HIGHWAYS AGENCY

Safe roads, reliable journeys, informed travellers

Preliminary Environmental Information

A19(T)/A1058 Coast Road Junction Improvements

Report Date: November 2013

An executive agency of the Department for Transport

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1 INTRODUCTION

1.1 Purpose of this Report

1.1.1 The proposed A19(T) / A1058 Coast Road Junction Improvements Scheme is a Nationally Significant Infrastructure Project (NSIP). As such, this Preliminary Environmental Information has been produced to inform the Statutory Consultation process (Section 42 & Section 47) and encompasses all the environmental information known at this time (October 2013).

1.1.2 The Planning Inspectorate has returned a negative screening opinion based on our screening request (section 6a). The scheme therefore does not need to produce a Statutory Environmental Statement. The scheme, however, is still required to consider the environmental impacts of the scheme as we develop the design. This is to ensure we meet our legal obligations, follow our internal Highways Agency guidance and continue to follow best practice.

1.1.3 The following plans are appended to this Preliminary Environmental Information:

- Figure 1: Scheme Footprint and Land Take;
- Figure 2: Environmental Constraints Plan;
- Figure 3: General Arrangement; and
- Figure 4: Scheme Footprint and Land Take Detailed Plan.

1.1.4 Existing site photographs have also been included for reference and can be found in Appendix C.

1.1.5 The information presented within this report is intended to provide Stakeholders with an overview of the environmental information known at the time of the Statutory Consultation period and the scope of work still to be done.

1.2 A19(T) / A1058 Coast Road Junction Improvements Scheme

1.2.1 The junction suffers severe congestion at peak times and has an accident rate 50 per cent higher than the national average. There is also congestion through the junction at weekends due to the adjacent Silverlink Retail Park. The proposed scheme will improve capacity of the existing two level junction by providing a third level to carry the A19(T) under the junction on a free flowing link in cutting. Access to the junction from the lowered A19(T) carriageway will be via new slip roads.

1.2.2 Further details of the scheme and the wider objectives are provided in the accompanying consultation leaflet.

1.3 Environmental Considerations to Date

1.3.1 Having considered a wide range of possible improvements during early work, an Option Identification Study in 2009 recommended three options be taken to Public Consultation during the Options Selection Stage of the Project as follows:

- Options 3 – which provided for the A19(T) being taken over the junction on a flyover;
- Option 4d - which provided for the A19(T) being taken under the junction in a tunnel; and
- Option 4e - which provided for the A19(T) being taken under the junction in an open cutting.

1.3.2 The consultation process was held during Options Selection Stage to seek the views of local residents, businesses and other key stakeholders on the Scheme.

1.3.3 Six options were presented to the public during the public consultation process, the three recommended options as outlined above, and three 'non-recommended ' options which were:

- Option 3b - the A19(T) to be taken over the junction on a flyover which included free flowing left-turn lanes for the A19 northbound to A1058 westbound, A1058 eastbound to A19 northbound, and A1058 westbound to A19(T) southbound. Widening of the A1058 Coast Road would also be required to provide the left turn lanes;
- Option 3c – was similar to Option 3b, however it included for a looped slip road from the A19(T) southbound to A1058 westbound; and
- Option 4 - the A19(T) to be taken under the junction in a tunnel and, similar to Option 3b, this option included for the provision of free flowing left-turn lanes.

1.3.4 These options were classified as 'non recommended' as the additional improvement works to the A1058 Coast Road were assessed as:

- Not providing good value for money;
- Having higher associated costs compared to the recommended options;
- Having a greater environmental impact compared to the recommended options; and

- Having a longer construction period.

1.3.5 An analysis of responses received from the public consultations identified that:

- 95% of responses agreed that improvements to the junction were needed with 82% in favour of the preferred option, Option 4e.
- Representatives of Key Stakeholders attending the Public Consultation were also unanimous in their choice of Option 4e as their preferred option.

1.3.6 An Environmental Assessment Report (EAR) was prepared in December 2010[1], focusing on key topics of concern in order to inform option selection. Detailed baseline data was collected during 2009 / 2010 to inform the EAR, including air quality data, cultural heritage data and contamination, flood, pollution and spillage data. In addition, baseline noise surveys, landscape and visual baseline surveys and data collection, ecological baseline surveys (including Phase 1 Habitat Surveys, assessment of features for bat roost potential and Great Crested Newt (GCN) (*Triturus cristatus*) surveys), and non-motorised user counts were undertaken.

1.3.7 An intrusive Ground Investigation (GI) was undertaken in June / July 2013, the preliminary findings of which have been gathered and used to inform part of this Report. The GI monitoring period is on-going. A suite of landscape and ecology surveys were undertaken in 2013, some of which are on-going. The survey results have informed the understanding of the baseline conditions and are detailed in Chapter 4.

1.3.8 To provide additional information for the assessment of air quality and to inform the verification of the predicted results a NO_2 diffusion tube survey is currently being undertaken within the study area at locations agreed with the Highways Agency (HA) and North Tyneside Council (NTC). Monitoring of NO_2 commenced on the 26th June 2013 and will continue for a six month period. The data from these surveys along with additional information available from NTC would be used to verify the predicted air pollutant concentrations (NO_2 and PM_{10}) at specific receptor locations using the ADMS Roads dispersion model.

1.3.9 Baseline noise surveys are proposed to be undertaken after the school summer holiday period in 2013. The scope and timing of these surveys has been agreed with NTC's Environmental Health Officer (EHO). This data would be used to validate the noise model for the Scheme.

[1] Arup (2010) PCF Stage 2: Option Selection – Environmental Assessment Report Issue 5.

1.3.10 Road Side Interview surveys were undertaken in April 2013 by Arup in order to inform the traffic model which is being further developed in order to provide updated traffic forecasts for the Scheme which will also be used to inform the environmental report.

1.4 Consultation of the Preferred Scheme to Date

1.4.1 Consultation with stakeholders has taken place, as appropriate, in order to identify key environmental issues that need to be considered and to inform baseline information and survey requirements. Stakeholders who have been consulted to date include (but are not limited to):

- NTC;
- Environment Agency (EA);
- English Heritage (EH);
- Natural England (NE);
- TT2;
- Area 14 Managing Agent Contractor (MAC);
- Northumberland Badger Group;
- Northumberland Bat Group;
- Northumberland Mammal Group;
- North East Reptile and Amphibian Group;
- Royal Society for the Protection of Birds (RSPB); and
- Environmental Records Information Centre (ERIC) North-East.

1.4.2 Few environmental concerns have been raised in connection with the Scheme however NTC have raised the following queries:

- NTC Landscape Architect raised a concern over the of vegetation clearance that would be needed during the works and the potential effect that this may have on the view from any sensitive receptors; and
- NTC Biodiversity Officer raised a concern about the potential loss of foraging and commuting habitat in the northern section to the east of the A19 for bats, which may require appropriate mitigation.

1.4.3 Consultation with statutory, relevant non-statutory and other interested stakeholders is, and will continue to be, on-going as the Scheme progresses.

1.4.4 The permanent land take required for the Scheme would be approximately 18.1 Ha. This consists of approximately 15.6 Ha which lies within the existing highway boundary and 2.5 Ha which would need to be acquired for permanent works. Temporary land take in the form of a site compound area would also be required. Currently an area of approximately 8.5 Ha adjacent to the existing A19(T) is being considered for temporary land to be used during construction. The land comprises three separate plots which include a car sales forecourt and 2 areas of rough open ground which are not currently being used. Discussions with landowners and environmental surveys are currently being undertaken on these areas and the environmental constraints will be considered on the finalised land requirements during the preliminary design stage.

1.4.5 The anticipated construction period for the Scheme is 24 Months.

1.5 Scheme Footprint

1.5.1 The proposed Scheme Footprint encompasses the A19(T) / A1058 Coast Road junction and includes the merge / diverge slip roads and the associated proposed temporary construction compounds. The Scheme Footprint is shown by the red line on **Figure 1**.

1.5.2 The Scheme Footprint indicated on **Figure 1** represents the maximum that is currently anticipated. It is likely that the extent will be reduced as the Scheme design progresses.

2 DESCRIPTION OF THE LOCAL ENVIRONMENT

2.1.1 The key environmental constraints identified for the Scheme are illustrated on Figure 2, Environmental Constraints Plan which can be found in Appendix B.

2.1.2 The Scheme is located within North Tyneside, within an urban area dominated by built form of varying type, scale and appearance.

2.1.3 The areas to the west of the A19(T) (north and south of the A1058 Coast Road) are residential in nature. Retail, leisure and commercial developments are located to the northwest and northeast of the existing junction, particularly associated with the Silverlink Retail Park. Light industrial developments, including small factories and warehousing are located to the east of the A19(T), with residential development beyond. These areas are interspersed with pockets of open space, ponds and drains, Public Rights of Way, and a traffic free cycle route runs along the eastbound A1058.

2.1.4 Linear areas of semi mature broadleaf tree and understory planting are located along the A19(T) and A1058 Coast Road providing screening of the existing junction from the surrounding area. The existing roundabout at the junction is well planted with a mixture of trees, shrubbery and amenity grass.

2.1.5 Although traffic on and around the junction generates high traffic noise levels, there are no Air Quality Management Areas (AQMA) declared by NTC. However, the HA have been advised by DEFRA that the A19(T) falls within an area that does not comply with the NO_2 EU Air Quality Limit Values. This contradicts local monitoring data in the vicinity of the Scheme which shows that pollutant concentrations of NO_2 and PM_{10} within the vicinity of the Scheme comply with the annual mean EU Air Quality Limit Values.

2.1.6 Within 1km of the Scheme there are 6 Grade II Listed Buildings and a number of other non-statutory heritage assets. In addition, there is very low potential for the discovery of unknown archaeological remains. The Holy Cross Church and Graveyard located approximately 1.7km to the southwest of the existing junction is a scheduled monument and the church is Grade I Listed.

2.1.7 There are no Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Ramsar sites within 2km of the Scheme. There are a number of designated sites for nature conservation within the surrounding area of the Scheme, including three Local Nature Reserves (LNR), one Local Wildlife Site (LWS) and one Site of Nature

Conservation Importance (SNCI), all of which are at least 1.5km from the Scheme. There is habitat within the Scheme Footprint that has the potential to support protected / notable species including bats, GCN, reptiles and breeding birds, and there are historical records of water vole (*Arvicola amphibious*), bats, amphibians, red squirrel (*Sciurus vulgaris*) and birds within the Scheme Footprint.

2.1.8 The Scheme Footprint is not within an area at risk of flooding from rivers or sea without defences.

2.1.9 Three coal mines are located within 100m from the Scheme which have the potential for land contamination, and there are other industrial / commercial land uses that have the potential to cause contamination.

3 BASELINE CONDITIONS

3.1 Introduction

3.1.1 This Chapter presents baseline information for the Scheme Footprint and its surrounds. It comprises a summary of the data gathered for each environmental topic to date.

3.1.2 This information is based on a review of baseline information for the Scheme, additional surveys carried out (including those still being carried out), consultation carried out for the Scheme and the knowledge of the specialists carrying out the assessment.

3.2 Air Quality

3.2.1 NTC has not declared any AQMAs within their administrative area as part of their review and assessment work.

3.2.2 NTC monitor pollutant concentrations from a network of continuous monitoring stations and diffusion tubes. The air quality monitoring results, within the anticipated affected roads around the Scheme, indicate that concentrations of NO_2 and PM_{10} comply with the annual mean EU Limit Value of 40µg/m3 for both pollutants with the exception of one location (Beach Road, diffusion tube reference NS8) where the annual mean is exceeded. Exceedences at this monitoring location range from 40.1 to 45.4µg/m3 between 2008 and 2011. Diffusion tube NS8 is located in close proximity to a four arm roundabout at the junction of the A1108 Regent Terrace and the A1058 Coast Road approximately 1.7km east of the Scheme Footprint.

3.2.3 NTC undertake NO_2 monitoring at one location within the Scheme Footprint. This monitoring location (NTC reference: A19-1 Travel Lodge, Silverlink) is located approximately 14m to the kerbside of the A19, north of the A19(T)/A1058 roundabout. Annual mean NO_2 concentrations at this location are 32.4µg/m^3 in 2010 and 33.940µg/m^3 in 2011.

3.2.4 The existing monitoring data therefore clearly contradicts DEFRA who have reported that the A19(T) falls within an area that does not comply with the NO_2 EU Air Quality Limit Values.

3.2.5 There are no monitoring locations from which appropriate background concentrations can be obtained. Background concentrations have therefore been taken from the Department for Environment, Food and Rural Affairs (DEFRA) website. The information from the website indicates that, within the 1x1km grid squares relevant to the Scheme area, the estimated background concentrations of NO_2 and PM_{10} are both below the annual mean EU limit of 40µg/m^3.

3.2.6 Potentially affected road links are currently unknown. However the anticipated affected road areas are likely to be those within North Tyneside only.

3.3 Cultural Heritage

3.3.1 Within a 1km boundary around the Scheme Footprint, there are a number of designated heritage assets as presented in Table 4.1 below.

Table 4.1: Identified Designated Heritage Assets

Asset Name	Designation	Distance from Scheme Footprint
Church of St Mary	Grade II Listed Building	725m West
Elmgrove	Grade II Listed Building	718m West
Bewicke Schools	Grade II Listed Building	950m West
1 and 4 St James Terrace	Grade II Listed Building	800m South East
54 Tynemouth Road	Grade II Listed Building	940m West
Church of St John the Evangelist	Grade II Listed Building	810m South East

3.3.2 The locally listed Formica Factory on Norham Road North is located at the extreme eastern edge of the 1km boundary and is the only identified non-designated historic building asset within it.

3.3.3 Other assets outside of the boundary, but that provide additional context to the archaeological potential of the Scheme Footprint, include the locally listed Tesco Chimney in the West Chirton Industrial Estate (Historic Environment Record (HER) 9375) which is located approximately 100m to the southeast of the 1km boundary and the Grade II Listed Buildings of St Mary's Church and associated former Vicarage (HER 7360, HER 7361) which are located approximately 200m to the southwest of the boundary area.

3.3.4 There is a high possibility that modern coal mining activity and later development, including housing developments and the construction of the A1058 Coast Road and A19(T), would have truncated or destroyed much of the potential archaeological resource relating to earlier periods of human occupation and habitation in the North Tyneside area. However, there may be a very low potential of encountering remains associated with the defensive strategies of World War 2, such as any remnants associated with an anti-aircraft battery (HER 5501) located within the vicinity. The Scheme would intersect relict waggonways (HER 1065, HER 1055, HER 1056, HER 1113, HER 1164 and HER 1167) identified in the area which are a key

part of the industrial development of the area as well as the possible remains of the Cramlington Waggonway Engine House (HER 1173).

3.3.5 The Scheme is in the vicinity of the eastern end of Hadrian's Wall and as such there may be the presence of buried archaeological deposits relating to the development of the area in the Romano British period.

3.3.6 Archaeological remains also contribute towards the character of the local historic landscape of trackways and early railways, which are preserved in a fossilized form through bridleways, footpaths and street patterns. These relic routeways contribute to unifying a generally disjointed townscape.

3.4 Landscape

3.4.1 A 1km boundary around the Scheme Footprint has been considered in relation to the baseline data presented below.

3.4.2 Consultation has been undertaken with HA and NTC and viewpoint locations for the baseline agreed. A winter survey was conducted in March 2013, and a summer survey was carried out in July 2013 in accordance with Interim Advice Note (IAN) 135/10 "Landscape and Visual Effects Assessment". NTC raised one concern over the amount of vegetation clearance that would be needed during the works and the impact that this may have on the view from any sensitive receptors.

Landscape Features

3.4.3 The Scheme is located within an urban area which is dominated by built form of varying type, scale and appearance. Residential development lies to the west of the A19(T) with areas of retail, leisure and commercial development located immediately to the northwest and northeast of the existing A19(T) / A1058 Coast Road junction. Industrial development including small factories and warehousing is located to the east of the A19(T) with residential development beyond. Pockets of open space are located throughout the study area.

3.4.4 Linear areas of semi-mature broadleaf tree and shrub planting of a reasonable condition are located along the A19(T) and A1058 Coast Road including at junctions. The vegetation within the highway boundary integrates with vegetation in the surrounding area.

3.4.5 The topography of the land surrounding the Scheme is generally flat, falling gradually from the North West towards the River Tyne to the south. The section of the A19(T) north of the roundabout runs along raised embankments (maximum height approximately

6.5m) before passing into a cutting at the existing A19(T)/ A1058 Coast Road junction (approximately 8m below the A1058 Coast Road). The section south of the junction sits at the same level as the surrounding land before passing into cutting at the roundabout.

3.4.6 The A19(T) and A1058 Coast Road provide the main north to south, and east to west, distribution of traffic within the 1km boundary, broadly dividing the area into four separate quarters. There are pedestrian crossing points between the quadrants either under or over these roads. The wider surrounding area is served by a network of smaller roads with many cul-de-sacs and courts in the residential areas resulting in limited permeability of these areas. The Tyne Tunnel and the pedestrian/cycle tunnel under the River Tyne lie to the south of the boundary.

3.4.7 There are several Public Rights of Way (PRoW) in the vicinity of the A19(T), the closest being 400m north of the existing junction, which runs along an old rail route. A traffic free cycle route runs along the eastbound A1058 which connects with the local cycle route.

Landscape designations

3.4.8 No international or national landscape designations are located within the study area. St Peter's Conservation Area and The Green, Wallsend Conservation Area, are located beyond the study area at 1.8 and 1.2km respectively.

3.4.9 The Rising Sun Country Park is situated approximately 1km west of the A19(T), and is a 400 acre park rich and diverse with wildlife. The lake area is designated as a LNR. The habitats within the Park include grassland, woodland, ponds, wetlands and a lake, and there is also an extensive network of footpaths and bridleways.

3.4.10 Silverlink Biodiversity Park LNR is situated 500m from the Scheme Footprint. This was created as part of a new development scheme in 1996, on the site of a former rubbish tip. This Biodiversity Park together with the pond at West Allotment was declared a LNR in 2005.

National Character Areas

3.4.11 The Scheme sits within two National Character Areas, Area 14 - Tyne and Wear Lowlands and Area 13 - South East Northumberland Coastal Plain.

3.4.12 Area 14 is typified by the following attributes.

- An undulating landform incised by the rivers Tyne and Wear and their tributaries;
- Dominated by widespread urban and industrial development, and a dense network of major road and rail links;
- A landscape of considerable recent change, with a long history of coal mining - now revealed only by locally prominent open-cast extraction areas, spoil heaps and recently restored sites;
- Large, open fields of arable crops with urban fringe effect of pony grazing and other miscellaneous activities around settlements;
- Irregular woodland cover, generally sparse, but with well-wooded, steep, valley sides, estates with mixed woodland and parkland trees, and plantations on restored spoil heaps; and
- Historic riverside cities of Newcastle-upon-Tyne and Durham, strategically located at bridging points of the rivers Tyne and Wear.

3.4.13 Area 13 is typified by the following attributes:

- Widespread urban and industrial development, extending north from the urban edge of Newcastle across the coastal plain, with mining towns and villages, merging into rural landscape towards the north;
- Large-scale, open-cast coal mining sites and restored sites which include deep mine spoil heaps. Sweeping sandy beaches and rocky headlands remain within largely developed coast;
- Large open arable fields, with large scattered country houses, and institutional establishments. Extensive urban fringe effect near settlements;
- Prominent blocks of mixed and coniferous woodland on reclaimed colliery sites, with broadleaved woods on steeper valley sides, and within estate parkland; and
- Frequent areas of open water and wetland in areas of mining subsidence and as features within restored landscapes.

Local Townscape Character Areas

3.4.14 The Scheme is situated within a largely urbanised area which has been characterised and divided into eleven distinct local townscape character units based on existing townscape features and characteristics.

Visual Amenity

3.4.15 Views towards the existing junction from within the western residential areas in close proximately of the A19(T) and A1058 are partially obscured by vegetation blocks along the road. The views from within the south eastern industrial areas and the north eastern retail parks are partially blocked by intervening building and vegetation blocks.

3.4.16 Views of the wider surrounding area are possible from the A1058 Coast Road and A19(T). However, these views become partially obscured by vegetation, within the highway boundary around the junction.

3.4.17 Features that detract from the quality of the landscape within the study area include the major highways, the A19(T) and A1058 and in particular the heavy traffic on the A1058. There are gantries on the A19(T) and also a series of overhead power lines/pylons, which are key visual detractors.

Visual Receptors

3.4.18 The following visual receptors have been identified:

- Residential: Henley Gardens, Melrose Gardens and Blackhill Avenue and the property adjacent to Silverdale School, which are properties in close proximity to the A19(T);
- Recreational: Walkers and cyclists of the PRoWs and cycle way networks, and users of Open Space;
- Employment, retail/commercial or light industrial: Langdale Centre, premises within the Tyne Tunnel Trading Estate and the Silverlink Retail Park; and
- Educational: Silverdale School and Tyne Metropolitan College.

3.5 Nature Conservation

3.5.1 In March 2013, a desk study was undertaken of web-based resources to determine the presence of pre-existing baseline data for the Scheme Footprint and a 500m area around. Data collected during the desk study included historical records (up to 10 years to-date) of legally protected and notable (species of conservation concern) species, habitats and nature conservation sites with statutory or non-statutory designations within 2km search radius (extending to 5km for bats).

3.5.2 Data on species, habitats and nature conservation sites were obtained from online, publically available information centres including:

- National Biodiversity Network Gateway (http://data.nbn.org.uk/imt);
- Magic website (http://magic.defra.gov.uk/website/magic/); and
- WSP's (the designer employed by the Highways Agency) in-house online database (iGIS).

3.5.3 Additionally the following organisations / individuals have been approached for existing information regarding the Scheme and surrounding area and responses will be collated and fully considered in the ES to identify potential receptors and environmental effects within and surrounding the Scheme. Organisations include:

- Northumberland Badger Group;
- Northumberland Bat Group;
- North Tyneside Council;
- Northumberland Mammal Group;
- North East Reptile and Amphibian Group;
- Royal Society for the Protection of Birds (RSPB); and
- Environmental Records Information Centre (ERIC) North-East.

Designations

3.5.4 A summary of designated sites can be found in Table 4.2 overleaf.

Table 4.2: Summary of Designated Sites

Name	Designation	Approximate Distance/ Direction	Description and Qualifying Feature
Northumberland Shore	SSSI	4.3km to E	Important wintering grounds for shore birds, and of international and national significance for six species, purple sandpiper, turnstone, sanderling, golden plover, ringed plover and redshank.
Durham Coast	SAC and SSSI	5.5km to E	Designated for paramaritime Magnesian Limestone vegetation, a species-rich dune system, and nationally important numbers of wintering shore birds and breeding little terns.
Northumbria Coast	SPA and Ramsar	4.3 km to E	The Northumbria Coast SPA includes much of the coastline between the Tweed and Tees Estuaries. The site consists of discrete sections of rocky shore with associated boulder and cobble beaches. The SPA also includes parts of three artificial pier structures and a small section of sandy beach. In summer, the site supports important numbers of breeding Little Tern *Sterna albifrons*, whilst in winter the mixture of rocky and sandy shore supports large number of Turnstone *Arenaria interpres* and Purple Sandpiper *Calidris maritima*.
Silverlink Biodiversity Park	Local nature Reserve	1.5km to NE	The reserve holds significant biodiversity value, with woodland, scrub and hedgerow, grassland and tall herb, wetland and exposed rock habitats. In particular, the site is of note for its amphibian and invertebrate population.
Hadrian Park Pond	Northumberl and Local Wildlife Site	1.5km to NW	Hadrian Pond is a local wildlife site and is a remnant of an ancient bog system. The pond supports rare beetles, and a range of bird species include great crested grebe, teal and pied wagtail.
Wallsend Dene	Local nature Reserve	1.5km to SW	A mosaic of ancient grassland and scrub with grazed pastures and areas of more formal parkland and amenity use. The Dene is an important wildlife corridor and contains two areas that are of high nature conservation value: Burn Close Pasture and Willington Gut Saltmarsh. Burn Close Pasture is also one of the few areas of ancient semi-natural grassland left in North Tyneside.
Willington Gut Saltmarsh	Site of Nature Conservatio n Importance (SNCI)	1.5km to SW	Willington Gut Saltmarsh is designated as a separate SNCI and is the only characteristic middle saltmarsh community left on the River Tyne. It extends for approximately 0.5km inland along the Dene to the road at Church Bank. Typical species found here include sea milkwort, sea arrow grass and sea aster.
Swallow Park and Pond	Local Nature Reserve	1.5km to NW	Mixed plantation woodland, grassland, a seasonal wetland and a collection of smaller ponds.

Habitats

3.5.5 An Extended Phase 1 Habitat Survey was undertaken on 3rd April 2013 in accordance with Joint Nature Conservation

Committee (JNCC) Guidance[2]. The survey area included all land within the Scheme Footprint. The paragraphs below provide a summary of the findings of the survey.

3.5.6 The proposed route for the A19(T) is situated within the footprint of the existing A19(T) with additional land take either side dominated by scattered trees, scrub and semi-improved grassland. Habitats within the 500m boundary around the Scheme are dominated by semi-improved and amenity grassland, scattered trees and areas of hard standing of low ecological value.

3.5.7 Commercial and retail businesses are situated adjacent to the east and west of the A19(T) north and south of the junction with the A1058. To the north east of the junction in and around the Silverlink Business Park the habitats present include grassland and scattered trees.

3.5.8 To the southeast of the junction further commercial and retail business are present along with a school and a public park situated to the southwest of the junction.

3.5.9 Seven ponds are situated within the area with one additional pond situated on the periphery of the 500m boundary to the east.

3.5.10 In general the habitats found do not support a particularly diverse or notable assemblage of plants and are limited in terms of structural diversity. As such they are considered to represent limited biodiversity value. However, the Phase 1 Survey noted habitats within the Scheme Footprint suitable to support bats, GCN, reptiles and breeding birds and further surveys for these species was recommended.

Protected and Notable Species

3.5.11 ERIC North-East returned records of protected European and UK mammal species of interest including bats, amphibians, red squirrel and birds.

3.5.12 A number of small ponds and watercourses have been identified within the 500m area. The ponds are known to support GCN (records obtained from the preliminary data search). A Habitat Suitability Index (HSI) identifying ponds suitable for breeding GCN was undertaken in May 2013, followed by a GCN survey in line with standard methodologies[3]. No GCN were recorded.

[2] JNCC (2010) Handbook for Phase 1 Habitat Survey: A technique for environmental audit (reprint). Joint Nature Conservation Committee, Peterborough

[3] English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough

One pond was unable to be surveyed due to the presence of breeding birds and therefore it has been agreed with the HA and NTC that a watching brief would be undertaken prior to construction works.

3.5.13 Given the number of ponds and watercourses, coupled with the presence of Northumberland Wildlife Trust records for water vole, a dedicated water vole survey will be undertaken in September/October 2013. The survey will cover approximately 1.7 km of ditch habitat located to the west of the A19 at the northern end of the works where evidence of water vole has been historically recorded. We would also survey the off-shoot ditches. Should we get a positive result from the survey of the ditch (i.e. evidence of water vole) we would then extend the survey to include the ponds to the west of the ditch. All ponds and watercourses will be searched for evidence of water vole presence following the methodologies outlined in Strachan and Moorhouse (2006)[4].

3.5.14 The presence of woodland habitats, ponds and linear features within the Scheme Footprint coupled with the presence of records for bats within the wider area suggests that these areas could provide suitable habitat for these species. Bat transect surveys and emergence surveys at the bridges were therefore undertaken between May and August 2013. Surveys have recorded foraging and commuting bat activity on both the west and east of the A19, however no bat roosts have been recorded. Consultation is on-going with NTC.

3.5.15 The areas of woodland habitat within the Scheme Footprint and the returned records of red squirrel have influenced the requirement for a red squirrel survey to be undertaken. A Red Squirrel record check was undertaken in July 2013 and no drays were confirmed.

3.5.16 The presence of woodland and scrub habitats within the Scheme Footprint suggests that breeding birds will require additional surveys and/ or mitigation during the construction phase.

3.5.17 In addition, reptile surveys will be undertaken in line with relevant Guidance[5], in September 2013.

3.5.18 Consultation with NE was undertaken in July 2013. The following advice has been provided: '*Given the extent of the site and the nature of the works proposed, the development does not*

[4] Strachan, R. and Moorhouse, T. (2006). Water Vole Conservation Handbook. (2nd Ed.) Wildlife Conservation Research Unit, University of Oxford, Oxford, UK.
[5] Froglife (1999) Advice Sheet 10: Reptile Survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation.

pose a risk to designated sites or protected landscapes that would merit a bespoke response at statutory consultation'.

3.6 Geology and Soils

3.6.1 Much of the following baseline information has been confirmed following the GI, which was undertaken in June and July 2013. The GI was conducted in accordance with DMRB Volume 5 (Contractor Documents for Specialist Activities), Section 3 Ground Investigation, Part 4 Specification (August 1997).

Geology and Soils

3.6.2 The preliminary interpretation of the GI is that the superficial deposits underlying the Scheme Footprint includes varying thicknesses of Made/re-worked Ground, including re-worked glacial till with the addition of a combination of brick, burnt shale, coal, ash and some clinker, pottery and glass. The embankment beneath the A1058 comprises generally pulverised fuel ash, up to a depth of 7m, with some burnt shale locally.

3.6.3 Glacial till deposits underlie the Made Ground, generally comprising sandy gravelly clay. Sand and gravel dominated layers were encountered at varying depths. Cobbles and boulders were encountered at varying depths through the glacial till.

3.6.4 The solid geology underlying the Scheme Footprint includes Carboniferous Middle Coal Measures, including sandstone and mudstone. The depth to bedrock varies across the site, generally shallowest beneath the A1058 / A19(T) junction (approximately 7m-10m below the roundabout level), and increasing in depth to the north and south, up to approximately 40m below ground level.

3.6.5 Geological plans indicate that the north section of the Scheme Footprint is crossed by the Chirton Fault, which trends east-west, is indicated to be down thrown to the south and is indicated to cross the A19(T) in close proximity to the Middle Engine Road bridge. The junction is crossed by a branch of the Benton Quarry Fault which trends east-west and is shown to be down thrown to the north. It is indicated to cross through the middle of the junction. The Scheme Footprint is also indicated to be crossed by an unnamed fault which trends southwest northeast and is shown to be down thrown to the southeast. It is indicated to cross the route at the Tyne Tunnel Trading Estate to the east of the Scheme Footprint. From provisional interpretation of the GI, it is considered that at least 2No. faults are present beneath the site. One is located to the south of the junction (beneath Vroom), where faulted rockmass was encountered. It is not considered at this stage that this fault

varies the depth to rockhead. The other is located to the north of the junction (beneath the Travelodge), and, although is still being investigated, appears to increase the depth to rockhead to the north of the fault (i.e. the fault is down thrown to the north).

Hydrology

3.6.6 The Scheme location, and a 250m buffer around, is not indicated as lying within an area at risk of flooding from rivers or sea without defences.

3.6.7 Two hydrological features lie within 250m of the Scheme Footprint. A drain borders the eastern Scheme Footprint boundary 280m south of the Silverlink Junction, which according to historical mapping used to form part of the river valley, Howden Dene. A pond is located 100m east of the northern end of the Scheme Footprint.

Hydrogeology

3.6.8 The Coal Measures bedrock is classified by the EA as a Secondary Aquifer.

3.6.9 Drift deposits in the far north of the Scheme Footprint are classified as having a Low Leaching Potential. Drift deposits in the rest of the Scheme Footprint are classified as High Leaching Potential. These are areas where a worst case classification is assumed until proven otherwise. The published geological information indicates the drift to be glacial till, which is likely to be of low permeability.

3.6.10 From historical GI information, groundwater strikes were recorded in the Made Ground and Glacial Till, generally just above sand and gravel bands.

3.6.11 The GI did not encounter a regional groundwater table, yet did encounter perched groundwater, generally within gravel and sand dominated layers within the glacial till. Monitoring installations have been placed to target these perched water bearing bodies. No significant groundwater was encountered at rockhead. The groundwater regime within rock will be assessed during the monitoring period as the rotary coring was conducted using water/mist flush.

Mining

3.6.12 Three coal mines were located within 100m of the Scheme Footprint, namely the Belle, Millbank and Flatworth Pits. Based on the depths to the first available coal seam and the worked High Main seam the coal mining is considered to be beyond the influence of the proposed works.

3.6.13 Given the locations of the three pits, it is considered unlikely that the coal mining will affect the Scheme.

3.6.14 The only coal encountered within the GI comprised a 250mm thick layer within a borehole adjacent to Travelodge, at a depth of between 36.75m and 36.90m below ground level.

Unexploded Ordnance (UXO)

3.6.15 An UXO Preliminary Risk Assessment[6] has been conducted. This assessment indicated that, given the UXO risk to the Scheme, a Detailed Risk Assessment was required. The Detailed Risk Assessment indicated that the Scheme had a risk rating of Low to Medium.

3.6.16 No evidence of UXO was encountered during the GI.

3.7 Materials

3.7.1 A baseline review of the available information on the likely materials that will be encountered during the works, including a review of the design for the Scheme, has been carried out and a high level summary is included below.

3.7.2 Construction of the Scheme will require the production, procurement, transport and use of a variety of construction materials including concrete, steel and structural materials, road surface materials, timber and general construction materials.

3.7.3 Construction work will also result in the production of construction wastes including topsoil or subsoil materials, material off-cuts, redundant drainage materials, demolition materials (which would be reused on site as far as possible), general construction wastes, any hazardous or contaminated material found on-site, vegetation from site clearance (which would be reused as far as possible), and redundant equipment (which would be reused as far as possible).

3.8 Noise and Vibration

3.8.1 The areas to the west of the A19(T) (north and south of the A1058 Coast Road) are residential in nature, whilst the areas to the east are primarily commercial/industrial.

3.8.2 The assessment carried out by Arup at Option Selection stage[7] identified that road traffic on the A19(T) and the A1058 is the dominant source of noise for the majority of the receptors.

[6] 6 Alpha Associates (March 2013) Preliminary Unexploded Ordnance (UXO) Risk Assessment.
[7] Arup (2010) PCF Stage 2: Option Selection – Environmental Assessment Report Issue 5

Baseline noise measurements undertaken by Arup indicate that noise levels in the vicinity of the nearest dwellings to the A19(T) are up to 71 dB $L_{A10,18h}$ (under free-field conditions), which would be described as high.

3.8.3 A number of schools have also been identified within 1km of the Scheme Footprint. The nearest to the Scheme is Silverdale School, which is located immediately to the southwest of the A19(T)/A1058 junction. In addition, the Newcastle Silverlink Travelodge Hotel is located in close proximity to the Scheme, being immediately north of the A19(T) / A1058 junction. Other sensitive locations of interest include medical, community and sports facilities, churches (including Holy Cross Church), West Allotment Country Park, and other park and woodland areas.

3.9 People and Communities

3.9.1 This topic currently has no specific guidance within the DMRB. The HA "People and Communities Clarification Note" (August 2012) recommends combining the IAN 125/09 Supplementary guidance for users of DMRB Volume 11 "Environmental Assessment" assessments of "Community and Private Assets' and "Effects on all Travellers" into a single topic entitled "People and Communities".

3.9.2 The purpose of this topic is to ensure consideration of the potential effects on human beings and their quality of life not already covered in other topic areas.

Community facilities

3.9.3 The majority of the open space around the Scheme is concentrated to the west of the A19(T) junction. Most of this space is categorised by North Tyneside Council as Medium to High quality and value. The exception is the open space located within Willington square and within Tyne Tunnel Estate, which is categorised as Low quality and value. These areas (including the Rising Sun Country Park, the Silverlink Biodiversity Park (LNR), West Allotment Country Park and Wallsend Dene) are used for recreation.

3.9.4 There are several PRoW in the vicinity of the A19(T), the closest being 400m north of the existing junction, which runs along an old rail route. A traffic free cycle route runs along the eastbound A1058 which connects with the local cycle route network.

3.9.5 A number of schools are also located within the area around the Scheme footprint. The nearest to the Scheme is Silverdale School, which is located immediately to the southwest of the A19(T)/A1058 junction.

3.9.6 The nearest health facility lies approximately 1km to the north of the Scheme. There are two nursing homes within this boundary, the nearest being approximately 500m to the east of the Scheme.

3.9.7 There are two churches within a 1km boundary around the Scheme, both to the south (Church of St John and Church of St Mary).

3.9.8 The Newcastle Silverlink Travelodge Hotel is located in close proximity to the Scheme, immediately north of the A19(T)/A1058 junction.

3.9.9 The Metro railway line runs to the south of the Scheme, and there are a number of associated stations within the area. In addition, the North Tyneside Steam Railway runs parallel to the east of the Scheme, with a station and the Stephenson Railway Museum located approximately 600m to the northeast of the Scheme on Middle Engine Lane.

3.9.10 The Silverlink Retail Park is located immediately adjacent to the east of the A19(T) roundabout within a wildlife corridor and employment area. It is formed of commercial assets mainly being the Silverlink Retail Park which contains a cinema, a variety of shops and over 1,500 free parking spaces.

3.9.11 The wider coastal areas around the Scheme attract numerous tourists.

Local Economy

3.9.12 The economy of Tyneside has historically been focused around heavy industry which has suffered high employment losses in recent years. However, recent growth has been directed within the A19(T) corridor with new industrial estates and retail parks.

3.9.13 According to the NTC Annual Monitoring Report (AMR), in 2011, 81.1% of the working age resident population was economically active, which is comparable with 73.4% in the North East and 76.2% in England. Unemployment levels are particularly high within the wards around the Scheme location.

3.9.14 A substantial number of residents from adjacent areas commute into the Borough to work, but there is also a significant commuting outflow of workers.

3.9.15 Industrial premises are concentrated along the eastern part of the Scheme, which is identified as an area of potential employment expansion. The Cobalt Business Park is located north east of the A19(T) junction and lies within North Tyneside's employment area and wildlife corridor. The business park is

currently being developed and is set to become "the largest office park in the UK". The business park also contains a hotel, NHS and private healthcare facilities and a children's nursery. The business park currently employs 9,000 people and is set to create 10,000 new jobs following redevelopment. The business park contains landscaped open space formed of mown grassland with some ornamental planting. It also contains a wild fowl lake at the entrance.

3.9.16 The Tyne Tunnel Trading Estate North occupies the land to the southeast of the junction and is designated as employment land. The land to the northwest of the junction is designated as Current Employment Areas/ Expansion Land. Land adjacent to the south bound carriageway of the A19(T) to the north of the junction around Middle Engine Lane is designated as Employment land and Current Employment Areas/ Expansion Land.

Land Use and Housing

3.9.17 The Scheme is located within North Tyneside, within an urban area dominated by built form of varying type, scale and appearance.

3.9.18 Residential development lies to the west of the A19(T) Retail, leisure and commercial developments are located to the northwest and northeast of the existing junction, particularly associated with The Silverlink Retail Park. Light industrial developments, including small factories and warehousing are located to the east of the A19(T), with residential development beyond. These areas are interspersed with pockets of open space, ponds and drains, PRoW, and a traffic free cycle route runs along the eastbound A1058.

3.9.19 Linear areas of semi mature broadleaf tree and understory planting are located along the A19(T) and A1058 Coast Road providing screening of the existing junction from the surrounding area. The existing roundabout at the junction is well planted with a mixture of trees, shrubbery and amenity grass.

3.9.20 According to the NTC AMR, the Borough has experienced high demand for housing with an average gross completion figure of 612 dwellings per annum from 2004/05 to 2011/12, 70% of which have been on previously developed land. The affordable housing requirement is acute with the 2011 update to the Strategic Housing Needs Assessment identifying an estimated shortfall. Based on the Department for Communities and Local Government (DCLG) housing projections (2010) the number of households in the Borough is expected to rise to 99,000 by 2018 and 108,000 by 2028.

Transport

3.9.21 The main routes are concentrated in three areas and have been identified as likely to be affected by the Scheme:

- A19(T)/A1058 Coast Road junction;
- Battle Hill Interchange (A 1058 Coast Road/Battle Hill Drive); and
- Middle Engine Lane.

3.9.1 The existing A19(T) and A1058 Coast Road are important dual carriageway routes carrying traffic in a north/south direction (Morpeth / Wallsend) and east / west direction (Newcastle / Tynemouth). The routes intersect at the Silverlink Junction, where the A1058 Coast Road crosses the junction on a flyover, while the A19(T) terminates at a roundabout. Congestion occurs on the existing route, particularly at the junction.

3.9.2 Routes suitable for Non-Motorised Users (NMU) include:

- Pedestrian Infrastructure – A19(T)/A1058 Coast Road Junction from the residential areas of Howden to the Retail Park and in particular, accessing the retail park via the informal footpath that has been created between Cast Road eastbound slip-road and McDonald/Halfords Service Yard;
- Pedestrian Infrastructure – East/west across Middle Engine Lane to and from the Retail Park and employment areas;
- Existing Pedestrian Infrastructure – North/south across Battle Hill Interchange between Tyne Met College and the residential areas and local retail facilities;
- Cyclists – A19(T)/A1058 Coast Road shared facility for pedestrians and cyclists running parallel to the A1058 Coast Road eastbound carriageway;
- Cyclists – Middle Engine Lane shared facility for pedestrians and cyclists on the east side of Battle Hill Drive and south of Middle Engine Lane;
- Cyclists – Bridleway (former Waggonway), cyclists are permitted to use the existing bridleway which provides a formalised grade separated, east-west link below the A19(T) from the residential area to Silverlink and beyond;
- Cyclists – Battle Hill Interchange shared facility for pedestrians and cyclists that runs parallel to the A1058 Coast Road eastbound carriageway and travels through the Battle Hill junction providing a link to the cycleway on Middle Engine Lane; and

- Equestrians – The former Waggonway running east-west below the A19(T) is utilised as a bridleway.

Social Profile

3.9.3 According to the 2011/12 NTC AMR, North Tyneside had a resident population of 200,800 in 2011. If current trends continue, the population of North Tyneside is projected (2010 based) to 214,000 by 2021 and to 225,000 by 2035, and is predicted to become appreciably older during this period in line with national trends. 8.6% of North Tyneside's population is aged 75 or more, which is higher than the England and Wales average (7.8%). Over a fifth (22.3%) of the Borough population is under 20 years old, which is line with the average for Tyne and Wear, but below the national average of 24%.

Health Profile

3.9.4 According to the 2010 Indices of Multiple Deprivation, 6% of North Tyneside's population live in the 10% most deprived areas of the Country, and approximately a quarter of the population (23%) live in the 20% most deprived areas nationally. Deprived neighbourhoods are located mainly between the riverside and the A1058 Coast Road and in the west of the Borough.

3.9.5 The safety and amenity of local residents should be a significant consideration during the construction of the Scheme. Key factors include, physical safety, noise disturbance, demolition traffic (access, site workers, removal of waste, machinery - in terms of local traffic congestion, pollution, noise, road cleanliness etc) and dust creation.

3.10 Road Drainage and the Water Environment

3.10.1 A desk based assessment has been carried out, including a review of the Environmental Assessment carried out by Arup[8] in 2010, the details of which are summarised below.

3.10.2 Consultation has taken place with the EA where it was discussed that the new drainage infrastructure would improve water quality due to greater attenuation of flood water that would be incorporated into the design. Additionally the new guidance that the HA has agreed with the EA on improving water quality would be followed[9].

3.10.3 The nearest main watercourse to the Scheme Footprint is the River Tyne, which is situated approximately 2.25km to the south of the A19(T)/A1058 Silverlink Junction. There are no known

[8] Arup (2010) PCF Stage 2: Option Selection – Environmental Assessment Report Issue 5
[9] DMRB Volume 11 Section 3 Part 10 (HD45/09) Annex 1 – Highways Agency Water Risk Assessment Tool

standing-water features (ponds, pools, reservoirs, lakes) within the Scheme Footprint. Seven ponds are situated within a 500m radius of the Scheme, with one additional pond situated on the periphery of the 500m boundary to the east, which are potentially water based habitats. The closest surface watercourse is an unnamed tributary of the River Tyne, approximately 750m northeast of the edge Scheme Footprint.

3.10.4 No potentially sensitive land uses such as SSSIs have been identified within 1000m of the Scheme Footprint. The River Tyne itself has a number of designations however, which include the Northumberland Shore SSSI and Northumbria Coast SPA and Ramsar at the mouth of the River.

3.10.5 The Scheme Footprint is situated in EA Flood Zone 1, which is associated with a low and insignificant risk of flooding from fluvial and coastal sources. Existing information suggests that there are no flooding issues within the Scheme Footprint from either fluvial or coastal sources.

3.10.6 The EA's Groundwater mapping shows that the site is not situated within a Source Protection Zone. The Coal Measures bedrock is classified by the EA as a Secondary Aquifer. As previously stated, the GI did not encounter regional groundwater table, and did encounter perched groundwater.

3.10.7 As previously stated, drift deposits in the far north of the Scheme Footprint are classified as having a Low Leaching Potential. Drift deposits in the rest of the Scheme Footprint are classified as High Leaching Potential. These are areas where a worst case classification is assumed until proven otherwise. The published geological information indicates the drift to be glacial till, which is likely to be of low permeability.

3.10.8 Old mine workings and industrial areas are also known to be present close to the Scheme Footprint. There is therefore potential for contamination to be present.

3.11 Cumulative Effects

Interaction with other Projects

3.11.1 The Scheme would be planned and co-ordinated with other road infrastructure projects within the vicinity to ensure that cumulative effects are managed. For example, the junction improvement scheme at Testos roundabout to the south of this scheme has recently come back into the roads programme. This project is still in the early stages of development but progress will be monitored and any cumulative impacts managed.

3.11.2 There are a number of existing industrial and business / retail parks in the vicinity of the Scheme Footprint that, in combination with the Scheme, could generate potential effects upon receptors.

3.11.3 Consultation with NTC's Environmental Health Officer by Arup during Option Selection identified three existing developments that are likely to impact upon the amount and type of traffic using the junction. To the east of the A19(T) are the Cobalt Business Park and the Tyne Tunnel Trading Estate. There are also redevelopment plans for the north side of the Tyne.

3.11.4 Potential and "committed" developments will be further reviewed as the Scheme progresses, in consultation with relevant stakeholders, in order to assess the potential cumulative effects.

Interaction between Topics

3.11.5 There is the potential for interactions between the various topics previously identified within this Chapter.

3.11.6 The locations most likely to experience cumulative effects during the construction phase would be those close to construction activities. Cumulative effects arising from construction phase activities are likely to relate to visual intrusion, dust, noise and vibration, and temporary land take required for ancillary works (e.g. compounds, diversions and material storage).

3.11.7 Similarly, the locations most likely to experience cumulative effects during operation would be those close to the Scheme or those with direct views of the Scheme. Cumulative effects arising from operational activities are most likely to relate to visual intrusion, noise and vibration, and permanent land take.

4 SCHEDULE 3 INFORMATION

4.1 Introduction

4.1.1 Paragraph 7 of the EIA Regulations sets out that in deciding whether Schedule 2 development requires EIA or not, the selection criteria in Schedule 3 should be referred to where relevant to the development. Scheme information pertaining to the selection criteria in Schedule 3 is presented in the following paragraphs and tables.

4.2 Characteristics of Development

Table 5.1: Characteristics of Development

Selection Criteria	Scheme Information
Characteristics of Development	
Size of the development	The Scheme would be relatively small-scale, being an upgrade to an existing junction. The permanent land take required for the Scheme would be approximately 18.1 Ha. This consists of approximately 15.6 Ha which lies within the existing highway boundary and 2.5 Ha which would need to be acquired for permanent works. Temporary land take in the form of a site compound area would also be required. Currently an area of approximately 8.5 Ha adjacent to the existing A19(T) is being considered for temporary land to be used during construction. Discussions with landowners, and environmental surveys are currently being undertaken on these areas and the environmental constraints will be considered on the finalised land requirements during the preliminary design stage.
Cumulation with other development	The Scheme would be planned and co-ordinated with other road infrastructure projects within the vicinity to ensure that cumulative effects are managed. However, there are currently no other such projects planned within the vicinity of the Scheme. For example, the junction improvement project at Testos roundabout, located to the south of the Scheme, has recently come back into the roads programme. This project is still in the early stages of development but progress will be monitored and any cumulative impacts managed. Consultation with NTC is currently being undertaken to determine other committed proposed projects / developments within the vicinity of the Scheme. Currently there are no known committed developments that are likely to lead to cumulative effects in conjunction with the Scheme.
Use of natural resources	Construction of the Scheme would require the production, procurement, transport and use of construction materials. A large proportion of cut materials are expected to be useable in the Scheme and kept on site. Recycled materials would be used where possible.
Production of waste	Construction of the Scheme would require the production of construction wastes. A Site Waste Management Plan would be developed to reduce wastes through design and to explore opportunities for waste reduction, reuse or recycling during construction phase.

Selection Criteria	Scheme Information
Pollution and nuisances	Sensitive receptors such as residential properties within 500m of the Scheme have the potential to temporarily experience increased dust and PM_{10}, and also additional vehicle emissions (NO_2 and PM_{10}) from construction traffic. During construction, nearby sensitive receptors could experience temporary noise and vibration effects. During operation sensitive receptors located adjacent to the A19(T) may experience an increase in levels of noise and vibration as a result of increased road traffic. Some properties are likely to experience noise reductions. However, in order to avoid, reduce or minimise such potential effects, an Environmental Management Plan (EMP) would be produced, setting out mitigation, compensation and enhancement actions to be implemented during the construction and operation (where appropriate) of the Scheme.
Risk of accidents, having regard in particular to substances or technologies used	No environmentally harmful substances or technologies would be used on site. The Scheme would be a standard project for the appointed contractors with no unusual risk for accidents. An EMP would document accident preventative measures as well as their emergency procedures to prevent environmental damage in the case of any pollution incident.

4.3 Location of Development

Table 5.2: Location of Development

Selection Criteria	Scheme Information
Location of Development	
Existing land use	The Scheme is located within North Tyneside, within an urban area dominated by built form of varying type, scale and appearance. The areas to the west of the A19(T) (north and south of the A1058 Coast Road) are residential in nature. Retail, leisure and commercial developments are located to the northwest and northeast of the existing junction, particularly associated with The Silverlink Retail Park. Light industrial developments, including small factories and warehousing are located to the east of the A19(T), with residential development beyond. These areas are interspersed with pockets of open space, ponds and drains, PRoW, and a traffic free cycle route runs along the eastbound A1058. Linear areas of semi mature broadleaf tree and understory planting are located along the A19(T) and A1058 Coast Road providing screening of the existing junction from the surrounding area. The existing roundabout at the junction is well planted with a mixture of trees, shrubbery and amenity grass. The Scheme requires the partial removal of areas of hard standing and some canopies associated with the outdoor vehicle display areas at the Vroom Car Retail Park.

Selection Criteria	Scheme Information
The relative abundance, quality and regenerative capacity of natural resources in the area	The Scheme is not situated within a Source Protection Zone. However there are shallow deposits that may act as a perched water table with reasonable permeability and groundwater storage value. The Coal Measures bedrock is classified by the EA as a Secondary Aquifer, which may be important for local water supplies and for providing base flow to rivers. Existing information suggests that the Scheme does not lie within an area at risk of flooding from rivers or sea without defences. Surface water flood maps will be further evaluated, and further discussions with the EA will be held. Two hydrological features lie within 250m of the Scheme Footprint, a drain bordering the eastern Scheme Footprint boundary 280m south of the Silverlink Junction, Howden Dene, and a pond located 100m east of the northern end of the Scheme Footprint. There are no internationally or nationally designated sites for nature conservation within 2km of the Scheme. There are a number of designated sites for nature conservation within the surrounding area of the Scheme, including three Local Nature Reserves (LNR), one Local Wildlife Site (LWS) and one Site of Nature Conservation Importance (SNCI), all of which are at least 1.5km from the Scheme. There is habitat within the Scheme Footprint that has the potential to support protected / notable species including bats, Great Crested Newts, reptiles and breeding birds, and there are historical records of water vole, bats, amphibians, red squirrel and birds within the Scheme Footprint.
The absorption capacity of the natural environment	The Scheme has the potential to temporarily and permanently directly and indirectly affect non-statutorily designated heritage assets (the surviving routes of early waggonways) and their settings, and also directly affect previously undisturbed archaeological deposits. However, mitigation to reduce such effects would be implemented during the site preparation, earthworks and construction phase as part of the Scheme design. Such mitigation would be agreed with the NTC Archaeologist. In addition, once screening planting, proposed as part of the mitigation measures for the Scheme, becomes established effects would lessen as the planting would soften the new and remodelled landform, and would screen the revised junction and traffic on the roads. The Scheme has the potential to adversely affect sensitive receptors and the existing landscape / townscape character as a result of visual intrusion. However, visible aspects of the physical works would be minor in the context of the existing infrastructure. The implementation of appropriate mitigation through an EMP would eliminate / greatly reduce risk if implemented correctly, and mitigation planting would be implemented through landscape proposals to reduce the visual effects of construction. Potential ecological impacts are likely to include the direct loss and severance of habitats and indirect impacts as a result of temporary disturbance to habitats. The implementation of appropriate mitigation through an EMP would eliminate / greatly reduce risk if implemented correctly. In addition, any habitat loss would be replaced. All mitigation would be agreed with NE and NTC. The immediate areas to the west of the Scheme are densely populated and sensitive receptors, including dwellings, have the potential to experience temporary disturbance in terms of increased noise and vibration, a reduction in air quality, traffic congestion, safety and visual amenity during the construction phase. However, some receptors are likely to experience improvements in air quality and noise reductions. Such effects are not anticipated to be significant and the EMP could eliminate/greatly reduce risk if implemented correctly. In addition, it would be ensured that good liaison and communication with residents in advance and during the construction phase is undertaken. The Scheme is likely to generate positive effects upon the local economy through enhanced connectivity and a reduction in congestion, and also job creation during construction. Refer to Table 5.3 of this chapter for further details.

4.4 Characteristics of the Potential Effects

4.4.1 Table 5.3 overleaf presents a high-level assessment of the likely, potentially significant, effects as a result of the Scheme. This assessment has been carried out based on the review of baseline information for the Scheme, results from additional surveys carried out (including those still being carried out), consultation carried out for the Scheme and the knowledge and experience of the specialists carrying out the assessment.

Table 5.3: Potential Significant Effects

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Air Quality	During the construction phase, sensitive receptors have the potential to experience a temporary deterioration in air quality as a result of dust and PM10 generation and construction traffic emissions (NO2 and PM10) as a result of construction vehicles. Local residents would be key receptors. In addition Silverlink Biodiversity Park, Swallow Pond and Plantation, and Wallsend Dene would also be susceptible to nitrogen deposition. Sensitive receptors adjacent to the A19(T) could potentially experience the combined effect of noise, ground borne vibration, dust and visual impact.	Dust - potentially hundreds of metres if dry, windy conditions. Vehicle emissions in surrounding road network.	Moderate	Likely	Duration of construction works	Temporary during construction	Reversible	EMP could eliminate/greatly reduce risk if implemented correctly.
	Vehicle flows and speeds are predicted to change in a number of route locations which would result in improvements in air quality in some areas and deterioration in others. However, these changes are not expected to be significant and the Scheme is not anticipated to exceed air quality objectives and limit values. Local residents would be key receptors. In addition Silverlink Biodiversity Park, Swallow Pond and Plantation, and Wallsend Dene would also be susceptible to dust creation.	Vehicle emissions in surrounding road network.	Minor	Likely	Scheme operation	Permanent	Reversible	EMP could eliminate/greatly reduce risk if implemented correctly.

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Cultural Heritage	Potential physical impacts during the construction phase, such as temporary disturbance to a heritage asset, or the partial / complete removal of heritage assets during the construction phase. Potential impacts upon the setting / amenity of a heritage asset during the construction phase. No likely impact upon below ground archaeology due to implementation of mitigation during the site preparation, earthworks and construction phase as part of the Scheme design.	Heritage assets and their setting. Below ground archaeology.	Moderate Moderate	Possible Unlikely	Duration of construction phase.	Permanent	Irreversible Reversible	Mitigation measures to assist in preserving potential archaeological assets could include an archaeological watching brief, which would be agreed with the NTC archaeologist, to ensure preservation by record of archaeological assets and a focus upon the sections of the Scheme which would intersect the waggonway assets.

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Cultural Heritage	Potential for the surviving routes of early waggonways to be severed by the Scheme, although much of the historic landscape has been eroded by recent development. Potential long-term effects upon the setting of heritage assets.	Heritage assets and their setting.	Moderate	Likely	Operation of the Scheme.	Permanent	Irreversible Reversible	Once screening planting becomes established these effects will lessen as the planting will soften the new and remodelled landform, and will screen the revised junction and traffic on the roads. Mitigation measures to assist in minimizing potential effects upon the settings of historic building assets and the historic landscape character could include: Retention of the maximum possible amount of planting along existing route corridors to maximise screening of the Scheme; additional screening planting to maximise screening; and Careful design and siting of new lighting, signage, any gantries and any noise barriers (or other mitigation features) required by the Scheme to minimise visual and noise intrusion.

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Landscape	Temporary inclusion of new features including land profiling and the provision and location of the site compounds; Potential temporary visual effects for nearby sensitive receptors as a result of construction operations including lighting and equipment. Temporary removal of semi-mature vegetation which currently provides filtering of views from and to the surrounding areas. Sensitive receptors adjacent to the A19(T) could potentially experience the combined effect of noise, ground borne vibration, dust and visual impact.	Local residents and sensitive receptors within the study area.	Moderate	Very likely	Duration of construction works	Temporary during construction	Reversible	EMP could eliminate/greatly reduce risk if implemented correctly. The use of hoardings to screening the construction compounds and lighting would be ensured. Mitigation planting to be implemented through landscape proposals to reduce the visual effects of construction.
	Potential permanent changes in townscape / landscape character as a result of the provision of new features associated with the Scheme, and also adverse visual impacts. However, as visible aspects of the physical works would be minor in the context of the existing infrastructure, effects are unlikely to be significant. Removal and replanting of some vegetation in the first few years after Scheme opening, which would provide integration and filtering of views from and to the surrounding areas.	Local residents and sensitive receptors within the study area.	Moderate	Very likely	Operation of the Scheme.	Permanent	Reversible	Mitigation planting would be implemented to reduce the potential effects. EMP could eliminate/greatly reduce risk if implemented correctly. Use of other visual barriers such as fencing to screen views would be ensured.

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Nature Conservation	Potential for the direct loss of wildlife habitats through land-take (e.g. vegetation stripping) during the construction phase. Indirect temporary impacts as a result of disturbance to protected species such as nesting birds (e.g. noise, vibration) during the construction phase. Potential permanent severance by dividing habitats or wildlife corridors (e.g. removal of roadside trees) during the construction phase. This could reduce foraging opportunities for bats. Permanent fragmentation of existing roadside habitat as a result of the construction phase. Potential direct mortality of birds and mammals through construction activities and traffic accidents. Temporary disruption of local watercourses and drainage patterns as a result of construction activities and pollution from road runoff, which could have implications upon protected species. Potential temporary effects on bats and birds through additional road lighting during the construction phase and operation. Impacts on vegetation adjacent to the Scheme from polluted spray from road traffic during construction and operation.	Habitats and protected species within the study area of the Scheme.	Moderate / Major	Likely (affects on bat flight paths)	Duration of the construction phase (loss of habitat, disturbance, protected species, pollution). Lifetime of the Scheme (severance, fragmentation, pollution).	Temporary / Permanent	Reversible / Irreversible	EMP could eliminate/greatly reduce risk if implemented correctly. Specific mitigation to avoid potential effects upon protected species, if found to be present, would implemented in accordance with relevant guidance. Pre-construction checks for breeding birds would be undertaken and vegetation clearance works will be undertaken outside of the bird breeding season. Habitat loss would be replaced. All mitigation would be agreed with NE and NTC.

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Geology and Soils	Disturbance of potentially contaminated Made/worked Ground could pose a risk to human health and could impact the waste disposal of the material from the Scheme. Potential disturbance of the geological strata could lead to changes in the groundwater regime. During the construction phases, new pathways could be created between contaminated ground, if any, and Scheme users. Potential reduction in rainwater infiltration capacity due to the proposed increase in hard standing across the Scheme. Potential ground movement due to settlement of newly constructed earthworks.	Scheme Footprint and local water/ drainage network. Users of the Scheme during construction.	Moderate	Possible	Duration of the construction phase. Operation of the Scheme in relation to potential fuel spillages.	Permanent	Irreversible	EMP could eliminate/greatly reduce risk if implemented correctly. Would need to include measures to restrict soil mobilisation, especially to water courses. Soil and groundwater samples have been collected as part of the GI to assess the presence and scale of contamination. Geotechnical laboratory testing of samples collected as part of the GI is being conducted to assess the potential / anticipated magnitude of ground movements.

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Materials	The use of materials in construction can affect the environment through: • Depletion of finite natural resources; • Increased requirement for waste management or waste disposal facilities. • Wind-blown dust affecting air quality; • Water-borne sediments causing damage to wildlife, habitats and surface waters. • Release of chemical pollutants. • Use of energy.	The Scheme Footprint, the area of North Tyneside and the wider area of the North East region (i.e. where it is anticipated the treatment and/or disposal of the majority of waste from the Scheme would take place).	Minor	Likely	Duration of the construction phase.	Temporary	Irreversible	EMP and the preparation of a Site Waste Management Plan could eliminate/greatly reduce risk if implemented correctly. Implementation of mitigation measures for materials use, such as designing out waste and reuse of excavated and demolition materials, would reduce the amount of key materials required.
	Requirement for primary raw materials and manufactured products for the operation and maintenance of the Scheme. Production of waste as a result of infrastructure maintenance and spillages.		Negligible	Likely	Operation of the Scheme.	Temporary	Irreversible	

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Noise and Vibration	Construction noise/vibration and site traffic noise/vibration. Local residents and workers would be key receptors. The works required along the sections of the A19(T) would be linear, and the associated construction activities would therefore be transient in any single location. The works to the junction itself will be more continuous in nature; although, this is where the number of receptors in proximity to the Scheme is lowest, and there are no dwellings within 100m of the works. Vibration works would be sufficiently distant from the nearest receptors, and would be of limited duration. Sensitive receptors adjacent to the A19(T) could potentially experience the combined effect of noise, ground borne vibration, dust and visual impact.	Sensitive receptors in the local area.	Moderate	Very likely	Duration of the construction phase.	Temporary	Reversible	EMP could eliminate/greatly reduce risk if implemented correctly, and would include considerate methods of working and timing and phasing of activities.
	It is likely that sensitive receptors located within the vicinity of the Scheme would experience increased noise and vibration levels as a result of increased road traffic and speeds on the A19(T) due to a decrease in congestion. Noise reductions could be experienced at some dwellings and other sensitive receptors, as a result of the A19(T) being routed below existing ground levels.	Sensitive receptors in the local area.	Moderate	Likely	Operation of the Scheme.	Permanent	Reversible	Earth bunds and / or acoustic barriers could be used to reduce potential effects. Low noise road surfacing could also be used where average speeds exceed 75km/h.

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
People and Communities	Potential for temporary disturbance: noise, air quality, traffic congestion, safety and visual amenity during the construction phase. Temporary lane closures or diversions may be required, which could impact upon vehicle travellers and NMUs. Potential benefits upon the local economy and employment through job creation. Temporary and permanent disruption due to land take and rerouting of access may affect users of local residential areas, educational facilities, existing businesses and employment centres. Permanent partial removal of areas of hard standing and some canopies associated with the outdoor vehicle display areas at the Vroom Car Retail Park. No land-take from private assets will leave businesses non-viable, either temporarily or permanently.	Local population, users of nearby community facilities and drivers.	Moderate	Likely	Duration of the construction phase.	Temporary Permanent land take.	Reversible	EMP and the preparation of a Traffic Management Plan could eliminate/greatly reduce risk if implemented correctly. Good liaison and communication with residents in advance and during the construction phase.
People and Communities	Benefits through enhanced connectivity and a reduction in congestion, which would generate knock on positive effects upon the local economy and potential inward investment. Potential slight adverse noise effect on the journey amenity of NMU routes through the junction given potential increase in noise levels from the A19(T) passing underneath in cutting. Benefits for drivers as a result of improved safety and a reduction in congestion and journey times.	Local population, users of nearby community facilities and drivers.	Minor	Likely	Operation of the Scheme.	Permanent	Reversible	

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Road Drainage and the Water Environment	Potential impacts on water quality as a result of accidental spillages or site runoff containing suspended solids Potential for increased runoff into surface water drainage systems, with potential impacts on flood risk i.e. flooding of surface drainage and groundwater. Potential alteration to the groundwater flow pattern causing groundwater flooding or decreased groundwater levels.	The water environment within and around the Scheme Footprint.	Moderate	Possible	Duration of the construction phase and the operation of the Scheme.	Temporary	Reversible	The works would be designed to minimise impacts on groundwater. EMP could eliminate/greatly reduce risks if implemented correctly. EMP to include surface and groundwater protection measures and incident response plan.
Road Drainage and the Water Environment	Potential for diffuse pollution. An increase in impermeable area would increase surface water runoff. This could generate pollution during flood events if pollution interceptor devices are overwhelmed. Potential effects upon flood risk if structures are altered on or around any existing flow paths. This is equally relevant for groundwater as for overland flood flows. Routine runoff from the road carriageway may carry an increased pollutant load.	The water environment within and around the Scheme Footprint.	Moderate	Unlikely	During operation of the Scheme.	Temporary	Reversible	

DMRB Topic	Summary of Potential Effect and Consequence	Likely Extent	Magnitude / Complexity	Likelihood	Duration	Frequency	Reversibility	Anticipated Mitigation
Cumulative Effects	The Scheme would be planned and co-ordinated with other road infrastructure projects within the vicinity to ensure that cumulative effects are managed. For example, the junction improvement scheme at Testos roundabout to the south of this scheme has recently come back into the roads programme. This project is still in the early stages of development but progress will be monitored and any cumulative impacts managed. Currently, there are no known committed developments that are likely to lead to cumulative effects in conjunction with the Scheme. Residential properties and other sensitive receptors adjacent to the A19(T) could potentially experience the combined effects of noise, ground borne vibration, dust and visual impact, particularly during the construction phase.	Sensitive receptors within close proximity to the A19.	Moderate.	Likely	Primarily during the construction phase, but also potentially during operation.	Temporary	Reversible	Continual consultation with statutory consultees would be undertaken. Avoidance of environmental impacts through design and the incorporation of mitigation to prevent or reduce impacts will be an integral part of the design process. EMP could eliminate/greatly reduce risks if implemented correctly.

5 SCOPE OF WORK STILL TO BE DONE

5.1.1 The scope of assessment and methodology as detailed in this section would be agreed with relevant consultees, which would include, but not be limited to, the following:

- North Tyneside Council;
- Environment Agency;
- Natural England; and
- English Heritage.

5.2 Proposed Report Content and Structure

5.2.1 Environmental Report

It is proposed that an Environmental Report would be produced for the Scheme. This report would aim for consistency with the guidance in the DMRB, and other relevant guidance, whilst ensuring that the content and format is tailored towards the key elements of the Scheme and its assessment. The aims of the Environmental Report would be to:

- Address the aspects detailed in the PINS Screening Opinion, in particular the requirements as laid out in the "Further Information Section", and discussions which took place during the meeting with PINS on 21 October 2013;
- Take on board the HA's desire to produce a Scheme specific environmental assessment which is streamlined in light of the development being deemed to not require a statutory EIA whilst following the guidance in the DMRB and being in a suitable form that it is fit for purpose for the Scheme;
- Ensure that the level of environmental assessment carried out and environmental information provided in support of the Development Consent Order (DCO), whilst being Scheme specific, is of a level that will reduce, as far as possible, the risk of additional information being required at a later date.

5.2.2 Structure of the Environmental Report

The overall structure of the Environmental Report would be similar to that provided in the Scoping Report as follows:

1 Non Technical Summary

Although not requested in the Screening Opinion it is proposed that a non-technical summary (NTS) be produced which would provide a summary, in plain English, of the environmental assessments carried out as proposed in the sections below. The purpose of the NTS would be the same as that for an EIA. In particular it would "provide everyone with an interest in the proposed development with an accessible, concise and

transparent version of the assessment's findings, in language that people not regularly involved in the process can understand"[10]. The NTS would contain the following:

- A description of the project comprising information on the site, design and size of the project;
- A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects; and
- The data required to identify and assess the main effects which the project is likely to have on the environment.

2 Main Report

The Main Report would be split up into the specific areas as outlined in the sections below, in addition to introductory text including the Scheme description and purpose of the document.

The Main Report would be a concise document that is proportionate and appropriate to the Scheme. Technical or supporting documents will be included as appendices to ensure that the Main Report provides clear and focussed information.

5.3 Topic Areas

5.3.1 The bold text in the following sections is taken directly from the PINS Screening Opinion. All references to the "Screening Opinion" below refer to this document. Scoping of the Environment work is still required despite the negative opinion as we are still required to look at many aspects of the environmental impact of the scheme.

5.3.2 All references to the "Scoping Report" refer to the WSP EIA Scoping Report[11] issued to the HA on 18 June 2013. This will be updated in line with the outlined scope described below.

5.4 Ecology

Ecological impact assessment report and plans (Regulation 5(2)(l)) – to include the results of further species specific surveys, identification of potential effects and a description of any necessary mitigation measures, as well as any reports as may be required under Regulations 5(2)(g) in relation to European sites under regulation 48 of the Conservation (Natural Habitat, &c.) Regulations 1994.

[10] IEMA (2011) The State of Environmental Impact Assessment Practice in the UK.
[11] WSP (2013) EIA Scoping Report - A19(T)/A1058 Coast Road Junction Improvements, Document Reference: A19T/EIA/ENV/S00/0001, Dated 18/06/2013.

5.4.1 An Ecological Impact Assessment (EcIA) would be undertaken utilising the baseline and survey data collected to date, along with a desk study to describe the ecological baseline for the proposed development. The EcIA would be undertaken in accordance with DMRB Volume 11 Section 2 Part 5 Assessment and Management of Environmental Effects[12], Best Practice in Enhancement of Highway Design for Bats[13] and Interim Advice Notes (IAN) 130/10[14] and 116/08[15]. In addition the ecological impact assessment would be undertaken following the guidance outlined in the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment (2006)[16].

5.4.2 The EcIA assessment process requires the identification of key ecological features (resources) for the Scheme and determination of their sensitivity or value. Identification of the source of the impact, the sensitivity of receptors to these, determination of the nature, scale and duration of effects (direct and indirect) of the Scheme upon the receptors is also required. Finally identification of potential mitigation measures to reduce any adverse effects and an assessment of the significance of any residual effects would be undertaken. Impacts would be expressed in terms of their significance in accordance with DMRB guidance as detailed in Section 5 of the Scoping Report as appropriate.

5.4.3 The EcIA process would also include consultation with all the relevant stakeholders.

5.4.4 The protected species methodology outlined in the Scoping Report would be followed.

5.4.5 Please note however that the original scope had indicated that breeding birds would be surveyed on an opportunistic basis rather than by a formal survey. The reason for this was that the habitats present within the Scheme Footprint are subject to highs level of disturbance and as such it was considered that the bird assemblage present would be one of limited ecological value comprising widespread and common species typical of improved habitats in an urbanised area. As such it is considered that a pre-construction check for breeding/nesting birds prior to any vegetation clearance associated with works would be an ample course of action and this would be agreed with the Local

[12] Highways Agency (2008) Design Manual for Roads and Bridges (DMRB) Volume 11 Section 2 Part 5 Ecology and Nature Conservation.
[13] Highways Agency (2001) Design Manual for Roads and Bridges (DMRB) Best Practice in Enhancement of Highway Design for Bats.
[14] Highways Agency (2010) Interim Advice Note 130/10 Ecology and Nature Conservation: Criteria for Impact Assessment.
[15] Highways Agency (2008) Interim Advice Note 116/08 Nature Conservation in Relation to Bats.
[16] CIEEM (2006) Guidelines for Ecological Impact Assessment in the United Kingdom.

Authority Biodiversity Officer and Natural England as appropriate.

5.5 Archaeology and Historic Environment

Archaeological and historic environment impact assessment report and plans (Regulation 5(2)(m)) – to identify inter alia the potential for any archaeological and/or historic interest at or near the proposed development site, the significance of any potential impact, and any necessary mitigation measures.

5.5.1 The assessment of Cultural Heritage would be carried out in accordance with the guidance contained in DMRB Volume 11 Section 3 Part 2 (HA 208/07)[17]. In addition the Institute for Archaeologists (IfA) Guidance[18] on Archaeological and Cultural Heritage Desk Based Assessment would be followed. This approach would both collate the baseline data with an assessment of archaeological potential and the significance of built heritage along with a detailed assessment of the potential impacts and effects of the development on these assets. This approach would take the form of an Archaeological and Historic Environment Impact Assessment, with associated plans, which would identify the potential for any archaeological and/or historic interest at or near the proposed development site, assess the significance of any potential impact, and describe any necessary mitigation measures as outlined in the Screening Opinion. This approach would follow the methodology outlined in the Scoping Report.

5.6 Traffic Assessment

Traffic Assessment (Regulation 5(2)(q)) – to include details of potential effects during construction and any mitigation measures required (including, for example Construction Traffic management Plans) and operational phase assessment to outline predicted changes in traffic flows associated with the development in comparison to baseline conditions.

5.6.1 The Traffic Assessment information would be provided in two documents as described further below:

[17] Highways Agency (1993) Design Manual for Roads and Bridges Volume 11 Section 3 Part 2 (HA208/07) Cultural Heritage.

[18] Institute for Archaeologists (2012) Standards and Guidance for Desk Based Assessment.

1. During Construction: A draft Construction Traffic Management Plan, forming part of the Construction Environmental Management Plan as described in this Report;

2. Operational Phase: A Traffic Assessment Report, proposed to be written as a standalone document.

During Construction

5.6.2 The potential effects of the Scheme on transport modes using the local and strategic network during construction would be addressed in a draft Construction Traffic Management Plan (CTMP). This outline plan will be further developed during the detailed design and construction phases of the Scheme.

5.6.3 The main topics that would be covered with the draft CTMP are likely to include (dependent on the information available at the time):

1. Programme / Key Dates;
2. Estimated construction traffic volumes including the number, type, size and weight of vehicles accessing the site;
3. Arrangements for liaison on the CTMP, in particular for co-ordinating traffic arrangements with other developments in the area;
4. Proposed Traffic Management Strategy:
   a. Vehicle access to and from the site, arrangements of how this will be controlled on and off site, location of site haul roads, delivery and lay down areas and on-site parking;
   b. Routeing of construction traffic, including restricted and prohibited routes, and approved routes;
   c. Temporary closures and diversions of roads; footpaths and cycle routes;
   d. Indicative traffic management phases;
   e. Specific construction traffic site controls including, for example, days and hours of operation, delivery protocol and timings, speed limits, requirements for sensitive receptors e.g. local schools, arrangements for informing contractors, delivery companies and visitors of the route (to and from the site) and of on-site restrictions prior to undertaking the journey, arrangement for cleaning of vehicles e.g. number and location of wheel washes.

5. Estimated impacts of traffic management strategy on existing users.

5.6.4 In relation to the estimated impacts on existing users the analysis would include for each indicative construction phase that would require a significant change to traffic management layouts, to estimate the associated impacts such as:

1. Increase in modelled queues and delays due to the reduction in highway capacity; and
2. Estimates of trip rerouting away from the junction.

5.6.5 This analysis would comprise two elements: traffic on the A19 approaches to and around the A19 / A1058 Coast Road Interchange; and traffic on the A1058. For the A19 approaches and the roundabout circulatory carriageway either the A19 Highway Assignment Model (HAM) or the A19 LinSig model would be used, to gain an appreciation of the effects of reducing the number of lanes at the traffic signal approaches. The likely effect of providing 'narrow lanes', as part of a contra flow traffic management strategy in the region of the A1058 overbridges, would be assessed by use of either QUADRO or QuRIUS software.

5.6.6 An estimate of the likely programme time for each construction phase (in months) and the Department for Transport (DfT) Transport User Benefits Appraisal (TUBA) software would be used to calculate the economic (dis)benefits generated by the construction phase of the Scheme, utilising skim matrices from the A19 HAM model.

5.6.7 Of note is that the construction sequencing and traffic management layouts identified during the preliminary design stage are indicative and subject to change when the Scheme progresses through to detailed design and construction. Their purpose at this preliminary design stage is to demonstrate that there is a feasible method to construction the Scheme within the Scheme Footprint and identify the likely impacts associated with this method.

Operational Phase

5.6.8 The operational phase assessment would be addressed by producing a Traffic Assessment Report (TAR). This assessment and report would be produced in accordance with current DfT guidance, and would provide a summary of the existing transport conditions and an assessment of the impact the proposed development would have on all transport modes using the local and strategic network. The TAR would utilise text contained

within products produced in accordance with Highways Agency Project Control Framework (PCF) requirements for Stage 3 Preliminary Design, including the Local Model Validation Report (LMVR), Traffic Forecasting Report (TFR), Non-Motorised Users (NMU) Context and Audit Reports and Environmental reports.

5.6.9 The Traffic Assessment would be provided as a Standalone report and would not form part of the Environment Report.

5.7 Air Quality

Air Quality assessment report (Regulation 5(2)(q)) – to include an assessment of construction and operational impacts at sensitive receptors along the route and mitigation measures and monitoring plans as agreed with the relevant Local Authority(s).

5.7.1 The assessment of air quality would be carried out in line with the guidance contained in the Design Manual for Roads and Bridges (DMRB) Volume 11 Section 3 Part 1 (HA 207/07)[19] and supporting IANs.

5.7.2 In order to assess the significance of the air quality impacts as a result of the Scheme it is proposed that the methodology as described in the Scoping Report, Section 6.6, would be followed.

5.8 Noise

Noise assessment report (Regulation 5(2)(q)) – to include an assessment of construction and operational impacts at sensitive receptors along the route and mitigation measures and monitoring plans as agreed with the relevant Local Authority(s).

5.8.1 On the basis that noise will be of key interest to the local residents, with potentially significant effects being identified during previous assessments, no variation of the methodology detailed in the Scoping Report, Section 12.6 is proposed. Accordingly, the assessment would be undertaken in accordance with the Detailed Assessment methodology described in HD 213/11[20].

[19]Highways Agency (1993) Design Manual for Roads and Bridges (DMRB) Volume 11 Section 3 Part 1 Air Quality (HA207/07).

[20] Highways Agency (2011) Design Manual for Roads and Bridges Volume 11 Section 3 Part 7 Noise and Vibration.

5.8.2 The majority of the survey and technical data, and the findings of any non-key elements of the assessment, would be presented either within appendices to the Environmental Report or within a separate technical report. The main body of the Environmental Report would be used to present a summary of the assessment methodology and baseline noise survey data, and the details of the key assessment findings, including, in particular, any mitigation that might be required.

5.9 Landscape and Visual

Visual impacts report and landscape plan/strategy (Regulation 5(2)(j) and (q)) – demonstrating how the proposed reinstatement of boundaries through landscaping and planting will minimise any adverse visual/landscape impact.

5.9.1 Following consideration of the PINS Screening Opinion and a review of the likely impacts associated with the Scheme it is proposed that an assessment of landscape effects in accordance with IAN 135/10[21] would not be carried out, as the potential landscape impacts resulting from the scheme have been deemed to be not significant. A Simple landscape assessment was previously written at PCF Stage 2[22], with findings of minimal landscape effects, it is therefore considered unnecessary to repeat these works, but to validate them following the site surveys. Once designed the proposed Scheme is likely to be principally in character with the existing landscape character.

5.9.2 It is however deemed likely that largely visual effects will arise from the Scheme, essentially from the removal of vegetation in close proximity to residential and educational properties. It is proposed therefore that a Detailed visual assessment of the Scheme is undertaken.

5.9.3 The temporary effect from the loss of trees during construction, as described in the Screening Opinion, is felt be a permanent effect due to the length of time for re-planting to mature, this will be addressed in the Visual assessment, but differs from the Screening Opinion.

5.9.4 It is therefore proposed that a Visual Assessment is undertaken in accordance with the methodology outlined below.

[21] Highways Agency (2010) Design Manual for Roads and Bridges Volume 11 Section 3 Part 5 IAN 135/10 Landscape and Visual Effects Assessment.
[22] Arup (2010) Highways Agency A19(T)/A1058 Coast Road Junction PCF Stage 2: Option Selection – Environmental Assessment Report.

Methodology

5.9.5 In line with the Screening Opinion the visual assessment, to the structure below, would be in compliance with DMRB IAN 135/10. A Detailed assessment will be carried out due to the close proximately of residential, commercial and educational properties surrounding the Scheme.

1 Introduction

2 Identifying the Extent of Visibility:
Determining the Zone of Visual Influence (ZVI)
Desk Study
Field Survey
Visual Receptors and their Sensitivity

3 Identification of Impacts and Assessment of the Significance of Visual Effects:
Recording Visual Effects
Mitigation
Assessing Magnitude of Impact
Assessing Significance of Visual Effects

4 Reporting:
Detailed Assessment

5.9.6 The baseline study has already been completed and will input into this report providing a 'baseline situation determined through gaining an understanding of the visual amenity of the area, which will be informed by the Landscape Character Assessment, (also carried out in the baseline report) and the potential extent of visibility' (DMRB IAN 135/10).

5.9.7 The visual assessment will identify visual receptors and assign sensitivity, through the use of visual receptor drawings and schedules both indicating: locations of receptors, type, value and magnitude of change in both summer and winter months.

5.9.8 The screening opinion states that *'Construction will require the removal of linear woodland an d vegetation and that mitigation through landscaping / planting and other visual barriers such as hoarding and fencing (during construction) will be used to reinstate the boundaries of the land to be sympathetic to the existing landscape. Therefore any adverse impact is likely to be temporary, and there would be improvements as newly planted landscape proposals mature, therefore, it is unlikely to be a significant effect.'* These effects may be assessed as

"permanent" as the temporary removal of mature vegetation is not possible. Although it will be replanted, reaching the current level of maturity will take many years, and this will therefore need to be assessed in terms of magnitude of change and therefore significance going forward against the scheme proposals and landscape strategy which are being developed.

5.9.9 The visual assessment process will include consultation with the relevant stakeholders.

5.9.10 Whilst potential landscape effects will not be re assessed there will remain the need to undertake re-planting to re-instate lost vegetation. This would primarily be to reduce and minimise adverse visual impacts to identified receptors and would result from the assessment process described above at 3.8.5. In addition to this, the re-planting would aim to enhance integration of the scheme with the on-site planting which remains and also with the broader landscape. This would be achieved through the use of appropriate species, (for example faster growing for quicker screening where required, use of evergreen species), planting mixes and design of planting plots.

5.9.11 In addition to planting proposals in relation to visual impact, the assessment would also include input to and comment upon the following:

- Earthworks strategies, both to provide suitable planting conditions and to reduce visual impacts through earthwork design, vertical alignments and highway alignment;
- Finishes to structures, such as concrete and steel;
- Finishes and design of environmental barriers;
- Types of earthwork retention and finishes to steepened earthwork slopes, if applicable; and
- Maximisation of the retention of existing mature trees through collaborative working as the scheme design progresses.

5.10 Geology and Soils

5.10.1 It is noted that the PINS Screening Opinion does not request an assessment of Geology and Soils. However it is proposed that an assessment of the effects on geology and soils in accordance with DMRB Volume 11 Section 3 Part 11[23] would be carried out.

[23] **Highways Agency (1993) Design Manual for Roads and Bridges Volume 11 Section 3 Part 11: Geology and Soils.**

This section of the Environmental Report would also incorporate a Land Quality Assessment as requested in the PINS Screening Opinion as outlined below.

5.10.2 Soils and geology are a key factor in determining the environmental character and quality of any given geographic area. Underlying rocks are a key determinant of landform, while the physical and chemical properties of the rocks and the overlying soils influence the type and variety of vegetation that will grow, agricultural quality, flood risk and water storage capacity.

5.10.3 Geological conditions and resources can also determine the distribution and scale of some industries, particularly the extractive industries such as mining and quarrying and other industries dependent on extracted minerals. Such industries, even if long since closed, can themselves have long-term effects on the environment, through alteration of landforms and of the nature of surface deposits, changes in drainage or the contamination of land.

5.10.4 Highway construction can have a significant effect on geological and soil resources, while the nature and condition of soil and underlying rocks can be a key constraint on scheme design. Under some circumstances, construction work can also compound the environmental effects caused by previous activity, for instance by mobilising pollution left in the ground by former industrial activities.

5.10.5 The Ground Investigation works for the Scheme are complete and it is therefore deemed appropriate to carry out the assessment on the data which is already available.

5.10.6 The preliminary results from the ground investigation conducted in June and July 2013 indicate that the ground conditions beneath the scheme are generally in accordance with those identified from the desk based study, including:

- Superficial deposits of Made/worked Ground of varying thickness, overlying glacial drift deposits.
- The solid geology underlying the scheme footprint includes Carboniferous Middle Coal Measures, including sandstone, siltstone, mudstone and coal.
- Preliminary results from the ground investigation indicate that only relatively low levels of ground contamination were recorded. Based on the preliminary conceptual site model, there are limited potential pollutant linkages present on site, and as such the associated potential for such contamination to impact on receptors is considered limited.

- No evidence of underground mine workings, or coal seams considered potentially workable, were encountered within the ground investigation, which investigated to a maximum depth of 54 m below ground level.
- No geological or geomorphological Sites of Special Scientific Interest (SSSIs) exist within 250m of the scheme footprint.

Land quality report (Regulation 5(2)(q)) – to document the results of the planned ground investigation survey referred to in the Environmental Appraisal and Action Plan, and to include a preliminary risk assessment identifying potential contamination issues, necessary mitigation and any requirement for further investigations.

5.10.7 Following consideration of the PINS Screening Opinion requesting a Land Quality Assessment based on the PCF Stage 3 ground investigation for the Scheme it is deemed appropriate that a preliminary risk assessment is undertaken.

5.10.8 The Screening Opinion requested that the preliminary risk assessment should identify potential contamination issues, necessary mitigation measures and any requirements for further investigation. It is therefore proposed that this assessment is conducted in general accordance with the practices as set out in the Environment Agency's Contaminated Land Report (CLR) 11 – Model Procedures for the Management of Land Contamination, 2004, as briefly outlined within the methodology below.

5.10.9 A comprehensive desk-based study was conducted as part of the PCF Stage 2 and presented within the Preliminary Sources Study Report (PSSR)[24].

5.10.10 As part of the PCF Stage 3, an intrusive ground investigation was undertaken by Structural Soils Limited on behalf of WSP during June and July 2013. This investigation included geo-environmental laboratory testing of samples obtained during the fieldwork, to assess the levels of contaminants within these soil and groundwater samples.

5.10.11 The CLR 11 procedure includes a Tier 1 risk assessment, comparing results obtained from the geo-environmental laboratory tests against Soil Guideline Values and Environmental Quality Standards to evaluate the level of

[24] **Arup (2010) Highways Agency A19(T)/A1058 Coast Road Junction PCF Stage 2 Preliminary Sources Study Report (PSSR).**

contamination, and highlight any results that exceed these values.

5.10.12 The results of the ground investigation and the Tier 1 risk assessment will be presented as part of the Ground Investigation Report for the scheme in accordance with the requirements of HD 22/08[25].

5.10.13 If any exceedences to the guideline values are highlighted as part of the Tier 1 risk assessment, further consideration would be given to the potential risks associated, including the determination of mitigation measures, if appropriate. This process may include the requirement for a detailed risk assessment, or a waste management plan for excavated material.

5.10.14 At this stage, no further ground investigation is planned however, depending on the findings of the Tier 1 risk assessment and any additional assessments required, supplementary, localised ground investigation may be necessary.

5.11 Waste and Materials

Waste and Materials Management (Regulation 5(2)(q)) - identifying opportunities where possible to reduce, reuse or recycle waste and demonstrating how the balance of cut and fill operations has been maximised.

5.11.1 Following consideration of the PINS Screening Opinion requesting opportunities where possible to reduce, reuse or recycle waste and demonstrating how the balance of cut and fill operations has been maximised, it has been deemed appropriate that a Waste and Materials Management Plan for the Scheme would be undertaken.

5.11.2 It is therefore proposed that the methodology from the original Scoping Report would be followed.

5.12 People and Communities

5.12.1 During the meeting between the HA project team and PINS on 21 October 2013, PINS discussed that an assessment of People

[25] **DMRB Volume 4 Geotechnics and Drainage, Section 1 Earthworks, Part 2 (HD 22/08) Managing Geotechnical Risk.**

and Communities would be desirable. It is therefore proposed that an assessment of People and Communities is carried out.

5.12.2 This topic currently has no specific guidance within the DMRB. The HA "People and Communities Clarification Note" (August 2012) recommends combining the IAN 125/09 Supplementary guidance for users of DMRB Volume 11 "Environmental Assessment" assessments of "Community and Private Assets' and "Effects on all Travellers" into a single topic entitled "People and Communities". This section of the Environment Report would therefore follow the guidance in the Clarification Notes and the approach would be discussed and agreed with the HA.

5.12.3 It is proposed that the methodology outlined in the Scoping Report would be followed.

5.13 Effects on Water and Drainage

5.13.1 The Effects on Water and Drainage section of the Environmental Report would incorporate the aspects outlined in the PINS Screening Opinion under the headings of Flood Risk, and Groundwater Protection and Drainage Design Strategies, as follows:

Flood Risk

Flood Risk Assessment (Regulation 5(2)(e)) – to include assessment of construction and operational phase impacts and mitigation measures in the form of drainage and attenuation strategies.

5.13.2 It is proposed that the Flood Risk Assessment and Groundwater Protection and Drainage Design Strategy would make up the component parts of the overall Road Drainage and Water Section of the Environmental Report.

5.13.3 Based on the work done to date it is proposed that the following work would be required to fulfil the requirement for the Flood Risk Assessment and to inform the Groundwater Protection and Drainage Design Strategy as described below.

5.13.4 This work would be carried out in accordance with DMRB Volume 11 Section 3 Part 10 (HD45/09)[26] as follows:

1. A Simple assessment would be carried out in accordance with the guidance contained in HD45/09;

[26] **Highways Agency (2009) Design Manual for Roads and Bridges Volume 11 Section 3 Part 10 (HD45/09) Road Drainage and the Water Environment.**

2. An assessment would be carried out to assess the likely impacts associated with routine runoff. It is likely that this would include the use of the Highways Agency Water Risk Assessment Tool (HAWRAT) but the methodology would be agreed with the HA;
3. It has been agreed with the Environment Agency that spillage containment will be provided. Method D of the DMRB guidance would be used to calculate spillage risk and the associated probability of a serious pollution incident to ensure that the correct level of protection is provided;
4. The Surface Water Management Plan for North Tyneside Council shows overland flow routes associated with surface water flooding are likely to be affected. Therefore, an overland flow version of Method F would be undertaken in order to assess the impacts of the overland flow on surface water flooding within the Scheme Footprint, particularly evaluating the potential for flooding of low lying areas. This would directly link to the drainage design assessment;
5. In order to assess construction and operational impact on groundwater, a version of Method F would be used for assessing the groundwater resources impact on the water levels in nearby ponds and other local receptors;
6. Method F would also be utilised to assess the potential risk associated with groundwater being altered both from the perspective of lowered levels in local ponds as well as the potential for groundwater flooding.

5.13.5 Items 1, 4 and elements of item 6 would be presented within the Flood Risk Assessment.

Items 2, 3, 5 and elements of item 6 would be presented with the Groundwater Protection and Drainage Design Strategies.

Groundwater Protection and Drainage Design Strategies

Groundwater Protection and Drainage Design Strategies (Regulation 5(2)(q)) - to include assessment of construction and operational phase impacts to groundwater, and details of how drainage design and groundwater protection strategies will be incorporated into the design to minimise potential effects.

5.13.6 The strategy to inform the groundwater protection strategy would draw upon the work outline described in Section 3.11.4 above.

The groundwater protection work would be based on the proposed drainage design which would mitigate for the impact of global warming and is currently envisaged to be as follows:

(i) The carriageways would be drained using a kerb and gully system that will connect into a sub-surface piped system;

(ii) The proposed drainage system would connect into the existing surface water system within the central reserve of the A19(T) to the north of Wallsend Junction and from there it will discharge in to the River Tyne;

(iii) The discharge rate from the proposed to existing piped networks would be constrained using an orifice plate / hydro-brake to that which currently exists. Additional runoff would be stored within oversized pipes adjacent to the carriageway;

(iv) Pollution control in the form of a petrol interceptor would be provided within the proposed drainage layout;

(v) Spillage containment in the form of an oversized pipe or tank would be provided within the proposed drainage layout. The proposed system would be capable of containing 25m^3 of pollutant material;

(vi) The proposed earthworks would be drained by a system of filter drains; and

(vii) The proposed pavement foundation would be drained by a system of fin / narrow filter drains.

5.13.7 The assessment would help to define the level of protection that would be appropriate in light of the environment constraints, the sensitivity of in the receptor and the likelihood of indirect discharge from the drainage system to groundwater aquifer in accordance with source-pathway-receptor theory.

5.13.8 The groundwater table in the areas may, at times, be very high and therefore particular focus would be given to the construction impacts. The proposed methodologies for the assessment are as follows:

1. Limited application of Method C and Method D of the DMRB guidance would be used to calculate risk and the associated probability of an indirect impact on the groundwater; and
2. The findings of the assessment of the indirect risk together with the work from the Flood Risk Assessment would help to inform to what degree the system need to be proofed against leakage and overflow spillage. The information regarding groundwater fluctuation would also

inform the construction design in relation to heave and need for temporary works mitigation.

5.14 Cumulative Effects

5.14.1 It is noted that the PINS Screening Opinion does not request an assessment of Cumulative Effects. However it is proposed that an assessment is carried out to assess the cumulative effects as a result of the Scheme interacting with the impacts of other developments in the vicinity. This is to ensure that any cumulative effects as a result of new schemes, that we may not have been aware of at the time that the Screening Request was submitted, are assessed.

5.14.2 As a minimum this would include any "committed" developments. Other developments that are not yet "committed" but have the potential to impact on the Scheme would also be assessed and this would be agreed with the relevant stakeholders. The assessment of cumulative effects would be carried out in accordance with the methodology described in the Scoping Report.

5.14.3 It is not intended that a separate assessment of cumulative effects as a result of interactions between topic areas will be carried out as these will be covered by individual sections as appropriate.

5.15 Construction Environmental Management Plan

Construction environmental management plan (Regulation 5(2)(q)) - to include any measures to reduce potential noise, air quality, visual, and pollution impacts during construction, and link to the content of the relevant reports listed above.

5.15.1 It is proposed that the draft CEMP would be written as a standalone document which would be included as an appendix to the Environmental Report and cross referred in the main text as required.

5.15.2 The proposed structure for the CEMP is as follows but may be subject to change dependent on the level of information available at this stage of the project:

- Introduction: including general project details, environmental constraints and site description;

- General Site Management: including approximate location and indicative layout of construction compounds, site set-up, site roads and site traffic, and indicative plant and equipment, as appropriate;
- Topic specific arrangements and mitigation:
  - Nature Conservation;
  - Archaeology and Cultural Heritage;
  - Surface Water and Groundwater;
  - Air Quality;
  - Noise and Vibration;
  - Landscape and Visual Impact;
  - Contaminated Land;
  - Waste and Materials Management.
- Emergency Preparedness and Response;
- Appendices:
  - Construction Traffic Management Plan;
  - Site Waste Management Plan.

Appendix A

Glossary of Abbreviations and Acronyms

Glossary of Abbreviations

Abbreviation	Technical Term
AMR	Annual Monitoring Report
AQMA	Air Quality Management Areas
dB	Decibel
DCLG	Department for Communities and Local Government
DEFRA	Department for Environment Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
EAR	Environmental Assessment Report
EH	English Heritage
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ERIC	Environmental Information Records Centre
GCN	Great Crested Newt
GI	Ground Investigation
Ha	Hectare
HA	Highways Agency
HER	Historic Environment Record
HSI	Habitat Suitability Index
IAN	Interim Advice Note
JNCC	Joint Nature Conservation Committee
LDF	Local Development Framework
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MAC	Managing Agent Contractor
NATA	New Approach to Appraisal
NE	Natural England
NMU	Non-Motorised User
NO2	Nitrogen Dioxide
NSIP	Nationally Significant Infrastructure Project
NTC	North Tyneside Council
PINS	Planning Inspectorate
PM10	Particulate matter with an aerodynamic diameter of less than 10 micrometres
PRoW	Public Rights of Way
Ramsar	Wetland of International Importance. Ramsar sites are named after the Convention on Wetland of International Importance (1971). They take their name from Ramsar in Iran where the Convention was held.
RSPB	Royal Society for the Protection of Birds

Abbreviation	Technical Term
SAC	Special Area of Conservation
SNCI	Site of Nature Conservation Importance
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TAG	Transport Analysis Guidance
TAMMS	Tyneside Area Multi-Modal Study
UXO	Unexploded Ordnance

Appendix B

Figures

N

A191

Morpeth

West Allotment

A191

A19

d & Plantation

Rising Sun
Country Park

See Figure 4

B1316

Tynemouth

A1108

B&Q

15.6 Ha

2.5 Ha

8.5 Ha

A1058

Newcastle

A 19

A19

A193

A19

A19

A187

Wallsend Dene

B1315

A193

A19

WALLSEND

Key

- Scheme Footprint
- Existing Highway Footprint
- Permanent land take
- Temporary land take

1:4,000,000

0 0.2 0.4 0.6 0.8 Km

WSP

HIGHWAYS AGENCY

Title:

Figure 1 Scheme Footprint and Land Take Plan

Scale 1:15,000 @ A3	Date: 23/08/13	
Drawn: TB	Checked: NJA	Approved: PG

Path: Q:\WSP_UK\WSP_E\Edinburgh\00035840 - A19 Coast Rd\MXDs\Fig 1- 105450007-land take-TB.mxd

N

A191

Morpeth

West Allotment

Silverlink Biodiversity Park (LNR)

A191

Colbalt Business Park

New York Industrial park

Stephenson Railway Museum

A19

d & Plantation

B1316

Tynemouth

Rising Sun Country Park

North Tyneside Steam Railway

Police HQ Development

Silverlink Retail Park

A1108

Silverdale School

B&Q

West Chirton Industrial Estate

Orion Business Park

A1058

Bugatti Industrial Park

Tyne Tunnel Trading Estate

Newcastle

Church of St John (Grade II)
ID: 1355013

A19

Elmgrove (Grade II)
ID: 1025328

A193

Church of St Mary (Grade II)
ID:1355038

A19

A19

St James' Terrace (Grade II)
ID: 1024766

Wallsend Dene

B1315

A187

53, Tynemouth Road (grade II)
ID: 1025336

Bewicke Schools (Grade II)
ID: 1299634

A193

A19

WALLSEND

Key

- Scheme Footprint
- 1km Buffer
- Water Body

Sensitive Receptors

- Churches
- Listed Buildings
- Nursing Home
- Scheduled Monument
- Hotel
- School

Protected Areas

- Local Nature Reserve
- Country Park

Transport and Utilities

- Railway Station
- Metro Station
- National Cycle Route
- Local Cycle Route
- Railway Line
- Factory
- Electricity Substation
- Gas Work

Geotechnical

- Historic Landfill
- Authorised Landfill

0 0.2 0.4 0.6 0.8 Km

WSP

HIGHWAYS AGENCY

Title:

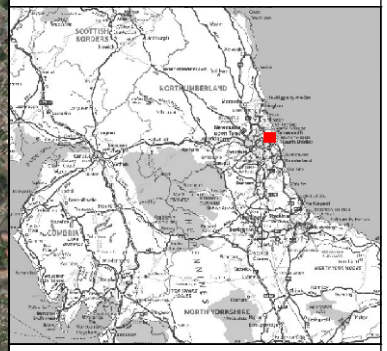
Figure 2 Environmental Constraints Plan

Scale 1:15,000 @ A3	Date: 20/08/13	
Drawn: TB	Checked: NJA	Approved: PG

Path: Q:\WSP_UK\WSP_E\Edinburgh\00035840 - A19 Coast Rd\MXDs\Fig 3 10545007-Env-Constraints-TB.mxd

KEY:

- PROPOSED SCHEME
- PROPOSED EARTHWORKS
- PROPOSED VERGE
- PROPOSED CENTRAL RESERVE
- PROPOSED CARRIAGEWAY



WSP

HIGHWAYS AGENCY

A19/ A1058 COAST ROAD
JUNCTION IMPROVEMENTS

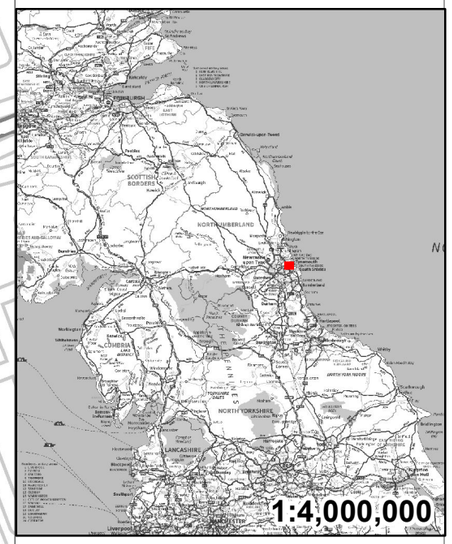
FIGURE 3
GENERAL ARRANGEMENT

SCALE: 1:5000	DATE: 23/07/2013	
DRAWN: CCO	CHECKED: MCO	APPROVED: ISM

N

Key

- Scheme Footprint
- Existing Highway Footprint
- Permanent land take
- Temporary land take



B&Q

15.6 Ha

2.5 Ha

8.5 Ha

A1058

A19

A193

A187

Middle Engine Lane

The Silverlink

Northam Road North

Northam Road

Coast Road

Addington Drive

Battle Hill Drive

Churchill Street

Windsor Drive

Ridley Avenue

0 0.1 0.2 0.3 0.4 Km

WSP

HIGHWAYS AGENCY

Title:

Figure 4 Scheme Footprint and Land Take Detailed Plan

Scale 1:7,000 @ A3	Date: 23/08/13	
Drawn: TB	Checked: NJA	Approved: PG

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Appendix C

Photographs

Silverlink Junction taken from the A1058 Coast Road

Silverlink Junction taken from the A19(T), looking at the A1058 Coast Road onslip east bound

A1058 Coast Road Looking East

A1058 Coast Road Looking West

A19(T) South looking away from the Junction

A19(T) South looking towards the Junction

A19(T) North looking away from the Junction