Phase 1 Habitat Survey
Wanstead Muster, Briefing and Deployment Centre

Metropolitan Police Authority

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WSP Environment & Energy
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
http://www.wspgroup.com

Contents

Executive Summary

This report is based on the findings of a Phase 1 habitat survey and constraints study across part of Wanstead Flats Park in north-east London, undertaken by WSP Environmental Ltd in November 2009 on behalf of the Metropolitan Police Authority (MPA). A small area of Wanstead Flats Park is the proposed location of a muster, briefing and deployment centre (MBDC) for the police, for use during the 2012 Olympic and Paralympic Games. The MBDC will be the subject of a planning application to be submitted in 2010 and this report has been prepared to help identify any potential ecological constraints to the proposals. A red-line boundary for the MBDC has been provided for the purposes of this assessment (Figure 3) and the extent of the MBDC is referred to in this report as 'the Application Site'.

The Application Site comprises open grassland with evidence of recent disturbance. It is located in the south-east of Wanstead Flats Park, between a large pond (Jubilee Pond) and an area of tussocky grassland which forms part of the Epping Forest Site of Special Scientific Interest (SSSI).

The habitat within the Application Site is not of significant wildlife value and does not provide suitable habitat for protected species. However, the Applications Site is close to habitats of high wildlife value which, in the absence of appropriate safeguards, could potentially be impacted by the proposed future use of the Application Site.

This report recommends a number of measures which should be adopted to ensure potential adverse impacts to wildlife are avoided. These include the protection of the trees that are to the south of the Application Site boundary; the sensitive removal of the reptile refuge from the site boundary at the appropriate time of year (mid-March to mid-June); and the adoption of a drainage system for the Application Site to minimise the risk of pollution to adjacent aquatic ecosystems.

Potential impacts arising from the construction and operation of the site have been assessed and it is considered that, with the adoption of the recommendations within this report, no significant adverse effects to wildlife are likely to arise as a result of the proposed MBDC site.

Recommendations for the re-instatement of the ground to a grassland habitat after use have been made. This should include re-seeding with a native grassland seed mix.

1 Introduction

1.1.1 WSP Environmental Ltd was instructed by the Metropolitan Police Authority (MPA) in October 2009 to carry out a Phase 1 habitat survey of an area of land within the London Borough of Redbridge. This land is herein referred to in this report as 'the Application Site'.

1.1.2 The Application Site is located in the north-east of London in the London Borough of Redbridge, and comprises approximately 3 ha of land, centred at Grid Reference TQ 402 863. The site is entirely within the Wanstead Flats Park (Figure 1).

1.1.3 The aim of this study was to provide a description of the existing habitat types, to determine the existence and location of any ecologically valuable areas and to identify the potential presence of any protected species. In addition to a field survey, a consultation exercise has been carried out to obtain records of species and information about sites and habitats at the application site and in the surrounding area. The survey included all land within the red-line boundary as depicted in Figure 2 and was extended to include semi-natural habitats within 30m of the site boundary, where accessible.

1.1.4 The Application Site is the proposed location of a muster, briefing and deployment centre (MBDC) for the police, for use during the 2012 Olympic and Paralympic Games. The site will accommodate a parking area, horse stables, welfare facilities, a cafeteria and a briefing area. The site would be operational for 90 days. The MBDC will be the subject of a planning application to be submitted in 2010. An approximate red-line boundary for the MBDC has been provided for the purposes of this assessment (Figure 2).

2 Methodology

2.1 DESK STUDY

2.1.1 The purpose of the desk study was to collect baseline ecological data held by statutory and non-statutory consultees. This included any records of species from the site and surrounding area (that may not be present or detectable at the time of survey).

2.1.2 Information has been requested from Greenspace Information for Greater London (GIGL) for the site itself, and a 2 km study area around the site in line with standard guidelines (IEMA, 1997).

2.1.3 A review of the National Biodiversity Network Gateway database has been undertaken to search for publicly available records of protected species (http://data.nbn.org.uk).

2.1.4 Ecological constraints in the area have been mapped on Figure 1.

2.2 PHASE 1 HABITAT SURVEY

2.2.1 A Phase 1 habitat survey was undertaken with reference to the Handbook for Phase 1 habitat survey (JNCC, 2007; revised re print 2004) to establish the presence and distribution of habitat types within the site and identify potential ecological constraints to development.

2.2.2 A walk-over field survey of the entire site was carried out on 19th November 2009 in dry weather conditions. The timing of the survey was outside of the optimal season for grassland habitat assessment (which runs from April – September), but because of the types of habitat on site, it was possible to identify and classify the broad habitat types during the survey. The timing of the survey is not considered to be a significant constraint to the survey findings. The dominant plant species were recorded and habitats classified according to their vegetation types and presented in the standard Phase 1 habitat survey format with habitat descriptions and a habitat map (Figure 2) with Target Notes (TN), listed in Appendix A.

Protected Species

2.2.3 It should be noted that this Phase 1 habitat survey does not constitute dedicated protected species surveys. However, the survey was extended to consider the potential suitability of the site for protected and rare species. Due to the types of habitats within the site, particular consideration was given to the potential for the site to support great crested newts (*Triturus cristatus*) breeding birds, badger (*Meles meles*), bats (*Chiroptera* sp.) and reptiles. Invasive species were also searched for. The search techniques adopted in the survey to search for these species are detailed below.

Birds

2.2.4 Bird species seen or heard during the survey were recorded although it should be noted that, due to the seasonal timing of the habitat survey (winter), no information relating to breeding birds was collected.

Badgers

2.2.5 Field evidence of badgers is visible year-round and it was possible to undertake a full badger survey of the site and within a 30m radius of the site during the Phase 1 habitat survey. The following evidence of badger activity was searched for during the habitat survey:

- presence of holes with evidence of badgers such as footprints, discarded hair, etc.;
- presence of dung pits or latrines; and
- presence of well used runs with subsidiary evidence of badger activity (e.g. foraging or footprints).

Bats

During the Phase 1 habitat survey, a preliminary assessment of the suitability of the site for roosting and foraging bats was undertaken. It is not possible to determine presence/absence of bats during a day-time site assessments or during the winter.

Reptiles

2.2.6 Suitable habitat for reptiles such as long grass, scrub, woodland, hedgerows and wood/rubble piles was noted where found. Reptiles are not active during the winter and so actual sightings of reptiles would not occur.

Invasive Weeds

2.2.7 Invasive weeds were searched for during the survey and recorded where found. Whilst most invasive weed species are visible year round, small patches or newly 'cut' areas may be overlooked during winter surveys since the young shoots and re-growth is not present.

Notes and Limitations

2.2.8 Standard notes and limitations for WSP Environmental ecological survey work are presented in Appendix B.

3 Baseline Conditions

3.1 DESK STUDY

3.1.1 Relevant ecological records returned by GIGL and obtained from the NBN database are discussed below and the locations of designated wildlife sites are illustrated on Figure 1.

Statutory Designated Sites

3.1.2 Part of the Epping Forest Site of Special Scientific Interest (SSSI) lies within 100m of the proposed site boundary. The Epping Forest SSSI comprises several different land parcels which amount to a total of 1728 hectares of woodland, grassland and heathland habitat that stretch across Essex and Greater London. The part of the SSSI that falls within Wanstead Flats Park is known as unit 37 of the SSSI and is the southernmost part of Epping Forest. It is designated for its lowland acid grassland habitat and is in an unfavourable but recovering condition following fire damage (according to Natural England condition assessment, naturalengland.org.uk, last assessment dated 2006).

3.1.3 The Epping Forest Conservators have advised the MPA that they intend to expand the existing boundary of the SSSI by 2012. Figure 2 shows the proposed new SSSI boundary alongside the existing boundary.

Non-statutory Designated Sites

3.1.4 Wanstead Flats Park (including the Application Site), Wanstead Park and Bush Wood are all designated under the Epping Forest South Site of Metropolitan Importance for Nature Conservation (SMINC). The SMINC contains some of London's most extensive acid grassland, alongside areas of ancient woodland, wetland and scrub habitat.

3.1.5 A number of cemeteries are present within 2km of the Application Site and these are designated as Sites of Borough Importance and Local Importance. These include Manor Park Cemetery, Woodgrange Park Cemetery, West ham Cemeteries and St Patrick's Cemetery. There is also a now disused, former Redbridge sewage works that has been designated to be of Borough Importance for Nature Conservation. These sites are generally important for their assemblage of semi-improved grassland, scrub and mature trees.

3.1.6 The River Roding runs south along the east of Wanstead Park, over 2km from the Application Site. This is a Site of Metropolitan Importance.

3.1.7 With the exception of the Epping Forest South SMINC, none of these non-statutory designated sites have any potential to be impacted by activity at the Application Site, due to their distance from the site and the small scale of the proposed works at the Application Site.

Species Records

Legally protected species

Amphibian and Reptiles

3.1.8 No records for amphibians or reptiles were returned from GIGL. The NBN database shows that historic records for great crested newts, grass snake and slow worm exist from the approximate area (1km grid square data), but these date from the early 1980's and the absence of more recent records suggests that reptiles may no longer be present[1].

Mammals

3.1.9 There are no records of badger (*Meles meles*) from the area.

3.1.10 There are records of water vole (*Arvicola terrestris*) from the local area, including records from the River Roding approximately 2km east of the Application Site. There are also records from 2002 that are approximately 300m west of the Application Site. The grid reference for these records is not provided, but the only aquatic habitat in this approximate location is Jubilee Pond. The pond appears to be sub-optimal for this species, and their recorded presence is surprising. Water voles are a legally protected species, a UK BAP Priority species and a London BAP priority species.

[1] Although an absence of recent records may also be due to an absence of recent recording effort in the area.

3.1.11 There are records of six species of bat in the local area. These are common and soprano pipistrelles (*Pipistrellus pipstrellus* and *P. pygmaeus*); noctule (*Nyctalus noctula*), Leisler's Bat (*Nyctalus leisleri*) and Daubenton's Bat (*Myotis daubentonii*). Suitable foraging habitat exists for all six of these species across Wanstead Flats Park and the adjacent parks, cemeteries and river Roding. All bat species are legally protected and the majority of bat species are also Priority species under the UK and London BAP.

UK BAP and local BAP species

Amphibians

3.1.12 Common toad (*Bufo bufo*) is recorded locally, the nearest record is about 900m west of the Application site. Again, Wanstead Flats Park provides suitable habitat for this species, although the records received do not seem to arise from the park.

Mammals

3.1.13 There are records for hedgehog (*Erinaceus europaeus*) in the local area and the nearest is approximately 800m south east of the Application Site (perhaps from West Ham Cemetery). Hedgehog are not legally protected but are a UK BAP and London BAP Priority species. Wanstead Flats Park provides suitable habitat for this species, although the records received do not seem to arise from the park.

Birds

3.1.14 Eight UK BAP or London BAP bird species of have been recorded within the local area and are therefore assumed to be present on Wanstead Flats Park. These are presented in table 1 below.

Table 1: Bird species records from the Wanstead Flats Park area

Common Name	Scientific Name	Status	Approximate distance and direction from Application Site
Skylark	(*Alauda arvensis*)	BAP Priority London	350m N
Hedge Accentor	(*Prunella modularis*)	BAP Priority London	423 NE
Song Thrush	(*Turdus philomelos*)	BAP Priority London	350 N
Common Starling	(*Sturnus vulgaris*)	BAP Priority London	350 N
House sparrow	(*Passer domesticus*)	BAP Priority UK BAP Priority London	423 NE
Common Linnet	(*Carduelis cannabina*)	BAP Priority London	350 N
Common Bullfinch	(*Pyrrhula pyrrhula*)	BAP Priority London	423 NE
Yellowhammer	(*Emberiza citronella*)	BAP Priority UK BAP Priority London	350 N

3.1.15 No other UK or Local BAP species were recorded that are potentially relevant to the Application Site

3.2 FIELD SURVEY

HABITAT DESCRIPTIONS

3.2.1 The Phase 1 habitat survey map is shown on Figure 2. The habitat descriptions below should be read in conjunction with this plan and the TNs in Appendix A. An indicative plant species list is provided in Appendix C (nomenclature follows Stace, 1997).

General Description

3.2.2 The Application Site, located within Wanstead Flats Park, comprises improved and semi-improved grassland and is generally of low ecological value. Outside the Application Site boundary are habitats of high ecological value, including a pond, mature trees and tussocky grassland habitat. There was some standing water in shallow swales across the site at the time of survey (which was in November, following heavy rain).

Semi-improved grassland and scrub matrix

3.2.3 Wanstead Flats Park supports tussocky, acid grassland habitat with patches of gorse (*Ulex eropaeus*) and broom (*Cytisus scoparius*) scrub. This grassland habitat is present immediately north of the Application Site. Dominant grasses recorded during this winter survey included crested dog's-tail (*Cynosurus cristatus*), cock's-foot (*Dactylis glomeratus*), common bent (*Agrostis capillaris*), red fescue (*Festuca rubra*) and perennial rye-grass (*Lolium perenne*). This grassland is evidently semi-improved (and may even be unimproved in some parts of the Wanstead Flats Park) and is managed in an extensive manner to allow for a greater structural and species diversity than typical, improved grassland habitats. Herb species recorded include yarrow (*Achillea millefolium*), red clover (*Trofolium repens*), common sorrel (*Rumex acetosa*), bugle (*Ajuga reptans*) and common cat's ear (*Hypochaeris radicata*).

3.2.4 Some tall ruderal plants such as teasel (*Dipsacus fullonum*), nettle (*Urtica dioica*) and creeping thistle (*Cirsium arvense*) are present where regular mowing does not occur, such as within a dry ditch that runs close to the northern boundary of the Application Site (TN1), around patches of scrub and along a grassy bank which lies between the Application Site boundary and Jubilee pond to the south-west (TN2). The tall ruderal habitat is an integral part of the tussocky grassland and has not been mapped separately on the Phase 1 habitat map (Figure 2).

Improved grassland

3.2.5 There is a transition from the un-disturbed, semi-improved grassland outside of the Application Site to the disturbed, improved grassland within the Application Site. Most notably, there is visible evidence of previous uses of the site (which has included regular use by a fun fair) across the majority of the grassland within the Application Site. This is in the form of patches of loose gravel substrate and areas of compacted bare earth through which the recent re-establishment of sparse grassland vegetation is evident. The shallow, dry ditch at TN1 marks a clear division between this disturbed grassland and the adjacent undisturbed grassland along the northern boundary of the site. To the south, east and west, the distinction is less clear-cut, although it is obvious that the patches of grass towards the edges of the park that have not been disturbed.

3.2.6 Whilst the plant species recorded within the Application Site are largely the same as elsewhere on Wanstead Flats Park, there is a noticeably higher proportion of perennial rye grass and common dandelion (*Taraxacum agg*.), both indicative of higher nutrient levels, and less abundant common bent and fescue. There is virtually no tussocky grassland within the Application Site and no gorse or broom scrub habitat. It is possible that this area has been re-seeded with a standard amenity grassland mix at some point in the past.

Jubilee Pond

3.2.7 Jubilee Pond is located in the south-west corner of Wanstead Flats Park (TN3). It lies outside of the Application Site and is approximately 60 metres from the Site boundary at its nearest point. The pond is a former boating lake which was restored into a wildlife pond in 2002. It is a large pond (approximately 0.85 hectares) and supported abundant wildfowl at the time of survey, including Canada geese, mallards, coots and gulls. An information board adjacent to the pond states that tufted duck and moorhen also frequent the pond.

3.2.8 Although winter is sub-optimal for recording aquatic vegetation, the presence of submerged and marginal vegetation was noted. This included a pond-weed species (*Potamogeton sp)* and soft-rush (*Juncus effusus)*.

3.2.9 A gravel path runs around the edge of the pond and there is long, tussocky grassland on either side of the path. Some tall ruderal species recorded in this area include goat's rue (*Galega officinalis*) and mugwort (*Artemisia vulgaris*).

3.2.10 The pond is partially screened from the rest of Wanstead Flats Park by an earth bund that is covered in tussocky grassland and some gorse scrub (TN2). The bund is approximately 12m from the red-line boundary.

3.2.11 Jubilee pond is not suitable for breeding great crested newts due to the very high waterfowl population and the presence of fish. The low suitability of the pond combined with the absence of suitable terrestrial habitat in the Application Site means that the presence of great crested newts on the Application Site is considered unlikely.

Scattered trees

3.2.12 There are no trees within the Application Site. Semi-mature and mature trees are present close to the Site boundary. These are predominantly mature London plane (*Platanus x hispanica*) interspersed with common lime (*Tilia x europaeus*) and ash (*Fraxinus excelsior*), which line the boundaries of Wanstead Flats Park. Directly south of the proposed site is a small copse of semi-mature oak with a holly understorey (TN4). A semi-mature oak copse is also present to the north of the site (TN5).

3.3 CONSIDERATION OF SPECIES

Reptiles

3.3.1 The Application Site itself does not support suitable reptile habitat as the grass is too short and sparse to provide sufficient cover. It is possible that reptiles may bask along the grassy bank which lies between the site and Jubilee pond (TN2), and reptiles may also move across the park using the ditch to the north of the site.

3.3.2 A large pile of grass clippings was present at TN6 (approximately location only) and appears to be on or near to the boundary of the Application Site. This provides a suitable hibernation habitat for reptiles such as grass snake (*Natrix natrix*) and slow worm and may also provide suitable egg-laying habitat for grass snake.

3.3.3 Only historic records for reptiles exist from the local area and this may be due to a genuine absence of reptiles, but may also simply be due to an absence of recent surveys in the local area.

3.3.4 All UK reptiles are protected by the Wildlife and Countryside Act 1981 (as amended) by part of Section 9(1) and all of Section 9(5). This means that they are protected against killing and injuring (but not 'taking') and against sale and transporting for sale.

Bats

3.3.5 Wanstead Flats Park is likely to be an important foraging habitat for local bat populations due to the range of habitats present that support abundant insect populations. These include Jubilee Pond, mature trees, scrub and tussocky grassland. It is also possible that bats may roost within some of the more mature trees in the Park. The absence of artificial lighting in the park is also likely to be attractive to those bat species that are light-sensitive (such as Daubenton's bat, which has been recorded locally).

3.3.6 The Application Site itself does not support any trees (and so has no roosting potential for bats) and the grassland is not significant to foraging bats. However, lighting impacts arising on the site could affect bats foraging in the vicinity of the site.

Birds

3.3.7 The Application Site does not provide suitable nesting habitat for birds, since it does not support trees, scrub habitat or long, tussocky grassland. The surrounding habitats within Wanstead Flats Park are suitable for nesting birds and this includes the six London BAP Priority Species that have been recorded in the local area. Of particular interest are the records for skylark, which are a ground nesting bird that has been recorded nesting within the north of Wanstead Flats Park.

3.3.8 The Application Site provides overwintering foraging habitat for birds in the form of open, wet grassland with puddles of standing water during wet weather. Rooks (*Corvus frugilegus*) were observed feeding on the Application Site during the survey and it is likely that the Application Site will also be attractive to overwintering waterfowl. However, the main features of significance to overwintering birds at Wanstead Flats Park are the ponds, tussocky grassland and scrub habitat found throughout the park.

Table 2: Bird species recorded in and surrounding the Application Site during the Phase 1 habitat survey (November 2009).

Common name	Scientific name
Rook	*Corvus frugilegus*
Starling	*Sturnus vulgaris*
Coot	*Fullica atra*
Mallard	*Anas platyrhynchos*
Gull	*Species not identified*
Canada goose	*Branta canadensis*

3.3.9 These are anecdotal records only and do not constitute a bird survey.

Amphibians

3.3.10 The Application Site does not provide suitable terrestrial habitat for amphibians, as the grassland sward is too sparse to provide shelter for them. Jubilee pond to the west of the Application Site is not suitable for breeding great crested newts.

3.3.11 A smaller, ephemeral pond is present approximately 260m south-east of the Application Site and this is potentially suitable for great crested newts, although it may be dry during the critical breeding season (March-June), which would render it unsuitable for breeding newts. This pond is not relevant to the Application Site as it is separated from the application site by the A114 which runs through the centre of Wanstead Flats Park.

3.3.12 No records have been returned for great crested newts within 2km of the Application Site. Common toad, a UK BAP Priority species, is present locally and suitable terrestrial and aquatic habitat exists within Wanstead Flats Park for this species, although the habitat within the Application Site itself is not suitable.

Invertebrates

3.3.13 Mature trees and aquatic habitats are of particular value to invertebrates and Wanstead Flats Park is likely to be of high invertebrate value. However, the Application Site area is of considerably less value than the surrounding grassland due to the sparse grassland sward and previously disturbed nature of the ground. The value of this grassland to invertebrates is considered to be low.

Badgers

3.3.14 The site contains suitable foraging habitat for badgers (in the form of open grassland), but no evidence of badgers was recorded on or adjacent to the Application Site and no records of badgers exist for the local area. Badgers are therefore assumed to be absent from the site.

Water vole

3.3.15 Water vole has been recorded locally, including a record in 2002 that is presumed to be from Jubilee Pond (although the habitat at the pond is only sub-optimal for this species). The Application Site does not contain any suitable habitat for water vole.

Other mammals

3.3.16 Rabbits and urban foxes are likely to be present across Wanstead Flats Park, including the Application Site. These species are not currently of conservation concern.

Invasive species

3.3.17 No invasive species were recorded on the site.

4 Discussion and Recommendations

4.1 OVERVIEW OF DEVELOPMENT PROPOSALS

4.1.1 The muster, briefing and deployment centre (MBDC) will accommodate a parking area, horse stables, welfare facilities, a cafeteria and a briefing area. Access into the site will be via the A114 (Centre Road) immediately east of the site. The MBDC will take approximately four weeks to construct and will be operational for 90 days, after which the Site will be restored back to its current status and use. The surface is already semi-compacted and it will be supplemented with heavy duty tracking where necessary.

4.2 FURTHER SURVEY RECOMMENDATIONS

4.2.1 With the exception of a potential reptile refuge, which is discussed in section 4.3.2 below, there is no potential for protected species to be using the Application Site. Therefore, provided that adverse impacts to surrounding sensitive habitats can be avoided (see below), no further ecological surveys of the site are necessary.

4.3 RECOMMENDATIONS FOR HABITAT RETENTION, PROTECTION AND RE-INSTATEMENT

Construction

4.3.1 In the absence of control measures the construction of the MBDC could lead to damage or degradation of sensitive habitats that are close to the Application Site, for example through the driving of vehicles over valuable grassland habitat; damage to trees in the vicinity to the application site; or the accidental pollution of Jubilee pond through fuel spills or contamination of surface water run-off. The risk of habitat damage can readily be avoided through the adoption of best-practice measures during the construction phase. Measures of particular importance to safeguarding the ecological value of Wanstead Flats Park are listed below and it is recommended that these are adopted.

- The site should be constructed entirely within the Application Site Boundary and access route. This will ensure that there is no accidental degradation of adjacent tussocky grassland habitats to the north and west of the site or of trees.
- The use of robust protective fencing and clear signage throughout the site is recommended to ensure that vehicles remain entirely within the Application Boundary. The proposed fencing will be of a construction type that does not require excavation for its installation and this will minimise the potential for accidental damage to surrounding habtiats. An arboricultural survey has been commissioned for the Site and the findings of the survey will further inform safe working distances from these trees.
- Suitable and appropriate measures or precautions are taken to avoid any issues relating to fuel spillage. This could involve the use of spill kits (absorbent materials) on site. It is understood that grey and black water generated on the site will be drained to mains sewers.

Reptiles

4.3.2 Specific consideration should be given to the potential for reptiles to be present within the large pile of grass clippings at TN6, if still present at the time of construction. Since this is either within or directly adjacent to the Application boundary (if still present), and provides a suitable refuge for grass snake in particular. If still present at the time of construction, it is recommended that the pile is moved to a different location in the park during warm weather in the period between mid-March and mid-June (to avoid potential disturbance of snakes hibernating over winter, or eggs which are laid in late June/July and hatch in autumn). This will ensure that potential impacts to hibernating or breeding grass snake are avoided as a result of the works, whilst retaining this valuable habitat type within the park.

Operation

4.3.3 **Drainage**: A suitable stock of absorbent materials and drain covers or bungs (i.e. a spill kit) should be held for use in the event of a spillage and staff should be trained in how to deal with spillages on site.

4.3.4 **Lighting:** The operation of the MBDC is likely to require night-time lighting across the complex, and this could potentially affect nocturnal wildlife in the immediate vicinity, including bats which might currently commute over this part of the park, or waterfowl which are likely to roost on the adjacent Jubilee Pond. The lighting has therefore

been designed to avoid any light-spill outside of the Application Site boundary and to minimise sky glow. This will be acheved through the use of luminaries with horizontal cut off. The relatively high (3.4m fence) will also help limit light spillage outside of the site. A post-installation inspection of the lighting should be undertaken to ensure that the lighting has been installed to the intended specification.

4.3.5 **Recreational pressure**: The MBDC is designed to accommodate a large number of people and animals. In particular, police dogs and horses will be held at the Site. Neither horses nor dogs will be exercised in the adjacent park. Wanstead Flats Park is currently used by dog walkers, horse riders and model aircraft flyers, there will be no significant increase in recreational pressures arising from the MBDC.

4.3.6 The notice boards in the park report the current presence of some ground nesting birds including skylark (*Alauda arvensis*), which are of high conservation concern, being a red-listed species and also a UK BAP priority species. If present, ground nesting birds would nest within the tussocky grassland and scrubby areas of Wanstead Flats Park and would generally avoid high levels of human/dog activity. It seems likely that the current uses of the park (dog walking, horse riding and model aircraft flying) already limit the amount of habitat available to ground nesting birds, and any increase in the frequency of disturbance by staff using the MBDC is not considered likely to be significant. However, it is considered good practice to ensure staff using the MBDC are informed of the presence of ground nesting birds and are advised to avoid walking through the parts of the Park that fall within the SSSI and proposed SSSI boundary (which is where the majority of suitable ground nesting habitat exists).

4.3.7 The SSSI is currently in unfavourable but recovering condition and it is suspected that traffic fumes currently impede the recovery of parts of the SSSI to a favourable condition. It is considered very unlikely that the increased traffic resulting from the use of the Application Site as an MBDC could have a significant affect on the SSSI, since the increases would be temporary and the scale of the increases will be insignificant in comparison to the level of traffic that can build up on the surrounding road network (A406. A12, A114 and A116).

Decommissioning

4.3.8 The MBDC is a temporary development. The decommissioning of the site should involve re-instatement in agreement with the City of London. It is recommended that the site is restored to its original condition (which is grassland, albeit with visible evidence of previous uses of the site such as a fun fair and the associated compacted ground), and this could be achieved either through natural regeneration or re-seeding. If the agreed re-instatement is to involve re-seeding of existing grassland areas, we recommend that a native species mix is used and that Natural England are consulted with respect to the type of seed mix that will be used, to ensure that there are no unintended adverse impacts to the adjacent SSSI grassland habitat (for example through the introduction of competitive non-native species or through hybridisation). If grass is to be re-seed, the grass should be watered as required until grass has germinated and a healthy sward has become established.

5 Conclusion

5.1.1 The Application Site comprises open, improved grassland with evidence of recent disturbance. The Site is of no significant wildlife value and does not provide suitable habitat for protected species. However, the Application Site is close to habitats of high wildlife value including the nationally designated grasslands of Epping Forest SSSI immediately north of the site and the Jubilee Pond which lies to the south-east of the site. A pile of grass clippings close to the site boundary forms a suitable refuge for reptiles, which are a protected species.

5.1.2 This report recommends a number of measures which should be adopted to ensure potential adverse impacts to wildlife are avoided. These include the protection of the trees that are to the south of the Application Site boundary; the sensitive removal of the reptile refuge (pile of grass clippings) from the site boundary (if still present) at the appropriate time of year (mid-March to mid-June); and the adoption of spill kits on the site to minimise the risk of pollution to adjacent aquatic ecosystems.

5.1.3 Potential impacts arising from the construction and operation of the site have been assessed and it is considered that, with the adoption of the recommendations within this report, no significant adverse effects to wildlife are likely to arise as a result of the proposed MBDC site.

5.1.4 Recommendations for decommissioning stage have been made. This should include consultation with Natural England should re-seeding be required to ensure that there is no potential for adverse impacts to the adjacent SSSI grassland habitat through out-competition or hybridisation.

6 References

Environment Agency (n.d) Pollution Prevention Guidedlines [Online] Available http://www.environment-agency.gov.uk/netregs/links/63875.aspx [27.Nov.09].

HMSO (1981) The Wildlife and Countryside Act

Institute of Environmental Assessment (1997) Guidelines for Baseline Ecological Assessment

Joint Nature Conservation Committee (JNCC) (2007) Handbook for Phase 1 habitat survey – a technique for environmental audit.

Figure 1 Ecological Constraints Plan

Figure 2 Phase 1 Habitat Plan

Appendix A Target Notes

These target notes relate to Figure 2: Phase 1 Habitat Plan.

Target Note 1: Dry ditch containing relatively long, tussocky grassland and some tall ruderal species.

Target Note 2: Earth bund covered in long, tussocky grassland, potentially suitable for basking reptiles..

Target Note 3: Jubilee Pond

Target Note 4: A small copse of Oak (*Quercus robur*) with a holly (*Ilex aquifolia*) understory.

Target Note 5: A small copse of Oak (*Quercus robur*).

Target Note 6: A large pile of grass clippings forming a potential refuge for reptiles. This may be suitable for hibernating grass snake (*Natrix natrix*) or slow worm (*Anguis fragilis*) and may also provide a suitable egg-laying site for grass snake.

Appendix B Standard Notes and Limitations of Survey

These Notes and Limitations cover ecological work undertaken by WSP Environmental and its sub-contractors. They are additional and complimentary to WSP Environmental's Standard Terms and Conditions, and should be read in association with them.

1. WSP Environmental staff and their sub-consultants have endeavoured to identify the presence of protected species wherever possible on site, where this falls within the agreed scope of works.
2. Up to date standard methodologies have been used, which are accepted by English Nature and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on site. WSP cannot take responsibility where Government, national bodies or industry subsequently modify standards.
3. The results of the survey and assessment work undertaken by WSP Environmental are representative at the time of surveying.
4. WSP Environmental have advised on the optimum survey season for a particular habitat/species prior to undertaking the survey work. However, WSP cannot accept responsibility for the accuracy of surveys undertaken outside this period.
5. WSP Environmental cannot accept responsibility for data collected from third parties.

Optimum conditions for alien species surveys i.e. Japanese knotweed, Giant hogweed and Himalayan balsam, are between the months of April and September inclusive. WSP Environmental have advised on the presence of the species although strategies to deal with their eradication are subject to a separate scope of works

Appendix C Indicative Plant List

Common Name	Scientific Name
Yarrow	*Achillea millefolium*
Common bent	*Agrostis capillaris*
Bugle	*Ajuga reptans*
Mugwort	*Artemisia vulgaris*
Creeping thistle	*Cirsium repens*
Crested dog's-tail	*Cynasurus cristatus*
Broom	*Cytisus scoparius*
Cock's-foot	*Dactylus glomerata*
Teasel	*Dipsacus fullonum*
Red fescue	*Festuca rubra*
Ash	*Fraxinus excelsior*
Goat's rue	*Galega officinalis*
Common cat's-ear	*Hypochaeris radicata*
Holly	*Ilex aquifolium*
Soft rush	*Juncus effusus*
Perennial rye grass	*Lollium perenne*
Buck's-horn plantain	*Plantago coronopus*
Ribwort plantain	*Plantago lanceolatus*
London plane	*Platanus x hispanica*
Pomatogeton sp.	*Pondweed sp.*
Pedunculate oak	*Quercus robur*
Common sorrel	*Rumex acetosa*
Broad-leaved dock	*Rumex obtusifolius*
Alexander's	*Smyrnium olusatrum*
Dandelion	*Taraxacum agg.*
Red clover	*Trifolium pratense*
Gorse	*Ulex europaeus*
Nettle	*Urtica dioica*
Common vetch	*Vicia sativa*