



Access to Halsnead Garden Village

Environmental Constraints Report

May 2017

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	19/05/17	L. Bagshaw	C. Stanford /J. Stephenson	L. Strickland	First Issue for comment
B	22/05/17	L. Bagshaw	C. Stanford /J. Stephenson	L. Strickland	Client comments

Document reference: 382112 | 1 | A

Information class: Standard

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Executive summary

Mott MacDonald has been commissioned by Knowsley Metropolitan Borough Council, to undertake environmental assessment in support of the development of an Outline Business Case (OBC), for the Access to Halsnead Garden Village scheme. This environmental constraint report provides an assessment and review of the environmental and ecological features surrounding the study area, to inform on any potential constraints which may influence the proposed scheme.

The environmental baseline has been established using publicly-available information, and captured within Geographic Information Systems (GIS), to produce environmental risk maps. These maps highlight the location of any high-risk constraints within the site and 500m surrounding the site boundary.

In addition, the presence of any environmental planning constraints has been assessed. As the scheme progresses the design development will need to consider these planning constraints, and consult with the relevant stakeholders as required, to ensure environmental issues are fully considered and incorporated into the design.

Flood risk is present both within the site boundary and the 500m buffer surrounding the site extent. The scheme design will need to incorporate and mitigate for this risk and give consideration to the potential for future risk, due to the predicted effects of climate change and frequency of flood events occurring. The scheme will also need to demonstrate that the works would not cause an increase in flooding elsewhere. A Flood Risk Assessment would form part of this process, to be produced to accompany the planning submission.

There are no significant high level ecological constraints present within 500m of the site boundary, nor are there any within the immediate area. However, due to the scale of the proposal a Preliminary Ecological Appraisal (PEA) will be required, in order to establish an accurate representation of the ecological baseline of the Scheme area.

The presence of Ancient Woodland within the site boundary will require specific mitigation measures, a 15m buffer zone around the areas of woodland is recommended to ensure root systems are not impacted by the proposed works.

A Ground Investigation (GI) is recommended in order to more fully assess the potential risk posed by the mine entries within the site boundary, and also identify the presence of any potentially contaminated land present on site.

Abbreviations

Abbreviation	Definition
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
CIEEM	Chartered Institute of Ecology and Environmental Management
DEFRA	Department for Environment, Food, and Rural Affairs
EA	Environment Agency
GB	Great Britain
GI	Ground Investigation
GIS	Geographical Information Systems
JNCC	Joint Nature Conservation Committee
LNR	Local Nature Reserve
LPA	Local Planning Authority
MAGIC	Multi-Agency Geographical Information for Countryside
NIA	Noise Important Area
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
OBC	Outline Business Case
OS	Ordnance Survey
PPG	Planning Policy Guidance
RoFRS	Risk of Flooding from Rivers and Seas
SAC	Special Area of Conservation
SM	Scheduled Monument
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WCA	Wildlife and Countryside Act
WHS	World Heritage Site

1 Introduction

1.1 Background

Mott MacDonald has been commissioned by Knowsley Metropolitan Borough Council, to undertake an environmental assessment in support of the development of an Outline Business Case (OBC), for the Access to Halsnead Garden Village scheme. This environmental constraint report provides an assessment and review of the environmental and ecological features surrounding the study area, to identify potential constraints which may influence the design of the proposed scheme. The site location is shown in Figure 1.

The primary objectives of the scheme are as follows:

- To create nine new road junctions to accelerate the development of housing and employment centres within the Halsnead Garden site; and,
- To improve seven of the existing road junctions around the periphery of the development land.

Figure 1: Site location plan



Source: ArcGIS, Esri OpenStreetMap

1.2 Scope of the Report

The purpose of this report is to provide an initial assessment (using publicly available information) of the environmental and ecological features both within, and surrounding the site boundary. A buffer of 500m around the site boundary has been applied. This buffer is applied to capture any features outside of the site extent which may be influenced by the proposed works. Given the nature of the scheme, and the sensitivity of the local area, 500m is considered an appropriate distance, and has been widely used in other transportation schemes.

The aims of the assessment are to:

- Collate available desk-based information on the environmental baseline conditions within the study area and the buffer zone;
- Identify and assess the sensitivity of any environmental sites, features or constraints within the site boundary or buffer zone;
- Capture environmental baseline information within ArcGIS;
- Undertake qualitative risk scoring for the potential impact on any identified environmental sites and features;
- Produce an environmental risk map; and
- Provide recommendations on mitigation measures if required and, as appropriate, more detailed environmental investigations.

1.3 Structure of the Report

The assessment methodology is presented in Section 2 and relevant policy and legislation presented in Section 3. Sections 4 and 5 present the results and interpretation of the assessment. Conclusions and recommendations for further work are in Section 6.

1.4 Limitations

- The extent of the study is based upon the site boundary detailed in Figure 1 above;
- The GIS mapping contains information on environmental constraints obtained through open source datasets and does not contain spatial information on all possible environmental features/receptors within the study area (i.e. Local Wildlife Sites LWS);
- GIS shapefiles for the mine entries were created manually, where data has been manually entered into GIS there may be data gaps, omissions, and/or minor errors in the interpretation of site/feature boundaries;
- The quality of information is limited by that provided by suppliers;
- No detailed OS map interpretation or survey work has been undertaken to inform the GIS analysis;
- The GIS analysis does not contain information on residential properties and individual businesses; and
- The Environmental Risk Map shows the maximum risk score for any given location within the study area and as such does not look at the cumulative effect of multiple risks occurring in one location.

2 Methodology

2.1 Baseline environment

The environmental baseline has been established using publicly available information, such as Ordnance Survey (OS) mapping, local planning policy documentation and environmental data sets from government agencies. The baseline environmental data has been captured within Geographic Information Systems (GIS). The outputs include a series of environmental constraints maps and a summary environmental risk map to highlight the location of all high risk environmental constraints in relation to the site boundary. These maps are contained within Section 4.

The following methods have been implemented in the baseline assessment:

- A review of any existing designated sites and features within 2km of the site boundary;
- Identification of any Special Areas of Conservation (SAC) designated for bats, within 10km of the site; and,
- A review of the information regarding local and national policy, planning and frameworks, and action plans from a range of data sources including: Multi-Agency Geographic Information for the Countryside (MAGIC) (<http://magic.defra.gov.uk/>), and the Joint Nature Conservation Committee (JNCC) (<http://jncc.defra.gov.uk/>).

The following data sources were used to compile information included within the GIS maps:

- The multi-agency Geographic Information for Countryside (MAGIC) website;
- The Environment Agency website;
- Current OS (Landranger 109) and aerial photography;
- DEFRA Air Quality Management Areas (AQMA);
- DEFRA Noise Management website;
- English Heritage – National Heritage List for England;
- Forestry Commission GIS database; and,
- Mott MacDonald Geo-Environmental and Geo-Technical Baseline Assessment, Halsnead Masterplan SPD (January 2017).

This assessment has considered all environmental information present both within the site boundary and the 500m buffer of the site. Section 2.3 details of the constraints which were assessed as part of the environmental baseline assessment.

2.2 Environmental risk mapping

To produce the environmental risk maps, a risk score of between 0 and 10 was assigned to each constraint. Each of the environmental constraints were assessed in the context of the perceived risk(s) posed by a feature to the complexity of any engineered design. Table 1 outlines the qualifying criteria used to determine the individual risk scores. The risk scoring is intended to highlight the potential for risks to the scheme design and is banded from lower to higher risk. Higher risk constraints should be avoided where possible, however, they do not

necessarily prevent the scheme from going forward. Mitigation can be examined to minimise the potential risk. The risk scores assigned to of the environmental constraints considered can be found in full in Appendix A, Table A2.

Table 1: Risk scoring scale

Risk score	Qualification of risk score
0	No perceived risk to engineering design
1 – 4	Lower risk to engineering design (environmental risks can be successfully designed out or mitigated using standard techniques)
5 – 7	Medium risk to engineering design (environmental risks may not be avoided, but can be mitigated/compensated) Likely to require detailed consultation, studies, and/or detailed mitigation measures to mitigate environmental risk
8 – 10	Higher risk to engineering design (environmental risks may not be avoided or adequately mitigated/compensated)

The risk scores were then banded to determine the magnitude of risk as shown in Table 2 below.

Table 2: Risk category definition

Risk	Risk category
High Risk	8 – 10
Medium Risk	5 – 7
Low Risk	1 – 4
No Risk	0

2.3 Desk study GIS data parameters

The purpose of the GIS environmental constraints plan is to present details of environmental constraints which may affect the design of the proposed scheme. The parameters included within the GIS analysis were as follows:

- Designated ecological sites:
 - Special Areas of Conservation (SAC);
 - Special Protection Area (SPA)
 - Ramsar;
 - National Nature Reserve (NNR);
 - Local Nature Reserve (LNR); and
 - Site of Special Scientific Interest (SSSI);
- Cultural heritage features (listed buildings, Scheduled Monuments, World Heritage Sites and conservation Areas);
- Areas of Outstanding Natural Beauty (AONB);
- Registered Parks and Gardens;
- Department for Environment, Food and Rural Affairs (DEFRA) Noise Important Areas (NIA);
- Flood Risk Zone 2 and Zone 3;
- Risk of Flooding from Rivers and Seas (High);

- Agricultural Land Classifications;
- Conservation Areas;
- Bridges and Structures;
- Air Quality Management Area (AQMA);
- Public Rights of Way (PRoWs); and,
- Landfill.

Of the above constraints, the following are categorised as High Risk:

- Flood Zone 3;
- Risk of Flooding from Rivers and Seas (High);
- Special Area of Conservation (SAC);
- Special Protection Areas (SPA);
- Authorised Landfill;
- Site of Special Scientific Interest (SSSI);
- World Heritage Site; and,
- Grade I and Grade II* Listed Buildings.

Of the above constraints, the following are categorised as environmental planning constraints, as they may require consenting or consultation prior to the proposed scheme taking place should they be in close proximity to the works;

- Bridges and Structures;
- Local Nature Reserves;
- Noise Important Areas (provide a framework for the local management of noise);
- Historic Landfill;
- Ancient Woodland;
- Conservation Area; and,
- Country Parks.

Of these constraints, only those found to be present within the study area have been taken forward for further assessment and are displayed on the associated constraints maps and tables.

Additionally, Local Wildlife Sites (LWS) were noted within the search areas, however, no free source GIS information exists for these features. As such they are commented on in the assessment but not mapped.

3 Policy and Planning Legislation

3.1 Environmental legislative context and policy framework

The proposed scheme must comply with a range of international and national environmental legislation; these will need to be considered in more detail as the project progresses. Key pieces of legislation include the following:

- European Community (EC) Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive, 1992) as amended (92/43/EEC);
- EC Directive on the Conservation of Wild Birds (Birds Directive, 1979) as amended (79/409/EEC);
- Wildlife and Countryside Act 1981 (WCA);
- Directive 2008/50/EC on ambient air quality and cleaner air for Europe, as implemented in UK law by the Air Quality Standards Regulations, 2010;
- Environmental Protection Act, 1990;
- The Ancient Monuments and Archaeological Areas Act, 1979;
- Planning (Listed Buildings and Conservation Area Act), 1990;
- Water Resources Act 1991 (as amended 2009) – establishes the regime to conserve, manage and control pollution of water resources; and,
- Water Framework Directive (WFD) (2000/60/EC), as implemented in UK law by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003.

3.2 Planning legislation context

The National Planning Policy Framework (NPPF) and guidance within the Planning Policy Guidance (PPG) form the national policy guidance for development in England. The NPPF (March 2012) sets out the Government's planning policies for England and how these are expected to be applied. The key message of the NPPF is the principle of sustainable development – making economic, environmental, and social progress for this and future generations. The NPPF constitutes guidance for consenting authorities and decision-takers, and is a material consideration in determining planning applications. The NPPF does not change the statutory status of the development plan as the starting point for decision making.

Local Planning requirements will need to be considered as the scheme is developed. The route options lie within the Local Planning Authority of Knowsley Metropolitan Borough Council.

For Knowsley Metropolitan Borough Council, the Local Plan comprises several documents, one of which is the Core Strategy (2016) which sets out how and where new development and regeneration should take place. In doing so it promotes, guides and manages the future development of the borough. The following have been highlighted for their relevance to the scheme:

- SO6: Sustainable Transport: To ensure new development in Knowsley encourages a reduction in the overall need to travel, and prioritises sustainable transport such as; walking, cycling and public transport. This will help to ensure accessibility and linkage between housing areas and employment locations, shopping, leisure, culture, health care, education, community and sporting facilities, green spaces, and other services.

- SO7: Manage Environmental Resources: To manage environmental resources in Knowsley prudently by focusing on sustainable development, recycling and renewable technologies, minimising pollution, reducing carbon emissions and responding to the impacts of climate change.
- Principle 4 of Policy CS 2: Recognise environmental limits, protect and enhance environmental assets, enhance local character and promote quality of place.
- Policy CS 8: Maintenance and enhancement of Knowsley's existing green infrastructure.
- Policy CS 19: Design quality and accessibility in new development.
- Policy CS 20: Managing the Borough's historic environment.
- Policy CS 24: Managing flood risk.
- Policy SUE2: Sustainable Urban Extensions - Development Principles.
- Policy SUE2c: Sustainable Urban Extensions – South of Whiston and Land South of M62.

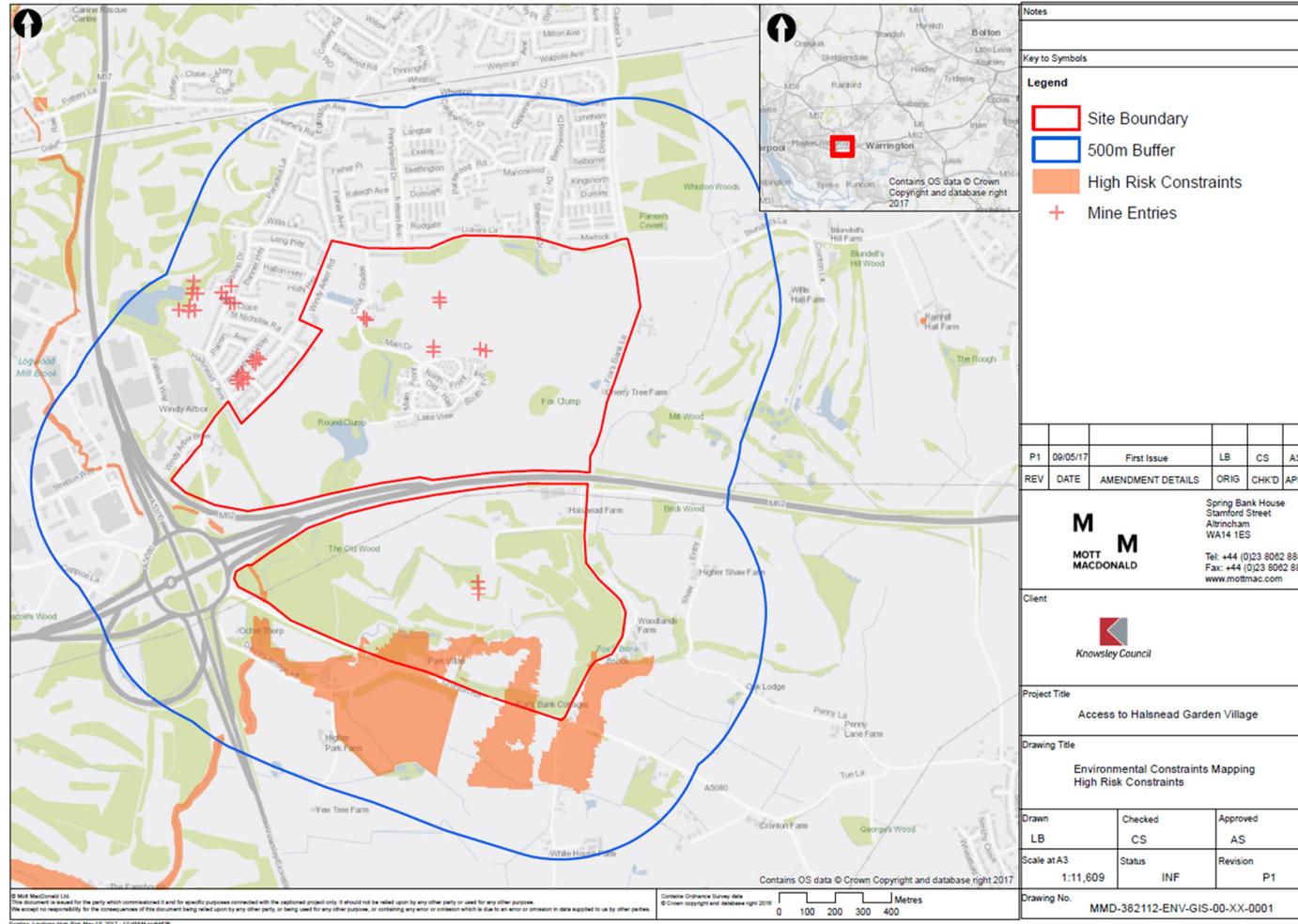
4 Results

4.1 Desk study results

The desk study results are presented below on the following maps to highlight areas which pose a significant constraint to the outlined scheme:

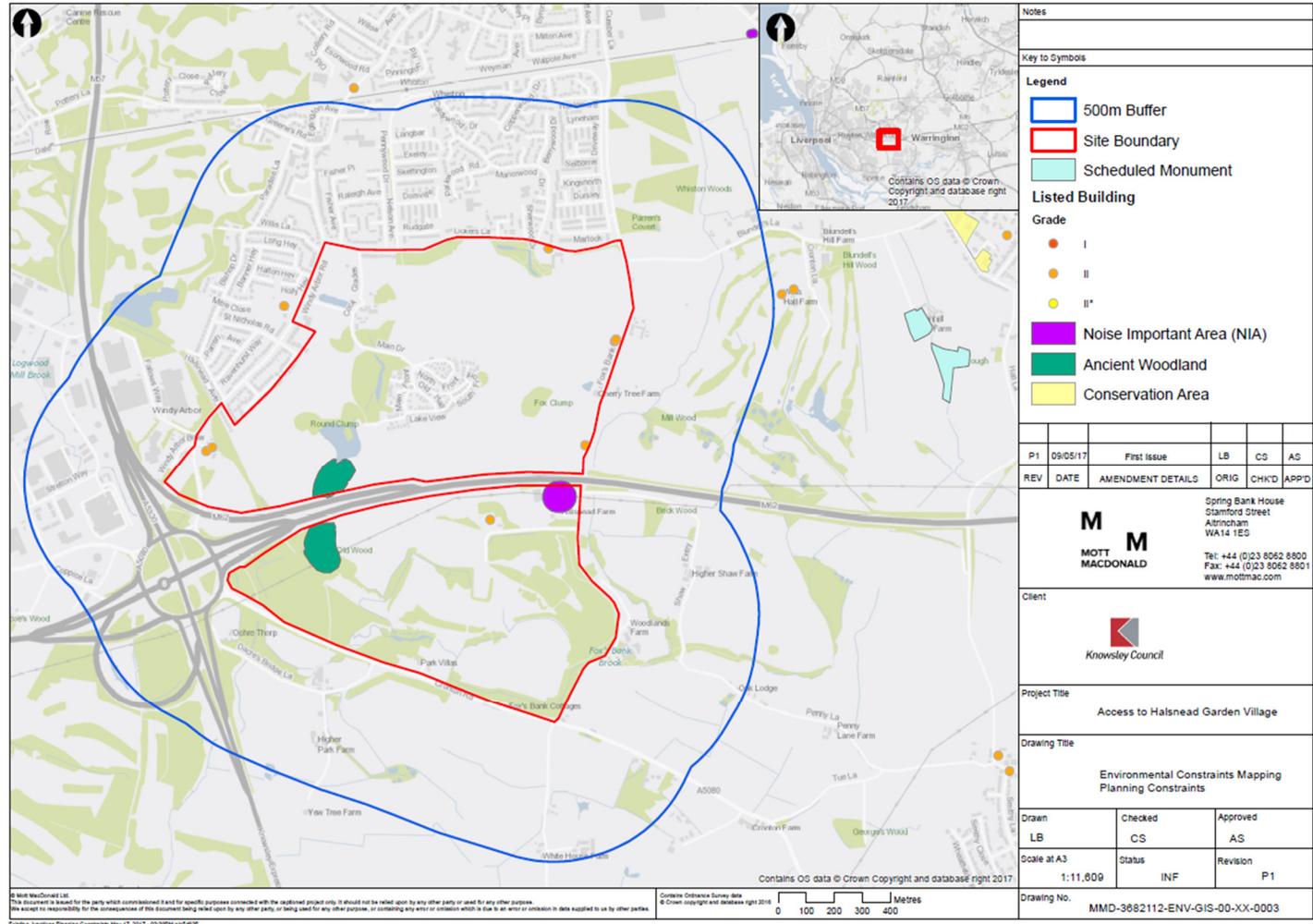
- Figure 2: High risk environmental constraints;
- Figure 3: Planning constraints;
- Figure 4: Environmental and flooding constraints; and
- Figure 5: Ecological constraints.

Figure 2: High Risk Environmental Constraints



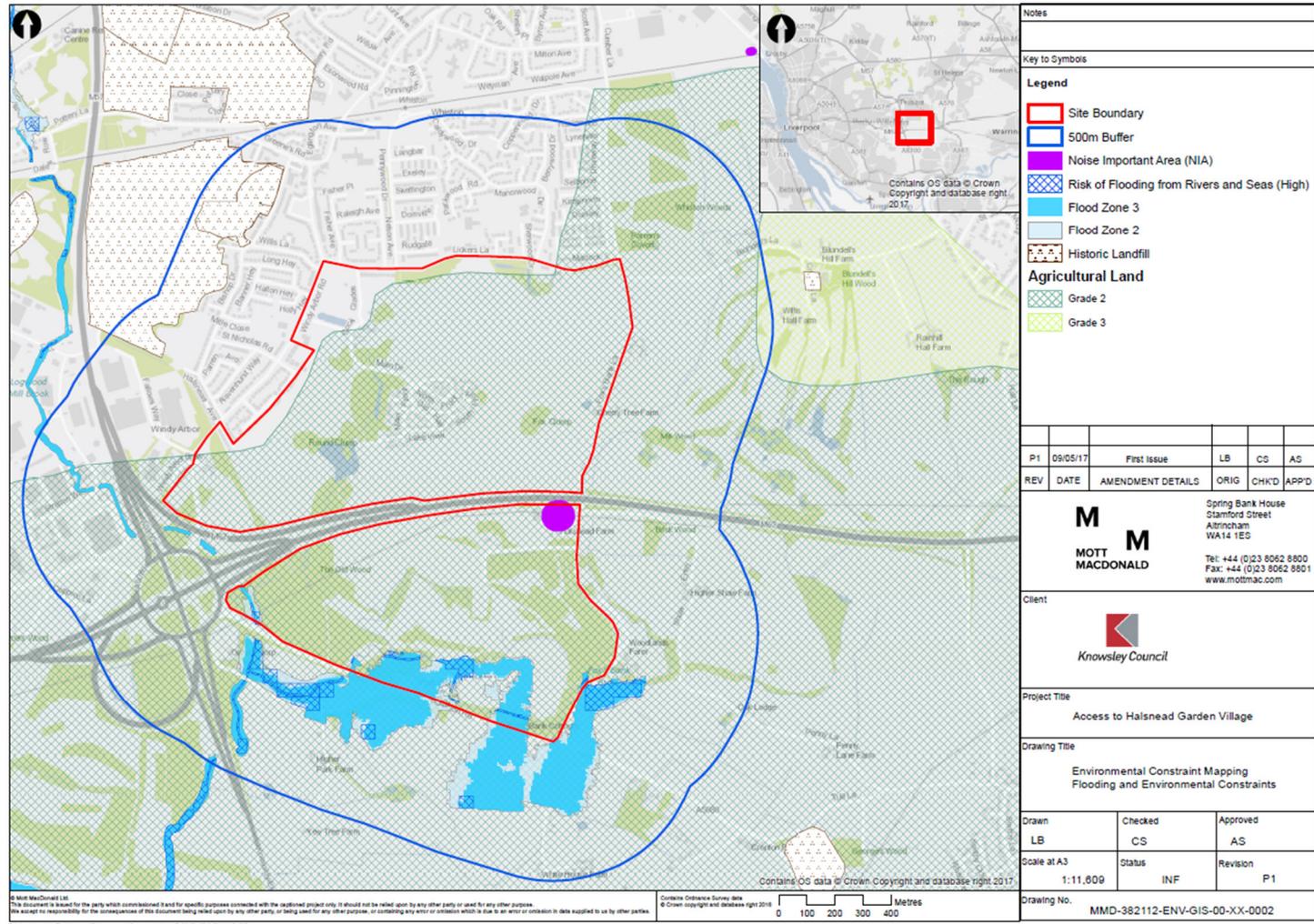
Source: Mott MacDonald 2017

Figure 3: Planning Constraints



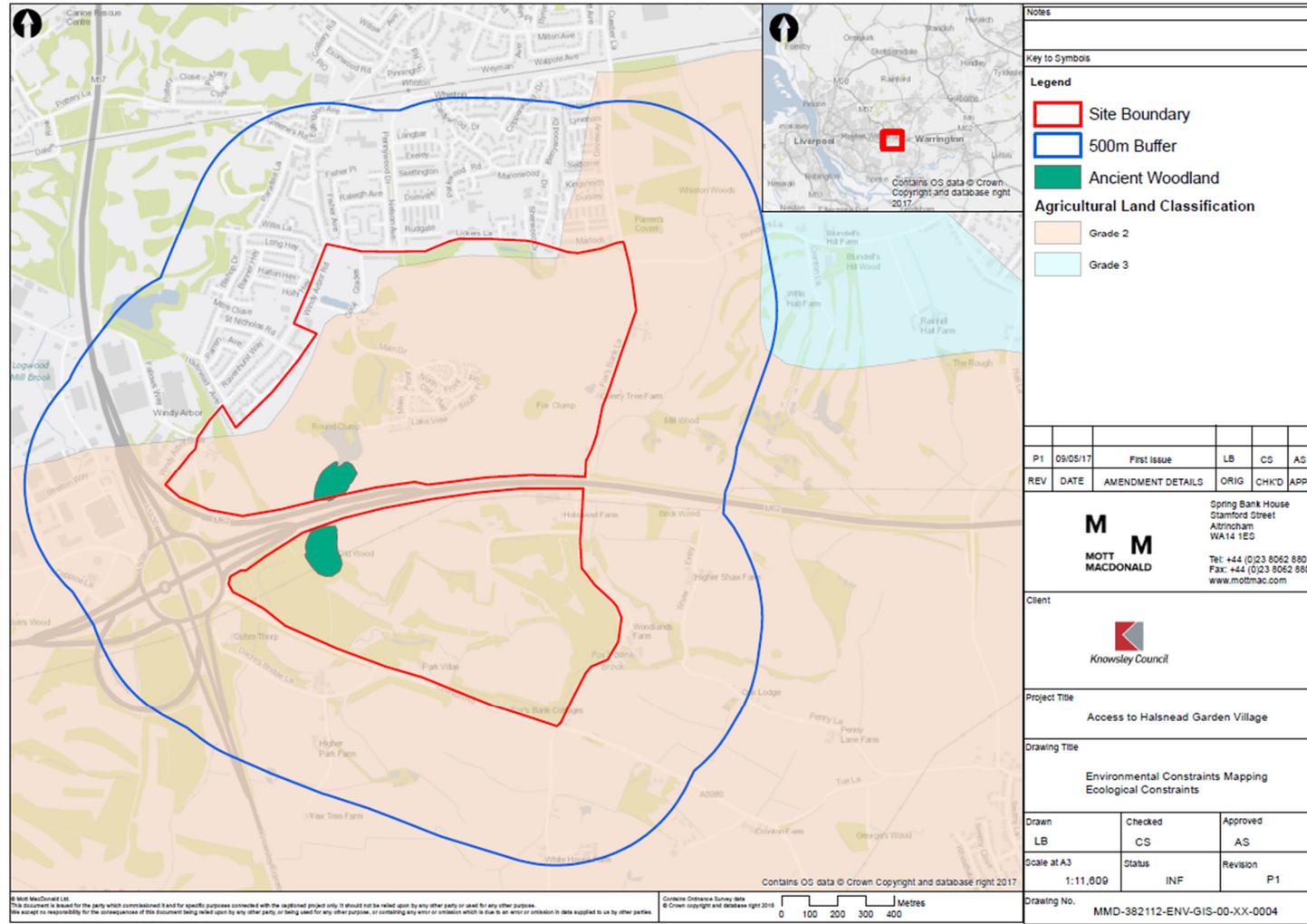
Source: Mott MacDonald 2017

Figure 4: Flooding and Environmental Constraints



Source: Mott MacDonald 2017

Figure 5: Ecological Constraints



Source: Mott MacDonald 2017

4.2 Environmental constraints summary

Of the constraints that were assessed, as detailed in Section 2.3, Tables 3 and 4 below display those which were found to be present within the site boundary and the 500m buffer of the site and are classified as either 'high risk' or an 'environmental planning constraint'. These two categories are subject to increased analysis due to the potential risk or constraint they may pose to the proposed scheme, and potential implications to the engineering design due to their proximity.

Table 3: Environmental constraints within the site boundary

Constraint	Detail
High risk environmental constraints	
Risk of Flooding from Rivers and Seas (High)	There are 12 areas identified as being at High Risk of Flooding from Rivers and Seas within the site boundary.
Flood Zone 3	There are 3 recorded areas of Flood Zone 3 within the site boundary.
Mine Entries	There are 11 recorded mine entries within the site boundary.
Environmental planning constraints	
Noise Important Areas (NIA)	There is 1 NIA within the site boundary.
Ancient Woodland	There are 2 areas of ancient woodland (The Old Wood) within the site boundary
Agricultural Land Classification (Grade 1 to 3)	There is 1 area of Grade 2 agricultural land within the site boundary.

Table 4: Environmental constraints within 500m of the site boundary

Constraint	Detail	Distance
High risk environmental constraints		
Risk of Flooding from Rivers and Seas (High)	Site boundary is within 500m of an area with a Risk of Flooding from Rivers and Seas (High) at 22 locations.	At the closest point the site boundary is 0m from an area with a Risk of Flooding from Rivers and Seas (High).
Flood Zone 3	Site boundary is within 500m of an area of flood Zone 3 at 11 locations.	At the closest point the site boundary is 0m from an area of Flood Zone 3.
Authorised Landfill	Site boundary is within 500m of an area of authorised landfill at 1 location (Cronton Quarry).	At the closest point the site boundary is 13m from an area of authorised landfill (Cronton Quarry).
Mine Entries	Site boundary is within 500m of recorded mine entries at 25 locations.	At the closest point the site boundary is 73m from a recorded mine entry.
Environmental planning constraints		
Historic Landfill	Site is within 500m of an area of historic landfill at 2 locations (Coalgate Lane and Whiston Tip).	At the closest point the site boundary is 257m from an area of historic landfill.
Ancient Woodland	Site is within 500m of an area of ancient woodland at 2 (Old Wood) locations.	At the closest point the site boundary is 0m from an area of ancient woodland.

Constraint	Detail	Distance
Agricultural Land Classification (Grade 1 to 3)	Site is within 500m of an area of agricultural land at 2 locations.	At the closest point the site boundary is 0m from an area of Grade 2 agricultural land.

Table 5 and Table 6 identify environmental constraints which are not mapped via publicly available sources but are detailed in the Mott MacDonald Geo-Environmental and Geo-Technical Baseline Assessment, Halsnead Masterplan SPD (January 2017). These constraints will require further consideration as the scheme design progresses.

Table 5: Local Wildlife Sites (LWS) within the site boundary

Constraint	Detail	Distance
Mine waste Cronton	Local Wildlife Sites (LWS) 43ha derelict landscape since 1984. Contains mature woodland to along the south western boundary with two ponds. It also contains a mix of dry and wet acid grasslands and post-industrial mosaic habitats. Identified as a site of Biological Interest.	At the closet point the site boundary is 0m from a LWS.
The Old Wood – North The Old Wood - South	Local Wildlife sites (LWS), ancient semi-natural woodland	At the closet point the site boundary is 0m from a LWS.
Stretles Bog, Tarbock	LWS. A small area of broadleaved woodland, neutral grassland, and Chapel Brook. Area identified as a Site of Biological Interest.	At the closet point the site boundary is 0m from a LWS.
Big water and Big water wood, Halsnead	LWS. A lake with a good mix of aquatic and emergent vegetation. Broadleaved woodland borders the site. Area identified as a Site of Biological Interest.	At the closet point the site boundary is 0m from a LWS.
Lickers Lane wood	LWS. A long, narrow broadleaved woodland with a dense canopy and associated neutral grassland. Area identified as a Site of Biological Interest.	At the closet point the site boundary is 0m from a LWS.
Woodland, Sandfields Park	LWS. A mature, predominantly broadleaved woodland with a pond, acidic grassland, and scrub. Area identified as a Site of Biological Interest.	At the closet point the site boundary is 0m from a LWS.

Table 6: Local Wildlife Sites (LWS) within 500m of the site boundary

Constraint	Detail	Distance
Daggers Bridge wood	LWS. An area of broadleaved woodland with two brooks as well as some wetland areas. Area identified as a Site of Biological Interest.	At the closet point the site boundary is 20m from a LWS.
Land east of Fox's Bank Brook	LWS. A stream valley with broadleaved woodland on the east bank, potentially of ancient origin. Area identified as a Site of Biological Interest.	At the closet point the site boundary is 200m from a LWS.

Constraint	Detail	Distance
Stadt Moers Park	Local Geological Site.	At the closet point the site boundary is 400m from a LWS.
Blundell Hill golf course	LWS. A mix of grassland and scrub.	At the closet point the site boundary is 180m from a LWS.
Stadt Moers	LWS. A mix of grassland, scrub and woodland habitats forming part of the country park.	At the closet point the site boundary is 400m from a LWS.
Coppice Lane council depot, Huyton	LWS. A mix of grassland and scrub habitat with areas of damp grassland. Area identified as a Site of Biological Interest.	At the closet point the site boundary is 250m from a LWS.

5 Interpretation

This section presents an interpretation of the potential environmental considerations identified in Section 4.

5.1 Interpretation of high risks

Whilst high risk constraints do pose an increased risk to the outlined scheme, and should be avoided where possible, they do not necessarily prevent the scheme from going forward. The presence of high risk constraints may make the design or consenting regime more complex, however mitigation methods can be examined to minimise this risk. Stakeholder consultation would form a key part of this process.

5.2 Interpretation of environmental planning constraints

In addition to the above, there are several environmental constraints highlighted in this report as 'environmental planning constraints'. These constraints will require further consideration as the scheme progresses, should there be a risk of adverse impacts to the feature due to its proximity to the proposed works.

5.3 Environmental constraints within the site boundary

A total of twenty-six high risk constraints are located within the site boundary. There are twelve areas with a Risk of Flooding from Rivers and Seas (High), eleven recorded mine entries, and three areas of Flood Zone 3. As the scheme progresses the design development will need to consider these high-risk constraints to minimise the potential for adverse environmental impacts occurring.

A total of 4 environmental planning constraints are located within the site boundary. These are one Noise Important Area, two areas of Ancient Woodland (Old Wood) and one area of Grade 2 agricultural land. As the scheme progresses the design development will need to consider these planning constraints, and consult with the relevant stakeholders as required, to minimise the potential for adverse environmental impacts occurring.

There are a total of seven LWS within the site boundary, these sites are locally designated areas for a variety of habitat. Where possible, these areas should be avoided, however, in the event designs will be impacted these sites further consultation with the local authority will be required.

5.4 Environmental constraints within 500m of the site boundary

A total of fifty-nine high risk constraints are located within 500m of the site boundary. There are twenty-two areas identified as being at Risk of Flooding from Rivers and Seas (High), eleven areas of Flood Zone 3, twenty five recorded mine entries, and one area of Authorised Landfill. As the scheme progresses the design development will need to consider these high-risk constraints to minimise the potential for adverse environmental impacts occurring.

A total of six environmental planning constraints are located within 500m of the site boundary. There are two areas of recorded historic landfill (Coalgate Lane and Whiston Tip), two areas of Ancient Woodland (Old Wood) and two areas of Grade 1-3 agricultural land. As the scheme progresses the design development will need to consider these planning constraints, and consult with the relevant stakeholders as required, to minimise the potential for adverse environmental impact occurring. This is in particular reference to the incidences of historic

landfill, which may require further investigation to assess the potential risk they may pose to the proposed works.

A further six LWS are present within 500m of the site boundary. These sites are locally designated areas for a variety of habitat. Where possible, these areas should be avoided, however, in the event the design impacts these sites, further consultation with the local authority will be required.

6 Conclusion and Recommendations

We have undertaken high level environmental constraints mapping, to inform and support the development of an OBC for the scheme.

6.1 Conclusion

Potential flood risk is present both within the site boundary and the 500m buffer surrounding the site extent. The scheme design will therefore need to incorporate and mitigate for this risk and give consideration to the potential for increased future risk, due to the predicted effects of climate change and increased frequency of flood events occurring. The scheme will also need to demonstrate that the works would not cause an increase in flooding elsewhere, by managing surface water runoff. A Flood Risk Assessment would inform this as part of the planning process.

There are no designated sites or high level ecological constraints present within the site boundary or within 500m of the site boundary. However, there are seven LWS within the site boundary and a further six LWS within 500m of the site boundary. As such these areas should in the first instance, be avoided. In the event the design does impact these sites, further consultation with the local authority will be required. Additionally, further ecological baseline assessments in the form of a Preliminary Ecological Appraisal may be required due to the size of the site.

The presence of Ancient Woodland within the site boundary will require specific avoidance, where possible. In the event these areas are impacted, detailed mitigation measures, such as; creation of a 15m buffer zone around the areas of woodland is recommended to ensure root systems are not impacted by the proposed works.

A number of environmental and planning constraints have been identified both within the scheme boundary and within 500m of the scheme boundary. Whilst these constraints do pose an increased risk to the scheme, and should be avoided where possible, they do not prevent the scheme from going forward. Further consideration to these constraints will be required as the scheme progresses, and any potential risk minimised through the use of appropriate mitigation measures.

6.2 Recommendations

Whilst the assessment has identified a number of constraints, it is expected that these can be appropriately avoided or mitigated as the scheme develops. Further surveys will be required to establish an accurate environmental baseline. These surveys will be guided by this initial review of existing environmental data and will:

- Identify specific constraints or risks proposed by ecological features and protected species, as the current analysis covers purely high level designated ecological sites;
- Enable tailored recommendations and/or mitigation to be developed to address any impacts associated with the proposed works to avoid breaching legislation.

A Ground Investigation (GI) is recommended to identify any potential risk posed by the mine entries within the site boundary, and identify any areas of potentially contaminated land present on site.

Environmental input throughout the design process will be required to manage the environmental risks highlighted in this report, design-in adequate mitigation, and maximise environmental and sustainability opportunities for the scheme. A number of environmental assessments are therefore likely to be needed to accompany the planning application.

Appendices

A. Risk Scoring

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A. Risk Scoring

The following tables show the risk scoring used as part of this assessment.

Table A1 Risk scoring scale used to assess each criteria.

Risk Score	Qualification of risk score
0	No perceived risk to engineering design Land in Flood zone 1
1 – 4	Low risk to engineering design (environmental risks can be successfully designed out or mitigated using standard techniques)
5 – 7	Medium risk to engineering design (environmental risks cannot be avoided, but can be mitigated/compensated) Likely to require detailed consultation, studies and/or detailed mitigation measures to mitigate environmental risk Land in Flood zone 2
8- 10	High risk to engineering design (environmental risks cannot be avoided or adequately mitigated/compensated) Land in Flood Zone 3

Table A2: Risk scoring for the environmental receptors

Designation/Feature Description	Included/ Excluded	TWAO Environmental Theme	Risk Score	Risk Magnitude	Notes on Risk Score
Agricultural Land Classification (Grade 2)	Included	Land Use	4	Low	
Agricultural Land Classification (Grade 3)	Included	Land Use	4	Low	
Ancient Woodland	Included	Flora and Fauna	6	Medium	
Defra Noise Important Areas	Included	Noise Quality	5	Medium	
Flood Zone 3	Included	Water Environment	10	High	
Historic Landfill	Included	Ground Conditions and Contaminated Land	7	Medium	
Authorised Landfill	Included	Ground Conditions and Contaminated Land	8	High	
Mine Entry	Included	Ground Conditions and Contaminated Land	10	High	
Risk of Flooding from Rivers and Sea - High	Included	Water Environment	8	High	