

14.0 CUMULATIVE EFFECTS AND CONCLUSIONS

14.1 Introduction

Bilston Urban Village has been the subject of a comprehensive environmental assessment in accordance with the Town & Country planning (Environmental Impact Assessment) Regulations 1999. The scope of the assessment has been agreed with Wolverhampton City Council.

14.1.1 An assessment of each agreed topic and its potential impacts have been prepared following the appropriate accepted methodology. These individual impacts can be summarised as follows.

14.2 Planning Policy

It is considered that the proposed development fully embraces the National, Regional, Strategic and local planning framework. It embraces the principles of sustainable development and regeneration of land, providing a clear vision in which to satisfy key planning objectives

14.3 Socio Economic Effects

The proposed development forms part of the balance of new housing and employment growth set out in Wolverhampton City Council UDP. No adverse socio-economic impacts are predicted, and the proposed development is an important component in the current and proposed future growth of the local economy. The proposed development will significantly improve leisure and community facilities and will revitalise the Bilston Area, serving as a vital catalyst in the long term regeneration of the local area.

14.4 Townscape & Visual

14.4.1 At present, the site has a major detrimental effect upon Bilston's townscape. It sits within a character area of low sensitivity, which creates a particularly poor impression for any visitors to the town. It also creates an unsafe and unusable area for local residents. There is a lack of connection between the site and the High Street to the north and a lack of use of the potentially attractive canal corridor.

14.4.2 The proposed re-generation of the site provides an important opportunity to substantially enhance the townscape character and visual amenity within the area.

- The new proposals will be of high architectural and urban design quality, and will create a regeneration focus at the heart of Bilston
- The creation of active street frontages, in particular to the canal towpaths, and the existing streets and footpaths, will significantly enhance the safety and appearance of the site.

14.4.3 Great care has been taken with the masterplan to ensure that its scale and massing is in harmony with existing settlement characteristics and development on the site would have only positive effects upon the townscape character. FPCR's analysis has demonstrated that the current proposal would substantially enhance townscape in a manner which is consistent with the thrust of government regeneration policy.

14.4.4 The consequences of the redevelopment will be wholly beneficial, contributing vitality and a 'sense of place' to Bilston. It will provide a clear symbol of dynamic contemporary regeneration at the heart of the town and there will be no conflict with the character and amenity of the local area.

14.5 Ecology & Nature Conservation

14.5.1 The site supports a mix of habitats including ephemeral/short perennial and ruderal vegetation, hard standing, semi-improved grassland, amenity grassland, scrub, semi-mature trees and standing open water.

14.5.2 No statutory protected sites are present within, immediately adjacent to or within 2km of the site. One non-statutory local wildlife site is located within the site. This is currently degraded but will be lost to the development. Mitigation for loss of this site includes creation of a mix of new habitats.

14.5.3 Badger is the only fully protected species present on the site, the extent of use of the sett within this area is low. No European protected species were recorded as resident in any areas to be lost. Common pipistrelle bat, a species protected under British and European legislation has been recorded using the site to move and forage across. New habitat links will be created to provide flyways and foraging for this species.

- 14.5.4 A number of red BoCC list bird species have been recorded using the site. The majority of habitats used by these species will be lost. New habitats will be created in compensation for this loss.
- 14.5.5 The most important habitats on the site are the semi-improved grassland, ephemeral short perennial vegetation and pond, these areas support a diverse flora and several nationally scarce invertebrates. The majority of these habitats will be lost. Compensation for loss of these habitats includes creation of new areas of open water, open grassland, bare ground, scattered scrub, standard trees and varied topography. Residual impacts on invertebrates after mitigation for loss of these habitats are considered to be moderate.
- 14.5.6 Japanese knotweed is present across large areas of the site. This species is currently being eradicated from the site. Impacts are considered to be positive.
- 14.5.7 The majority of impacts after mitigation are considered to be minor negative or minor positive. The only moderate impacts are the loss of the SLINC and the regionally important habitats as referred to above which are not locally designated sites but are of importance because of their nationally scarce invertebrate species.

14.6 Heritage & Archaeology

- 14.6.1 The assessment highlighted the importance both historically and archaeologically of the area surrounding the historic core of Bilston, from the early industrial sites of the medieval period through to the massive expansion and development of the iron and coal industries during the post medieval period.
- 14.6.3 Due to substantial 'made ground' across much of the proposed development site, the development proposals will not significantly affect archaeological deposits. The assessment highlighted less 'made ground' close to the canal at the site of the Capponfield furnaces and recommended that an archaeological watching brief will be required in this area on intrusive works.
- 14.6.4 The limiting of any further archaeological investigation to monitoring during construction activity is indicative of the absence of any significant impacts on archaeology resulting from the proposals.

14.7 Water & Hydrology

- 14.7.1 The impact of the BUV should not have any detrimental effect on the hydrogeology or the surface water of the site. The adoption of SUDs principals as a method of draining the site will contribute to the sustainability of the aquifer and also reduce the contaminants entering this system. SUDs will also help reduce and control the volume of discharge entering the existing sewer system and help contribute to the environmental setting of the BUV.
- 14.7.2 The ESI report, 'Bilston Urban Village: Ground Water Abstraction' dated September 2005 has concluded that the abstraction rate proposed can be sustained without having detrimental effects on other water features in the vicinity.
- 14.7.3 The Bilston Brook is a culverted watercourse therefore flooding should not be an issue. Recent hydraulic models completed by Severn Trent Water also predict that the proposed runoff from the site will not cause flooding up to a 1 in 100 event.

14.8 Geology & Contaminated Land

- 14.8.1 The former industrial activities on the site have resulted in a number of different materials underling the site. Many boreholes and trial pits have been dug at the site to investigate the soil and rock, and to determine what needs to be done to the ground to make it suitable for development.
- 14.8.2 Some contamination was found in the man-made soils and in the water within the soil and rock. These will be remediated safely by treating on site, where possible, at an early stage of construction, which would mean that the site is safe to develop while minimising removal of material from site.
- 14.8.3 Many mine shafts on the site have already been treated by infilling and capping. However the remainder of the mine shafts will be treated to make sure the site is safe for development. In addition, some of the old mine workings below the site have potential to cause damaging subsidence. These workings will be treated as part of the construction. Gases from man-made soils and coal seams are a potential hazard and will need to be assessed after remediation of the soils and treatment of the mineshafts and mine workings to ensure that subsequent development is safe. Japanese Knotweed, an invasive plant, is on the site and will be treated at the start of the construction works.

14.9 Noise & Vibration

14.9.1 The proposed BUV development will potentially generate noise during cleaning-up/construction and to a far lesser extent during operation. On the basis of the definitions given in PPG24 NCE, noise levels that fall into categories A or B are considered suitable for residential development. Based on predicted noise calculations for the BUV the site is classified as category B.

14.9.2 The noise calculations show that there will be a small increase in noise largely from road traffic generated from the Urban Village. The increase in traffic flow and subsequent minor increase in noise will be spread over a 10 year construction period. Therefore the change in noise level year-on-year is unlikely to be noticeable.

14.9.3 The site layout will be devised to ensure maximum separation of residential areas from noise sources. This should ensure an acceptable environment for new residents of the BUV. This will be achieved to a large extent by the green corridor that runs adjacent to the central spine road. This corridor will provide a buffer zone between residential properties and traffic noise. Specific environment assessments will be required for commercial developments on the site if they are adjacent to residential properties.

14.10 Air Quality

14.10.1 Road proposals as part of a major development are often perceived as having a negative effect on air quality. However, on balance, considering all peak periods across the whole study area, the proposed off-site highway works will result in an overall improvement in the operation of the existing highway network on and around the BUV. This will result in improved traffic flows which will relieve congestion, resulting in improved operation of vehicles that will produce less emissions and reduce overall vehicle pollution levels.

14.10.2 The transport related benefits of the BUV proposals will further reduce local dependency on the car. This includes particular emphasis on improving local bus services and providing safe and secure pedestrian and cycle links both within the site and connecting to the central area of Bilston and the nearby public transport interchange. There exists the further possibility of providing a dedicated Metro station for BUV thus providing for longer distance travel to complement existing rail services. These measures will further encourage a lesser dependency on the car.

14.10.3 Finally, the mixed residential and employment uses proposed on the site will help to minimise car-borne trips on the adjacent highway network by providing the opportunity for employees to live close to their place of work. In addition, the new local community and retail facilities to be provided to serve the new residential dwellings will further help to minimise car-borne trips. Predictions of NO₂ concentrations show that it is likely that the introduction of the scheme will result in Government National Air Quality Objective level of 40ug/m³ being met in the opening year.

14.11 Traffic & Transport

14.11.1 A series of key off site highway transport improvements are proposed adjacent to Bilston Urban Village. To complement these highway improvements, provision will be made for enhanced access to BUV by a variety of alternative modes. There will be a particular emphasis on improving local bus services and providing safe and secure pedestrian and cycle links both within the site and connecting to the central area of Bilston and the nearby public transport interchange. There exists the further possibility of providing a dedicated Metro station for BUV thus providing for longer distance travel to complement existing rail services.

14.11.3 In short, it is concluded that the proposed development will result in significant transport-related benefits not just for BUV but for the wider area. Subject to the provision of the proposed package of off-site highway improvements, it is envisaged that all potential traffic arising from the development will be safely accommodated on the local road network.

14.12 Climate Change

The design of the scheme is responsive to the current guidelines on sustainability in its broadest sense and will consequently make a positive contribution to both mitigation and adaptation regarding climate change. Proposed measures within the development can be summarised as:

- Providing a sustainable, mixed use development that encourages pedestrian, cycle and public transport alternatives to the private vehicle.
- Creating higher density development adjacent to Bilston Town Centre and close to public routes
- Connecting street networks to provide clear and direct routes, particularly for pedestrians and cyclists
- Providing a range of community facilities that are easily accessible by the local community by foot and cycle
- Providing a network of open space and nature conservation areas that are tolerant to potential climate change
- High energy efficiency and performance in the new buildings
- Ensuring profiles, groundworks and primary infrastructure are designed to be resilient to climate change
- Creating a SUDs network that will minimise the quantity and improve the quality of water before it is discharged from the development, helping to prevent flooding and pollution

Table 14.1 – Cumulative Impact

<u>Subject</u>	<u>Impact</u>
Socio-Economic Issues	Enhancement
Townscape & Visual	
- Townscape Effect	Substantial beneficial
- Visual Effect	Substantial beneficial
Ecology & Nature Conservation	Slight adverse/slight positive
Heritage & Archaeology	No Impact
Water, Hydrology & Drainage	No Impact
Geology & Contaminated Land	Beneficial
Noise & Vibration	No Impact
Air Quality	Slight beneficial
Traffic & Transport	Significant benefit
Climate Change	Significant benefit

14.12 From the above table it can be seen that none of the individual impacts were assessed as being of major negative significance, whilst some, such as socio-economic, townscape, traffic, air quality and climate change will be ultimately beneficial. Overall, the cumulative environmental impact arising from Bilston Urban Village will be substantially outweighed by the collective benefits generated by a well designed sustainable urban village.