Table 6.3: Significance of Effect

<table>
<thead>
<tr>
<th>Cultural Heritage Value</th>
<th>Significance of Effect</th>
<th>Major</th>
<th>Intermediate</th>
<th>Minor</th>
<th>Negligible</th>
<th>No change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high</td>
<td>Very Large</td>
<td>Large/Large</td>
<td>Moderate/Large</td>
<td>Slight</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Large/Large</td>
<td>Moderate/Large</td>
<td>Slight/Moderate</td>
<td>Slight</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>Moderate/Large</td>
<td>Moderate</td>
<td>Slight</td>
<td>Neutral/Slight</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Slight/Moderate</td>
<td>Slight</td>
<td>Neutral/Slight</td>
<td>Neutral/Slight</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>Negligible</td>
<td>Slight</td>
<td>Neutral/Slight</td>
<td>Neutral/Slight</td>
<td>Neutral</td>
<td>Neutral</td>
<td></td>
</tr>
</tbody>
</table>

Where a choice of two impact significance descriptors is available only one should be chosen. This allows for professional judgement and discrimination in assessing effects on cultural heritage assets.

An assessment of the predicted significance of effect is made both prior to the implementation of mitigation and after the implementation of mitigation to identify residual effects. This first highlights where mitigation may be appropriate and then demonstrates the effectiveness of mitigation and provides the framework for the assessment of significance which takes mitigation measures into consideration.

Consideration will be made to the potential cumulative effects of the proposed development between other environmental topic areas and with other planned development schemes in the local area (see Section 3.4).

6.5 Potential Environmental Effects

There are a number of designated assets within the study area which may be affected by the proposals. Such effects could consist of:

- Physical effects on heritage assets during construction;
- Effects upon the setting of heritage assets during construction; and
- Effects upon the setting of heritage assets during operation.

There is the potential for the setting of assets which have been recorded within the study area to be affected both during construction and operation. Some of the assets which may be affected comprise the Grade II listed Wulfrun Hotel (listed as the Clarence Hotel), the Grade II listed goods shed and a brewery and a former ticket office.

The proposed route also passes through an area of post-medieval occupation evidence. Therefore, there is the potential for unrecorded archaeological features of this date to survive. However, given the highly developed nature of the surrounding landscape this potential is considered to be low.

6.6 Scope for Mitigation

Further consultation with English Heritage and the planning authority regarding the demolition of the steel clad structure part of the Grade II listed The Old Steam Mill may be required. Consultation with the Conservation Officer may be required in the first instance in order to determine suitable mitigation within the Conservation Areas and for the listed buildings. The erection of hoarding around the site boundary during construction may be considered in order to mitigate the effects upon the setting of the Conservation Areas.

Consultation with the County Archaeologist may be required in order to determine if archaeological works will be required to mitigate any effect upon below ground archaeology. Such work may include archaeological monitoring during construction.
6.7 Conclusion

Data was collected from the Black Country HER and NMR to carry out a scoping assessment in advance of a proposed development of a tram route in Wolverhampton, West Midlands.

A total of 43 listed buildings were recorded within the study area. Three of these are Grade II* listed, all of which date to the post-medieval period. The remaining 40 listed buildings are all Grade II listed, 38 of which date to the post-medieval period and two to the modern period. The majority of assets relate to the industrial development and the subsequent development of transportation within Wolverhampton. The numbers of designated and undesignated assets suggest the potential for effects upon both archaeological sites and the setting of heritage assets. As a result an archaeology and cultural heritage chapter will be completed as part of the EIA.
7 Ecology

7.1 Introduction
This chapter describes and evaluates the current ecological value of the existing site and reviews the potential effects of the proposed development on the habitats and species identified. Where potentially significant effects upon species or habitats have been identified, this chapter has described appropriate mitigation measures to combat adverse effects, or enhance beneficial effects. Information Sources and Consultations.

National legislation and planning guidance which is relevant to nature conservation includes:

- National Planning Policy Framework (NPPF);
- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way Act 2000;
- Natural Environment and Rural Communities Act 2006;
- The UK Post-2010 Biodiversity Framework 2012;
- Birmingham & The Black Country Biodiversity Action Plan, which covers the West Midlands Region;
- The Protection of Badgers Act 1992; and

The local policies relevant to the natural environment can be found in the Wolverhampton Unitary Development Plan (UDP) and the Black Country Core Strategy.

The assessment of potential effects on protected and notable species and habitats has been undertaken through the analysis of data obtained from the following sources:

- National Biodiversity Network (NBN) gateway http://data.nbn.org.uk/;
- Multi-Agency Geographic Information (MAGIC) http://magic.defra.gov.uk/;
- Joint Nature Conservation Committee (JNCC) http://jncc.defra.gov.uk/;
- Biodiversity Action Reporting System (BARS) http://ukbars.defra.gov.uk/;
- Wolverhampton City Council;
- Birmingham & The Black Country Biodiversity Action Plan http://www.wildlifetrust.org.uk/urban/ecorecord/bap/acrobat/preface.pdf; and
- EcoRecord http://www.ecorecord.org.uk/.

Protected species and habitats data was requested from EcoRecord (Ecological Database for Birmingham and the Black Country) in September 2012 as part of the initial screening assessment. A review of this data was undertaken for the purpose of the scoping assessment, in relation to current designs. No further local nature groups/ have been contacted at this stage.

7.2 Existing Environment (Baseline)
The site incorporates the proposed tram alignment and associated works/infrastructure, and all existing habitats, including existing buildings and infrastructure that will be affected by the works (central OS grid reference SO918987). The study area
includes the site and up to 10 km from the site regarding protected habitats and species data. Refer to Figure 3 which illustrates the Ecological baseline.

7.2.1 Designated Sites

No International or National sites designated for nature conservation have been identified within 2 km of the site. In addition, no Special Area of Conservation (SACs) designated for bat conservation have been identified up to 10 km from the site.

Data received from EcoRecord identified 3 Sites of Importance for Nature Conservation (SINC) and Sites of Local Importance for Nature Conservation within 2 km of the site. None of these sites will be directly affected by the works. The canal and the railway are, however, identified as wildlife corridors, which form part of the Birmingham and Black Country Nature Conservation Strategy. Potential effects to these identified wildlife corridors must therefore be considered further through the assessment process, plus indirect effects on nearby designated sites which may be linked to the site.

7.2.2 Protected Species Record

The NBN data search identified records for great crested newt *Triturus cristatus*, slow worm *Anguis fragilis*, common lizard *Zootoca vivipera* and grass snake *Natrix natrix* within 2 km of the site. Records for the following species (designated under Wildlife and Countryside Act 1981 (as amended)) have been identified in the wider geographical area, within 10 km of the site:

- Adder *Vipera berus*;
- Brown long-eared bat *Plecotus auritus*;
- Daubenton’s bat *Myotis daubentonii*;
- Noctule *Nyctalus noctula*;
- Common pipistrelle *Pipistrellus pipistrellus*;
- Soprano pipistrelle *Pipistrellus pygmaeus*;
- Black redstart *Phoenicurus ochruros*;
- Kingfisher *Alcedo atthis*;
- Brambling *Fringilla montifringilla*;
- Barn owl *Tyto alba*;
- Redwing *Turdus iliacus*;
- Skylark *Alauda arvensis*;
- Badger *Meles meles*;
- Water vole *Arvicola amphibious*; and
- Great crested newt *Triturus cristatus*.

Data received from EcoRecord as part of the initial screening assessment listed the following protected species (designated under Wildlife and Countryside Act 1981 (as amended), within 2 km of the proposed development works:

- Skylark;
- Black redstart;
- Redwing;
- Peregrine falcon *Falco peregrinus*;
- Slow-worm;
- Grass snake;
- Common lizard;
- Daubenton’s bat;
- Common pipistrelle;
- Soprano pipistrelle;
- Noctule; and
- Great crested newt.

7.2.3 Habitats
The study area is urban and heavily built up. Following the site walkover, it is anticipated that the following habitats will be affected during the works:
- Existing operational and derelict structures/buildings;
- Brownfield land;
- Small areas of amenity grassland;
- Watercourses (Birmingham Canal);
- Scrub;
- Ornamental planting and mature; and
- Semi-mature trees.


7.3 Assessment Method
The identification of potential effects on protected and notable species and habitats has been undertaken through the analysis of data obtained from the following sources detailed in Section 7.2.

7.3.1 Scoping Assessment

7.3.1.1 Desk Study
A detailed desk study has been undertaken; building upon the data already obtained as part of the screening assessment. The aim of the desk study was to obtain and review protected species data and local designated site information from the local ecological record centre, the Local Authority and a variety of internet sources. This data has been used to inform the scoping report and will be used to inform the Ecological Impact Assessment (EcIA) and be used as a reference when determining the requirement for further ecological surveys.

A review was undertaken of existing available information, to identify the following:
- International, National and Local designated sites up to 2 kilometres (km) from the site;
- Sites designated for bat populations up to 10 km from the site;
- Protected species records up to 10 km from the site;
- Natural and semi-natural habitats which could be affected by the works; and
- Any other natural features of importance or concern.

7.3.1.2 Extended Phase 1 Habitat Survey
An Ecological Walkover Survey, comprising an Extended Phase 1 Habitat Survey was undertaken by two AECOM ecologists on 24th April 2013 in accordance with the JNCC Handbook for Phase 1 Habitat Survey (2010). The Extended Phase 1 Survey is a standard ecological survey method for the collection of baseline data. The survey provided a preliminary assessment of key habitats, land use and ecological features that might be affected by the works. The survey area was also assessed for its potential to support protected species, to guide recommendations for further protected species survey requirements.
7.3.2 Protected Species Surveys

No protected species surveys have been undertaken at this stage, aside from initial habitat assessments undertaken as part of the Extended Phase 1 Habitat Survey. The Extended Phase 1 Survey indicated that the following protected species surveys will be required in order to inform the ES: bat activity and roost surveys, nesting bird checks and black redstart surveys. The bat surveys would be undertaken in accordance with the BCT Bat Surveys: Good Practice Guidelines, 2nd edition (2012). Black redstart surveys would be undertaken in accordance with Monitoring Methods for Black redstart from the Bird Monitoring Methods by Gillian Gilbert, David W Gibbons and Julianne Evans (RSPB, 1998).

The requirement for bat surveys will be dependent on which buildings and structures are to be redeveloped/demolished. Certain buildings and vegetation are also likely to support breeding birds including Schedule 1 bird species such as black redstart. The rail corridor and canal have been identified by the Local Authority as wildlife corridors. The rail corridor may support protected species including badger, birds and reptiles, whilst the canal corridor is known to support breeding birds including coots Fulica atra, moorhen Gallinula chloropus, Canada geese Branta canadensis (non native species) and mallards Anas platyrhynchos. Aquatic species may also be present within the canal. Should changes be made to the Canal, further aquatic surveys may be required.

Bats may also use the canal for foraging and commuting purposes. Areas of brownfield land are often important feeding habitats for black redstart and can also be utilised by badger and reptiles.

Buildings/structures identified as having the potential to support bats and/ or black redstarts and additional features of ecological interest can be found on Figure 3 Ecological Constraints.

Protected species surveys are seasonal and would need to be carried out at the appropriate time of year and planned in advance within the overall programme. Some surveys such as bat surveys may need to be carried out over several months and therefore time should be allowed within any programme to accommodate this. Black redstart surveys would need to be undertaken by a trained ornithologist.

For those buildings which are considered to be structurally unsound it will not be possible for surveyors to undertake certain survey methods with regards to roosting bats and nesting birds. For example, it will not be possible for surveyors to enter any building which is considered to be unsafe to carry out internal inspections, or to install static recording equipment. For some buildings it is likely that only external inspections and bat dusk emergence/ dawn re-entry surveys will be feasible, which do not require building access. The survey effort may however need to be increased, i.e. more surveys, to compensate for not employing other recommended survey techniques.

Table 7.1 below provides the results of the bat habitat assessment that was undertaken during Extended Phase 1 Habitat Survey on those buildings and structures that are anticipated to be affected by the works through refurbishment or demolition. Please note that all assessments were carried out externally, from public areas only and do not constitute a full assessment. It was not possible to get close to some of the buildings due to their location within private land or their unsound structure. This assessment does however scope out the sack warehouse from further assessment.

<table>
<thead>
<tr>
<th>Building Reference Number</th>
<th>Building Name (if known)</th>
<th>Approximate Location</th>
<th>Potential for roosting Bats (Low, Moderate, High)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
<td>SO 921 987</td>
<td>Moderate</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>SO 920 987</td>
<td>Moderate</td>
</tr>
<tr>
<td>3</td>
<td>Sack warehouse</td>
<td>SO 920 987</td>
<td>Low</td>
</tr>
<tr>
<td>4</td>
<td>Steam Mill</td>
<td>SO 920 987</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>Wolverhampton train station</td>
<td>SO 919 988</td>
<td>Moderate</td>
</tr>
</tbody>
</table>
### Table 7.1: Buildings - Initial Bat Habitat Assessments

<table>
<thead>
<tr>
<th>Building Reference Number</th>
<th>Building Name (if known)</th>
<th>Approximate Location</th>
<th>Potential for roosting Bats (Low, Moderate, High)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Redundant sub station</td>
<td>SO 920 987</td>
<td>High</td>
</tr>
<tr>
<td>7</td>
<td>Mill Street Goods Depot</td>
<td>SO 922 987</td>
<td>High</td>
</tr>
<tr>
<td>8</td>
<td>-</td>
<td>SO 918 988</td>
<td>Low</td>
</tr>
<tr>
<td>9</td>
<td>-</td>
<td>SO 918 989</td>
<td>Low</td>
</tr>
<tr>
<td>10</td>
<td>-</td>
<td>SO 918 989</td>
<td>High</td>
</tr>
</tbody>
</table>

However please note that the design of the proposed alignments has since evolved and therefore buildings 1 and 7 will no longer be affected by the proposed works.

Consideration will be made to the potential cumulative effects of the proposed development between other environmental topic areas and with other planned development schemes in the local area (see Section 3.4).

#### 7.3.3 Impact Assessment

The EcIA methodology is based on both extensive previous experience of the consultants and guidance produced by such bodies as the Institute of Environmental Management and Assessment (IEMA) and the Institute of Ecology and Environmental Management (IEEM). The most recent guidelines, Guidelines for Ecological Impact Assessment in the United Kingdom (version 7 July 2006) advocate an approach to evaluation and impact assess with less emphasis on conforming to tables. Therefore, whilst these tables offer a framework to rationalise evaluations in the first instance, professional judgement may vary from the criteria. In such cases, a full justification will be presented.

The assessment will comprise of the following steps:

- Identification of the likely zone of influence arising from the whole lifespan of the project;
- Identify the future assumed baseline;
- Identification and evaluation of ecological receptors (features) likely to be affected;
- Identification of the activities associated with the scheme and the resultant biophysical changes likely to affect valued ecological receptors;
- Assessment of whether these biophysical changes are likely to give rise to a significant ecological effects on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within the zone of influence;
- Refinement of the scheme to incorporate ecological enhancement measures, mitigation measures to avoid or reduce negative effects and compensation measures for any residual significant negative effects; and
- Assessment of the cumulative effects.

#### 7.3.3.1 Determining Value of Ecological Features

An assessment of the nature conservation value of the site will be made using a range of criteria against a background of legislation, policy and value described below:

- Habitat types or species of international importance and listed for protection by the EC Birds Directive and EC Habitats Directive or national legislation;
- Other habitats or species protected by national legislation;
- Habitat formations providing resources for protected species;
- Habitat formations providing resources for species of conservation concern;
- Habitats or species being the subject of the Natural Environments and Rural Communities Act (2006) Section 74 Countryside and Rights of Way (CROW) Act lists, Biodiversity Action Plans or similar conservation initiatives;
- Habitats otherwise judged to be of some biodiversity interest at the local scale (protected under local policy); and
- Birds of conservation concern lists (JNCC) categorising birds into red and amber listings according to population status and rate of decline in the UK.

The value of, or potential value of, each ecological receptor would be assigned by considering the following frames of reference:

- geographical scale: International, UK, National, Regional, County, District, Local or Parish and within the zone of influence;
- designation: SACs, Special Protection Areas (SPAs), Ramsar Sites, Sites of Special Scientific Interest (SSSIs), Local Sites; Tree Order; important hedgerow;
- biodiversity value: of the habitat and/or species;
- social value: the way in people may derive benefits from a feature; and
- economic value: the economic implications that may result from effects on the feature.

The IEEM guidelines state that whilst legal protection should be considered separately from ecological value, it is nonetheless a key consideration in an EcIA.

### 7.3.3.2 Determining Significance

The Guidelines for EcIA in the UK published by IEEM, 2006 uses the principle of valuing an ecological resource at a defined geographic scale but advocates that effects are evaluated simply as significant or not significant for the geographic level at which the ecological resource is valued. Whether an effect is significant is based on whether the impact affects the integrity (see IEEM 2006) of a defined site or species. Therefore, the total loss of a site of importance at the parish (Local) level would be assessed as being significant at the parish level.

The significance of environmental effects is determined according to their magnitude and the sensitivity of receptors. Significant effects may be adverse or beneficial, temporary or permanent, short or long term, direct (changes as a result of a defined action) or indirect (effects on a resource through an intermediary process or receptor), reversible or irreversible or cumulative.

Magnitude refers to the scale of an effect determined on a semi-quantitative basis. Magnitude (scale of change) is determined by considering the predicted deviation from baseline conditions and the scale of the effect. If an effect causes severe undesirable consequences to a receptor the effect would be described as substantial. However if there is no discernible change in the baseline environmental conditions then the effect would be of a negligible scale. Quantifiable assessment of magnitude will be undertaken where possible.

Sensitivity or the importance of a receptor is determined in terms of geographical extent and/or the importance of a receptor based on statutory designations. For example if a river were a SAC designated at a European level then the receptor will be more sensitive than if it were of local importance.

Assessment of significance will take into account both the magnitude of an effect and the sensitivity of a receptor. For example if there was a substantial effect to a receptor of international importance that effect would be described as major. Significance should always be qualified as in certain cases an effect of minor significance could be considered of great importance by local residents and deserves further consideration.

### 7.4 Potential Environmental Effects

Species specific surveys have not been undertaken at this stage, however suitable habitat in the form of both occupied and derelict buildings, structures such as bridges, trees, scrub and ornamental planting and the Birmingham Canal offers suitable habitat for bats, badger and breeding birds, including both common passerine species, waterfowl and Schedule 1 species such
as black redstart. Buildings/structures highlighted as having potential to support bats and black redstarts must therefore be assessed using methods described in Section 7.4. Should it be necessary to remove vegetation or buildings/structures within the bird breeding season (i.e. between September and February) then these areas will need to be assessed for nesting birds including common passerine species and waterfowl.

In the absence of further survey and appropriate mitigation, the demolition phase could have a direct negative effect on such species. In the absence of compensation habitat, the loss of the various habitat types could result in the loss suitable habitat for of roosting and hibernating bats, breeding birds and badgers.

7.4.1 Demolition

The demolition phase is likely to result in the loss of both semi-natural and man-made habitats, namely buildings/structures that have the potential to support both bats and breeding birds including common passerine species, waterfowl and Schedule 1 species such as black redstart. In the absence of further survey and appropriate mitigation, the demolition works of the steel clad structure of the Steam Mill could have a direct negative effect on breeding birds including common passerine species, waterfowl and Schedule 1 species such as black redstart, bats and indirect negative effect on badgers.

The Birmingham Canal is also likely to function as an important wildlife corridor which, along with associated species, could be indirectly affected during the demolition phase of the steel clad structure of the Steam Mill.

7.4.2 Construction

The construction phase could also result in the prolonged disturbance to those species that currently utilise habitats both within and adjacent to the site, resulting in a negative effect. Construction works could have indirect negative effects on badgers. Again, the Birmingham Canal could also be indirectly affected during the construction phase of the works.

7.4.3 Operational Phase

In the absence of compensation habitat, the loss of various habitat types could result in the loss of suitable habitat for roosting and hibernating bats, breeding birds, reptiles and badgers.

During the operational phase, tailored planting schemes, using native species and other bespoke habitat creation schemes could improve the sites value in terms of native wildlife.

Potential for effects during operation could include indirect effects such as lighting and noise disturbing the use of the nearby canal and remaining buildings by species such as bats and birds.

7.5 Scope for Mitigation

The extent and type of mitigation will depend on which species are currently utilising existing habitats that will be affected by the scheme. Mitigation for certain protected species, including for roosts and hibernacula of all species of bats found within the UK, must be carried out under a licence which has been approved by the appropriate licensing body, which in England is ‘Natural England’.

If for example, further surveys indicate the buildings or structures are used by bats, the level and type of mitigation would depend on a number of factors including; the number and species of those bats present and the type of roost the structure or building is used for. Mitigation for bats can include appropriate timings of works, compensation for lost roosts such as incorporation of suitable roost spaces into buildings/structures, appropriate lighting schemes and tailored planting. Elements of these may be required should bats only be foraging or commuting through the site.

Mitigation for the loss of nesting habitat for common passerine species may include the incorporation of suitable nest spaces into buildings/structures, the fixture of bird boxes to trees and buildings and tailored lighting and replanting schemes. For Schedule 1 bird species such as black redstart for which it is an offence to intentionally or recklessly disturb at, on or near an ‘active’ nest, mitigation will be bespoke and may include the retention or creation of suitable breeding and foraging habitat.

In relation to badger, the level of mitigation required and the requirement for a development licence will be dependent upon the proximity of a badger sett to the area of works. This includes maintaining existing runs were possible. Access routes across the works may be required to be retained along existing runs to avoid fragmentation of territory.
In summary, a Natural England badger disturbance licence is required for any activity that does not meet the following conditions:

- that there will be no harm to the badgers themselves;
- no disturbance of the badgers (above existing levels); and
- no isolation, fragmentation or severance of the badger territory, and all other areas of a territory.

In addition, night-time artificial lighting should be designed as task specific directional lighting and installed carefully to light working areas without causing light spill on to possible wildlife corridors such as the Birmingham Canal, therefore avoiding disturbance to nocturnal wildlife such as bats and badger.

No invasive plant species were identified were identified during the Extended Phase 1 Habitat Survey however, should they be identified during future assessments then mitigation will be dependent upon the species present and extent of the infestation. Control/eradication methods vary dramatically and can be considerable in time and cost. Options include chemical treatments, removal and composting at appropriate times of year, use of licensed land fill sites, and burial if designed into the scheme.

Run-off from the site during construction should be managed in accordance with current EA regulations and should reduce the potential for transmission of particulates and pollutants into any watercourses such as the Birmingham Canal.

Ultimately, the type of mitigation will depend on which species currently use the site and surrounding habitats.

As discussed in Section 7.5, bespoke habitat creation schemes can both compensate for habitats lost, whilst also creating new habitat opportunities, thus increasing the value of a site in terms of nature conservation. It will only be possible to make recommendations for suitable habitat creation/compensation however following further assessment.

7.6 Conclusion

As discussed in Section 7.4, further species specific assessment will be required to fully assess the potential effects to existing habitats and species.

Findings from the Extended Phase 1 Habitat Survey indicate that it will possible to scope out certain protected species such as amphibians. This assumption is based on the built up, urban nature of the site, existing barriers to dispersal and the absence of standing waterbodies required for breeding. Due to its urban location, and hard engineered nature, the Birmingham Canal is considered unsuitable for water vole and otters, however indirect effects should be considered on this habitat. Whilst major roads do provide a barrier, it is thought that the railway and canal towpath could provide possible immigration/emigration routes in to the site for badgers which may then utilise the small areas of brownfield land and therefore this species will need to be considered in further assessments. It is anticipated that bats and birds will be the main considerations for the assessment. There is also a need to consider indirect effects on the canal and associated species. Further black red start and bat surveys will be required to inform the EIA. The loss of existing semi-natural and man-made habitats including trees, scrub and buildings and brownfield land will be considered in the assessment.
8 Townscape and Visual Assessment

8.1 Introduction
The Townscape and Visual Impact Assessment (TVIA) will form one chapter of the Environmental Statement (ES), and will identify and assess likely effects of the scheme on the townscape resource of the site and its environs and visual amenity of the site and surrounding areas.

Townscape effects can be physical or can relate to the townscape fabric, character and quality and how this resource is perceived as a result of the scheme. Visual effects are a consequence of a change in the view as a result of the introduction of the scheme and the effect on overall visual amenity.

Townscape and visual effects are interrelated but assessed separately. Both townscape and visual effects can be positive (beneficial) or negative (adverse). Greater weight can be placed on only one element of the assessment, for example, when a development has no significant visual effects but results in an adverse effect on the townscape character. Conversely, a development may have significant visual effects, but insignificant townscape effects.

8.2 Information Sources and Consultations
Consultation will be held with statutory consultees (Natural England, English Heritage, the Environment Agency and Wolverhampton City Council) early in the TVIA process. This will enable the desk study and data collection to be supplemented, to gain local professional opinion on the likely effects of the scheme and to agree the approach to mitigating effects.

The following sources of information will be used during the baseline study:
- Black Country Core Strategy (adopted 2011);
- Wolverhampton City Council Unitary Development Plan (adopted 2006);
- Wolverhampton City Council Local Development Scheme (adopted 2012);
- National Planning Policy Framework (2012);
- Wolverhampton City Centre Conservation Area Appraisal (designated 1972);
- Union Mill Conservation Area Appraisal (designated 1985);
- Springfield Brewery Conservation Area Appraisal (designated 2003);
- Aerial photography; and
- Historic Mapping.

8.3 Existing Environment (Baseline)

8.3.1 Study Area
The study area adopted for the townscape and visual effects will extend to all land within 2 km radius of the scheme, as it is considered, that this distance is the limit within which significant effects may arise within the urban context of the study area. This will be verified as part of the assessment process. Refer to Figure 2 which illustrates Conservation Areas within the study area.

8.3.2 Townscape and Visual Baseline
The baseline study within the TVIA chapter will be in two parts:
1. Townscape Appraisal – The townscape character appraisal will review relevant guidance, including that contained within development plans and conservation area assessments. This will be supported by a survey of the existing land use and
townscape elements and features to establish the townscape character of the site within the local townscape resource that is particularly relevant to the scheme; and

2. Visual Appraisal – This will identify the receptors and receptor groups which will include residential properties, workplaces, recreational facilities, road users, pedestrians and other outdoor sites / open spaces.

8.3.3 Townscape
Having conducted a preliminary review of baseline information for the study area, we found no existing characterisation assessment. However, falling within the study area are six conservation areas, which have been described in detail within the respective individual Wolverhampton City Council Conservation Area Appraisals. These appraisals help contribute to an understanding of the townscape and some of the characteristics and features within them. The conservation areas which are of particular interest for the purpose of this assessment are:

Union Mill Conservation Area, the key characteristics of which include:

- Historic railway and canal buildings;
- A place of transhipment between canal and railway;
- The Birmingham Canal;
- The Wyrley and Essington Canal;
- Horseley Fields Junction;
- Broad Street Wharf including warehouse, depot, footbridge and basin;
- Birmingham to Wolverhampton mainline railway;
- Architectural unity of the area’s industrial buildings;
- Bridges, tunnels, viaduct and other railway structures of the 19th century;
- Former G.W.R. Low Level Railway Station;
- Landmark quality of The Old Steam Mill and Mill Street Goods Depot;
- A strong sense of enclosure arising from high retaining and supporting walls beside canal and railway;
- Dramatic changes in level and a varied interplay between road, rail and canal;
- Wildlife and greenery beside Wyrley and Essington Canal;
- Public realm improvements in Sun Street, Bailey Street and Lincoln Street;
- Stoplock, basin bridges, canal basin and other canal structures;
- Important group of inter-related industrial buildings at Corn Hill;
- Historic floorscape of stone cobbles and kerbs with blue engineering brick paving; and
- Features of local interest e.g. bridge signs, street name signs and canal fingerpost.

City Centre Conservation Area, the key characteristics of which include:

- Queen Square, once the historic market place and the compact collection of public buildings north of Queen Square;
- The use of terracotta detailing in Victorian and Edwardian buildings;
- Side alleys throughout the conservation area, known as ‘folds’;
- The presence of the University of Wolverhampton;
- Local historic associations as recorded by Civic Society plaques;
- Items of sculpture and public art, including the war memorials;
- Traditional cast-iron ‘Lucy Boxes’, part of the old tram electrical supply.