Craigforth Campus, Stirling

Screening and Scoping Report

Contents

1. Introduction

1.1. Ambassador LB Holdings LLP is progressing proposals for the redevelopment of Craigforth Campus to the west of Stirling. Savills has been appointed as the lead planning and environmental consultant for this project.

1.2. An application for Planning Permission in Principle is currently being prepared to provide a masterplan to set out how a comprehensive redevelopment of the site will be taken forward. A detailed application is also being prepared, which covers the northern portion of the site, for the proposed development of headquarters office accommodation. As part of this process an Environmental Impact Assessment (EIA) will be prepared which will inform an Environmental Report which will be submitted alongside both applications. The EIA will assess the maximum extent of development and consider the impact of the Masterplan as a whole to provide a single assessable document for key stakeholders and interested parties. This Scoping Report accompanies a formal request for an Environmental Assessment Screening and Scoping Opinion to be provided by Stirling Council under the terms of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations).

1.3. The redevelopment proposals at the Craigforth Campus will comprise offices, retail, leisure, public houses, restaurants, residential, hotel, care home, distillery, visitor centre, nursery, car parking landscaping and associated infrastructure. The precise mix, density and layout will be based upon the comprehensive master planning process currently underway. In order to take a robust approach, the maximum extent of potential development will be assessed through the EIA and set out in the submitted Environmental Report (ER).

The Need for an Environmental Impact Assessment

1.4. The EIA process is the mechanism by which development proposals are appraised in terms of environmental and socio-economic criteria, in addition to the engineering and technical considerations. The EIA process defines the context of the proposed development and examines the issues considered pertinent.

1.5. In determining the requirement for an EIA, Schedule 1 of the EIA Regulations sets out the types of development for which an EIA is a mandatory requirement. Whilst Schedule 2 lists the projects where the

need for an EIA is judged on a case-by-case basis; depending on whether a proposal is likely to cause significant environmental effects or is located in a sensitive area as defined by the EIA Regulations.

1.6. In this instance, the proposed development does not fall within Schedule 1 and is considered a Schedule 2 development, as defined by the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. This is because the area of the masterplan site, at 58 ha, and the northern site at 2.4 ha exceed the 0.5 ha threshold specified for Category 10(b) *'urban development projects'*, above which such schemes must be screened for EIA. In considering the need for EIA, paragraph 28 of Circular 1/2017 confirms that the key question to be addressed by the Council is: *'Would this particular development be likely to have significant effects on the environment?'*

1.7. The EIA Regulations and accompanying Circular make it clear that for all projects listed in Schedule 2 of the EIA Regulations, the planning authority must make its own formal determination of whether or not EIA is required. Paragraph 10 of the Circular confirms that *'only a small proportion of development will require EIA'*, but it is equally stressed that EIA is not discretionary. For Schedule 2 projects, this means that those which are considered likely to have significant effects on the environment will require EIA.

1.8. In considering the potential for significant environmental effects associated with Schedule 2 projects, the Circular confirms in paragraph 31 that factors such as the nature, size and location of the proposed development are key.

1.9. Paragraph 32 of the Circular states that *'In the majority of cases, it will however be necessary to consider the characteristics of the proposed development in combination with its proposed location in order to identify the potential for interactions between it and its environment and therefore determine whether there are likely to be significant environmental effects'.*

1.10. In considering screening requests, the Circular emphasises in paragraph 35 that the basic test of the need for EIA in a particular case is the likelihood of significant effects on the environment. In some cases, a large scale and complex development in a non-sensitive location may result in EIA being requested. In all cases, paragraph 37 of the Circular confirms that the relationship between a proposed development and its location is a crucial consideration. The same paragraph states that for any given development proposal, the more environmentally sensitive the location the more likely it is that the effects will be significant and will require EIA.

1.11. Paragraph 37 of the Circular confirms that for the purposes of the EIA Regulations, 'sensitive areas' comprise:

- Sites of Special Scientific Interest;
- Land subject to Nature Conservation Orders;
- European Sites;
- National Scenic Areas;
- World Heritage Sites;
- Scheduled Monuments;
- National Parks; and
- Marine Protected Areas.

1.12. Paragraph 41 states that the Planning Authority must take into account any proposed mitigation measures, as well as the description of the proposed development, in reaching their Screening Opinion. The information about the proposed development and the site set out in this the submitted Screening Request and this document should provide sufficient information to enable the Council to adopt its Screening Opinion.

1.13. In respect of previous redevelopment proposals on this site (07/00673/OUT), a formal screening opinion was sought in relation to the previous outline application submitted for the wider Craigforth Campus. A screening decision was made by Stirling Council on 27th August 2007 directing that the proposals were a Schedule 2 development based on:

- The size of the proposed development
- The cumulation with other nearby developments
- The existing land use
- The absorption capacity of the natural environment paying particular attention to the nearby SAC, European Protected Species and Landscape Historical and Cultural Significance.

1.14. The Council, therefore, formally concluded that an EIA was required. For this reason, we are of the view an EIA will be required to be undertaken for the forthcoming proposals at Craigforth Campus.

EIA and Scoping

1.15. With regard to the request for a scoping opinion, in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 the following either accompany, or are contained within this report:

- a description of the location of the development, including a plan identifying the application site;
- a brief description of the nature and purpose of the development and of its possible effects on the environment; and,
- any other necessary information.

1.16. This scoping report does not seek to assess the environmental effects of the proposed development. Scoping is an important part of the EIA process which helps to ensure that the EIA is properly focused and undertaken in an appropriate way. The specific aims of scoping are to:

- identify the issues that should be assessed and which could influence the design of the scheme;
- establish which of the issues are relatively more important and which the assessment and design work should concentrate; and
- agree the approach to the assessment and the methodologies that will be used in the EIA process.

1.17. This Scoping Report is submitted to Stirling Council in support of a request for an EIA Screening and Scoping Opinion under Regulation 17.

The Structure of this Report

1.18. This report sets out a brief description of the site and the surrounding area, followed by a description of the proposed development. It goes on to discuss each of the technical topics which could result in environmental impacts, and how these would be addressed as part of the Environmental Impact Assessment. Each individual chapter of the ER will contain a separate section to assess the potential impacts of the detailed proposals for the northern part of the site before examining the wider masterplan site.

2. The Site and its Environs

Site Description

2.1. The Craigforth site is located to the west of Stirling in Central Scotland. It is on the south west corner of Junction 10 of the M9 and is accessible from the A84. The site is bounded by a meandering section of the River Forth to its west, the A84 to its north, the M9 to its east and flat agricultural land to the south.

2.2. The application site comprises 58 hectares in total and is in the shadow of Craigforth Crag which dominates the centre of the site. The current use is Prudential's existing office operations which wrap round the north side of the Crag. This involves buildings which house around 2,500 employees and also includes a large proportion of the site currently covered in car parking (over 1250 spaces). The buildings are predominantly offices, designed and built in the 1970s, mostly coloured white with flat roofs.

2.3. Craigforth Crag is a natural rampart, a crag and tail created by a volcanic plug of very hard igneous rock which was formed in to a crag and tail when the ice-sheets of the last ice-age passed over this area.

2.4. This Crag is covered by trees categorised as ancient and semi-natural woodland. It forms a high quality environment which offers an opportunity to encourage public access to the top of the Crag. This gives an opportunity to add to the cultural heritage of the area while protecting the flora and fauna of the site.

2.5. A designated Conservation Area is located to the west of the application site incorporating Drip Bridge and surrounding houses set in a flat agricultural landscape locally termed Carse. The site abuts the Drip Old Bridge which is a Category A listed structure built circa 1773 and also the Drip Bridge Conservation Area.

2.6. The site also includes Craigforth House, a Category B listed building of 17th or early 18th Century. The River Forth at this point is in close proximity to the nearby River Teith SAC (Special Area of Conservation).

3. The Proposed Development

Site Planning History

3.1. Outline planning permission (07/00673/OUT) was granted on 17th July 2008 for a mixed use development comprising residential, hotel, petrol filling station, conference and leisure facilities. This application was submitted by Prudential Corporate Property. Permission was granted for the following uses:

- Business use (Class 4)
- Hotels (Class 7) limited to a maximum of two hotels in total
- Restaurant (Class 3)
- Petrol Filling Station
- Conference Facility
- Leisure Facility
- Residential (limited to conversion of existing buildings or replacement of existing residential units on a one for one basis only).

3.2. A condition on this consent states that the planning permission does not extend to the inclusion of the conversion of Craigforth House, given its listed status.

3.3. On 6th September 2010, planning permission (10/00458/FUL) was granted for the variation of Conditions 1(a) and 1(b) attached to planning consent 07/00673/OUT. These conditions relate to the time periods for consent and this extended the time scale for an application for approval of reserved matters to be made within 6 years of the date of the original Decision Notice (by July 2014). This also amended the timescale for the commencement of development to within 8 years from the date of the grant of outline planning permission (by July 2016).

3.4. A further planning application (13/00803/FUL) was granted in February 2014 extending the timescales until February 2017. This application has now expired.

3.5. Temporary planning permission (17/00837/FUL) was granted on 12th December 2017 for the erection of modular office accommodation. The office accommodation would be in situ for 2 years. This application was submitted by Prudential.

Proposed Development

3.6. The vision seeks to deliver a viable, vibrant and exciting regional employment, leisure and residential destination at Craigforth. The site offers an exciting opportunity for expanding and enhancing upon the existing facilities to deliver a new active business campus with improved amenities, public realm and upgraded accessibility with additional employment opportunities for the wider community.

3.7. The application seeks Planning Permission in Principle (PPP) for the redevelopment of The Craigforth Campus to comprise offices, retail, leisure, public houses, restaurants, residential, hotel, care home, distillery, visitor centre, nursery, car parking, landscaping and associated infrastructure. The precise mix, density and layout will be based upon the comprehensive masterplanning process currently underway. A detailed application is also being prepared, which covers the northern portion of the wider site, for the proposed development of an office including car parking, landscaping and associated infrastructure.

3.8. The extensive redevelopment will involve the demolition of the existing buildings leading to the creation of improved development plots for alternative uses improving the amenities available on the campus complimenting the improved office accommodation.

3.9. The delivery of a new purpose built HQ building, to replace the existing HQ buildings, supports the long term vision for employment at Craigforth Campus. In return this will provide higher quality and more sustainable work spaces for a key employer within the local authority and beyond. In addition, complimentary uses will be provided on site to build upon the opportunities on the site.

3.10. Retaining and enhancing a significant portion of the open space across the site is a key component to the emerging masterplan. It is anticipated that a significant portion of the 58 ha site will be retained and enhanced for open space (up to 30 ha). Ensuring the open space present on site is more accessible is integral to the masterplan. This will involve making the Crag, Riverside and wider areas of landscaping easy to access for the public and campus users.

3.11. In terms of access, the proposals have scope to incorporate a new vehicle access from the north off the A84 with a potential enhancement of the existing access from the south off Dumbarton Road.

4. The Overall Approach to the EIA

Technical Studies

4.1. The main element of the EIA work will involve a series of specialist environmental studies. These will be undertaken by a team of specialist consultants.

4.2. Each specialist will directly prepare their respective ER chapters. More detailed survey information would be provided as an appendix to the ER.

Consultation

4.3. In advance of this scoping stage, pre-application consultations have taken place with relevant statutory and non-statutory bodies as necessary to agree the methodology for the various detailed technical studies. This should assist those parties in their response to this request for an EIA Scoping Opinion. Subsequent to the receipt of the EIA Scoping Opinion there will be ongoing discussions with relevant parties over the design of the scheme and the incorporation of appropriate mitigation into the development proposals. This will then be reported in the ER.

Alternatives

4.4. Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 states that the following must be incorporated:

'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, 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.'

4.5. In response the EIA will explain the site selection process and include consideration of alternative layouts, as appropriate.

Impact Identification and Significance Assessment

4.6. The aim of the impact assessment is to predict the potential and residual impacts on the existing human, physical and natural environment at the proposed site. This assessment process will be based on baseline survey work, and will use specified criteria to assess the significance of any environmental impacts. These criteria will include:

- magnitude of the impact (local/strategic);
- spatial extent of the impact (small-scale/large-scale);
- duration of the impact (short term/long term);
- reversibility of the impact (including species or habitat recoverability);
- conservation or protected status;
- probability of occurrence of the impact;
- confidence in the impact prediction;
- the margins by which set values are exceeded (e.g. noise standards).

4.7. The ER will discuss the impacts in terms of their significance. Where possible the following definitions of impact significance will be used:

- no impact;
- negligible;
- minor adverse;
- moderate adverse;
- major adverse;
- minor beneficial;
- moderate beneficial;
- major beneficial.

4.8. Where potentially significant adverse impacts are identified, mitigation measures will be described, either as part of the design, or as a measure implemented during construction or operation. Each impact assessment section will assign a significance level to the residual impact arising following the implementation of the stated mitigation measures.

Cumulative Effects

4.9. The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, requires that any possible cumulative effects arising from the proposed development are assessed. Possible cumulative effects will be considered for each topic of the ER, taking account of the impacts cumulatively with all effects from the proposed development, and effects arising from other proposed development in the vicinity.

Outline of the ES

4.10. It is proposed that the ER will include the following chapters:

- Introduction;
- Site description;
- Scheme description and design evolution;
- Planning policy;
- EIA Methodology;
- Specific topic chapters reporting on technical assessments, consisting of:
    - Cultural Heritage,
    - Traffic & Transport,
    - Noise & Vibration,
    - Air Quality,
    - Flood Risk,
    - Drainage & Hydrology,
    - Ground Conditions,
    - Biodiversity,
    - Socio-Economic Impacts,
    - Health Impacts,
    - Sustainability,
    - Waste Management & Minimisation,
    - Climate Change,
    - Landscape & Visual Impact.
- Conclusion.

4.11. Each of the chapters will include a separate section on the potential impacts of the detailed development on the north part of the site before setting out the considerations and assessment of the development proposed on the wider masterplan area.

4.12. A separate Non-Technical Summary will be submitted as part of the planning application in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

4.13. The introduction chapter will provide information about the Applicant, introduce the site and the scheme and explain the approach to the EIA.

4.14. The site description chapter will describe the existing site and its surroundings, with reference to the baseline information collected by the specialist consultants.

4.15. The scheme description chapter will include a series of figures depicting the masterplan development and evolution.

4.16. The planning policy chapter will provide an objective factual account of the planning, environmental and energy generation policies that are applicable to the proposal covering all relevant levels of the policy hierarchy, from international to local.

4.17. The scoping and consultation chapter will describe the scoping process and how the EIAR provides the environmental information requested at the scoping stage. It will also report on the pre-application consultation activity undertaken and explain how the scheme has taken this process into consideration.

4.18. The conclusion will provide a summary of the mitigation measures incorporated into the scheme which will assist in ensuring that these measures are translated into legal instruments such as planning conditions, for example a construction and environmental management plan for the scheme. The conclusion will also draw together the residual impacts of the proposal after taking these measures into account. A summary of the content and findings of the EIAR will be contained in the Non-Technical Summary.

4.19. The Non-Technical Summary will provide an accurate and balanced summary of the main document, including objective illustrative material that assists the description of the proposal and its environmental effects. It will be presented in a simple, non-technical language to aid legibility.

5. Cultural Heritage and Archaeology

Introduction

5.1. The Cultural Heritage chapter will present an assessment of the proposed development's potential effects on cultural heritage assets. The assessment will consider the potential for direct effects on features of archaeological and cultural heritage interest within the proposed development site, arising from construction activities, and effects upon the settings of heritage assets with statutory and non-statutory designations in the wider landscape.

Baseline Conditions

Proposed Development Site

Designated Heritage Assets

5.2. Craigforth House (LB15294) is a category B Listed Building that is a former country house, of 17th century or early 18th century in its original form, which was gutted by fire in 1930, since when it has been completely restored. It is of three-storeys and attic with dormers and has a later three-storey extension. The interior was entirely renewed in the 1960s when the House was converted to its current use as office accommodation.

5.3. The House lies on the northeast side of a hill (Craig Forth), and stands at the centre of a former small designed landscape that was composed of woodland covering Craig Forth and an area of parkland to the northeast of the House. A lodge formerly stood at the main entrance to the parkland, on the Kildean Road; in a location now occupied by the M9 motorway junction. Gen. W. Roy's Military Survey of Scotland (1747-55) map shows the mid 18th century layout of the designed landscape that includes a long, designed avenue aligned on the confluence of the Allan Water with the River Forth.

5.4. The Ordnance Survey 1st edition map (1865, Stirlingshire) shows a number of other buildings formerly associated with Craigforth House, including a possible stables/kennels block and two small cottages, to the northwest of the House, and a single cottage, to the east of the House.

5.5. The Stirling Historic Environment Record (HER) holds entries for a number of features that can be directly linked to the former country house use, including: a summer house and icehouse. There are also records of various designed landscape features in and around the woodland on Craig Forth, including a track, bank and wall, cistern, pond, and ditches and quarries.

5.6. Drip Bridge Conservation Area abuts and partly overlies the north-western-most part of the proposed development site. The Conservation Area comprises of the historic Drip Old Bridge crossing the River Forth and a small grouping of buildings which were the original Inn, Tollhouse and Smithy. The area has historic significance for a number of interrelated reasons, all of which contribute to its character and appearance:

- An ancient crossing point on the Forth River at its historic boundary between Stirlingshire and Perthshire.
- The 18th century Drip Old Bridge (LB6725), a Category A Listed Building.
- A small hamlet of traditional buildings on the west side of the crossing point; two of which, the Inn (LB8149) and Tollhouse (LB8148), are Category C Listed Buildings.

Non-designated Heritage Assets

5.7. A ferry is recorded as having crossed the River Forth at Drip Bridge (Macfarlane, W. (1906-8) and the HER holds entries for a boat naust (boat house or mooring berth) and track along the east bank of the river at this location that may be associated elements of the former ferry. Drip Ferry is marked on Gen. W. Roy's Military Survey of Scotland (1747-55) map.

5.8. A possible Roman Road is recorded as crossing the Forth via a ford at Drip Bridge, on the line of the present day A84, along the northern edge of the proposed development site.

5.9. Cropmarks have been recorded in the farmland to the south of Craig Forth; in fields to the east of Kaimes Farm.

Archaeological Potential

5.10. Element of the former designed landscape survive around Craigforth House, most notably on Craig Forth, to the southwest of the House. The former parkland to the northeast of the House is now occupied by modern office accommodation and car parking and the present day M9 motorway junction.

5.11. Part of the northern part of the proposed development site, where it abuts the Drip Bridge Conservation Area, retains an undeveloped and unused, rough grassland character and retains some potential for the preservation of buried archaeological remains.

5.12. The southern part of the proposed development site, south of Craig Forth and east of Kaimes Farm, is in use as arable farmland and also has potential for the preservation of buried archaeological remains.

5.13. Craig Forth is an area of mature historic woodland and there are remains associated with the former designed landscape of Craigforth House preserved within the woodland.

Wider Study Area

Designated Heritage Assets

5.14. There are no Scheduled Monuments within 1km of the proposed development site; but there are two Scheduled Monuments that lie just over 1km from the site boundary:

- Stirling, Royal Gardens including King's Knot (SM90288); and,
- Stirling Castle (SM90291).

5.15. Within 1km of the proposed development site there are three listed buildings:

- Drip Old Bridge Over River Forth (LB6725) – Category A Listed;
- Drip Old Bridge – Tollhouse (LB8184) – Category C Listed; and,
- Inn, Drip Bridge by Stirling (LB8149) – Category C Listed.

5.16. There are two Conservation Areas within 1km of the proposed development site:

- Stirling Town & Royal Park Conservation Area; and,
- Drip Bridge Conservation Area.

Potentially Significant Environmental Effects

Construction Phase

5.17. Based on the initial desk-based assessment it is considered that there is a low probability for adverse direct effects on heritage assets arising from construction of the proposed development. Matters that will be considered in the EIAR are:

- Potential direct effects on surviving visible heritage assets arising from construction works (Craigforth House and associated designed landscape features); and,
- Potential direct effects on buried archaeological remains from construction works (there are some areas of previously undisturbed ground where there is some potential for surviving, buried archaeological remains; most notably in the southern part of the proposed development site, but also in the northern part adjacent to the A84 road and the Drip Bridge Conservation Area).

Operational Phase

5.18. Based on the initial desk-based assessment, it is considered that there is a low probability for adverse effects on the settings of designated heritage assets in the wider study area. Those assets most likely to have their settings affected, and those that will be considered in the EIAR, are:

- Stirling Castle (SM90291);
- Drip Bridge Conservation Area;
- Drip Old Bridge over River Forth (LB6725) – Category A Listed;
- Drip Old Bridge – Tollhouse (LB8184) – Category C Listed; and,
- Inn, Drip Bridge by Stirling (LB8149) – Category C Listed.

Issues Scoped Out

5.19. Based on an initial desk-based assessment it is considered that the following effects can be scoped out of assessment in the EIAR:

- Effects on the settings of designated heritage assets more than 1km from the site (with the exception of the specific assets listed above).

Assessment Methodology

Desk-based Assessment

5.20. The following desk-based sources have been consulted to fully establish the current baseline described above:

- Historic Environment Scotland's Spatial Warehouse Database (HES 2019a): for up-to-date details on the locations and extents of Scheduled Monuments, Listed Buildings, Inventory Gardens and Designed Landscapes, Conservation Areas and Inventory Historic Battlefields;
- Stirling Council Historic Environment Record (HER): for information on previously recorded heritage assets within and in the immediate vicinity of the proposed development site;
- The Historic Environment Scotland database (Canmore) (HES 2019b): for additional information on heritage assets within and in the immediate vicinity of the proposed development site;

- Map Library of the National Library of Scotland: for Ordnance Survey maps and other historic maps: for information on historic land use development within the proposed development site;
- The Historic Land-Use Assessment Data for Scotland (HLA Map) maintained by HES (HES 2018c): for information on the historic land-use character of the proposed development site; and,
- Readily available published sources and unpublished archaeological reports that might be identified as being relevant for the assessment.

Field Surveys

5.21. A reconnaissance walk-over field survey has been carried out over the proposed development site, the aims of which were to:

- Assess the baseline condition of the known heritage assets identified through the desk-based assessment;
- Identify any further features of cultural heritage interest not detected through the desk-based assessment; and,
- Identify areas with the potential to contain currently unrecorded buried archaeological remains.

5.22. The position of identified assets (and where appropriate their extents) were recorded using GPS surveying equipment with sub-metre accuracy.

5.23. Site visits will be undertaken (as far as reasonable access permits) to designated heritage assets in the Outer Study Area in order to assess the character and sensitivity to change of their settings. These visits will focus on those heritage assets most likely to receive adverse effects on their settings: Drip Bridge Conservation Area and Stirling Castle.

Guidance

5.24. The assessment will be carried out with reference to the following policy and guidance documents:

- Scottish Planning Policy (2014);
- SNH & Historic Environment Scotland (2018) 'Environmental Impact Assessment Handbook';
- Historic Environment Scotland (2019) 'Designation Policy and Selection Guidance';
- Historic Environment Policy for Scotland (HEPS) 2019;
- Planning Advice Note 2/2011: Planning and Archaeology;
- Standard and Guidance for Historic Environment Desk-Based Assessment (CIfA, 2017); and
- Managing Change in the Historic Environment: Setting (Historic Environment Scotland, 2016).

Nature of Effects

5.25. The effects of the Proposed Development on heritage assets will be assessed on the basis of their type (direct effects, impacts on setting and cumulative impacts) and nature (adverse or beneficial). The assessment will take into account the value/sensitivity of the heritage asset and its setting and the magnitude of the predicted impact.

- Adverse impacts are those that detract from or reduce cultural significance or special interest of heritage assets.
- Beneficial impacts are those that preserve, enhance or better reveal the cultural significance or special interest of heritage assets.

Assigning Sensitivity to Heritage Assets

5.26. Cultural heritage assets are given weight through the designation process. Designation ensures that sites and places are recognised by law through the planning system and other regulatory processes. The level of protection and how a site or place is managed varies depending on the type of designation and its laws and policies (HES 2019).

5.27. Table 5.1 summarises the relative sensitivity of heritage assets (including their settings) relevant to the Proposed Development.

Table 5.1: Sensitivity of Heritage Assets

Sensitivity	Definition / Criteria[1]
High	Assets valued at an international or national level, including: Scheduled Monuments Category A Listed Buildings Inventory Gardens and Designed Landscapes Inventory Historic Battlefields Non-designated assets that meet the relevant criteria for designation
Medium	Assets valued at a regional level, including: Archaeological sites and areas that have regional value (contributing to the aims of regional research frameworks) Archaeologically Sensitive Areas (ASA) (where these are identified in Local Authority records) Non-Inventory Designed Landscapes (NIDL) (where these are identified in Local Authority records) Category B Listed Buildings Conservation Areas
Low	Assets valued at a local level, including:

[1] Derived from: ICOMOS (2011) 'Guidance on Heritage Impact Assessments', Paris, France, International Council on Monuments and Sites for Cultural World Heritage Properties; and, Highways England (2007) 'Design Manual for Roads and Bridges (DMRB) Volume 11', London, The Stationary Office.

	Archaeological sites that have local heritage value Category C listed buildings Unlisted historic buildings and townscapes with local (vernacular) characteristics
Negligible	Assets of little or no intrinsic heritage value, including: Artefact find-spots (where the artefacts are no longer in situ and where their provenance is uncertain) Poorly preserved examples of particular types of features (e.g. quarries and gravel pits, dilapidated sheepfolds, etc)

Assessment of Effects on Setting

5.28. Historic Environment Scotland's guidance document, 'Managing Change in the Historic Environment: Setting' (HES 2016), notes that:

"Setting can be important to the way in which historic structures or places are understood, appreciated and experienced. It can often be integral to a historic asset's cultural significance."

"Setting often extends beyond the property boundary or 'curtilage' of an individual historic asset into a broader landscape context".

5.29. The guidance also advises that:

"If proposed development is likely to affect the setting of a key historic asset, an objective written assessment should be prepared by the applicant to inform the decision-making process. The conclusions should take into account the significance of the asset and its setting and attempt to quantify the extent of any impact. The methodology and level of information should be tailored to the circumstances of each case".

5.30. The guidance recommends that there are three stages in assessing the impact of a development on the setting of a historic asset or place:

- Stage 1: identify the historic assets that might be affected by the proposed development;
- Stage 2: define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated and experienced; and,
- Stage 3: evaluate the potential impact of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated.

Criteria for Assessing the Significance of Effects

5.31. The magnitude of impact (adverse or beneficial) will be assessed in the categories, high, medium, low and negligible and described in Table 5.2.

Table 5.2: Magnitude of Impact

Magnitude of Impact	Criteria	
	Adverse	**Beneficial**
High	Changes to the fabric or setting of a heritage asset resulting in the complete or near complete loss of the asset's cultural significance. Changes that substantially detract from how a heritage asset is understood, appreciated and experienced.	Preservation of a heritage asset in situ where it would otherwise be completely or almost completely lost. Changes that appreciably enhance the cultural significance of a heritage asset and how it is understood, appreciated and experienced.
Medium	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is appreciably altered. Changes that appreciably detract from how a heritage asset is understood, appreciated and experienced.	Changes to important elements of a heritage asset's fabric or setting, resulting in its cultural significance being preserved (where this would otherwise be lost) or restored. Changes that improve the way in which the heritage asset is understood, appreciated and experienced.
Low	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is slightly altered. Changes that slightly detract from how a heritage asset is understood, appreciated and experienced.	Changes that result in elements of a heritage asset's fabric or setting detracting from its cultural significance being removed. Changes that result in a slight improvement in the way a heritage asset is understood, appreciated and experienced.
Negligible	Changes to fabric or setting of a heritage asset that leave its cultural significance unchanged and do not affect how it is understood, appreciated and experienced.	

5.32. The sensitivity of the asset (Table 5.1) and the magnitude of impact (Table 5.2) will be used to inform the professional judgement of the potential significance of the resultant effects. Table 5.3 summarises the criteria for assigning significance of effects. Where two outcomes are possible through application of the matrix, professional judgement supported by reasoned justification will be employed to determine the level of significance.

Table 5.3: Significance of Effects[2]

Magnitude of Impact	Sensitivity of Asset			
	High	Medium	Low	Negligible
High	Major	Major/Moderate	Moderate/Minor	Minor
Medium	Major/Moderate	Moderate	Minor	Minor/Negligible
Low	Moderate/Minor	Minor	Minor/Negligible	Minor/Negligible
Negligible	Minor	Minor/Negligible	Minor/Negligible	Negligible

Cumulative Effects

5.33. The assessment of cumulative effects on heritage assets will be based upon consideration of the effects of the proposed development on the settings of assets with statutory and non-statutory designations, in addition to the likely effects of other developments that are under construction, those that are consented but not yet built and those that are currently at the application stage (and for which sufficient detail is available upon which to develop an assessment). Proposed developments at the scoping or pre-application stage will not be included in the assessment; as such proposals are not fully formed and may be subject to changes that cannot be foreseen. The sites to be included in the cumulative assessment will be those agreed between the LVIA consultant, on behalf of the applicant, and Stirling Council.

5.34. The assessment of cumulative effects on the settings of heritage assets from the proposed development in combination with pre-existing developments will be addressed in the course of the assessment of effects of the proposed development alone; as pre-existing developments are part of the baseline environment.

[2] Based on DMRB (2007)

6. Traffic and Transport

Introduction

6.1. It is proposed to retain the existing vehicle access to the Craigforth site, with the introduction of further vehicles accesses at locations to be agreed with Transport Scotland (TS) and Stirling Council (the Council).

6.2. A Transport Assessment would be undertaken which examines the proposed development in relation all relevant travel modes. Scoping discussions will be undertaken with the Council and TS to agree the parameters, approach and scope of the Transport Assessment.

6.3. A transportation and traffic chapter of the EIAR will be prepared based upon the contents of the TA. Mitigation measures would be proposed if required.

Baseline

6.4. During scoping discussions, we will agree the extent of the road network to be considered anticipating that this will include junctions on the trunk and local road network. New traffic counts will be commissioned following the school holiday period to obtain baseline traffic data.

Scope of the Assessment

Construction

6.5. It is expected that the operational phase will generate higher traffic levels than the construction phase.

Operational

6.6. Supporting the operational phase, the Transport Assessment will address the following:

- Assessment of the development proposals in relation to the relevant transport planning guidance;
- Accessibility assessment by all modes of transport;
- Travel Demands by mode of transport;
- Travel Plan Framework; and
- Traffic impact Assessment including a threshold analysis and covering the extent of the road network agreed at the scoping stage.

Methodology

6.7. To assess the environmental impacts of the traffic generated by the proposed development, reference will be made to the 'Guidelines for the Environmental Assessment of Road Traffic' (EART), published by the Institute of Environmental Assessment (IEA).

6.8. In accordance with this guidance, impacts associated with the development including traffic generation, severance, driver delay, pedestrian amenity, fear and intimidation, accidents and road safety will be considered.

Assessment Criteria

6.9. For evaluation purposes, the significance of the environmental effects associated with the development generated traffic are categorised as outlines within Table 6.1.

Table 6.1 – Traffic Assessment Significance Criteria

Significance Rating	Description of Significance
Major	Where the impact leads to serious and lasting disruption (e.g. a 90% increase in baseline traffic) and permanent mitigation measures are required.
Moderate	Where the impact is of a temporary nature, leading to disruption (e.g. a 60% increase in baseline traffic) and short-term mitigation measures are required.
Slight	Where the impact exceeds industry standard design thresholds, or a traffic increase of above 30%, but does not lead to disruption. No mitigation measures are required.
Insignificant	No perceivable impact. No mitigation measures are required.
Positive	Where the proposals result in an improvement to current conditions.

7. Noise and Vibration

Baseline Summary

7.1. The Site is bordered to the East and North by the M9 and A84 respectively. While these are away from the prevailing wind which carries noise, these are still likely to present noise issues to the development's new occupiers once the site is in operation. Other noise impacts may result from construction activities including; on site activities, such as piling, and offsite activities, such as the movement of heavy plant and haulage to and from the site.

Scope of Assessment

7.2. The proposed site is likely to be affected by noise from road traffic. Our initial approach will be to seek to agree the scope of assessment with the local authority once we have the appropriate development criteria.

7.3. The development will generate road traffic, but it is unlikely that this would be sufficient to justify the quantitative assessment of development traffic on receptors off-site.

7.4. Noise from construction and demolition will be assessed qualitatively and the assessment will include outline conditions to mitigate impacts based on conceptual designs.

Methods

7.5. Subject to the outcome of preliminary discussions with Environmental Health, the assessment team will conduct noise surveys at up to three locations to represent exposure across the site. The surveys shall each be conducted over four hours on each of three separate days at each survey location between 07:00 and 23:00. Where practicable, we will conduct unmanned surveys to extend the survey periods, provided secure locations are available.

7.6. All surveys must be conducted in suitable weather conditions (roads dry and wind <5m/s at the measurement position).

7.7. Noise levels will be measured using type 1 noise meters in fully weather proofed enclosures. A detailed survey log and prevailing weather conditions shall be recorded throughout the surveys. The results from this survey will be used to determine current exposure. This assumes that only daytime noise surveys will be required for road traffic noise as we will base night-time exposure on modelled noise levels.

7.8. The assessment will predict noise affecting the site in accordance with Planning and Noise PAN 1/2011. As such it will assess the significance of the baseline ambient noise, identify any development constraints affecting residential development and propose suitable mitigation measures to satisfy the requirements of the planning authority. The assessment will include calculations for acoustic glazing in accordance with the detailed method in BS 8233:2014, for the most exposed elevations.

Assessment Criteria

7.9. Noise levels from transport sources shall be assessed in accordance with advice in PAN 1/2011, and its associated technical Advice Note, World Health Organisation criteria and local authority assessment criteria to be agreed.

7.10. In the UK the Department of Transport and the Scottish Executive has published the Design Manual for Roads and Bridges (DMRB 2011). This Design Manual includes detailed Guidance and procedures for the assessment of all major road schemes. The DMRB traffic noise assessment involves comparing predictions of traffic noise levels for the opening year and the worst-case year in the first fifteen years of opening, with and without the proposed scheme. The traffic noise levels must be compared to the baseline conditions for both years.

7.11. It is proposed that the noise assessment would employ the general principles of the DMRB method. The criteria used to assess the significance of noise from changes in road traffic noise (at existing receptors) set out in Table 7.1 below are based on the classification of magnitude of long-term noise impacts[3].

[3] from Table 3.2 in DMRB Volume 11 Section 3 Part 7 HD213/11 (November 2011)

Table 7.1: Significance Criteria – Road Traffic Noise

Noise change, LA10 18 hour	Magnitude of Impact
0	No change
0.1 – 2.9	Negligible
3 – 4.9	Minor
5 – 9.9	Moderate
10+	Major

Reporting

7.12. The assessment shall include an account of any noise modelling inputs and outputs to enable independent and third-party audit. It will identify any areas where the amenity of proposed housing may be affected and propose suitable mitigation. The assessment will identify areas within the site where noise is a material consideration and propose appropriate mitigation measures to protect the amenity of future residents.

8. Air Quality

Baseline

8.1. There is one major air quality monitoring site east of the proposed development at Craigs Roundabout. While there are no air quality management areas in Stirling, the entire eastern side of the site is bordered by the M9. The north east corner of the site is bordered by Junction 10 of the M9 that provides at grade separation connection between the M9 and A84. This latter road also borders the northern quarter of the site. A much more minor road, the Chalmerston Road, borders the top north western portion of the site, to the west. Most of the Western side of the site is bordered by the River Forth and the Southern border is comprised of agricultural land.

8.2. There are no major sources of air pollution downwind or within 1 mile of the Site, the nearest being Longleaf Scotbeef Ltd. at Longlee Farm, which lies approximately 2.5 km to the north northeast away from the prevailing wind.

8.3. The major issue to be explored within the air quality chapter is the contribution the development may have on local traffic related air pollution levels, and the effects such levels may have on future users of the site.

Scope of the Assessment

Construction

8.4. Dust is a major environmental concern associated with construction activities. Residents living in proximity to such a site can potentially be affected by site dust up to 1 km from the source, although continual or severe concerns about dust sources are most likely to be experienced near to dust sources, and generally within 100 metres. In general, large dust particles (greater than 30 µm) make up the greatest proportion of dust emitted from construction sites and they are largely deposit within 100 m from source. Intermediate sized particles (10-30 µm) are likely to travel up to 250-500 m. Smaller particles (less than 10 µm), which make up a small proportion of the dust emitted, can travel up to 1km from source (MPS 2005).

Operational

8.5. The major impact will be on local air quality through the additional vehicle movement along the M9 and A84.

8.6. The study area will be determined in discussion with the transport consultants to include all roads where the development traffic is predicted to exceed 500 AADT.

8.7. The assessment will also consider the impacts from any large-scale combustion process >0.5MW e.g. for CHP or district heating or any proposed biomass scheme associated with the proposed development.

8.8. The scope of the assessment, extent of the study area, baseline conditions and predictions methodology shall be agreed with Environmental Health.

Methodology

Construction

8.9. To assess the impacts associated with dust and particulate matter releases during the construction phase of the development, a qualitative and generic assessment will be undertaken using guidance published by the Building Research Establishment (BRE 2005) and the Greater London Authority (GLA 2005). Despite focusing on the Greater London area, the guidance published by the GLA represents best practice for the control of dust and emissions from construction and demolition activities and can therefore be applied across the UK.

8.10. The assessment will consider the site's location in relation to sensitive receptors, the planned process, site characteristics, material handling procedures and prevailing winds.

Operational

8.11. We will conduct a modelling exercise for road traffic air quality in accordance with Sterling Councils requirements (likely to be based on DMRB or ADMS methodology);

8.12. As there are no local air quality management areas, we would propose that there is no need to conduct a model verification exercise (a comparison between measured and predicted levels of NO2).

8.13. The following stages are proposed:

- Confirm information requirements for the project including base plan and proposed re-alignments at scale 1:1250, topographical map data, traffic flows 24 hour AADT, %HGV flow and traffic speeds for baseline and design year with and without the scheme;
- Consult with local authority and confirm local air quality conditions;
- Conduct modelling for road traffic air quality in accordance with local authority requirements;

- Conduct assessment for receptors within 200m of roads within study area and assess in accordance with professional non-statutory guidance[4].
- Propose appropriate mitigation for construction impacts; and
- Produce written report to assess the significance the proposed scheme in terms of local air quality. The report shall include full audit trail to enable independent review.
- Develop an EAR chapter

Assessment Criteria

8.14. The resultant report will use IAQM/EPUK Guidance. In assessing particulate exposure, the IAQM Guidance recommends that PM2.5 should be used to assess the impacts from exposure to particulates rather than PM10., this reflects the advice in the 2005 WHO Guidelines.

8.15. Where possible and appropriate, the AQIA assessment will quantified the impacts of the development. Results of the appraisal will be analysed and presented as set against the existing baseline position to identify the scale of the effect, where possible, on the local air quality conditions.

8.16. The assessment criteria used in this study are set out in Table 8.1 below. These are based on EC Limit Values and the current Scottish Objectives.

Table 8.1: Summary of Assessment Criteria

Pollutant	Assessment Level	Justification
PM_{10}	18 µg /m3 annual mean	Scottish Air Quality Objective
$PM_{2.5}$	10 µg /m3 annual mean	Scottish Air Quality Objective
NO_2	40 µg /m3 annual mean	European Limit Value

8.17. The criteria used to assess the significance of the impacts set out in Table 8.2 below are for annual mean concentrations only and are based on non-statutory professional Guidance.

[4] IAQM 2017. Guidance on land-use planning and development control: Planning for air quality v1.2

Table 8.2: Definition of Impacts (EPUK IAQM 2017)

Long term average concentration at receptor in assessment year	% Change in concentration relative to Air Quality Assessment Level (AQAL)			
	1%	2-5%	6-10%	>10%
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76-94% of AQAL	Negligible	Slight	Moderate	Moderate
95-102% of AQAL	Slight	Moderate	Moderate	Substantial
103-109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

N.B. A predicted change of 0% (i.e. <0.5%) is considered to be of negligible significance.

9. Flood Risk

Introduction

9.1. The proposed development is located in the catchment of the River Forth, approximately 0.5 km upstream of the River Teith confluence and approximately 0.6 km upstream of the tidal reach of the River Forth. This major watercourse forms the western boundary of the site and presents a potential fluvial flood risk to the proposed development. Recognising the potential for significant effects requiring mitigation, it is recommended that the EIA Report contains a chapter on Flood Risk.

9.2. This chapter provides an overview of the key baseline conditions related to existing flood risk in relation to fluvial flow, overland flow, groundwater flooding, infrastructure failure and sewer flooding; and considers key issues and potential effects of the proposed development on flooding and outlines the scope of the EIA.

Baseline Conditions

9.3. An initial desk-based assessment was carried out to review baseline conditions on site and the following features have been identified as potential sources of existing flood risk:

- **Fluvial flows:** Extreme fluvial flood events have the potential to cause rapid inundation of buildings, posing a threat to the welfare of occupants / users and potentially preventing emergency access. Potential sources of fluvial flooding include the River Forth and Raploch Burn. SEPA flood maps indicate that significant parts of the site are at risk from the 1 in 200 year flood event from the River Forth and Raploch Burn.
- **Overland flow:** This has the potential to be generated during extreme storm events and directed from up catchment areas to the south and east, and from the Crag in the centre of the site, towards low points in the topography. Overland flows can accumulate in low points and cause surface water flooding. SEPA flood maps indicate that parts of the site are at risk of surface water flooding.
- **Groundwater:** High groundwater levels could exacerbate flooding occurring at low points on any given site, potentially contributing to flood risk from other sources. SEPA flood maps indicate areas where groundwater could influence the duration and extent of flooding from other sources. The proposed site is situated outside groundwater influenced flood extents shown on these maps;

however, further information on the water table below the site should be utilised to fully assess groundwater flood risk.

- **Infrastructure failure:** The failure of conveyance infrastructure such as culverts or bridges, or the failure of man-made water storage or conveyance infrastructure that could increase the risk of flooding at the site. Infrastructure with the potential to fail within the vicinity of the site include bridges and culverts associated with the River Forth and Raploch Burn, as well as a *Covered Reservoir* located on the Crag in the centre of the site.
- **Sewer flooding:** If the capacity of sewers is exceeded in an extreme event, or a blockage occurs, surcharging of the network can result in surface flooding. A rising main is identified on Scottish Water Asset plans running along the north-eastern and northern boundary of the site, adjacent to the M9 and A84, from a pumping station identified in the Central Site, and may present a risk to the site.

Potential Effects

9.4. Potential effects incorporate the risk of flooding at the proposed development and of changes in flood risk at downstream receptors as a result of the proposed development, with consideration of both the construction and operational phases. Key issues in relation to flood risk are likely to be:

- **Existing flood risk to the proposed development**;
- **Restrictions in channel conveyance and/or potential blockage of new/replacement watercourse crossings on the Raploch Burn**, increasing local flood risk;
- **Land raising in the functional floodplain**, increasing flood risk downstream;
- **Increased impermeable areas and alterations to greenfield drainage and catchment runoff patterns**, increasing flood risk downstream;
- **Increased discharges to existing sewer systems**, increasing risk from sewer flooding due to reduction in capacity; and
- **Increased groundwater flood risk**, as a result of excavations during construction and alterations to site levels.

Issues Scoped Out

9.5. The inland location and elevation of the site means it is **not considered at risk from tidal inundation or**

coastal waves. However, sensitivity testing will be considered in relation to tidal influence on fluvial flooding as part of a fluvial flood modelling exercise.

Assessment Methodology

Guidance

9.6. The assessment of flood risk will be conducted in accordance with the relevant legislation, policies and guidelines including:

- The Water Framework Directive (2000/60/EC) (WFD);
- Water Environment and Water Services (Scotland) Act 2003;
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011;
- Scottish Planning Policy 2014;
- PAN 61 Planning and Sustainable Urban Drainage Systems;
- PAN 79 Water and Drainage;
- SEPA, 2018. Technical Flood Risk Guidance for Stakeholders, Version 10.
- SEPA, 2019. LUPS-CC1: Climate change allowances for flood risk assessment in land use planning. Version 1.
- SEPA Controlled Activities Regulations: A Practical Guide;
- SEPA Policy No. 26: Policy on the Culverting of Watercourses;
- SEPA Position Statement PS-06-02 Culverting of Watercourses
- CIRIA, C624: Development and Flood Risk – Guidance for the Construction
- CIRIA, C689 Culvert Design and Operation Guide (2010)
- CIRIA, C698 Site Handbook for the Construction of SUDS (2007)
- CIRIA, C741 Environmental Good Practice on Site, 4th Edition (2015)
- CIRIA, C750 Groundwater Control - Design and Practice (2016)
- CIRIA, C753 The SUDS Manual (2015)
- Local Development Plans and associated policies and Supplementary Guidance.

Additional Baseline Collection

9.7. In order to fully establish the existing hydrology and flood risk at the site and at downstream receptors, an

initial desktop information gathering exercise will be carried out followed by site surveys and a fluvial modelling exercise, in order to verify the following information:

- location and character of all watercourses and associated catchment areas;
- flow estimates for all identified watercourses;
- existing flood extents;
- site drainage patterns;
- location of existing water infrastructure; and
- existing groundwater levels.

9.8. The following sources will be consulted:

- Ordnance Survey (OS) digital mapping;
- NextMap / LiDAR digital terrain model;
- Topographic and Cross-Section Survey;
- SEPA Online Flood Maps;
- SEPA Reservoir Inundation Maps;
- Flood Estimation Handbook (FEH) Web Service;
- Scottish Water Asset Plans;
- Geological Maps (Solid and Drift);
- British Geological Survey (BGS) Maps;
- Ground Investigation Reports;
- Hydrology and flooding data available from SEPA and the local authority;
- Assessments undertaken for other sites local to the Development.

9.9. A detailed hydraulic model of the River Forth and Raploch Burn will be constructed using industry standard software, outputs of which will be mapped and the results used to inform the development of the proposed layout and wider site design. Further consultation will be carried out with SEPA, Stirling Council and other relevant bodies as appropriate to agree assessment methodologies and mitigation and to identify any relevant available data.

Assessment of Effects

9.10. The assessment of potential effects relating to flood risk will incorporate hydraulic modelling of existing fluvial flood extents and of proposed flood extents accounting for the influence of the proposed development, providing a quantitative assessment of fluvial flood risk. Other sources of flood risk will be qualitatively assessed.

9.11. A sensitivity in relation to flood risk will be defined for each identified source of flooding based on the existing number and type of associated flood receptors, e.g. the River Forth is likely to be defined as highly sensitive in regards flooding as a result of associated direct flood risk to the site and to a large number of residential properties downstream in a 1 in 200 year flood event.

9.12. The magnitude of effect on flood risk will be defined based on the probability, timing, scale, size, duration and/or frequency and reversibility of the potential effect, e.g. a permanent and significant increase in the total impermeable area within a catchment, unmitigated by sustainable drainage principles, is likely to be defined as having a high magnitude. The sensitivity of the receiving environment together with the magnitude of the effect will be used to define the significance of the effect. Effects will be assessed as being either not significant or of minor, moderate or major significance.

Mitigation

9.13. The magnitude and significance of effect will be assessed pre and post-mitigation, with mitigation recommended in line with relevant policy guidance documents as outlined above. This will comprise best practice across the site of dealing with flood risk, attenuation and surface water drainage, and will include managing existing watercourses and providing sufficient storage capacity for each phase/parcel of development across the site and for the site overall.

9.14. Mitigation measures will be embedded into the design as appropriate; for example the creation of compensatory floodplain storage and of appropriate surface and wastewater drainage systems. Sustainable drainage principles (SuDs) will be incorporated in the design of an outline drainage scheme, with typical solutions including swales, infiltration trenches and permeable surfaces. These can be used to attenuate rates of runoff in order to mimic greenfield runoff, preventing an increase in flood risk to downstream receptors.

10. Drainage and Hydrology

Introduction

10.1. The proposed development is located in the catchment of the River Forth, approximately 0.5 km upstream of the River Teith confluence. This major watercourse borders the site and provides a pathway for effects to propagate downstream, eventually reaching the Forth Estuary. The Raploch Burn tributary runs through the site, discharging to the River Forth watercourse downstream. Recognising the potential for significant effects on these receptors, requiring mitigation, it is recommended that the EIA Report contain a chapter on Drainage and Hydrology.

10.2. This chapter provides an overview of the key baseline conditions related to hydrology and drainage, considers key issues and potential effects of the proposed development on the water environment and outlines the scope of the EIA.

Baseline Conditions

10.3. An initial desk-based assessment was carried out to review baseline conditions on site and the following features have been identified as potential receptors in relation to the water environment:

- **Raploch Burn (tributary to the River Forth):** Located within the South Site, adjacent to the southern boundary, and receiving the majority of site runoff.
- **River Forth (Goodie Water to River Teith Confluence):** Located immediately west, adjacent to the site, receiving runoff directly from the site via overland flow, via a single land drain to the west of the Crag and via the Raploch Burn tributary.
- **River Forth (Below River Teith Confluence):** Located 0.5 km downstream (north) of the site, in direct connectivity to the adjacent reach which provides a pathway for effects to propagate downstream.
- **Upper Forth Estuary:** Located over 5 km downstream (east) of the Teith confluence, in direct connectivity to the River Forth which provides a pathway for effects to propagate downstream.
- **Pond 1 (221 m^2):** Located within the North Site, shown on 1:10k OS mapping, between the River Forth and existing parking.

- **Pond 2 (414 m^2):** Located within the Central Site, shown on 1:25k OS mapping, on the eastern edge of the crag adjacent to the access road bordering the Crag.
- **Covered Reservoir:** Located on the Crag, above the surrounding site.
- **Teith and Forth Valley Groundwater Body (GWB):** Underlying the site.
- **Carron and Touch GWB:** Underlying the site.

10.4. SEPA produce an annual Water Framework Directive classification for waterbodies in Scotland based on an aquatic classification system covering rivers (with catchments greater than 10 km^2), lochs (bigger than 0.5 km^2), estuaries, coastal waters (out to three nautical miles) and groundwater bodies. Waterbodies are classified according to set criteria relating to the chemistry, hydrology, morphology and ecology of the waterbody. Surface waterbodies are assessed as being of overall 'High', 'Good', 'Moderate', 'Poor' or 'Bad' status. Groundwater bodies are classified as being 'Good' or 'Poor'. In general, the classification describes how much their condition or status differs from natural conditions.

10.5. The most recent WFD classification (2017) of site waterbodies are detailed in **Table 3** alongside identified pressures and proposed measures to alleviate these pressures, as well as any associated protection type or designation. Protected areas can include waterbodies used for the abstraction of drinking water, areas designated to protect economically significant aquatic species, recreational waters, nutrient sensitive areas, sites of scientific interest (SSSI), special areas of conservation (SACs) and special protected areas (SPAs) for habitats or species. Groundwater Dependent Terrestrial Ecosystems (GWDTEs) are also specifically protected under the Water Framework Directive. Note that the Raploch Burn, as well as land drainage and standing water within the site area, fall below the threshold for classification under the WFD.

Table 3: WFD Classification and Associated Protected Areas

ID	Waterbody	Overall Status (2017)	Water body information sheet (2012)		Associated Protected Areas
			Pressures	Measures	
'	**Raploch Burn**	**Not classified**	N/A	N/A	River Teith SAC (Designated for Atlantic salmon, Brook lamprey, River lamprey and Sea lamprey)
4701	**River Forth** *(Goodie Water to River Teith Confluence)*	**Good** ***Chemistry:*** *Pass** ***Ecology:*** *Good* ***Hydromorphology:*** *Good* ***Hydrology:*** *High* **2012, not defined for 2017*	Diffuse source pollution – Arable Farming	None identified	

ID	Waterbody	Overall Status (2017)	Water body information sheet (2012)		Associated Protected Areas
			Pressures	Measures	
4700	**River Forth** *(below River Teith Confluence)*	**Moderate** ***Chemistry:*** *Pass* ***Ecology:*** *Moderate* ***Hydromorphology****: Good* ***Hydrology:*** *Good*	Point source pollution – Sewage disposal (Doune and Deanston Waste Water Treatment works)	Increase treatment; Reduce at source	
200437	**Upper Forth Estuary**	**Moderate** ***Physico-Chem:*** *Good* ***Ecology:*** *Moderate* ***Hydromorphology****: Moderate*	Point source pollution – Sewage disposal , Abstraction – Associated risk of fish mortality Morphological alterations - embankments	Reduce pollution at source / increase treatment; Reduce risk of fish intake; Improve riparian zone	Firth of Forth SSSI, SPA and Ramsar Wetland Site of International Importance + River Teith SAC (Designated for its variety of coastal habitats)
-	**Pond 1**	**Not classified**	N/A	N/A	None identified
-	**Pond 2**	**Not classified**	N/A	N/A	None identified
150809	**Teith and Forth Valleys GWB**	**Good**	None identified	None identified	Drinking Water Protected Area (Groundwater)
150598	**Carron and Touch GWB**	**Good**	None identified	None identified	Drinking Water Protected Area (Groundwater)

Potential Effects

10.6. Potential sources of pollution will be present on site during both the construction and operational phases, and a temporary and permanent surface water drainage system and permanent waste water drainage system will be required as part of the proposed development, with the potential to effect the surrounding hydrological environment. The impact of replacing significant parts of the site which currently comprise greenfield land with built development could also result in a change to local drainage patterns.

10.7. Key issues associated with the proposed development and the water environment are likely to be:

- **Hydrological change**, including modification of existing drainage patterns;
- **Hydromorphological change** due to engineering activities i.e. watercourse crossings;
- **Effects on water quality** associated with sediment-laden runoff or chemical pollution;
- **Effects on water abstractions** (i.e. public and/or private water supplies);

- **Effects on existing wetlands, peatlands and Groundwater Dependent Terrestrial Ecosystems** (GWDTEs); and
- **Effects on associated protected areas, freshwater ecology or water uses** due to pollution, obstruction of watercourses, or changes in the hydrological regime.

Issues Scoped Out

10.8. Based on the initial desk-based assessment it is considered that the following effects / potential receptors can be scoped out of the EIA:

- **Effects on water abstractions:** Water resources are important within the Forth catchment, with lochs and reservoirs serving important functions in the supply of drinking water. However, these water supplies are all located upstream of the proposed development site and are not in hydrological connectivity with the site. The Drinking Water Quality Regulator for Scotland (DWQR) provides information documenting private water supplies (PWS) in Scotland. The nearest PWS identified by the DWQR is over 1 km south, upstream, from the proposed development site; with no PWS located within or downstream of the site area. SEPA and Stirling Council were also contacted regarding the presence of abstractions both within the site boundary and within a 1 km buffer area. These information sources identified no water abstractions within this search area. Based on available information it is assumed that no surface water supplied public water abstraction or PWS is at risk from the proposed development. SEPA Guidance (LUPS-GU31) requires that all groundwater abstractions within 100 m radius of excavations less than 1 m in depth and within 250 m of excavations deeper than 1 m be identified in order to assess risk. Given that all identified PWS fall outside this search area, there is assumed to be no risk to groundwater supplied PWS.
- **Effects on wetlands, peatlands and GWDTEs:** The proposed development comprises predominantly brownfield areas and arable farmland, located on low permeability soils, with the Preliminary Ecology Survey (PES) identifying an area of rank marshy grassland to the north west of the car park in the northern site. No GWDTEs were identified as part of this survey and, given existing ground conditions, are not anticipated to be identified within, or in hydrogeological connection with, the proposed development.

- **Effects on the Forth Estuary:** Given that the Forth Estuary is located over 7 km downstream of the site and receives runoff from the entire 1,000 km^2 River Forth catchment (with the proposed development representing less than 0.5 km^2 of this) any effect on the site watercourses would be expected to have a negligible impact on this coastal receptor.
- **Effects on the Covered Reservoir:** This feature is located in the centre of the Crag. As this is located above development area and no associated pipelines are identified on Scottish Water Asset Plans, this is not considered to be at risk from the proposed development.

Assessment Methodology

Guidance

10.9. The assessment of Hydrology and Drainage will be conducted in accordance with relevant legislation, policies and guidelines including:

- The Water Framework Directive (2000/60/EC) (WFD);
- Water Environment and Water Services (Scotland) Act 2003;
- Dangerous Substances Directive (2006/11/EC);
- Freshwater Fish Directive (2006/44/EC);
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011;
- Scottish Planning Policy 2014;
- PAN 61 Planning and Sustainable Urban Drainage Systems;
- PAN 79 Water and Drainage;
- SEPA Controlled Activities Regulations: A Practical Guide;
- SEPA Policy No. 19: Groundwater Protection Policy for Scotland;
- SEPA Policy No. 26: Policy on the Culverting of Watercourses;
- SEPA Pollution Prevention Guidelines as relevant;
- SEPA Position Statement PS-06-02 Culverting of Watercourses;
- Scottish Executive River Crossings and Migratory Fish: Design Guidance;
- CIRIA, C532 Control of Water Pollution from Construction Sites (2001);
- CIRIA, C648 Control of Water Pollution from Linear Construction Projects (2006);
- CIRIA, C689 Culvert Design and Operation Guide (2010);

- CIRIA, C698 Site Handbook for the Construction of SUDS (2007);
- CIRIA, C741 Environmental Good Practice on Site, 4th Edition (2015);
- CIRIA, C750 Groundwater Control - Design and Practice (2016);
- CIRIA, C753 The SUDS Manual (2015); and
- Local Development Plans and associated policies and Supplementary Guidance.

Additional Baseline Collection

10.10. In order to fully establish the baseline, an extensive desktop information gathering exercise will be carried out followed by site surveys to verify the location and condition of all identified waterbodies and associated catchment areas; including but not limited to the following:

- Site drainage patterns;
- Hydromorphological conditions within and adjacent to the development; and
- Water quality on-site and downstream of the development.

10.11. The following sources will be consulted:

- Ordnance Survey (OS) digital mapping;
- NextMap / LiDAR digital terrain model;
- Topographic survey data;
- Scottish Water Asset Plans;
- Water abstraction data from the SEPA, Scottish Water and landowners;
- Geological Maps (Solid and Drift);
- British Geological Survey (BGS) Maps;
- Hydrology and flooding data available from SEPA and the local authority;
- Assessments undertaken for other sites local to the proposed development.

10.12. Further consultation will be carried out with SEPA, Stirling Council and other relevant bodies as appropriate to agree assessment methodologies and mitigation and to identify any relevant data available. This information will be mapped and the results used to inform the constraints plan and development of the proposed layout.

Assessment of Effects

10.13. The assessment of potential effects relating to Hydrology and Drainage associated with construction and operation of the proposed development will cover the following site wide issues appropriate to the detail available for specific phases of development:

- **Pollution prevention and environmental management**
- **Engineering activities in the water environment**
- **Surface water drainage, including SuDS design principles**
- **Waste water drainage**

10.14. This assessment will follow the established source-pathway-receptor approach, and effects will be assessed as being either not significant or of minor, moderate or major significance.

10.15. Receptor sensitivity will be derived from its baseline quality, importance of associated attributes and ability to absorb an effect. The magnitude of an effect will be defined based on the probability, timing, scale, size, duration and/or frequency and reversibility of the potential effect. Effects can be adverse or beneficial. The sensitivity of the receiving environment together with the magnitude of the effect will be used to define the significance of the effect.

Mitigation

10.16. The magnitude and significance of effect will be assessed pre and post-mitigation. Mitigation will be suggested in line with relevant policy guidance documents, including SEPA Pollution Prevention Guidelines; Environmental Good Practice on Site; Control of water pollution from construction sites. This will include best practice of dealing with surface water drainage across the site.

10.17. Prior to construction an Environmental Management Plan (EMP) will be prepared, which will contain a section setting out environmental commitments required when working near (within 10 m of) a watercourse. The EMP will set out measures for effective mitigation of silt and safe storage of potential pollutants. Potential measures may include discharge of sediment-laden water to grass plots, settlement ponds or filter systems, use of silt traps, covering of exposed ground to avoid pollution of watercourses from sediment laden runoff, and storage of fuel and chemicals in appropriately bunded tanks. Method statements for activities identified as having potential to affect the water environment will be developed in consultation with SEPA.

10.18. Mitigation measures will also be embedded into the design as appropriate; for example the creation of buffer zones around identified waterbodies and of appropriate surface and wastewater drainage systems. Sustainable drainage principles (SuDs) will be incorporated in the design of an outline drainage scheme, with typical solutions including swales, infiltration trenches and permeable surfaces. These can be used to attenuate rates of runoff in order to mimic greenfield runoff and to aid in water purification.

10.19. If necessary, water monitoring programs will be established to determine baseline conditions and monitor any change in water quality during construction and operation.

11. Ground Conditions

Baseline Information

11.1. The following report has historically been prepared in relation to the geo-environmental conditions of the site and has been reviewed as part of the assessment:

- Phase 1 Environmental Assessment, Craigforth Campus, Stirling, Scotland UK (Project No. 70026330) November 2016

11.2. The application site lies within the boundary of land addressed by the above report and thus information collected is of value in characterising baseline geo-environmental conditions and environmental constraints with regard to the proposed development of this site.

11.3. The desk study provides an appraisal of:-

- The current and former uses of the site from an examination of historical Ordnance Survey plans (1865 – 2005), although only a selection of these were provided in the report;
- The proximity of the site to areas of past and current potentially contaminative activities;
- A site conceptual model (i.e. source pathway-receptor) and qualitative risk assessment in relation to contamination for the continued commercial usage;
- Geological and historic records and information obtained from SEPA, Stirling Council and the Coal Authority;
- The geological setting; and
- Mining conditions.

11.4. The desk study was prepared for the sites continued commercial use, however, the proposed development for the site will contain residential properties and private / public open space which will have implications with regards to the outcomes of the appraisal. This will, however, be reviewed as part of the EIA.

11.5. It is acknowledged that the information reviewed in the desk study was procured in 2016 and as such the site may have changed or more up to date information available for the site. The methodology presented in the following sections considers this and, in order to provide a robust approach, proposes procurement of up to date baseline data, preparation of a site conceptual model for the intended and qualitative risk assessment and assessment of existing information in accordance with current regulatory guidance, as part of the EIA.

Baseline Ground Conditions

11.6. The previous desk study highlights the following potentially contaminative land uses (existing and historical) on site:

- The south site, has shown to comprise predominantly of agricultural land, with the exception of the existing Remote IT suite that contains an above ground storage tank and generator. This is considered to represent a potentially contaminative land use in this area of the site;
- The central site has Craigforth House & Kennels recorded to be present from the map edition 1899, with the remainder of the area comprising agricultural land. Between 1958 and 1973 a nursery with a tank and offices were present in this section of the site, with the nursery and tank no longer recorded by 1989. The existing layout of this area was largely present on the 1992 edition. The desk study indicates the presence of several storage tanks within buildings in this area, which are considered to represent a potential source of contamination;
- The northern area was predominately agricultural land, until the map edition of 1958 that indicated the presence of a pump house. The existing structure, Lomond View, was shown in the area of the pump house on the edition of 2001. The desk study indicates the presence of a car maintenance area and a fuel storage tank in this area;
- The Contaminated Land Officer at Stirling Council was contacted as part of the desk study assessments, that indicated the site previously contained a large garage and a printworks, although no details of the location of these on site were provided; and
- The Crag is documented to have largely remained as woodland, with the presence of a covered reservoir in the central southern area on the map edition of 1958.

11.7. The site is currently bound by:

- The River Forth and agricultural land to the west;
- The Raploch Burn and agricultural land to the south;
- The A84 to the north; and
- The M9 to the east.

11.8. Current / historic potentially contaminative adjacent land uses include:

- Army training camp 10m to the north (1973 to 2006);
- Above ground tanks 240m north of site (1973 to 1995);
- A smithy 80m west of the site (1900 to 1973); and
- An electricity substation 180m south (1982 to 2016).

11.9. The 2016 desk study has stated that there are no recorded current or historic landfills on or within 500m of the site.

11.10. Made ground is not documented to be on British Geological Survey (BGS) maps, although historical borehole records presented on the BGS website recorded the presence of made ground in the central site area.

11.11. The BGS map has stated that the superficial deposits comprise of Raised Tidal Flat Deposit that consist of clay and silt. In the area of the Crag superficial deposits are not documented to be present, with bedrock documented to be close or at to the surface. The 2016 desk study indicates that the Raised Tidal Deposits are likely to be in the order of 20m thick.

11.12. The northern site area, and the northern portion of the central area, are documented to be underlain by the Sheriffmuir Sandstone Member of Devonian age. The southern central area, and the majority of the southern area is documented to be igneous in nature belong to the Clyde Volcanic Plateau Formation of Carboniferous age. Locally in the southwestern corner of the southern site area is underlain by the Clyde Sandstone Formation of Carbinferous age.

11.13. As part of the 2016 desk study a Coal Authority report was obtained that stated that the site is not within the zone of influence on the surface from any past or present underground coal workings.

Baseline Gassing Conditions

11.14. Made ground was not documented, although there is the potential for this to be present on site relating to existing and historical land uses on site. In addition, the natural superficial deposits have the potential to contain gas generating material. Consideration of these risk will be addressed within the EIA.

11.15. The site is not indicated to be within an area requiring radon protection measures, as such, will further assessment not be necessary as part of the EIA.

Baseline Contamination Conditions

11.16. Based on largely agricultural historic use of the south site, significant contamination is not envisaged, although a localised potential source of contamination is recorded in the area of the above ground storage tank.

11.17. The previous desk study, including the information provided in Contamination Land Officer, has highlighted potential sources of contamination within the northern and central site areas. These will be reviewed and consideration of the potential risk to future site users and the built environment will be required as part of the EIA.

11.18. The desk study has indicated that various structures on site contain Asbestos Containing Material, which given the age of the existing structures is to be expected. As such, this will require to further assessment as part of the EIA.

11.19. Due to the general absence of any large industrial sources of contamination, coupled with the low permeable nature of superficial deposits the potential for these to impact upon the onsite land quality is considered to limited.

Baseline Groundwater Conditions

11.20. The superficial deposits and sedimentary bedrock the site are designated as a moderately productive aquifers on the BGS hydrological maps, whilst this states the igneous bedrock is a low productivity aquifer.

11.21. The SEPA River Basin Management Plan classifies the bedrock aquifer, namely Teith and Forth Valley Bedrock, as the groundwater body underlying the site, which has been classified as being of Good environmental condition.

11.22. The site is located within a SEPA designated Drinking Water Protection Zone, although at the time of the desk study no current SEPA licensed groundwater abstractions within 1km radius of the site.

11.23. The 2016 desk study has stated that there were no licenced surface water abstractions within a 1km radius of the site.

11.24. The bedrock aquifer has been classified as the groundwater body underlying the entire site, with all groups of strata on site forming part of the Teith. Given the likely presence of significant thickness of superficial deposits, outwith the Crag, these will limit the potential for any made ground/shallow contamination to have a detrimental effect on groundwater quality. With regards to the Crag area of the site, limited source of contamination have been identified in this area, and as such this is unlikely to impact of the groundwater body.

11.25. Post development, formal surface water drainage and hardstanding will further restrict infiltration of surface water. As such, the risk of any detrimental effects to groundwater quality will be further reduced.

11.26. Due to the low permeable nature of superficial deposits and the limited off site sources identified, migration on site of dissolved or separated non-aqueous phase contamination within groundwater, is considered unlikely.

Baseline Surface Water Conditions

11.27. The 2016 desk study indicates the presence of a pond to the east of the Crag.

11.28. The River Forth forms the western boundary of the site, with the SEPA River Basin Management Plan classifies this watercourse as overall Good environmental condition.

11.29. The Raploch Burn forms the southern boundary of the site, which flows northeast to southwest into the River Forth. This was not monitored as part of the River Basin Management Plan.

11.30. Potential sources of contamination have been identified, predominantly within the central and northern areas of the site. Given the close proximity of the River Forth to the site, it is considered that there is the potential for this to impacted, as such, further consideration is required as part of the EIA.

11.31. With regards to the Raploch Burn, given that the land surrounding this has remained undeveloped, the potential for this to be adversely impacted by the development is limited.

11.32. Given the proximity of both the above watercourse, it is considered that there is potential risk to these features from surface water runoff during the construction phase, which will be considered in the EIA.

Likely Significant Effects

11.33. A historic desk study has identified the following on-site risks as being potentially significant and warranting further detailed qualitative assessment to confirm the potential pollutant linkages:

11.34. Onsite:

- The potential presence of soils contain typically ‘brownfield’ contamination that could impact on future site users and the built environment;

- The potential for generation of soil gas and accumulation within confined spaces;
- The potential presence of soils with chemical qualities which could lead to degradation of in ground building materials (i.e. sulphates); and
- The potential presence of contaminants that could impact upon the adjacent River Forth.

Cumulative Impact

11.35. As the impact of or on ground conditions is a site wide issue only, no cumulative impact is expected in relation to ground conditions.

Proposed Scope of Assessment

11.36. The baseline information for the site was largely prepared in a 2016 desk study and as such may have changed, been updated or be based on outdated regulatory guidance. In addition, the specific conceptual model and qualitative risk assessment were based on the continued commercial usage of the site.

11.37. In order to provide a robust approach to the EIA, procurement of up to date baseline desk study data and assessment of existing data with regards to current regulatory guidance is proposed, taking cognisance of the proposed end use.

This will include:-

- Procurement of a current Envirocheck Report;
- Confirmation of the geological and hydrogeological conditions;
- Preparation of a qualitative risk assessment in relation to the source, pathway
- and receptor model for the site in order to assess any remedial measures required to mitigate risks prior to and following the proposed development; and
- Production of a conceptual site model to demonstrate risks that may be required mitigation prior to and following the proposed development.

Risks Requiring Assessment

11.38. Based on the current baseline information, it is proposed that assessment within the EIA addresses the following risks;

- The risk to human health, the built development and proposed landscaping from contaminants within any Made Ground;
- The risk to human health and the built development from soil gas emissions;
- The risk to building materials from any sulphates within any made ground; and

- The temporary risk to on-site surface waters, and those immediately adjacent, associated with surface water runoff during construction.

Risks Not Requiring Assessment

- The site and surrounding area are underlain by low permeable deposits, as such, the risk of contamination from off-site sources migrating on-site and subsequently impacting on human health or the built development is considered to be negligible and can be discounted; and
- The Coal Authority report has indicated that the site is not within the zone of influence of historical or existing underground coal mining activities, as such, the risk is considered to be negligible and can be discounted.

12. Biodiversity

12.1. As a part of the scoping exercise a desk survey and Preliminary Ecology Survey (PES) of the site was carried out. This included both a review of available desk-based databases as well as a Site walk over to map the existing habitats at the site as well as any protected mammal or bird species.

Method

Desktop Study

12.2. Statutory designated sites located within 5 km of the Development Site will be considered in this assessment. Statutory designated sites are protected by EU and UK legislation and include:

- SPAs;
- Special Areas of Conservation (SAC);
- Ramsar sites;
- Sites of Special Scientific Interest (SSSI);
- National Nature Reserves (NNR); and
- Local Nature Reserves (LNR).

Site Survey

12.3. The survey for the Preliminary Ecology Appraisal (PEA) followed the extended Phase 1 Habitat Survey method as set out by the JNCC, 2010. All semi-natural habitats were identified and described using a standard classification. Outline National Vegetation Classification communities were assigned to the main Phase I Habitat types on site based on the key species present in the habitats.

12.4. The extended component of the survey is developed from the methodology described in Guidelines for Baseline Ecological Assessment (IEA, 1995). All habitats and features within the survey area are assessed for their potential to support legally protected or notable species (nationally or locally). The site was thoroughly searched for signs and evidence of badger; water courses were searched for signs and evidence of otter and water vole; ponds were assessed for their potential to support great crested newt; trees and buildings on site were assessed for their bat roosting potential; and, a bird list for the site was generated.

Results

Desk Study Results

Protected Mammal Species

12.5. The Nation Biodiversity Network Atlas database has no records of protected mammal, reptile and amphibian species within the Development site within the last five years. However, there are records of the following protected species within 5 km of the Development Site:

- Beaver Castor fiber;
- Otter Lutra lutra;
- Common pipistrelle bat Pipistrellus pipistrellus;
- Soprano pipistrelle bat Pipistrellus pygmaeus;
- Badger Meles meles;
- Red squirrel Sciurus vulgaris; and
- Pine marten Martes martes.

12.6. The statutory sites designated for nature conservation are presented in Table 12.4.

Table 12.4: Designated Sites

Site Name	Designation	Proximity to Development Site (km)	Qualifying Feature
River Teith	SAC	0.2 km North	Designated on account of its Atlantic salmon Salmo salar and river, brook and sea lamprey *Lampetra fluviatilis*, *L. planeri* and *L. marinus populations.*
Kippenrait Glen	SAC/SSSI	3.2 km North East	SAC: Designated for its mixed woodland habitat. SSSI: Notified on account of its mixed ash woodland habitat and on account of its beetle and cranefly, *Lipsothrix ecucullata* populations.
Ochtertyre Moss	SSSI	3.4 km North West	Notified on accounts of its raised bog habitat and on account of its spider *Heliophanus dampfi* population.
Abbey Craig	SSSI	3.4 km East	SSSI: Notified on account of its mixed ash woodland habitat and on account of its beetle population.
Sauchie Craig Wood	SSSI	3.5 km South	SSSI: Notified on account of its mixed ash woodland habitat.
Balquhidderock Wood	SSSI/LNR	4.3 km South East	Notified for its wet woodland habitat.

12.7. In addition to the above a search for areas of woodland listed on the Ancient Woodland Inventory (AWI) was undertaken within 1 km of the Development Site.

Site Habitats

12.8. The northern section of the site comprises the Lomond View Building and associated car park. Semi-natural habitats present within the northern area of the site comprise lines of standard trees, most notably a group of standard oak Quercus sp. trees, which are very mature in nature (Target note 9). An area of rank marshy grassland lies to the north west of the car park, beyond which lies the River Forth. A small pond lies in the west of the northern section of the site (Target Note 7), however this feature was choked with great reedmace Typha latifolia and held little to no standing water at the time of survey.

12.9. The central section of the site comprises a series of buildings and hardstanding associated with the Prudential financial services company. Craigforth House, which is currently used as a nursery, also lies within this section, along with two residential bungalows. Semi-natural habitats in this section comprise a line of standard lime trees Tilia cordata associated with the road which runs through the site and small areas of amenity grassland.

12.10. A small woodland lies in the central section, which is part of the wider woodland that lies around the crag, which is encapsulated between the central and southern section of the Site. This woodland is listed on the Ancient Woodland Inventory as 'Long Established Woodland of Plantation Origin' (LEPO). The 'Crag Woodland' comprises a canopy formed by a range of native and ornamental species including sycamore Acer pseudoplatanus, Corsican pine Pinus nigra, sitka spruce Picea sitchensis, pedunculate oak Quercus robur, horse chestnut Aesculus hippocastanum, silver birch Betula pendula and alder Alnus glutinosa. The understorey, where present comprises smaller growing tree species such as holly Ilex aquifolium and rowan Sorbus aucuparia, along with patches of rhododendron Rhododendron ponticum and bramble Rubus fruticosus agg scrub. The ground flora comprises a range of grasses such as brome Bromus sp, ferns and patches of bluebells Hyacinthoides non-scripta, wetter areas at the edge of the woodland also contain great reedmace.

12.11. The southern section of the site largely comprises farmland which is being managed for arable purposes and a silage crop associated with Kaimes Farm. A hedgerow comprised largely of snowberry Symphoricarpos albus, separates this section of the development site from the crag woodland.

12.12. The western boundary of all three sections of the development site is largely comprised by the River Forth. The river channel meanders naturally along the boundary and varies between 10-15 m in width. The water is deep and slow flowing in this section of the River Forth. There is abundant bankside cover provided by riparian woodland, which largely comprises alder, sycamore, ash Fraxinus excelsior and cherry Prunus sp. trees. Between the trees invasive flora is abundant in the form of giant hogweed Heracleum mantegazzianum and Himalayan balsam Impatiens glandulifera.

Bird Walkover Survey

12.13. The bird species recorded during the PES are presented in the table below.

Table 12.5: Bird Sightings

Species	Species	Species
Black-headed gull *Chroicocephalus ridibundus*	Grey heron *Ardea cinerea*	Pied wagtail *Motacilla alba*
Buzzard *Buteo buteo*	Goosander *Mergus merganser*	Reed bunting *Emberiza schoeniclus*
Blackcap *Sylvia atricapilla*	Great tit *Parus major*	Robin *Erithacus rubecula*
Blue tit *Cyanistes caeruleus*	House martin *Delichon urbicum*	Sedge warbler *Acrocephalus schoenobaenus*
Chaffinch *Fringilla coelebs*	House sparrow *Passer domesticus*	Swallow *Hirundo rustica*
Chiffchaff *Phylloscopus collybita*	Mallard *Anas platyrhynchos*	Willow warbler *Phylloscopus trochilus*
Goldfinch *Carduelis carduelis*	Oystercatcher *Haematopus ostralegus*	Wren *Troglodytes troglodytes*

Mammal Walkover Survey

Mammal Species Signs/Sightings

12.14. The habitat mosaic on the site is not particularly important. Some of the habitat types present do have the potential to house protected species and this is described in Table 12.6 below.

Table 12.6: Protected Mammal Habitat Suitability

Species/Guild	Evidence Recorded	Preferred Habitat Types*	Habitat Suitability (Works Area)
Otter and water vole	No evidence of these species was recorded within the survey area.	Otter: Found at rivers, small streams, ditches, ponds, lakes, canals, marshes, rocky shores and estuaries. May rest and rear young within tree roots, holes in river banks, rocks or flattened areas of vegetation. Old and fallen trees in woodland provide holt sites and woodland understory vegetation offers cover above ground. Two main factors need to be considered: food supply and pollutants. Water Vole: Mainly on vegetated banks of slow flowing rivers, ditches, dykes and lakes. Excavate extensive burrow systems into the banks of waterways.	Otter: Due to access issues, searches were restricted to the east bank of the watercourse only, with a detailed search of the west bank undertaken with the aid of binoculars. Despite no evidence of the presence of otter recorded at the time of survey, the River Forth offers excellent foraging conditions for otter and they will use the channel for commuting also. The habitats within the survey area are subject to high levels of recreational use from the staff that work at Craigforth, and as such, it is considered unlikely that otters would rest in the survey area for any length of time. Water Vole: No evidence of water vole was recorded during the survey. The watercourses within the survey area are of limited suitability for this species, being typically too substantial and lacking in bankside burrowing opportunities.

Species/Guild	Evidence Recorded	Preferred Habitat Types*	Habitat Suitability (Works Area)
Bats	Potential for bat roosts. Full bat survey to be undertaken prior to submission of planning applications	Foraging - waterways, woodland or grassland. Commuting – linear features such as woodland edges, hedgerows, rivers, tree-lined paths. Roosting – trees, caves, buildings including barns, houses, tunnels and bridges.	Craigforth House is an old building of stone construction and is considered to be of high roosting potential for bats. There are numerous potential ingress points for bats via cracks in the render/stonework, around the chimney masonry, and through lifted slates and flashing on the roof. The remainder of the buildings within the site are all of low or negligible potential for supporting roosting bats. The mature standard oak trees (Target Note 6) have been identified as having moderate potential to support roosting bats. The woodland habitat within the Development Site also provides excellent foraging and commuting opportunities for this group (Target Note 2), as do linear features such as the line of lime trees along the main road within the Business park and riparian woodland edge (Target Notes 1 and 4).
Badger	No evidence of this species recorded within the survey area.	Typically a patchwork of pasture and woodland providing good areas for earthworms and foraging, as well as good areas for setts. Setts have, however, been found in unusual areas such as railway and road embankments, open fields and under buildings.	There is good woodland coverage within the Crag, and reasonable foraging opportunities in the farmland in the south of the Development Site. The Development Site is however, cut off from other suitable habitat via the M9 to the east and the River Forth to the west, limiting opportunities for colonisation by this species.
Red Squirrel and Pine Marten	No evidence of these species recorded within the survey area.	Red squirrel: Typically build dreys in the forks between tree trunks and branches in coniferous and mixed woodland.	Sub-optimal habitat for these species exists in Crag Wood. However, this woodland is isolated from other suitable habitat by the presence of the River Forth and the M9 carriageway on the Western and Eastern boundaries.

Species/Guild	Evidence Recorded	Preferred Habitat Types*	Habitat Suitability (Works Area)
		Pine marten: Dens mainly in woodland in hollow trees or scrub-covered fields. Occasionally house roofs, rabbit burrows, rocky outcrops or under tree roots.	
Herpetofauna	No sightings recorded.	Amphibians: Water bodies and swamps during their breeding phase and rank vegetation, scrub and marsh vegetation during their terrestrial non breeding phase. Reptiles: Edge habitats, rank grasslands and scrub areas. Also, coastal dune and heathland habitats. South facing slopes for basking. Log piles, stone walls and compost heaps during hibernation.	Amphibians: The choked small pond and marshy grassland will likely support common amphibian species such as common frog and toad. But the habitats are considered to be of little to no suitability for supporting the protected species, great crested newt. This species is not considered further in this report. Reptiles: The habitats present within the site largely comprise hard standings and areas of well-managed, close clipped vegetation (save for Crag Wood). As such they are of little suitability for supporting common reptile species.

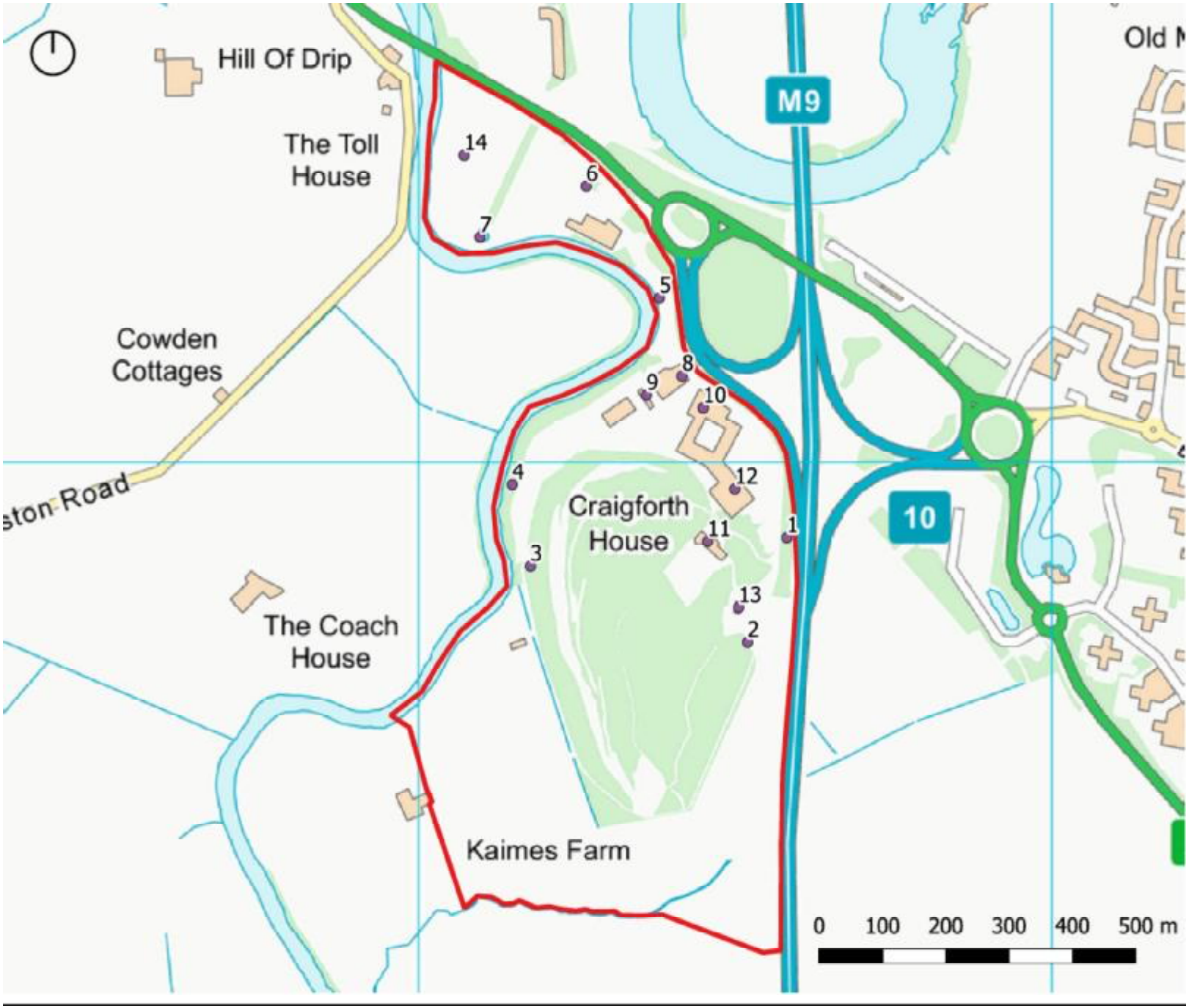
**Habitat definitions adapted from the SNH and Natural England websites*

Invasive Species

12.15. Two invasive vascular plant species listed on Schedule 9 of the Wildlife and Countryside Act were recorded during the survey visit. Giant hogweed was recorded at the western edge of the car park in the central section of the site (Target Note 3), along the River Forth on the western boundary of the site (Target Note 5) and in the rank marshy grassland in the northern section of the site (Target Note 14). Himalayan balsam was also recorded along the banks of the River Forth (Target Note 3).

Assessment Methodology

12.16. If the development be screened as requiring an Environmental Impact Assessment (EIA) an assessment of the effects of each ecological receptor should be undertaken based on the guidance set out by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).



Babbity Environmental

LEGEND

- Target Notes
- Indicative Site Boundary

Figure 12.1
rev

Title Field survey results

Project
Number BP2009
Name: Craigforth

Designated sites

12.17. The River Teith SAC lies approximately 200 m to the north of the development site at its closest point. As mentioned in Table 12.4 the SAC is designated for its Atlantic salmon and lamprey populations.

12.18. There are no barriers preventing the dispersal of the SAC qualifying species moving upstream into the section of the River Forth which forms the site boundary. Having said that, this section of the River Forth is considered to be of relatively low sensitivity for these species as there is a lack of spawning gravel, or marginal fine sediment (used by lamprey to burrow into during their ammocoete phase).

12.19. Furthermore, there will be no stream crossings required as a result of the works, and no need for any instream works.

12.20. Prior to construction an Environmental Management Plan (EMP) will be prepared, which will contain a section setting out environmental commitments required when working near (within 10m) of a watercourse. The EMP will set out measures for effective mitigation of silt and safe storage of potential pollutants.

12.21. Based on the above any adverse effect on the River Teith SAC resulting from the proposal is predicted to be extremely unlikely and it is considered that it should be possible to Screen the SAC out of the need for a Habitats Regulations Assessment.

12.22. The remaining designated sites are notified on account of their habitat and invertebrate populations and it is considered that they lie a sufficient distance from the development site where they will not be adversely affected by the proposals.

Ancient Woodland

12.23. A single area of woodland listed on the Ancient Woodland Inventory (AWI) lies within the site. Crag woodland is a long-established woodland of plantation origin (LEPO). There are no other areas of woodland listed on the AWI within 1 km of the development site. It is unclear at this stage if any of this habitat will be lost to the proposals, but it is recommended that it is retained where possible.

Bats

12.24. Further surveys will be undertaken to determine whether or not roosting bats will be affected by the works.

12.25. A breakdown of the buildings identified as requiring activity survey work (emergence/return surveys) is presented in Table 12.7 below.

12.26. All other buildings within the development site are considered to have negligible suitability to support roosting bats and require no further survey.

12.27. Should any trees require removal to facilitate the works it is advised that they are demarcated and surveyed separately to determine whether they have the potential to support roosting bats.

12.28. Bat activity transects are also being undertaken at the site. To date a single survey has been undertaken and with common and soprano bats being confirmed as using the development site. No other bat species have been recorded on site to date.

Table 12.7: Bat Activity Surveys

Species/Guild	Level of Bat Potential	Number of Activity Surveys Required	Number of Surveyors Required for Effective Coverage
Gatehouse building	Low	One	Two
Small brick building between Riverside Building and Administration Centre	Low	One	Two
Main/Central buildings	Low	One	Eight
Craigforth House	High	Three	Four
Dining Hall and Conference Centre	Low	Two	Four
Bungalow 1	Low	One	Two
Bungalow 2	Low	One	Two

Birds

12.29. A range of common bird species are considered to be breeding within the development site. The bird breeding season runs from April to August inclusive.

12.30. It is recommended that construction is timed to either avoid the breeding season altogether, or Scheduled to start before the breeding season starts (ideally before mid-March) so that birds returning to the area to breed can choose a territory/nest location away from potentially disturbing activities.

Table 12.8 Significance of Ecological Receptors

Significance	Value	Criteria	Examples
High	International	Nature conservation resource of international importance.	European sites: SPAs and SACs; and (p)SPAs and (c)SACs; Other International sites: Ramsar wetlands; and Habitats and populations/ assemblages of species (including birds) that represent the qualifying interests of internationally designated sites.
High	National	Nature conservation or geodiversity conservation resource, i.e. site, habitat or populations of species, of national importance.	SSSIs (biological and geological) All populations of Wildlife and Countryside Act (1981) (as amended in Scotland) All viable populations of species listed as Critically Endangered, Endangered, Vulnerable or Threatened in relevant Red Data Books*. Nationally important population /assemblage of an EPS, Schedule 1 and/or 5 species. Habitats directly connected to a ground water resource and listed as a Groundwater Dependent Terrestrial Ecosystems via SEPA's LUP-GU4 Guidance.
Moderate	Regional	Nature conservation or geodiversity conservation resource	Sites/populations that meet SSSI designation criteria but have not been designated due to there having been better examples in the relevant Area of Search. Regionally important population/area of a species and habitat of Principal Importance or UK BAP priority species and habitats.
Moderate	High Local	Nature conservation or geodiversity conservation resource,	Local Nature Reserves. Important population/area of a species and habitat of Principal Importance or UK BAP priority species and habitats. NHZ -important population/assemblage of an EPS, Schedule 1 and/or 5 species. NHZ -important assemblages of other species. NHZ - designated geodiversity sites.
Low	Local	Nature conservation or geodiversity conservation resource	All breeding populations of an EPS, Schedule 1 and/or 5 species that have not been captured in higher categories above. Assemblages of other species that are of importance in the context of the local authority area. Locally-designated geodiversity sites.

Assessment Criteria

12.31. The ecological resources, within the site and surrounding area, identified through the site surveys and related research detailed above, will be assigned Valued Ecological Receptor (VER) status (if applicable) and value and importance in a geographical context, according to the methodology detailed the IEEM Guidelines as illustrated in Table 12.5.

13. Socio-Economics

Outline Scope of Assessment

13.1. Socio-economic effects are scoped into the proposed EIA. The consideration of socio-economic conditions within the context of the EIA will cover demographic changes, economic effects and other socio-economic conditions such as employment generation, productivity, economic value, tourism, local social issues and mitigation measures.

13.2. The EIA will also provide an assessment of the effects of the proposed development on a range of community facilities. The analysis will consider the demographic context of the surrounding area and establish the existing levels of provision for a range of facilities and services in the vicinity of the site. The potential impact arising from the proposed development will be considered, whilst accounting for facilities which will be provided as part of the scheme.

13.3. Finally, a section on mitigation will be provided, which will set out any measures that are designed to bring forward socio-economic and community benefits, and ameliorate potential adverse impacts.

13.4. The stages of the overall methodology include:

- Review of planning policy – consider compliance of the proposed development with relevant policies;
- Analysis of socio-economic baseline conditions – including a review of existing site, its context and the demographic profile of the local population. Additionally analysis of the local economy metric like: unemployment, skills profile, occupation and the role of the tourism sector in the local and regional economy. Finally, identify social infrastructure facilities within the Study Area and assess their characteristics.
- Impacts assessment – which will consider the scale, magnitude, duration, frequency and permanence of the potential effects during the demolition and construction and operation phases of the proposed development;
- Assessment of the employment potential of the proposal during the construction and operational phase of the development and associated economic activity;
- Consideration of the net employment benefits;
- Assessment of the likely effect on tourism attractions in the area;
- Assessment of mitigation measures, cumulative and residual effects.

13.5. The assessment of employment benefits will follow best practice guidance (for example, Additionality & Economic Impact Assessment Guidance Note; Scottish Enterprise, 2008) and apply assumptions to account for leakage, displacement and multiplier effects.

13.6. Understanding the demographic profile of the study area will enable assessment of the local population's ability to take up employment opportunities created by the scheme. Based on the demographic section we will assess the scale of those impacts in relation to the local population needs.

13.7. The method for assessing the effect on tourism will consider individual attractions and tourism facilities. The method will also assess the existing tourism industry in the Study Area to estimate the scale of the potential effects on tourism caused by the proposed development.

Planning Policy and Guidance

13.8. There are a range of documents which are relevant to the undertaking of the socio-economic assessment at the national and district-level. In particular :

- Scottish Planning Policy (2014);
- Scotland's Third National Planning Framework (2014);
- The Stirling Plan (2017);
- Stirling Local Development Plan, (2018);
- Relevant associated Stirling Supplementary Guidance including:
    - Draft Supplementary Guidance – Developer Contributions (2019).

Legislative Context

13.9. There is no legislation specifically relevant to the socio-economic assessment.

Study Area

13.10. The concept of defining a primary area of influence or zone of impact to enable assessment is standard in EIA practice, however there is no standard measure of scale and the relevant area differs for each project and site context, and is not directly transferrable to socio-economic impact assessment due to the mobility and network of potential receptors. In addition, barriers to access such as major roads or rivers can also affect the area of influence.

13.11. The Study Area will vary for particular aspects of the assessment. The Study Area for economic benefits will be at the Local Authority Level as this is where the majority of jobs and GVA impacts will be accrued. We will also consider the regional and national conditions to support an understanding of the potential scale of the impact or unique context for the site. The Local Authority will also be used as the Study Area to assess the impacts of tourism.

13.12. For social infrastructure receptors like open space provision and school catchment the assessment will be based on a smaller area of influence. The social infrastructure area of influence for the assessment will be based on a 5.3km driving distance isochrone from the site's access points. This is based on the average commute for primary and secondary education, and, shopping in Scotland (National Travel Survey, 2008). This distance is equivalent to a 8-12 minute drive or approximately a 60 minute walk. In the context of Craigforth, this distance will incorporate Stirling, which is the nearest major settlement. This approach also takes into account the natural and man-made barriers that act as constraints and limit access. Specifically, these barriers include the River Forth to the west, the A84 to the north and the M9 to the east.

Significance

13.13. The assessment intends to be objective and to quantify impacts, where possible. Where quantification is not possible, qualitative assessments will be made and justified. The relative significance of an effect is largely a product of the value and sensitivity of the identified receptor and the magnitude and duration of the impact. **Table 13.1** shows how the receptors' sensitivity and the impact's magnitude are used to estimate the significance of an effect.

Table 13.1 Matrix of Significance

		Receptor Sensitivity		
		Low	**Medium**	**High**
Magnitude of the Impact	**Negligible**	Negligible	Negligible	Negligible
	Low	Minor	Minor	Moderate
	Medium	Minor	Moderate	Major
	High	Moderate	Major	Major

13.14. In terms of describing the duration of effect, short to medium-term effects are considered to be those associated with the site preparation and construction phase, and long-term impacts are those associated with the completed development and its operation.

13.15. Effects are defined as either:

- Beneficial – an advantageous effect on the impact area;
- Negligible – an imperceptible effect on the impact area; and
- Adverse – detrimental effect on the impact area.

13.16. Beneficial and adverse effects are based on a standard set of significance criteria defined as follows:

- Minor
- Moderate
- Major

13.17. Major effects are considered to be significant with other types of effects considered insignificant.

Baseline Context

13.18. The socio-economic assessment will assess the proposed development against the socio-economic baseline of the area and the 'do-nothing' scenario.

13.19. The baseline will include information about the economic and population receptors, as well as existing relevant infrastructure serving them. The following have been considered as potential receptors of socio-economic effects from the proposed development and will be discussed under the following headings:

- Population
- Employment and economy
- Housing
- Social infrastructure (schools, health facilities and open space)
- Tourism

13.20. The baseline conditions for the site will be established by undertaking a policy review to provide an outline of the relevant local and regional, social and economic policies for the area, and, through a desk-top review of the current social and economic conditions prevalent in the local area. Baseline information on the socio-economic conditions of the area will be collated from a variety of sources including:

- Scotland's Census (2001) and (2011);
- Scottish Government Statistics;
- NOMIS Labour market statistics;
- Scottish Annual Business Statistics;
- The Scottish Index of Multiple Deprivation;
- Stirling Local Development Plan, 2018;
- National Planning Framework;
- National Record for Scotland;
- National Travel Survey, Scotland;
- Get Information About Schools Register;
- Visit Britain.

13.21. These will provide a broad quantitative 'baseline' of socio-economic conditions.

13.22. The baseline will include the population receptors, as well as existing relevant infrastructure serving them. The baseline will set out the characteristics of the local economy and workforce, such as economic activity, unemployment rates, skills, qualifications and occupations. It will also assess the characteristics of the existing population (e.g. age, household composition, deprivation and reported health status).

13.23. In addition to the population characteristics, the baseline will also consider the current provision of community facilities required by the population, such as capacity of primary and secondary schools, GPs and open space.

Receptors

13.24. The socio-economic impact assessment assesses the effect of the proposed development on the population and tourism attractions. In summary the potential effects of the development are likely to relate to:

- Direct, indirect and induced employment generated by demolition and construction activity.
- Direct, indirect and induced employment generated by the new businesses locating on site during operation.
- Impacts on Gross Value Added as a result of additional economic activity in various employment sectors
- Wider economic effects including effects on businesses and spending arising from employees and households;
- The demand for community facilities from the on-site population, including primary healthcare, primary and secondary school places, open space, child play space;
- Tourist attractions which may be effected by the economic activity created by the development or its visual impact.

Potential Effects

13.25. The current on-site use includes office space, all of which is located on the northeast side of Craigforth Crag and is occupied by Prudential and Capita. The total floor space for all office and associated buildings including: Craigforth House, Bungalows, Gatehouse, Conference Centre and Garages is 27,147sqm. There are also over 1,250 car parking spaces on-site. The current proposal is to demolish all existing buildings with the exception of Lomond View which will be retained and has a floorspace of 3,160sqm.

13.26. The proposal involves the redevelopment of Craigforth Campus to comprise offices, retail, leisure, public houses, restaurants, residential, hotel, care home, distillery, visitor centre and nursery facilities. The development will create jobs through the provision of employment workspace, demand for social infrastructure and increases in resident spending in the area. These effects will be quantified by the assessment.

13.27. Potential effects upon socio-economic receptors will be assessed in relation to temporary and permanent effects. As a general rule, temporary effects relate to construction phases of development and permanent effects relate to the occupation/operational phase. Construction of the proposed scheme would over its time period support the employment of a range of trades and professions in the construction industry. It would also have an indirect economic effect through the sourcing of building materials, services and supplies as well as the local expenditure of construction workers.

13.28. There are a number of operational effects that will result from the proposed development. Including from the operational jobs associated with the different use types included in the proposal and from the delivery of new homes. The proposed development will bring an associated increase in expenditure within local shops, businesses and services. The proposed commercial space of the development will deliver new jobs through the arrival of businesses and employment opportunities across the wider campus. The additionality effects will be considered in the context of employment associated with the existing uses. The chapter will also explore potential effects on tourism attractions, level of tourist expenditure and number of tourists visiting the local area.

13.29. The assessment will consider the net additional benefits, excluding any benefits which will be retained from current operations (the "reference case") and considering leakage, displacement, deadweight, and multiplier impacts.

13.30. The assessment will include analysis of cumulative impacts. This will assess the impacts of the proposed development in combination with those of each committed scheme (based on the data available), and their relative effects.

13.31. The social impact assessment will incorporate a review of the existing and proposed capacity of the social infrastructure facilities to inform whether provision will meet the needs arising from the development. Relevant infrastructure to review will include education, health and open space.

13.32. The nature and scale of an effect will be determined through professional judgement and a combination of factors including the scale or sensitivity of the receptor group and the magnitude of the impact (the amount of change from the baseline conditions). Where possible the effects will be quantified, however, as many social and community effects are interrelated and difficult to characterise or measure in a precise way some baseline judgements will need to be formed on professional opinion and so will be subjective. Where this is the case, this will be clearly stated in the assessment chapter.

Assumptions

13.33. The socio-economic impact assessment will be a desktop study utilising the most up-to-date reference data and population statistics to calculate the net economic benefits stemming from the proposed development.

13.34. By the nature of the methodology, estimates of change in the socio-economic elements such as economic and employment impacts are subject to uncertainty. The estimates in this chapter are based on good practice, but there will likely be a degree of uncertainty around estimates. We estimate that actual impacts are likely to be in a range of +/- 20% of figures given to account for this uncertainty, as is standard practice with our estimates.

Mitigation

13.35. The chapter will consider probable measures and actions to mitigate any harmful effects that are identified during the assessment.

Scoped Out Effects

13.36. The potential for on-site business operations to be adversely affected by construction traffic will be considered as part of the assessment of transport effects. In general, it is considered that disruption during construction will be controlled and managed through implementation of the Construction and Environment Management Plan.

14. Health Impacts

14.1. In terms of human health, Regulation 4 (para 2 and 3) and Schedule 4 (para 4 and 5) of the EIA Regulations and accompanying Circular make it clear that the environmental impact assessment must identify, describe and assess in an appropriate manner, the direct and indirect significant effects of the proposed development on the factors including population and human health.

14.2. The proposed development will not include any uses or activities that would be considered to pose a significant risk to human health. Furthermore, the proposed development is not located within the vicinity of any activity or uses that would be considered to pose a risk to human health in respect of future users and residents of the proposed development.

14.3. Therefore, there are no human health factors considered to be likely to be affected by the proposed development that will require specific assessment.

14.4. Given this, the air quality, noise impact and transport assessments will include a baseline position and assess the likely effects, including those on human health. These are the most appropriate areas in which to consider health impacts. In the context of the application, the potential for significant effects on human health are not anticipated, as such a specific chapter on human health within the ER should be **scoped out**.

15. Sustainability

Policy Context

15.1. The sustainability of development will be assessed through the examination of current national and local policy guidance set against the context of the proposed renewables and energy performance technologies that are proposed to be incorporated as part of the development proposals.

15.2. The following documents will form part of this assessment:

- National Planning Framework (NPF3) and the National Planning Framework 3 (NPF3 – 2014);
- Scottish Planning Policy (SPP - 2014); and
- Stirling Local Development Plan (2018) and the sustainable development criteria:
  - § Improve the overall quality of the built environment;
  - § Contribute to reduction in greenhouse gas emissions, in line with or better than national targets, and encourage energy and heat efficiency, and use of low and zero carbon power generation;
  - § Reduce the need to travel and encourage active travel and other more sustainable travel and transport opportunities;
  - § Support Zero Waste objectives and minimise the life-cycle resource requirements;
  - § Avoid areas at risk of flooding and erosion;
  - § Protect and enhance the historic and cultural environments, and the natural environment (including biodiversity and landscape);
  - § Minimise adverse impacts on water, air and soil quality;
  - § Support healthy and safer lifestyles, by improving access to amenities, promoting access to open space and other recreation opportunities and by addressing environmental problems;
  - § Involve re-use and/or regeneration of previously used land and property, including derelict and contaminated land, and the re-cycling of construction materials;
  - § Make efficient use of existing and new infrastructure; and
  - § Create net economic benefit for the area.

Proposed Scope of Assessment

15.3. The sustainability assessment will then examine the impact of the proposed new development in sustainability terms, in the context of built environment, greenhouse gas emissions, location, transportation proposals, waste, water air and soil, impact on existing services and communities, design and layout, infrastructure and economic benefit and the construction process.

Built Environment

15.4. The assessment will demonstrate how placemaking is a key principle in the sustainable design of the proposed development at Craigforth. This will highlight the unique aspects of this development and that this project offers, in terms of an exciting opportunity to meet and exceed the sustainability and energy requirements of buildings by Stirling Council. The assessment will show how the proposal is to create an attractive commercial office campus with mixed-use buildings, streets, squares, parks and residential neighbourhoods that will make most of the areas natural landscape setting, from the Crag to the riverside. The aim is to create a sustainable and dynamic new community connected by sustainable modes of transport and active travel through new and enhanced existing linkages. Further details of how the assessment will achieve this are found in the methodology below.

Greenhouse gas emissions, energy and heat efficiency and low and zero carbon power generation

15.5. The assessment will demonstrate the proposal's compliance with the Local Development Plan and will follow guidance within the supplementary guidance document - Low and Zero Buildings SG17. These will be supported by an additional detailed Energy and Sustainability Masterplan document carried out on the Project's behalf by Resources Unlimited LLP and Atelier 10.

North Site – New Office Accommodation

15.6. The project team deployed at Craigforth have intimate knowledge and understanding of standards for commercial office buildings and operations including but not limited to WELL, BREEAM Excellent and BCO. The assessment will demonstrate how the detailed design stage of the project takes into account these elements and how these are complimented in the office accommodation by the wider Masterplan at Craigforth. The examples below have been selected and will be further expanded in the assessment and can be applied to shell and core or to the full building fitted out:

- WELL

The assessment will demonstrate that the location offers a good setting for various health and wellbeing sustainability aspects. It will also consider that promotion towards a 3 or 4 storey design will enable a focus to use stairs rather lifts. The floor plans that will be submitted with the assessment will accommodate generous and attractive stairs.

- BCO

It has been noted by the project team that no other developments in Scotland are designed to BCO 2019 at this point, even though this is the most up to date standard. The assessment will demonstrate the benefits in recognising that current exemplar developments in Scotland are based on BCO 2014, albeit the value of going to 2019 may well be a key consideration, given the many other unique attributes which Craigforth offers. The assessment will seek to demonstrate that the proposal does already promote best practice in many areas which BCO 2019 is promoting. In particular the 5 Key Drivers for Change: -

i. Focus on People, Experience and Wellbeing;
ii. Drive for Creativity and Productivity;
iii. Use of Technology to Enable the Workplace
iv. Adaptability for the Long Term; and
v. Economic Value and Return on Investment.

Of particular note is the drive for environmental excellence beyond the office building. The wider masterplan context is fundamental to this and this will be a key element of what the assessment will seek to demonstrate.

- BREEAM Excellent

Although in Scotland we are finding that many developments are focusing more on health and wellbeing initiatives. BREEAM, whilst continuing to be a useful checklist, can be perceived to not be a requirement. However, the project team as a whole consider this to be an important consideration and it is currently being discussed. A full justification for whatever option chosen will be provided for in the assessment once submitted. As such, it is suggested that this is still a consideration although ultimately may be scoped out and not a requirement in the final assessment and we would appreciate the Council's thoughts in this respect.

Central Site – Mixed Use

15.7. The assessment will demonstrate in detail that the central site is being reconfigured to create sustainable leisure spaces. This arrangement offers potential for a large single operator or multiple operators to provide a shared retail, leisure and tourism facilities and the renewables and energy efficiency technologies that will be incorporated into the future detailed design of these facilities.

15.8. The sustainability assessment will also examine how walking, cycling and jogging routes will be created around the full perimeter of the Campus and landscaped. These routes will link to the wider path networks further promoting sustainable travel to and from the site.

South Site – Residential Use

15.9. Central to the vision for the redevelopment of the Craigforth site will be the enabling residential development proposed at the southern part of the site. In delivering this, an attractive public realm and connections back to Stirling City Centre and to wider rural areas will be created. These will be used by residents, workers and the public. The landscaping elements of the southern part of the site will also seek to create a setting which will attract the appropriate providers for the mixed used amenity zone. Fundamental to this is a blend which can activate these spaces 24/7, support maintenance of these spaces and provide funding for their implementation at an appropriate stage.

15.10. The sustainability assessment will examine and explain how the developer adopts a Fabric First approach to residential building design that looks at maximising the energy performance of the structure itself through the components and materials making up the building envelope, ensuring that they build warm, comfortable and affordable homes. Details will be provided that demonstrate the proposed high levels of insulation and air tightness, meaning the homes built will reduce the heating load while retaining more of the heat put in. Home appliances which are the most efficient at the time of build will be fitted and combined with internal design that maximizes natural daylight, solar gains and natural ventilation which will actively reduce the amount of energy used in the home.

15.11. The sustainability assessment will demonstrate how reducing energy demand will also be considered through the development of the proposed residential layouts. The proposals will take into cognisance the opportunities for solar gain (passive light & heating from the sun). Details will be provided of a level of sustainable housing layouts, minimising exposed elevations.

15.12. In terms of housing mix, semi-detached and terraced, as opposed to detached housing formats, will be provided and detailed in the sustainability assessment. The orientation of buildings, site layout and carefully designed roof pitches will benefit from natural day lighting and passive heat sources. The sustainability assessment will demonstrate how they offer an efficient use of land reducing the impact of construction, providing shelter and limiting heat loss.

15.13. Working with Resources Unlimited LLP and Atelier 10, detailed research will be carried out looking at **onsite** low and zero carbon technologies. The aim of this research is to show how a Private Distributive Utility Network approach will achieve a true sustainable scheme that is future proof.

15.14. Heat is responsible for approximately 47% of total Scottish carbon emissions. To reduce this, The Climate Change (Scotland) Act requires a minimum 42% in carbon emissions by 2020 and 80% by 2050. A significant proportion of these savings will come from the local onsite generation of low carbon renewable heat and power and to support this, the Scottish Heat Policy Statement has a level of ambition to achieve 1.5TWh of Scotland's heat demand to be delivered by district or communal heating and to have 40,000 homes connected by 2020.

15.15. It is proposed that the sustainability assessment will examine the options for the technical and commercial viability of a Private Distributive Utility Network incorporating amongst other technologies, a district heating network at Craigforth. The assessment will focus on any existing **and** planned heat network or notable sources of waste heat nearby (as noted on the Scotland Heat Map web site). The study will also carry out an option appraisal focusing on whether a standalone network using onsite low and zero carbon technologies for heat generation will be appropriate. This methodology for this is detailed further below.

Support Zero Waste objectives and minimise the life-cycle resource requirements

15.16. A Zero Waste strategy will be designed and explained within the sustainability assessment that combines prevention, reuse and recycling, considering entire product life cycles. The proposals at Craigforth will support the principles of "Reduce, Reuse and Recycle". The development will demonstrate:

- Minimisation of the amount of cut and fill on the site, where ground conditions are appropriate;
- Extraction for use on the site and elsewhere of re-usable materials;
- The material palettes that reflect the natural landscape and traditional architecture of the area. Wherever possible, materials will be responsibly sourced from local suppliers of materials; which will support the local economy;
- Reduce of transport distances and emissions from suppliers; and
- Innovative on and off-site construction methods minimising waste.

15.17. The assessment will show how recycling points will be at the optimum positions to serve the local community and offer convenient facilities to recycle a range of materials. These areas will be suitably screened to reduce any impact on amenity and located to ensure access by both users and collection solutions.

Methodology

15.18. The Sustainability and Energy Masterplan that will inform the assessment will follow the following specific Methodology:

Stage 1 – Data Collection:

The initial stage will involve the collection of key data sets which will include:

- Heat demand, tenure, ownership, location, current heat and electricity supply;
- The development of an energy demand map and database of the opportunity area; and
- The development of a supply map, with categorisation of each supply asset.

Stage 2 – Strategy:

Working in consultation with the key stakeholders to identify the scope of the study, i.e. the geographical extent, potential infrastructure routes, proposed connections and the supply options will be a key aspect of the methodology of this assessment. This will result in a number of modelling scenarios to be tested and, in order to comparatively assess these scenarios, key economic performance indicators such as hurdle rates, carbon emission reduction and fuel poverty alleviation etc. will be agreed with the key stakeholders. The approach to a wider stakeholder engagement will be agreed at this stage as stakeholders will likely have varying interests in the energy masterplan and what they expect from a Private Distributive Utility Network. This stage of the methodology will:

- Decide the areas to be connected and the heat supply asset(s) to be used, taking into consideration information from stakeholder engagement and strategic objectives to be adopted (e.g. fuel poverty and carbon reduction);
- Determine the modelling scenarios to be tested; and
- Determine the network route required (if applicable).

Presentation of the overall strategy to stakeholders at this stage will be undertaken to ensure buy-in to the project by considering the views of those concerned, beyond the technical merits of the proposals.

Stage 3 – On-site Low and Zero Carbon Technology Appraisal

The next stage will examine the constraints of existing energy infrastructure and the essential network upgrades and new infrastructure that may be required. This will do the following:

- Development of an hourly energy model for the system;
- Assessment of on-site existing and new low and zero carbon technology supply options for the project; and
- Size key technical assets such as the energy distribution network and supply assets.

Stage 4 – Economic Assessment

The economic assessment will include the development of an economic model for the technological solutions proposed in order to provide an indication of the comparative economic performance for a number of scenarios. It is essential to the project that the solutions are sustainable **and** viable. This will be carried out via the following:

- Determination of capital and reinvestment costs for key assets;
- Determinations of fuel costs and other operational and maintenance costs; and
- Carrying out whole life costing of the project opportunity in terms of payback, IRR and NPV.

Stage 5 – Comparative Assessment

The assessment will demonstrate the analysis that has been carried out and will make an assessment of the suitability of each. This will be achieved through:

- Detailed assessment of each of the modelled scenarios based on the project's key drivers; and
- Ranking of the modelled scenarios and recommendations for feasibility assessment.

Stage 6 – Recommendations

The assessment will present its findings benchmarked against the relevant policy recommendations. This will clearly identify where sustainability policy and planning measures have been complied with and exceeded and where appropriate infrastructure has been committed to and how stakeholders will connect and/or interact and benefit from it.

It is also proposed that the assessment demonstrates the use of mapping to clearly identify a spatial representation of high potential heat availability, potential energy centre locations, high density of heat demands and interconnecting Private Distributive Utility Networks which can be used.

Summary

15.19. The unique aspects of this development offer an exciting opportunity for the sustainability assessment and the ER will explain its findings to highlight how the proposal will meet and exceed the sustainability and energy requirements in Stirling's planning policies.

15.20. In keeping with Stirling Council's tradition of building communities based on high quality living and working space, the assessment will explain how the development will embed a 21st century approach to sustainable built environment design. As such, this development likewise offers a unique opportunity for the Council to demonstrate developers meeting their sustainability and energy thresholds.

16. Waste Management & Minimisation

16.1. The proposed development has the potential to increase waste generation in the local area. A chapter would be prepared examining the likely impacts on the environment resulting from any increased requirement for waste recycling, treatment and disposal facilities. Reference will be made to relevant local and national waste plans and strategies.

16.2. Consideration would be given to options for enabling the campus to minimise waste production and to achieve appropriate levels of recycling within the context of existing and planned targets.

16.3. It is anticipated that full details of any waste management & minimisation strategy and its implementation will be conditioned as part of any planning approvals. Consideration of this matter will be included in the Sustainability chapter of the ER and therefore it is proposed at this matter be **scoped out** of the EIA.

17. Climate Change

17.1. Climate change, as a separate chapter, can be **scoped out** of the ER. The chapter on Sustainability will summarise the relevant climate change adaptations integrated into the proposed development. This will include sustainable measures which respond to climate change such as green infrastructure and green networks. This will draw upon technical chapters and reports and summarise the sustainability and energy provisions included within the proposed development. For a development of this nature this is considered a suitably proportionate approach.

17.2. In respect of any potential increase in the flood risk as a result of climate change, these impacts are fully considered in the Flood Risk chapter as the most appropriate means of assessing these impacts.

17.3. In view of the above, the proposed scope of the ER already makes provision for the inclusion of information and assessments which can be used to judge the likely effects of the proposed development upon climate change. Therefore, Climate Change as a separate chapter is proposed to be **scoped out** of the EIA Report.

18. Landscape & Visual Impact

Landscape and Visual Context

18.1. The proposed development site is set on the urban fringes on the western side of Stirling, within the Forth Valley. The site covers areas of low lying ground and riverside, centred around a wooded, rocky crag (Craig Forth) up to 60 m in height. It is characterised by a combination of low density development of varying office buildings and car parking, set in mature landscaped grounds to the north of the crag, and open, flat fields to the south. The wider landscape comprises a broadly flat expanse of valley floor accommodating a looping, meandering river, with surrounding hills and distant mountains providing a panoramic backdrop. The valley floor is punctuated in places by small, steep rocky crags including the one occupying the development site, and nearby crags to the west accommodating the historic features of Stirling Castle and the Wallace Monument. To the east of the development site, the landscape is dominated by the developed outskirts of Stirling, including low density, business and commercial areas, housing estates and a large motorway junction of the M9. To the west the landscape is characterised by flat, open fields, delineated by hedges and stands and belts of mature deciduous woodland, with scattered farmsteads and cottages.

18.2. Key landscape elements of the site comprise:

- The wooded crag forms a significant landscape feature both within the site and seen from beyond;
- The mature woodlands and trees, including woodland on the crag specimen trees on the surrounding lower lying areas, some of which are veteran trees which may date from past designed landscape elements associated with Craigforth House;
- The looping meanders of the adjacent river and associated riparian woodland which contains the site to the west;
- Existing built structure within the site including the various office developments and associated car parking and the historic Craigforth House.

Designations

18.3. The proposed development site does not fall within any national or local landscape designations. However, the Southern Hills Local Landscape Area (LLA), identified by Stirling Council is located around 1.75 km to the south. The purpose of LLAs is identified as, *"to safeguard and enhance the character and quality of landscapes, promote understanding and awareness of their distinctive character and special qualities, and safeguard and promote important settings for outdoor recreation and tourism locally."*

18.4. Although not a formal designation, areas of woodland on the crag are identified on the Inventory of Ancient and Long-established Woodland.

Landscape Character Types

18.5. SNH in conjunction with partner Councils, has undertaken detailed review and classification of various landscape areas and types of Scotland. This study has recently been updated to identify Landscape Character Types (LCTs) on a consistent basis across Scotland. The proposed development type falls within the Carselands LCT. The key characteristics of the Carselands LCT include the following which are of potential relevance to the proposed development:

- Flat, open, large scale Carselands of predominantly open agricultural landcover forming the floor and former floodplains of the River Forth, River Devon and Black Devon.
- Important as landscape setting of Stirling, Stirling Castle, and the Ochil Hills.
- Absence of settlement across the Carselands, restricted to villages on the peripheral slopes and scattered farmsteads along the valley floors.
- Periodic extensive flooding continues to influence land use.
- Trunk roads run in parallel to the northern and southern perimeters of the Carselands.
- Recent expansion of settlement boundaries at edge of carse making new development very visible.
- Open views across carse accentuated by consequent dramatic contrast with the adjacent escarpments of the Ochils and Fintry, Gargunnock and Touch Hills.

Visual Amenity

18.6. Potential visual receptors which may gain views of the proposed development include residents, workers, travellers and recreational users who may be present in and around surrounding buildings and using roads and pathways.

18.7. Potential residential receptors comprise those occupying scattered rural properties to the north, south and west of the proposed development site. There may also be potential for views from the fringes of Stirling and Bridge of Allan to the east / north-east and from Cambusbarron to the south.

18.8. There is the potential for travellers on the M9 which passes close to the site to gain views. Other views may be obtained by travellers and recreational users from A roads within the vicinity: the A84 and A811, and other minor and rural roads. Recreational routes include Core Paths on the edge of Stirling and tracks and paths around the existing site.

18.9. Users of the existing site are also susceptible to views of the proposed development.

Policy Framework

18.10. In relation to landscape and visual amenity, the Stirling Local Development Plan notes that:

18.11. *"Stirling is fortunate in the quality of its landscape resource, with around 60% of the area designated as Local Landscape Areas. This Plan is therefore strong on landscape conservation and seeks to encourage new landscape elements in development proposals, and remediation of neglected features important to landscape character."* (Stirling LDP (2018), Page 62)

18.12. Policy 9.3 (a) concerning Landscaping and Planting in Association with Development notes that, *"all development proposals should identify and safeguard existing landscape or planting features where these make a valuable contribution to local landscape character, biodiversity, cultural heritage or amenity."*

Proposed Scope of Assessment

18.13. An LVIA will be undertaken in accordance with the 3rd Edition of the Guidelines for Landscape and Visual Impact Assessment (2013). The LVIA will consider the potential effects on landscape character and visual amenity of the proposed development during both construction and operational phases.

18.14. The key aspects of the LVIA are set out below:

Zone of Theoretical Visibility (ZTV)

18.15. The LVIA will be informed by a ZTV. The ZTV is a computer generated diagram which uses a terrain model to indicate areas from which elements of proposed development would theoretically be visible. It is proposed that the ZTV would be produced of the main built elements of the proposal to give an idea of where these individual elements may form a feature within views.

Study Area

18.16. A study area of around 2 km is proposed for the LVIA. This is the area within which it is considered any significant landscape and visual effects would be likely to be experienced. The final study area would be confirmed following initial site surveys and consideration of the ZTV.

Landscape Assessment

18.17. The landscape assessment would consider the potential effects on the fabric and character of the landscape. This would include the direct effect of potential physical change to landscape elements, experiential effects on the character of the development site and surrounding areas and potential indirect effects to the broader landscape resource. The landscape assessment would evaluate the sensitivity, magnitude and significance of effect on the various landscapes which make up the study area and on the Carselands LCT.

18.18. The landscape assessment would also consider the potential for effects to the Southern Hills LLA.

Visual Assessment

18.19. The visual assessment would consider the potential for effects on visual amenity within 2 km of the proposed development site. This would take into consideration visual receptors located at residential properties and workplaces, recreational sites and those using roads and Core Paths and recreational routes. The potential effect on views from Stirling Castle and the Stirling Old Town ridge over the wooded Craigforth and the Carse would also be considered. Consideration would also be given to the potential for changes to visual amenity for existing users of the site.

19. Conclusion

19.1. This screening and scoping report provides an outline of the information that will be presented in the Environmental Statement and the intended approach to the assessment studies. It has been provided to accompany a formal scoping opinion request submitted to Stirling Council for an office led mixed use development including retail, leisure, public houses, restaurants, residential, hotel, nursery with new access, servicing, parking, open space and associated infrastructure at Craigforth Campus, Stirling.

19.2. The key questions to consider when reviewing the environmental issues are as follows:

- Are there any potential significant impacts that have not been included?
- Is the intended method of assessment appropriate?
- Are there additional mitigation measures that should be considered?

19.3. Responses to this screening and scoping report should be sent to the Planning Department at Stirling Council to enable it to confirm its scoping opinion.

19.4. A copy should be sent to:

Savills Planning
Wemyss House
8 Wemyss Place
Edinburgh
EH3 6DH

Appendix 1 – Location Plan

DO NOT SCALE FROM THIS DRAWING.

THIS DRAWING IS BASED ON DIMENSIONAL SURVEY INFORMATION PROVIDED BY OTHERS. STALLAN-BRAND CANNOT ACCEPT RESPONSIBILITY FOR THE ACCURACY OF THIS SURVEY INFORMATION.

ALL DIMENSIONS ARE SHOWN IN METRIC.

REV	REASON FOR ISSUE	DATE
-	-	

NOTES

STATUS
INFORMATION

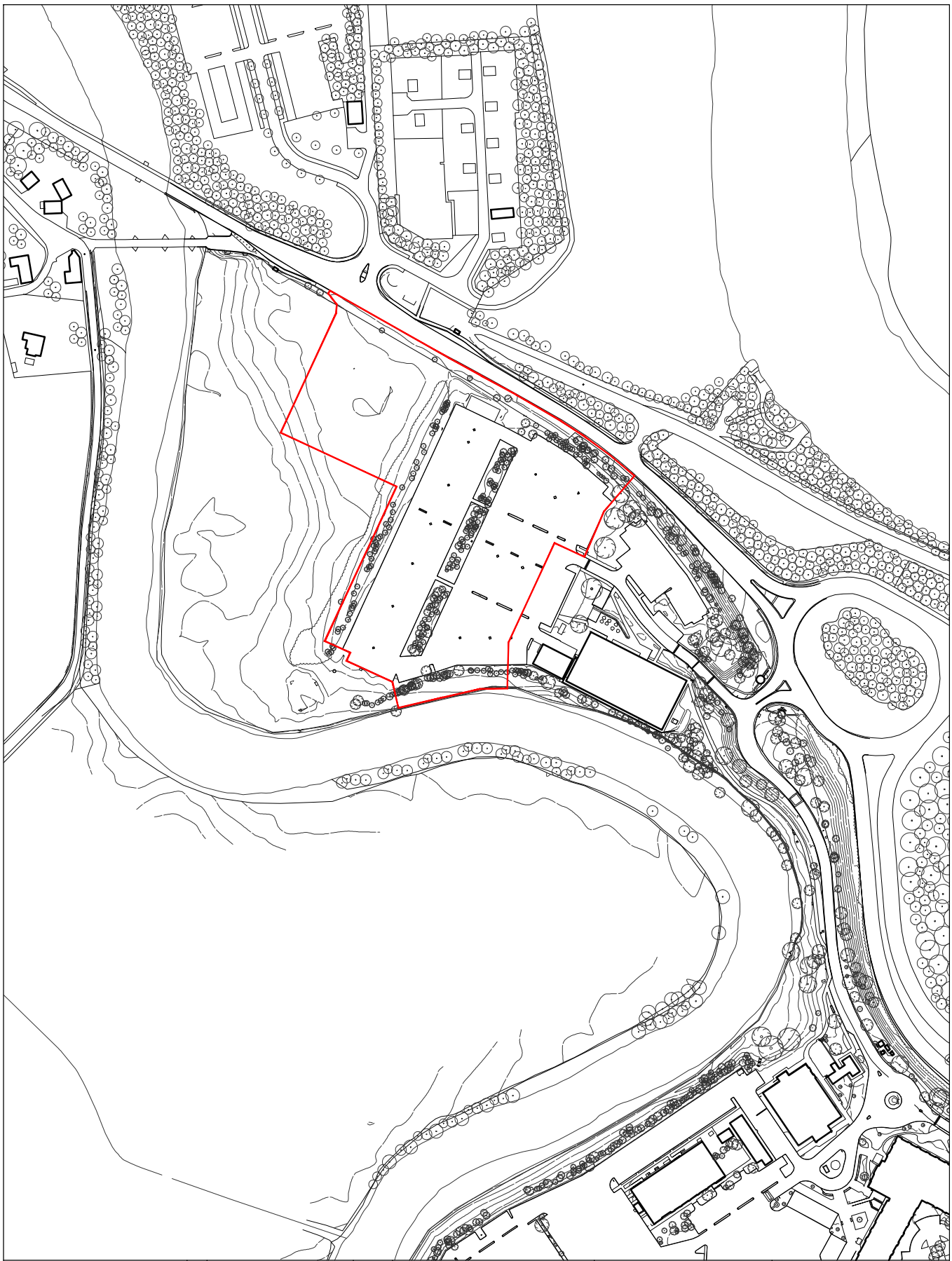
PROJECT
CRAIGFORTH MASTERPLAN

TITLE
SITE AS EXISTING / APPLICATION BOUNDARY

Stallan-Brand
80 Nicholson Street
Glasgow
G5 9ER

Phone: 0141 258 5015
Email: info@stallanbrand.com
Website: www.stallanbrand.com

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED	PROJECT NUMBER	DRAWING NUMBER	REVISION
1:3000	07.02.20	PW	-	-	1081.00	1077.00(00)005	-



DO NOT SCALE FROM THIS DRAWING.

THIS DRAWING IS BASED ON DIMENSIONAL SURVEY INFORMATION PROVIDED BY OTHERS.
THE ARCHITECT CANNOT ACCEPT RESPONSIBILITY FOR THE ACCURACY OF THIS SURVEY INFORMATION.

ALL DIMENSIONS ARE SHOWN IN METRIC.

Rev	Reason for issue	Date
-		

CLIENT

NOTES

STATUS
INFORMATION

PROJECT
CRAIGFORTH MASTERPLAN

TITLE
NORTH SITE - EXISTING SITE PLAN / APPLICATION BOUNDARY

SCALE @ A3	DATE	DRAWN	CHECKED	APPROVED	PROJECT NUMBER	DRAWING NUMBER	REV
1:2000	07.02.20	PW	-	-	1077.00	1077.00(00)010	-

Stallan-Brand
80 Nicholson Street
Glasgow
G5 9ER
Phone: 0141 258 5015
Email: info@stallanbrand.com
Website: www.stallanbrand.com

Appendix 2 – Decision Notices

Decision Notice

APPLICATION NUMBER
07/00673/OUT

Grant of Outline Planning Permission

Prudential Corporate Property
per Mono Consultants Ltd
48 St Vincent Street
Glasgow
G2 5TS

Stirling Council **grants** Outline Planning Permission for the proposals described below, on the application form and on the accompanying plans.

Description of the proposed development

Proposed mixed use development

Location of the proposed development

Land At Craigforth Stirling

The decision has been made with the following conditions:-

1 **Period Of Consent**:

a) Where anything is reserved for later approval by the Planning Authority, application for approval must be made within **3 years** of the date of the Decision Notice.

b) The development must begin within:-
either **5 years** from the date of grant of Outline Permission; or **2 years** from the date of the final approval of the matter(s) reserved by this permission for later approval by the Planning Authority or in the case of approval on different dates, the final approval of the last such matter to be approved.

2 **Extent of Permission:** This outline planning permission allows for the following uses:

Business use (Class 4)
Hotels (Class 7) limited to a maximum of two hotels in total
Restaurant (Class 3)
Petrol Filling Station
Conference Facility
Leisure Facility
Residential (limited to conversion of existing buildings or replacement of existing residential units on a one for one basis only).

3 **Reserved Matters:** Prior to the commencement of development of the relevant elements on site, further applications for Planning Permission (Reserved Matters) shall be submitted to and approved in writing by the Planning Authority; these further applications shall include the following details:

a) Drawings illustrating the layout of the site including existing and proposed contours, road access, parking, vehicle turning, footpaths, pedestrian linkages and cycleway provision, foul and surface water drainage arrangements including Sustainable Urban Drainage Systems proposals and the position of all buildings.

b) Plans, sections and elevations of all proposed buildings and other structures clearly indicating the colour and type of facing materials to be used for all external walls and roofs, details of existing and proposed ground levels and details of underbuilding and finished floor levels.

c) A scheme of hard and soft landscaping for the whole site indicating existing trees and other planting

to be retained and proposals for new boundary walls, fences and hedges, and new planting specifying number, size and species of all trees and shrubs.

d) Details of the progressive phasing and subsequent implementation of all the various elements included in the proposed development.

4 **Means of Access:** Any planning approval shall be in outline only subject to the submission of detailed plans including the means of access to the site for the approval of the Planning Authority in consultation with Transport Scotland - Trunk Road Network Management Directorate.

5 **Transport Assessment/Alterations to Trunk Road:** No part of the development shall be occupied until:

a) a Transport Assessment quantifying the nature and volume of person trips which will use the trunk road network as a consequence of the development has been prepared and approved by the Planning Authority in consultation with Transport Scotland - Trunk Road Network Management Directorate, and

b) any alterations to the trunk road and associated junctions necessary to ensure no net detriment to the flow or safety of trunk road traffic as a consequence of the generated traffic have been identified and completed to the satisfaction of the Planning Authority in consultation with Transport Scotland - Trunk Road Network Management Directorate.

6 **Travel Plan:** No part of the development shall be occupied until a Travel Plan, aimed to encourage more sustainable means of travel, has been submitted to and approved in writing by the Planning Authority in consultation with Transport Scotland - Trunk Road Network Management Directorate. The Travel Plan will identify the measures to be implemented, the system of management, monitoring, review, reporting and the duration of the plan. It will incorporate measures designed to encourage modes other than the private car.

7 **Reserved Matters, Cultural Assessment:** Prior to the commencement of development of the relevant elements on site, further applications for Planning Permission (Reserved Matters) shall be submitted to and approved in writing by the Planning Authority in consultation with Historic Scotland; these further applications shall include an assessment of the potential effects, both negative and positive, of the development on the cultural heritage of the wider landscape.

8 **Reserved Matters, Detailed Hydraulic Modelling:** Prior to the commencement of development of the relevant elements on site, further applications for Planning Permission (Reserved Matters) shall be submitted to and approved in writing by the Planning Authority in consultation with SEPA; these further applications will include a detailed pre and post development hydraulic model and shall be prepared by the applicant. As part of this modelling information, an assessment of climate change implications shall be undertaken including proposed landraising, modification of car park levels and compensatory storage. It shall also include an assessment of the impacts upon the site, impacts within the vicinity of the development as well as more distant impacts both up and downstream. Modifications to the layout, form and design of the development will be agreed with the Planning Authority in light of the findings of the modelling exercise and agreement on the delivery of an acceptable compensatory design.

9 **Site Waste Management Plan:** No development shall commence on site until a Site Waste Management Plan has been submitted to and approved by the Planning Authority in consultation with SEPA. This plan shall detail the measures for minimising waste production during the construction stage of development and the measures for managing waste generated during the construction and operational stage of development. The plan shall thereafter be implemented in accordance with the approved details.

10 **Drawings submitted with Outline Submission:** No consent is granted for the details drawings, including the masterplan, submitted with this outline application.

11 **Provision of Tree Survey:** No works shall commence on site until such times as there has been submitted for the approval of the Planning Authority a scheme of landscaping and habitat conservation works, which shall include precise details of the location, species and condition of all existing trees, with details of those to be retained, together with measures for their protection in the course of development.

12 **Protection of Trees:** No topping, lopping or felling of trees shall be undertaken except with the written permission of the Planning Authority.

13 **Construction Method Statement:** Works on site shall not commence until a construction method statement and a drainage assessment have been approved by the Planning Authority, in consultation with SNH and SEPA. The CMS shall be based on the intention to: (i) avoid all construction on areas of optimal habitat; ii) minimise both the area and duration of construction; and iii) use best practice construction methods in order to minimise disturbance, sedimentation and pollution.

14 **Buffer Zone:** The otter resting place (couch) identified during survey (Mitigation and Habitat Management Plan for European Protected Species - February 2008) will be retained, along with a 30m disturbance-free buffer zone.

15 **Tree Retention:** The "moderate" and "high" roost potential trees identified during survey (Mitigation and Habitat Management Plan for European Protected Species - February 2008) will be retained.

16 **European Protected Species:** Works shall not commence until a detailed European Protected Species mitigation plan has been agreed by the Planning Authority, in consultation with SNH.

17 **Conversion of Listed Building:** This planning permission does not extend to the inclusion of the conversion of Craigforth House.

18 **Comprehensive Contaminated Land Investigation:** Prior to commencement of any site works, a comprehensive contaminated land investigation shall be submitted to and approved by the planning authority in writing. The investigation shall be completed in accordance with a recognised code of practice such as British Standards Institution ' The investigation of potentially contaminated sites - Code of Practice (BS 10175:2001)'. The report must include a site specific risk assessment of all relevant pollutant linkages, as required in Scottish Executive Planning Advice Note 33.

19 **Detailed Remediation Strategy:** Where the risks assessment identifies any unacceptable risk or risks as defined under Part IIA of the Environmental Protection Act 1990, a detailed remediation strategy shall be submitted to the planning authority for approval. No works, other than investigative works, shall be carried out on the site prior to receipt of written approval of the remediation strategy by the planning authority.

20 **Remediation:** Remediation of the site shall be carried out in accordance with the approved remediation plan. Any amendments to the approved remediation plan shall not be implemented unless approved in writing by the planning authority.

21 **Confirmation Work Carried Out:** On completion of the remediation works and prior to the site being occupied, the developer shall submit a report to the planning authority confirming the works have been carried out in accordance with the remediation plan.

22 **Unsuspected or Unencountered Contamination:** The presence of any previously unsuspected or unencountered contamination that becomes evident during the development of the site shall be brought to the attention of the planning authority within one week. At this stage, a comprehensive contaminated land investigation shall be carried out if requested by the planning authority.

23 **Zones of Visual Influence/Wire Frame Visualisations:** Prior to any works commencing on site, the number and location of ZVIs shall be agreed with the Planning Authority in consultation with SNH. These ZVIs will then submitted based on the 'worst case' scenario. The number and location of wire frame visualisations shall also be agreed with the Planning Authority, in consultation with SNH, representing both day/night situations and winter/in-leaf. These will be submitted and agreed with the Planning Authority, in consultation with SNH, prior to works commencing on site.

24 **Local Employment and Training Opportunities:** The developer shall submit a statement of commitment to fully participate through the Council to achieve local employment and training opportunities. This statement shall be submitted to, and approved in writing by, the Planning Authority before any work starts on site.

The Council's reasons for imposing these conditions are:-

1 To comply with the terms of Section 58 and 59 of the Town and Country Planning (Scotland) Act 1997.

2 To ensure that the outline planning permission conforms to the uses specified in the planning application.

3 To ensure that the overall layout and design is satisfactory for the site, as the present application is in outline only.

4 To be consistent with the requirements of SPP17: Planning for Transport and PAN 75: Planning for Transport.

5 To maintain the satisfactory operation of the trunk road network.

6 To be consistent with the requirements of SPP17: Planning for Transport and PAN 75: Planning for Transport.

7 Insufficient information has been submitted at the outline stage to adequately assess the impact of the development on the cultural heritage of the wider landscape and in particular the potential impact on the setting of Stirling Castle.

8 Insufficient information has been submitted at the outline stage to adequately assess the impact of the development in relation to flood risk and SPP7: Planning and Flooding and PAN 69: Planning and Building Standards Advice on Flooding.

9 In order to ensure that construction waste is minimised and in order to manage waste during the operation of the development.

10 As the application is in outline only.

11 The proposed development and its location is such that landscaping is necessary to enable it to fit in with its surroundings, enhancing the locality and the quality of the development itself for those using it and those affected by it.

12 To ensure the protection, retention and long term viability of existing trees which contribute to the amenity of the proposed development and the surrounding area and to ensure that no unnecessary damage is caused to existing trees, shrubs and other vegetation, as a result of the proposed development operations.

13 To ensure that construction and operation will minimise pollution and habitat disturbance which could adversely affect the qualifying interests of the River Teith SAC.

14 To avoid disturbance/destruction of the identified otter resting place.

15 To avoid disturbance of moderate and high potential bat roosts.

16 To minimise impacts on otters and bats.

17 In accordance with the Memorandum of Guidance on Listed Buildings and Conservation Areas the grant of outline planning permission for change of use does not necessarily mean that listed building consent for the alterations will be forthcoming. A Listed Building Consent application is required so that the effect of the conversion on the Listed Building can be fully assessed.

18 To ensure potential risks arising from previous site uses have been fully assessed.

19 To ensure the proposed remediation plan is suitable.

20 To ensure the remedial works are carried out to the agreed protocol.

21 To provide verification the remediation has been carried out to the authority's satisfaction.

22 To ensure all contamination within the site is dealt with.

23 In order that an assessment of the landscape and visual impacts of the development can be undertaken.

24 In the interests of economic sustainability and to advance community well-being.

Planning Manager **Date** 17 July 2008

This Decision Notice is issued under the Town and Country Planning (Scotland) Acts. It should be read, together with the accompanying plans; if any details differ, then the Decision Notice takes priority.

This Decision Notice neither gives nor implies a decision on a **Building Warrant** and does not encompass any permissions required from infrastructure providers. It is advised that contact be made with the relevant provider to ascertain availability and precise location of all services, such as gas, electricity, water and drainage and telephone prior to any works commencing on site.

This Decision Notice does not carry with it any rights to undertake works on any land that is the subject of this decision that is not under the control of the applicant.

Decision Notice

Prudential Corporate Property
per Mono Consultants Ltd
48 St Vincent Street
Glasgow
G2 5TS

APPLICATION NUMBER
10/00458/FUL

DECISION LEVEL
Delegated

Grant of Full Planning Permission

Stirling Council **grants** Full Planning Permission for the proposals described below, on the application form and on the accompanying plans.

Description of the proposed development

To vary Condition 1(a) from 3 years to 6 years and Condition 1(b) from 5 years to 8 years of Outline Planning Permission 07/00673/OUT

Location of the proposed development

Land At Craigforth Stirling

The decision has been made with the following conditions:-

1 **Period Of Consent**: This development must begin within **3 years.**

The Council's reasons for imposing these conditions are:-

1 In order to comply with the statutory requirements of the Town and Country Planning (Scotland) Acts.

Chief Planning Officer **Date** 6 September 2010

Schedule of Plans Approved - Plans can be viewed online at www.stirling.gov.uk/onlineplanning

Stirling Council Plan No.	Name	Status
01	Location Plan	Decision

Reason for Decision

The proposed development is considered to comply with adopted Local Plan policy

---

This Decision Notice is issued under the Town and Country Planning (Scotland) Acts. It should be read, together with the accompanying plans; if any details differ, then the Decision Notice takes priority.

This Decision Notice neither gives nor implies a decision on a **Building Warrant** and does not encompass any permissions required from infrastructure providers. It is advised that contact be made with the relevant provider

to ascertain availability and precise location of all services, such as gas, electricity, water and drainage and telephone prior to any works commencing on site.

This Decision Notice does not carry with it any rights to undertake works on any land that is the subject of this decision that is not under the control of the applicant.

NOTIFICATION OF INITIATION OF DEVELOPMENT

Planning Application Reference: **10/00458/FUL/JBB**

Date of Decision: **6 September 2010**

Proposal: **To vary Condition 1(a) from 3 years to 6 years and Condition 1(b) from 5 years to 8 years of Outline Planning Permission 07/00673/OUT**

Development at: **Land At Craigforth Stirling**

Name and Address of Person carrying out the work:

Contact Telephone Number:

Name and Address of Landowner (if different to above):

Name and Address of Site Agent appointed in respect of the development (if applicable):

I confirm that the above development will begin on site on _____ (DD/MM/YY)

Name (Please Print): _____

Signed: _____ Date: _____

Contact Tel No: _____

PLEASE RETURN THIS NOTICE PRIOR TO START OF DEVELOPMENT TO:

Planning Enforcement Officer
Planning Services (DC3)
Stirling Council
Freepost SC0705
Viewforth
Stirling FK8 2ET

IMPORTANT INFORMATION

FAILURE TO SUBMIT NOTICE IS A BREACH OF PLANNING CONTROL UNDER SECTION 123(1) OF THE 1997 TOWN AND COUNTRY PLANNING ACT

NOTIFICATION OF COMPLETION OF DEVELOPMENT

Planning Application Reference: **10/00458/FUL/JBB**

Date of Decision: **6 September 2010**

Proposal: **To vary Condition 1(a) from 3 years to 6 years and Condition 1(b) from 5 years to 8 years of Outline Planning Permission 07/00673/OUT**

Development at: **Land At Craigforth Stirling**

I confirm that the above development was completed on _____ (DD/MM/YY)

Name (Please Print): _____

Signed: _____ Date: _____

Contact Tel No: _____

PLEASE RETURN THIS NOTICE AS SOON AS THE DEVELOPMENT HAS BEEN COMPLETED TO:

Planning Enforcement Officer
Planning (DC3)
Stirling Council
Freepost SC0705
Viewforth
Stirling FK8 2ET

THANK YOU FOR YOUR CO-OPERATION.

Decision Notice

Prudential Corporate Property
per Harlequin Group Ltd
Rutland House
5 Allen Road
Livingston
EH54 6TQ

APPLICATION NUMBER
13/00803/FUL

DECISION LEVEL
Delegated

Grant of Full Planning Permission

Stirling Council **grants** Full Planning Permission for the proposals described below, on the application form and on the accompanying plans.

Description of the proposed development

In relation to outline planning consent 07/00673/OUT (as amended by 10/0458/FUL), non-compliance with Condition 1

Location of the proposed development

Prudential Craigforth Stirling FK9 4UE

There are no conditions attached to this Permission however please see Informatives section below.

Chief Planning Officer **Date** 24 February 2014

Schedule of Plans Approved - Plans can be viewed online at www.stirling.gov.uk/onlineplanning

Stirling Council Plan No.	Name	Ref on Plan	Status
01	Location Plan		Decision

Reason for Decision

It is considered that the proposed development complies with adopted Local Plan policy.

Informatives

It should be noted that:

Period Of Consent: This development must begin within **3 years**.

Notice of the Start of Development: The person carrying out the development must give advance notice in writing to the Planning Authority of the date when it is intended to start (Notification of Initiation of Development Form enclosed).

This Decision Notice is issued under the Town and Country Planning (Scotland) Acts. It should be read, together with the accompanying plans; if any details differ, then the Decision Notice takes priority.

This Decision Notice neither gives nor implies a decision on a **Building Warrant** and does not encompass any permissions required from infrastructure providers. It is advised that contact be made with the relevant provider to ascertain availability and precise location of all services, such as gas, electricity, water and drainage and telephone prior to any works commencing on site.

This Decision Notice does not carry with it any rights to undertake works on any land that is the subject of this decision that is not under the control of the applicant.

IMPORTANT INFORMATION

FAILURE TO SUBMIT NOTICE IS A BREACH OF PLANNING CONTROL UNDER SECTION 123(1) OF THE 1997 TOWN AND COUNTRY PLANNING ACT

NOTIFICATION OF INITIATION OF DEVELOPMENT

Planning Application Reference: **13/00803/FUL/JBB**

Date of Decision: **24 February 2014**

Proposal: **In relation to outline planning consent 07/00673/OUT (as amended by 10/0458/FUL), non-compliance with Condition 1**

Development at: **Prudential Craigforth Stirling FK9 4UE**

Name and Address of Person intending to carry out the development:	
Contact Telephone Number:	
Name and Address of Landowner (if different to above):	
Name and Address of Site Agent appointed in respect of the development (if applicable):	

I confirm that the above development will begin on site on _____ (DD/MM/YY)

Name (Please Print): _____

Signed: _____ Date: _____

Contact Tel No: _____

PLEASE RETURN THIS NOTICE PRIOR TO START OF DEVELOPMENT TO:

Freepost RTGE-HZSC-EEEH
Planning Enforcement Officer
Economy, Planning and Regulation Services
Stirling Council
Municipal Buildings
8-10 Corn Exchange Road
Stirling
FK8 2HU

IMPORTANT INFORMATION

PLEASE SUBMIT THIS NOTICE AS SOON AS THE DEVELOPMENT IS COMPLETED

NOTIFICATION OF COMPLETION OF DEVELOPMENT

Planning Application Reference: **13/00803/FUL/JBB**

Date of Decision: **24 February 2014**

Proposal: **In relation to outline planning consent 07/00673/OUT (as amended by 10/0458/FUL), non-compliance with Condition 1**

Development at: **Prudential Craigforth Stirling FK9 4UE**

I confirm that the above development was completed on _____ (DD/MM/YY)

Name (Please Print): _____

Signed: _____ Date: _____

Contact Tel No: _____

PLEASE RETURN THIS NOTICE AS SOON AS THE DEVELOPMENT HAS BEEN COMPLETED TO:

Freepost RTGE-HZSC-EEEH
Planning Enforcement Officer
Economy, Planning and Regulation Services
Stirling Council
Municipal Buildings
8-10 Corn Exchange Road
Stirling
FK8 2HU

THANK YOU FOR YOUR CO-OPERATION.

Savills Planning
Wemyss House
8 Wemyss Place
Edinburgh
EH3 6DH

0131 247 3700