4 LANDSCAPE AND VISUAL

4.1 Introduction

4.1.1 The following landscape and visual impact assessment (LVIA) chapter considers the likely significant effects on the landscape and visual resource associated with the construction and operation of the proposed development, as described in Chapter 2: Proposed Development Description.

4.1.2 The specific objectives of the chapter are to:

- describe the landscape and visual baseline;
- describe the assessment methodology and significance criteria used in completing the impact assessment;
- describe the potential effects, including direct, indirect and cumulative effects;
- describe the mitigation measures proposed to address likely significant effects; and
- assess the residual effects remaining following the implementation of mitigation.

4.1.3 The LVIA has been undertaken by Alexandra Gardiner, CMLI chartered Landscape Architects.

4.1.4 The scope of the assessment has been informed by consultation responses summarised in section 4.2 and accords with the Guidelines for Landscape and Visual Impact Assessment, 3rd edition (GLVIA3)[1]. The assessment also recognises the DMRB guidance, specifically the Interim Advice Note 135/10 (IAN 135/10) – Landscape and Visual Effects Assessment[2]. The IAN 135/10 guidance accords broadly with the GLVIA, and has very recently been updated to align more closely with the GLVIA3 guidance.

4.1.5 This chapter refers to the following Technical Appendices (refer to Volume 3):

- Technical Appendix 4.1: Landscape Planning Policy and Guidance.

4.1.6 This chapter refers to the following Figures (refer to Volume 4):

- Figure 4.1: Site Location and Viewpoints;
- Figure 4.2: Topography;
- Figure 4.3: Landscape Character Assessment;
- Figure 4.4: Landscape Designations and Recreational Routes;
- Figure 4.5: Viewpoints 1 and 2;
- Figure 4.6: Viewpoints 3 and 4;
- Figure 4.7: Viewpoint 5;
- Figure 4.8: Proposed Landscape Design; and
- Figure 4.9: Junction ZTV.

[1] Landscape Institute and Institute of Environmental Management and Assessment (IEMA), 2013. Guidelines for Landscape and Visual Impact Assessment (GLVIA) Third Edition. Routledge.

[2] Interim Advice Note 135/10 (IAN 135/10) – Landscape and Visual Effects Assessment. November 2010. http://programmeofficers.co.uk/Preston/CoreDocuments/LCC181.pdf

4.2 Scope of Assessment

4.2.1 The assessment is based on the proposed development as described in Chapter 2: Proposed Development Description.

Scoping and Consultation

4.2.2 Ramboll issued an EIA Scoping Report[3] (refer to Technical Appendix 1.1: EIA Scoping Report in Volume 3) on behalf of the Developer to Transport Scotland (as the 'competent authority') on 22 July 2018 to ascertain their opinion on the proposed scope of the EIAR. The Scoping Report was also issued to a number of relevant consultees to request their opinions on the scope and approach to the EIAR.

4.2.3 Technical Appendix 1.2: EIA Scoping Opinion in Volume 3 of the EIAR summarises responses from consultees, including those received from WLC regarding the selection of representative viewpoints to be used in the LVIA. WLC were principally concerned that views from the north of the site were taken into account and a small number of additional viewpoints were proposed by WLC. Taking these suggestions into account and following further site work and a subsequent desk-based assessment, a revised list of viewpoints was presented to WLC, which was agreed prior to formal assessment taking place. Table 4.1 presents the final agreed list of viewpoints.

4.2.4 No other consultees provided comment specific to this assessment.

4.3 Assessment Methodology

Guidance for the LVIA

4.3.1 The LVIA accords with guidance provided in:

- Landscape Institute and Institute of Environmental Management and Assessment: Guidance for Landscape and Visual Impact Assessment – Third Edition (2013);
- Interim Advice Note 135/10 (Nov, 2010);
- The Countryside Agency and Scottish Natural Heritage: Landscape Character Assessment (2002);
- Scottish Natural Heritage (SNH) and the Countryside Agency: Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity (2002); and
- Visual Representation of Development Proposals – Landscape Institute Technical Advice Note 06/19 (2019).

Study Area

4.3.2 A 2 km radius 'study area' was utilised for the LVIA as this was considered appropriate and proportionate for the type of development proposed given the nature of the existing landscape and visual context, as described in the baseline appraisal.

Baseline Characterisation

4.3.3 Baseline information within the study area is depicted in a series of figures that accompany the LVIA, including Figures 4.1-4.4 in Volume 4.

[3] Ramboll, 2018. Winchburgh M9 Junction – EIA Scoping Report. 22 June 2018 (amended 04 July 2018).

4.3.4 Initially, a desktop study was carried out to identify the key characteristics of the landscape within the site and in the wider study area, and to identify key sensitive and representative receptors.

4.3.5 The assessment of baseline conditions was undertaken with reference to the following existing landscape character assessment studies that cover the study area:

- West Lothian Landscape Classification, West Lothian Local Development Plan: Background Paper[4]; and
- Lothians Landscape Character Assessment, SNH Review No. 91[5].

4.3.6 These studies have been considered and verified on-site, and for the purposes of the LVIA, their findings have been adopted as defining the baseline landscape character of the study area.

4.3.7 The LVIA also considers landscape and visual effects on designated landscapes in the study area, including those designated by the relevant local planning authority (i.e. WLC) and the City of Edinburgh Council (CEC).

4.3.8 The receptors of visual amenity relate to publicly accessible areas including outdoor recreational areas, settlements, roads and recreational routes.

Landscape Receptors

4.3.9 Landscape receptors considered in this appraisal include:

- physical components and landcover present at the site;
- Landscape Character Areas (LCA) and Landscape Character Units (LCU) within the study area; and
- landscape designations (i.e. a candidate Special Landscape Area (cSLA)).

Viewpoints and Visual Receptors

4.3.10 Only those receptors with potential for visibility of the proposed development have been considered for inclusion in the LVIA. Baseline research and field work confirmed the likely actual visibility of the proposed development and identified those receptors who were likely to be affected by such views. These receptors are:

- the settlement of Winchburgh and scattered dwellings in the vicinity of the site;
- road users on the M9 and the B8020, and other minor roads in the study area;
- users of the Core Paths and long-distance routes in proximity to the site (see Figure 4.4 in Volume 4); and
- passengers travelling on the Edinburgh and Glasgow railway.

4.3.11 The visual appraisal is illustrated from five viewpoints (VPs) which have been selected to represent views within the study area, illustrating the effects on viewers from different directions and at different distances. These VPs are listed and described in Table 4.1 and shown on Figure 4.1 in Volume 4 and are all publicly accessible. The purpose of the VP appraisal is to ascertain the level of visual impact at specific locations and to help to inform the appraisal of the overall effect of the proposed development on visual amenity.

[4] Land Use Consultants (LUC), 2014. West Lothian Landscape Classification. West Lothian LDP: Background Paper. August 2014. West Lothian Council.

[5] ASH Consulting Group on behalf of SNH, 1998. The Lothians Landscape Character Assessment: SNH Review No. 91. SNH.

4.3.12 As previously stated, VP locations were discussed and agreed with WLC prior to fieldwork taking place.

Table 4.1: Representative Viewpoint Locations

Ref	Name Distance from Development	Grid Reference	Reason for Selection
1	B9080 (M9 Overbridge) (530 m south east)	310059, 675208	Representative of road users (M9 / B9080), core path users and located on the edge of the Winchburgh Masterplan site.
2	B9080 – western approach to Winchburgh (1.2 km south west)	308234, 675155	Located to be locally representative of recent residential development on western edge of Winchburgh.
3	B8020 Beatlie Road (215 m south)	309175, 675830	Representative of recent residential development at Block AA, rail users and local road users.
4	Totley Wells (170 m east)	309373, 676511	Representative of local road users and scattered residential properties.
5	Minor road between B8020 and Duntarvie (240 m north)	308611, 676821	Representative of residential receptors at Duntarvie and the setting of Duntarvie Castle.

Desk Study / Field Survey

- The LVIA was informed by data and datasets gathered from the following sources:
- Ordnance Survey (OS) mapping (1:25,000, 1:50,000);
- OS Terrain 5;
- Field reconnaissance in 2018;
- Commercially available aerial photography;
- West Lothian Landscape Classification, West Lothian Local Development Plan: Background Paper[6];
- West Lothian Local Landscape Designation Review[7];
- Lothians Landscape Character Assessment, SNH Review No. 91[8].
- West Lothian Local Landscape Designation Review[9];
- Review of Local Landscape Designations, CEC[10];
- Site photography; and
- Consultation with WLC during the EIA Scoping stage.

Field Reconnaissance

4.3.13 Field reconnaissance was undertaken in September 2018 to identify specific landscape constraints, visual receptors and to verify and supplement data collected in the desk-based baseline appraisal.

[6] LUC, 2014. West Lothian Landscape Classification. West Lothian LDP: Background Paper. August 2014. West Lothian Council.
[7] LUC, 2013. West Lothian Local Landscape Designation Review. June 2013. West Lothian Council.
[8] ASH Consulting Group on behalf of SNH, 1998. The Lothians Landscape Character Assessment: SNH Review No. 91. SNH
[9] LUC, 2013. West Lothian Local Landscape Designation Review. June 2013. West Lothian Council.
[10] LUC, 2010. Review of Local Landscape Designations: The City of Edinburgh Council. January 2010. City of Edinburgh Council.

Assessment of Effects

Landscape Assessment

4.3.1 Landscape impact assessments considers the likely nature and scale of changes to the individual elements of the landscape in its own right, its aesthetic and perceptual aspects, its distinctive character and the key characteristics that contribute to this, and the consequential effect on this landscape character as a result of the introduction of a proposed development.

Visual Assessment

4.3.2 Visual impact assessments look at the changes to the character of views experienced as a result of a proposed development, the reactions of visual receptors (i.e. the people who see the view, such as residents, recreational visitors, those travelling through the area) as well as the overall impact that the proposed development would have on visual amenity.

Sensitivity Criteria

LANDSCAPE SENSITIVITY

4.3.3 The sensitivity of landscape receptors to change arising from the type of development proposed is defined as 'high', 'medium' and 'low' based on professional interpretation, combining judgements of their value attached to the landscape and susceptibility to the type of change or development proposed.

4.3.4 Susceptibility to change concerns the ability of the landscape receptor to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the landscape planning policies and strategies. Susceptibility is defined based on an interpretation of a combination of parameters such as the scale and pattern of the landscape and its elements/features, the simplicity or complexity of the landscape, the nature of skylines, landscape quality or condition, existing land use, visual enclosure/openness of views and the scope for mitigation which would be in character with the existing landscape.

4.3.5 The value attached to landscape receptors is reflected, in part, by landscape designations and the level of formalised or recognised importance which they indicate. However, landscape designations are not the sole indicator of landscape value. Factors such as landscape quality, scenic quality, rarity, representativeness, conservation interest, recreation value, perceptual aspects and cultural associations also are considered.

SENSITIVITY OF VISUAL RECEPTORS

4.3.6 The sensitivity of visual receptors is defined as 'high', 'medium' and 'low' based on professional interpretation, combining judgements of their susceptibility to the type of change or development proposed and the value attached to the particular views. Visual receptors consist of the particular person or group of people likely to be affected at a specific viewpoint and are assessed in terms of both their susceptibility to change in views and visual amenity and also the value attached to particular views.

4.3.7 The susceptibility of different visual receptors to change in views and visual amenity is mainly a function of the:

- occupation or activity of people experiencing the view at particular locations; and
- extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at that particular location.

4.3.8 In relation to the occupation or activity of people experiencing the view at the VP, visual sensitivity is defined as follows:

- High: Residents of dwellings; users of outdoor recreational facilities including strategic recreational footpaths, cycle routes or rights of way, whose attention is focused on the landscape; visitors to cultural/historic assets where views or landscape character play a key role, important landscape features with physical, cultural or historic attributes; beauty spots or picnic areas. Travellers on key tourist routes.
- Medium: General road users, commuters and travellers not primarily focused on the landscape or who are travelling alone and therefore less susceptible to effects on views.
- Low: People engaged in outdoor sports or recreation (other than appreciation of the landscape), commercial buildings, and other locations where people's attention may be focused on their work or activity, rather than their surroundings.

Magnitude of Impacts

4.3.9 Each of the landscape and visual impacts identified are evaluated in terms of their size or scale, the geographical extent of the area influenced, and their duration and reversibility.

4.3.10 The magnitude of impact arising from the proposed development in respect of landscape character is described as 'high', 'medium', 'low', 'negligible' or 'none' based on the interpretation of a combination of largely quantifiable parameters, as follows:

- distance of the receptor from the site;
- extent of existing landscape elements that would be lost or by adding of new ones;
- proportion of the total extent of the landscape elements that this represents;
- degree to which aesthetic or perceptual aspects of the landscape would be altered by removal of existing components or with the addition of new elements;
- context in which the proposed development would be seen (i.e. similar land uses in the vicinity of the site);
- geographic area over which the loss of landscape elements would be perceived;
- alteration of the skyline/altering the vertical scale in relation to the existing landscape features;
- duration of the change; and
- reversibility of the change.

4.3.11 The criteria utilised in ascribing magnitude of change in respect of visual amenity is as follows:

- scale of change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development;
- degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and textures;
- nature of the view of the proposed development;
- relative amount of time over which it would be experienced and whether views would be full, partial or glimpsed;
- angle of view in relation to the main activity of the receptor;
- distance of the VP from the site; and

- extent of the area over which the changes would be visible.

4.3.12 The magnitude of impact is categorised as follows:

- High: Total loss or considerable alteration to key elements, features or characteristics of the landscape character and/or composition of views. The proposed development is highly prominent or even dominant and could become the defining characteristic of views and landscape character.
- Medium: Represents a notable alteration or loss of key elements, features or characteristics of the landscape character and/or composition of views. The proposed development is prominent, but not dominant. In such circumstances the proposed development may become 'a' defining characteristic of the view of landscape, but not 'the' defining characteristic.
- Low: Constitutes a partial loss to one or more key characteristics of the landscape or views. Localised effects within an otherwise unaltered landscape or visual context.
- Negligible: Represents a barely discernible loss or alteration to one or more key elements, features or characteristics of the baseline conditions. The underlying landscape character or view composition would be essentially unchanged.
- None: There is no discernible change apparent.

Mitigation

4.3.13 Mitigation measures which have been incorporated into the design and layout of the proposed development and site are described, together with a summary of the design optimisation process carried out as part of the assessment. Mitigation measures for the LVIA are presented in section 4.6.

Residual Effects

4.3.14 An assessment of the significance of the residual effects (i.e. effects remaining after mitigation measures have been implemented) has been carried out, taking account of the committed mitigation measures. The significance of a landscape or visual effect is a function of the sensitivity of the affected landscape or visual receptors, and the magnitude of impact that would occur as a result of the proposed development.

Significance Criteria

4.3.15 As identified in the GLVIA3, the effects are identified by establishing and describing the changes to the landscape and visual baseline resulting from the different components of the proposed development and the resulting effects on individual landscape or visual receptors.

4.3.16 The assessment of effects is derived from a comparison of the sensitivity of receptors and the magnitude of impact or change anticipated as a result of the construction and operation of the proposed development, as indicated in Table 4.2. It should be noted, however, that the matrix is intended as a guide to support the professional judgement of the author. For example, it does not always follow that a receptor of high sensitivity and negligible magnitude of change would experience a moderate/minor impact. Visual receptors especially are likely to result in a lower overall impact if the magnitude of impact is negligible. For landscape receptors, the setting may be a consideration which increases the level of the residual effect. Commensurate with current guidance, the impact is a result of the professional judgement of the chartered landscape architect undertaking the assessment.

Table 4.2: Significance Matrix of Residual Effects					
Sensitivity	**Magnitude of Impact**				
	High	**Medium**	**Low**	**Negligible**	**None**
High	Major	Major/ Moderate	Moderate	Moderate/ Minor	None
Medium	Major/ Moderate	Moderate	Moderate/ Minor	Minor	None
Low	Moderate	Moderate/ Minor	Minor	Minor	None

4.3.17 For the purposes of this assessment, effects of 'moderate' or 'major' significance are considered 'significant' in landscape and visual terms and effects of 'minor' significance are 'not significant'.

4.3.18 Effects may be adverse or beneficial and may be temporary, long-term or permanent, and may alter over time or according to the nature of development activities or elements at any given time during the construction or post construction stages of the proposed development.

Cumulative Assessment

4.3.19 There are not considered to be any developments likely to contribute an 'inter-project' cumulative effect alongside the proposed development. The proposed development forms a constituent part of the wider Winchburgh Masterplan site, which has already been granted outline planning consent by WLC. This intended future settlement expansion has been addressed by the LVIA as a component of the future baseline and is therefore not considered in cumulative terms.

Limitations to Assessment and Assumptions

4.3.20 This appraisal has assumed that the areas of woodland, hedgerows, shelter belts and roadside vegetation located outside the site boundary and within the study area would be retained. Where vegetation would be lost as a result of the proposed development, this is identified.

4.3.21 Access to private residential properties was not requested as part of the visual assessment of impacts. It is acknowledged the proposed development would be viewed from residential properties located within the study area. Representative views from the nearest communities (such as Winchburgh) and in areas where scattered residential properties are located have been taken to assess the impact of the change in view for residential receptors in respect of 'community amenity'. The LVIA does not include an assessment of impact on private views from individual properties.

4.3.22 The five selected viewpoints are intended to draw out potential significant impacts from "worst-case" locations. Notably, there are no viewpoints from the Scottish Great Trails or National Cycle Routes. Impacts likely to be experienced from recreational routes are noted in sections 4.7.23 to 4.7.24, and 4.7.62 to 4.7.66. Viewpoints from these locations would simply have shown the treelined edge to the route, or in the case of the John Muir Way the distance combined with intervening planting would rule out perceptible effects.

4.3.23 The scope of work as defined at the EIA Scoping stage does not include production of full photomontages, however the photographic viewpoints illustrate the extent of the proposed development within each viewpoint.

4.3.24 Planning policy is sometimes referred to in LVIA's to help scope the receptors and/or otherwise inform the extent of the scope. Given that the proposed junction is within the motorway corridor and has been considered in the PPP for the Winchburgh Masterplan, planning policy is considered highly unlikely to have anything further to add in terms of the methodology for the LVIA.

4.3.25 A Zone of Theoretical Visibility (ZTV) has been produced (Figure 4.9 in Volume 4). However, this has not been referenced in the LVIA because to do so would be misleading. Being a theoretical visibility tool, the ZTV assumes a bare-earth situation which does not include localised landform nor man-made structures. Notably the ZTV does not take account of the M9 road embankments or bridges. For these reasons the theoretical visibility of the proposed junction is illustrated as being spread across virtually the entire study area. The mitigation inherent within the design places the proposed slip roads at a lower elevation to the existing M9 road thus reducing overall visibility of the proposed junction across the study area. This renders the ZTV unsuitable as a tool for the assessment of the proposed junction, and therefore it has not been referenced.

4.4 Baseline Conditions

Current Landscape Baseline

Topography

4.4.1 The landform of the study area is characterised by continuous, gently undulating topography that is devoid of significant rocky ridges or escarpments. The terrain profile rises from the coastal margins of the Firth of Forth and is predominantly orientated northwards towards the coast. The rolling topography defines localised incised glens that contain a number of tributary water courses, such as the Linn Mill Burn, which flow northwards to the Firth of Forth.

4.4.2 The principal topographic features exhibited across the study area are large oil-shale bings, a legacy of the area's industrial heritage. Examples of bings within the study area include:

- Niddry Bing – 1.2 km south of the site;
- Faucheldean Bing – 1.8 km south of the site; and
- Greendykes Bing – 2.0 km south of the site.

4.4.3 These oil-shale bings comprise evident industrial landscape features with colouring and form that contrasts with the surrounding farmland.

Land Cover and Land Use

4.4.4 Hopetoun House, Dundas Castle and Newliston are properties within the study area included in Historic Environment Scotland's Inventory of Gardens and Designed Landscapes (GDL)[11]. These historic managed landscapes, in conjunction with estates such as Craigton House, contribute to a land cover of native broadleaved and mixed policy and shelterbelt woodland. Areas of ancient and semi-natural native woodland are also present. This significant landscape framework defines areas of enclosure with a smaller scale.

4.4.5 Principally high quality, intensively managed, arable farmland forms the primary land use. Some limited occurrences of improved pasture for cattle and sheep grazing also contribute to

[11] Historic Environment Scotland, 2016. Scotland's Inventory of Gardens & Designed Landscapes 2016, June 2016 [online]. Available at: https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/gardens-and-designed-landscapes/ (Accessed 17/09/18).

the composition of agricultural land uses. Fields are commonly of medium scale with some instances of smaller or larger scales. Field margins are generally defined by hedgerows, hedgerow trees, stone dykes or wire boundaries. Stone dyke field boundaries are a notable feature that contribute to the setting of Hopetoun House.

4.4.6 The interaction of terrain and landscape structure generates a contrast of some enclosed, small-scale areas with expansive and elevated visibility over long distances. Such views allow a sense of place and broader context to be afforded by northward visibility to the Firth of Forth, the Forth bridges and to Fife and the Ochil Hills. Similarly, visibility to the south encompasses the Bathgate Hills and Pentland Hills beyond.

4.4.7 The study area drains broadly northward.

Settlement

4.4.8 Winchburgh comprises the principle settlement within the study area. Broader settlement is limited to Newton, a small village due north of Winchburgh, and scattered farmsteads and individual residential properties on the minor road network. The town of Kirkliston lies on the south eastern boundary of the study area.

4.4.9 A significant settlement expansion to Winchburgh is currently subject to an existing outline planning consent from WLC for the Winchburgh Masterplan site. This consented expansion to the town incorporates the development of 352 hectares (ha) which includes the proposed new junction to the M9 motorway and the following components:

- Residential, commercial, industrial, recreation and retail land uses;
- Community facilities, landscaping and open space;
- Rail and road infrastructure including a train station and associated park and ride facilities; and
- Primary and Secondary school provision.

Transportation Routes

4.4.10 The system of major transport infrastructure (M9 motorway, A904, Edinburgh and Glasgow railway), and the Union Canal, in the study area is arranged on a west-east alignment and are connected by a minor road (the B8020) network running north-south through the site.

Recreational Routes

4.4.11 The study area contains a number of recreational routes that are identified at a national level, including routes that form part of Scotland's Great Trails and National Cycle Routes (NCR). Core paths are detailed at a local level by the West Lothian Draft Core Paths Plan[12] and Edinburgh Core Paths Plan[13].

4.4.12 Recreational routes within the study area are shown on Figure 4.4 in Volume 4.

The Site

4.4.13 The site is located north of Winchburgh between the existing M9 motorway junctions 1a (to the east) and 2 (to the north west), surrounding the point where the M9 motorway spans the B8020 at Duntarvie. The site comprises the embankment and broader road margins of the M9 carriageway, incorporating:

[12] West Lothian Council, 2013. West Lothian Core Paths Plane. West Lothian Council.

[13] City of Edinburgh Council, 2008. Edinburgh Core Paths Plan. City of Edinburgh Council.

- Arable land including areas of improved grassland and semi-improved neutral grassland;
- Semi-natural broadleaved and mixed woodland; and
- Broadleaved plantation woodland and parkland.

Landscape Character Types

4.4.14 The following publications were consulted with a view to determining the existing character of the site and wider study area:

- LUC, 2014, West Lothian Landscape Classification, West Lothian Local Development Plan: Background Paper[14] (the 'WLLC');
- LUC, 2013, West Lothian Local Landscape Designation Review[15];
- LUC in association, 2010, Edinburgh Landscape Character Assessment[16]; and
- ASH Consulting Group (on behalf of SNH, 1998), The Lothians Landscape Character Assessment, SNH Review No. 91[17] (the 'LLCA').

4.4.15 Figure 4.3 in Volume 4 reflects the mapping of the WLLC and LLCA studies, showing the location and extent of the landscape character types in the study area. Where the WLLC and LLCA studies coincide the WLLC assessment is utilised in preference as it is the most up to date record of landscape character assessment. The findings of these studies were verified during field reconnaissance and have been taken to represent a suitable baseline context for the assessment.

4.4.16 The site lies within the Coastal Margins Landscape Character Type (LCT) and its integral Landscape Character Unit (LCU) 22: West Lothian Coastal Farmlands. Scottish Natural Heritage recently updated landscape character information. According to this update the site lies within landscape character type 280: Coastal Farmland – Lothians[18]. This update is based on the original Landscape Character Assessment but streamlines terminology to ensure all areas are now referenced as landscape character types (LCTs).

4.4.17 The following LCTs and constituent units (LCUs) within the study area, which are subject to potential effects attributable to the proposed development, have been included within the LVIA:

- LLCA LHT7: Coastal Margins – approximately 150 m to the east of the site;
- WLLC LCU 22: West Lothian Coastal Farmlands (Coastal Margins LCT) – which the site is located within; and
- WLLC LCU 23: West Lothian Coastal Hills (Coastal Margins LCT) – approximately 690 m north of the site.

4.4.18 WLLC LCU 15: Winchburgh/ Niddry Plains, a constituent of the Lowland Plains LCT, has not been included for this LVIA as no significant alteration of the baseline landscape character of LCU 15 is predicted due to the screening effect of intervening topography, vegetation cover,

[14] LUC, 2014. West Lothian Landscape Classification. West Lothian LDP: Background Paper. August, 2014. West Lothian Council.

[15] LUC, 2013. West Lothian Local Landscape Designation Review. June, 2013. West Lothian Council.

[16] LUC in association with Carol Anderson, 2010. Edinburgh Landscape Character Assessment. January, 2010. City of Edinburgh Council.

[17] ASH Consulting Group on behalf of SNH, 1998. The Lothians Landscape Character Assessment: SNH Review No. 91. SNH.

[18] Scottish Natural Heritage National Landscape Character Assessment. Landscape Character Type 280. Coastal Farmland – Lothians. https://www.nature.scot/sites/default/files/LCA/LCT%20280%20-%20Coastal%20Farmland%20-%20Lothians%20-%20Final%20pdf.pdf Accessed 04/03/2020.

built form (most notably the settlement of Winchburgh), and existing major transport infrastructure (M9 motorway carriageway).

4.4.19 A description of the key characteristics of each LCT is presented in Table 4.3.

Table 4.3: Landscape Character Unit Descriptions

LCT/LCU Sensitivity	Description
WLLC LCU 22 – West Lothian Coastal Farmlands (NB SNH has recently published its interactive LCT mapping in which this area is referred to as LCT 280: Coastal Farmland – Lothians) (Medium)	LCU 22 is characterised by a gently undulating, subtle terrain profile that is punctuated, in places, by a number of oil-shale bings. These remnants of the area's industrial heritage contrast with the consistent colouring and form of the surrounding farmland. Opportunities to experience comprehensive views to the Firth bridges, Fife and Ochil Hills to north and Bathgate and Pentland Hills to south are afforded from more elevated positions. The principle land use comprises high quality, intensively managed arable farmland, although some instances of improved pasture are also in evidence. Field boundaries are generally of a medium scale (although some smaller and larger examples are present) and defined by hedgerows, hedgerow trees, stone dykes or wire boundaries. Vegetation cover is defined by native broadleaved and mixed policy and shelterbelt woodland, associated with farm estates such as Craigton House, that contribute to a significant landscape framework and localised areas of enclosure. An extensive network of major transport infrastructure (M9, A904, Union Canal and Edinburgh and Glasgow railway) is arranged on a principally west-east alignment and connected by a supporting minor road network (B8020) running north-south. The susceptibility of LCU 22 to the typology of change proposed is low. The landscape composition is heavily informed by human influences – predominantly major transport routes – that the proposed development would augment. With sensitive and locally appropriate design, the proposed development could be accommodated within a suitable and assimilating context. The value of the West Lothian Coastal Farmlands is medium. The landscape incorporates a distinct pattern of vegetation cover and land use that contribute to the setting of farm estates, towns and historic properties distributed throughout the broader landscape.
WLLC LCU 23 – West Lothian Coastal Hills (Medium)	LCU 23 encompasses several well-managed parkland landscapes associated with historic, stately properties of national and international regard; most notably Hopetoun House. These properties are closely associated with significant areas of Ancient and Semi-natural native woodland that contribute a diverse landscape structure and are included in the AWI. The LCU exhibits a smaller scale with regular field patterns marked by hedgerows and some stone dykes. Stone dykes are a strong feature in the vicinity of Hopetoun House. Within the broader landscape, the land use comprises intensively managed arable agricultural. Landform is smooth, gradual and rises up from the coast to the south and west resulting in a principally north facing aspect towards the Firth of Forth. The combination of terrain profile, landscape structure and land use results in a contrast of some locally enclosed, small-scale areas with expansive and elevated visibility over long distances. Such views allow a sense of place and broader context to be afforded by northward visibility to the Firth of Forth, the Forth bridges and to Fife and the Ochil Hills. Building are limited to scattered farmsteads and individual residential properties distributed on the minor road network. Beyond this system of minor roads, transport infrastructure is limited to the A904 with an otherwise quiet and rural character demonstrated. The susceptibility of the West Lothian Coastal Hills to change is low. The terrain profile of the LCU results in a principle aspect that is orientated towards the Firth of Forth, away from the site. The pattern of vegetation cover shared with LCU 22, in combination with topography, further restricts inland visibility towards the proposed development. The value attributed to LCU 23 is high. The character area is defined by large, well-managed designed parkland landscapes that enclose stately buildings, of national and international renown, that are subject to national and local designation.
LLCA LTH7 Coastal Margins (Linlithgow/ Queensferry Farmlands) (Medium)	The coastal margins form the easternmost part of the study area and is considered broadly consistent with the WLLC LCU 22 – West Lothian Coastal Farmlands. Key attributes include: ▪ A rolling terrain with prominent igneous outcrops; ▪ Significant woodland cover, concentrated mainly within private estates; ▪ Well-maintained hedgerows and field boundaries;

Table 4.3: Landscape Character Unit Descriptions	
LCT/LCU Sensitivity	**Description**
	▪ Predominant agricultural character; ▪ Diversity of coastal scenery and habitats; ▪ Views of the Forth and its bridges; ▪ Prominent road and rail routes forming key foci in views from this landscape; and ▪ Prominent oil shale bings.

Landscape Designations and Classifications

4.4.20 The following publications were consulted with a view to determining existing landscape designations and classifications within the study area:

- LUC, 2013, West Lothian Local Landscape Designation Review[19];
- LUC, 2010, Review of Local Landscape Designations – CEC[20]; and
- Peter McGowan Associates, 2009, Edinburgh Gardens and Designed Landscape map[21].

4.4.21 The location and geographical extent of landscape designations and classifications within the study area are shown on Figure 4.4 in Volume 4.

4.4.22 Significant areas of Ancient and Semi-natural ancient woodland, included in the Ancient Woodland Inventory (AWI), are present throughout the study area, most commonly associated with historic managed landscapes or estates. Some areas of Ancient woodland lie within the boundary of the site.

4.4.23 The Forth Coast cSLA is located within the northern portion of the study area and the Dundas cSLA is located to the east of the study area. These cSLAs are subject to potential effects as a result of the proposed development and have consequently been included for assessment by the LVIA.

4.4.24 There are three Inventory GDLs located within the study area. Two of these GDLs are associated within the SLAs detailed in section 4.4.23 and have therefore been included for assessment in the LVIA, comprising:

- Hopetoun House GDL – approximately 690 m north of the site; and
- Dundas Castle GDL – approximately 1.1 km east of the site.

4.4.25 The third GDL identified within the study area, Newliston, is located approximately 1.5 km south of the site in close proximity to the existing M9 carriageway. This existing major transport infrastructure, coupled with intervening topography and vegetation cover, mean the Newliston GDL is not considered further by the LVIA.

4.4.26 It should be noted that there is an overlap between landscape designations such as GDLs and Cultural Heritage and reference should be made to Chapter 5: Cultural Heritage and Archaeology. The LVIA addresses changes to the setting of the GDL whilst the Cultural Heritage chapter considers the impact on the designation itself.

[19] LUC, 2013. West Lothian Local Landscape Designation Review. June, 2013. West Lothian Council.

[20] LUC, 2010. Review of Local Landscape Designations: The City of Edinburgh Council. January, 2010. City of Edinburgh Council.

[21] Peter McGowan Associates, 2009. Edinburgh Gardens and Designed Landscapes survey summary and map [online]. Available at: [http://www.edinburgh.gov.uk/downloads/download/74/edinburgh_gardens_and_designed_landscapes_survey_summary_and_map]. (Accessed on 31 August 2018).

4.4.27 Inventory listed GDLs are allocated a high sensitivity in regard to their high value as a nationally important resource.

4.4.28 A description of the key characteristics of each landscape designation is presented in Table 4.4.

Table 4.4: Landscape Designation Descriptions

Designation (Sensitivity)	Description
Forth Coast cSLA (High)	The Forth Coast cSLA comprises an attractive coastal landscape on the foreshore of the Firth Forth at the northern edge of the WLC area. The area's coastal margins are defined by steep, wooded coastal braes that lead to rocky or sandy foreshores. These coastal margins also afford unobstructed views along and across the Firth of Forth: downstream to the Forth Bridges; upstream to Black Ness Castle and north to the Ochil Hills of Fife. The inland portion of the cSLA is characterised by a rolling farmland landscape with parkland estates of extensive deciduous and mixed woodland cover. Visibility into the interior of West Lothian is restricted by intervening vegetation cover with views orientated northwards towards the Forth coastline and bridges. The cSLA is populated by extensive designed landscapes listed on Historic Environment Scotland's (HES) Inventory of GDLs. The most distinguished being Hopetoun House. Given the national designations held within the confines of the cSLA and the international prominence of Hopetoun House in particular, the landscape of the cSLA is considered of high sensitivity.
Dundas cSLA (High)	The Dundas cSLA reflects the parkland landscape of Dundas Castle which spreads westwards from the B800 across Dundas Hill (110 m Above Ordnance Datum (AOD)). The designation comprises an extensively wooded designed landscape of parkland trees, roundels and boundary woodland; features which combine to form a wooded mount bounded by farmland. There is a distinct sense of naturalness and tranquillity. Set out in a 19th century picturesque manner, the key characteristics of the parkland landscape include extensive woodlands, ornamental woodland gardens and lily loch which form a notably scenic feature of views from the routes of the A904, A8000, B800, A90 and M9 northwest of Edinburgh. The main parkland now comprises the Dundas Parks golf course which is surrounded by well managed farmland and structured by shelterbelt woodland. Outward visibility from the Dundas cSLA is focussed towards the Pentland Hills (south), the Firth of Forth (north) and Forth Bridges (north). The Dundas cSLA comprises an important component of the City of Edinburgh Green Belt, exerting a verdant and scenic influence on the western periphery of the city. As such it is considered to be of high sensitivity.
Hopetoun House GDL[22] (High)	Hopetoun House is listed on HES' Inventory of GDLs as a special example of a grand estate designed landscape that developed at the end of the 17th century in Scotland. Estates such as this were forged by affluence landowners as symbols of their status and ambition. Renowned for its rare and intact late 17th / early 18th century formal landscape features, Hopetoun House is widely acknowledged as a ground breaking and successful designed landscape. The estate contributes major scenic interest to the Forth estuary landscape and contains building and archaeological sites of national importance. Hopetoun House is also of outstanding interest for its value both historically and as a work of art. Properties included on the Inventory of GDLs are assessed against a set of value-based criteria to determine their importance. Criteria are judged on a scale ranging from outstanding value to no value. All properties included on the Inventory of GDLs are considered of national importance. The Inventory of GDLs lists the following importance criteria for Hopetoun House: ▪ **Outstanding** – Scenic, architectural, historical, work of art and archaeological; and ▪ **High** – Nature conservation, Horticultural, arboricultural and servicultural.

[22] Historic Environement Scotland, 2016. Inventory of Gardens and Designed Landscapes [online]. Available at: http://portal.historicenvironment.scot/designation/GDL00212 (Accessed on 31 August 2018).

Table 4.4: Landscape Designation Descriptions	
Designation (Sensitivity)	**Description**
Dundas Castle GDL[23] High	Dundas Castle GDL is an expansive 18th and 19th century landscaped parkland with picturesque loch and cliff walks developed around a 17th century landscape. The Inventory of GDLs lists the following importance criteria for Hopetoun House: ▪ **Outstanding** – Architectural, historical and archaeological; and ▪ **High** – Scenic, nature conservation and work of art.

4.4.29 Within the study area, each cSLA is characterised by the qualities of the corresponding designed parkland landscapes they encompass and exhibit similar boundaries. Subsequently, the assessment of potential effects of the proposed development upon the GDLs detailed in Table 4.4 will be integrated with the assessment of the corresponding cSLA.

4.4.30 There are numerous ancient woodlands within the study as illustrated on Figure 4.4 in Volume 4. The eastern boundary of the proposed junction encroaches into the edge of one of these listed woodlands. The impact on ancient woodland is noted in Chapter 7: Ecology. Mitigation measures include for replacing trees lost as a result of the proposed development.

Visual Baseline

4.4.31 Visual receptors are individuals or defined groups of people whose visual amenity or viewing experience may be affected by development, and include:

- residents and visitors to settlements and individual properties;
- road users;
- walkers on long range recreational trails or Core Paths; and
- cyclists on national cycleways.

Settlements

4.4.32 Views from residential properties within settlements are generally static, the same view being obtained daily. The value attached to these views is considered to be high, and the susceptibility of receptors to the type of development proposed is judged to be high. The sensitivity of all residential receptors within settlements is therefore regarded as high.

4.4.33 Winchburgh comprises the principle settlement within the study area and as such has been included for assessment in the LVIA. Kirkliston is located on the south eastern boundary of the study area. However, the raised embankment of the M9 motorway and several areas of policy and shelterbelt woodland occupy the intervening landscape between Kirkliston and the site. Consequently, visibility of the proposed development is predicted to be screened by these intervening features. Kirkliston has therefore not been considered further in the LVIA.

4.4.34 Newton village is a linear settlement situated over 1 km north of the proposed junction. There are large areas of mature tree planting in the landscape between the proposed junction and the village. These areas of woodland would provide 'layers' of filters and combine with other areas of woodland as well as localised landforms and buildings to screen the proposed development. One of these areas of woodland is immediately south-west of the settlement,

[23] Historic Environment Scotland, 2001. Inventory of Gardens and Designed Landscapes [online]. Available at: [http://portal.historicenvironment.scot/designation/GDL00151]. (Accessed on 31 August 2018).

screening views from much of the settlement. Given the distance and the intervening features, the settlement of Newton is scoped out of further assessment in this report.

4.4.35 There are individual farmhouses and properties scattered across the study area. The closest individual dwelling is the Myreside farmhouse which lies approximately 400 metres south of the proposed junction. The dwelling is orientated north-northwest/south-southeast.

Transportation Routes

4.4.36 The sensitivity of receptors on key transportation routes varies from medium in respect of general road users who may be travelling alone and concentrating on the road rather than the adjoining landscape, and high in respect of tourists who are more likely to carry passengers, and who are likely to focus on the landscape.

4.4.37 Transportation routes within the study area are generally arranged on a on a west-east alignment and are connected by a minor road network running north-south. Visibility from a number of these routes is limited by a combination of intervening vegetation and built form. Key transportation routes with potential visibility of the proposed development, which have therefore been assessed, comprise:

- M9 – travels through the site and includes the proposed development;
- B8020 – travels through the site and includes the proposed development; and
- The Edinburgh and Glasgow railway – located approximately 400 m south of the site.

4.4.38 The study area also includes the A904, which is located approximately 950 m north of the site, and the B9080 (approximately 315 m south of the site); however, due to the presence of built development, woodland and tree belts, and the screening provided by topography in the intervening landscape, no effects on these road receptors are anticipated and therefore have not been considered further in this assessment.

Recreational Routes

4.4.39 The main recreational routes within the study area are the John Muir Way[24], which enters the northern-most boundary of the study area, and the Forth and Clyde Canal / Union Canal Towpath (two of Scotland's Great Trails (SGT)[25]).

4.4.40 The John Muir Way routes through the Forth Coast cSLA, on the foreshore of the Firth of Forth, to the north of the study area. National Cycle Route 76[26] (NCR 76) follows the same path through this portion of the study area. By virtue of intervening vegetation and built form both routes are not predicted to experience visibility of the proposed development. The John Muir Way has therefore not been included for assessment by the LVIA.

4.4.41 The West Lothian Draft Core Paths Plan[27] and Edinburgh Core Paths Plan[28] identify a number of Core Paths within the study area. Those with potential visibility of the proposed development comprise:

24 Scottish Natural Heritage, 2018. John Muir Way [online]. Available at: http://www.scotlandsgreattrails.com/trail/john-muir-way/ (Accessed on 31 August 2018).

25 Scottish Natural Heritage, 2018. Forth and Clyde/ Union Canal Towpath [online]. Available at: http://www.scotlandsgreattrails.com/trail/forth-clydeunion-canal-towpath/ (Accessed on 31 August 2018).

26 Sustrans, 2018. National Cycle Network Route 76 (Round the Forth) [online]. Available at: https://www.sustrans.org.uk/ncn/map/route/route-76 (Accessed on 31 August 2018).

27 West Lothian Council, 2013. West Lothian Core Paths Plane. West Lothian Council.

28 City of Edinburgh Council, 2008. Edinburgh Core Paths Plan. City of Edinburgh Council.

- Core Path WL2a – Union Canal Water Path;
- Core Path WL11 – Winchburgh to Kirkliston; and
- Core Path CEC10 – Newbridge to Queensferry and Kirkliston.

4.4.42 The Forth and Clyde Canal / Union Canal Towpath (SGT) follows the same route through the study area, along the Union Canal, as Core Path WL2a. This route also forms National Cycle Route 754[29] between Broxburn and Linlithgow. For conciseness, the LVIA considers the potential attributable effects of the proposed developments on each of these routes within a single route assessment.

4.4.43 Core Paths WL11 and CEC10 meet on the local authority boundary between West Lothian and the City of Edinburgh, on the B9080. Consequently, these core paths have been assessed by the LVIA as a single route.

4.4.44 Recreational receptors found within the study area are considered to be of high sensitivity. It is anticipated that each person carrying out these activities has high value for the landscape within which they are passing through, and a high susceptibility to change as their attention and interest is focused on the views they experience as they pass through the landscape.

4.4.45 Recreational routes within the study area are shown on Figure 4.4 in Volume 4.

Representative Viewpoints

4.4.46 The location of representative VPs is shown on Figure 4.1 in Volume 4 and baseline views are presented from each VP in Figures 4. 5-4.7 (also in Volume 4). Table 4.5 presents a description of the existing view from each representative VP.

Table 4.5 Representative Viewpoint Baseline View

Viewpoint **Distance to Development** **Receptor Type**	**Baseline View**	**Sensitivity**
VP1: B9080 (M9 Overbridge) 530 m south east Road user Core Path user See Figure 4.5	North westerly views towards the proposed development from the B9080 overpass are dominated by the existing carriageway of the M9 motorway. The motorway passes through a cutting in this location, with roadside embankments significantly wooded by mature roadside vegetation. This broadleaved shelterbelt woodland combines with overhead road signage to form a middle-distance horizon that restricts views of the broader landscape context. This influence creates an enclosed and linear visual character that is focussed upon the M9 carriageway. During winter months, when vegetation cover is lighter, broader visibility may be less restricted but would still be heavily filtered given the density of roadside vegetation.	Road user: Medium Core Path user: High
VP2: B9080 – Western Approach to Winchburgh 1.2 km south west Road user See Figure 4.5	Views from the western approach to Winchburgh on the B9080 are demonstrates the broad characteristics of the West Lothian Coastal Farmlands LCU. Gently undulating landform defines the visible horizon and is populated by a distinct pattern of vegetation cover comprising native broadleaved and mixed policy and shelterbelt woodland. Dundas Hill (within the Dundas cSLA) defines the horizon of north easterly views. The most significant areas of vegetation cover track south west to north east (following the path of the Union Canal and the Edinburgh and Glasgow railway) across the intervening terrain between this	Settlement: High Road user: Medium

29 Sustrans, 2018. National Cycle Network Route 754 [online]. Available at: https://www.sustrans.org.uk/ncn/map/route/route-754 (Accessed on 31 August 2018).

Table 4.5 Representative Viewpoint Baseline View		
Viewpoint **Distance to Development** **Receptor Type**	**Baseline View**	**Sensitivity**
	location and the proposed development. Well managed, arable farmland bound by field boundaries forms the principle land use of the middle-distance view. Within the foreground, recent residential development on the northern periphery of Winchburgh is evident (Millcraig Mews) alongside associated infrastructure such as pedestrian footpath links and lighting columns. Visibility towards the proposed development is restricted further by remnant broadleaved shelterbelt vegetation cover, east of Millcraig Mews. Although broadleaved vegetation will not be in leaf during winter months, the extent and density of intervening vegetation cover is anticipated to restrict visibility to the site.	
VP3: B8020 Beatlie Road 215 m south Road User See Figure 4.6	The route of the B8020 forms the primary visual focus of views from this location. Broad northerly visibility is contained by the existing embankments of the raised carriageway of the M9 motorway. Other features of existing M9 infrastructure, such as overhead road signage and the overpass of the B8020, are visible components of the centre view. The visible horizon is defined by significant vegetation cover comprising native deciduous and mixed policy and shelterbelt woodland associated with the historic parkland landscape of Hopetoun House and Duntarvie castle. Further broadleaved woodland and trees populate the southern slopes of the M9 embankment. Broadleaved vegetation cover would thin during winter months, resulting in a greater potential for partial, filtered visibility of the site. The foreground margins of the B8020 are characterised by arable and pastoral fields bound by post-and-wire fencing, hedgerows and hedgerow trees. An existing overhead line, following the route of the B8020, breaks the skyline profile within the centre of the view.	Road user, rail user: Medium
VP4: Toley Wells 170 m east Residential – scattered settlement Road users See Figure 4.6	The baseline view from Totley Wells towards the site exhibits a principally rural character. The foreground view encompasses the bounds of a large arable field. The existing carriageway of the M9 forms a well-integrated feature of the middle-distance view, partially screened by locally intervening landform. The middle-distance view exhibits an extensive landscape structure of primarily broadleaved woodland, shelterbelt and field boundary and roadside trees. This screening influence would be less prevalent during Winter months. This is not predicted to result in greater visibility of the site, which is partially screened by intervening landform. Although predominantly screened, parts of Winchburgh are visible within the centre of the view while Duntarvie Castle is prominently sited to the west. The distant skyline profile is broken by the Greendykes remnant oil-shale bing, south of Winchburgh, which attracts the focus of visual receptors in this location.	Residential: High
VP5: Minor road between B8020 and Duntarvie 240 m north Road user Residential – scattered settlement See Figure 4.7	The view from the minor road between the B8020 and Duntarvie encompasses a foreground of primarily large-scale, arable fields. Field margins are defined by timber rail fencing and reinforced by occasional field boundary trees. Duntarvie Castle lies to the east of the viewshed, set within a framework of specimen broadleaved tree planting. Vegetation cover forms an extensive pattern of native broadleaved and mixed policy and shelterbelt woodland. The most substantial areas of vegetation cover lie to the south and south west of the view, surrounding the settlement of Winchburgh and reinforcing the routes	Road user: Medium Residential: High

Table 4.5 Representative Viewpoint Baseline View		
Viewpoint **Distance to Development** **Receptor Type**	**Baseline View**	**Sensitivity**
	of the Union Canal and the Edinburgh and Glasgow railway). The existing carriageway of the M9 motorway is screened from view by intervening landform. Existing settlement at Winchburgh and recent residential development to the north of the town are visible component of the middle-distance view. Existing vertical man-made are also evident and include overhead power lines, a mobile phone mast and distant visibility of the Stallashaw Moss wind farm. The terrain profile of the Pentland Hills defines the horizon while the Greendykes bing comprises a distinguishable topographic feature south of Winchburgh.	

Cumulative Context

4.4.47 The proposed development forms a constituent part of the wider Winchburgh Masterplan site, which has already been granted outline planning consent by WLC. This intended (consented) future settlement expansion has been addressed by the LVIA as a component of the future baseline and is therefore not considered in cumulative terms.

4.4.48 The increase in traffic flow, as a result of the proposed new junction, is not considered as a cumulative influence with this assessment. Therefore, no assessment of cumulative effects is included in this chapter.

Future Baseline

4.4.49 The proposed development comprises one of the infrastructural components intended to serve and facilitate the broader Winchburgh Masterplan site, which is subject to outline planning consent from WLC. This significant expansion to the existing settlement would introduce several urbanising features to a substantial proportion of the baseline landscape composition, exhibited within the study area, at the time of writing. Over the coming years it is anticipated that the principally agricultural qualities that characterise the intervening landscape, between Winchburgh and the site, would essentially become part of Winchburgh itself.

4.4.50 If the proposed development was not to go ahead, it is likely that there would be little or no change to the current landscape and visual baseline within the study area provided that the present agricultural and transport land-uses were to continue.

4.5 Assessment of Likely Effects

Construction Effects

4.5.1 Construction activities which would give rise to potentially significant, albeit temporary effects on the landscape and visual amenity arising from construction activities include:

- temporary structures such as cranes, site fencing, scaffolding (including any acoustic fencing), lighting columns, site offices and movement of construction traffic creating new features in the landscape and in views;
- loss of landscape features and fabric due to removal of field boundaries and vegetation to facilitate access to the site;

- alteration to the landscape and changes in views arising from the construction of new embankments and cuttings, particularly noticeable because of changes over a short time-scale, and the extent of bare earth visible;
- complexity within the landscape caused by (e.g.) storage of construction materials, spoil heaps, construction plant and presence of site waste;
- loss of landscape features due to damage to trees (or hedgerows) not protected from construction activities;
- reduction in the quality and value of views and visual amenity resulting from construction activities;
- construction lighting creating a new feature within the landscape and intruding into views during hours of darkness; and
- temporary alteration to journeys due to temporary traffic and pedestrian management.

4.5.2 The phasing of works would affect the nature and degree of effects in different areas around the site at different times. As part of the construction works, local impacts (such as disturbed ground or exposed foundations for the construction compound) would be removed during on-site landscaping works.

Operational Effects

4.5.3 Potentially significant effects arising from the operation of the proposed development include:

- presence of a new road junction, with associated embankments and structures (e.g. traffic signs, lighting posts, barriers, footways) into a rural area;
- permanent loss of landscape features such as scrub vegetation, areas of agricultural grassland, field boundaries;
- alteration to the pattern of vehicle and pedestrian movement within the landscape with consequent potential for adverse effects on community and recreational amenity;
- introduction of vehicle lights and junction lighting into an area of landscape which is currently not lit at night (aside from the presence of vehicle headlights on the M9 motorway); and
- new landscape features in direct line of view, affecting the amenity of views for sensitive visual receptors.

4.6 Mitigation

Embedded Mitigation

4.6.1 Embedded mitigation would be delivered as part of the design of the proposed development. Figure 4.8 in Volume 4 presents the landscape design proposals to ameliorate construction and operational impacts and aid the assimilation of the proposed development into the adjoining landscape which will be delivered as part of the works.

4.6.2 Key aspects of the embedded mitigation include:

- positioning of the new slip road so that the junction sits below the existing horizon created by the M9 motorway, preventing elements from extending above the current skyline and creating new features.
- creation of gently graded landforms that are consistent with existing topography in the area; and

- establishment of suitable tree and shrub planting that is in keeping with the vegetation in the study area in order to reduce the perceived scale and engineered form of the road embankments.

4.6.3 Embankments would have chamfered tops that are undulating to mimic 'natural' topographical forms in the vicinity and to avoid an overly engineered appearance. The embankments would be covered with a substrate suitable for vegetation establishment and would be seeded and planted in accordance with Figure 4.8 in Volume 4.The proposed planting is intended to create landscape features, reminiscent of woodland areas found in the wider landscape. These areas of woodland would both screen or filter views of the proposed development for users of the M9 motorway and visual receptors within the wider landscape such as nearby scattered properties including Myreside and users of the local road network. Woodland would also provide mitigation for views from Duntarvie Castle.

4.6.4 Individual trees would be introduced to provide visual cues at intersections/ roundabouts.

4.6.5 New woodland planting would consist of primarily native species, for functional, visual and biodiversity reasons and would be sourced from a UK supplier (with a preference for Scottish based suppliers). Species would be selected from the those listed in Table 4.6 and Figure 4.8 in Volume 4. The species selected are intended to enhance biodiversity and reference should be made to Chapter 7: Ecology to obtain a fuller understanding of this.

Table 4.6: Species used in New Woodland Mitigation Planting

Shrubs		**Trees**	
Common name	**Botanical name**	**Common name**	**Botanical name**
Elder	Sambucus nigra	Alder	Alnus glutinosa
Grey Willow	Salix cinereal	Silver Birch	Betula pendula
Hawthorn	Crataegus monogyna	Wild Cherry	Prunus avium
Hazel	Corylus avellana	Holly	Ilex aquifolium
Dog rose	Rosa canina	Pedunculate Oak	Quercus robur
Raspberry	Rubus idaeus	Scots Pine	Pinus sylvestra
Blackthorn	Prunus spinose	Rowan	Sorbus aucuparia
Honeysuckle	Lonicera periclymenum		

4.6.6 Hedgerows, hedgerow trees and individual trees are intended to 'break up' views of the proposed development and enhance the character and condition of existing field boundaries and field trees found in the immediate landscape of the site. Species would be locally native and selected from those outlined in on Figure 4.8 in Volume 4.

4.6.7 Sustainable Drainage System (SUDS) areas would be planted with appropriate wetland and marginal aquatic species in order to stabilise the substrate, and to provide visual and biodiversity interest. The SUDS features are likely to drought in the summer and be inundated during winter or periods of sustained rainfall and so vegetation proposed has been selected to reflect this range of conditions. The newly established SUDs would be seeded with a suitable wetland wildflower and grass mix (e.g. Emersgate EM8 – Meadow mixture for wetlands) sown at of 4 grams/square metre. Additionally, approximately 30 % of SUDS margins would be planted native tree and shrub species. Indicative mixes are presented on Figure 4.8 in Volume 4.

4.6.8 Species rich grassland would be sown across the remainder of the site. Species rich grass would promote visual interest while enhancing biodiversity.

4.6.9 In terms of ensuring that mitigation measures are implemented, it should be noted that the proposals presented in Figure 4.8 in Volume 4 would be committed and developed as part of the works should the scheme be consented, and a formal specification would be developed as part of the detailed design.

Mitigation during Construction

4.6.10 During construction, the following measures would be adopted:

- Site compounds and accommodation works (including any site offices and welfare facilities) would be restricted in size and duration and will be removed during final construction works and the ground reinstated at the earliest juncture.
- Soils would be stored and handled using best practice[30] to ensure that the quality of soil is maintained.
- Tidy site principles would be adopted and all construction waste and rubbish would be disposed of off-site, at a suitable waste disposal facility.
- Machinery and materials would be stored in designated compounds, any unwanted materials would be removed from site.
- Roads providing access to the site would be maintained free of dust and mud by a combination of regular road sweeping and dust suppressant methods.
- Construction lighting would be directed away from sensitive visual receptors, and only used during agreed working hours while construction activity is taking place. Lights would be turned off when the site is closed unless health and safety requirements dictate otherwise.
- Stockpiled materials or remaining waste would be removed from site and their position reinstated at the end of construction.
- The landscape plan would be implemented as soon as practicable during the construction phase to aid the rapid assimilation of the site into the adjoining landscape.

Mitigation during Operation

4.6.11 Based on review of the proposals and of the potential landscape and visual effects, no additional mitigation measures are deemed to be required above the mitigation measures which are embedded within the scheme design (see above and refer to Figure 4.8 in Volume 4).

Mitigation and Seasonal Variation

4.6.12 The embedded mitigation, in particular the manipulation of levels to ensure that the new slip road would sit below the horizon of the M9 motorway, would ensure that intervisibility with receptors across the study area is limited, thus reducing the severity of potential impacts. Whilst mitigation planting is proposed it is not required to mitigate against significant effects. Therefore, seasonal variation is not assessed for each receptor.

[30] In accordance with the Department of Environment, Food and Rural Affairs' (Defra) 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (2009).

4.7 Assessment of Residual Effects

4.7.1 The following section assesses the residual effects of the proposed development during construction and operational phases, taking into account the committed mitigation and landscape proposals presented in section 4.6 of this chapter.

Residual Construction Effects

Residual Effect on Landscape Fabric

4.7.2 The construction process would result in the direct and permanent loss of vegetation cover within the site to facilitate the creation of new embankments, cuttings and roundabouts. The removal of landscape features such as arable land, field boundaries (including hedgerows and hedgerows trees) and existing mature vegetation, comprising sections of broadleaved plantation, parkland and mixed woodland, would directly alter the fabric of the landscape within the site.

4.7.3 The embedded mitigation measures set-out in this chapter include a series of measures intended to compensate for initial impacts on landscape fabric and to aid assimilation of the proposed development into the broader landscape of the study area.

4.7.4 Construction impacts on existing landscape fabric would be medium in the short-term, equating to a temporary, local moderate adverse effect (significant). However, the relatively geographically constrained nature of the proposed development, coupled with the proposed mitigation would result in temporary moderate/minor effects overall, which would be not significant.

Residual Effects on Landscape Character

EFFECTS ON WLLC LCU 22: WEST LOTHIAN COASTAL FARMLANDS (LCT280)

4.7.5 Construction activities would introduce cranes, lighting columns, site fencing and buildings as well as the movement of construction traffic (such as large earth-moving machinery) to what is currently a predominantly rural landscape. These elements, considered in the context of the West Lothian Coastal Farmlands LCU would introduce additional noise, an increase in the presence of artificial lighting during the hours of darkness, and alterations to some journeys because of temporary traffic and pedestrian management.

4.7.6 Other aspects of the construction would include the creation of new embankments, cuttings and roundabouts would lead to the direct loss of landscape features and fabric within the West Lothian Coastal Farmlands LCU including the removal of existing field boundaries and vegetation cover, including some areas of Ancient Woodland.

4.7.7 Give the relatively localised nature of these impacts and short duration the magnitude of impact would be low, equating to a temporary moderate/minor adverse effect on landscape character, which would be not significant.

EFFECTS ON WLLC LCU 23: WEST LOTHIAN COASTAL HILLS

4.7.8 The West Lothian Coastal Hills LCU possesses a principally northern orientation, with the focus of outward visibility orientated towards the Firth of Forth, Forth bridges, Fife and the Ochil Hills beyond. Significant vegetation cover, comprising areas of Ancient and semi-natural woodland, is associated with designed parkland landscapes and foreshortens inland visibility towards the site. The combination of this landscape structure and rolling topography serves to create areas with a heightened sense of enclosure and smaller scale.

4.7.9 It is predicted that the majority of construction activities associated with the proposed development would not be evident from this adjoining LCU. However, where evident, the proposed development would be limited to middle distance views, the proposed development representing a relatively small and temporary feature within large scale views, and partially mitigated by adjoining topography and vegetation.

4.7.10 As the construction works would be temporary, the magnitude of impact would be negligible, resulting in indirect minor adverse effects on the landscape character of LCU 23, which would be not significant.

EFFECTS ON LTH7: COASTAL MARGINS

4.7.11 As predicted in respect of WLLC LCU 22: West Lothian Coastal Farmlands construction activities would introduce temporary impacts to views from this landscape. The main sources of indirect impacts on this landscape would comprise site cranes, lighting columns, site fencing and buildings as well as the construction of embankments and movement of construction traffic and plant to what is currently a predominantly rural landscape. These elements would introduce additional noise, an increase in the presence of artificial lighting during the hours of darkness, but would be seen relatively distantly and would be partially obscured by intervening topography and vegetation.

4.7.12 Given the limited duration and visibility of construction elements the magnitude of impact would be low, equating to a temporary moderate/minor adverse effect on the character of this landscape, which would be not significant.

Residual Effects on Landscape Designations and Classifications

EFFECTS ON FORTH COAST CSLA (INCLUDING HOPETOUN HOUSE GDL)

4.7.13 The primary orientation of both the Forth Coast cSLA and Hopetoun House are focussed to towards the Firth of Forth (north) and away from the site. The intervening landform of the West Lothian Coastal Hills, coupled with the characteristic vegetation cover of the designed parkland landscape at Hopetoun House, serves to limit views inland to the interior of West Lothian. Consequently, views of the proposed development from this landscape would be substantially restricted. Consequently, the proposed development would have no impact on the character of the Forth Coast cSLA and therefore no effect.

EFFECTS ON DUNDAS CSLA (INCLUDING DUNDAS CASTLE GDL)

4.7.14 The Dundas cSLA (and associated Dundas Castle GDL) is defined by a principally inwardly focused, enclosed and intimate nature, meaning visibility of the broader landscape composition is limited. Despite this, some views are achieved towards the Pentland Hills (south) and Firth of Forth and Forth bridges (north). There are no external views towards the site which is located approximately 1.1 km west of the cSLA.

4.7.15 As a result, there would be no impact on this landscape and therefore no effect.

Residual Effects on Visual Amenity

EFFECTS ON SETTLEMENTS

4.7.16 Views towards the site from Winchburgh are largely screened by intervening woodland, shelterbelt planting, or the railway embankment which runs between the proposed development and the northern settlement edge.

4.7.17 Where views do occur, construction activity would be witnessed at distances of over 1.2 km. The construction activity, primarily relating to earthworks and the creation of cuttings and embankments, would be set lower in the view than the existing M9 motorway, and, given the aforementioned screening, would be barely discernible.

4.7.18 The most visually prominent component of the construction process would be vertical structures such as cranes, lighting columns and ancillary equipment such as site fencing and buildings. Partial visibility of these components could be attained from outer-lying, scattered residential properties but this would again be restricted by the screening influence of vegetation cover.

4.7.19 Given the temporary nature of the works and reversibility of some of the construction impacts, the magnitude of impact would be negligible, equating to a temporary minor adverse effect upon the amenity of settlement, which would be not significant.

EFFECTS ON VIEWS FROM TRANSPORTATION ROUTES

4.7.20 The greatest impact would be caused by earthworks, the creation of cuttings and embankments, bare earth, temporary road diversions and materials heaps visible; large machinery moving with hazard warning lights, construction lighting and compounds.

4.7.21 These impacts would be most prominent in views from the M9 carriageway and the Edinburgh and Glasgow railway in the area surrounding the site.

4.7.22 Given the temporary nature of the works and reversibility of some of the construction impacts, the magnitude of impact would be negligible, equating to a temporary minor adverse effect on each transportation route during the construction phase, which would be not significant.

EFFECTS ON VIEWS FROM RECREATIONAL ROUTES

4.7.23 The numerous recreational routes that pass through the study area, including routes identified by Scotland's Great Trails, the National Cycle Network and the local core path plans of WLC and CEC, are extensively screened by path-side woodland and scrubby vegetation, in combination with woodland and shelterbelt planting in the wider landscape.

4.7.24 Given the temporary nature of the works and reversibility of some of the construction impacts, the magnitude of impact would be negligible, equating to a temporary minor adverse effect on recreational users during the construction phase, which would be not significant.

Residual Operational Effects

Residual Effect on Landscape Fabric

4.7.25 No additional alteration to the fabric of the landscape within the site is anticipated following construction works, as landscaping associated with the proposed development would compensate for earlier losses and strengthen the structure and condition of the landscape within the site. This, in turn, would aid its gradual assimilation into the wider landscape. Therefore, no effect beyond those identified in section 4.7.4 are anticipated by the complete and operational proposed development in relation to the landscape fabric.

Residual Effects on Landscape Character

EFFECTS ON WLLC LCU 22: WEST LOTHIAN COASTAL FARMLANDS

4.7.26 The proposed development is located within the West Lothian Coastal Farmlands LCU, north of Winchburgh, between the existing M9 motorway junctions 1a and 2 surrounding the point where the M9 motorway spans the B8020 at Duntarvie.

4.7.27 In this location, the predominant land use is well-managed, arable agriculture interspersed with a prominent land cover of native broadleaved and mixed policy and shelterbelt woodland, associated with farm estates. This pattern of vegetation cover contributes to a localised sense of enclosure, in certain areas, in combination with the landform of the LCU. An existing network of major transport infrastructure is present within the LCU (M9 motorway, A904, Edinburgh and Glasgow railway and the Union Canal) and is predominantly arranged on a west-east alignment. Major transport routes are linked by a supporting network of minor roads that run north-south (B8020).

4.7.28 The proposed development would increase the presence of major road infrastructure within the LCU, introducing both new linear elements (slip roads) and vertical elements (lighting columns). However, the introduction of these new man-made elements would be afforded an appropriate and assimilating context by the existing M9 carriageway. The proposed junction would not extend beyond the visible threshold of the existing M9 motorway and would not introduce a novel or contrasting feature to the existing character of the landscape.

4.7.29 The landscape design and mitigation strategy in Figure 4.8 in Volume 4 contains a series of measures to supplement the integration of the proposed development within a framework of locally appropriate landscape features.

4.7.30 Consequently, the magnitude of impact, as a result of the proposed development, on the character of the West Lothian Coastal Farmlands LCU would be low, resulting in residual effects that would be moderate/minor adverse and would therefore be not significant. These impacts would be localised to the immediate area surrounding the new junction and the limited areas from which it would be visible within the broader landscape.

EFFECTS ON WLLC LCU 23: WEST LOTHIAN COASTAL HILLS

4.7.31 The West Lothian Coastal Hills LCU lies 690 m north of the site and is defined by a gently undulating landform that rises to the south and west from the foreshore of the Firth of Forth. This northern orientation focusses the view of receptors within the LCU upon the Firth of Forth, Forth bridges, Fife and the Ochil Hills beyond.

4.7.32 Land use comprises intensively farmed agricultural land with considerable areas of Ancient and semi-natural woodland. This significant vegetation cover is reinforced by large, well-managed designed parkland landscapes associated with historic buildings. The combination of this landscape structure and the rolling topography serves to create areas with a heightened sense of enclosure and smaller scale.

4.7.33 Where visible, the proposed development would be experienced in the context of the existing M9 motorway. As the new junction would not extend beyond the current visible scope of existing major transport infrastructure, it would constitute a congruent addition to the baseline landscape context of the LCU. The cohesive introduction of the new junction with the existing landscape character would be enhanced further by the landscape design and mitigation strategy, which proposes locally appropriate structural woodland to align with the pattern of vegetation cover already present.

4.7.34 It is, however, anticipated that the principally northerly orientation of views (towards the Firth of Forth) and the significant areas of intervening vegetation cover would foreshorten and restrict visibility of the proposed development from the LCU.

4.7.35 As such, the magnitude of impact on the character of the West Lothian Coastal Hills LCU would be low, resulting in moderate/minor adverse residual effects, that would be not significant; from a restricted proportion of the character unit.

EFFECTS ON LTH7: COASTAL MARGINS

4.7.36 As predicted in respect of WLLC LCU 22: West Lothian Coastal Farmlands, the proposed development would increase the prominence of road infrastructure west of this landscape, introducing both new linear elements (roads/embankments and roundabouts) and vertical elements (lighting columns). However, the introduction of these elements would be broadly consistent with the existing landscape and would not introduce wholly new or contrasting features to the existing character of the landscape.

4.7.37 On this basis, and with cognoscente of the proposed landscaping, the magnitude of impacts on the character of this landscape would be low, resulting in residual effects that would be moderate/minor adverse and not significant.

Residual Effects on Landscape Designations

IMPACTS ON FORTH COAST CSLA (INCLUDING HOPETOUN HOUSE GDL)

4.7.38 The Forth Coast cSLA is located within the WLLC LCU 23: West Lothian Coastal Hills, approximately 675 m north of the site, and therefore shares a number of its defining characteristics. The cSLA comprises an attractive coastal landscape and therefore the Firth of Forth and its associated features constitute the primary focus of views from the designation.

4.7.39 The cSLA's coastal margins are typified by steep wooded coastal braes. Inland, the landscape is characterised by a rolling farmland landscape with parkland landscapes (including Hopetoun House) that incorporate extensive deciduous and mixed woodland cover. These features of the cSLA serve to restrict visibility towards the interior of West Lothian and the proposed development.

4.7.40 Intervening landform and vegetation cover, coupled with the primary orientation of both the cSLA and Hopetoun House are focussed away from the proposed development, and serve to restrict the opportunity for significant effects upon either designation. Subsequently, the magnitude of impact on the character of the Forth Coast cSLA and Hopetoun House GDL would be negligible. The residual effect would be minor adverse and not significant).

IMPACTS ON DUNDAS CSLA (INCLUDING DUNDAS CASTLE GDL)

4.7.41 The Dundas cSLA lies approximately 1.1 km east of the site, between the settlements of Kirkliston and Queensferry. The cSLA comprises an extensively wooded designed landscape organised around Dundas Hill (110 m above ordnance datum (AOD)) and Dundas Castle. The designation is encircled by major transport infrastructure (M9 motorway, M90, A90, A904 and B800), however extensive perimeter and structural woodlands serve to enclose its boundaries, creating a sense of enclosure and intimacy.

4.7.42 Given the widespread presence of major transport routes in proximity to the cSLA, the proposed development would constitute a minor increase in the presence of roads infrastructure. Where evident, the proposed development would be viewed as an extension of

an existing major transport route, representing an insignificant alteration to the baseline landscape character experienced from the designation.

4.7.43 The enclosed and intimate qualities of the designation (described by the HES Inventory of GDLs) would suggest an inwardly-focussed nature that has limited visual communication with the broader landscape, given the extensive presence of major transport infrastructure. Despite this, some outward vistas are attainable towards the Pentland Hills (south) and Firth of Forth and Forth bridges (north). There are no external views towards the proposed development.

4.7.44 The opportunity for attributable effects as a result of the proposed development to impact the cSLA are restricted further by an intervening ridgeline of terrain that extends from Burn Craigs to Craigsend. This ridgeline is also populated by a series of mixed policy and shelterbelt woodlands which serve to limit the opportunity for any visibility of the proposed development from Dundas.

4.7.45 The magnitude of impact on the character of the Dundas cSLA and Dundas Castle GDL would be negligible. The residual effect would be minor adverse and not significant.

Residual Effects on Visual Amenity

EFFECTS ON SETTLEMENTS

4.7.46 From Winchburgh, views towards the site are largely screened by intervening areas of woodland, shelterbelt planting, or the railway embankment which runs between the proposed development and the northern settlement edge.

4.7.47 Where views are provided, the proposed development would be seen at a distance of around 1.2 km. The proposed development would be set lower in the view than the existing M9 motorway, and, given the aforementioned screening, would be barely discernible. Moreover, the proposed tree and shrub planting, once sufficiently matured, would reinforce the existing characteristic vegetation of the landscape. This would aid the integration of the proposed development into the existing landscape and reduce its impact in views.

4.7.48 The magnitude of impact would be negligible in views from Winchburgh. The residual effect would be minor adverse and not significant.

4.7.49 Mitigation planting would be introduced along new embankments. This has been implemented to break up views to the proposed development from the nearest scattered properties in the surrounding area (i.e. Totleywells Cottages, Niddry Mains House, Myreside and The White House). While the new junction would not be entirely screened, the proposed planting would guide views across the top of the junction (particularly from the north) and provide a level of visual interest in the intervening landscape which would filter views to the junction. Notwithstanding, these properties will be further screened by the built out Winchburgh Masterplan development.

4.7.50 The magnitude of impact would be low in views from scattered properties within the area surrounding the proposed development (i.e. Myreside), following the implementation and gradual maturation of the proposed planting. The residual effect would be moderate/minor adverse and not significant.

4.7.51 For other properties within the study area, the magnitude of impact would be negligible or none, resulting in a minor adverse effect (not significant) on the amenity of these properties.

EFFECTS ON VIEWS FROM TRANSPORT ROUTES

M9 Motorway

4.7.52 For users of the M9 motorway, impacts would be restricted to a short section of road (approximately 1.1 km in length). Roadside vegetation would conceal views until the road user approaches the slip roads/ramps that lead to the B8020. The entrance and exits of the slip roads (including associated signage) would become new elements along the M9 road corridor, and new lighting associated with the proposed junction would become a new feature for road users during hours of darkness.

4.7.53 Glimpsed views are currently available of the existing B8020 as it passes beneath the M9 carriageway. Once operational, the proposed development would be visible from the motorway, and the junctions and slip roads would form new, but not unfamiliar, elements in the view. Once proposed planting matures, views to the proposed development would be reduced further.

4.7.54 The proposed development would constitute a new feature of the route in the view immediately following opening, but would not be out of character with existing views of other junctions along the M9 motorway. For users of the M9 motorway, the view would be fleeting and experienced over a few seconds (when travelling up to 70 miles per hour on the motorway). The underlying view from the road would remain essentially unchanged. The magnitude of impact would be negligible. The residual effect would be minor adverse and not significant.

B8020 – Beatlie Road

4.7.55 The key change in views from transport routes within the study area would be limited to users of the B8020. The proposed development would slightly alter the geometry of the existing road, directing road users through a series of roundabouts on either side of the M9 underbridge.

4.7.56 For northbound road users, views would be impacted once the road user has exited from beneath the railway underpass to the south of the proposed development. The westbound slip roads, roundabout and road furniture (e.g. signage, lighting, safety barriers) would become new elements in the wider view. These structures would be viewed in the context of the existing M9 embankment which forms a prominent linear feature in the landscape, defining the skyline of the view. The new roads which form part of the proposed development would not break this skyline and would sit below the M9 carriageway. Lighting structures along each slip road would extend slightly above the horizon of the M9 motorway. The road user would navigate the southern roundabout, passing beneath the M9 and then cross the northern roundabout. Once the second roundabout is passed, the proposed development would be viewed to the rear of the viewer and the view would revert to the current baseline situation.

4.7.57 As a southbound road user approaching and passes Duntarvie Castle, the east bound slip roads would be visible descending from the line of the M9 motorway which forms a conspicuous horizontal element in the view. The road winds down the hillside to route beneath the M9 motorway. The proposed development would remain in the view for the full descent. On approach to the underpass, the road user would have a clear view of the proposed development. With the exception of lighting columns, the proposed development would sit below the line of the existing M9 motorway and would not extend above the existing skyline. Once the road user had passed across the site, the proposed development would be to the

rear of the view and no longer visible. Proposed lighting would create a new feature in views from the road during hours of darkness. Lighting columns would flank the roundabout and slip roads and would introduce light into an area which is currently unlit.

4.7.58 The proposed development would form a partial alteration to the existing view for users of the B8020 in both directions. The influence of the development in the view would be constrained to a short duration and would form a logical element as part of the wider road network. The underlying character of the view from the road would not significantly change. The magnitude of impact would be low. The residual effect would be minor adverse and not significant.

Edinburgh and Glasgow Railway

4.7.59 Views across the landscape are intermittent as the railway line passes through the study area. The line enters the study area from the east in cutting, and landform screens views from the train. The line then rises up onto embankment to cross above the B8020 and is elevated above the surrounding area. Views are partially filtered by lineside planting; however glimpsed views across the landscape are available. The line then returns to grade and passes through an area of woodland before exiting the study area in the west.

4.7.60 Views to the proposed development would be limited to the area directly south of the site due to the presence of woodland, trackside vegetation and landform which would screen longer ranging views from both directions. As the train passes to the south of the site, views of the proposed development would be intermittent and filtered by trackside tree cover. Viewers would be travelling at high speeds past the site and the proposed development would form a slight change in the view from the train. Impacts are likely to be most noticeable immediately following construction before mitigation planting has had time to mature. However, as the proposed landscaping matures the proposed development would be integrated into the landscape and would not appear out of context or character with the current view from the train.

4.7.61 The magnitude of impact for railway passengers would be negligible. The residual effect would be minor adverse and not significant.

EFFECTS ON VIEWS FROM RECREATIONAL ROUTES

4.7.62 John Muir Way clips the northern edge of the study area. Given the distance of 2 km and the various intervening mature woodland belts and the rolling nature of the topography, it is unlikely there would be discernible views of the proposed development from the John Muir Way. Therefore there is no further assessment of impacts on this receptor.

4.7.63 In the area where views of the proposed development would theoretically be available for users of Core Path WL2a (the Union Canal Water Path – which also comprises the route of the Forth and Clyde Canal/ Union Canal Towpath (two of SGTs) and NCR 754) actual views would be extensively screened by path-side woodland and scrubby vegetation, in combination with woodland and shelterbelt planting in the wider landscape.

4.7.64 The magnitude of impact in views from Core Path WL2a (including the Forth and Clyde Canal/ Union Canal Towpath and NCR 754) in both directions would be none. The residual effect would be no effect.

4.7.65 For users of Core Path WL11/ CEC10, views of the proposed development would largely be screened by intervening woodland, tree belts and minor undulations in topography which foreshortens views from the majority of the core path as it runs through the study area.

4.7.66 As the path routes between Niddry Mains and the access to Niddry Mains House – a distance of approximately 200 m – views to the proposed development across the low-lying landscape would become available. The development would be viewed at an oblique angle by path users travelling in both directions. Vehicles on the M9 motorway are an existing, moving, element in the view from this location. The proposed development would introduce a greater level of road infrastructure but would be set down low in the view and would not form a prominent new feature. The character of the view would not notably alter. Over time, proposed planting would filter or screen views to the new junction.

4.7.67 The magnitude of impact on views from Core Path WL11/ CEC10 would be negligible overall. The residual effect would be minor adverse and not significant.

EFFECTS ON VIEWS FROM REPRESENTATIVE VIEWPOINTS

4.7.68 Table 4.8 presents the viewpoint assessment for selected representative VPs. Baseline descriptions for each location are described in Table 4.5.

Table 4.8: Representative Viewpoint Assessment

Viewpoint **Distance from Development** **Sensitivity**	**Assessment** **Magnitude of Impact**	**Residual Effect**
Ref: 1 B9080 (M9 Overbridge) 530 m south east Medium (road users) High (core path users)	Roadside vegetation foreshortens views from the overbridge. During construction, traffic management signage would be the key change in the view, with potential for glimpsed views of large construction plant (cranes, drills, etc.) above the skyline behind vegetation to the rear of the view. Earthworks and general construction site activity would be screened from view. Following construction, changes to road side signage and road markings would be the key change in the view. Roadside vegetation combined with the bend in the M9 would obscure views to the northbound off-ramp. The operational proposed development would result in a barely discernible alteration to the existing view. The underlying landscape character and composition of the view would be essentially unchanged. Magnitude of impact: Negligible	Minor adverse and not significant
Ref: 2 B9080 – western approach to Winchburgh 1.2 km south west High (settlement) Medium (road users)	The woodland at Myreside and that associated with the line of the railway obscures views of the existing M9 embankment and roadway, with glimpsed views of vehicles on the road seen between stands of trees. During construction, the majority of earthworks would be screened in views by intervening landscape and landscape features. Views of tall construction plant (e.g. cranes, drills, etc.) would be visible above the existing skyline. Views of these elements would be temporary and short-term. Once operational, filtered views of the southern slip roads may be available. Light posts constructed on the approaches to the southern roundabout would be visible above the trees in some locations, largely as the road rises to meet the existing M9. During the day, these new elements would be a barely discernible feature in the view. During hours of darkness when the lights are in use, lighting would introduce a new feature into the view from the edge of Winchburgh. The lighting would be set low in the landscape (i.e. not elevated upon the M9 motorway) within an area of landscape which is not currently lit (aside from the passing headlights of vehicles on the M9 motorway). The lights would be viewed in the context of the town edge, headlights on the road and the lighting associated with the Forth	Minor adverse and not significant

Table 4.8: Representative Viewpoint Assessment		
Viewpoint **Distance from Development** **Sensitivity**	**Assessment** **Magnitude of Impact**	**Residual Effect**
	Road Bridge and the Queensferry Crossing visible in the background of the view. Lighting at the roundabouts is likely to be the most notable change in the view, particularly during hours of darkness. However, at a distance of approximately 1.3 km, the operational proposed development would result in a barely discernible alteration to the existing view. However, much of the Winchburgh Masterplan would have been built out by the time the proposed development has been completed; therefore, the lighting features introduced by the proposed development would not be entirely dissimilar to the lighting effects emitted from the expanded Winchburgh town. Magnitude of impact: Negligible - Low	
Ref: 3 B8020 Beatlie Road 215 m south Medium (road users, rail users)	The proposed development would introduce a new road system in the foreground of the view. The southern roundabout, and south bound on- and off-ramps would be clear, new features in the landscape from this location. The proposed development would be viewed in the context of the existing M9 and embankment which sits high in the view, immediately to the north of the proposed development. The embankments of the proposed development would be located in front of the existing embankment and would not rise above the existing landform. Existing views across the wider landscape would not be obscured or blocked. Proposed mitigation planting along the toe of the new embankments would assist in breaking up the solid form of the new embankments. Lighting at the roundabouts, and along the lower levels of the slip roads would introduce a new feature in the view. Aside from light from passing vehicles headlights on the M9, the view is currently unlit. Impacts arising from the proposed road lighting would locally change the character of the view during hours of darkness. During construction, construction vehicles, plant and activities would be an obvious new element in the landscape, with little screening available. Effects would be short term and temporary and reinstated in line with the proposed development landscape design. The proposed development would result in a notable alteration to the existing view, introducing new features in close proximity to the viewer. The proposals would be prominent in the view but would not dominate and would integrate with the existing road infrastructure (the M9 embankments) present in the landscape. Magnitude of impact: Medium	Moderate/minor adverse and not significant
Ref: 4 Totley Wells 170 m east Medium (road users) High (residential - scattered settlement)	The proposed development would sit low in the landscape in the view from Totley Wells. All development to the south of the M9 would be screened by the existing road embankment. The southbound off-ramp would be screened in views by intervening topography and shelterbelts. Only the southbound on-ramp would be visible as it rises in the view to connect into the existing road network. The new road would not sit high in the view, nor would it obscure or screen views to the landscape in the rear of the view. The tops of the lighting posts on the southbound on-ramp, and the northbound off-ramp would form new elements in daytime views. The posts would not be prominent and would integrate	Minor adverse and not significant

Table 4.8: Representative Viewpoint Assessment		
Viewpoint **Distance from Development** **Sensitivity**	**Assessment** **Magnitude of Impact**	**Residual Effect**
	with existing distribution posts in the wider landscape. During hours of darkness, the illuminated light posts would introduce additional light in to the view from the north. These lighting elements would be viewed in the foreground of Winchburgh and while set slightly away from the town, would integrate with the larger area of lighting to the south, albeit slightly extending the presence of lighting in the landscape. Introduction of a new area of lighting into the landscape would constitute a notable change the character of the landscape in the immediate area. The introduction of the proposed development would introduce additional features of a similar character to the existing view. All effects arising from the proposed development would be localised within an otherwise unaltered landscape or visual context. Magnitude of impact: Low	
Ref: 5 Minor road between B8020 and Duntarvie 240 m north Medium (road users) High (scattered settlement)	Local topography screens the majority of views to the proposed development from this location. All proposed slip roads, embankments, roundabouts and lighting would be screened in views. Construction works to construct the commencement of the southbound off-ramp would form a new element and activity in the view from the road however this activity would be short term and temporary. The change in view would be barely discernible. No landscape characteristics would be lost, and the underlying character of the view would be essentially unchanged. Magnitude of Impact: Negligible	Minor adverse and not significant

4.8 Summary

4.8.1 The proposed development would introduce a new junction to the road margins of the existing M9 motorway which comprise arable land (including improved grassland and semi-improved neutral grassland) and broadleaved and mixed woodland, plantation and parkland. The new M9 motorway junction would facilitate access to the existing M9 for the proposed Winchburgh Masterplan area and incorporate the construction of two roundabouts on the B8020 (north and south of the point it passes underneath the M9 motorway at Duntarvie respectively). The proposed development would also comprise ancillary road infrastructure including (but not limited to) lighting columns, road signage, safety barriers and appropriate roads drainage.

4.8.2 The formation of new slip roads, as a component of the proposed development, would require existing motorway embankments to be extended, new cuttings to be formed and existing vegetation cover removed. A series of mitigation measures (see section 4.6) have been set within the final design and layout to ensure the proposed development would suitably integrate with the existing network of major transport infrastructure. A framework of locally appropriate landscape features (including structural woodland) is proposed to compliment the distinct pattern of vegetation cover already present throughout the landscape context.

Landscape Effects

4.8.3 There would be direct, permanent effects on the landscape character and fabric within the site. The removal of vegetation cover (marginal areas of which are included in the AWI), regrading of landform and direct loss of existing field boundaries to facilitate the construction

and operation of the proposed development would wholly alter the landscape character of the site and increase the presence of transport infrastructure.

4.8.4 The localised removal of vegetation cover, while directly impacting the fabric of the landscape within the site, would not detract from, or significantly alter, the distinctive pattern of landscape structure that characterises the broader landscape within the study area.

4.8.5 The proposed development would not introduce a wholly new or uncharacteristic feature to the existing landscape composition and would be seen in the context of the existing M9 motorway.

4.8.6 The landscape proposals in Figure 4.8 in Volume 4 are intended to strengthen and enhance existing areas of woodland and boundary planting found within the vicinity of the site. New woodland planting would comprise principally native species to assist the visual integration of the proposed development and augment biodiversity. Hedgerows, hedgerow trees and specimen tree planting are proposed to supplement structural woodland and reflect the characteristic field boundaries and trees in evidence throughout the study area.

4.8.7 No designated landscape would be directly affected by the proposed development. There would not be any indirect impacts on designated landscapes which would adversely affect their special qualities or characteristics, or impact upon the justification for their designation.

Visual Effects

4.8.8 Views towards the proposed development from Winchburgh would largely be screened by intervening woodland, shelterbelt planting and the embankment of the Edinburgh and Glasgow railway. The new junction has been sited and designed to sit within the visual threshold of the existing M9 motorway, which is not a dominant feature of the baseline view experienced from the town. The context provided by the existing M9 motorway, combined with the screening influence of vegetation cover, restrict the residual effects to minor adverse significance (not significant).

4.8.9 Residential properties scattered throughout the broader landscape context of the site would, at most, be subject to minor residual effects as a result of the proposed development .

4.8.10 Three transportation routes (M9 motorway, B8020 and Edinburgh and Glasgow railway) were included within the detailed assessment process, two of which pass through the site. No significant residual effects were identified, with all routes considered to have only minor changes to existing views from their route.

4.8.11 Of the six recreational routes included within the LVIA, none are predicted to be subject to significant residual effects due to the proposed development.

4.8.12 Core Path WL2a follows the course of the Union Canal and also comprises the route of the Forth and Clyde Canal/ Union Canal Towpath [two of SGTs] and NCR 754). Visibility towards the site are extensively screened by path-side woodland and scrub vegetation, combined with woodland and shelterbelt planting in the wider landscape, resulting in no residual effect.

4.8.13 Residual effects from Core Path WL11/ CEC10, which passes within 200 m of the site, are of minor adverse significance (not significant).

4.8.14 Five representative viewpoints were assessed by the LVIA. Moderate/minor residual effects attributable to the proposed development were identified at one of these locations (VP3: B8020 Beatlie Road), which lies 215 m south of the site. The remaining four representative viewpoints are considered to have minor adverse (not significant) residual effects.

4.8.15 No cumulative effects, either direct effects arising from construction or operation would result from the proposed development.

4.8.16 Table 4.9 provides a summary of the anticipated residual effects associated with landscape and visual impacts that are likely to arise as a result of the proposed development. Mitigation measures for the LVIA are presented in section 4.6 and include mitigation during the construction process and embedded mitigation to be delivered as a component of the design of the proposed development.

Table 4.9: Summary of Residual Effects

Potential Effects	Mitigation	Means of Implementation	Residual Effect	Outcome
Construction				
Direct and permanent loss of vegetation cover that would alter the landscape fabric of the site.	▪ Mitigation during construction, particularly the implementation of the landscape plan as soon as practicable during and/or following completion of construction.	Mitigation that would be adopted during site preparation and construction process and included within the adopted Environment Management Plan (EMP). The EMP would incorporate arrangements for implementation works while mitigating potentially adverse effects during the construction phase.	Locally moderate (significant) in the short-term, but moderate/minor adverse overall and not significant	Amelioration of construction impacts which would also assist in the assimilation of the proposed development within the adjoining landscape.
Adverse effects upon landscape character of WLLC LCU 22: West Lothian Coastal Farmlands			Temporary moderate/ minor adverse and not significant	
Adverse effects upon landscape character of WLLC LCU 23: West Lothian Farmlands			Temporary minor adverse and not significant	
Adverse effects upon landscape character of LTH7: Coastal Margins.			Temporary moderate/ minor adverse and not significant	
Adverse effects upon character or value of Forth Coast cSLA			No effect	
Adverse effects upon character or value of Dundas cSLA			No effect	
Adverse effects upon the setting or amenity of settlement			Temporary moderate/ minor adverse and not significant	
Adverse effects upon the visual amenity of transportation routes			Temporary minor adverse and not significant	
Adverse effects upon the visual amenity of recreational routes			Temporary moderate/ minor adverse and not significant	
Operation				
Direct and permanent loss of vegetation cover that would alter the landscape fabric of the site.	Embedded mitigation, comprising: ▪ Construction of junction to sit	To be delivered as a component of the design of the proposed development.	No effect beyond that identified during construction phase	Integration of the proposed development as a settled component of

Table 4.9: Summary of Residual Effects

Potential Effects	Mitigation	Means of Implementation	Residual Effect	Outcome
Adverse effects upon landscape character of WLLC LCU 22: West Lothian Coastal Farmlands	below existing threshold of the M9, preventing elements from extending beyond current skyline of transport infrastructure resulting in new features; ▪ Creation of graded landforms consistent with existing topography in the area; ▪ Establishment of locally appropriate landscape features (principally native tree and shrub planting) to reflect landscape structure of the wider landscape, reduce perceived scale and engineered form of the proposed development and enhance character and condition of existing field boundaries and trees in the vicinity of the site; ▪ SUDs would be planted with appropriate wetland and marginal aquatic species to stabilise substrate and provide visual/ biodiversity interest; and ▪ Species rich grassland		Moderate/ minor adverse and not significant	the broader landscape. Reinforcement and enhancement of existing areas of woodland and boundary planting found within the vicinity of the site. Predominantly native species specified to assist visual assimilation and augment biodiversity. Hedgerows, hedgerow trees and specimen tree planting specified to supplement structural woodland and reflect the characteristic field boundaries and trees in evidence throughout the study area.
Adverse effects upon landscape character of WLLC LCU 23: West Lothian Farmlands			Moderate/ minor adverse and not significant	
Adverse effects upon landscape character of LTH7: Coastal Margins.			Moderate/ minor adverse and not significant	
Adverse effects upon character or value of Forth Coast cSLA			Minor adverse and not significant	
Adverse effects upon character or value of Dundas cSLA			Minor adverse and not significant	
Adverse effects upon the setting or amenity of Winchburgh			Minor adverse and not significant	
Adverse effects upon the setting or amenity of scattered residential properties			Moderate/ minor adverse and not significant	
Adverse effects upon the visual amenity of transportation routes (M9, B8020 and Edinburgh and Glasgow railway)			Minor adverse and not significant	
Adverse effects upon the visual amenity of Core Path WL2A (also the route of Forth & Clyde Canal, Union Canal Towpath and NCR754)			No effect	
Adverse effects upon the visual amenity of Core Path WL11/ CEC10			Minor adverse and not significant	
Adverse effects upon the visual amenity of Viewpoint 1 - B9080 (M9 Overbridge) 530 m south east			Minor adverse and not significant	
Adverse effects upon the visual amenity of Viewpoint 2 - B9080 – western approach to Winchburgh			Minor adverse and not significant	

Table 4.9: Summary of Residual Effects

Potential Effects	Mitigation	Means of Implementation	Residual Effect	Outcome
Adverse effects upon the visual amenity of Viewpoint 3 - B8020 Beatlie Road	would be sown across remainder of site to promote visual interest while enhancing biodiversity.		Moderate/ minor adverse and not significant	
Adverse effects upon the visual amenity of Viewpoint 4 - Totley Wells			Minor adverse and not significant	
Adverse effects upon the visual amenity of Viewpoint 5 - Minor road between B8020 and Duntarvie			Minor adverse and not significant	