Intended for
Winchburgh Developments Ltd

Date
March 2020

Project Number
1700001963

WINCHBURGH M9 JUNCTION
ENVIRONMENTAL IMPACT ASSESSMENT REPORT – NON-TECHNICAL SUMMARY

RAMBOLL

WINCHBURGH M9 JUNCTION: NON-TECHNICAL SUMMARY (NTS)

1 INTRODUCTION

1.1 Purpose of the NTS

This Non-Technical Summary (NTS) of the Environmental Impact Assessment (EIA) Report (EIAR) (also referred to as an 'Environmental Statement') has been prepared on behalf of Winchburgh Developments Limited (the 'Developer') for Transport Scotland, as the relevant 'Promoter', to support the publication of draft trunk road orders, as required under the Roads (Scotland) Act 1984[1] to construct a new motorway junction on the M9 ('the proposed development') at Duntarvie, Winchburgh in West Lothian, Scotland (the 'site').

This NTS presents a summary of the main findings of the environmental impact assessment (EIA) that has been undertaken of the proposed development and that has been reported in the EIAR. The NTS provides:

- a description of the site and surrounding context;
- an outline of the reasonable development alternatives considered by the Developer and an indication of the main reasons for their choice, taking into account the potential environmental impacts;
- a description of the proposed development; and
- a summary of the likely significant environmental effects predicted and key mitigation measures (as relevant).

The aim of the NTS is to summarise the main findings of the EIAR in a clear and concise manner to assist the public in understanding what the significant environmental effects of the proposed development are likely to be.

1.2 Viewing of EIAR and Application

The full EIAR comprises:

- Volume 1: Non-Technical Summary (this document);
- Volume 2: Main Environmental Statement;
- Volume 3: Technical Appendices;
- Volume 4: Figures.

An electronic version of the draft road orders and this EIA Report will be available to download from the Transport Scotland website[2].

A copy of the EIAR will be made available at Transport Scotland for review:

Transport Scotland

c/o Trunk Road and Bus Operations (TRBO)

Buchanan House

58 Port Dundas Road

Glasgow G4 0HF

[1] Her Majesty's Stationery Office (HMSO), 1984. Roads (Scotland) Act 1984.

[2] Transport Scotland, 2018. Transport Scotland website [online]. Available at: https://www.transport.gov.scot/ (Accessed on 20/07/2018).

Any person wishing to express an opinion on the EIAR should write to Transport Scotland at the above address. Formal representations are invited until six weeks after the advertised date of publication.

CD versions of the EIAR are available for purchase from Ramboll:

Ramboll

5th Floor

7 Castle Street

Edinburgh EH2 3AH

2 EXISTING SITE AND SURROUNDING CONTEXT

2.1 Site Location and Surroundings

The site is centred along an approximate 1.6 kilometre (km) stretch of the M9 motorway between the existing M9 junctions 1A and 2, located approximately 1 km north of the existing village of Winchburgh in West Lothian, Scotland (see Figure 1).

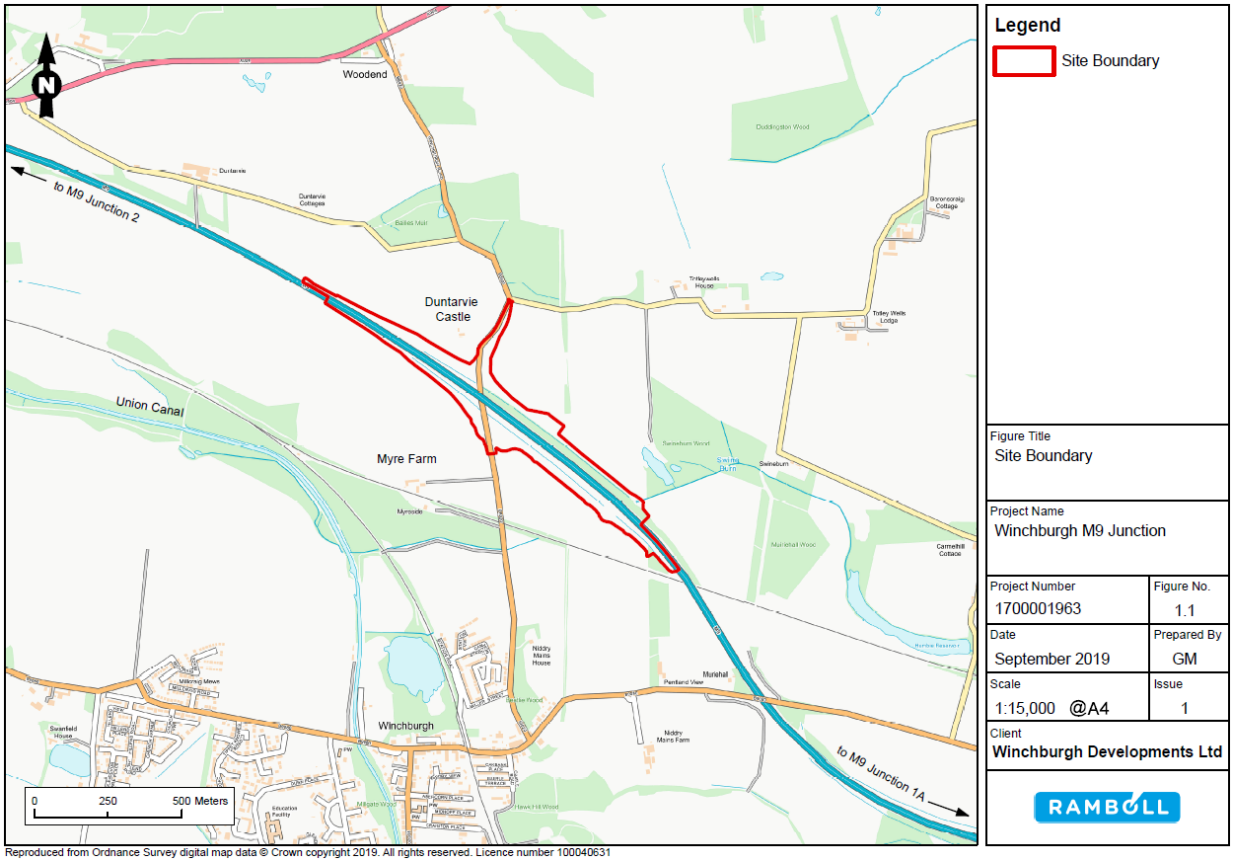

Figure 1: Proposed Development Site

The site area (16.73 hectares (ha)) has been defined as the maximum area that would be required to facilitate the development of the proposed motorway junction, with the footprint of the proposed development expected to be considerably smaller than this.

The B8020 (Beatlie Road) runs through the centre of the site (underneath the existing M9 motorway) in a north-south orientation, providing access from both directions.

The surrounding area is predominantly agricultural land with Duntarvie Castle located adjacent to the north west; parcels of semi-natural woodland to the north and east; a

residential property and The Myre Farm courtyard approximately 250 metres (m) to the south; and a railway line to the south of the site, with a south east-north west orientation.

The site area is included within the north eastern section of the Winchburgh Masterplan area, consisting of 352 ha (see Figure 2).

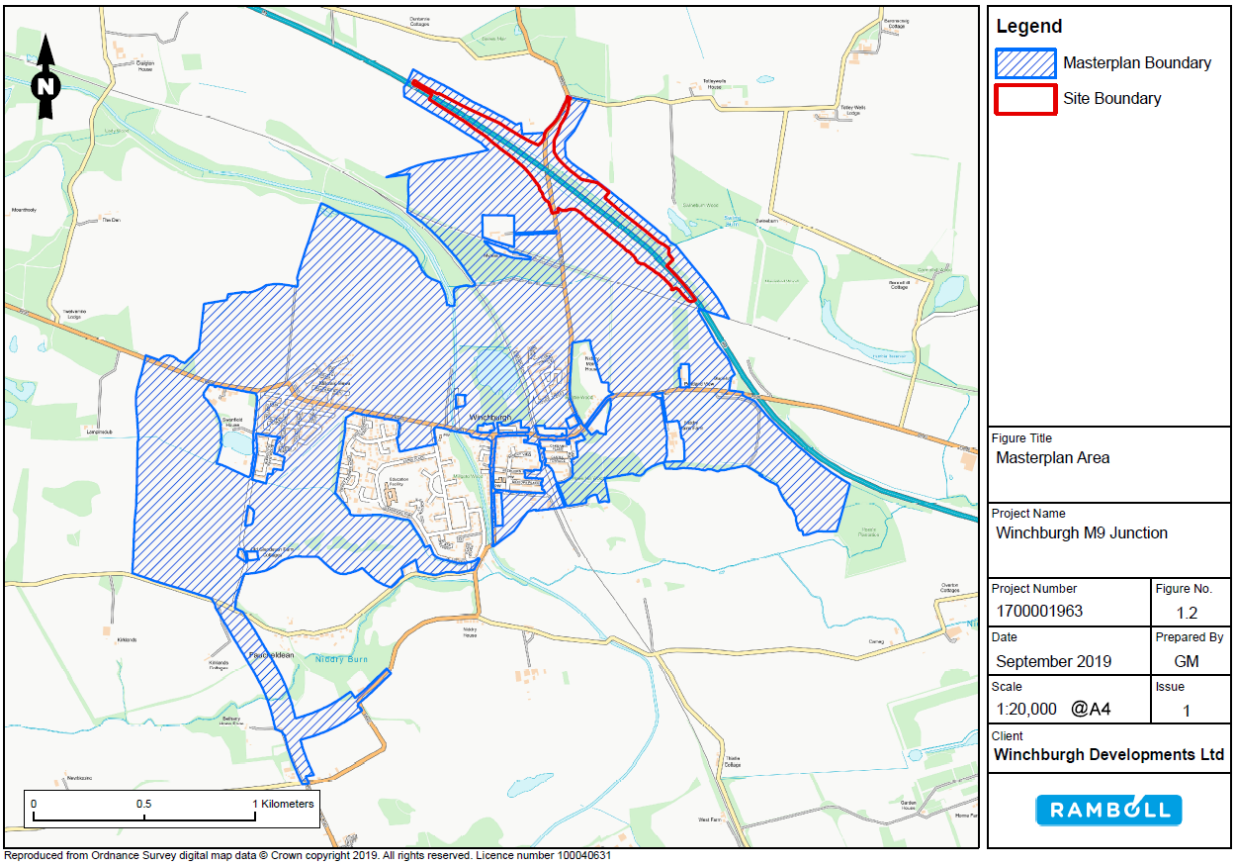

Figure 2: Proposed Development Site in the Context of the Winchburgh Masterplan Site

The Winchburgh Masterplan, which has received outline planning consent from West Lothian Council (WLC) (application reference: 1012/P/05), proposes development of a settlement expansion, including residential, commercial, industrial, recreation and retail uses. It also includes community facilities, landscaping and open space. The outline planning application also covered rail and road infrastructure, including a train station, park and ride facilities, a junction to the M9 motorway (i.e. the proposed development), and primary and secondary school provision.

A number of mechanisms were incorporated into a set of planning conditions, which aim to safeguard the commitment to providing the appropriate road infrastructure, which will serve the settlement as it expands. One of these conditions includes a restriction on the construction of no more than 1,000 residential units until the implementation of the new junction on the M9 motorway (i.e. the proposed development) is complete. The consented total number of residential units for the Winchburgh Masterplan is up to 3,450 units.

2.2 Environmental Sensitivities and Considerations

Particular consideration has been given to the following:

- Use of the proposed development by pedestrians and other non-motorised users (e.g. cyclists, equestrian);

- The eastern part of the site is recorded to be at 'High' risk of fluvial flooding according to Scottish Environment Protection Agency (SEPA);
- Sections of the M9 motorway within the site are at 'Medium' risk of surface water flooding with a very small area at 'High' risk;
- Surrounding agricultural land;
- Existing ecology and biodiversity;
- A culvert runs across the south east of the site;
- Noise and air emissions from the use of the proposed development;
- Duntarvie Castle, located adjacent north west of the site, is a Category A Listed Building and also a Scheduled Monument; and
- Development of the Winchburgh Masterplan will result in increased traffic on the M9 motorway and proposed junction.

3 PLANNING CONSIDERATIONS

3.1 Policy Context

This EIAR reports on the findings of the EIA undertaken for the proposed development in accordance with the Design Manual for Roads and Bridges (DMRB) Volume 11: Environmental Assessment[3] (2008). Volume 11 of the DMRB provides guidance on the environmental assessment of roads projects, including details of potential impacts and mitigation measures for a range of topics that are likely to be relevant to such projects.

Since commencing this EIAR, the DMRB guidance has been updated. At the time of the DMRB update this project was at an advance stage. In line with the updated guidance; as stated in GG101 Introduction to the DMRB Section 1.3, use of the previous guidance has been retained for this assessment. The approach and methodologies generally replicate the now superseded guidance but checks were made with the updated guidance to ensure there are no implications on the conclusions drawn.

Furthermore, EIA for a project of this type/nature is mandatory as part of the consenting process and the requirements of The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017[4] (the 'EIA Regulations').

3.2 Planning History

A review of the WLC planning portal confirms that the application site has a limited planning history.

The proposed development forms part of the Winchburgh Masterplan development, which has received outline planning consent from West Lothian Council (WLC) (application reference: 1012/P/05). The outline planning consent includes development of a 352 ha settlement expansion, including residential, commercial, industrial, recreation and retail uses. It also includes community facilities, landscaping and open space. The outline planning application also covered rail and road infrastructure, including a train station, park and ride facilities, a junction to the M9 motorway, and primary and secondary school provision. The detailed design of the aspects of the development of the Winchburgh Masterplan area is

[3] Department for Transport (DfT), 2008. Design Manual for Roads and Bridges (DMRB) Volume 11: Environmental Assessment.
[4] HMSO, 1984. The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017.

largely covered by the Planning Act 2008[5] and is the subject of matters specified in conditions (MSC) planning applications.

Prepared as part of the outline application, the Winchburgh Masterplan Environmental Statement (ES)[6] considered the principle of establishing a M9 motorway junction at Winchburgh and the associated potential for significant effects based on a set of assumptions regarding the likely design of the junction. The Winchburgh Masterplan ES did not consider the specific details of the motorway junction as designed for the proposed development.

4 DESIGN EVOLUTION AND ALTERNATIVES

The EIA Regulations require the EIAR to report on the reasonable alternatives (for example in terms of design, size and scale) studied by the Applicant, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

The EIAR considers the following alternatives:

- 'Do Something';
- 'Do Nothing' Alternative;
- Alternative Sites; and
- Alternative Designs and Design Evolution.

4.1 'Do Something'

The 'Do Something' option (i.e. delivering the proposed development in full) has therefore been chosen as this would deliver both the Winchburgh Masterplan beyond the 1,000-unit cap which would provide socio-economic benefits and growth potential to the wider area.

4.2 'Do Nothing' Alternative

The 'Do Nothing' alternative is a hypothetical alternative considered in EIA as the basis for comparing the development proposals under consideration.

The Developer has ruled out the 'Do Nothing' alternative on the basis that it would result in the following:

- Winchburgh Masterplan would not be fully implemented as the proposed development is a key element of the overall Masterplan proposals; and
- No direct vehicle access route to (and from) the M9 motorway for the increased population of Winchburgh due to the Masterplan, leading to increased congestion through alternative local road networks to access M9 motorway Junctions 1A or 2.

4.3 Alternative Sites

No alternative sites have been considered by the Developer for the proposed development as the location of the proposed junction is based upon the relative location of the Winchburgh Masterplan site to the existing M9 motorway and the potential connectivity and infrastructure of the existing road network (i.e. B8020).

[5] HSMO, 2008. Planning Act 2008.
[6] Environ (now Ramboll), 2005. Winchburgh Development Initiative – Environmental Statement. August 2005.

4.4 Alternative Designs and Design Evolution

No significant layout alternatives have been identified during the design process; therefore, the proposed development has been progressed on the basis of four slip roads leading to and from two proposed roundabouts situated on the existing B8080 (Beatlie Road). This junction layout has been determined by using the anticipated traffic flows, supported by the need for local access and for mode transfer at the proposed park and ride facilities.

5 DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development comprises a new dumbbell grade separated junction (four slip roads) on the existing M9 motorway, incorporating the existing B8020 (Beatlie Road) where it passes beneath the M9 motorway at Duntarvie (see Figure 3). The purpose of the proposed development is to provide access to the M9 motorway in all directions to serve the proposed Winchburgh Masterplan and other settlements in the area.

The proposed development will incorporate appropriate landscaping (see Figure 4):

- Scrub to filter visibility and increase opportunities for safe movement of fauna;
- Roundabouts planted with species rich grass and specimen trees;
- Trees planted along slip roads to emphasise the junction;
- Introduction of basins for drainage and biodiversity potential; and
- Removal of any identified invasive non-native species.

The proposed development will include the realignment of the B8020 to the north, to tie in to the proposed northern roundabout and local amendments of the B8020 to the south, to tie in to the proposed southern dumbbell roundabout. Connecting the two roundabouts the existing B8020 will be retained with minor modifications and including the existing underpass beneath the motorway. The existing motorway embankment will be extended on either side of the junction to accommodate the new slip road alignments. The realigned section of the B8020 will replicate the existing cross section and will consist of a 6 m wide single carriageway, with minimum 2 m verge widths. The carriageway through the M9 motorway overbridge will be 7 m.

Surface water detention basins will be implemented to the north and south of the M9 motorway, forming part of the Sustainable Drainage System (SUDS).

The proposed development includes access/egress routes for non-motorised users (NMUs), such as pedestrians, equestrian and cyclists. A 3 m shared NMU route will be provided around the western side of the roundabouts and on the western side of the B8020 through the existing M9 motorway overbridge. This new NMU route will terminate at the new access to Duntarvie Castle on the north side, with four uncontrolled crossing points located through the proposed development.

Apart from forming suitable slip-road tie-ins, no works are proposed to be undertaken to the M9 motorway itself through the site area.

The expected operational life of the proposed development has not been defined but, with regular maintenance and minor defect repair, is expected to be over 100 years. Road pavements designed in accordance with the DMRB are designed to carry traffic volumes for 40 years.

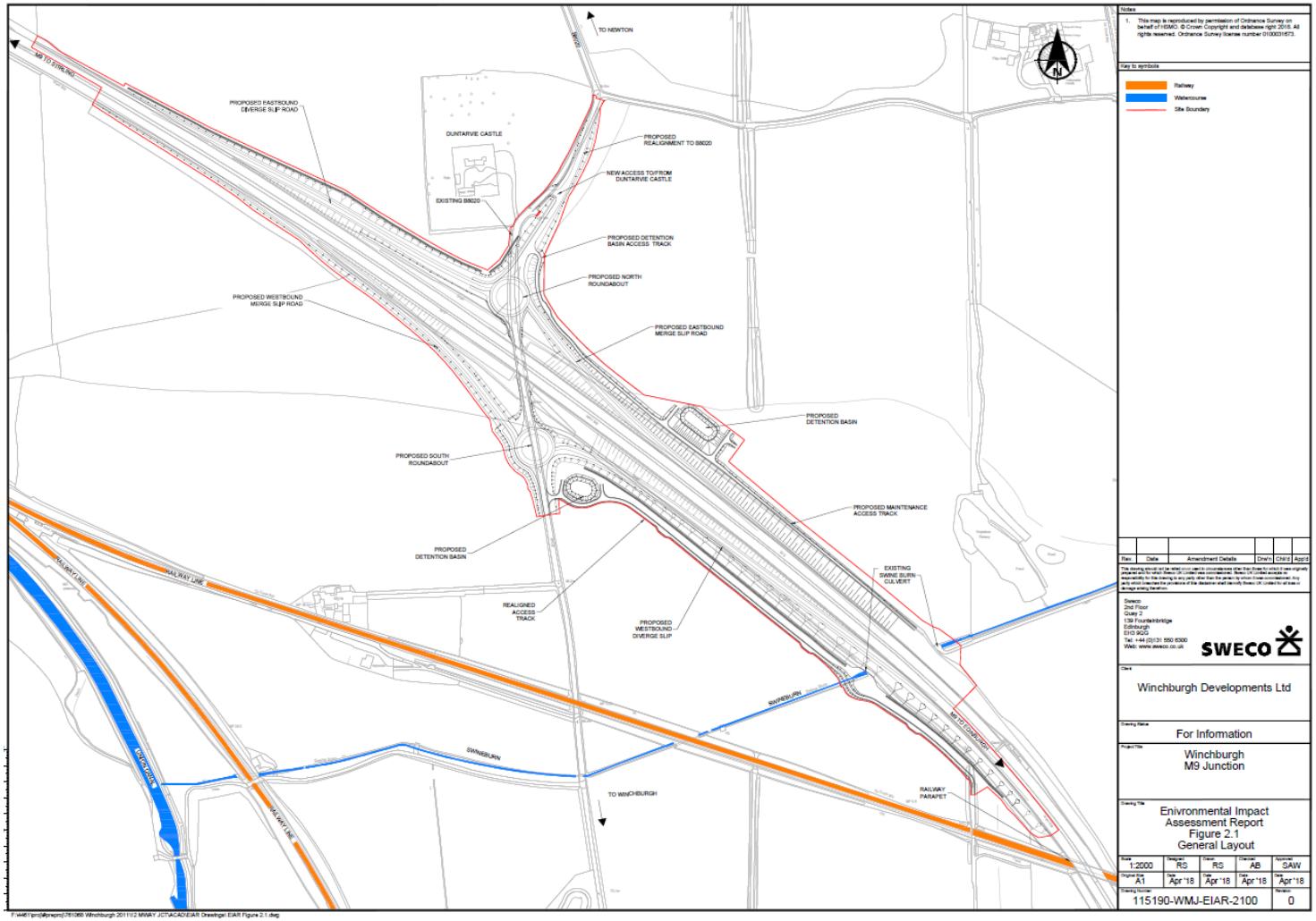

Figure 3: Proposed Development Layout

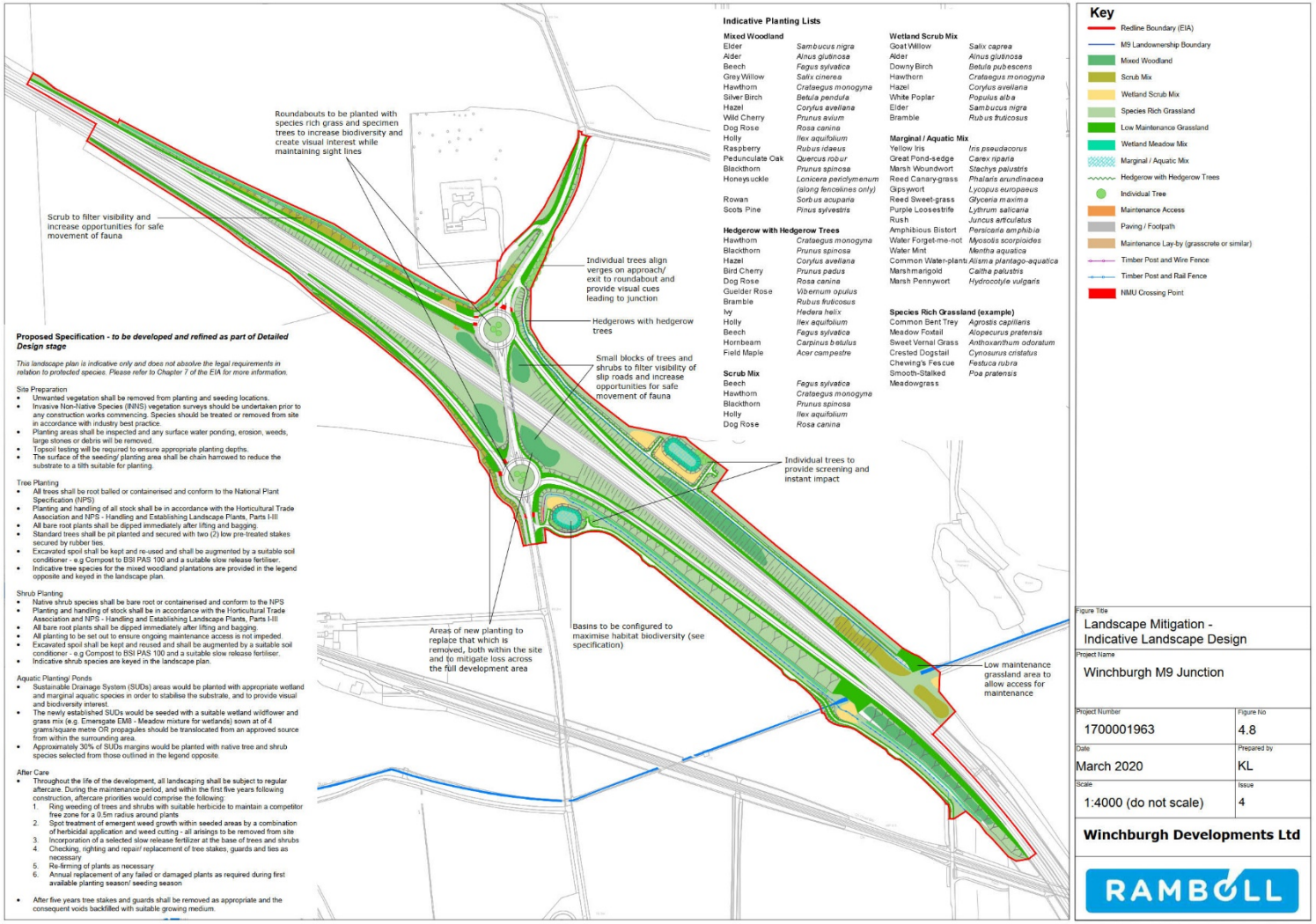

Figure 4: Proposed Landscaping Plan

6 CONSTRUCTION WORKS

The construction of the proposed development would incorporate the following elements:

- provision of an appropriate road drainage and sustainable drainage systems (SUDS) comprising filter drains, pre-earthworks ditches and swales;
- road signage, road restraint systems and intelligent transport systems;
- the realignment of an existing access track along the foot of the M9 motorway embankment on the Winchburgh side (running along the south eastern extent of the proposed junction) that will include construction or a new culvert for the Swine Burn;
- a new access track along the edge of the north-east slip road embankment;
- non-motorised user provision at the roundabout and connecting road;
- delivery of a landscaping strategy; and
- mitigation measures proposed in this EIAR (such as ecological protection measures).

An Environmental Management Plan (EMP) would be developed before works on site commence, which will be prepared for the appointed Contractor. The EMP would outline measures which would be followed to minimise potential environmental impacts during this stage of the proposed development. It would include, for example, management plans relating to noise, vibration and dust minimisation, pre-construction ecology surveys to minimise disturbance to species in and around the site, and traffic management plans for construction traffic.

In addition to construction staff transport movements, construction traffic would consist of heavy goods vehicles (HGVs) delivering construction materials and plant and removing materials from the site. No abnormal load deliveries are proposed. A Transport Management Plan would be developed by the appointed Contractor as part of the proposed Environmental Management Plan (EMP) (including detailed information regarding routes for construction traffic and measures to minimise the risk of traffic congestion). Wherever possible, routes would be chosen to minimise disturbance to users and occupiers of nearby buildings as well as pedestrians and other road users. In addition, the passage of vehicular traffic to and from the site would adhere to the environmental procedures applicable to all contractors involved in the works.

Hard landscape materials removed during construction would be carefully stockpiled and protected for re-use on the site.

Road users' safety during construction and when operational is a key consideration for the proposed development. Designs to address this will comply with the Design Manual for Roads and Bridges (DMRB) and will be fulfilled by the appointed Contractor during construction and the road maintenance team when operational where necessary.

The construction works are estimated to take 12 months to complete and the proposed development is estimated to be operational by end of year 2021.

7 ENVIRONMENTAL IMPACT ASSESSMENT

7.1 EIA Process and Methodology

This NTS reports on the findings of the EIA process, as documented in the EIAR. EIA is a process that identifies the potential significant environmental effects (both beneficial and adverse) of a proposed development and proposes mitigation to avoid, reduce and/or offset

any likely significant adverse environmental effects. It is an iterative process which proactively seeks to integrate mitigation within the development proposals so as to avoid significant effects from arising.

The EIA process adopted for the proposed development has followed best practice guidelines, as set out by the Institute of Environmental Management and Assessment (IEMA) Quality Mark scheme. The process involved the following key steps:

- Consultation was undertaken with key consultees, including (but not limited to) WLC, Transport Scotland and SEPA;
- The most up-to-date information on the nature of the sensitivity of the environment was gathered and assessed where applicable;
- The EIA used best practice methods to predict the potential nature, size and significance of any environmental change; and
- The results of the EIA process have been reported in the EIAR in a transparent way, to provide the information required to support the decision-making process.

7.2 Topics Included in EIA

The following topics were scoped in and assessed within the EIA, as confirmed during the EIA Scoping process:

- Landscape and Visual;
- Cultural Heritage and Archaeology;
- Road Drainage and Water Environment;
- Ecology and Nature Conservation;
- Air Quality; and
- Noise.

7.3 Topics Excluded in EIA

The following issues were scoped out of the EIA and not assessed further, as confirmed during the EIA Scoping process:

- Vibration Effects;
- Climate Change and Greenhouse Gases (GHG);
- Major Accidents and Disasters;
- Socio-Economic, People and Communities, Human Health and Well-being;
- Geology and Soils;
- Vehicle Users; and
- Pedestrians and Others (Cyclists, Equestrians and Community Effects).

8 LIKELY SIGNIFICANT ENVIRONMENTAL EFFECTS

8.1 Landscape and Visual

Construction

During construction, the loss of vegetation cover (including hedgerows and trees) within the site to facilitate the creation of new embankments, slip roads and roundabouts would directly alter the fabric of the landscape within the site. However, the relatively

geographically constrained nature of the construction works, coupled with the proposed mitigation (e.g. new landscape design), would result in temporary moderate/minor effects overall, which would be not significant.

The assessment also looked at the likely effects on the existing landscape character (such as from West Lothian Coastal Farmlands and Coastal Hills), designations and classifications (e.g. Forth Coast and Dundas candidate Special Landscape Areas (cSLA)). Due to the localised and temporary nature of the construction works, there were no significant adverse effects identified.

With regards to visual amenity (such as viewed from nearby settlements, transportation routes and recreational routes) the temporary construction works would primarily be screened by the land topography and existing vegetation, which would not result in any adverse significant effects.

Completed Development

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. The landscape proposals are intended to strengthen and enhance existing areas of woodland and boundary planting found within the vicinity of the site. Therefore, the proposed development would not result in any adverse significant effects for the landscape fabric, character or designations.

Furthermore, due to the overall design and location of the proposed development, the visual amenity from nearby settlements, existing transport routes (e.g. B8020, railway), recreational routes (e.g. Union Canal) and representative viewpoints would not be significantly adversely affected.

8.2 Cultural Heritage and Archaeology

Construction

The potential direct effects of the proposed development on cultural heritage and archaeology have been assessed and one potentially significant effect has been identified. Mitigation measures to establish the potential effect on any surviving buried remains of a former farmstead, associated with Duntarvie Castle, has been set out that would establish the presence or absence of any surviving remains and characterise their condition and archaeological value. Dependent upon the results of the initial investigations, further mitigation may be required to more fully investigate and record the surviving remains to a standard acceptable to WLC and Transport Scotland. Implementation of the programme of mitigation within the EMP would ensure that residual effects on cultural heritage and archaeology would be not significant.

Completed Development

A significant effect on the setting of Duntarvie Castle is predicted, as a result of the construction of the northern roundabout and realignment of the B8020 in the immediate surroundings of the Castle. There is no practical mitigation that would avoid or reduce the effect and the residual effect is accordingly also assessed as being of moderate adverse significance (i.e. significant). However, the effect on the Castle's setting would not result in any diminution of its cultural significance and the proposed development would not hinder the ability of any visitor to appreciate the character of the Castle or to appreciate and understand its relationship with its wider landscape.

8.3 Road Drainage and Water Environment

Construction

Likely significant effects during construction include sediment release and silt-laden runoff, accidental release/spillage of oils, fuels and chemicals and insufficient temporary drainage provision. However, following implementation of mitigation (e.g. temporary drainage systems to alleviate temporary flood risk, appropriate storage of construction materials to prevent spillages) during construction, residual effects are predicted to be not significant.

Completed Development

During the proposed development's operation, likely significant effects would include sub-optimal performance of road drainage network, due to blockages and sediment build up and an increase in likelihood of pollutant build up on road surfaces and risk of accidental spillages discharging to the Swine Burn and entering groundwater. Following implementation of mitigation measures, residual effects are predicted to be not significant.

Furthermore, the new access road culvert will fill in the low point in the Swine Burn channel where floodwaters previously spilled onto the floodplain; therefore, containing a greater proportion of flows in-channel. The new culvert will result in minor beneficial changes in flood depths and extent with the proposed development in place.

8.4 Ecology and Nature Conservation

Construction

There would be potential disturbance of nearby badger setts during construction. With the implementation of suitable mitigation measures, involving ecologists marking out 30 m exclusion zones from setts and, where necessary, excluding setts under SNH licence, minor adverse (not significant) residual effects would be anticipated. Potential for badger collision with construction traffic would be mitigated via badger proof fencing along the M9 motorway and B8020.

Tree felling activities could result in injury and death of roosting bats. Mitigation measures, including soft felling with supervision by a bat-licensed ecologist, would result in no residual effect.

Appropriate construction-related lighting mitigation would be established in order to minimise disturbance on foraging and commuting bats, which would result in no residual effect.

Overall, following the implementation of aforementioned mitigation measures, there would be no significant adverse effects on ecology.

Completed Development

Badger collision with traffic resulting from the increased traffic volume associated with the Winchburgh Masterplan would be mitigated via implementation of badger proof fencing. Furthermore, the operational lighting strategy would be designed to minimise disturbance on foraging and commuting bats. Therefore, the residual effects of the completed proposed development on ecology would not be significant.

8.5 Air Quality

Construction

During the construction works, there is the potential that dust and traffic emissions arising from the site could result in a loss of amenity, through soiling, at nearby existing residential properties (such as Niddry Mains House) and ecologically designated sites (e.g. Philpstoun Muir Site of Special Scientific Interest (SSSI)).

With the implementation of suitable mitigation measures (e.g. construction traffic management, dust suppression), which would be set out within an EMP to be agreed with WLC, it is anticipated that dust and traffic emission effects would be mitigated to be at existing and future on-site receptors, which is not significant.

Completed Development

Air quality impacts once the proposed development has been completed and operational would arise due to emissions from additional road traffic associated with the proposed development.

The assessment has shown that the effect of traffic emissions would not result in a significant effect on air quality at existing off-site receptor locations, where air quality with the proposed development operational is predicted to meet all relevant air quality objectives.

The operational phase of the proposed development would not have a significant effect on air quality. The assessment completed includes potential effects from the proposed development together with those arising from the traffic associated with the wider Winchburgh Masterplan, and the overall conclusion is that there would be a negligible residual effect on air quality, which is not significant.

8.6 Noise

Construction

Construction noise has been scoped out of the assessment, as its effects are not significant due to: noise associated with construction traffic being negligible in the context of existing traffic on the B8020; and the large distances from the Noise Sensitive Receptors (NSRs) (i.e. nearby residential properties) to the proposed development and due to relatively high existing ambient noise levels at the NSRs (predominantly from the M9 motorway).

Completed Development

The assessment considered changes in road traffic noise level following opening of the proposed development against three NSRs: Duntarvie Castle, the Myre Farm and Niddry Mains House. The assessment considered short-term and long-term impacts at these three NSRs and found that none of the NSRs would experience significant adverse noise effects and therefore no noise-specific mitigation measures were proposed.

9 CUMULATIVE EFFECTS

Cumulative effects are the additional changes that result from multiple effects of the proposed development in conjunction with each other ('intra-project' effects), or the combined effect of the proposed development with other developments taken together ('inter-project' effects).

9.1 Inter-Project Effects

Only the Winchburgh Masterplan was identified as a cumulative scheme for the EIA, which would lead to new sensitive receptors (i.e. future residents) and could lead to new activities (e.g. construction traffic) that could interact with the proposed development.

Each of the technical assessments assessed the proposed development in combination with the Masterplan; however, no significant adverse inter-project cumulative effects were identified at either the construction or operational phases.

9.2 Intra-Project Effects

Each of the technical assessments assessed their residual effects in combination with one another's residual effects and no significant adverse intra-project cumulative effects were identified at either the construction or operational phases.

10 SUMMARY

The proposed development forms a critical part of delivering the wider Winchburgh Masterplan scheme and has been designed to maximise the use of the new junction (both motor and non-motorised users) for the existing and future Winchburgh residents.

The EIA has assessed the proposed development during both the construction and operational phases and has proposed appropriate mitigation measures to minimise the likely environmental effects identified. Once mitigation measures have been implemented, the proposed development is anticipated to result in one adverse significant effect, which is an adverse significant effect on the setting of the Category A Listed Building and Schedules Monument at Duntarvie Castle. However, the effect on the Castle's setting would not result in any diminution of its cultural significance and the proposed development would not hinder the ability of any visitor to appreciate the character of Duntarvie Castle or to appreciate and understand its relationship with its wider landscape.

11 PROJECT TEAM

Table 1 presents the project team who produced the EIA Report.

Table 1: Project Team

Team member	Role and Responsibility
Winchburgh Developments Limited	Developer.
Sweco	Lead Design Engineer, Transport Consultant and Drainage Consultant. Technical assessment of Road Drainage and the Water Environment.
Ramboll	EIAR production and coordination, including NTS and EIA Scoping. Technical assessment of Landscape and Visual, Ecology and Nature Conservation, Air Quality, and Noise. Design input on environmental issues.
CFA Archaeology	Technical assessment of Cultural Heritage and Archaeology.
Transport Scotland	Roads authority, Promoter. Planning advice.