

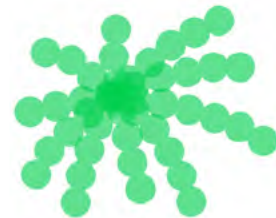
Land West of Murieston Road Murieston West Lothian

BDW Trading Ltd/H&J Russell



Ecological Assessment

Nigel Rudd
BSc CBiol MSB CMLI



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2014



Nigel R Rudd

Nigel Rudd Ecology

15 Bonaly Grove





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1.0 INTRODUCTION

- 1.1 This report is commissioned by BDW Trading Ltd/H&J Russell in respect of residential development proposals for land at Murieston Road, West Lothian. (NT047640)
- 1.2 The land is to the west of Murieston Road. To the south is Murieston Castle Farm. To the west is Westfield Farm and the north boundary is railway line.
- 1.3 The land comprises improved pasture fields surrounded by post and wire fences, woodland, an avenue of trees, a small pond and ditches. There is an overall fall in the land from south-west to north-east. The woodland is restricted to the periphery and the pond is located in the centre-west of the land. The avenue of trees defines the drive from Westfield Farm to Murieston Road. The woodland is mostly 'Long Established Woodland of Plantation Origin'.
- 1.4 There are two nationally designated ecological sites within 2.5km of the land; Linhouse Valley SSSI and Hermand Birchwood SSSI. There is one Local Biodiversity Site (LBS) on the land and two within 1km of the land; Westfield Pond LBS, Skivo Quarry LBS and Bellsquarry Wood LBS, respectively.
- 1.5 The proposal is to develop the land for housing. It is important this is achieved with no adverse impact on biodiversity. The purpose of the survey is to ensure the wellbeing of protected species is safeguarded during construction and operation of the development and to ensure there is no adverse effect of development on designated sites.
- 1.6 The report will set out the survey methods, the findings of the survey, an assessment of the impact of development and recommendations for planting and habitat creation.



2.0 THE SURVEY

- 2.1 The survey was undertaken in October 2014.
- 2.2 The Phase 1 Habitat Survey method was augmented by inspection for signs of the presence of species protected under the Wildlife and Countryside Act 1981, The Wildlife and Natural Environment Act 2011, the Protection of Badgers Act 1992 and European Protected Species as listed in Annex A of the EC Directive 92/43/EEC, the Conservation of Natural Habitats and of Wild Flora and Fauna ('The Habitats Directive') as enacted into domestic legislation by the Conservation (Natural Habitats &c) Amendment (Scotland) Regulations 2007.
- 2.3 The particular species sought were badgers, otters and bats. There was no records of water voles or great crested newts within 1km of the land.
- 2.4 The findings of the surveys are set out below.
- 2.5 The survey findings are complemented by consideration of recorded data available from the National Biodiversity Network Gateway (NBN Gateway), The Wildlife Information Centre (TWIC).



3.0 THE SURVEY FINDINGS

3.1 Habitats

- 3.2 The site and the immediate surroundings present five habitats: semi-natural woodland; line of trees; line of trees; improved grassland; standing open water and running water. The habitat distribution is indicated in Figure 2.
- 3.3 Common plant names are used in the text and a list of plants recorded is set out in Appendix 2.
- 3.4 By far the most extensive habitat is improved pasture grassland. The habitat is grazed by horses and cattle. At the time of survey the sward was short and species poor. There is extensive pasture and arable farmland to the south and west of the land. Intensively grazed grassland has **negligible habitat value**.
- 3.5 Woodland habitat comprises broadleaved plantation of longstanding origin and small areas of planted and self-seeded woodland. The woodland is restricted to the perimeter of the site. The canopies vary from dense closed to very open. Canopy species vary around the land. In places birch dominates, other locations are dominated by beech or sycamore. In general the canopy is mixed with oak, ash, lime and Scots pine joining the above species.
- 3.6 Shrubs are limited in the woodlands and comprise holly, hawthorn, elder, snowberry and bramble. Beech, sycamore, ash and birch saplings are locally represented in the shrub layer. Some areas of the woodland have been grazed and in these areas there are no shrubs. Gorse and privet appear on woodland edges in some places.
- 3.7 The field layer varies with canopy structure. Beneath dense canopies field layer is reduced to one or two species including bramble, fern, ground elder or wood avens. In open areas grasses appear in the field layer in addition to the above species. Grass species include false oat grass, wavy hair-grass and cock's foot.
- 3.8 For the most part the woodland is a strip approximately 40m wide. Narrow strips of woodland such as these are barely true woodland because of the elevated light levels that reach the woodland floor throughout in comparison to a large area of woodland with much smaller edge to area ratio.
- 3.9 The woodlands at Murieston date back to the middle of the nineteenth century which suggests their soil ecosystem is established and species rich. The stability of the ecosystem confers **very local habitat value**.
- 3.10 Line of tree habitat is an avenue of trees along the drive to Westfield Farm. This comprises two lines of beech trees with. The trees are standing in the fields either side of the drive and stand in improved grassland; grazing approaches to the base of the trees. Line of trees at Murieston has **negligible habitat value**.



- 3.11 Open water habitat is found in the west centre of the land, comprising a pond approximately 70m long and 40m wide aligned east-west. There is extensive open water with a fringe of swamp. The swamp is dominated by soft rush with a ribbon of reedmace on the edge of the open water. The open water shows rafts of pond weed scattered across its surface. Open water is a UK Biodiversity Action Plan (UK BAP) priority habitat and the pond has a **very local/local habitat value**. The pond is within the Westfield Pond LBS, designated by West Lothian Council.
- 3.12 There is a drain running west-east from the pond. There are other drains in the north of the land. The drains arise on the land and sink either on the land or close by. The habitat value is attributed to the ribbon of vegetation on their banks they have **negligible habitat value**.
- 3.13 There is running water on the south-east boundary of the land; Murieston Water. This is a tributary of the River Almond to the north. The Murieston Water rises in Hermand Wood to the south and flows south-west to north-east. The Murieston Water flows through woodland within the vicinity of the Murieston Land.
- 3.14 Habitat summary – the habitats recorded are widespread habitat types in Scotland, none is exceptional. The assemblage of habitats is also unexceptional. These characteristics and low structural and species diversity confer a low ecological value. The woodland and pond habitats merit retention and protection from development. The woodlands because of their age and the pond because of the UK BAP status of this habitat type.
- 3.15 Improved grassland habitat occupies the majority of the land and this has negligible value.
- 3.16 The land exhibits regular farm activity with constant modification of the grassland habitat and little effect on the woodland or open water habitat.
- 3.17 **Species**
- 3.18 The only protected species anticipated as resident on the land were badgers and bats. It was considered there was no suitable habitats for otters on the land but that they were likely to use the Murieston Water to the south-west of the land.
- 3.19 The ecology of badgers, bats and otters is set out in Appendix 1, as is the legal protection from which they benefit and the methods employed to inspect for evidence of their presence on or use of the land under survey.
- 3.20 Badgers – No evidence was found of the species on the site or within 100m of the boundary, where accessible for survey.
- 3.21 TWIC holds records of badgers within 1km of the land. The nearest record is 300m to the west of Westfield Farm. There is evidence of abandonment and destruction of setts in this area.



- 3.22 **Bats** – There are numerous mature broadleaved trees within the peripheral woodlands and many of these exhibit features which could provide roost opportunity for bats. There is no building on the land.
- 3.23 It is very likely Common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*), Daubenton's (*M. daubentonii*) and brown long-eared bats (*Plecotus auritus*) have been recorded in grid square (NT06) containing the land. TWIC holds one record of pipistrelle bats within 1km of the land; 300m to the east in Clova Drive.
- 3.24 It is anticipated that bats forage around the boundary of the land in summer months along woodland edges, private gardens and the burn. The forage opportunity for bats in the area is restricted to linear habitat resources.
- 3.25 There is extensive forage and roost opportunity local to the Murieston land.
- 3.26 **Otters** – No evidence was found of otters using the Murieston Water or adjacent land. Conditions for inspection were good during the survey period but there was limited sprainting opportunity and little wet silt or soil on which to leave tracks.
- 3.27 TWIC holds one record of otter spraints on the Murieston Water immediately to the east of the land, suggesting otters move up and down the burn adjacent to the site.
- 3.28 It is assumed the species uses the Murieston Water but it is considered unlikely the animals would venture into the site as there is very limited feeding opportunity close to the stream corridor.
- 3.29 **Summary** – No evidence was found of badgers on the site or the surrounding land and there are records of badgers local to the land, the nearest being 300m to the west of the land.
- 3.30 There is bat roost potential on the land in mature trees. It is assumed bats forage around the boundary of the land.
- 3.31 No evidence was found of otters using the Murieston Water but there are records of otters on the stream immediately adjacent to the land. It is not anticipated otters venture onto the body of the site.
- 3.32 **Designated Sites**
- 3.33 There are two nationally designated sites within 2.5km of the Murieston Road land; Hermand Birchwood SSSI and Linhouse Valley SSSI.
- 3.34 Hermand Birchwood SSSI – Hermand Birchwood is situated 2.3km south-west of the Murieston land and extends to 11.59ha. This site is designated because of the upland woodland it supports. The site has developed as a consequence of natural regeneration following wartime felling and colonisation of a relict raised bog. The canopy comprises birch of varying ages with stands of mature beech



- and Scots pine with some rowan, oak and hornbeam. This is an excellent example of birch woodland because it has been relatively undisturbed in recent times.
- 3.35 There is a small area of grassland to the north of the wood containing locally rare plant species. Adjacent to this is a small area of standing water with associated growth of *Sphagnum spp.* bog mosses. Features of the bog supporting part of the wood are evident in the ground flora, which is dominated by heather (*Calluna vulgaris*), bilberry (*Vaccinium myrtillus*), and broad buckler fern (*Dryopteris dilatata*).
- 3.36 The stability of the site has resulted in a diverse flora which includes species rare in Lothians including white sedge (*Carex curta*), narrow buckler fern (*Dryopteris carthusiana*) adder's tongue (*Ophioglossum vulgatum*), greater butterfly orchid (*Platanthera chlorantha*) and bay willow (*Salix pentandra*).
- 3.37 Linhouse Valley SSSI – Linhouse Valley SSSI is located 1.7km to the east of the Murieston land and extends to 35.52ha. The site is designated because of the lowland grassland, wetlands and woodlands it supports. The site is a patchwork of unimproved, rich and diverse lowland river habitats created by the formation of river meanders and gradual changes in the level of the Linhouse Water. The habitats include lowland acid and neutral grassland, species rich valley fen and wet woodland.
- 3.38 Neutral grassland on the valley floor is dominated by creeping bent (*Agrostis stolonifera*), red fescue (*Festuca rubra*) and sweet vernal grass (*Anthoxanthum odoratum*). Acid grassland is found on the valley slopes. Rich valley fen communities have developed where drainage is impeded and include bottle sedge (*Carex rostrate*), common sedge (*C. nigra*) lesser pond-sedge (*C. acutiformis*) and meadowsweet (*Filipendula ulmaria*). Alder dominates the woodland, which also includes ash, elm, rowan and willow on the slopes.
- 3.39 In addition to the above habitats there are dry heath, scrub and broadleaved woodland. A total of 220 plant species have been recorded on the site. There are a number of uncommon species present including bladder sedge (*Carex versicaria*), water sedge (*C. aquatilis*) and melancholy thistle (*Cirsium helenoides*).
- 3.40 There is one Local Biodiversity Site (LBS) on the land and two within 1km of the land; Westfield Pond LBS, Skivo Quarry LBS and Bellsquarry Wood LBS, respectively.
- 3.41 Skivo Quarry LBS is an old quarry, surrounded by woodland, with rare flora. The site extends to 3ha and is the opposite side of Murieston Road from the Murieston land.
- 3.42 The main habitats are broadleaved plantation and standing water. The notable habitats are unimproved neutral grassland and standing water. The bird fauna includes yellowhammer (*Emberiza citrinella*), willow warbler (*Phylloscopus*



- trochilus*), bullfinch (*Pyrrhula pyrrhula*) and common whitethroat (*Sylvia communis*). Notable plant species include broad leaved helleborine (*Epipactis helleborine*), mare's tail (*Hippuris vulgaris*) and common wintergreen (*Pyrola minor*).
- 3.43 Bellsquarry Wood LBS is a birchwood with regenerating oak and a varied flora. The site extends to 12ha and is 500m to the north of the Murieston land.
- 3.44 The main habitats are broadleaved woodland, semi-improved neutral grassland, mixed plantation and broadleaved woodland. The notable habitat is semi-natural broadleaved woodland.
- 3.45 The main habitats are semi-natural neutral grassland, scrub and standing water. These and broadleaved plantation woodland are notable habitats.
- 3.46 Notable fauna are willow warbler, dunnoek (*Prunella modularis*), brown hare (*Lepus europeaus*) and arachnida. Notable for include bluebell (*Hyacinthoides non-scripta*), spiked water milfoil (*Myriophyllum spicatum*), corn spurrey (*Spergula arvensis*) and woodsy silk-moss (*Plagiothecium nemorale*).
- 3.47 Westfield Pond LBS is within the site boundary. The site comprises plantation woodland and standing water and extends to 2.6ha.
- 3.48 The woodland comprises mature plantation dominated by beech. For the most part the canopy is open and there is regeneration of canopy species. The east extension of the site is a mesotrophic pond which is fringed by a swamp of soft rush (*Juncus effusus*) and reedmace (*Typha latifolia*). The open water is colonised by pondweed (*Potamogeton sp.*).
- 3.49 The SSSIs and LBSs near the Murieston Road land will not be affected by development as proposed by virtue of physical separation and characteristic habitat type.



4.0 THE IMPACT OF THE PROPOSAL

- 4.1 The proposal is to develop land at Murieston Road for housing and public open space.
- 4.2 The proposed development land is pasture bounded by woodland. The habitat structure is simple but there are two important habitats on the land; standing water and longstanding plantation woodland.
- 4.3 Development as proposed will involve loss of pasture land. The structure of boundary habitats will be retained and augmented by tree and shrub planting and implementing a management strategy designed to encourage biodiversity. The habitats present species-poor communities which are structurally simple. The ecological impact of the loss will be negligible.
- 4.4 The development will be accessed from Murieston Road to the east. Creation of the access may result in the loss of a small number of trees. Introducing the east access will result in the loss of a small section plantation woodland. Otherwise, plantation woodland around the edges of the site will be retained and managed for biodiversity benefit. Westfield pond, the only standing water on the land, will be brought under management for biodiversity benefit.
- 4.5 The habitats lost will be replaced by houses, private garden ground, public open space, and a SUDS facility. The house footprints will represent a permanent loss of semi-natural habitat but creation of garden ground, boundary woodland and SUDS will represent a change in habitat type. The new habitats will be more diverse than the habitat they replace.
- 4.6 There was no evidence of badgers using the site and no record of the species within 5km of the land. It is anticipated there will be no risk to the wellbeing of badgers during the construction process but house construction raises potential threats to wildlife. A precautionary approach is recommended, putting measures in place to ensure mammals do not come to harm during this time; open pipes should be closed up at the end of each working day, and trenches should be covered or a ramp provided to permit animals that fall in a means of exit, to prevent animals becoming trapped. Chemicals and materials should be stored securely.
- 4.7 Bat roost opportunities were found on the land in the boundary woodlands. It is likely bats forage along the boundaries. The boundary woodland will be retained and brought under management. There will be negligible loss of roost opportunity possibly in the creation of an access to the land or felling of trees which are deemed to be unsafe. Enhancement of biodiversity, particularly insect life, as a consequence of creation of private gardens and open water, and informed management of semi-natural habitats will improve the forage resource of the land.
- 4.8 There are records of otters on the Murieston Water adjacent to the land. It is not anticipated the species uses the land. There is potential for the species to be



- disturbed by development but it is not proposed the development will approach the burn. It is anticipated the disturbance of otters is most likely during construction. The species is largely nocturnal and disturbance will be mitigated by restricting construction work to daylight hours. The animals are already accustomed to suburban and urban environments and it is not envisaged operation of the site will adversely affect the species. The measures proposed for protection of small mammals set out in 4.6 above will also safeguard otters.
- 4.9 There are two biological SSSIs within 2.5km of the land, both of which are sufficiently remote from Murieston Road to be unaffected by development as proposed.
- 4.10 There are three LBSs within 1km of the land. Westfield Pond LBS is on the land within the development boundary. There is potential for the site to be adversely affected by the development of the Murieston Road land but the features for which the site is designated will be preserved and brought under management for biodiversity. The LBS will be positively affected by development.
- 4.11 Skivo Quarry LBS and Bellsquarry LBS, both within 500m of the Murieston Road land, will be unaffected by development as proposed. The LBSs are within developed areas and it is the surrounding residential development that has influenced the protection of the sites by designation.
- 4.12 There will be negligible clearance of semi-natural habitat to make way for development. Nevertheless it is recommended that clearance is carried out outside the bird nesting season; March to August. If this is an obstacle to development it is important that no clearance is undertaken before the land is inspected for nesting birds.
- 4.13 Summary
- 4.14 Development of the Murieston Road land will result in the loss of some semi-natural habitat to housing, private gardens, tree planting and open space. There will be minimal adverse impact on biodiversity from the loss of unexceptional habitats and it is anticipated there will be a biodiversity benefit as a consequence of habitat diversification.
- 4.15 There will be no impact on badger or otter populations but precautionary measures should be put in place to safeguard small mammals during construction.
- 4.16 There will be a potential negligible loss of bat roost opportunity as a consequence of felling a small number of trees to facilitate development or for reasons of public safety. There will be enhancement of bat forage resource as a consequence of enhancement of existing forage and the creation of new forage resources.
- 4.17 There will be an enhancement of bird nesting opportunity.



- 4.18 There will be no adverse impact on European, UK or locally protected sites. Indeed one LBS on the land will be brought under management for biodiversity benefit.
- 4.19 It is anticipated that there will be a neutral/positive impact on biodiversity as a consequence of development as proposed.



5.0 RECOMMENDATIONS

5.1 The proposal is to develop land at Murieston Road, Livingston for housing and public open space. The proposals comprise construction of housing on pasture land, retaining surrounding, longstanding woodland habitats.

5.2 The land and the immediate area around was surveyed were in October 2014 to assess the habitat resource, potential for, or evidence of, badgers, bats and otters and potential effects of development on designated sites.

5.3 The land is improved grassland with a fringe of mature woodland. There is one pond in the centre-west of the land.

5.4 The habitats on and around the site are unexceptional and of low value.

5.5 Species

5.6 Badgers, otters and small mammals - No evidence was found of badgers or otters on or around the land. Badgers have been recorded within 500m of the site. Badgers do not use the land and will be unaffected by the proposals. Nevertheless, it is recommended that measures are put in place to safeguard small mammals during the construction period. Otters are known to use the Burdiehouse Burn in the south of the land. Restricting construction work to daylight hours and implementation of measures to safeguard will militate against adverse impacts on the species.

5.7 There is potential for small mammals to become entrapped in trenches or open pipes overnight. This should be prevented by ensuring a ramped means of escape is place in trenches overnight or the trenches are covered. Open pipes should be blocked at the close of each working day.

5.8 Materials, fuels and solvents should be stored such that they are inaccessible to wildlife and there is no spillage onto the land.

5.9 Bats – there is limited bat roost opportunity in trees on the land. It is assumed bats forage along the boundaries. There is potential for felling of some trees and it is recommended that the trees to be felled are inspected for evidence of bat roosting. In the event evidence of use for roosting is found measures, such as sift felling or careful timing, are put in place to protect individual bats that may be using the trees.

5.10 Birds – there is potential for bird nesting in the semi-natural habitats.

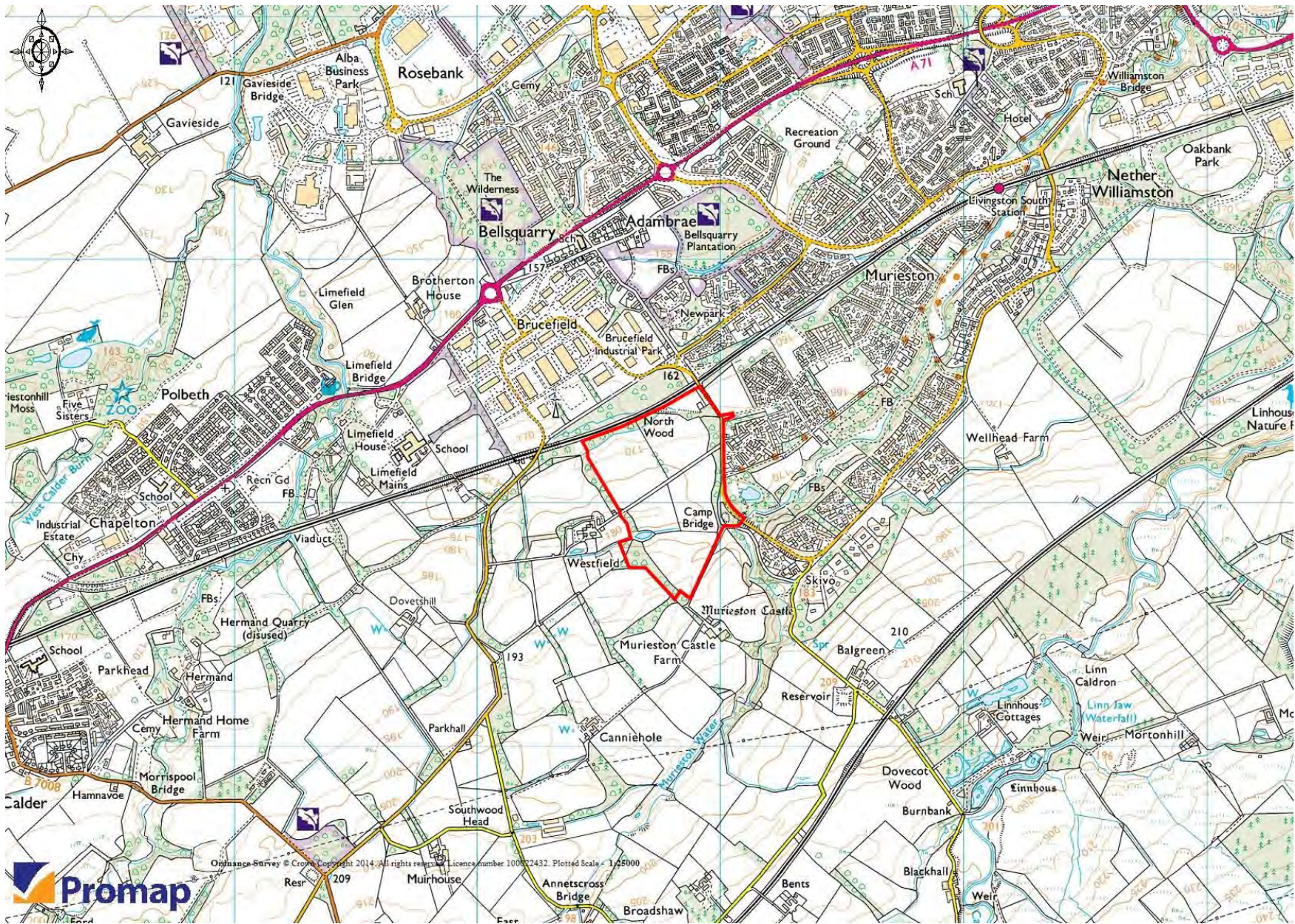
5.11 It is an offence to disturb a nesting bird or damage a nest. Clearance of vegetation from the proposed construction areas has the potential to disturb nesting birds; therefore clearance should be carried out outside the bird nesting season March – August. Should it be necessary to clear ground during the bird nesting season the land should be surveyed by a suitably qualified ecologist and declared clear of nesting birds before vegetation clearance starts.



Figure 1

Location Plan

Figure 1



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**Land West of Murieston Road
Murieston**

Location Plan

October 2014

Nigel Rudd Ecology

15 Bonaly Grove
Edinburgh
EH13 0QA



Tel/fax 0131 441 7955
Mobile 07976 954 642

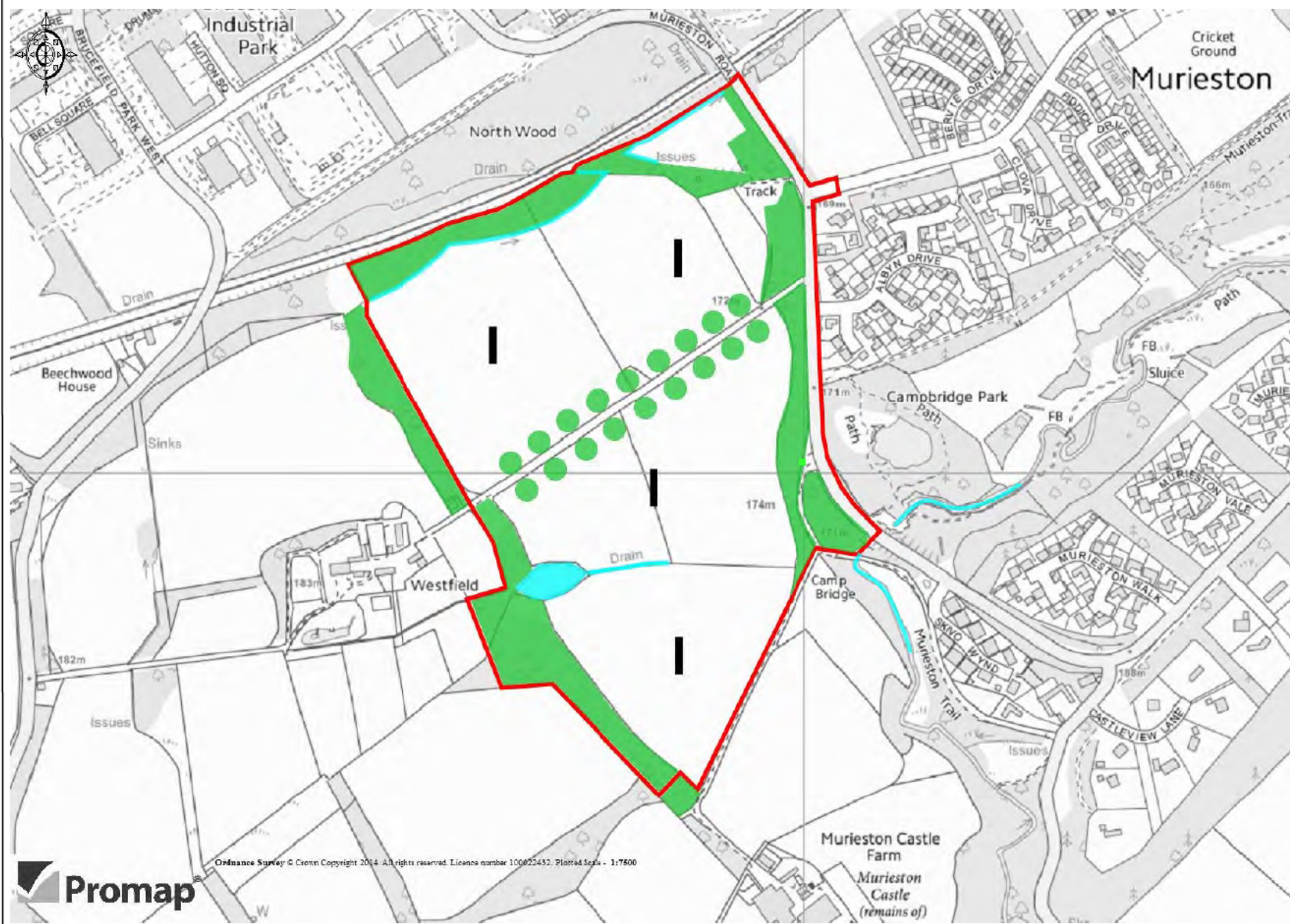
nigel@nigelruddecology.com



Figure 2

Phase 1 Habitat Plan

Figure 2



-  Broadleaved woodland
-  Line of trees
-  Improved grassland
-  Standing water
-  Ditch

**Land West of Murieston Road
Murieston**

**Habitat Plan
October 2014**

Nigel Rudd Ecology

15 Bonaly Grove
Edinburgh
EH13 0QA



Tel/fax 0131 441 7955
Mobile 07976 954 642

nigel@nigelruddecology.com



Appendix 1

Species inspections



Badgers

Background – The badger is the largest member of the Mustelidae in Britain weighing up to 20kg and reaching a length of 1m. Badgers are strong animals, adapted to digging, have good hearing and a well-developed sense of smell.

Badgers live in setts. A sett is a network of underground tunnels, which can have a total length of several hundred metres, although individual tunnels reach only 15m. The tunnels incorporate nesting and sleeping chambers, which are usually lined with dry plant material.

Setts are recognised by the large volume of soil and rock deposited at their entrances and the shape of the opening, usually an oval/arch wider than it is high. Plant debris from the bedding is often found close to the entrances. Setts are only excavated where the soil is deep enough and dry.

The setts vary. Main setts are large and in continuous use and on average have ten to twelve entrances. Often close to a main sett (up to 150m away) there may be an Annexe sett linked to the main sett by established paths. Annexe setts have an average of eight entrances and may not be in continuous use. Subsidiary setts are close to the main sett and are not connected by a clear path and not continuously active the average number of entrances is four. The fourth kind of sett is an Outlying sett. These can be distinguished by having little associated spoil, no approach path and are seldom used. Often they can be occupied by other species such as foxes and rabbits. The average number of holes is two.

The badger diet is mainly earthworms but also includes fruit, berries, small mammals, birds, carrion, insects and other invertebrates. Usually the badgers find the earthworms in areas of short grass, the most important forage resource used.

Badgers live in extended families or clans with up to 6 adults. They are territorial, often marking the boundary of their territory with latrines. The latrines can be used to establish the size of badger territories in bait marking exercises. The territory can extend to 120 hectares in areas with plenty of improved grassland. Where the forage resource is poorer the territory can be much larger.

Badgers mate at any time of the year and births are most common between December and June.

Badgers and the Law

Badgers are protected by the Protection of Badgers Act 1992, which is designed to protect the species against cruelty and incidental effects of lawful activity that might harm badgers.

Under the legislation it is an offence to wilfully or recklessly:

kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so
Interfere with a sett by damaging or destroying it



Obstruct access to, or any entrance of, a badger sett
Disturb a badger when it is occupying a sett.

A person is not guilty of an offence if the act was '*the incidental result of a lawful operation and could not have been reasonably avoided*'; what is reasonable often has to be determined by the courts.

A badger sett is defined as '*any structure or place which shows signs of current use by a badger*', including culverts, pipes, holes under sheds, piles of boulders, old mines and quarries.

Current does not mean current occupation but applies to any sett in an area of current badger activity. This applies if the sett is used for only short periods in the year.

The Act makes provision for the issue of licences permitting otherwise illegal operations. Scottish Natural Heritage (SNH) is the licence issuing authority for the purposes of development.

The Survey - The inspection was carried out in October 2014 and involved inspection the land for evidence of use by badgers.

In addition to setts, there are a number of signs that indicate badger activity. These include: hair on fences; paths or runs; footprints; latrines; snuffle holes in the ground; day nests and scratch marks on trees.

The site and surrounding accessible land to a radius of 100m was assessed for badger activity. A constant search method was employed in a thorough walkover of the land.

No evidence was found of badgers using the land.



Bats

Background - Bats are mammals. They are the only mammals capable of true flight and feed at night, on insects.

During the active seasons of the year, bats require a reliable source of insect food, and therefore habitat rich in insects is good for bats. The preferred feeding habitats are well vegetated, moist, sheltered and warm areas such as mixed woodland, freshwater and hedgerow.

Bats roost during the day in a range of places. In summer females form nursery colonies mainly in buildings, especially houses. Males and non-breeders will use a variety of crevice-type locations, including under slates, gaps in masonry, hollows in trees and bridges, and some species also use these sites for nursery roosts.

Distance travelled to feed varies with species, the pipistrelle is known to travel 3 to 5km radius from the roost, while long-eared bats only travel about 1km as a maximum. Bats use linear features of the landscape: rivers, hedges, woodland edge, to commute from their roost and between feeding areas. These linear features are also feeding routes.

Bats are true hibernators, that is, they are able to survive the winter with little food by lowering their body temperature and surviving on stored fatty deposits built up in the autumn. They use a variety of sites for hibernation: hollow trees, caves, old mines, or more superficial sites (depending on species) like crevices in buildings and bridges, old rubble-filled stone walls, even under roof slates or tiles. Most species require a stable cool temperature for hibernation and generally the deeper and more sheltered the space, the more stable is the temperature. Unlike some other hibernators, bats may be active at any time during the winter, particularly on mild nights. They will slowly arouse from hibernation and become active when disturbed, and so are particularly vulnerable in winter when becoming active will possibly exhaust their stored energy supply.

Bats and the Law - The Wildlife and Countryside Act 1981 (WCA) protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Nature Conservation (Scotland) Act 2004.

The Conservation (Natural Habitats, &c.) Regulations 1994 (better known as the Habitats Regulations) implement the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora - better known as the Habitats Directive. All bats are listed as 'European protected species of animals'

Under the law it is an offence for any person to:

- Recklessly kill, injure or take a bat. Under the Habitats Regulations it is an offence to deliberately capture or kill a bat.
- Possess or control a live or dead bat, any part of a bat, or anything derived from a bat. This is an offence of strict liability, in other words the onus of proof is on the person in possession of the bat to show, on a balance of



probabilities, that they have it lawfully. An offence is not committed if the bat was not killed, taken, or sold to them or anyone else illegally.

- Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection. This is taken to mean all bat roosts whether bats are present or not. There is a defence that this is not illegal in a dwelling house, but the defence can only be relied on (other than in the living area of a dwelling house) if the Statutory Nature Conservation Organisation (SNCO), i.e. Scottish Natural Heritage was notified about the proposed action and allowed reasonable time to advise as to whether it should be carried out, and if so, how. Under the Habitats Regulations it is an offence to damage or destroy a breeding site or resting place of any bat. This is an absolute offence - in other words, recklessness does not have to be proved.
- Recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection. There is a defence that this is not illegal in a dwelling house, but the defence can only be relied on (other than in the living area of a dwelling house) if the relevant SNCO was notified about the proposed action and allowed reasonable time to advise as to whether it should be carried out, and if so, how. Under the Habitats Regulations it is an offence to deliberately disturb a bat (this applies anywhere, not just at its roost).
- Sell, offer or expose for sale, or possess or transport for the purpose of sale, any live or dead bat, any part of a bat, or anything derived from a bat. It is also an offence to publish, or cause to be published, any advertisement likely to be understood as conveying that they buy or sell, or intend to buy or sell, any live or dead bat, part of a bat or anything derived from a bat. Sale includes hire, barter and exchange.
- Set and use articles capable of catching, injuring or killing a bat (for example a trap or poison), or knowingly cause or permit such an action. This includes sticky traps intended for animals other than bats.
- Make a false statement in order to obtain a licence for bat work.
- Possess articles for the purpose of them being used to commit an offence, or to attempt to commit an offence. These are punishable in a like manner as for the actual offence.

Evidence sought for bats using trees and buildings as roosts are suitable holes and crevices, scratch marks, droppings, grease and urine staining and individual animals.

Potential roost opportunity was identified. The trees on the land are mature and some present features suitable for roosting.



It is recommended that should trees be proposed for felling they should be inspected for evidence of roosting and measures put in place according to the findings of the inspection. It is inappropriate to inspect trees which are not proposed for felling.

The boundary habitats with trees, shrubs and hedge represent potential forage for bats. It is possible bats forage along the boundary habitats and will continue to do so after development.



Otters

Otter Ecology -Otters are carnivorous mammals that require access to fresh water, living on the banks of rivers, lakes and sea coasts. Their riverside home range can extend to 25km and they mark their territory with spraints or droppings. They have slick, oily fur and very thick tails. Their diet is primarily fish but they will eat small birds, small mammals and frogs.

Otters have a series of holts, usually short burrows into the ground, within their range, one of which a maternity holt is protected by an underwater entrance.

The young otters stay with their mothers for over a year. They thrive on little disturbance and prefer clean water habitats with reed and tree cover for seclusion. The animals are inquisitive and can tolerate disturbance within their territory. The species is recorded on watercourses in many towns and cities.

For many years otter populations were in decline but there is evidence that they are experiencing a renaissance. The primary threats to otters have been the extensive use of biocides and industrial pollution. Both problems are now more rigorously controlled. The developing population is now under threat from the expanding human population and in particular the construction of new roads and the use of road vehicles. Otters are increasingly being killed crossing roads where new roads are built within their territories.

Otters and the Law

Otters in the UK are protected by a raft of legislation, both European and UK that underlines international and national obligations.

Statutory Obligations

- Annex II and IV of European Communities Directive on the Conservation of Natural Habitats and Wild Flora and Fauna. (ECH2, 4)
- Appendix II of Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats). (BC2)
- Appendix 1 of Convention on International Trade in Endangered Species of Wild Fauna and Flora. (CITES 1)
- Schedule 5 and 6, Wildlife and Countryside Act 1981 (and later amendments). (WCA5,6)

ECH2, 4 is transposed into UK legislation by the Conservation (Natural Habitats, etc.) Regulations 1994 and is generally known as the Habitats Directive. Under this Directive it is an offence to:

- Damage or destroy an Otter shelter, whether intentionally or not; and
- To deliberately disturb an Otter.

WCA5, 6 states that it is a criminal offence, in most circumstances, to:



- Intentionally kill, take or injure an Otter;
- Intentionally disturb an Otter in its place of shelter; and
- Intentionally damage, destroy or obstruct access to a place of shelter.

Other obligations

- NPP14 advises that the presence of a protected species is a material consideration in the assessment of development proposals.
- Otters are a priority species in the UK Biodiversity Action Plan and are therefore included as a priority species in local Biodiversity Action Plans.
- Statutory protection for biodiversity is entrenched in the Nature Conservation (Scotland) Act 2004. Under this Act every public body has a duty to conserve biodiversity when executing their duties. Scottish Ministers have also published a Scottish Biodiversity Strategy to create a framework for the next 25 years which will target priority species, including Otter.

Licences

Statutory advice states that an Otter Disturbance Licence will be required for all works within 20 metres of an Otter resting place or 30 metres of a holt. The details of any licence requirements must be agreed with SNH and SEERAD.

Licences will only be granted under the Conservation (Natural Habitats, etc.) Regulations 1994 if SEERAD are satisfied that:

- There is no satisfactory alternative and
- The action authorised will not be detrimental to the maintenance of the population of the species at a favourable conservation status in their natural range.

Survey – The Mains Burn was closely examined for evidence of otters:

spraints
sign heaps
resting places
slides
tracks
holts.

The survey extended 150m up and down stream of the land.

Survey findings - No evidence was found of otters using the Murieston Water. The conditions were good for survey as the water level was low. There are few potential sprainting sites in the stretch under survey.



It is assumed that otters use the Murieston Water as TWIC records show otters adjacent to the land.



Appendix 2

Plant species list



Murieston Road Livingston

Plant Species

Alder
Annual meadow grass
Ash
Avens
Beech
Bent grass
Birch
Bramble
Buttercup
Clover
Cock's foot
Cow parsley
Dock
Elder
Elm
False oat grass
Fern
Fumitory
Gean
Gorse
Ground elder
Hawthorn
Honeysuckle
Ivy
Lime
Nettle
Norway maple
Oak
Plantain
Pondweed
Privet
Reedmace
Rose
Rosebay willow herb
Scots pine
Snowberry
Soft rush
Sorrel
Sycamore
Thistle
Wavy hair grass
Willow
Yorkshire fog

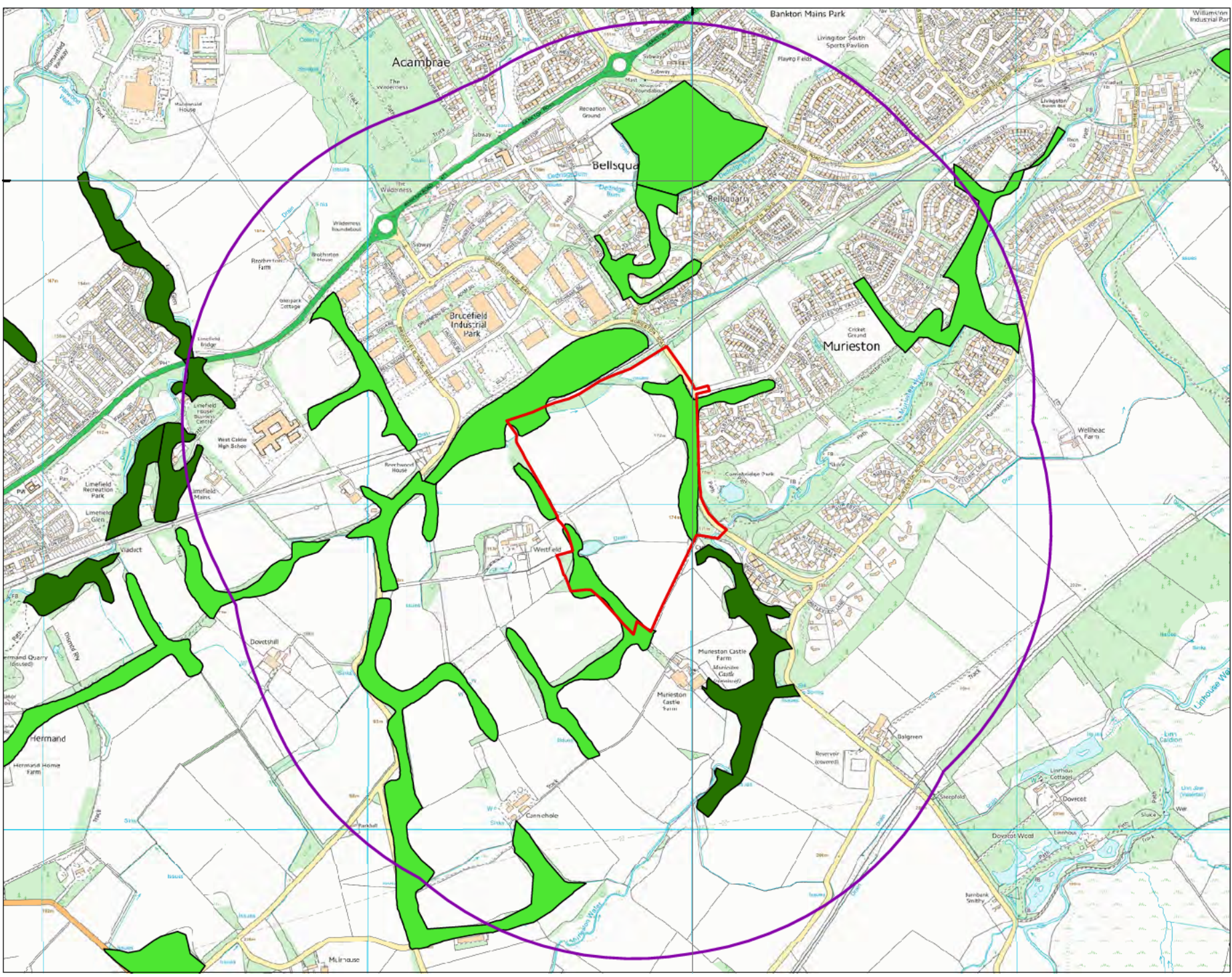
Alnus glutinosa
Poa annua
Fraxinus excelsior
Geum urbanum
Fagus sylvatica
Agrostis tenuis
Betula pendula
Rubus fruticosus
Ranunculus repens
Trifolium repens
Dactylis glomerata
Anthriscus sylvestris
Rumex obtusifolius
Sambucus nigra
Ulmus procera
Arrhenatherum elatius
Dryopteris sp.
Fumitory officinalis
Prunus avium
Ulex europaeus
Aegopodium podagraria
Crataegus monogyna
Lonicera periclymenum
Hedera helix
Tilia platyphyllos
Urtica dioica
Acer platanoides
Quercus petraea
Plantago lanceolata
Potamogeton sp.
Ligustrum vulgare
Typha latifolia
Rosa canina
Chamaenerion angustifolium
Pinus sylvestris
Symphoricarpos albus
Juncus effusus
Rumex acetosa
Acer pseudoplatanus
Cirsium arvense
Deschampsia flexuosa
Salix sp.
Holcus lanatus



Appendix 3

TWIC data

Designated sites



Ancient Woodland

Site
Murieston
Grid Reference
NT048640

Legend
Ancient Woodland
ANTIQUITY
 Ancient (of semi-natural origin)
 Long-Established (of plantation origin)

N

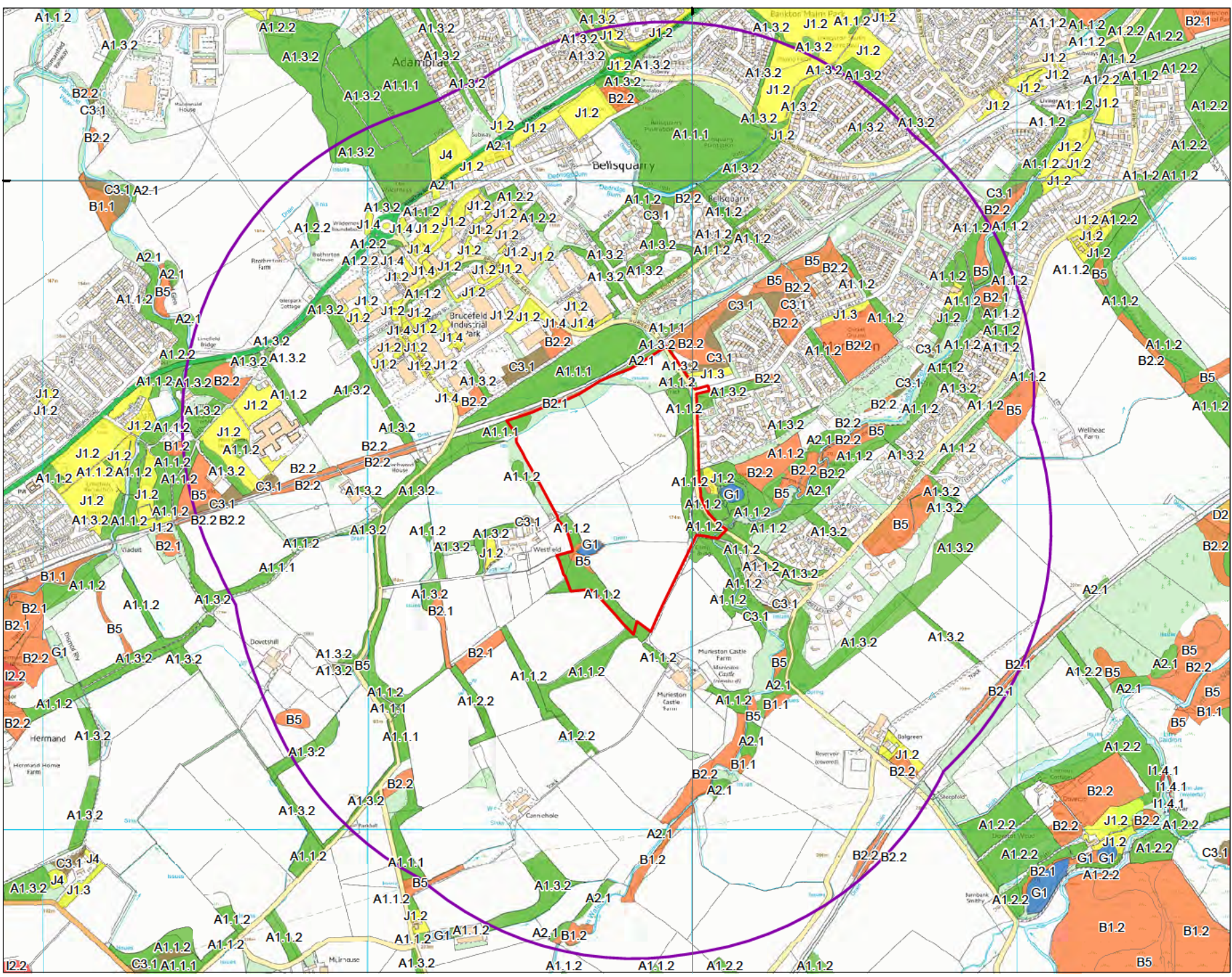
 Date: 30 September 2014



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Phase 1 Habitats

Site
Murieston
Grid Reference
NT048640

- Legend**
- Phase 1 Habitat Groups**
- Woodland and scrub
 - Grassland and marsh
 - Tall herbs and fern
 - Heathland
 - Mire
 - Swamp, marginal & inundation
 - Open Water
 - Coastal
 - Rock exposure and waste
 - Miscellaneous

N

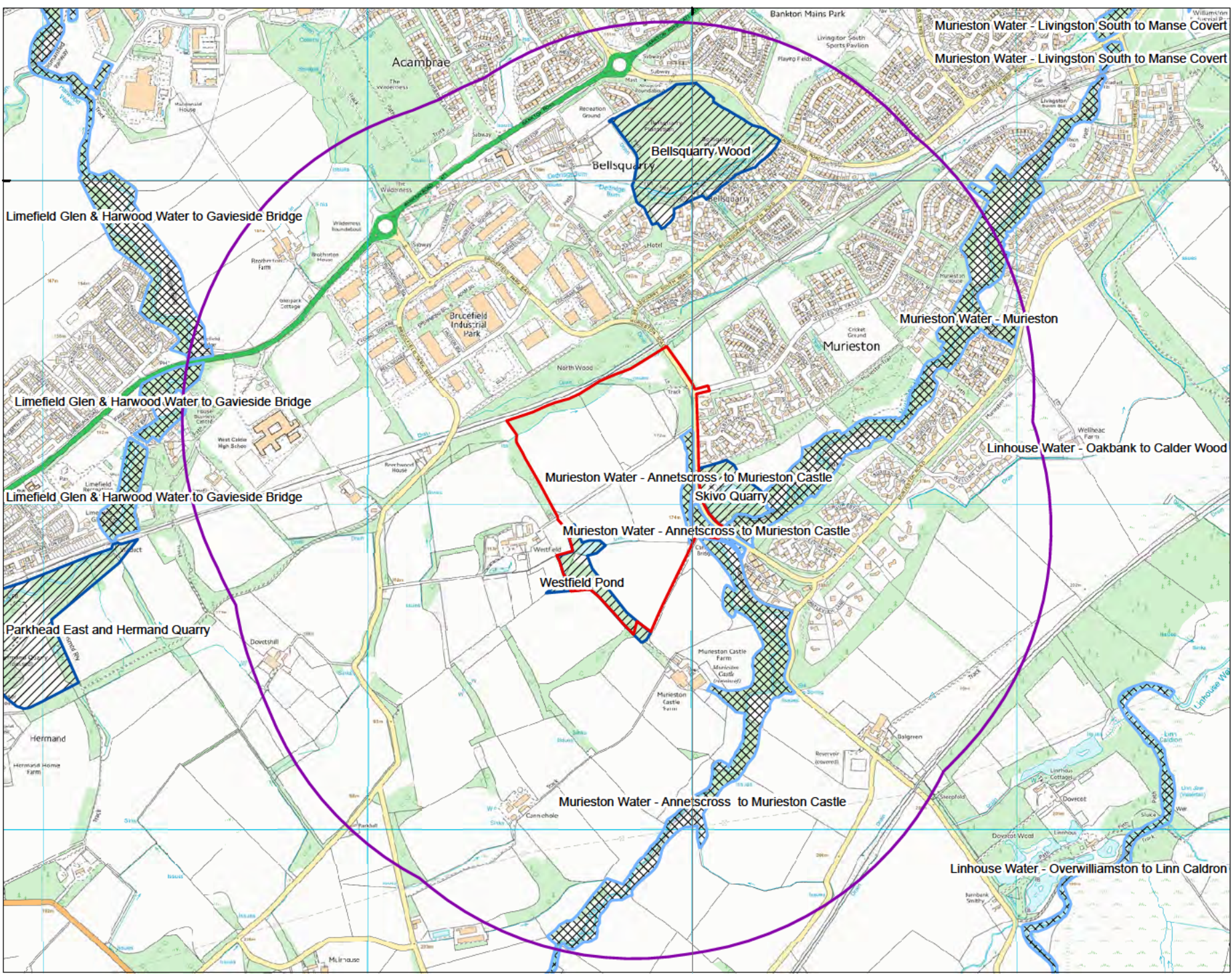
Date: 30 September 2014



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LBS

Site
Murieston
Grid Reference
NT048640

Legend

STATUS

-  LBS
-  Proposed LBS



Date: 30 September 2014



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