7. ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL HERITAGE

This section addresses the existing environment, potential impacts and mitigation measures of the architectural, archaeological and cultural heritage aspects of the development and its surrounding environment.

7.1. Introduction

The objectives of the archaeological assessment were to:

- identify all known features of archaeological and cultural heritage importance in the vicinity of the proposed development
- determine any potential impacts of the proposed development on archaeology/cultural heritage
- identify measures to mitigate any potential impacts of the development on archaeology/cultural heritage

7.2. Cultural Heritage in the Existing Environment

A desk-based study of existing archaeological records and other potentially relevant documentary sources was carried out. The following documents were examined:

- Sites and Monuments Record (SMR)
- Laois County Development Plan
    - Record of Protected Structures (RPS)
- Ordnance Survey Maps
    - Ordnance Survey County Laois 1:5,000 map sheet 3885-A, 3885-B
- Cultural Heritage Study as prepared for the AES waste transfer station licence application in 2003

7.3. Cultural Heritage Features in the Existing Environment

7.3.1. Sites and Monuments Record (SMR)

The Sites and Monuments Record (SMR) was consulted to determine the locations of the nearest archaeological features.

There are no known Sites and Monuments within the site boundary however there is an enclosure 700 m east of the site. The nearest sites and monuments to the development site are illustrated on Figure 7.1.

7.4. Potential Impacts of the Proposed Development on Cultural Heritage

Possible impacts on features of cultural heritage could be physical or visual.

No such features are known to be located within the site boundary or in the immediate vicinity of the proposed extension. The nearest site or monument to the proposed extension is some 700 m to the east of the site. The proposed development will have no physical impact on such features outside the site boundaries. However, previously unidentified buried archaeology, should they exist, could be affected during construction of the facility.

The proposed development is an extension to AES's existing waste transfer station and is adjacent to an existing landfill and two knackeries. The proposed development is not expected to further degrade the existing views from features of cultural heritage in the area. Visual impact of the proposed development is addressed in greater detail in Chapter 9.

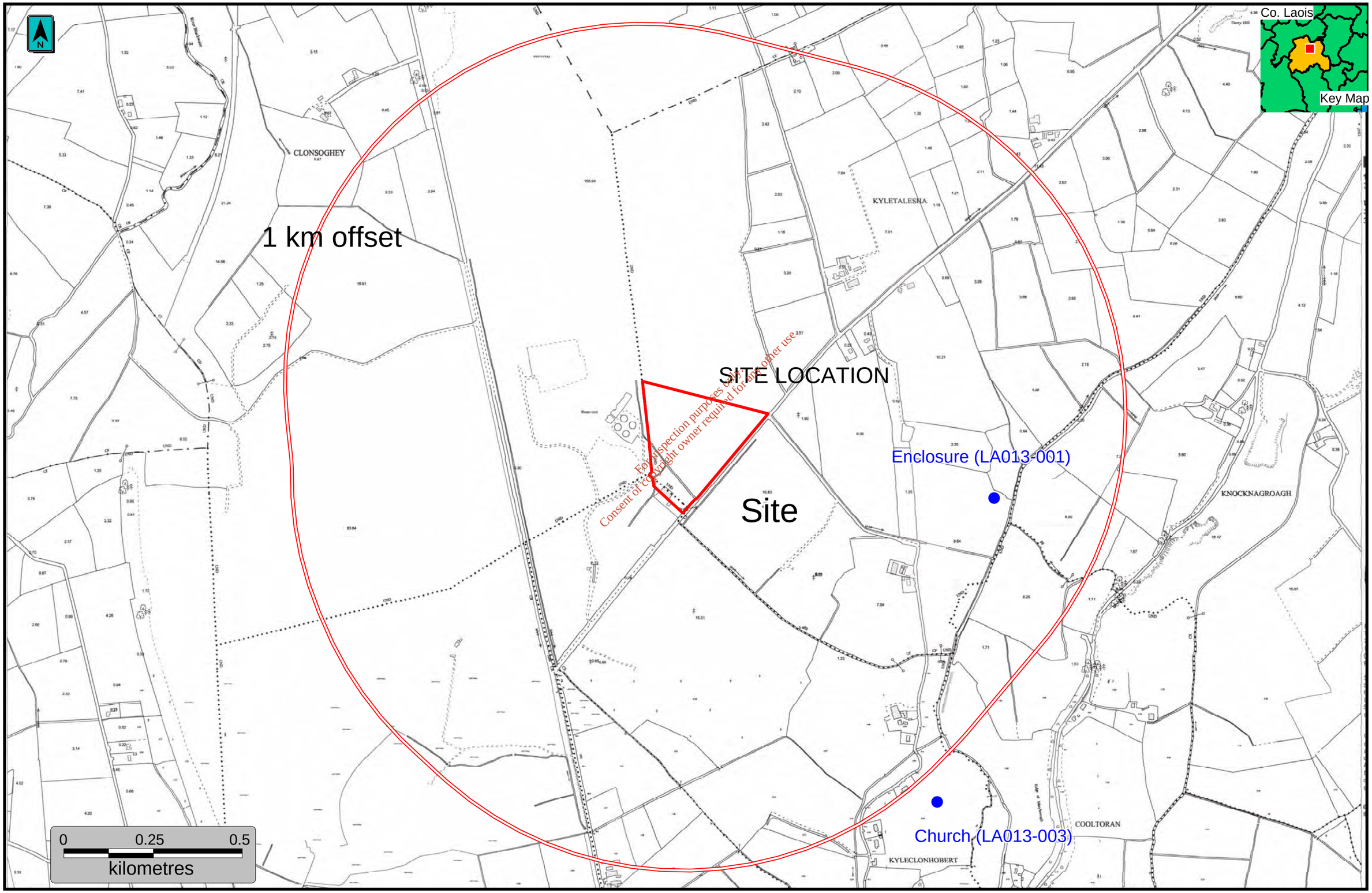
7.5. Mitigation Measures for Cultural Heritage

Avoidance of known archaeology is the favoured option where possible. There are no known archaeological features within the site boundary. In this instance, it is not proposed that the site will be excavated, the intention is to construct a concrete slab on piled foundations.

No mitigation measures are required for features of cultural heritage located outside of the site boundary.

7.6. Conclusions on Cultural Heritage

Given the absence of identifiable archaeological monuments on the site there are no direct mitigation measures that need to be put into place.



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Sites & Monuments

Figure 7.1

8. ECOLOGY

8.1. Introduction

A number of drainage ditches criss-cross the site and the general impression of the site is that of a drained bog, with areas planted as well as self-seeded with trees and shrub species. There are open areas of heather and dry grasses, an area of wet woodland and a grassed area.

Available published information on regional (or local) distribution and abundance of plants and animals were examined to augment the data collected during the field study. For instance additional information on the avian species found in the area were gathered from the British Trust for Ornithology (BTO) Breeding and Winter Bird Atlases (Gibbons *et al*., 1993; Lack, 1986).

Identification of plants and animals was assisted by the use of appropriate field guides such as Wildflowers of Britain & Ireland (Blamey *et al*., 2003) and Animal Tracks and Signs (Bang & Dahlstrom, 2001).

Ecological information contained in previous environmental reports prepared by Laois County Council on the adjacent landfill and by AES for the existing waste transfer station have been reviewed as part of this EIS.

8.2. Methodology

8.2.1. Avian Survey

The site was visited on April 19th & 20th 2006. The weather during the survey period was adequate: dry and overcast, with intermittent sunny spells. Visibility was excellent. The conditions were all comfortably within the acceptable range for conducting an avian survey (Bibby *et al*., 1992).

A standard countryside bird survey (CBS) type technique was used to assess the avifauna that use and that might potentially occur at the site:

1. An effort was made to closely approach every point within the site
2. All species encountered (seen or heard) were recorded and where possible their abundance was noted
3. In addition to casual observations six linear transects of 300-400 m in length were walked in order to survey all of the habitats present within the site boundaries. Distances were measured with the aid of a handheld GPS receiver (Garmin GPSMAP72)
4. Birds observed flying over, or near, the site were recorded

5. Binoculars were used to scan the area (in particular the sky, open grassland, woodland and nearby buildings) to search for additional avian records.
6. Notes were taken of the habitat composition of the local landscape and surrounding fields to better assess the avian community in the wider locality

In this manner a taxa list of the birds present in the area, their relative abundance and behaviour, as well as their association with various habitats could be generated. In addition species not encountered, but likely to use the available range of habitats during the year, could reasonably be assessed. Available data from previous surveys are also reviewed.

8.2.2. Mammal Survey

An ecological survey to assess signs of the presence of mammal species was undertaken during the April site visit. Mammal signs, such as dwellings, feeding traces or droppings - usually indicate their presence although direct observations are also occasionally made. The methods used to identify the presence of mammals in the survey area followed international best practice (Lawrence & Brown, 1973; Clark, 1990; Smal, 1995; Sargent & Morris, 2003; Bang & Dahlstrom, 2004; JNCC, 2004). Details from previous surveys are also included.

8.2.3. Macroinvertebrate Survey

Pollard (1977) developed the use of a transect method for monitoring butterfly numbers that is still used in national surveys in Ireland and Britain. In a similar fashion, the transect technique can be used to simultaneously record observations of other macroinvertebrates such as moths, damselflies and dragonflies. In this survey a number of Pollard-walk transects were used to record the macroinvertebrate species present at the site. These transects were each approximately 250 metres in length and were positioned with the aid of a handheld GPS unit and a large scale field map (1:5000 OSi). These transects were walked on the 19th April and repeated on the 20th April 2006.

Details of the aquatic macroinvertebrates present were obtained from the annual environmental report of the adjacent Kyletalesha Landfill Site.

Details from previous surveys are also included.

8.2.4. Additional recording

The presence of other species (such as amphibians) was recorded when encountered during the other taxa-specific surveys. Special note was taken of the habitats in which these species were observed or might potentially occur.

8.2.5. Habitat Recording/Mapping

The habitats present were examined and categorised in accordance with Fossitt (2000) and the Heritage Council (2005) each of which uses a classification system similar to that employed by the Joint Nature Conservation Committee in the UK (JNCC, 1990).

The aim of this type of habitat survey is to provide a record of the semi-natural vegetation and wildlife habitats present in potentially large and varied survey areas. The methodology is robust and is commonly applied to specific studies as well as more general large-scale studies of habitat. The classification system is based principally on the vegetation types present, augmented by reference to topographic and substrate features.

In addition to the mapping of the principal habitats observed at the site the dominant plant species present were identified.

Cognisance was also taken of the local land use and the habitats of conservation importance e.g. Natural Heritage Areas (NHAs) in the locality.

8.3. Survey Constraints

A constraint that is common to all ecological surveys conducted in one part of the year is that many flora and fauna are only present and/or readily detectable for certain periods of their annual cycle. Without year-round coverage these seasonal changes in botanical and faunal communities may be obscured or missed altogether. However, in this case the survey has been augmented by previous surveys carried out for the AES waste transfer station (1989 & 2001) and the adjoining Kyletalesha landfill (AER, 2006)

8.4. Results

The following sections summarise and present the results of the ecological survey and where appropriate refers to data collected in previous surveys.

8.4.1. Avian Survey

Table 8.1 shows the bird species recorded during the survey – transects plus casual recording. In total, 32 species were encountered representing a fairly typical bird species assemblage for a site of this type. Of the species recorded 30 were observed during the survey transects with the remaining two species being encountered during the site walk-through: Bullfinch, *Pyrrhula pyrrhula* and Pied Wagtail, *Motacilla alba*.

Figure 8.1 shows the approximate position of the avian survey transects. Table 8.1 shows the transects on which each species was encountered. Transect 1 and Transect 2 had clearly the greatest species diversity while Transects 4, 5 & 6 had a similar level of diversity. Only two species were recorded on all transects: Robin, *Erithacus rubecula* and Rook, *Corvus frugilegus*. These are among the most common and widespread bird species nationally (Lack, 1986; Gibbons *et al*., 1993).

Reflecting the patchy and fragmented nature of the habitats present, over 50% of the species recorded were found on only one or two of the survey transects. In addition, many of these species were numerically few as well as being patchily distributed.

Only one bird of prey was recorded during the avian survey – a Long-eared Owl, *Asio otus*, which flushed from a patch of conifers during the transect study. Long-eared Owl feed primarily on small mammals such as Rat, *Rattus norvegicus*.

8.4.2. Species of Conservation Concern

BirdWatch Ireland and the RSPB (Northern Ireland) have agreed a list of priority bird species for conservation action in the whole of Ireland. *Birds of Conservation Concern in Ireland* are published in a list known as the BoCCI List (www.birdwatchireland.ie). In this BoCCI List, birds are classified into three separate lists (Red, Amber and Green), based on the conservation status of the bird and hence conservation priority. These conservation designations take into account the dangers faced by bird species that occur in Ireland.

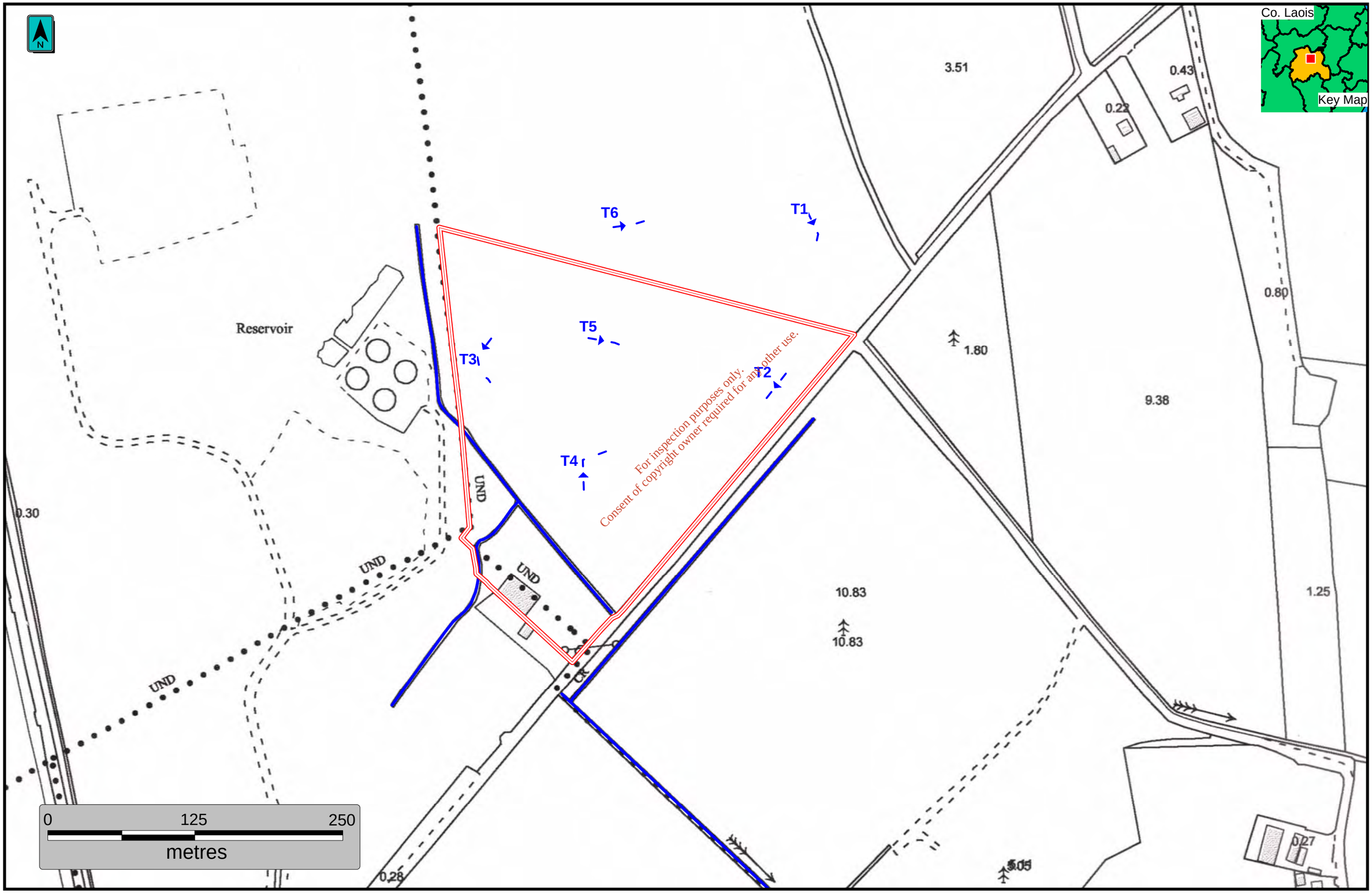
Red-listed species are of highest conservation concern and *Amber-listed* species are of medium conservation concern; 18 species are currently *Red-listed*, while a further 77 are considered *Amber-listed*.

Table 8.3 shows the conservation status of the species recorded at the site. No species of high conservation concern was recorded in this survey Only three species of medium conservation concern were encountered: Skylark, *Alauda arvensis*, Snipe, *Gallinago gallinago* and Stonechat, *Saxicola torquata*. Skylarks are considered of European conservation concern because of observed moderate declines in their breeding numbers across much of their range. Snipe and Stonechat are also believed to have declined across their European range. In his 1989 report Dr. Cotton reported observing overflying Curlew, *Numenius arquata*. It is likely that these Red-listed species continue to occur locally but it is unlikely that the site is of any particular importance for this species.

8.4.3. Mammal Survey

Several mammal sightings were made. Irish Hare, *Lepus timidus hibernicus*, were frequently seen to the north of the site on the open areas of bog. They were infrequent within the site itself as were Rabbit, *Oryctolagus cuniculus*. Rabbit droppings were however found widely throughout the site, most abundantly outside the northern boundary.

Tracks, burrows and sightings were frequently recorded for brown rat. These were especially common near the local Knackeries, along the stream and at the landfill site.



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Avian Survey Transects

Figure 8.1

A dead Fox, *Vulpes vulpes*, was found just outside the northern boundary of the site and droppings were observed on the farm track that runs north of the site. Fox scent was detected near the dust gauge location beside the local road. It is likely that Fox frequent the site to feed and scavenge, as no dens were present within the site. Areas of suitable cover are too frequently waterlogged to be of any potential value as sites for dens.

Mus musculus, House Mouse was observed on one occasion on transect. Many small mammals such as Field Mouse, *Apodemus sylvaticus* and Pygmy Shrew, *Sorex minutus* are also likely to occur but are usually not seen on survey. The type of habitat present also makes it less likely that their tracks and signs would be located.

Badger, *Meles meles*, Otter, *Lutra lutra* and Mink, *Mustela vison* were not present in the site. The riverbank was walked and searched for Otter spraints but none were detected. Given the condition of the waterways at the site it is unlikely that Otter frequent the site. Similarly Mink are unlikely to be more than occasional visitors to the site. However, the local abundance of brown rat may attract these and other predators to the site from time to time. No tracks, signs or setts of Badger were found. Once again, the most likely wooded areas where Badger setts might occur are too damp to be of any value for large burrowing mammals (Smal, 1995).

Although Badgers are known to be present in County Laois at territory densities close to the national average an analysis of national distribution of Badger setts showed that there is active avoidance of certain habitat types such as: heath, moorland and bog, built areas and unimproved grassland (Smal, 1995).

Irish Stoat, *Mustela erminea hibernica* was observed crossing the road into the conifers to the east of the site. It is likely that local Stoats do occur on the site to forage – particularly for rats. Grey Squirrel, *Sciurus carolinensis*, was also recorded in the patch of conifers outside the eastern boundary. Grey Squirrels and Red Squirrels, *Sciurus vulgaris*, are both present in County Laois (Teangana *et al*., 2000) with the smaller Reds thought to be under competitive threat from Greys.

No sign of deer species was recorded. Similarly, there was no sign of Pine Marten, *Martes martes* found in the study area. Pine Martens have been recorded on a few occasions in County Laois but were absent in the last significant survey (Fairley, 2001). This elusive carnivore is thought to be increasing in number and is now believed to be more widespread than previously thought.

There is a large amount of suitable habitat locally for Hedgehog, *Erinaceus europaeus* and the species are known to be common in this part of Ireland (e.g. D'Arcy, 1988). However, no sightings or an indication of the presence of this species was observed during the mammal survey.

Tracks and signs of domestic Dog, *Canus familiaris* and Cat, *Felis domesticus*, were observed at several points within and in the vicinity of the site and not just associated with human dwellings. Domestic animal tracks make up over 90% of the observed tracks one encounters at a typical field site (Sargent & Morris, 2003).

Previous surveys reviewed did not record any additional mammal species in the vicinity of the site.

Conservation Status of Irish Mammals

The Irish Red Data Book of Vertebrates (Whilde, 1993) contains a list of mammal species that are threatened or extinct in Ireland as well as species that may be relatively common in this country but are considered of international conservation importance. Most Irish mammals are afforded protection under the 1976 Wildlife Act, Wildlife Amendment Act 2000 (and 1979 Bern Convention) although some are considered as quarry species e.g. Irish Hare. For instance, any action likely to impact on roost sites of Bats must be notified in advance to the Department of Environment, Heritage and Local Government.

Several Irish mammal species are included in Annex II of the EU Habitats Directive (92/43/EEC) Lesser Horseshoe Bats, *Rhinolophus hipposideros*, and Otter. The presence of these species of EU community interest requires the designation of a number of Special Areas of Conservation (SACs). Several species are also mentioned in Annex IV of the Directive: animals of community interest in need of strict protection; e.g. Otter, Cetaceans and Bats. Annex V, details species of community interest whose 'taking' in the wild and exploitation may be subject to management measures. Annex V includes Pine Marten, and Irish Hare.

8.4.4. Terrestrial Macroinvertebrate Survey

The Pollard-walk transects recorded several terrestrial macroinvertebrates. Many of these were identified to species level.

In total, four species of Butterfly were encountered on the wing. Peacock*, Inachais io*, Brimstone, *Gonepteryx rhamni*, Large White, *Pieris brassicae*, and Small Tortoiseshell, Aglais urticae. All four species are common and widespread. Most abundantly recorded was Small Tortoiseshell although Peacock and Brimstone were also frequently seen on transect.

Peacocks are one of the most striking butterfly species with iridescent eye spots that make the species easily recognisable. Adults may be seen throughout the year (pers. obs.) but usually emerge from hibernation in March, laying their eggs about a month later. These eggs are laid in dense clusters, often on nettles (Lewington, 2003; Asher *et al*., 2001). The Peacock is common in gardens but is frequently recorded in woodland glades, meadows and downs where they feed from plants such as knapweeds and thistles (*loc cit*.).

The Brimstone is a long-lived single brooded butterfly. Typically the first adults emerge from hibernation in March. The adult male is sulphur yellow with the female somewhat resembling a Large White (minus the black wing-tips). The Brimstone is a habitat generalist (Lewington, 2003) and is relatively common and widespread in Ireland. Their food plants are varied with yellow flowers being favoured in the Spring and a wider range of plants including thistles being visited in the late Summer.

A distinctive and well-known butterfly species the Large White is another habitat generalist. It is common and widespread throughout Ireland (Asher *et al*., 2001). It lays its eggs most commonly on brassicas, leading to problems for farmers and gardeners, as the caterpillars can be a significant pest. The adults are typically on the wing from April until September.

Small Tortoiseshell is common and widespread throughout the country (Asher *et al*., 2001). Adults emerge from hibernation in March and eggs are laid – often on nettles – from April onwards. The emerging adults favour willow catkins and dandelions, *Taraxacum officinale*, to feed (Lewington, 2003).

Dr. Cotton conducted his ecological survey for the EIS for Kyletalesha landfill at a time of the year unsuitable for recording terrestrial macroinvertebrates. He noted that although the wider area had records of Large Marsh Grasshopper *Stethophyma grossum* and Large Heath Butterfly *Coenonympha tullia* that he believed that neither would be found at the survey site.

Two species of Bumblebee were encountered*: Bombus terrestris and Bombus lucorus*. Both species are common and widespread (http://www.nhm.ac.uk/research-curation/projects/bombus/index.html) throughout Europe.

Honey Bees, *Apis mellifera* were seen occasionally, throughout the survey period. Several bee hives are located to the north of the site boundary.

Additional occasional records were gathered of Tipulidae (Cranefly) species and of course Chironomidae (Midges).

8.4.5. Aquatic Macroinvertebrates

The Kyletalesha Landfill licence requires an annual environmental report (AER) that contains information on the local aquatic macroinvertebrate community. The EPA also conducts similar assessments on local watercourses (Monitoring Stations 0200 & 0300). The Aquatic Services Unit (ASU) were also commissioned by Laois County Council in September 2001 to carry out a water quality assessment of the local watercourses upstream and downstream of the landfill.

The basis for these biotic water quality assessments is a characterisation of the aquatic macroinvertebrate community and the relative abundances of species sensitive and tolerant of pollution. This method of biological assessment has been formalised to grade water quality using the Q-biotic index.

Q Index	
5	Pristine water
4,	Clean water
3-4	Slightly polluted water
3, 2-3	Moderately polluted water
2, 1-2, 1	Seriously polluted water

The River Triogue both upstream and downstream of the site was classed by the EPA (for the years 1997-2000) as moderately or seriously polluted (Q-index 2). Data from the latest AER for Kyletalesha landfill (January 2006) indicates that macroinvertebrates tolerant of serious pollution dominate and that the stretches of waterway near the site (Triogue and Boughlone Stream) are seriously polluted.

8.4.6. Additional recording of fauna

Common Frog, *Rana temporaria* was seen on only one occasion – in a damp field margin to the north of the site. Given the availability of suitable habitat it is likely that Frogs are common locally.

8.4.7. Habitat Recording/Mapping Results

Habitats were classified according the standard Fossitt (2000) protocol. Within and in the immediate vicinity of the site 12 separate habitat categories were represented. These range from Buildings and Artificial Surfaces (BL3) to degraded Bog (PB1).

Figure 8.2 graphically represents the approximate distribution of these habitat types. This schematic also demonstrates visually the fragmented and degraded nature of many of the habitats present.

From Figure 8.2 it is clear that the dominant habitat types locally are degraded raised bog, scrub and buildings and artificial surfaces

The raised bog within the site boundary has been drained and has also been largely degraded by historic activities such as, tree planting and peat extraction.

The site is bordered by a road and is adjacent to Kyletalesha landfill, two separate knackery facilities as well as the existing AES waste transfer station. Not surprisingly, buildings and artificial surfaces is a dominant habitat type. This habitat usually has low plant or animal diversity.

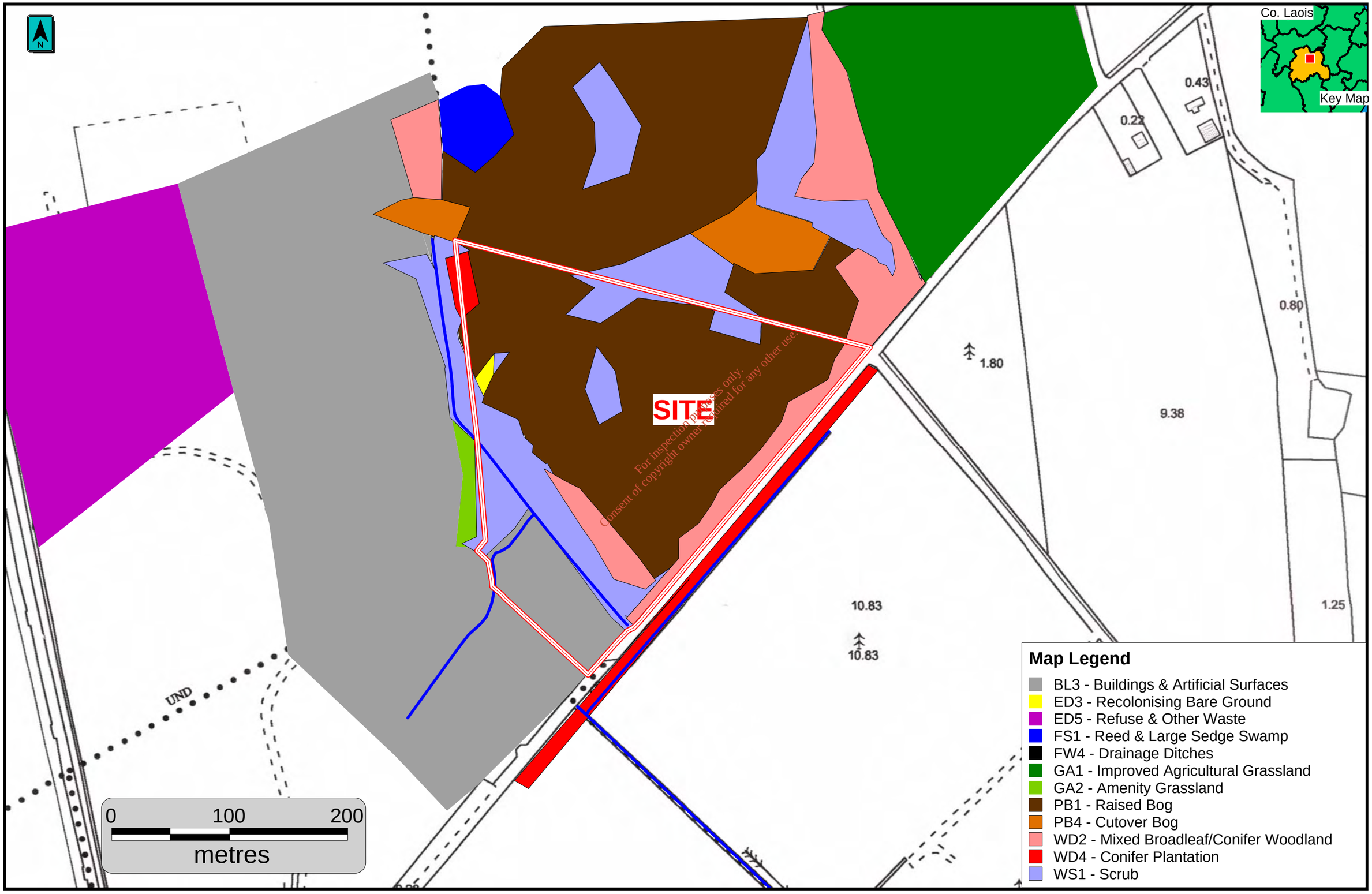
The prominent and most dominant species at or in the immediate vicinity of the site included: Heather, *Calluna vulgaris*, Goat Willow, *Salix caprea*, Silver Birch, Furze, *Ulex europaeus*, Scot's Pine, Lodgepole Pine, *Pinus contorta*, Lesser Reed Mace, *Typha latifolia*, Dandelion, and Ribwort Plantain, *Plantago lanceolata*.

Dr. Cotton in his 1989 site visit reported that the bog was being encroached by species such as Goat willow and Gorse at its margins. This he linked to the drainage channels and cutaway practices that had prevailed in recent decades. This process would appear to have continued during the intervening years as these founder species have become more widely established further changing the original habitat into a more scrub-like transitional area.

8.4.8. Designated Conservation Areas

The designated sites of conservation importance are shown in Figure 8.3. Two Natural Heritage Areas occur within 1.5 km of the site – Clonreher Bog and the Ridge of Portlaoise.

Clonreher Bog (NHA Code: 002357) is a sizeable area (186 ha) of relatively intact raised bog about 600 m west of the site. It also lies west of the Portlaoise-Mountmellick main road.



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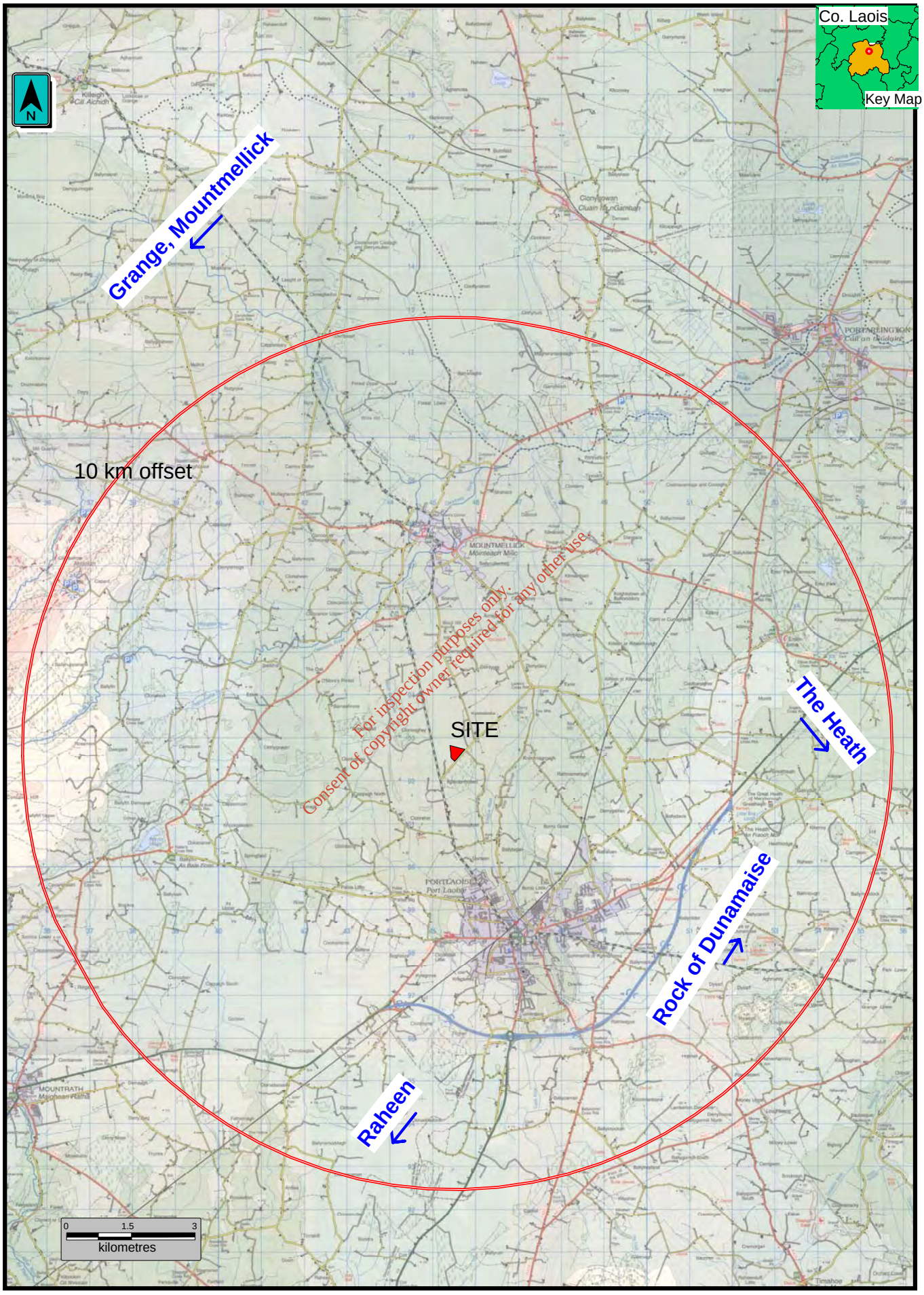
Habitat Map

Figure 8.2



Views & Prospects

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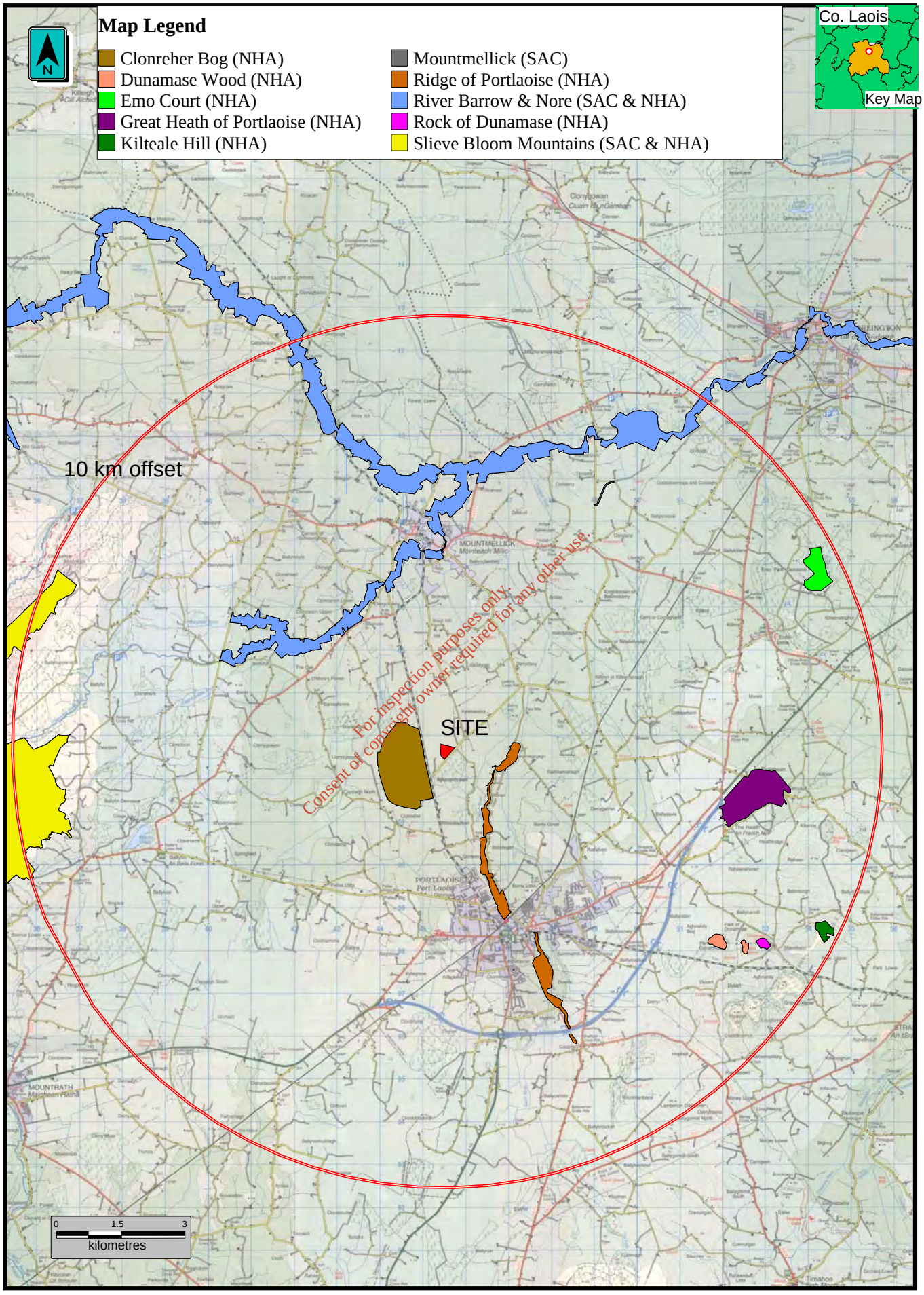
Figure 8.3



Designated Conservation Areas

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Figure 8.4

The Ridge of Portlaoise (NHA Code: 000876) is an esker ridge with patches of ash/hazel woodland, species-rich grassland and a number of disused gravel pits that are important locally for birds.

Table 8.1: The species recorded during the avian survey April 19th & 20th 2006

Species Name	Latin Name
GREY HERON	*Ardea cinerea*
MALLARD	*Anas platyrhynchos*
PHEASANT	*Phasianus colchicus*
SNIPE	*Gallinago gallinago*
WOODPIGEON	*Columba palumbus*
LONG-EARED OWL	*Asio otus*
SKYLARK	*Alauda arvensis*
GREY WAGTAIL	*Motacilla cinerea*
PIED WAGTAIL	*Motacilla (alba) yarelli*
MEADOW PIPIT	*Anthus pratensis*
WREN	*Troglodytes troglodytes*
DUNNOCK	*Prunella modularis*
ROBIN	*Erithacus rubecula*
STONECHAT	*Saxicola torquata*
BLACKBIRD	*Turdus merula*
SONG THRUSH	*Turdus philomelos*
MISTLE THRUSH	*Turdus viscivorus*
WILLOW WARBLER	*Phylloscopus trochilus*
CHIFFCHAFF	*Phylloscopus collybitus*
LONG-TAILED TIT	*Aegithalos caudatus*
GREAT TIT	*Parus major*
BLUE TIT	*Parus caeruleus*
CHAFFINCH	*Fringilla coelebs*
GREENFINCH	*Carduelis chloris*
GOLDFINCH	*Carduelis carduelis*
LINNET	*Acanthis cannabina*
BULLFINCH	*Pyrrhula pyrrhula*
STARLING	*Sturnus vulgaris*
MAGPIE	*Pica pica*
JACKDAW	*Corvus monedula*
ROOK	*Corvus frugilegus*
HOODED CROW	*Corvus cornix*

The level of conservation concern is indicated by the colour in which each species is highlighted – *Red* (High), Amber (Medium), Green (No special concern)* – based on the BirdWatch Ireland and RSPB appraisal of the conservation concern of Irish bird species (Newton *et al*., 1999).

* No species of high conservation concern was recorded at the site

Table 8.2: The distribution of avian records, recorded during transect survey in April 2006

Species Name	Transect 1	Transect 2	Transect 3	Transect 4	Transect 5	Transect 6	% Occurrence
GREY HERON	x	x					33.3
MALLARD					x	x	33.3
PHEASANT	x	x		x			50.0
SNIPE	x		x		x	x	66.7
WOODPIGEON	x		x	x			50.0
LONG-EARED OWL				x			16.7
SKYLARK	x						16.7
GREY WAGTAIL			x				16.7
MEADOW PIPIT	x	x	x		x	x	83.3
WREN	x	x	x	x		x	83.3
DUNNOCK	x	x			x		50.0
ROBIN	x	x	x	x	x	x	100.0
STONECHAT	x			x			33.3
BLACKBIRD	x	x	x				50.0
SONG THRUSH		x	x				33.3
MISTLE THRUSH			x		x		33.3
WILLOW WARBLER	x	x			x	x	66.7
CHIFFCHAFF	x	x			x		50.0
LONG-TAILED TIT	x						16.7
GREAT TIT	x						16.7
BLUE TIT		x				x	33.3
CHAFFINCH	x	x	x		x	x	83.3
GREENFINCH			x				16.7
GOLDFINCH		x					16.7

Table 8.2: The distribution of avian records, recorded during transect survey in April 2006 (continued)

Species Name	Transect 1	Transect 2	Transect 3	Transect 4	Transect 5	Transect 6	% Occurrence
LINNET			x				16.7
STARLING		x					16.7
MAGPIE	x					x	33.3
JACKDAW				x			16.7
ROOK	x	x	x	x	x	x	100.0
HOODED CROW			x	x	x		50.0
TOTAL SPECIES	**18**	**15**	**14**	**9**	**11**	**10**	

8.5. Potential Impacts

The proposed development will involve the extension of the existing transfer station enabling the facility to treat biodegradable waste through either anaerobic digestion or composting. The habitats in the immediate area of the construction would be permanently altered.

The areas that will be directly affected by the construction of the facility are not especially important ecologically. The scrub and drained bog do not contain a particularly diverse or important flora or fauna. The retention of a buffer area and the application of mitigating measures will minimise the footprint of the potential negative impacts on the local ecology.

8.5.1. Potential Hazards for local Plant & Animal Community

The flora and fauna at the site are by and large common locally and nationally. No avian species of high conservation concern was recorded. The importance of the site for non-vermin mammal species would appear to be low. The macro invertebrate community at the site, particularly of aquatic invertebrates, is relatively species-poor and indicative of elevated pollution levels in the local watercourses. No plant species of particular scarcity or importance was recorded during the site survey.

Much of the area of the proposed development is degraded bog. The ecological community is relatively species poor and has very few taxa that are considered of special conservation importance. With the application of mitigating measures this development should have no significant impacts on species of elevated conservation concern.

Certain plant and animal species are adversely affected by floodlighting. Lighting at the site should be carefully designed to reduce potential negative impacts on the local avifauna (see Mitigating Measures). Lighting can also be designed to enhance the foraging success of certain bat species (see Enhancement Measures).

Tall buildings can also pose a collision risk for birds and mitigating measures are suggested to alleviate this potential negative impact.

Noisy workplaces with heavy vehicular and human traffic are avoided by many animal species. Mitigation can help reduce the footprint of impact of these disturbance impacts.

Creating conditions that would allow a small number of species (and not necessarily just animals) to dominate could also disrupt the local ecosystem. For example, an increase in the number of mammalian predators, such as Rats, or feral Cats *Felis* sp., could adversely affect the local avian community. This would be most likely to occur during the operation of the facility, if food waste was inadequately stored at the facility.

Food wastes also attract scavenging bird species such as Corvids in great numbers potentially disrupting the balance of the wider avian community. Good housekeeping practices will ensure that this is not an issue at the proposed facility.

Heavy traffic levels (and noise disturbance) associated with the construction and operation, of the proposed facility could constitute a significant local increase in disturbance. Disturbance, particularly noise and vehicular activity associated with construction (as mentioned earlier) could pose a threat to the stability of the local fauna. It might be advisable therefore to consider the chronology of construction with a view to minimising the potential effects on species of conservation concern. Some suitable measures are proposed in the mitigation section.

Apart from the removal of potential feeding or nesting/burrowing habitat the construction of new buildings and associated infrastructural changes could present other difficulties for local mammals. The development can serve as a barrier for the free and safe movement of animals. This is especially true of developments that see an increase in road traffic - mortality rates of young mammals on roads can have a local effect on the population structure of affected species.

Increased volumes of traffic could make the local road more hazardous for crossing animals. Many of the species of conservation concern that are frequent road casualties e.g. Badger, would however be expected to be most active at times when the facility would not be operational.

As in birds, mammal vocalisations may propagate over shorter distances due to competing background noise. Light and noise disturbance can increase stress and restlessness affecting typical patterns of activity in birds and mammals living close to a development. However, many of these problems would be fairly straightforward to mitigate with suitable lighting etc. (See Mitigation Measures).

8.6. Mitigation Measures

The following mitigation measures are proposed at the site:

Where it is necessary to remove mature vegetative cover, it will be done in advance and outside the nesting/breeding season. Section 40 of the Wildlife Act 1976, as amended by Section 46 of the Wildlife (Amendment) Act 2000, restricts the cutting, grubbing, burning or destruction by other means of vegetation growing on uncultivated land or in hedges or ditches during the nesting and breeding season for birds and wildlife, from 1 March to 31 August.

- Materials and colours to be used in the construction of site buildings have been selected to minimise the potential for birds colliding with the buildings.
- Lighting will be kept to a minimum safe levels to reduce disturbance to nocturnal mammals and birds.
- During construction, food wastes generated on-site will be stored and disposed of in an appropriate manner to minimise food sources for Gulls, Corvids, and scavenging mammals.
- A buffer zone will be retained along the local road which is densely vegetated. .

- Materials and machinery will be stored in a manner to reduce the risk of further pollution of the water-courses. Culverts for the drain running along the eastern boundary of the existing waste transfer station will be designed in accordance to best practice (as per *NRA* & UK DMRB Guidelines). In-stream works will be conducted in accordance with the NRA Guidelines on Crossings of Watercourses (NRA, 2006).

8.6.1. Ecology Enhancement Measures

1. Where additional landscaping is carried out its design will be mindful of the opportunity to increase the resource value for local fauna e.g. planting palatable seed or fruit bearing plants could have a beneficial impact on local insect, bird and mammal species.
2. Several of the bird species recorded at the site regularly use nest-boxes. Nest-boxes could be used to increase breeding opportunities for these resident species. In addition, there are nest-box designs available for other species that might be encouraged to breed at the site e.g. Long-tailed Tit, *Aegithalos caudatus* or even Barn Owl, *Tyto alba*.
3. A number of bat boxes will be erected in the buffer zone. These boxes will be selected and erected by a suitably qualified ecologist. The purpose of this measure is to increase the potential for bats to roost and breed in the local area. The boxes will be long-lasting woodcrete boxes such as those manufactured by Schwegler.

8.7. Summary & Conclusion

The flora and fauna survey at the site of the proposed development provides a baseline assessment of the local ecosystem. Assessments of birds, mammals, macroinvertebrates, amphibians, habitats and flora were examined within the site boundary and surrounding areas. Previous reports from licence applications and EIS in the vicinity of the development were reviewed and pertinent information was considered in this report.

The bird community encountered was typical of the type and range of habitats present. No species of high conservation concern was recorded. Several mitigating measures are suggested that would offset most if not all the potential negative effect of this development on the local avifauna.

It is likely that most of the birds displaced from the newly constructed areas could disperse successfully into the surrounding landscape. The retention of the wet mixed woodland as a buffer area along the local road will ensure that the majority of the species that were recorded in this survey will persist after the development. With mitigation it is envisaged that there will be negligible effects on the local avifauna.

In all, six species of mammal were recorded during this survey. All are relatively common species. Only Brown Rat was found in any real abundance in the vicinity of the site. Rabbits were also fairly plentiful throughout the site.

The habitats present would appear relatively unsuitable for feeding or roosting bats.

The area of the development did not appear to be important as a feeding or dwelling area for any mammal species with the exception of rats. Much of the site would be unsuitable for larger burrowing mammals. The construction of the new facility would be unlikely to have a significant negative impact on any mammalian species of conservation concern.

This study found that the survey area is relatively species poor for these taxa. Aquatic invertebrates and amphibians are present but constrained by their tolerance of pollution. The waterways are classed moderately to seriously polluted.

Terrestrial invertebrates fare better and there was a reasonable diversity of macrolepidoptera at the site. With the retention of the buffer zone around the site and its possible further enhancement, there is every opportunity of increasing terrestrial invertebrate species diversity and abundance. Overall, this development is highly unlikely to have any significant negative impacts on the local macroinvertebrates or amphibians.

There is a wide range of habitat types represented locally. The most important amongst these is *Raised Bog*. However, this classification is rather misleading as the raised bog that remains, particularly that in the area of the proposed facility, is highly degraded through a combination of drainage, tree planting and scrub encroachment. In reality, the southern parts of the bog within the site will be unlikely to return to a peat forming habitat. The better preserved parts of raised bog lie outside the site boundary – to the north and northwest. There is also a conservation designated area of raised bog (Clonreher Bog: NHA) within 600 m of the site. The proposed development will not have an impact on the designated areas of conservation concern.

The habitats within the proposed extension area are relatively degraded due to drainage and cutting practices and they do not contain plants or animals of any special conservation importance. The mitigating and enhancement measures focus on improving the ecological value of the area through retention and possible enhancement of a buffer zone around the newly constructed areas.

With appropriate mitigation there will be no significant losses of local species diversity or abundance predicted as a result of this development.

9. LANDSCAPE AND VISUAL ASSESSMENT

This section is concerned with the description of the existing landscape, visual character of the site and its surrounds, and the impact of the proposed development thereon. The description of the area is based on surveys and analysis carried out on-site. Information regarding the vegetation in the locality is derived from field observations and the ecologist's report.

The term landscape refers primarily to the visual appearance of the land, including shape, form and colour, and their interaction to create specific patterns and pictures that are distinctive to particular localities. However, the landscape is not purely a visual phenomenon because its character relies closely on its physiography and its history. Hence, in addition to the scenic and/or visual dimension, there are a whole range of other dimensions, including geology, topography, soils, ecology, archaeology, landscape history, land use, buildings and settlement, architecture, cultural associations and human beings.

This section deals with the above in so far as they may determine the landscape and visual characteristics of the locality, and on which the proposed development could potentially have environmental effects.

9.1. Existing Landscape

The proposed extension is adjacent to the existing waste transfer facility located approximately 4 km to the north of the town of Portlaoise, and 5 km south of the town of Mountmellick circa 80 mOD. The lands in the surrounding area are generally flat and the site itself gently slopes northeast to a high of 90 mOD.

The site is bordered to the west by Kyletalesha Landfill, immediately to the south by two knackeries and across the road to the south east by coniferous plantation. The extension area occupies a total area of 6.2 ha and consists of degraded and dewatered peatland with natural scrub vegetation. The site lies in the surface water catchment of the River Barrow, and within the sub-catchment of the River Triogue.

The site entrance to the waste transfer station is located on the local road (L-2117-0) to the south of the site. It is proposed to expand the entrance as shown on Figure 2.4. The existing waste transfer station is screened from the road by a 3 m high concrete wall. This road is connected to the National Secondary Route, N80.

The area is characteristic of a rural environment with one off houses. There are 10 houses within 1 km of the boundary of the proposed development. There location is shown on Figure 3.1. The nearest house to the proposed extension is some 340 m away from the boundary of the proposed extension.

Due to the relatively level nature of much of the surrounding landscape, views of the site from the surrounding landscape are generally restricted. Views from the N80 are blocked by the two knackeries, while views from the local road are generally restricted by dense vegetation. A berm has been constructed around the landfill area which restricts views from some of the landfill.

The proposed extension is made up of open peatland, crossed by a network of man-made drains. The boundary along the local road consists of dense vegetation associated with poorly drained areas. The boundary with the landfill is marked by a constructed berm while a stream and palisade fencing divides the existing waste transfer and the proposed extension.

The recycling building is currently 10 m high, and is the most visual aspect of the facility. This building is finished with a green cladding, which is in keeping with the vegetative cover that borders the site to the east and north of the facility and therefore reduces the impact of the facility.

9.2. Scope of Impacts

The following items of the proposed extension are the main elements that could contribute to an impact on landscape and visual views:

- Proposed buildings including - waste acceptance hall, composting maturation hall or anaerobic digester and storage buildings
- Proposed site services, including internal access roads, weighbridge, car parking facilities, wheel wash, lighting, security fencing.

9.3. Impact Assessments

Visual impact may occur by means of intrusion and/or obstruction where these terms are defined as follows:

Visual Intrusion:	Impact on view without blocking, and
Visual Obstruction:	Impact on view involving blocking thereof.

Visual impacts by means of intrusion or obstruction on a particular view may be viewed as positive, neutral or negative and can be rated as follows:

- Little/none arises where the proposal is adequately screened by existing landform, vegetation or built environment.
- Low arises where views affected by the proposal form only a small element in the overall panorama.
- Moderate arises where an appreciable segment of the panorama is affected or where there is an intrusion into the foreground.
- High arises where the view is significantly affected, obstructed or so dominated by the proposal as to form the focus of attention.

9.4. General Impact on Visual Character

Due to the relatively level nature of much of the surrounding landscape, views of the site from the surrounding landscape will be generally restricted.

Photographic Illustration

In an attempt to determine the visual extent of the proposed development, a number of photographs were taken from locations in the surrounding area. Photographs were also taken from inside the site to demonstrate existing screening provided at the site and the existing landform of the site. These selected views illustrate the location and visibility of the proposed development. The selected locations for photographic illustrations are shown on Figure 9.1 and are outlined below:

View 1: From the northwest corner of the site
View 2: From the southwest corner of the site
View 3: From the northeast corner of the site
View 4: From the southeast corner of the site

View 1: From the Northwest Corner of the Site

This view was taken from the northwest corner of the site looking south towards Kyletalesha landfill and the proposed extension area (refer to Figure 9.1). The view is at the same elevation as the site. The top of the AES transfer station is visible in the background. The mature vegetation and trees in the centre of the site will be removed during the construction phase of the proposed extension. From the landfill offices there will be a line of sight into the facility.

View 2: From the Southwest Corner of the Site

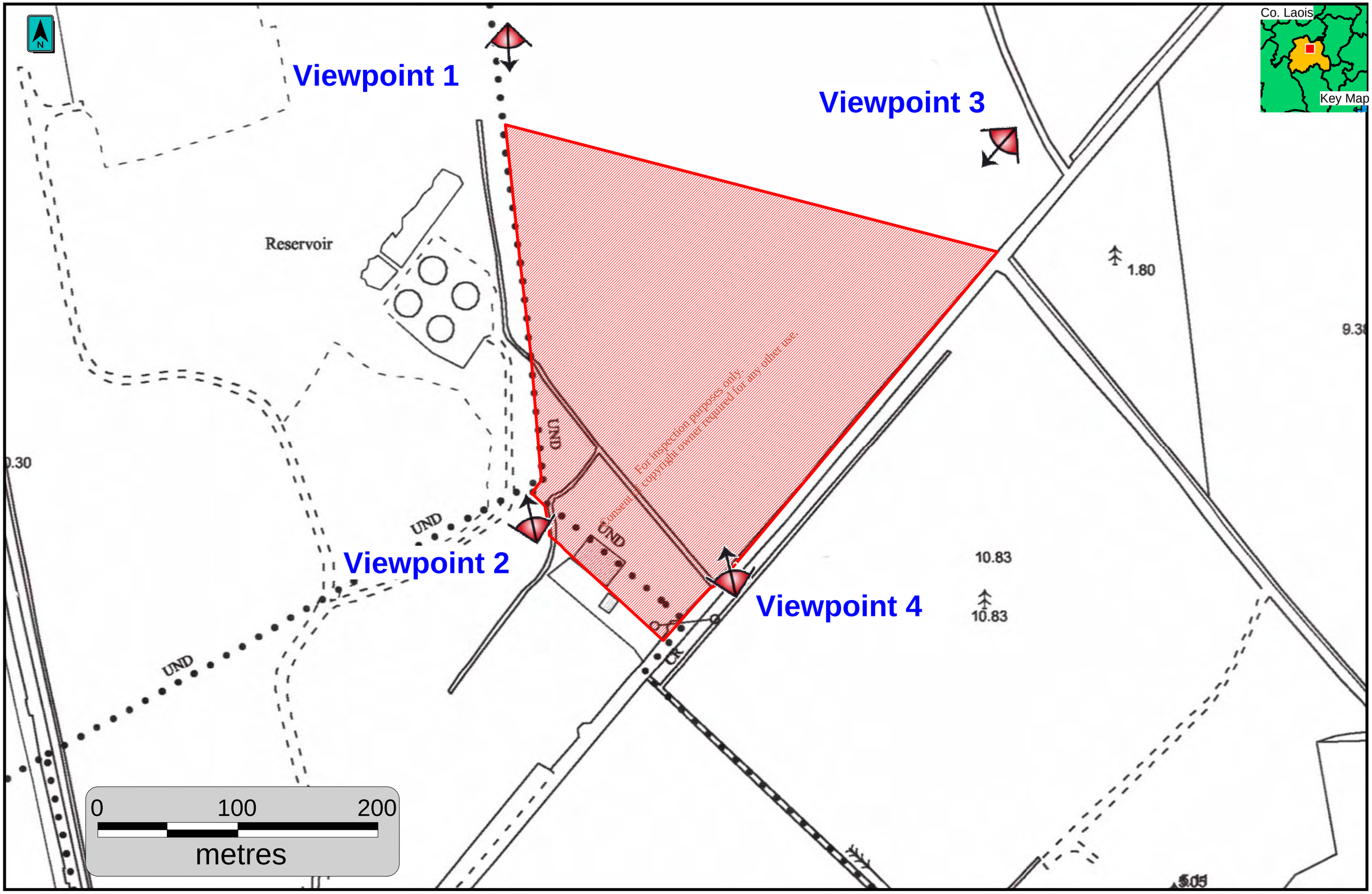
This view was taken within the south-western corner of the site looking east towards the local road (L-2117-0) (refer to Figure 9.1). The waste transfer building and adjacent knackery are in the foreground. Activities within the waste transfer compound are largely screened by a concrete wall. From this location the mature trees on the south eastern boundary which screen the adjacent road from the site are visible. This area will be from a buffer zone where no development will take place. These mature trees and scrubland will be left in-situ thus minimising views from the road into the extension area.

View 3: From the Northeast Corner of the Site

Viewpoint 3 was taken from the northeast corner of the site looking southwest across the site as shown on Figure 9.1. The earthern berms of the landfill are visible in the background. These will screen views from the landfill into the site in the future. The AES waste transfer station is not visible from this point as it is screened by the mature vegetation in the proposed buffer zone. At this location the vegetation is dense and will therefore effectively screen any future views of the composting building from road users as it will remain as a buffer zone.

View 4: From the Southeast Corner of the Site

This view was taken adjacent to the entrance of the AES waste transfer station on the (L-2117-0). This location also marks the location of the proposed entrance extension to the facility. The dense vegetation boarding the road is in the background. There will be a moderate impact due to the construction of the entrance, but the site infrastructure and activities will be largely screened by a wall either side of the entrance gate. Tree planting inside the entrance walls will provide screening in the long-term. The various buildings will be visible from this location. However there will be restricted views further north along the L-2117-0 due to the retention of the dense vegetation in the buffer zone (refer to Figure 9.3). It is proposed to supplement this vegetation with additional planting. Overall, the potential impact is considered low to moderate for traffic along the local road.



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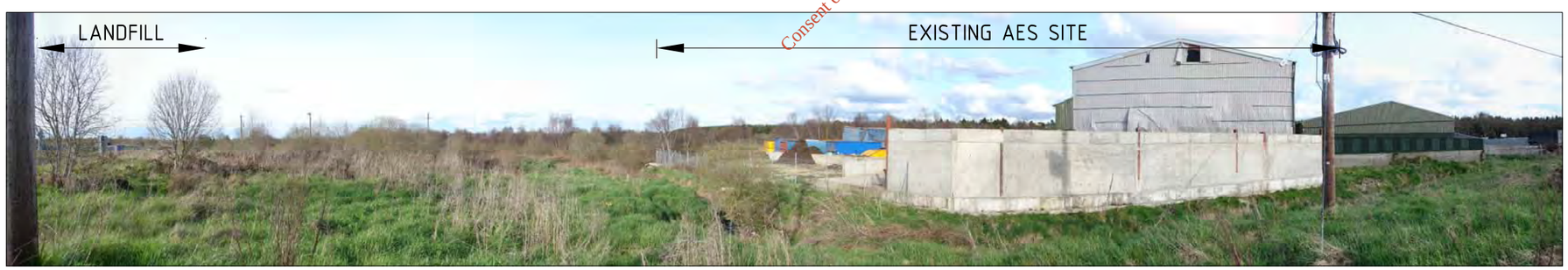
Viewpoint Locations

Figure 9.1

VIEWPOINT 1



VIEWPOINT 2

Rev.	Drawn	Chk'd	App'd	Date	Description
A	KL	ME	DOS	28.07.06	ISSUE FOR PLANNING

Name of Client
AES

Name of Job
EXTENSION TO KYLETALESHA SITE

Title of Drawing
VIEWPOINTS 1 & 2

Scales Used
NTS

Dwg. No.
2006/081/01/Figure 9.2

Rev.
A

Cork

FEHILY TIMONEY & COMPANY
CONSULTANTS IN ENGINEERING & ENVIRONMENTAL SCIENCES
Core House, Pouladuff Rd, Cork, Ireland.
T:+353-21-4964133, F:+353-21-4964464
Mill House, Ashtown Gate, Navan Rd, Dublin 15, Ireland.
T:+353-1-6583500, F:+353-1-6583501
W: www.fehilytimoney.ie, E: info@ftco.ie

VIEWPOINT 3

VIEWPOINT 4

Rev.	Drawn	Chk'd	App'd	Date	Description
A	KL	ME	DOS	28.07.06	ISSUE FOR PLANNING APPLICATION

Name of Client
AES

Name of Job
EXTENSION TO
KYLETALESHA SITE

Title of Drawing
VIEWPOINTS 3 & 4

Scales Used
NTS

Dwg. No. 2006/081/01/Figure 9.3
Rev. A
Cork

FEHILY TIMONEY & COMPANY
CONSULTANTS IN ENGINEERING & ENVIRONMENTAL SCIENCES
Core House, Pouladuff Rd, Cork, Ireland.
T:+353-21-4964133, F:+353-21-4964464
Mill House, Ashtown Gate, Navan Rd, Dublin 15, Ireland.
T:+353-1-6583500, F:+353-1-6583501
W: www.fehilytimoney.ie, E: info@ftco.ie

9.4.1. Visual Impact on views from Roads

There are a number of public roads that pass by or are in the vicinity of the site. These include the local road (L-2117-0) which runs along the south-eastern boundary and the national secondary route – N80 which is some 600 m away from the site. Views from the N80 will be limited to the tops of the buildings.

With respect to the L-2177-0, there will be some restricted views into the site, particularly from the new site entrance. A buffer zone of approximately 20m will be retained and enhanced along the lands adjacent to the L-2177-0. No development will occur in these lands and the existing dense vegetation will be left undisturbed therefore limiting visual impacts on road users. In addition, views from other local road to the north of the site will be restricted by dense vegetation along the north eastern boundary of the proposed extension.

The proposed buildings will be of a maximum 10 m high and consequently the tops of these building may be visible from some surrounding areas. However, as the local topography is consistency flat, local screening vegetation is dense and screening from adjacent activities, overall there will not be a significant visual impact from nearby roads.

9.4.2. Visual Impact on views from nearby Houses

There are two houses within 500 m of the site all located to the north and north east of the site. The nearest dwellings to the proposed extension are located to the north (H2 – 338 m from the site boundary) and to the northeast (H1 – 398 m from the site boundary). However views from these dwellings are blocked by dense mature vegetation which occupies a stretch of land (outside this development) along the northern boundary of proposed extension as shown below. Overall the visual impact would be considered low.

View from House No. 1 into the proposed extension area.

Note proposed extension is to the rear of this dense hedgerow

9.4.3. Visual Impact on views from adjacent Landfill

There are views from the elevated lands within the southern portion of the adjacent landfill. The leachate conditioning plant, gas flaring compound and site offices are located in this area. The visual impact is considered negligible from these areas.

9.4.4. Visual Impact on Views from Designated Areas & Sites

In the Laois County Development Plan, 2006-2012 there are a number of designated sites, areas and view, none of which are within the site. Those closest to the site are:

NHA & SAC

1. NHA 2357 – Clonreher Bog
2. NHA 000876 – Ridge of Portlaoise

Although Clonreher Bog is located some 600 m away from the proposed development the general views of the AES site are blocked by vegetation, the landfill and the two knackeries. There are limited views from the Clonreher Bog of the entrance to the AES transfer station through gaps in the vegetation. The nearest facility to the Clonreher Bog is Laois County Council's Kyletalesha Landfill (approximately 50 m east). Overall the proposed development will have no visual impact on the NHA.

The Ridge of Portlaoise is located some 1.5 km to the southeast. The site is not visible from this NHA and therefore there will therefore be no visual impact.

There are three SACs within 10 km of the site with the nearest being Mountmellick (Site Code 002141) which is some 5 km to the north. The proposed development will not impact on any of these sites.

Views and Prospects Worthy of Preservation

The Laois County Development promotes the preservation of amenity views and prospects within the county and goes further to state "There will be a presumption against development which would materially affect these amenity views and prospects".

The nearest scenic views to the proposed extension are:

- 007 - The Heath
- 005 – The Rock of Dunamaise

Both of these sites are more than 5 km from the proposed AES development and therefore will not be impacted.

9.5. Mitigation Measures

9.5.1. Landscaping Measures

The existing dense vegetation along the local road will be maintained, thus minimizing the visual impact on road users. The retention of this mature and semi-mature 'woody' vegetation will be augmented by some supplementary planting measures which will serve the dual purposes of visual screening and ecological enhancement.

9.5.2. Architectural Measures

The colour and finishes selected for all buildings at the facility will continue to be selected in accordance with an overall colour scheme taking into account the surrounding environment, the scale of the buildings concerned and the local landscape context.

9.6. Conclusions

The site is not visible from any designated area or scenic route.

The proposed facility extension will contribute to the Region's waste management strategy, with significant socio-economic benefits at both the local and national level. The landscape context of the site and surrounding area has progressively changed over the years from a site of a rural bog to an area where alternative activities are undertaken i.e. waste management facilities, knackeries, however some level of landscape and visual impact will occur as a direct result of the development.

10. LAND USE

This section examines land use within the surrounding area of the development in terms of:

- Existing environment
- Potential impacts from the proposed development
- Proposed mitigation measures

10.1. Land Use in the Existing Environment

The existing AES facility at Kyletalesha occupies an area of approximately 0.5 ha. The proposed extension will occupy a further 4.8 ha with an additional 1.4 ha acting as a buffer zone. Figure 10.1 shows the existing land use on and in the vicinity of the site.

The surrounding land use is a mixture of agricultural, forestry, bogland (with peat extraction), residential and commercial/infrastructural. The commercial/infrastructural element consists of the AES waste transfer station, Laois County Council non-hazardous landfill and two knackeries. The predominant land use in the wider area is pasture and forestry as indicated on Figure 10.1. There is a woodland area to the south of the site. There are 10 houses within 1 km of the site boundary. The closet house to the facility is some 340 m away from the facility boundary.

The site is not contained within any of the following designations:

- National Heritage Areas (NHA)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)

10.2. Potential Impacts on Land Use

The impact of the proposed development on land use is considered in the context of the existing land use.

The proposed extension covers a total area of approximately 6.2 ha of land, which is currently drained and degraded peatland. Of the 6.2 ha making up the land bank of the proposed development, 4.8 ha will be used for the development. A further 1.4 ha will be used for as buffer zones.

A flora and fauna survey conducted on the site as part of this proposal concluded that there were no species of elevated conservation importance on the site. Whilst the loss of the peatlands will be permanent, the significance of this loss is low, given that this bog has been largely drained and degraded.

The greatest potential impacts of the proposed extension will be on the amenity of local residences. This impact could occur due to increases in traffic, noise and potential odour nuisances. The visual amenity could also be impacted due to the change in land use from peatland to industrial. However, the implementation of mitigation measures in relation to traffic, noise, air, and visual amenity as proposed in the relevant sections of the EIS will ensure that there are no significant adverse impacts on residential amenity.

10.3. Mitigation Measures for Land use

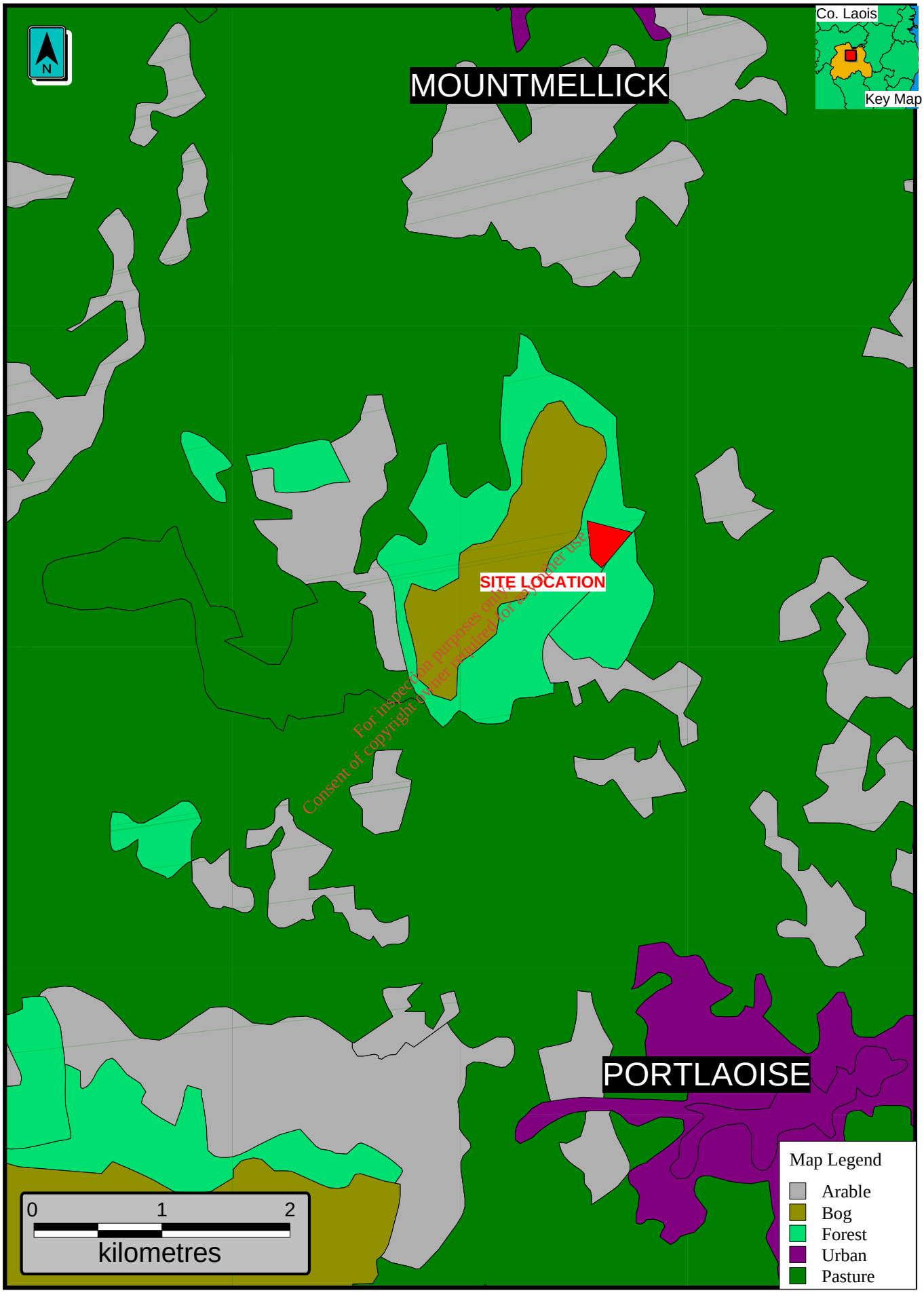
All areas outside the buildings and roads/hardstandings will be sympathetically landscaped to integrate the facility into the surrounding landscape and minimise the visual impacts associated with the development.

Good-house keeping practices will ensure that potential impacts for noise and air will not be significant.

Existing mature vegetation along the local road and along the north eastern boundary of the site will be left in-situ as part of the development. The vegetation will be supplemented by some additional planting which will largely screen the development from the three houses to the north and northwest of the site.

10.4. Conclusions on Land Use

The land uses on the site and within 1 km of the site boundary include agriculture, boglands, landfilling of non-hazardous waste, industries and residential (10 houses within 1 km). The proposed development will not have a significant impact on any of these land uses. Although the development of the proposed waste infrastructure will result in the loss of peatlands, the bog has been largely dewatered and degraded. The loss is low given the current ecological and conservation status of these lands.



Land Use

Figure 10.1

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11. MATERIAL ASSETS

This chapter describes the land use and material assets both within the site and in the area around the proposed development. It also examines the associated impacts and where applicable, proposes mitigation measures to minimise these impact.

11.1. Material Assets in the Existing Environment

The principal material assets that have been identified within or adjacent to the proposed site are:

- Land resource – loss of current land use
- Road infrastructure – increased traffic volumes
- Electricity supply
- Nearby residential houses

11.2. Potential Impacts on Material Assets

Land Resource - Loss of current land use

The proposed extension area is peatland which has been largely dewatered and degraded. The ecological importance of the species within the site boundary has been described as limited. Areas of dense vegetation exist along the local road and north west boundary of the site and these areas will be retained as buffer zones.

The proposed development will provide the region with an integrated waste management facility which will assist the region is meeting the statutory recycling/recovery targets. This development will be operated in accordance with Best Available Technology (BAT) and to all environmental standards set out by the EPA.

Road Infrastructure – increased traffic volumes

The site is less than 600 m from the National Secondary Route the N80, Portlaoise Town is located approximately 4 km to the south of the site, with Mountmellick, approximately 5 km to the north of the site.

The site is served by a local road (L-2210-O) which is approximately 6 m in width. Road usage at present is moderate with HGV traffic to and from the transfer station Kyletalesha Landfill and the two knackeries.

There will be an increase in local traffic both during the construction phase and operational phase of the development. The likely increase in traffic and the likely impact of such traffic on the capacity and operation of the receiving roads network would not be significant.

The traffic assessment proposes a number of remedial measures that will benefit not only the proposed development but all local road users. Proposed remedial measures include resurfacing a portion of the local country road between the Kyletalesha Landfill access and the AES Waste Transfer Facility access together with improving visibility sightline criteria at both the proposed site entrance and the existing public road junction of the L-2117-0 and the N80.

Electricity Supply

As noted in Section 2 of the EIS, the proposed development will require approximately 1.6 MW to meet the electrical demands of the facility itself. At present the waste transfer station has a temporary on-site generator which will need to be upgraded to provide the necessary supply for the extended facility.

If anaerobic digestion is developed in the future at the site, up to 5 MW of electricity could be generated.

Nearby Residential Houses - Property Values

Potential impacts on residential property values arise principally from a combination of visual, noise, dust and traffic effects. These issues have been discussed in detail within individual sections of this EIS and mitigation measures have been proposed to minimise potential impacts.

There is a perception that property values could fall in close proximity to waste management facilities. This will relate to some extent to the way the site is managed and operated. This EIS has outlined a number of mitigation measures as well as good operational procedures to minimise environmental impacts.

The proposed extension of the AES facility will consist of a facility for treatment of biodegradable waste. All activities at the site will be conducted within dedicated buildings. The site itself will be landscaped to integrate the facility into the surrounding landscape and minimise the visual impacts associated with the development.

Consequently there will be no significant adverse environmental impacts from this development on property values.

11.3. Material Assets Mitigation Measures

Having regard to the potential impacts outlined above, no further mitigation measures are required for the site, over and above those presented within applicable sections of this EIS.

11.4. Conclusions – Material Assets

The loss of peatlands will be inevitable given the nature of the proposed development. The significance of this loss is low given the current ecological and conservation status of these lands.

The proposed development will have a positive impact for the Midlands region as the land will be used to extend a waste management facility which will contribute greatly to the waste management strategy for the Region and help to maximise the recovery and recycling of materials which previously were landfilled.

12. INTERACTION OF THE FOREGOING

12.1. Cumulative Effects

The development of the extended facility at Kyletalesha by AES will have positive and negative impacts on the receiving environment.

Potential Negative Effects

- Short-term increase in noise levels during construction
- Potential for a decrease in air quality, due to odour, dust, etc, if the facility is not operated in accordance with best practice
- Increase in traffic levels in the surrounding area
- Visual impact of traffic movements and some site operations.

Potential Positive Effects

- The provision of a state of the art facility for the treatment of biodegradable waste for the Midlands Region, in line with the waste management strategy for this region
- Reduction in the production of greenhouse gases by diverting organic waste from landfill
- The diversion of organic waste away from landfill disposal which will assist the Region in meeting the necessary diversion targets.
- The production of a useful end-product, which can have beneficial re-use
- The upgrading of existing road infrastructure in the vicinity of the facility
- The provision of possible local employment.
- The provision of a properly controlled and operated waste management facility

12.2. Interaction of Effects

There is potential for interactions between one aspect of the environment and another which can result in an impact being positive, negative or neutralised. Table 12.1 outlines the interaction between the various positive and negative effects listed in Section 12.1 and how the interaction of these can result in a neutral impact.

Table 12.1: Summary of Interaction of Environmental Effects

	Effect								
Cause	**Socio-economic**	**Cultural Heritage**	**Air Quality**	**Climate**	**Landscape**	**Ecology**	**Water Quality**	**Roads**	**Waste Infrastructure**
Development of facility	P	N	N	N	N	N	N	N	P
Noise	N	-	-		-	N	-	-	-
Dust	N	-	N	N	-	N	-		-
Odour	N	-	N	-	-	-	-	-	-
Traffic	P			N					
Water quality	N	-	-	-	-	N	-	-	-
Soil	-	N	-	-	-	-	-	-	-

N = Neutral
P= Positive
Neg = Negative

12.3. Conclusions on the Interaction of the Foregoing

The proposed extension to the AES facility at Kyletalesha will treat biodegradable wastes, thus reducing, in particular, the Midland Regions dependency on landfill. The production of compost will result in a useful end-product.

The previous sections of the EIS deal with any potential impacts that may occur as a result of the proposed development. Where these impacts could be negative, specify mitigation measures are put forward to minimise or neutralise these impacts on the receiving environment. It is not expected that there will be any significant impact from the interactions as a result of the proposed extension to the AES site.