



# Appendix 8.2:


## Smooth Newt Survey

### (2013) Report

# Tyrone Cavan Interconnector Smooth Newt Report (2013)

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Tyrone Cavan Interconnector  
Smooth Newt Report

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# 1 Introduction

AECOM was commissioned by SONI to undertake an assessment of the presence of smooth newt (*Lissotriton vulgaris*) along the route of the proposed Tyrone – Cavan Interconnector (the 'Proposed Development').

The surveys were undertaken by Mary Maguire (AECOM), who was licensed by Northern Ireland Environment Agency (NIEA) (license no SNP/13/13) to undertake smooth newt surveys. On all survey occasions, Sean Meehan (AECOM) assisted.

## **Mary Maguire BSc (Hons) MSc AIEMA CSci**

Mary Maguire is a Chartered Scientist and is an Associate Member of the Institute of Environmental Management & Assessment (AIEMA). Mary has 2 years experience in newt surveys, having assisted on great crested newt (*Triturus cristatus*) surveys in the UK and produced reports detailing the results. In the current instance Mary was the licensed surveyor (licence no. SNP/13/13).

## **Seán Meehan BSc (Hons) MSc GCIEEM**

Seán Meehan is a Graduate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Seán has two years experience assisting on both great crested newt surveys in the UK and on smooth newt surveys in Northern Ireland. In 2013 Sean was the coordinator and lead surveyor for the all Ireland smooth newt surveys undertaken on behalf of the Irish Wildlife Trust.

## **Kevin Webb BSc (Hons) MSc MCIEEM**

As ecological technical lead for AECOM on the project Kevin oversaw all the work and approved all methodology and assessments. Kevin joined AECOM as Associate Director within the environment team in September 2010. He is responsible for the management of the ecology team in the south west and Wales including overall responsibility for project delivery and technical input. Kevin has particular expertise with protected species survey and mitigation and in delivering Ecological Impact Assessments as part of the EIA process. Kevin has also appeared as an expert witness at public inquiry and holds protected species licenses for great crested newt (England and Wales) and for the capture and ringing of all UK bird species including a wide range of Schedule 1 species.

All surveys were undertaken with landowner consent and all required health and safety procedures were met.

### **1.1 Previous Work**

Potential newt habitat was identified by AECOM in proximity to the Proposed Development (Tyrone Cavan Interconnector Environmental Statement 2009). In 2009, three sites were identified and subsequently discounted as having potential as smooth newt habitat.

In 2011 (Second ES Addendum for the Proposed Development), further clarification was provided for the 2009 survey, an extract of this is presented below:

*Wetland sites identified at Target Note (TN) locations (TN8, 32, 39) were searched for indications of use by newts on the 9th June 2009 and complied with the NIEA guidance on newt surveys. Open water was only present at TN8 and even then the suitability of this water body for newts was very limited. The water body is an artificial drain with steep sides and newts would be unable to get in and out of the drain. In addition to this the nearest tower to the water body is Tower 13, which is located 139 metres to the west. Furthermore this tower is located in a field which is subject to agricultural land management and currently has the habitat characteristics of an improved agricultural field. This field has recently been observed as ploughed and this level of intensive management for agriculture would make the field highly unsuitable for newts. There was no indication that newts were present at this site. Also, there were no newt eggs found during the survey carried on 9th of June 2009 (in the drain, 139m to the east).*

*The fen at TN32 did not contain any suitable open water and was dominated by tall, dense emergent vegetation, in fact the surveyor was able to walk across the fen and the vegetated matt which made up the surface of the fen was likely to be impenetrable to newts. In addition to this the nearest towers to TN32 are Towers 64 & 65 which are located 135 and 85 meters from the fen respectively and are located in Improved or semi-improved grassland fields which are managed*

*intensively for agricultural purposes. Newts were not recorded during the site visit on 9th June 2009 and within the context of the habitat are extremely unlikely to be present in the area upon which the towers will be sited.*

*TN39, like TN32, was a small fen completely choked with vegetation and again the surveyor was able to walk across the surface of the fen. No open water was recorded and this site was deemed to be unsuitable for newts. In fact there was some evidence to suggest that the fen had been partially filled by the farmer in recent years. Although the nearest tower (69) was much closer to this wetland (15 meters at the closest point), again the tower is located in an improved agricultural field and not within the wetland, nor is it located in suitable habitat for newts. Therefore the impact on newts at this location is considered to be negligible.*

*In addition to the three wetlands described above, a pond is located adjacent to the study area 109m south west of Tower 22. This pond was considered, was discussed with NIEA and considered to be of low potential for breeding newts as it was an ornamental pond and contained fish. In addition to this, the distance to the nearest tower (109m) and the fact that the tower was located in the next field (which had recently been ploughed) meant that any potential impact to newts even if they had been present in the pond was considered to be negligible.*

In 2012, an extended Phase 1 habitat survey was undertaken for the Proposed Development and the results published in the Consolidated ES (2013). Based on the results of that survey, a further opportunity was taken in 2013 to assess potential newt habitats that could be affected by the Proposed Development. This report outlines the findings of that 2013 survey.

## 2 Site Description

The Proposed Development includes:

- The construction and operation of a new 275kV / 400kV (source) substation at Turleenan townland, north-east of Moy, County Tyrone;
- The construction and operation of two 275kV terminal towers to enable connection of the Turleenan substation to NIE's existing 275kV overhead line and the removal of one existing 275kV tower;
- The construction and operation of a single circuit 400kV overhead transmission line supported by 102 towers for a distance of 34.1km from the source substation (at Turleenan) to the border where it will tie into the future ESB network. The overhead line will continue on in the Republic of Ireland with all further towers being promoted by EirGrid for placement within that jurisdiction. Because of the meandering nature of the border, the overhead line will over sail a portion of land within the Northern Ireland townland of Crossbane for a short distance of 0.2km; and,
- Associated Works to include site levelling, site preparation works, modification of existing access points, construction of new access points, construction of new access lanes, construction of working areas, stringing areas, guarding, site boundary fencing and related mitigation works. Formation of access tracks and other associated works at the substation and at the tower locations.

Surveys undertaken in 2012 confirmed the land use along the Proposed Development is dominated by agricultural land comprising improved and semi improved grassland fields, with less frequent arable and with often less nutrient-enriched lands towards the southern end. A number of ponds had been identified within the vicinity of the Proposed Development as part of the ecological assessment. A number of areas that were considered to be potentially suitable for smooth newts were identified.

This report describes the methodology and results of an assessment to determine the status of smooth newt within 200m of the Proposed Development. The purpose of this assessment is to provide an understanding of the potential impacts of the Proposed Development on smooth newt, and in the event of a potential impact to formulate appropriate mitigation measures.

### 3 Legal Framework

The smooth newt is protected under Article 10 of the Wildlife (Northern Ireland) Order 1985 (as amended). It is an offence to intentionally or recklessly kill, injure or take any wild animal included in Schedule 5 of this Order, which includes the smooth newt (also known as common newt).

It is also an offence to intentionally or recklessly: damage or destroy, or obstruct access to, any structure or place which newts use for shelter or protection; damage or destroy anything which conceals or protects any such structure; or disturb a newt while it is occupying a structure or place which is used for shelter or protection.



## 4 Methodology

### 4.1 Data Search

As part of an information request to the Centre of Environmental Data and Recording (CEDaR), all records of smooth newt were requested within 5km of the Proposed Development.

### 4.2 Habitat Assessment

A habitat assessment was undertaken to determine the suitability of all waterbodies located within the Proposed Development boundary (and within a buffer of 500m from the associated works development boundary) to support smooth newt. This method used a Habitat Suitability Index (HSI) system which had originally been devised for Great Crested Newts. In lieu of local, detailed, species specific guidance, the assessment was based on guidance outlined in the Joint Nature Conservation Committees' published herpetofauna Workers' Manual (Joint Nature Conservation Committee, 2003) and the Great Crested Newt Conservation Handbook (Langton, Beckett & Foster, 2001). For great crested newts, Natural England recommends the Oldham et al. (2000) Habitat Suitability Index (HSI) to assess waterbodies, for their suitability to host smooth newts. It is accepted that habitat requirements for smooth newt and great crested newt are largely synonymous and therefore whilst the HSI is intended for a different species, it is broadly applicable to the smooth newt. and the HSI is a numerical index between 0 (indicating unsuitable habitat) and 1 (representing optimal habitat). Although devised for use with great crested newts this methodology does provide a good indication of the likely value of breeding sites to all newt species and so has been adopted for use in this instance. The HSI incorporates ten suitability factors, all of which also affect smooth newts. These factors are:

- Geographical location (SI<sup>1</sup>). The UK is divided into three zones A, B and C which illustrate decreasing potential for great crested newt in regard to their geographical range
- Pond area (SI<sup>2</sup>). In general pond sizes between 500m<sup>2</sup> and 750m<sup>2</sup> are optimal for newt species;
- Pond drying per decade (SI<sup>3</sup>). The occasional drying of a pond (once per decade) is optimal as this reduces numbers of predatory fish. However permanent water retention is preferable to annual drying up;
- Water quality (SI<sup>4</sup>). Good water quality is optimal and is measured through invertebrate diversity and the condition of the pond;
- Shade cover (SI<sup>5</sup>). Represented as a percentage of the bank. Unshaded ponds are preferred to those that are heavily shaded;
- Waterfowl (SI<sup>6</sup>). Heavy use by waterfowl can deteriorate the suitability of a pond for newt species, although minor use e.g., by moorhens is likely to have a negligible impact;
- Fish (SI<sup>7</sup>). In general, greater numbers of fish result in a higher level of predation upon eggs and larvae and thus fewer fish in a pond increases the potential viability of a newt population;
- Nearby pond (SI<sup>8</sup>). More nearby ponds increases the chances of newts becoming established from nearby ponds;
- Terrestrial habitat (SI<sup>9</sup>). A higher proportion of suitable terrestrial habitat located within 500m of a breeding site increases the likelihood of smooth newt presence within a particular area; and,
- Macrophyte cover (SI<sup>10</sup>). The greater the proportion of the pond that is covered by aquatic vegetation, the greater the opportunities for shelter and egg laying by newt species. Where macrophyte cover reaches 80% or above, the effect of a reduction in light and oxygen reaching the deeper water can reduce the suitability of the pond for smooth newt.

The resulting index scores between 0 and 1 are produced for each suitability index, and these are then converted to a figure between 0 and 1 for use in the HSI calculation. This figure is either translated from an assigned category or measurement or read from a graph in the case of a percentage or number. The HSI is then calculated from the following formula:

$$HSI = (SI^1 \times SI^2 \times SI^3 \times SI^4 \times SI^5 \times SI^6 \times SI^7 \times SI^8 \times SI^9 \times SI^{10})^{0.1}$$

HSI scores are categorised in terms of pond suitability for newt species as below:

<0.5 = poor

0.5 – 0.59 = below average

0.6 – 0.69 = average

0.7 – 0.79 = good

>0.8 = excellent

In general, ponds with high HSI scores are more likely to support newt species than those with low scores. The system is, however, not sufficiently robust to conclude that any particular pond with a high score will support newt species, or that a pond with a low score will not support newt species.

HSI scoring cannot be used to confirm the actual status of smooth newt, which requires a full pond survey to be undertaken, however it can be a useful indicator in:

- Evaluating the general suitability of a sample of ponds for smooth newts;
- Comparing general suitability of ponds across different areas; and,
- Evaluating the suitability of potential receptor ponds in the event these are required for a proposed mitigation scheme.

Data was collated on each of the HSI determining factors for eight ponds, ditches and drains within 200m of the proposed tower locations. Following completion of the field assessment a HSI score was calculated for each pond, ditch and drain.

#### **4.3 Presence / Likely Absence Newt Survey**

In accordance with English Nature Guidelines (2001) for surveying great crested newts, AECOM ecologists conducted four survey visits to each potential breeding area to identify the presence or absence of smooth newt at the site. Approved methodology for great crested newt, requires that, in the event that great crested newt is identified within the first four survey visits, a further two survey visits must be undertaken to complete a population assessment, thus this methodology was transferred to the comparable species: smooth newt.

Three survey techniques were utilised on each visit - egg search, netting and torchlight searching. These activities were all undertaken in accordance with Natural England Great Crested Newt Mitigation Guidelines (English Nature, 2001) and carried out by a licensed smooth newt surveyor with an additional surveyor present on each visit.

The egg search survey involves the searching of all vegetation within and around the pond for the presence of newt eggs. This method only assesses a pond for presence/absence and no population size data can be gathered from it. Surveyors were instructed in advance that if newt presence is confirmed, surveyors were to cease using egg search as a form of survey.

Netting is undertaken using a long-handled dip net and utilising a perimeter walk to net adults and in late summer, larvae. The technique can be conducted by day or night, with better results obtained at night when adult newts are more likely to be in open water. If netted, each newt is identified to species level, sexed and approximately aged. Netting results are useful for presence/absence but not recommended for population size estimations. Surveyors were instructed in advance that if newt presence is confirmed, surveyors were to cease using netting as a form of survey.

Torchlight surveys are undertaken at night and involve slowly walking around the pond margins with a powerful hand torch to identify any newts in the ponds. One million candle-power Clulite torches were used during each survey visit. As is the case with netting, when a newt is encountered, it is identified to species level, sexed and approximately aged (sub adult/adult).

During the surveys, any other amphibians observed within the pond were also recorded. All results were noted on survey recording forms, which are provided within Annex A.

## 5 Assessment Methodology

The method of evaluation and assessment that has been utilised has been developed using guidance from Guidelines for Ecological Impact Assessment (IEEM, 2006). This gives guidance on the assessment of value, magnitude and impact significance. These guidelines form the basis of the assessment methodology within this report.

The methodology below summarises the criteria as set out in the IEEM guidelines. These criteria are based on determining firstly the nature conservation value of the receptor, in this case smooth newts, against the criteria provided in Table 1. Table 2 details the factors to be considered when assessing magnitude of ecological impacts. Table 3 provides detail of the criteria for assessing magnitude of ecological impacts. Factors that should be considered when assessing ecological significance of impacts are provided in Table 4 and the significance of magnitude of impact in relation to the sensitivity of the receptor is detailed in Table 5.

**Table 1 - Determining the Nature Conservation Value of Ecological Receptors**

Site Importance	Site Description
Internationally important sites (very high conservation value)	<p>World Heritage Sites identified under the Convention for the Protection of World Cultural &amp; Natural Heritage, 1972;</p> <p>Biosphere Reserves identified under the UNESCO Man &amp; Biosphere Programme;</p> <p>Wetlands of International Importance designated as Ramsar Sites under the terms of the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the Ramsar Convention) formulated at Ramsar, Iran, in 1971;</p> <p>Special Protection Areas (SPAs) designated in accordance with Council Directive 2009/147/EC: (the Birds Directive. This Directive requires member states to take measures to protect birds, particularly rare or endangered species as listed in Annex I of the Directive, and regularly occurring migratory birds;</p> <p>Special Areas of Conservation (SACs and cSACs) designated in accordance with the 1992 European commission Habitats Directive 92/43/EEC (1992): the Habitats Directive. This Directive requires member states to establish a network of sites that will make a significant contribution to conserving habitat types and species identified in Annexes I and II.</p>
Nationally important sites (high conservation value)	<p>Areas of Special Scientific Interest notified under Section 28 of the Environment (NI) Order 2002, which represent the best national and regional example of natural habitat, physical landscape features or sites of importance for rare or protected species;</p> <p>National Nature Reserves (NNRs) and Marine Nature Reserves (MNRs) designated under the Environment Order;</p> <p>Sites maintaining UK Red Data Book species that are listed as being either of unfavourable conservation status in Europe, of uncertain conservation status or of global conservation concern;</p> <p>Sites maintaining species listed in Schedules 1, 5 and 8 of The Wildlife (NI) Order 1985.</p>
Regionally important sites (medium conservation value)	<p>Sites that reach criteria for Local Nature Reserve but do not meet ASSI selection criteria;</p> <p>Sites of Local Importance for Nature Conservation (SLNCIs) recognised by DOE Planning Service and intended to complement the network of nationally and regionally important sites. SLNCIs receive special consideration in relation to local planning issues;</p> <p>Sites supporting viable areas or populations of priority habitats/species identified in the UK Biodiversity Action Plan or smaller areas of such habitat that contributing to the maintenance of such habitat networks and /or species populations;</p> <p>Sites maintaining habitats or species identified in Regional Biodiversity Action Plans on the basis</p>

Site Importance	Site Description
	of national rarity or local distribution: and Other sites of significant biodiversity importance (e.g. sites relevant to Local Biodiversity Action Plans).
Other sites with local conservation interest (lower conservation value)	Sites not in the above categories but with some biodiversity interest.
Negligible conservation value	Sites with little or no local biodiversity interest.

Secondly, the magnitude of the potential impact upon smooth newt is assessed, Table 4 details the factors considered when assessing magnitude of Ecological Impacts and Table 5 gives the significance of the impacts to smooth newts.

**Table 2 - Factors to be considered when assessing Magnitude of Ecological Impacts**

Parameter	Description
Extent	The area over which an impact occurs.
Duration	The period required for a feature to recover or be replaced following an impact. Duration of an activity may have a shorter duration than the impact of the activity.
Reversibility	A permanent impact is one from which recovery is unlikely within a reasonable timescale. A temporary impact is reversible either through natural recovery or as a result of mitigation.
Timing and frequency	In some cases, an impact may only occur if it occurs during a critical season or part of a species' life-cycle, and may be avoided by careful scheduling of work activities. Frequency of an activity may also affect the magnitude of its impact by reinforcement of the impact.

**Table 3 - Criteria for Assessing Magnitude of Ecological Impacts**

Magnitude	Description
High	Major loss or alteration to key features of the baseline condition.
Medium	Loss or alteration to a key feature(s) of the baseline condition, such that the feature(s) will be partially changed.
Low	Minor but perceptible change to baseline conditions.
Negligible	Very slight or imperceptible change to baseline conditions.

The magnitude of potential impacts at the site without mitigation is determined in Section 8. Impacts can be permanent or temporary, direct or indirect, adverse or beneficial and can be cumulative.

**Table 4 - Factors to be Considered when Assessing Ecological Significance of Impacts**

Parameter	Defining Criteria
Site integrity	<ul style="list-style-type: none"> <li>- Extent to which site/ecosystem processes will be removed or changed;</li> <li>- Effect on the nature, extent, structure and function of component habitats; and</li> <li>- Effect on the average population size and viability of component species.</li> </ul>
Conservation status	<ul style="list-style-type: none"> <li>- Habitats: conservation status is determined by the sum of the influences acting on the habitat and its typical species, that may affect its long-term distribution, structure and functions as well as the long-term survival of its typical species within a given geographical area;</li> <li>- Species' conservation status is determined by the sum of influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within a given geographical area; and</li> <li>- Conservation status may be evaluated for any defined study area at any defined level of ecological value. The extent of the area used in the assessment will relate to the geographical level at which the feature is considered important.</li> </ul>
Probability of expected outcome	<ul style="list-style-type: none"> <li>- Known or likely trends and variations in population size/habitat extent; and</li> <li>- Likely level of ecological resilience.</li> </ul>

Table 5 qualifies the impact significance in relation to smooth newt, which is discussed in Section 8.

**Table 5 - Significance of Impacts**

Significance	Description
Positive	The proposal has a positive impact on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographical area.
Major Negative	The proposal (either on its own or with other proposals) is likely to adversely affect the integrity of a European or nationally designated site, in terms of coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the population levels of species of interest, or is likely to adversely affect the numbers, distribution or viability of a species or population of conservation concern. A major change in a site or feature of local importance may also enter this category.
Moderate Negative	The integrity of a European or nationally designated site will not be adversely affected, but the effect on the site is likely to be significant in terms of its ecological objectives. If, in the light of full information, it cannot be clearly illustrated that the proposal will not have an adverse effect on integrity, then the impact should be assessed as major negative. The proposal may adversely affect the integrity of a locally important conservation site, or may have some adverse effect on the numbers, distribution or viability of a species or population of conservation concern.
Minor Negative	Neither of the above applies, but some minor negative impact is evident. (In the case of Natura 2000 sites a further appropriate assessment may be necessary if detailed plans are not yet available).
Negligible	No observable impact in either direction.

### **5.1 Limitations of Methodology**

The absence of records from the CEDaR data-search may reflect a lack of previous survey within the search area and should not be treated as confirmation of absence.

Smooth newts do not have a species specific HSI, therefore the HSI for great crested newts in Great Britain was used. The habitat quality requirements for great crested newts are generally higher than those for smooth newts; therefore, applying the great crested newt HSI to smooth newts may result in underestimation of presence but nevertheless provides an excellent method for determining the relative value of waterbodies to newts. When used in conjunction with field survey of higher quality features (as in this instance) it provides a robust assessment of presence or likely absence.

Newts are a mobile species and their distribution varies from season to season; therefore any single season survey provides only a snap-shot of the conditions at the time of the visit with regards to nature conservation status. However in the case of the Proposed Development the repeated survey work for the EIA cover a number of years has not identified any waterbodies which contain smooth newts.

## 6 Results

### 6.1 Data Search

A CEDaR request for information did not return any records for smooth newts within 5km of the Proposed Development.

### 6.2 Pond Descriptions

The location of the ponds is mapped on Figures A to E.

Site 1. (100m east of tower 5, 20m south east of overhead line route). A land drain which appears to be permanently filled with water up to 0.5m deep. Vegetation coverage includes brooklime, floating sweet-grass, water mint and broad-leaved pondweed. The immediate surrounding area is marshy with networks of drains. Aquatic vegetation was locally present in the site 1 drain and the surrounding scrubland representing suitable terrestrial habitat.

Site 2. (220m south of tower 6, 210m south of overhead line route). A man-made pond surrounded by tall vegetation and trees including alder and birch. Ducks are frequent on the pond and it is possible there may be fish present. The area of the pond is approximately 200 m<sup>2</sup>.

Site 3. (160m east of tower 13, oversailed in part by overhead line). A wide drain, approximately 2m wide, and up to 1 m deep. Aquatic vegetation is abundant with species that include floating sweet-grass, brooklime, water mint, broad-leaved pondweed, yellow flag, reed canary grass, water starwort and branched bur-reed. A Large tract of woodland is adjacent to the drain. Frog tadpoles are also present. Invertebrates present include water snails and great diving beetles. Small fish observed in deepest parts, and considered likely to be stickleback. Area of suitable combined breeding and terrestrial habitat over 500m<sup>2</sup>

Site 4. (200m south east of tower 20, 110m east of overhead line). A large man-made pond in a wooded area / garden. Vegetation is abundant, but the pond appears choked with a large amount of duckweed. Frog tadpoles were numerous along edges of the pond. Vegetation includes yellow flag and brooklime with other amenity planting. Trees and dead logs are present on the woodland floor to offer refugia. The area of the pond is approximately 200m<sup>2</sup>.

Site 5. (140m south of tower 22, 90m west of overhead line). A large (approximately 400m<sup>2</sup>) man-made pond stocked with fish and surrounded by trees. Waterfowl were on the pond during the survey. Vegetation is fairly short around the edges.

Site 6. (80m north of tower 63, 40m west of overhead line). A well vegetated non flowing farmland drain which did not contain any frog tadpoles. Surrounding hedges and vegetation may offer potential refugia.

Site 7. (130m north east of tower 65 and 0m from overhead line (oversailed by line)). A 0.5m deep drain beside a degraded bog with still water. Well vegetated with broad-leaved pondweed, brooklime and floating sweet-grass. No frog tadpoles observed.

Site 8. (210m south of tower 70, 190m south east of the overhead line). A wet woodland area with alder and birch. Several wet pools and drains throughout. No frog tadpoles observed. Vegetation includes bulrush, kingcup, brooklime, water starwort, Approximately 400 m<sup>2</sup> in area.

### 6.3 Habitat Assessment

A habitat assessment was carried out at each of the identified ponds to assess the suitability of the pond for supporting great crested newts. The assessment was carried out against the HSI as described in Section 5 – Methodology. The HSI scores for the ponds were calculated and they are presented in Table 6.

Table 6 - Habitat Suitability Index Scores

WATER BODY Ref.	HSI SCORE	WATERBODY SUITABILITY
Site 1	0.41	POOR
Site 2	0.37	POOR
Site 3	0.61	AVERAGE
Site 4	0.52	BELOW AVERAGE
Site 5	0.42	POOR
Site 6	0.42	POOR
Site 7	0.54	BELOW AVERAGE
Site 8	0.53	BELOW AVERAGE

All bodies that were “Below Average” or “Poor” were scoped out of further study. Only Site 3 was surveyed for the presence or likely absence of smooth newts.

### 6.4 Field Survey

#### 6.4.1 Weather Conditions

The weather conditions, including temperatures experienced during the smooth newt presence / absence survey visits are described in Table 7. Based on the survey methodology, four visits were undertaken to the drains to establish presence/likely absence of smooth newts.

Table 7 - Weather Conditions For The Dates Of Survey

SURVEY VISIT	DATE	AIR TEMP (°C)	CONDITIONS
1	09.05.2013	13	Showers during the day, but dry at night.
2	23.05.2013	13	Dry all day and all evening.
3	05.06.2013	20	Dry all day and all night.
4	13.06.2013	15	Occasional showers during the day and evening.

#### 6.4.2 Survey Results

The area of survey for Site 3 is shown on Figure F; the results for the surveys are shown in Table 8. This identified the presence or absence of smooth newt and other amphibians in drains with the survey area using various methodologies.

No amphibians were recorded during the surveys.

Recording forms containing further information from the surveys are provided within Annex A.



Table 8 - Survey Results

WATER BODY Ref.	Location	Survey Data / Method / Results			
Site 3	H82511 56888	09.05.2013 None	23.05.2013 None	05.06.2013 None	13.06.2013 None

On all occasions the methodologies employed were torching, netting and egg searches.

## 7 Potential Impacts

### 7.1 Impact Assessment Outline

The surveys did not identify any smooth newt activity at Site 3. No eggs were found at the drains and the torching and netting did not reveal any individuals in the drains.

The impact assessment described below is based on the impact scoring system defined in Section 6 of this report. The first stage is to assess the Nature Conservation Value of the waterbodies and the presence of smooth newt at the site (Table 1).

The next stage is to determine the 'Magnitude of the Potential Impact' (Table 2). This stage does not consider the value of the habitat or species, only the magnitude of the impact. This is further refined to give impact significance scores as defined in Table 3: Overall Ecological Impact Significance and Table 5: Significance of Impacts. This stage considers the value of the habitat or species and the magnitude of the impact to give a resulting assessment significance score.

These scores are based on the impact before any mitigation measures have been implemented. Section 9 of this report outlines mitigation measures to minimise/eliminate the impacts identified and the residual impact scores following the implementation of mitigation are presented in Section 10.

### 7.2 Smooth Newt Survey

Smooth newt was not confirmed as present at Site 3, which was surveyed intensively in-line with the methodology set out in this report.

The nature conservation value for smooth newts at Site 3 is low.

### 7.3 Potential Impacts

The 'hard standing' Proposed Development at its nearest will be approximately 90m south west of Site 3. The Site will be partially oversailed by the overhead line.

It is unlikely that there will be habitat loss that will detrimentally impact the distribution of smooth newt in the vicinity of the Proposed Development due to:

- the absence of direct impacts on potential newt breeding habitats;
- the dominance of intensively managed land in the vicinity of potential newt habitat;
- infrequent occurrence of ponds within the zone of potential impact; and,
- the presence of barriers to newt dispersal e.g., main roads/major fast-flowing water courses.

Based upon the results of the smooth newt survey and the factors discussed above it is concluded that the significance of impact associated with the construction and operation of the Proposed Development will be **negligible** for smooth newts.

## 8 Mitigation Measures

The Proposed Development will not directly impact Site 3 (160m east of tower 13, oversailed in part by overhead line). However, to maintain the potential suitability of water bodies to support smooth newts, it is recommended that the actions proposed in the Outline Construction Environmental Management Plan (OCEMP – see published Consolidated ES, 2013) are implemented on site during the construction of the Proposed Development.

Prior to the construction of the Proposed Development, it is recommended further verification surveys take place to identify if smooth newts have established at Site 3.

In the unlikely event that smooth newts are discovered within the works area in the future, all works must cease immediately and advice from an amphibian ecologist sought. NIEA should be consulted and consideration given to the potential requirement for a licence to be obtained prior to the resumption of any works that could impact on individual smooth newts and/or their places of shelter/breeding, as well as dispersal routes.

## 9 Residual Impact Assessment

Based on Table 5 within Section 6 Assessment Methodology, the magnitude of potential impact of the Proposed Development without mitigation is assessed as Negligible for smooth newt. The Impact Significance based upon the adoption and implementation of the mitigation measures and based upon the proposed design is assessed as Negligible following Table 5 in Section 6 Assessment Methodology.

## 10 Conclusion

From the eight possible waterbodies which were identified following extended Phase 1 habitat surveys in 2012, only one (Site 3) was assessed to have potential as smooth newt breeding habitat. Surveys undertaken in 2013 did not find any smooth newts or eggs at Site 3. Site 3 will not be directly impacted as a result of the construction and operation of the Proposed Development. The OCEMP has been developed to minimise potential impacts to water.

It is recommended that verification surveys be undertaken prior to construction to confirm the absence of newts. In the unlikely event that smooth newts are discovered within the works area in the future, all works must cease immediately and advice from an suitably qualified ecologist sought. NIEA shall be consulted and consideration given to the potential requirement for a licence to be obtained prior to the resumption of any works that could impact on individual smooth newts and/or their places of shelter/breeding, as well as dispersal/exploration routes.

Generic mitigation measures will be implemented throughout the development ensuring that no direct or indirect effects on any waterbodies occur during development. As an additional precaution any access track or tower base within 500m of any waterbody will be inspected by a suitably qualified ecologist prior to vegetation removal to ensure the absence of smooth newts and to ensure that legislation pertaining to smooth newts is complied with. During the operational phase of the development there will be no effects on breeding habitat and loss of terrestrial habitat areas will be so small as to be negligible.

## 11 References

English Nature (2001) **Great Crested Newt Mitigation Guidelines**. Peterborough, English Nature.

Joint Nature Conservation Committee (2003) **Herpetofauna Workers' Manual. 2nd edition**. Peterborough, JNCC.

Langton, T.E.S., Beckett, C.L. and Foster, J.P., (2001) Great Crested Newt Conservation Handbook. Froglife, Halesworth.

Oldham R.S, Keeble J, Swan M.J.S, Jeffcote M. (2000) **Evaluating the Suitability of Habitat for the Great Crested Newt** Herpetological Journal, Vol10, pp 143-155.

## Annexes

## Annex A – Survey Results



<b><u>Amphibian Survey Proforma</u></b>			
<b>Project Title</b>	Tyrone – Cavan Interconnector		
<b>Pond Name</b>	Tower 13 Drain (Site 3)		
<b>Location</b>	H82511 56888		
<b>Surveyors</b>	Mary Maguire / Sean Meehan		
<b>Date</b>	09.05.2013		
<b>Assessment No.</b>	1		
<b>Description</b>	The general area where the drain has been identified is within a collection of drains which appears to have once been a bog area and has now been modified. The drain is approximately 1.5m deep with water to approximately 1m. It is approximately 3m wide and is orientated north/south. The other drains in the complex are orientated east/west and are much shallower (approx <20cm deep in some places) and shaded with trees. The drain does not appear to flow and is connected into the field drainage which appears to be nutrient enriched because of the presence of stands of vegetation at its junctions with other drains in the complex.		
<b>SURVEY METHODS:</b>			
<b>Egg Search</b>	No eggs encountered		
<b>Netting</b>	No newts encountered		
<b>Refuge Search</b>	N/A		
<b>Torch Survey:</b>			
<b>Time</b>	10pm		
<b>Conditions</b> (during day and evening)	Showers during the day but dry at night.		
<b>Torch Power</b>	<b>Air Temp °C:</b>	13	<b>Water Temp °C:</b> 12
<b>Turbidity of Water</b> (0-5, where 0 is clear, 5 is very turbid)	2	<b>Vegetation Cover</b> (0-5, where 0 is no veg obscuring, 5 is water completely obscured)	2
<b>Results</b>	<b>Smooth female</b>		None
	<b>Smooth male</b>		None
	<b>Frog</b>		None
	<b>Other</b>		Small fish

Survey note: The showers during the day may have filled the other drains in the complex and these were torched and netted also.

<b><u>Amphibian Survey Proforma</u></b>			
<b>Project Title</b>	Tyrone – Cavan Interconnector		
<b>Pond No.</b>	Tower 13 Drain (Site 3)		
<b>Location</b>	H82511 56888		
<b>Surveyors</b>	Mary Maguire / Sean Meehan		
<b>Date</b>	23.05.2013		
<b>Assessment No.</b>	2		
<b>Description</b>	The general area where the drain has been identified is within a collection of drains which appears to have once been a bog area and has now been modified. The drain is approximately 1.5m deep with water to approximately 1m. It is approximately 3m wide and is orientated. The other drains in the complex are orientated east/west and are much shallower (approx <20cm deep in some places) and shaded with trees. The drain does not appear to flow and is connected into the field drainage which appears to be nutrient enriched because of the presence of stands of vegetation at its junctions with other drains in the complex.		
<b>SURVEY METHODS:</b>			
<b>Egg Search</b>	No eggs encountered		
<b>Netting</b>	No newts encountered		
<b>Refuge Search</b>	N/A		
<b>Torch Survey:</b>			
<b>Time</b>	12am		
<b>Conditions</b> (during day and evening)	Dry all day and all evening		
<b>Torch Power</b>	<b>Air Temp °C:</b>	13	<b>Water Temp °C:</b> 12
<b>Turbidity of Water</b> (0-5, where 0 is clear, 5 is very turbid)	2	<b>Vegetation Cover</b> (0-5, where 0 is no veg obscuring, 5 is water completely obscured)	2
<b>Results</b>	<b>Smooth female</b>		None
	<b>Smooth male</b>		None
	<b>Frog</b>		None
	<b>Other</b>		None

Survey note: There was water in the other drains in the complex and these could not be netted, netting only took place on the main drain in the area identified on Figure F.

<b><u>Amphibian Survey Proforma</u></b>			
<b>Project Title</b>	Tyrone – Cavan Interconnector		
<b>Pond No.</b>	Tower 13 Drain (Site 3)		
<b>Location</b>	H82511 56888		
<b>Surveyors</b>	Mary Maguire / Sean Meehan		
<b>Date</b>	05.06.2013		
<b>Assessment No.</b>	3		
<b>Description</b>	The general area where the drain has been identified is within a collection of drains which appears to have once been a bog area and has now been modified. The drain is approximately 1.5m deep with water to approximately 1m. It is approximately 3m wide and is orientated north/south. The other drains in the complex are orientated east/west and are much shallower (approx <20cm deep in some places) and shaded with trees. The drain does not appear to flow and is connected into the field drainage which appears to be nutrient enriched because of the presence of stands of vegetation at its junctions with other drains in the complex.		
<b>SURVEY METHODS:</b>			
<b>Egg Search</b>	No eggs encountered		
<b>Netting</b>	No newts encountered (fish fry were netted)		
<b>Refuge Search</b>	N/A		
<b>Torch Survey:</b>			
<b>Time</b>	1am		
<b>Conditions</b> (during day and evening)	Dry during the day and that night.		
<b>Torch Power</b>	<b>Air Temp °C:</b>	20	<b>Water Temp °C:</b> 16
<b>Turbidity of Water</b> (0-5, where 0 is clear, 5 is very turbid)	3	<b>Vegetation Cover</b> (0-5, where 0 is no veg obscuring, 5 is water completely obscured)	3
<b>Results</b>	<b>Smooth female</b>		None
	<b>Smooth male</b>		None
	<b>Frog</b>		None
	<b>Other</b>		None

Survey note: There was water in the other drains in the complex and these could not be netted, netting only took place on the main drain in the area identified on Figure F.

<b><u>Amphibian Survey Proforma</u></b>			
<b>Project Title</b>	Tyrone – Cavan Interconnector		
<b>Pond No.</b>	Tower 13 Drain (Site 3)		
<b>Location</b>	H82511 56888		
<b>Surveyors</b>	Mary Maguire / Sean Meehan		
<b>Date</b>	13.06.2013		
<b>Assessment No.</b>	4		
<b>Description</b>	The general area where the drain has been identified is within a collection of drains which appears to have once been a bog area and has now been modified. The drain is approximately 1.5m deep with water to approximately 1m. It is approximately 3m wide and is orientated north/south. The other drains in the complex are orientated east/west and are much shallower (approx <20cm deep in some places) and shaded with trees. The drain does not appear to flow and is connected into the field drainage which appears to be nutrient enriched because of the presence of stands of vegetation at its junctions with other drains in the complex.		
<b>SURVEY METHODS:</b>			
<b>Egg Search</b>	No eggs encountered		
<b>Netting</b>	No newts encountered (fish fry were netted)		
<b>Refuge Search</b>	N/A		
<b>Torch Survey:</b>			
<b>Time</b>	1am		
<b>Conditions</b> (during day and evening)	Occasional showers during the day and evening.		
<b>Torch Power</b>	<b>Air Temp °C:</b>	15	<b>Water Temp °C:</b> 13
<b>Turbidity of Water</b> (0-5, where 0 is clear, 5 is very turbid)	2	<b>Vegetation Cover</b> (0-5, where 0 is no veg obscuring, 5 is water completely obscured)	3
<b>Results</b>	<b>Smooth female</b>		None
	<b>Smooth male</b>		None
	<b>Frog</b>		None
	<b>Other</b>		Small fish

Survey note: There was water in the other drains in the complex and these could not be netted, netting only took place on the main drain in the area identified on Figure F.

## Annex B - Figures





#### Legend

- Pond Identified for HSI Assessment
- Proposed Tower Working Area
- Proposed Tower Location
- Proposed Line Route





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<p>Project:</p> <p>TYRONE TO CAVAN INTERCONNECTOR CONSOLIDATED ES ADDENDUM</p>	<p>No: 60032220/3528/N2</p>			









#### Legend

- Pond Identified for HSI Assessment
- Proposed Tower Working Area
- Proposed Tower Location
- Proposed Line Route









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<p>Project:</p> <p>TYRONE TO CAVAN INTERCONNECTOR CONSOLIDATED ES ADDENDUM</p>	<p>No: 60032220/3528/N5</p>			



 **Area of Survey**  
 **Proposed Tower Working Area**  
 **Proposed Tower Location**  
 **Proposed Line Route**

Client:		Title:	FIGURE F LENGHT OF DRAIN SURVEYED USING THREE METHODS		Design: GB	Drawn: MM
Project:	TYRONE TO CAVAN INTERCONNECTOR CONSOLIDATED ES ADDENDUM		9th Floor The Clarence West Building 2 Clarence Street West BELFAST, BT2 7GP <a href="http://www.aecom.com">www.aecom.com</a>		Tel: +44 (0) 28 9060 7200 Fax: +44 (0) 28 9060 7399 <a href="http://www.aecom.com">www.aecom.com</a>	Chk'd: GB
					Date: 22/11/2013	Scale: 1:1,000 @ A3
					No: 60032220/3528/N6	