

Llay Industrial Site

Method Statement to accompany a
Great Crested Newt Licence
22 September 2015



Quality Management

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Prepared by	Dr. Richard Birch	Signature (for file)	
Checked by	B. Hall-Jones	Signature (for file)	
Authorised by	W.D. ROBERTS	Signature (for file)	

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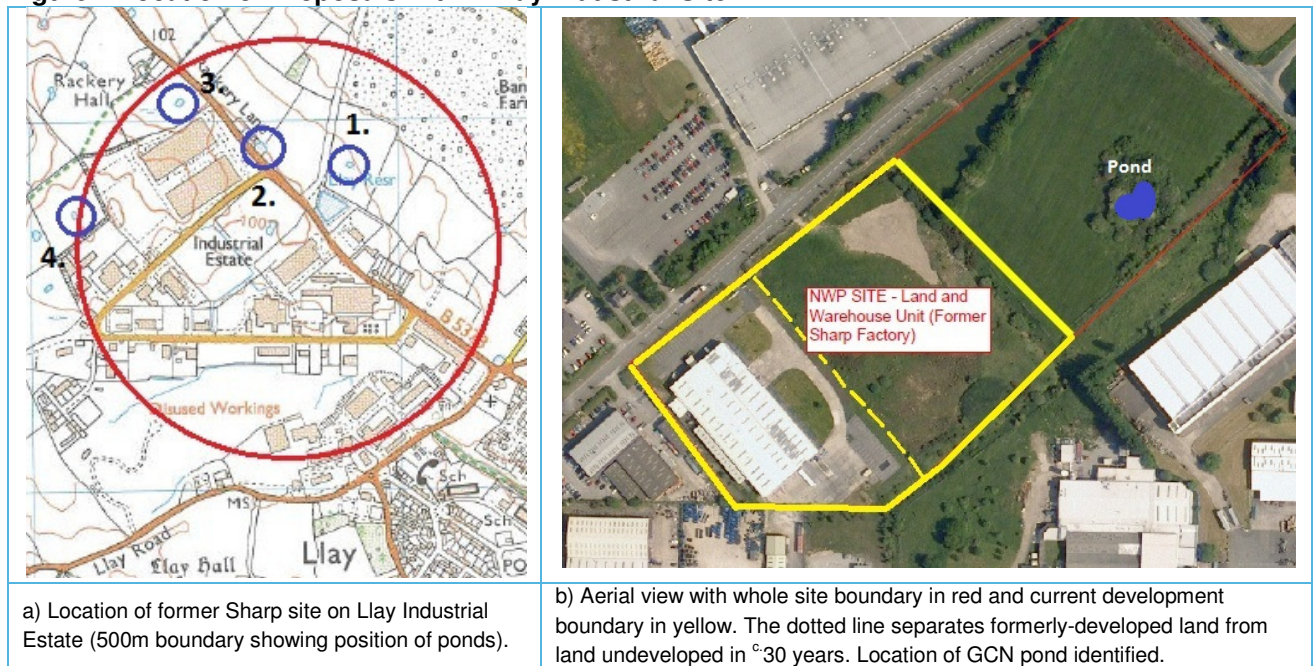
Appendix A

1. Introduction

1.1 Background to Project

- 1.1.1 The proposal is to develop vacant and formerly-developed land at Llay industrial Site (SJ 324.566) into a new facility for North Wales Police. The location of the site is shown in Figure 1:

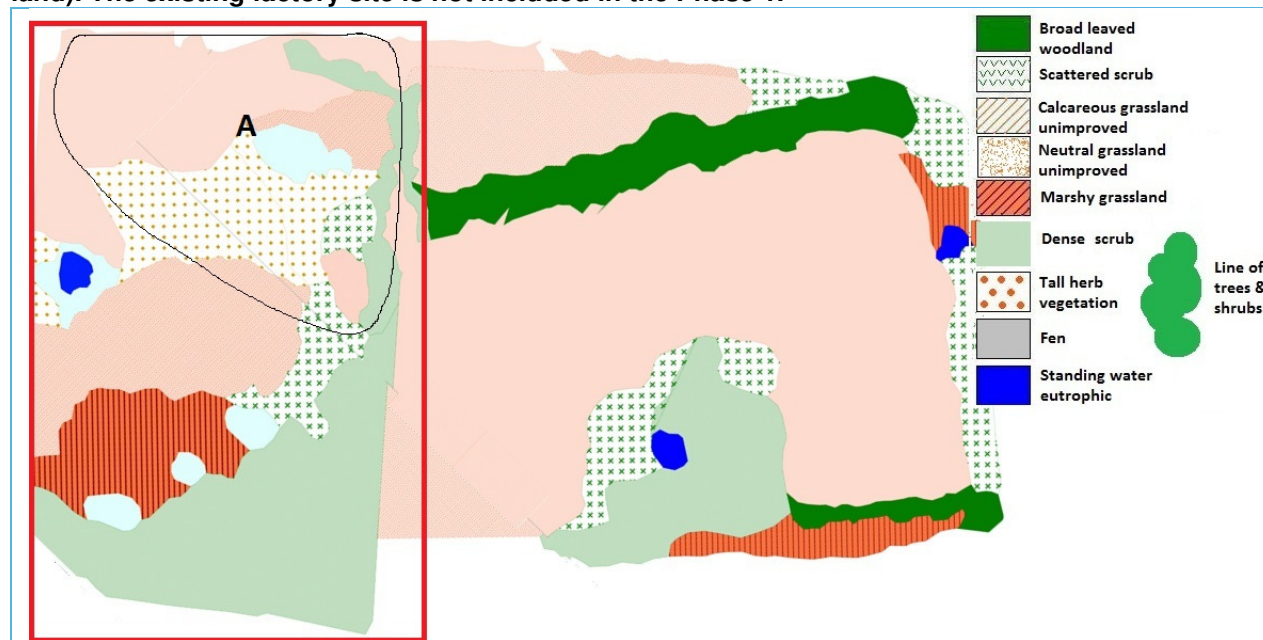
Figure 1 Location of Proposals within Llay Industrial Site



- 1.1.2 A Phase 1 (Extended) survey of the site was undertaken in June 2013¹. A Phase 1 map modified from the report is shown in Figure 2 and shows three ponds (although only one was subsequently found to be permanent).

¹ 'New Police Facility: Llay Industrial Site' 17 June 2013 Capita Symonds

Figure 2 Phase 1 map (red box denotes limit of current development proposals on undeveloped land). The existing factory site is not included in the Phase 1.



1.1.3 The conclusions of the Phase 1 (Extended) survey are summarised in Table 1:

Table 1 Survey Recommendations from Phase 1 (extended) Survey 2013

SPECIES	SURVEY REQUIREMENTS
Great Crested Newt (recorded from Cofnod data)	Survey of ponds between March and late May, to involve four visits by ecologists using bottle-trap, torch survey, egg-search or netting at each visit.
Badger (recorded from Cofnod data)	Survey of hedges and scrub to locate presence of setts or foraging activity.
Bats (recorded from Cofnod data)	Walkover survey between April and September to determine level of bat activity; Survey of trees to identify potential roost sites.
Breeding Birds (recorded from Cofnod data)	Two dawn visits, two weeks apart, between April and June to record territorial and singing birds.
Reptiles	Refugia survey - placing of 100+ reptile refugia in strategic habitats; Checking refugia a minimum of 7 times between April and June and again in September-early October for the presence of reptiles.
Invertebrates (recorded from Cofnod data)	Survey of butterflies (and moths) requiring 3 visits between April and September and the use of moth traps or sugar-baiting as required; Other methods including pitfall traps or netting may be used

1.1.4 These surveys (including the requirement for Great Crested Newt surveys), were undertaken between March & July 2015² and a small population of great crested newt was identified in the pond approximately 200m from the current development boundary, as marked in Figure 2.

² 'Llay Industrial Estate & Former Sharp Site: Ecological Survey & Report' July 2015 Capita

- 1.1.5 Great crested newt are a European Protected Species and development adversely affecting a population can only proceed under licence if the 'three tests' to ensure a minimum requirement of 'no net loss' are met (Table 2):

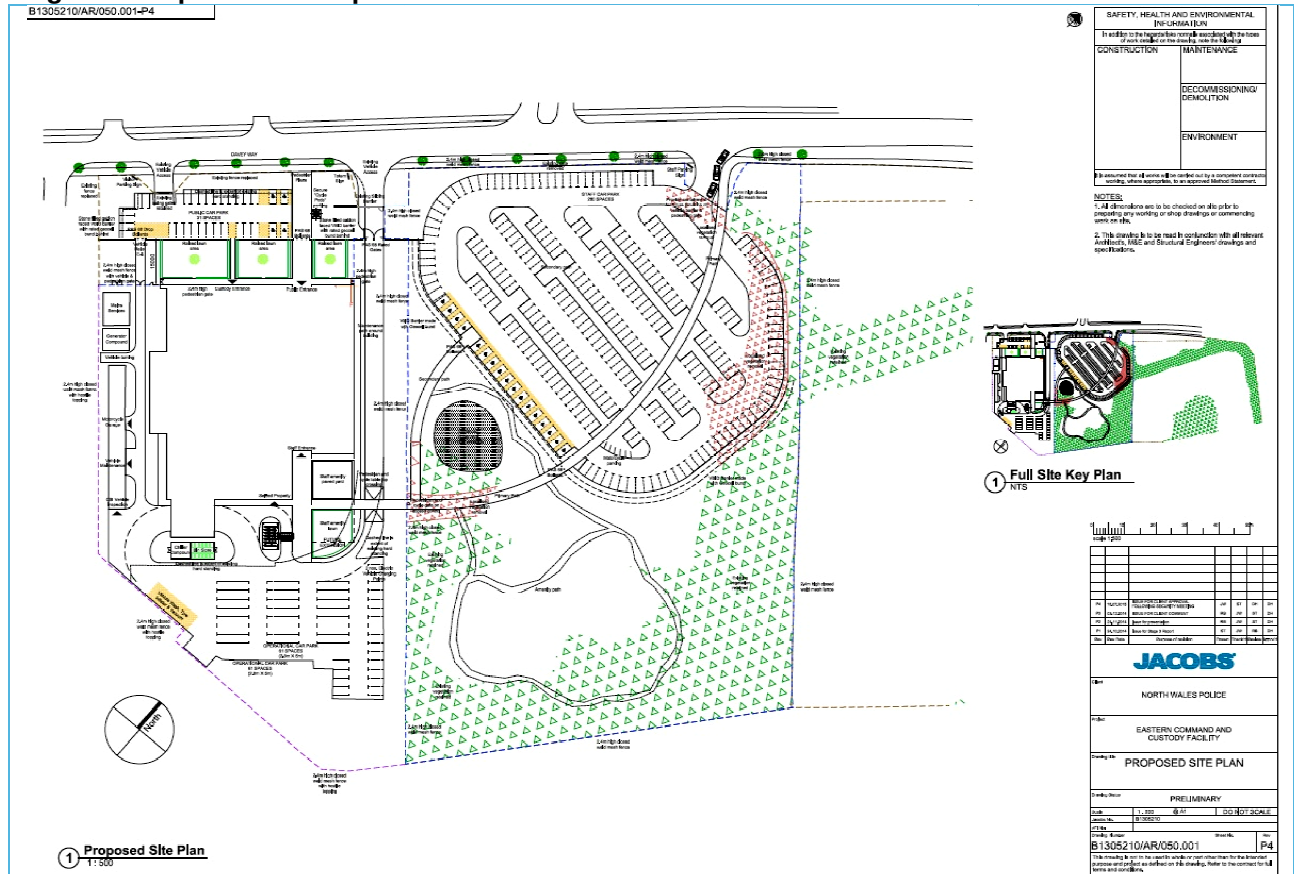
Table 2 Application of the 'three tests'

The purpose of the work is for preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment
There is no satisfactory alternative
The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

- 1.1.6 The results of the surveys form the basis of this Licence Method Statement.

1.2 Details of proposed works to be covered by the licence

- 1.2.1 The former Sharp Industrial Building will be redeveloped, and car parking will be built on half the land currently occupied by a mixture of mesotrophic grassland dominated by false oat grass (*Arrhenatherum elatius*), tall herb vegetation and scrub (denoted by 'A' in Figure 2).
- 1.2.2 The remaining land will be developed as an amenity park including trails.
- 1.2.3 The development proposals are illustrated in Figure 3:

Figure 3 Proposed Development Plan

1.3 Actions requiring licensing

1.3.1 The following actions will be covered by licence:

- Site clearance of semi-natural grassland and scrub within the area of proposed development (as denoted by 'A' in Figure 2);
- Creation of access trails on semi-natural marshy grassland and scrub as shown in Figure 3;
- All construction with the potential to affect great crested newt throughout the duration of the project.

2. Survey and Site Assessment

2.1 Existing information on Great Crested Newt at survey location

- 2.1.1 Biodiversity records were purchased from the North Wales Biodiversity Records Centre (Cofnod) on 24th June 2013, for the location centred on SJ 325.566.
- 2.1.2 Great crested newts were identified in ponds within the 500m boundary at SJ 325.563 and beyond the boundary at SJ 320.561 between 1998 and 2007. The ponds were not surveyed within the prescribed time: access was not granted to pond no's 1 & 2 and permission was not obtained to visit Pond No. 3 (see Figure 1 on page 1).
- 2.1.3 eDNA sampling of ponds to the north and east (outside the 500m boundary) was undertaken by Environmental Resources Management Ltd of Bristol and results shared, but unfortunately these were inconclusive owing to low water levels at time of sampling.
- 2.1.4 Populations of Great Crested Newt are recorded from adjacent areas including:
 - Alyn waters Country park (2km south);
 - Rackery Farm (1.5km north);
 - Llay Hall Farm (1.5km south-west).
- 2.1.5 The Llay Industrial Site is considered to be an outlier from these metapopulations, with a population density estimated as **low** based on survey data.

2.2 Statutory sites notified for species within 10km

- 2.2.1 The Deeside & Buckley Newt Site SAC is approximately 5 kilometres to the north.

2.3 Objectives of the survey

- 2.3.1 The objectives of the survey were to determine;
 - Presence/absence at the Llay Industrial Site;
 - If present, population size was to be determined;
 - Habitat quality and potential of the site to support viable populations.

2.4 Scaled plan of survey area

- 2.4.1 Figure 1, page 1, shows the location of the site Figure 3, page 4 shows the proposed construction design. Figure 4 shows the Phase 1 habitat map of the area (with pond#1 representing the extant breeding pond for great crested newt):

Figure 4 Phase 1 map of survey area with permanent pond#1 and temporary wetlands 2-4



2.5 Site description

2.5.1 Figure 4 shows the Phase 1 map of habitats. Table 3 identifies the broad habitat types and the area occupied by each habitat.

Table 3 Broad habitat types at Llay

HABITAT	AREA (M ²)	%
Species-rich neutral grassland	19,712.80	55.70
Marshy grassland	2,440.70	6.90
Species-rich (calcareous) grassland	192.00	0.54

HABITAT	AREA (M ²)	%
Tall herb vegetation	1,992.00	5.63
Woodland	2,274.70	6.43
Dense scrub	5,121.80	14.47
Scattered scrub	2,322.30	6.56
Fen	996.40	2.82
Open water	339.00	0.96
TOTALS	35,391.70	100.00

2.5.2 The terrestrial habitat as described in Table 3 is all of the highest quality for amphibians. The aquatic habitat consists of four ponds (as shown in Figure 4) where ponds 2-4 were impermanent and dried up by mid-May. Pond#1 was permanent, but is heavily overgrown by willow carr which reduces its favourable status for great crested newt (see Figure 5):

Figure 5 Pond#1: Aquatic habitat for newts



2.6 Field survey

2.6.1 The survey method followed the specifications given in the '*Great Crested Newt Mitigation Guidelines*' (EN 2001) with the following site-specific actions:

- Of the four methods of survey, only two were employed regularly and effectively, notably torch-search & bottle trapping. An egg search was carried out on one occasion but the value of this method was limited. The presence of leaves and branches in the water made netting impractical and possibly counter-productive by stirring up noxious gases.

- Five surveys were undertaken between 18th March and 19th May 2015. Ponds where standing water was present early in the season were only visited in March and early April, after which they had dried up.
- eDNA surveys were undertaken by a consultant (Environment Resources Management Ltd, Bristol) where ponds overlapped with an adjacent development scheme, but these did not provide any useful data because ponds were dry during sampling.

2.7 Survey results

- 2.7.1 The original assessment visit involved Habitat Suitability Indexing (HSI) to estimate the likelihood of pond(s) supporting great crested newt. The result for pond#1 (the main permanent waterbody) and a temporary pool that still contained water at time of survey, is shown in Table 4:

Table 4 Habitat Suitability Indices

Pond number	1	2
LOCATION	C	C
Pond shape	Circle	Irregular
Long axis diameter	40	60
Short axis diameter	40	10
Irregular pond area	200	80
Pond area (m ²)	1256.64	80.00
Pond drying	Never dries	Dries annually
Water quality	Moderate	Poor
Shade (%)	100	60
Fowl	Minor	Absent
Fish	Absent	Absent
No. Ponds in 500 m	6	6
Terrestrial habitat	Good	Good
Barriers	None	None
Macrophytes (%)	10	25
HSI	0.43	0.34

- 2.7.2 The HSI is low primarily because the pond is overgrown with willow and is rapidly reverting to carr.
- 2.7.3 The results of the surveys are shown in Table 5 (note that all ponds referred to follow the numbering system in Figure 4, page 6).

Table 5 Summary of Newt Survey Results

SITE VISIT					
	18.03.2015	30/31.03.2015	13/14.04.2015	29/30.04.2015	18/19.05.2015
TORCH	3 smooth newt in pond#1 10 newts observed in pond#2 (inc. poss. palmate)	4 newts in pond#2	3 newts in pond#2	6 smooth newt in pond#1	3 F & 2 M smooth newt in pond#1 Poss Palmate newt (F) in pond#2 after heavy rain
BOTTLE	NA	1 toad in pond#1 2 (M) smooth newt in pond#2	2 smooth newt in pond#1 (M) 3 smooth newt in pond#2 (M) 2 smooth newt in pond#3 (M/F)	2 smooth newt (F) in pond#1 1 great crested newt (F) in pond#1	5 F smooth newt & 1 F great crested newt in pond#1
EGG	NA	NA	NA	NA	Smooth newt eggs on <i>Rosa canina</i> leaves in pond#1

2.7.4 Full details of the survey and results is included in the report '*Llay Industrial Estate & Former Sharp Site: Ecological Survey & Report*' (July 2015, Capita) which is included as an addendum to the licence method statement.

2.8 Interpretation

2.8.1 The interpretation is that great crested newt is present at **low density** in pond#1, the only permanent pond within 120m of the proposed construction zone.

3. Impact Assessment (*without* mitigation)

3.1 Short term impacts

3.1.1 The short-term impacts of the proposals will include:

- Destruction of terrestrial habitat used by great crested newt;
- Loss of potential feeding and foraging habit for great crested newt for the duration of construction;
- Potential killing of individual great crested newt.

3.2 Long term impacts

3.2.1 The long term impacts of the proposal will include:

- Permanent loss of a mixture of species rich grassland, tall herb vegetation and scrub, amounting to approximately 25% of the construction site.

3.3 Post development impacts

3.3.1 The post-development impacts of the proposal will include:

- Permanent loss of terrestrial habitat preventing the increase and spread of great crested newt;
- Cumulative effects of additional obstacles to the spread of great crested newt.

3.4 Scale of impacts

3.4.1 The potential impacts are assessed on whether they are likely to happen (on a scale 1-5 of increasing likelihood), and the level of significance of that likelihood (on a scale of 1-5 of increasing significance). This assessment is made on the basis that impacts to the population of great crested newt can be regarded as significant at a local level, especially when considered in conjunction with other nearby proposals.

3.4.2 The Impact Assessment is summarised in Table 6, page 11. The conclusion is that the development will, without mitigation, have a **moderately severe** impact at a **local level**, on a species of **International importance**.

Table 6 Impact Assessment *without* mitigation

ACTIVITY	FEATURES AFFECTED	DURATION	LIKELIHOOD OF PREDICTION	SIGNIFICANCE WITHOUT MITIGATION	SIGNIFICANCE × LIKELIHOOD																															
<u>SHORT-TERM IMPACTS</u>																																				
Destruction of terrestrial habitat used by great crested newt	Habitat used by great crested newt		5	5	25																															
Loss of potential feeding and foraging habit for great crested newt for the duration of construction	Habitat used by great crested newt		5	2	10																															
Potential killing of individual great crested newt	Individual great crested newt		4	4	16																															
<u>LONG-TERM IMPACTS</u>																																				
Permanent loss of a mixture of species rich grassland, tall herb vegetation and scrub, amounting to approximately 25% of the construction site	Habitat used by great crested newt		5	2	10																															
<u>POST-DEVELOPMENT IMPACTS</u>																																				
Permanent loss of terrestrial habitat preventing the increase and spread of great crested newt	Habitat used by great crested newt		5	4	20																															
Cumulative effects of additional obstacles to the spread of great crested newt	Metapopulation of great crested newt		3	5	15																															
<table> <tr> <th><u>LIKELIHOOD</u></th><th></th><th><u>SIGNIFICANCE</u></th><th></th><th><u>SIGNIFICANCE × LIKELIHOOD</u></th><th></th></tr> <tr> <td>Imminent</td><td>5</td><td>Severe significant negative impact</td><td>5</td><td rowspan="2">Likely or imminent severe impacts on feature</td><td rowspan="2">15-25</td></tr> <tr> <td>Very likely</td><td>4</td><td>Moderately significant negative impact</td><td>4</td></tr> <tr> <td>May happen</td><td>3</td><td>Minor significant negative impact</td><td>3</td><td rowspan="2">Possible negative impacts on feature</td><td rowspan="2">10-14</td></tr> <tr> <td>Unlikely</td><td>2</td><td rowspan="2">Neutral impact</td><td>2</td></tr> <tr> <td>Very unlikely</td><td>1</td><td>1</td><td>Minimal negative impacts (possible positive impacts)</td><td>1-9</td></tr> </table>						<u>LIKELIHOOD</u>		<u>SIGNIFICANCE</u>		<u>SIGNIFICANCE × LIKELIHOOD</u>		Imminent	5	Severe significant negative impact	5	Likely or imminent severe impacts on feature	15-25	Very likely	4	Moderately significant negative impact	4	May happen	3	Minor significant negative impact	3	Possible negative impacts on feature	10-14	Unlikely	2	Neutral impact	2	Very unlikely	1	1	Minimal negative impacts (possible positive impacts)	1-9
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Unlikely	2	Neutral impact	2																																	
Very unlikely	1		1	Minimal negative impacts (possible positive impacts)	1-9																															

4. Delivery information

4.1 Works to be undertaken

4.1.1 The strategy of reducing negative impacts on a species of International importance regarded as significant at a local level will involve two strategies:

- Avoidance
- Mitigation

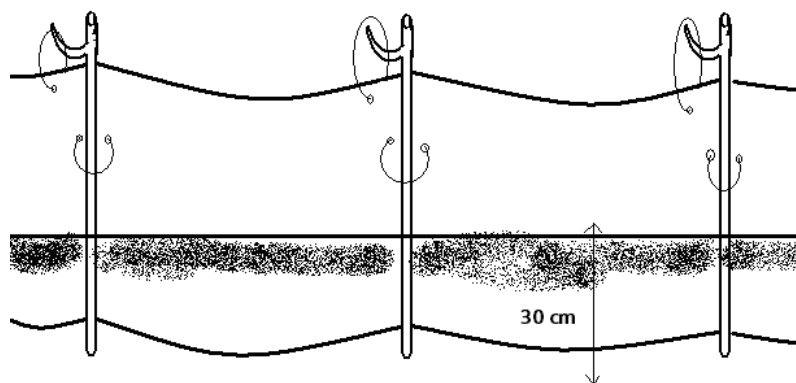
4.1.2 **Avoidance** is where works are timed or implemented to reduce the risk of killing individual great crested newts or having the minimum detrimental impact on the population;

4.1.3 **Mitigation** is compensation for the loss of habitat to development, which will include enhancement of habitat quality or provision of features that will enable the increase of the population.

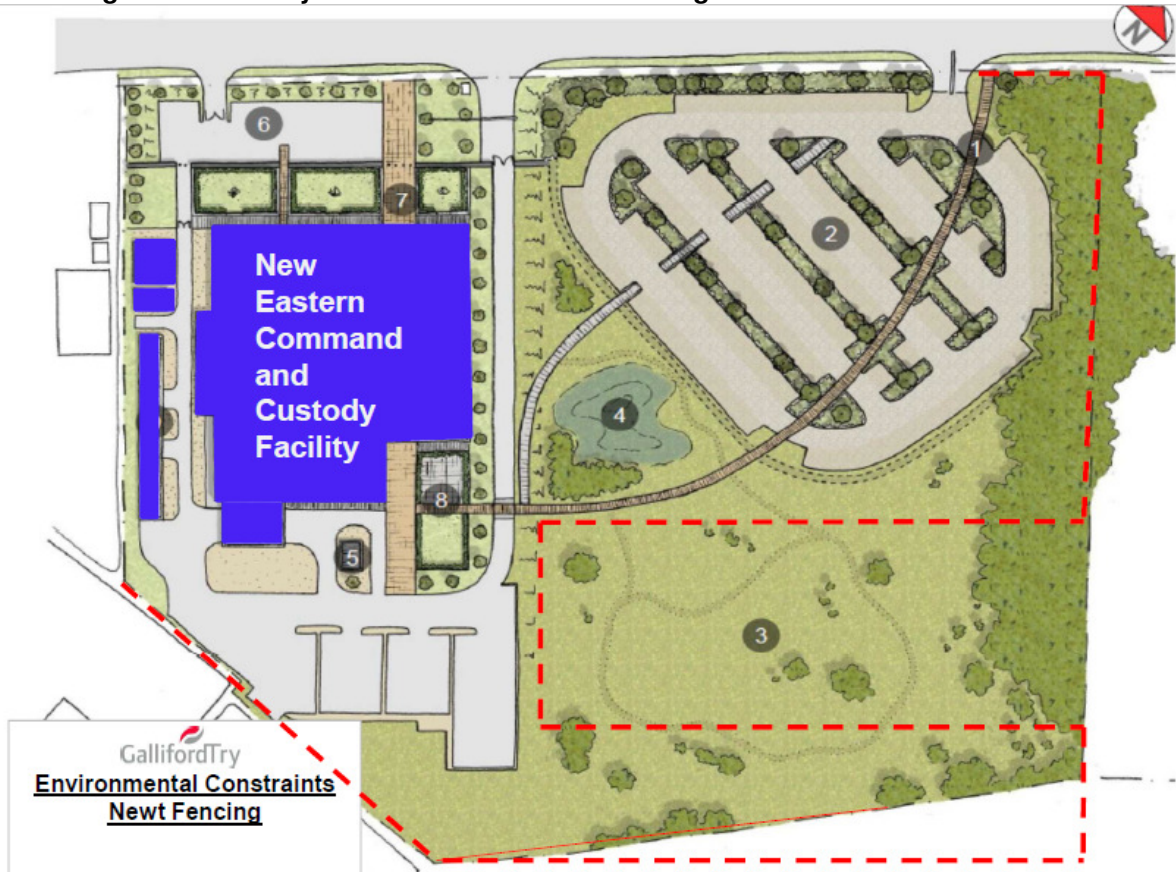
4.1.4 In order to maintain the Favourable Conservation Status (FCS) of a European Protected Species as a result of development, and to fulfil the three tests, the developer will undertake the following **avoidance** strategies:

- Prior to any on-site works, the boundary of the site will be defined with exclusion fencing (Figure 6).

Figure 6 Design for flexible exclusion fencing made from woven fabric



- This will be clearly marked on a site map (Figure 7) and considered as a condition of the licence that no violation of the boundary will be undertaken without a review of the licence method statement.

Figure 7 Boundary defined with exclusion fencing

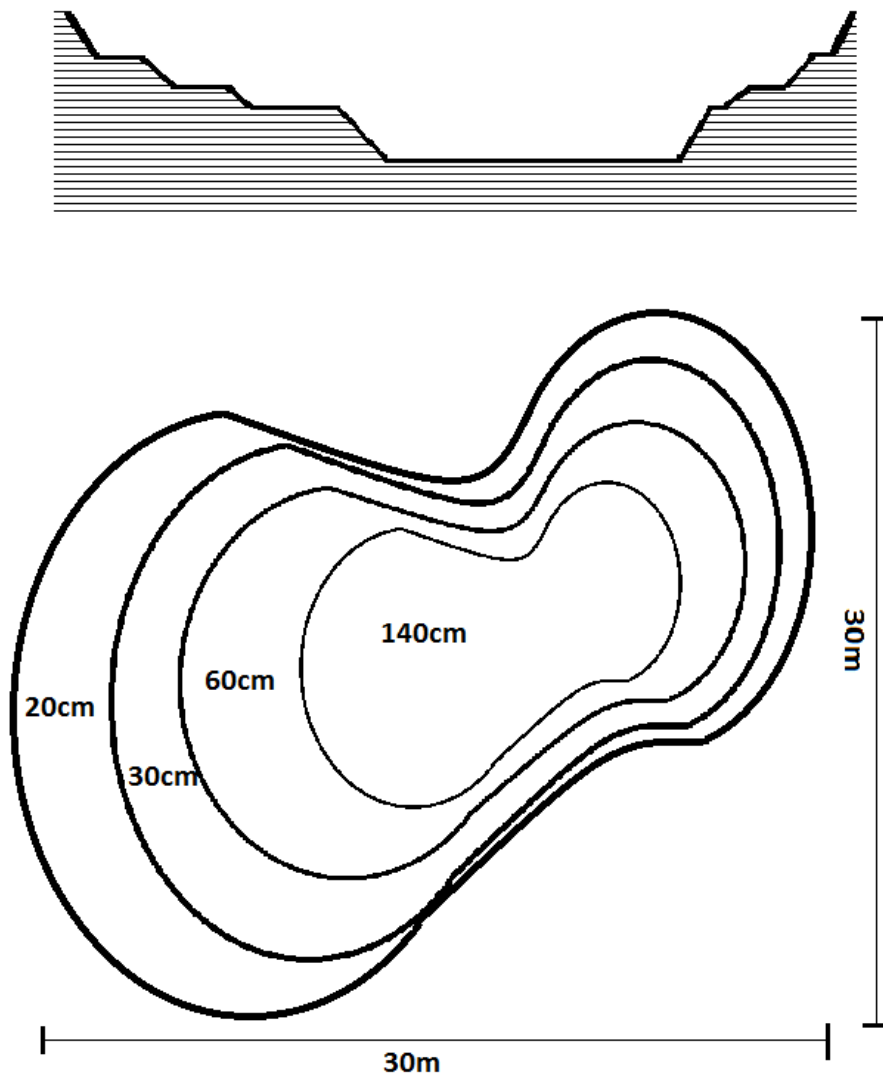
- Site clearance will be undertaken *not before* the end of February, when great crested newt activity is just starting after the winter dormancy. Conditions on the day of site clearance must be mild and humid, with no evidence of ground frost, and with an ambient temperature of 7°C;
- Site clearance must be undertaken only under the supervision of a Suitably Qualified and licensed Ecologist (SQE), who will oversee the soil strip and be on hand to fingertip-search and collect any great crested newt exposed during the clearance operation.
- Any great crested newt found during this operation will be collected in a plastic bucket and relocated on adjacent land near the breeding pond.

4.1.5 As compensation for the reduction in habitat available to great crested newt, and to mitigate for any potentially negative impacts of the works on the population, the following **mitigation** strategies will be implemented:

- A permanent breeding pond will be excavated at the location of the seasonally-wet pond and marsh shown as pond#4 in the Phase 1 map in Figure 4, page 6.

- The pond design and contours are illustrated in Figure 8. The hydrology must be assessed and if necessary, the pond must be lined to ensure permanence (at least for the maximum core depth). The contours shown create a range of depths for the establishment of marginal plants and aquatics.

Figure 8 Pond profile (Modified from 'The Amphibian Management handbook Baker et al 2011)



- 4.1.6 Material excavated from pond, if suitable, should be re-used on site to construct landscape features as specified in Ecology Report.

- 4.1.7 Pond marginal and aquatic planting follows the recommendations in the BREEAM report³ and include:
- Pond marginal and emergent planting in wetland and pond border to include the following species not already recorded:
5x 5litre Marsh marigold (*Caltha palustris*);
5x 5 litre Greater spearwort (*Ranunculus lingua*);
5x 5 litre Water mint (*Mentha aquatica*);
5x 5 litre Skullcap (*Scutellaria galericulata*);
5x 5 litre Flowering rush (*Butomus umbellatus*)
 - Submerged planting (often supplied as bunches secured by zinc rings) to include:
Broad-leaved pondweed (*Potamogeton natans*);
Curled Pondweed (*P. crispus*);
Spiked water milfoil (*Myriophyllum spicatum*);
Water lily (*Nymphaea* sp.) – can be any selection of flower colour.
 - No fish will be introduced to the pond.
 - Biosecurity precautions to prevent the introduction of New Zealand Pygmy weed *Crassula helmsi*, Floating Pennywort *Hydrocotyle ranunculoides*, Canadian Pondweed *Elodea canadensis*, Curly-leaved Pondweed *Lagarosiphon major* and Water Fern *Azolla filiculoides*.
 - Should any of these species be accidentally introduced, the licensee undertakes to treat the affected waterbody until they are eradicated.

4.2 Mechanism for ensuring delivery

- 4.2.1 The mechanism for delivery will be by audit (see Appendix A: A.2 Compliance Audit).

4.3 Mitigation contingencies

- 4.3.1 In combination with recommendations for other species and habitats on site⁴, no specific contingencies for alternative mitigation are considered necessary.

4.4 Biodiversity risk assessment

- 4.4.1 As a result of the proposals in the method statement, the criteria of the 'three tests' are as follows:

Table 7 The 'three tests' reviewed

The purpose of the work is for preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment	✓
There is no satisfactory alternative	✓

³ 'Llay Industrial Estate & Former Sharp Site: Ecological Assessment for BREEAM' August 2015 (Capita)

⁴ Proposed mitigation for MG5 grassland and Dingy Skipper Butterfly included in 'Llay Industrial Estate & Former Sharp Site: Ecological Assessment for BREEAM' August 2015 (Capita) and 'Llay Industrial Estate & Former Sharp Site: Ecological Survey & Report' July 2015 (Capita).

The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range	✓
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- 4.4.2 Following the avoidance & mitigation strategies outlined above, a revised Impact Assessment reduces the risk to the population to minor negative / potential positive impact on a population at a local / regional level.
- 4.4.3 The revised Impact Assessment is shown in Table 8.

Table 8 Impact Assessment *post* mitigation

ACTIVITY	CHARACTERISATION OF UNMITIGATED IMPACT ON FEATURE	AVOIDANCE & MITIGATION	REVISED LIKELIHOOD OF PREDICTION	REVISED SIGNIFICANCE	SIGNIFICANCE × LIKELIHOOD																															
MITIGATING SHORT-TERM IMPACTS																																				
Destruction of terrestrial habitat used by great crested newt	Loss of habitat used by great crested newt. Potential death of individual great crested newt	Demarcation of site works & protection of features.	5	2	10																															
Loss of potential feeding and foraging habit for great crested newt for the duration of construction	Loss of habitat used by great crested newt during construction	- Timing of site clearance - Demarcation of site works & protection of features.	3	1	3																															
Potential killing of individual great crested newt	Individual great crested newt	Site clearance under controlled conditions and supervision of ecologist.	3	2	6																															
MITIGATING LONG-TERM IMPACTS																																				
Permanent loss of a mixture of species rich grassland, tall herb vegetation and scrub, amounting to approximately 25% of the construction site	Loss of habitat used by great crested newt	- Habitat creation (as part of BREEAM and recommendations for Dingy Skipper) - Habitat improvement	5	1	5																															
MITIGATING POST-DEVELOPMENT IMPACTS																																				
Permanent loss of terrestrial habitat preventing the increase and spread of great crested newt		- Habitat creation (as part of BREEAM and recommendations for Dingy Skipper) - Habitat improvement - Creation of new breeding pond	3	2	6																															
Cumulative effects of additional obstacles to the spread of great crested newt		- Habitat improvement - Provision of breeding pond	3	3	9																															
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5. Post-Development Site Safeguard

5.1 Habitat management and maintenance

- 5.1.1 Continued habitat management for the benefit of great crested newt will be assured by adherence to the management regime proposed in appendix A of the BREEAM Management Plan (Appendix A: A.1 Five Year Management Plan).

5.2 Monitoring

- 5.2.1 No long term monitoring of the population is proposed beyond Year 2 of the Five Year Management Plan.

Appendix A

A.1 Five Year Management Plan (from BREEAM report⁵)

Completion & Year 1	
	1. Compliance audit of all mitigation and enhancement features (including EPS audit and close-out) 2. Issue of Appendix F 3. Mowing of raised earth banks to be undertaken only between July and March, not exceeding fortnightly and with mower blades above 100mm 4. All thinning removed from site or composted in a purpose-built facility (left)
Year 2	
	1. Site visit by SQE to undertake Phase II of created habitat where seed mix RE1 was used to determine evolution to Mesotrophic Grassland 5a ('Hay meadow') 2. Survey of pond to determine: Colonisation by amphibians (including great crested newt); Colonisation by aquatic & marginal planting; Absence of fish 3. Walkover by SQE in May-June to assess population of Dingy skipper and effectiveness of management of existing and recreated habitats
Year 3	
	1. SQE to check all bird and bat boxes from October to February for evidence of use 2. Walkover by SQE in May-June to assess population of Dingy Skipper and effectiveness of management of existing and recreated habitats. Amend as required to ensure the minimum standard of no 'net loss'
Year 4	

⁵ 'Llay Industrial Estate & Former Sharp Site: Ecological Assessment for BREEAM' August 2015 (Capita)

	1. Pond management in October to clear excessive weed growth and prevent encroachment. Use rake to remove excessive aquatic growth. Leave thinning on dry bank to enable aquatic species (including larvae of great crested & other newt species) to return to water 2. Audit of planting, including repeat of Phase II and checking/replacement of planted trees and shrubs
Year 5	
	1. Bat & breeding bird survey against baseline from 'Llay Industrial Estate & Former Sharp Site: <i>Ecological Survey & Report</i> ' (July 2015 Capita) 2. Check all bird and bat boxes from October to February for evidence of use

A.2 Compliance Audit

AUDIT DATE:			
AUDIT BY:			
OVERALL COMPLIANCE (Y/N)			
AVOIDANCE ELEMENT		Y/N	DATE
Boundary of the site clearly marked on a site map and defined with orange demarcation fencing throughout works?			
Site clearance undertaken at the end of February?			
Conditions on the day of site clearance mild & humid, with no evidence of ground frost, with an ambient temperature of 7°C?			
Great crested newt captured & relocated?			
MITIGATION ELEMENT		Y/N	DATE
Breeding pond constructed as per design?			
Marginal and aquatic plants added:			
5x 5litre Marsh marigold (<i>Caltha palustris</i>);			
5x 5 litre Greater spearwort (<i>Ranunculus lingua</i>);			
5x 5 litre Water mint (<i>Mentha aquatica</i>);			
5x 5 litre Skullcap (<i>Scutellaria galericulata</i>);			
5x 5 litre Flowering rush (<i>Butomus umbellatus</i>)			
Broad-leaved pondweed (<i>Potamogeton natans</i>);			
Curled Pondweed (<i>P. crispus</i>);			
Spiked water milfoil (<i>Myriophyllum spicatum</i>);			
Water lily (<i>Nymphaea</i> sp.)			

AUDIT DATE:			
No fish introduced to pond?			

A.3 Timetable of Works

Commencement: 1st January 2016
Duration: 70 weeks

Capita Property and Infrastructure Ltd

Bryn Eirias
Abergele Road
Colwyn Bay
North Wales LL29 8BY

Tel +44 (0)1492 510200