecological assessment at the site, to identify any biological records or locally designated sites of nature conservation interest within 1 km of the application area. As the data is less than two years old, an update search was not considered to be necessary.
- 2.1.2 The Natural England run Multi-Agency Geographical Information for the Countryside (MAGIC) website (www.magic.gov.uk) was consulted in July 2016 for information on statutory designated sites of nature conservation interest within 1 km of the application area.
- 2.1.3 Information obtained from MAGIC and Cofnod is included within the report as appropriate.

2.2 Extended Phase 1 Habitat Survey

- 2.2.1 The Phase 2 application area was surveyed on 19th July 2016 by consultant ecologist Helen Lloyd MCIEEM following extended Phase 1 habitat survey methodology (JNCC, 2010). The habitats and vegetation types present were recorded on to a field map. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all plants occurring across the site.
- 2.2.2 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey. Species recorded are included within the report as appropriate. Information is presented in Figure 1.
- 2.2.3 Habitats and species of principal importance listed under Section 42 of the Natural Environment and Rural Communities (NERC) Act 2006 and habitats and species listed on the Local Biodiversity Action Plan (LBAP) for Wrexham were noted where present.
- 2.2.4 The value and importance of ecological features present on site was determined based on the guidance given in 'Guidelines for Ecological Impact Assessment' (CIEEM, 2016). Individual ecological receptors (habitats and species that could be affected by the development) for the scheme were assigned levels of importance for nature conservation. The highest level is international, then decreasing in order of importance through national, regional, county, local to lastly, site level only.

Hedgerow Assessment

- 2.2.5 A hedgerow is defined as "...any boundary line of trees or shrubs over 20 m long and less than 5 m wide, and where any gaps between the trees and shrub species are less than 20 m wide (Bickmore, 2002). Any bank, wall, ditch or tree within 2 m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2 m of the centre of the hedgerow."

- 2.2.6 Hedgerows on site were assessed under the landscape and wildlife criteria listed in Schedule 1 Part II of the Hedgerow Regulations 1997, using the standard methodology in the Regulations, which is detailed below.
- 2.2.7 For hedgerows of 30 m in length or less, the entire hedgerow is surveyed. Hedgerows of over 30 m are split in to 100 m sections and the central 30 m of each 100 m section is surveyed. The number of woody species present is recorded within each length along with the presence of any of the features listed in Sub-paragraph 4 of the Regulations, including presence of a bank, wall, or ditch, less than 10 % gaps, at least one standard tree per 50 m, at least three woodland plant species, at least four points achieved from connections to other hedgerows, woods or ponds, and/or a parallel hedge within 15 m.
- 2.2.8 A hedge is considered important under the Regulations if:
- It has an average of seven or more woody species in the surveyed section(s);
 - It has an average of six woody species in the surveyed section(s) and three or more features from Sub-paragraph 4;
 - It has six woody species and one of the following rare trees – black poplar (*Populus nigra*), large leafed lime (*Tilia platyphyllos*), small leafed lime (*Tilia cordata*), wild service tree (*Sorbus torminalis*);
 - It has an average of five woody species on average in the survey section(s) and has four or more features from Sub-paragraph 4;
 - It has four woody species on average in surveyed section(s), is adjacent to a footpath, bridleway or byway open to all traffic (BOAT) and has two or more features from Sub-paragraph 4.

2.3 Protected and Key Species Survey

- 2.3.1 Any evidence of protected species or groups encountered during the survey was recorded. This included observations of field signs and/or an assessment of the suitability of the habitats present to support protected species. For full details of legislation relating to all habitats and species discussed within this report visit <http://www.legislation.gov.uk>.

Amphibians

- 2.3.2 Waterbodies within 500 m of the application area, not separated from the site by a major barrier, were searched for using an Ordnance Survey (OS) map.
- 2.3.3 A single pond was identified within 500 m of the site, which was subject to Habitat Suitability Index (HSI) Assessment (Oldham et al.) to assess its suitability to support a great crested newt population. The HSI provides a numerical value (ranging from 0 to 1) that indicates the suitability of a waterbody for great-crested newts. The higher the HSI score, the more suitable (or closer to optimum habitat conditions) the waterbody may be considered for great-crested newts.
- 2.3.4 The application area was also assessed for its potential to support common amphibians.

Badger

- 2.3.5 Signs of badger (*Meles meles*) activity were searched for as part of the extended Phase 1 survey. Survey followed standard methodology detailed in Surveying Badgers (Harris *et al.*, 1989). This included survey for badger setts, along with survey of linear features and boundaries for signs of badger activity including dung pits, foraging marks, feeding signs and pathways.

Bats

- 2.3.6 External assessment of the existing main building, a small sub station and two mature trees was undertaken during the extended Phase 1 habitat survey to determine the presence and value of any features with potential to be used by roosting bats.
- 2.3.7 An individual building or tree may have several features of potential interest to roosting bats associated with it. It is not always possible to confirm usage of a feature by bats as often the animals may be present on one day and no evidence of occupation may be found on the next. Consequently it is customary when undertaking such surveys to assign each feature to a defined category of roosting potential as follows: Negligible, Low, Moderate, High, Confirmed (Collins, 2016).
- 2.3.8 The site's capacity to support foraging and commuting bats was also assessed.

Birds

- 2.3.9 Formal bird survey was not undertaken as part of this assessment, however the opportunity was taken during the survey to record all species of bird encountered and to assess the suitability of the habitats present to support nesting and foraging birds.

Reptiles

- 2.3.10 The habitats present on site were assessed for their suitability to support basking, foraging and hibernating reptiles, with reference to their connectivity to other suitable habitat in the surrounding area.

Riparian Mammals and White-Clawed Crayfish

- 2.3.11 Ecus Ltd typically search for watercourses located within 30 m of the survey area, which are not separated from the site by a major barrier, using an Ordnance Survey (OS) map. No major watercourses were identified within 30 m of the site. A small number of drainage ditches are present on site and were therefore assessed for their potential to support water vole (*Arvicola amphibius*), otter (*Lutra lutra*) and white-clawed crayfish (*Austropotamobius pallipes*).

Other Protected and Key Species

- 2.3.12 The opportunity was taken whilst on the site to assess habitats for their potential to support any other nationally or locally scarce or otherwise notable species, or any species protected under national or international nature conservation law.

2.4 Invasive Species

- 2.4.1 The opportunity was taken during the extended Phase 1 habitat survey to record the presence of any invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), where present.

2.5 Survey Limitations

- 2.5.1 No limitations are considered to have been encountered.

3. Survey Findings

3.1 General Site Description

- 3.1.1 The Tomlinson's Dairies site is situated approximately 4 km north-west of Wrexham. The c 1.86 ha application area is predominantly situated to the east of the main dairy building (B1) and comprises hardstanding, semi-improved and marshy grassland, tall ruderal vegetation, scattered scrub and hedgerow. A small separate section wraps around the north-western corner of B1.
- 3.1.2 The application area is bordered by scattered dairy buildings, hardstanding and marshy grassland to the north, Gwernygaseg Road to the east, a residential property and grounds and Five Crosses Industrial Estate to the south and the main dairy building with hardstanding to the west. The wider area is dominated by the Five Crosses industrial estate and the settlement of Coedpoeth to the south, whilst rural farmland is dominant across the landscape to the west, north and east of the site.

3.2 Designated Sites

- 3.2.1 No statutorily designated sites of importance to nature conservation were identified within 1 km of the application area using MAGIC.
- 3.2.2 A total of five non-statutory designated sites of importance for nature conservation were identified within 1 km of the application area by Cofnod. Details are provided in Table 1 below.

Table 1. Designated Sites within 1 km of the application area.

Designated Site (Non Statutory)	Description	Distance From Application Site
Plas Mawr Wildlife Site (LWS) Mostyn Local Site	2.4 ha site comprising a moderately sloping field of semi-improved neutral grassland with gorse scrub and several marshy patches, although the top of the field has become improved. Common gorse (<i>Ulex europaeus</i>), ribwort plantain (<i>Plantago lanceolata</i>) and rough hawkbit (<i>Leontodon hispidus</i>) are abundant. The marshy patches have lesser spearwort (<i>Ranunculus flammula</i>) and glaucous sedge (<i>Carex flacca</i>). Alder trees (<i>Alnus glutinosa</i>) follow the river Gwenfro which flows through the bottom of this field. There are some small aspen (<i>Populus tremula</i>) trees in the south-east corner. Common centaury (<i>Centaureum erythraea</i>) occurs and breeding linnets have been recorded from the site.	360 m East

Roseburn Fields LWS	Small former agricultural compartment made of three fields of semi-improved neutral grassland. The field on the west side of the track is grazed by ponies and is dominated by crested dog's tail (<i>Cynosurus cristatus</i>) with abundant clover (<i>Trifolium</i> sp.); glaucous sedge, hard rush (<i>Juncus inflexus</i>) and selfheal (<i>Prunella vulgaris</i>) are frequent. The two hay fields on the east side of the track are dominated by Yorkshire fog (<i>Holcus lanatus</i>), with abundant common bent (<i>Agrostis capillaris</i>), creeping bent (<i>Agrostis stolonifera</i>) and black knapweed (<i>Centaurea nigra</i>). Ribwort plantain, meadow foxtail (<i>Alopecurus pratensis</i>) and sweet vernal grass (<i>Anthroxanthum odoratum</i>) are frequent.	285 m South-East
The Smelt LWS	A complex area along the river Clywedog, with broadleaved woodland, scrub, neutral grassland and some very small patches of calcareous grassland along the river banks. There is an area of species-rich marshy grassland on a slope on the east side of the river in which common bent, hard rush, and imperforate St John's-wort are abundant. On either side of the marshy grassland there are patches dominated by bracken and bramble with tall herbs and scattered gorse, birch and blackthorn scrub. The broad-leaved woodland on the steep south facing slope is dominated by sessile oak and ash, but sycamore is also abundant. Holly is frequent in the understorey with some hawthorn and hazel. Ivy, tufted hair-grass, false brome and ferns are prominent in the ground flora. The areas of scrub are dominated by bracken, bramble and creeping soft grass with some hazel and blackthorn. The semi-improved grasslands are more species rich where the fields slope steeply down to the river. The fields to the west have abundant bird's-foot trefoil, white and red clover; yellow-wort and common centaury are also present.	635 m South

Cae Plas Mostyn Bach LWS	A west facing slope of short semi-improved neutral grassland with occasional gorse scrub	530 m North-East
Pen-Y-Nant, Minera LWS	Unimproved rank grassland on steep slopes down to a strip of woodland along a stream. Within the marshy area ragged robin (<i>Lychnis flos-cuculi</i>) and devil's-bit scabious (<i>Succisa pratensis</i>) occur. The woodland canopy is mostly sycamore (<i>Acer pseudoplatanus</i>) and alder with holly (<i>Ilex aquifolium</i>) and hawthorn (<i>Crataegus monogyna</i>) beneath. There is bluebell (<i>Hyacinthoides non-scripta</i>) and wood sorrel (<i>Oxalis acetosella</i>) within the ground flora.	900 m South-West

- 3.2.3 The non-statutory designated sites are considered to be of importance to nature conservation at the local to regional level.

3.3 Habitats

Buildings, Hardstanding and Bare Ground

- 3.3.1 The main dairy building (B1, Figure 1) contains the milk processing and cold storage facilities and is clad with profiled sheeting, has a strip of uPVC windows to the first floor offices and has a shallow pitched roof. The carparking area to the front of the building is surfaced with macadam whilst the vehicle circulation route around the building and the heavy goods vehicle parking and turning areas are surfaced with concrete. Temporary car parking provision on site also comprises crushed substrate (bare ground).
- 3.3.2 A small electrical services housing unit (B2, Figure 1) is located along the eastern boundary, adjacent to which a temporary small compound area has been created, resulting in bare ground.
- 3.3.3 Both of the buildings and the hardstanding/bare ground areas on site are considered to be of negligible importance to nature conservation.

Semi-Improved Grassland

- 3.3.4 A steeply sloped grassed embankment, which is subject to management and was of short sward on the day of survey, is present to the centre of the application area. Grass and forb species identified on the day of survey included cock's-foot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*), creeping buttercup (*Ranunculus repens*), broad-leaved dock (*Rumex obtusifolius*) and dandelion (*Taraxacum officinale* agg.). A flatter section along the base of the northern slope showed signs of prolonged dampness, with frequent tufted hairgrass (*Deschampsia cespitosa*) present, but the area is limited in extent and is not considered to qualify as marshy grassland habitat.
- 3.3.5 A fenced field area to the centre of the site comprises medium sward semi-improved grassland formed on the slopes of an attenuation basin (TN1,

Figure 1), which functions during periods of wetter weather, but was holding only a very small amount of shallow water on the day of survey (for this reason it is not included as a waterbody within assessment relating to amphibians).

- 3.3.6 The field comprised intensively grazed pasture during a previous survey in March 2016, however following apparent removal of the ponies, a medium sward of grassland and forb species was found to have begun to re-establish on the 2016 site visit. Species recorded include perennial rye-grass (*Lolium perenne*), Timothy (*Phleum pratense*), Yorkshire fog, annual meadow grass (*Poa annua*), red fescue (*Festuca rubra*), broad-leaved dock, white clover (*Trifolium repens*), creeping buttercup (*Ranunculus repens*), creeping thistle (*Cirsium arvense*), common ragwort (*Jacobaea vulgaris*), greater plantain (*Plantago major*) and common nettle (*Urtica dioica*).
- 3.3.7 Whilst the sward is increasing in diversity due to a lack of grazing, the semi-improved grassland has limited diversity and comprises commonly occurring species of limited botanical value. Semi-improved grassland is not a habitat of principal importance under the NERC Act 2006, nor is it a habitat listed on the Wrexham LBAP. The semi-improved grassland on site is limited in extent and commonly occurring within the area and as such, it is not considered to be of importance to nature conservation outwith the site level.

Planted Scrub/Young Trees

- 3.3.8 Numerous tree saplings and scrub whips with protective guards have been planted and are establishing along the grassed embankment slope. Species include, but are not limited to, hazel (*Corylus avellana*), silver birch (*Betula pendula*), pedunculate oak (*Quercus robur*.) and purple cherry (*Prunus purpurea*), wild cherry (*P. avium*), rowan (*Sorbus aucuparia*), field maple (*Acer campestre*), dogwood (*Cornus sanguinea*), guelder rose (*Viburnum opulus*) and spindle (*Euonymus europaeus*).
- 3.3.9 Further native scrub whips of similar composition have also been planted along the southern boundary, amongst which tall ruderal vegetation has become well established (see 3.3.11 below).
- 3.3.10 The scattered scrub on site comprises native species but it is too immature to provide significant habitat structure or contribute to wildlife connectivity links at the current time. The scattered scrub is considered to be of importance to nature conservation at the site level.

Tall Ruderal Vegetation

- 3.3.11 Abundant tall ruderal vegetation comprising creeping thistle, common nettle, greater willowherb and tufted hairgrass occurs amongst the planted scrub situated along the southern boundary of the application area.
- 3.3.12 The tall ruderal vegetation comprises common coarse species which are frequently occurring within the local area and across the UK. The area is limited in extent and tall ruderal vegetation is not listed as a NERC Act 2006 habitat of principal importance or an LBAP priority habitat. As such, tall ruderal vegetation within the application area is not considered to be of importance to nature conservation at greater than the site level.

Hedgerow and Standard Trees

- 3.3.13 Hedgerow 1 (H1) crosses east to west near the centre of the site. It comprises unmanaged 2.5 x 1 m hawthorn (*Crataegus monogyna*) that is defunct at the western end and has limited, to no, connectivity to other hedgerow habitat at either end. A small sycamore (*Acer pseudoplatanus*) tree is present along the length, whilst ground flora appeared dominated by bramble (*Rubus fruticosus* agg.) and ivy (*Hedera helix*).
- 3.3.14 H2 comprises an almost continuous length of native hedgerow lining the application area eastern boundary. Hawthorn, hazel and blackthorn (*Prunus spinosa*) are most frequently occurring, with dogrose, goat willow (*Salix caprea*) and field maple (*Acer campestre*) also occasionally present.
- 3.3.15 H3 along the northern site boundary comprises a defunct section of unmanged, grown out hawthorn hedgerow.
- 3.3.16 H4 along the southern site boundary, comprises mature, unmanaged hawthorn and hazel hedgerow and includes two mature ash (*Fraxinus excelsior*) standards (T1 and T2, Figure 1).
- 3.3.17 All hedgerows on site comprise native species, with H2 being the most species-rich of those present. However, none of the hedgerows include the required number of species or features listed within Sub-paragraph 4 to be classed as Important under Schedule 1 Part II of the Hedgerow Regulations 1997 and hedgerow habitat is not included within the Wrexham LBAP. The hedgerows do comprise >80% of one or more native species and are therefore classed as a habitat of principal importance under the NERC Act 2006.
- 3.3.18 The hedgerows comprise native species and provide ecologically valuable habitat structure on the site, however, they do not have direct connectivity to the wider hedgerow network within the local area. The trees along H4 provide additional structure, but are limited in extent. Given the abundance of hedgerow habitat within the wider landscape, the hedgerow and standard tree habitat on site is considered to be of importance to nature conservation at a site level only.

Marshy Grassland

- 3.3.19 The field in the north-eastern section of the application area consists of marshy grassland that has a greater than 25% cover of rushes, with sward composition comprising abundant hard rush (*Juncus inflexus*) with frequent soft rush (*J. effusus*) and occasional compact rush (*J. conglomeratus*). Common sorrel (*Rumex acetosa*), common ragwort, sow thistle (*Sonchus* sp.) and Timothy grass were also noted within the sward.
- 3.3.20 The area of marshy grassland on site did not include areas of standing water at the time of survey, but species composition indicates prolonged damp conditions in the area. Extensive hard and soft rush presence can also be indicative of previous intensive grazing which has been the predominant land-use in recent years. The field contributes to a marshy grassland habitat that extends into an adjacent field to the north, but from study of satellite imagery this habitat type appears to be limited to a localized area comprising a small number of fields only. The constituent species comprise common floral

species typically found within marshy grassland habitat and marshy grassland is not listed as priority habitat on the Wrexham LBAP. As such, the marshy grassland is considered to be of importance to nature conservation at the site level.

Ditches

3.3.21 A total of three narrow ditches occur on site.

3.3.22 D1 which lies adjacent to H1 is very shallow-sided and often colonized/overhung by terrestrial vegetation. Only short sections were occasionally wet with a very shallow water depth, approximately 1 cm. Some water flow occurs at the eastern end where it enters a small culvert pipe to travel beneath an electricity pylon before exiting and turning the corner to become D2.

3.3.23 D2 which lies adjacent to H2, is slightly steeper sided but was also mostly dry and is considered only likely to hold water during periods of surface run after prolonged wet weather.

3.3.24 D3 runs perpendicular to the western field boundary and held approximately 1 to 2 cm water depth with a slow flow at the time of survey. The occasional presence of brooklime (*Veronica beccabunga*) indicates that this ditch holds water more often/permanently.

3.3.25 At least two of the ditches on site are considered to be man-made for drainage purposes and are dry for the majority of the time. The third ditch (D3) whilst wet, is also not of high quality nor considered to be a significant wet habitat. As such, the ditches on site are not considered to be of importance to nature conservation outwith the site level.

3.4 Species

Amphibians

3.4.1 A single record of great crested newt and a single record of smooth newt (*Lissotriton vulgaris*) located approximately 1 km north of the application area in 1992 were received from Cofnod.

3.4.2 The attenuation pool (P1), identified approximately 100 m south of the application area, comprises a man made depression which was holding only shallow water with abundant algal growth at the time of survey. Scattered bulrush (*Typha latifolia*) and soft rush (*Juncus effusus*) are present within the base. HSI assessment resulted in a score of 0.45, indicating 'Poor' suitability to support a great crested newt population. In addition, P1 is considered likely to completely dry out during periods of drier weather which would make it an unviable breeding pond for great crested newts. Taking into consideration the distance of the known record from the application area, the isolation of the attenuation pool from other waterbodies and the lack of direct connectivity to suitable terrestrial habitat present on site, great crested newts are not considered to be a receptor to the development and are not discussed further within the report.

3.4.3 The smooth newt record is also a considerable distance from the application area and there are no permanent waterbodies present on site. Whilst P1 may

be suitable to support common amphibian breeding if it retains water throughout the spring/summer months, the likelihood is considered to be low with the attenuation feature designed to release waters to the base level after a rainfall event. Consequently neither this feature, nor the habitats within the application area are considered to be of importance to common amphibians above the site level.

Badger

- 3.4.4 A record of a badger sett dating from 2001 and a record of a live badger dating from 2011, both within 1 km of the site were returned by Cofnod.
- 3.4.5 No badger setts or signs of activity were recorded on site on the day of survey. The site has direct connectivity with suitable badger foraging habitat within the surrounding area and the north-eastern field on site contains three mammal paths running north-south (TN2, Figure 1). The trails are not extensively well worn but badger pawprints were identified during the survey (TN3, Figure 1). A fourth trail was also recorded leading beneath H2 (TN4, Figure 1) in an east/west orientation. Whilst the site is clearly crossed as part of a wider area, no signs of foraging on site were observed and there is an abundance of similar habitat available off site in the wider landscape. As such, the site is not considered to be of importance to badger outwith the site level.

Bats

- 3.4.6 A single record of an unidentified bat species approximately 260 m west of the site dating from 1999 was returned by Cofnod. The record does not specify whether it pertains to a roost location or general activity only.
- 3.4.7 The main dairy building (B1), which comprises corrugated single sheeting with no external features such as soffit boxes or fascia boarding, or an internal roof void, is not of a construction type typically associated with roosting bats. The services unit (B2) is also not of a suitable construction type and has no features that offer bat roosting opportunities. As such, B1 and B2 are considered to display negligible potential for roosting bats and no further survey is recommended.
- 3.4.8 A small number of features of no greater than low bat roost potential were recorded in relation to T1 and T2 along the southern boundary. Both trees have ivy growth on the trunk, which may conceal suitable cavity features or provide small gaps directly behind the vines. Two small unoccluded knot holes were also noted on T1. No further survey is recommended for tree displaying low bat roost potential only. However, consideration to working methods may be applicable if felling or extensive pruning works impacting either tree is required.
- 3.4.9 The hedgerows have potential to contribute to bat foraging and commuting resources within the local area. The grassland and scrub areas may also be used for foraging as part of a wider resource, although higher quality foraging habitat is present within the wider landscape. Therefore the hedgerow and grassland on site are not considered to be of importance to bats outwith the site level.

Birds

- 3.4.10 Records for a total of 13 bird species within 1 km of the site were supplied by Cofnod. None are included on the Wildlife and Countryside Act 1981 (as amended) Schedule 1 list.
- 3.4.11 In 2015, a re-assessment of Birds of Conservation Concern (BoCC) was published by Eaton et al. (2015), which defines rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.
- 3.4.12 "Red" is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50 %) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. "Amber" is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25 %) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more. These categories are followed by Green, indicating that the species are relatively unthreatened.
- 3.4.13 The Cofnod records include five BoCC Red list species, six Amber list species and two Green list species, as detailed within Table 2 below.

Table 2. Bird species recorded within 1 km of the site.

Common name	Latin name	Status
House sparrow	<i>Passer domesticus</i>	Red
Linnet	<i>Carduelis cannabina</i>	Red
Song thrush	<i>Turdus philomelos</i>	Red
Starling	<i>Sturnus vulgaris</i>	Red
Yellowhammer	<i>Emberiza citrinella</i>	Red
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber
House martin	<i>Delichon urbica</i>	Amber
Kestrel	<i>Falco tinnunculus</i>	Amber
Stock dove	<i>Columba oenas</i>	Amber
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Long-tailed tit	<i>Aegithalos caudatus</i>	Green
Swallow	<i>Hirundo rustica</i>	Green

- 3.4.14 No bird species were recorded using the application area habitats on the day of survey, although the mature hedgerows provide good habitat structure for nesting and sheltering birds and will contribute to foraging resources within the local area.
- 3.4.15 The hedgerows are not considered to be critical to any one bird species and whilst the grassland and scrub provide a foraging resource, there is abundant higher quality nesting and foraging opportunities available within the wider landscape. As such, the habitats present within the application area are considered to be of importance to nesting and foraging birds at the site level only.

Other Protected/Notable Species

Hedgehog

- 3.4.16 A total of two hedgehog (*Erinaceus europaeus*) records within 1 km of the application area in 2011 and 2012 were supplied by Cofnod.
- 3.4.17 The existing record locations and site are not subject to major barriers to movement between them, therefore it is possible that hedgehog may move across the site and use the grassland and scrub as part of a wider foraging resource, if they are present in the immediate area. However, there is an abundance of similar habitat within the surrounding area and the habitats within the application area are not considered to be of importance to hedgehog outwith the site level.

Reptiles

- 3.4.18 No records of reptile species within 1 km of the application area were returned by Cofnod.
- 3.4.19 The combination of short/managed sward and dense tangled tall ruderal vegetation on site is considered to have limited suitability to support reptiles, including common lizard (*Zootoca vivipara*). There are also no permanent waterbodies on or near to the application area which would support species such as grass snake (*Natrix natrix*). Taking this and the absence of reptile records for the area into account, reptiles are not considered to be a receptor to the development and are not considered further within the report.

Riparian Mammals and White-Clawed Crayfish

- 3.4.20 No records of riparian mammals or white-clawed crayfish were included within those returned by Cofnod.
- 3.4.21 The ditches on site are small and narrow, designed to hold excess water during periods of wetter weather only. They lack suitable width and/or bank steepness and water depth to be suitable for use by otter and water vole and the silty substrate is considered unsuitable for white-clawed crayfish. As such, these species are discounted as receptors to the proposed development and are not discussed further within the report.

3.5 Invasive Species

- 3.5.1 No records of invasive species within 1 km of the application area were returned by Cofnod and none were noted within the application area during the survey.

4. Ecological Assessment & Mitigation

4.1 Proposed Development

- 4.1.1 The below assessment of impacts resulting from the proposed development upon species and habitats present is based on the draft Phase 2 Location Plan by Haston Reynolds (Drawing Ref: H0070-19-A3-PL-01), dated June 2016. The proposals include the attachment of the second building extension section to the north-eastern elevation of the existing dairy building, the installation of additional milk storage containers, creation of a new larger car park area and re-siting of the attenuation pond that is currently situated within the semi-improved grassland field.
- 4.1.2 Landtake of hardstanding, semi-improved grassland, scattered scrub and tall ruderal vegetation is anticipated to be required to accommodate the proposal. Removal of hedgerow is to be limited to a section of H1 and two short sections of H2 to create access points in off Gwernygaseg Road. Retention of the mature ash trees is proposed.

4.2 Sites of Nature Conservation Importance

- 4.2.1 There are no statutorily designated sites within 1 km of the application area to be affected by the proposed development.
- 4.2.2 The five non-statutorily designated sites are situated 285 m or greater from the application area. Whilst the sites are often only separated by fields and local roads, the development will be entirely site-contained and no mechanism has been identified by which the designated sites, or the habitats and species that they support, will be affected by the proposed development.

4.3 Habitats

Semi-Improved Grassland

- 4.3.1 Substantial cutting away of the embankment and the re-siting of the attenuation pond will be required to create the larger vehicle turning area to the east of the new building extension. The semi-improved grassland present comprising common, coarse species is of limited botanical interest overall and is not included as a priority habitat within the Wrexham LBAP. Landtake is considered to be of importance to nature conservation at the site level only.
- 4.3.2 New grassland seeding is proposed for the recreated attenuation pond area. The proposed Germinal WFG9 wetland and pond seedmix will be rich in wildflower species and if managed sympathetically e.g. subject to a low intensity mowing regime at the correct time of year, will increase species diversity on site and provide a particular enhancement for invertebrate species through provision of suitable foodplants and subsequently for foraging bats and birds.

Scattered Scrub/Young Trees

- 4.3.3 Cutting into the embankment to enlarge the turning area will also result in landtake of scattered scrub. The planted scrub is currently immature and therefore is of limited structural benefit on site, but it comprises a diverse variety of native species and as such, landtake is considered to be of

importance to nature conservation at the site level. Replacement/new planting is proposed along the northern and eastern boundary edges, with native species favoured within the landscaping schedule. This proposed use of a similar range of native species is considered to be beneficial and is encouraged.

Hedgerow and Standard Trees

- 4.3.4 Due to the defunct nature of H1, removal of part of this hedgerow is not considered to be of importance to nature conservation outwith the site level. H2 is the longest continuous length on site and includes the greatest variety of species. However, removal is to be limited to two short sections to create access gaps and therefore significant fragmentation will not occur. As such, landtake is not considered to be of importance to hedgerow habitat outwith the site level.
- 4.3.5 Retention of trees T1 and T2 along the southern boundary is proposed.
- 4.3.6 Enhancement of the site through additional tree planting and hedgerow gap planting along retained hedgerows within the proposed landscaping scheme will be beneficial. Where practicable, any new planting should comprise native species of local provenance, which will increase species diversity and compliment the local area. Standard trees are proposed in order to reduce establishment time and provide immediate structure and habitat.
- 4.3.7 Should appropriate areas be created on site, consideration could also be given to planting of native or known wildlife-attracting shrub and low growing species within the landscaping scheme to enhance the habitat and species diversity. An ecologically sensitive landscaping plan has the potential to benefit invertebrates and birds and enhance the ecology of the proposed scheme, hereby complying with Planning Policy Wales (PPW) Technical Advice Note (TAN) 5 (2009): Nature Conservation and Planning.
- 4.3.8 Where possible, native species should be favoured and species chosen should maximise flowering, pollen/nectar production and/or berries/fruit production to benefit invertebrates, birds and small mammals.

Tall Ruderal Vegetation

- 4.3.9 Relocation of closed board fencing denoting part of the current southern boundary in order to extend the turning provision will result in landtake of the tall ruderal vegetation within the application area. However, the ruderal vegetation is of limited botanical interest and of limited extent. Landtake is considered to be of importance to nature conservation at the site level only.
- 4.3.10 Replacement amenity grassland and native tree/shrub planting is proposed for this area, within which tall ruderal vegetation is likely to self set at the base and is therefore not considered to require specific inclusion within a landscape planting scheme.

4.4 Species

Amphibians

- 4.4.1 Common frog and common toad are included in Section 9(5) of the Wildlife and Countryside Act 1981 (as amended) which prohibits sale, barter,

exchange, transporting for sale and advertising to sell or to buy these species only.

- 4.4.2 Given the low suitability of the application area habitats for common amphibians, landtake is not considered to be of importance to these species outwith the site level. The drying out of the attenuation pond and the short to medium sward grassland that do not offer shelter opportunities are considered to make these areas suboptimal for use by common amphibians and the likelihood of presence is considered to be very low. However, in the unlikely event that common amphibians are encountered during vegetation stripping, works should temporarily cease to allow movement away from the footprint of works of their own volition.

Badger

- 4.4.3 Badgers and their setts are protected under the Protection of Badgers Act 1992. It is an offence under the act to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a currently active badger sett, or to disturb animals within the sett. In addition, badger are included as a priority species on the Wrexham LBAP.
- 4.4.4 No badger setts were recorded on or within 30 m of the application area, however badgers may use the habitats from time to time as part of a wider foraging resource. As abundant alternative foraging habitat is available within the surrounding area, landtake associated with the proposed development is not considered to be of importance to badger outwith the site level.
- 4.4.5 However, given that badgers have potential to access the site, a best practice approach to works is recommended. All deep excavations should be covered overnight unless completely fenced off and any unfenced/uncovered shallow excavations should have a scaffold board or equivalent placed in them to act as a ramp to allow any badgers to exit should they fall in.

Bats

- 4.4.6 All species of bat occurring within the UK are included in Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). Under regulation 41 bats are protected from deliberate capture, injury or killing, from deliberate disturbance and from deliberate damage or destruction of a breeding site or resting place (roost).
- 4.4.7 All UK bats are also included on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). However, their protection is limited to certain offences. Under the 1981 Act (as amended) it is an offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.
- 4.4.8 Barbastelle (*Barbastella barbastellus*), Bechstein's (*Myotis bechsteinii*), brown long-eared (*Plecotus auritus*), greater horseshoe (*Rhinolophus ferrumequinum*), lesser horseshoe (*Rhinolophus hipposideros*), noctule (*Nyctalus noctula*) and soprano pipistrelle (*Pipistrellus pygmaeus*) bats are included as priority species under Section 42 of the NERC Act 2006.
- 4.4.9 Roosting bats have been ruled out as a receptor in relation to B1 and B2 and in accordance with current guidelines, further survey is not required for trees

displaying low bat roost potential i.e. T1 and T2. However, should felling or substantial pruning become necessary, the felled tree should be left in-situ overnight prior to removal from site and any cross cutting of the tree should take place away from tree cavities. Cutting being undertaken during winter months would be advisable to further reduce the risk of any bats being present behind ivy vines.

- 4.4.10 The hedgerows within the application area may be used as part of a wider bat foraging resource, but are not considered to be critical due to the availability of higher quality hedgerow habitat in the wider area. Landtake will only affect a defunct section that is poorly connected and will not result in fragmentation, therefore landtake required is not considered to be of importance to foraging bats outwith the site level.
- 4.4.11 Whilst roosting bats are not considered to be a constraint in relation to the development, taking a best practice approach to nature conservation issues, it is recommended that consideration could be given to incorporating long term bat roosting provision, where practicable, as an ecological enhancement to the site. Information on installing suitable bat roosting provision can be provided by Ecus if required.
- 4.4.12 Alternatively, the strengthening of higher quality foraging habitat on site through new, clustered tree and shrub planting areas post development will provide an ecological enhancement.

Birds

- 4.4.13 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) against destruction of the nest during the bird nesting season, which falls between March and August, inclusive.
- 4.4.14 Landtake of grassland and mature hedgerow will be required. Given the presence of similar habitat within the wider area and the limited extent of the habitat to be lost, the landtake associated with the proposed development is not considered to be of importance to nesting and foraging birds outwith the site level.
- 4.4.15 Without mitigation there is potential for active bird nests to be destroyed during clearance of the hedgerow on site. Therefore, it is recommended that where possible any vegetation removal should be scheduled outside of bird breeding season i.e. undertaken between September and February inclusive. If it is not possible to schedule clearance works for these months, a breeding bird check undertaken by a suitably qualified ecologist will be required no more than two days prior to clearance, to check for the presence of active bird nests. An active nest would require an exclusion zone to be established and adhered to until chicks have fledged (to be monitored and confirmed by an ecologist).
- 4.4.16 Inclusion of bird nesting provision across the development would be considered a positive enhancement for nature conservation and would comply with PPW TAN:5 (2009). Suitable provision may include a general bird box with 26 mm or 32 mm entrance hole, such as the Schwegler 1B or Avianex bird box, which are suitable for a range of bird species. The bird box should be mounted at a minimum height of 3 m. If siting multiple boxes, they should be in a number of locations facing different aspects to maximise the

chances of occupation. However, full south aspects which receive sun all day during the summer months present a risk of overheating and should therefore be avoided.

- 4.4.17 Alternatively, planting of areas of scrub in appropriate locations, to provide potential nesting habitat and additional foraging resources once established, are considered suitable.

Other Protected/Notable Species

Hedgehog

- 4.4.18 Hedgehog is listed as a species of principal importance on the NERC Act 2006: Section 42 species of principal importance in Wales and whilst they do not receive a high degree of legal protection, they are a species in decline and should be taken into consideration during works.
- 4.4.19 As hedgehogs may be active in the local area and could move across the application area at any time, taking a best practice approach, all deep excavations should be covered overnight unless completely fenced off at ground level. Shallow excavations should have scaffold boards or equivalent placed in them overnight to allow any hedgehogs to exit, should they fall in.
- 4.4.20 Should a hedgehog be encountered during works, it should be moved carefully by gloved hand to a suitable area of shelter outside the footprint of works.

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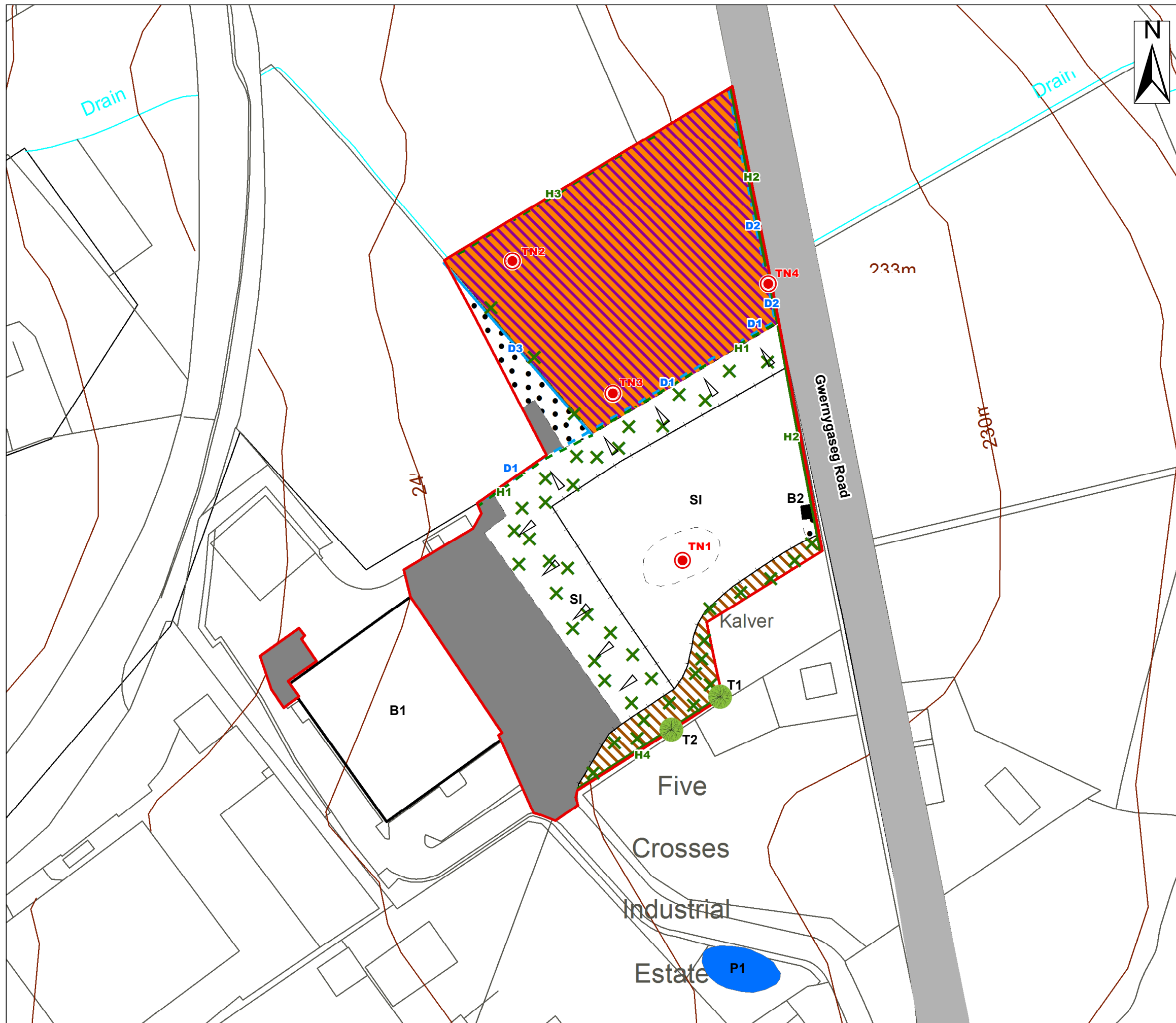
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Figure 1. Survey Findings



Legend

- Site Boundary
 - TN Target Note
 - Scattered Tree
 - X Scattered Scrub
 - Species-poor Hedgerow (Defunct)
 - Species-poor Hedgerow (Intact)
 - Wet Ditch
 - Dry Ditch
 - Fence
 - Hardstanding
 - Bareground
 - B1** Building Reference
 - SI** Semi-improved Grassland
 - P1** Pond
 - Tall Ruderal Vegetation
 - Marshy Grassland
 - > Gradient Direction
- 0 50 100
Meters

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**Phase 2 Cold Store Extension
Ecological Appraisal**

**Figure 1
Phase 1 Habitat Survey Findings**

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Appendix 1. Target Notes

- TN1. Attenuation pond depression. Almost completely dry and no aquatic vegetation present.
- TN2. Three trodden mammal trails across the site, typically on a north-south orientation. Considered likely to result from badger activity.
- TN3. Badger pawprint present within soft mud area.
- TN4. Mammal trail leading beneath H2 in an east/west orientation. Considered likely to result from badger activity.

Appendix 2. Site Images



1



2



3



4



5



6

Legend

Plate 1. Southern elevation of B1 (facing) and eastern elevation (to which extension will be attached) with surrounding hardstanding.

Plate 2. Looking east across semi-improved grassland field with attenuation area.

Plate 3. Tall ruderal and planted scattered scrub/young trees to the south of the semi-improved grassland field.

Plate 4. Looking west across small amount of water situated in the mostly dry base of the attenuation area.

Plate 5. Native species-rich H2 along eastern boundary. B2 with negligible bat roost potential in background.

Plate 6. Short sward semi-improved grassland and planted scrub on sloped embankment.

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Phase 2 Cold Store Extension
Ecological Appraisal

Appendix 2. Site Images

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