
MASTERPLAN PLANNING SUBMISSION STAGE

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1.1 Background

This report is prepared as part of the submissions for Perth & Kinross Council in assessing the Masterplan submission for the residential development of land at Duntuim Farm Aberfeldy.

It forms part of the response to those items raised in the EIA Screening Opinion.

This CEMP is indicative only. However, it is expected that the final CEMP prepared by the Contractor will incorporate the elements detailed above, and any other requirements set by Perth and Kinross Council and other Statutory Authorities.

1.2 Introduction

The following provides the framework from which a Construction Environmental Management Plan (CEMP) will be produced which will govern the Contractor's undertaking of enabling and construction works associated with the residential development of land at Duntuim Farm, Aberfeldy

Owing to the current planning application in principal, the CEMP has not yet been subject to formal adoption. Further development and commitment to a CEMP will be undertaken following selection of the Contractor and prior to establishment of site works.

It is further recognised that construction is proposed to be implemented over 3-4, 2 year phases, during which statutory requirements and legislation may change and evolve.

The CEMP will therefore require periodic review and updating in order to incorporate changes with regards to specific technical aspects, or broader environmental management issues.

The development site is comprised of an area of agricultural land covering 8.7 Hectares. Lying on the southern slope of the Strath Tay glen, the northern boundary of the site is adjacent to the A827 that connects Aberfeldy with Kenmore and beyond to Killin connecting with the A85 which continues to the west coast of Scotland.

The sloped site rises southward in elevation and ranges from approximately 86m and 130m AOD. The landscape continues to rise to the south of the boundary toward Duntaylor Farm beyond which it climbs to ancient woodland including the Heart of Scotland and further to the Birks of Aberfeldy.

North of the A827, the river Tay flows from west to east. Beyond the river, the flood plain spreads out north for approximately 1km from the settlement of Weem which nestles in the lower slopes of the steep northern glen of Weem Hill.

The western and southern boundaries of the development site are contained by agricultural land and farm buildings. To the east the site is bordered by residential development and the area of open field at the south-east boundary is zoned for housing in the Adopted Local Development Plan.

A minor farm road dissects the site from the north-east corner traversing the site south-west to access Duntuim farm. A supplementary farm access road and junction is in the process of construction – the new junction is located in the field to the west of the site.

A significant feature of the site is the tree-lined burn that dissects it from south to north and discharges via a culvert under the A827 into the river Tay.

The site is forms part of agricultural land currently farmed by Bolfracks estate utilising modern organic farming principles.

1.3 Pre-construction Environmental and Construction Constraints

The site was surveyed by Emma O'Shea Ecologist and her report forms a supporting statement to this application.

The Special Area of Conservation status of the River Tay is a dominant feature adjacent to the development site.

The results of the survey have informed this document and formed the basis of the environmental protection measures required by the contractors.

The following surveys were undertaken:

- Otter
- Red Squirrel
- Bat
- Breeding bird
- Vegetation.

The aim of each survey was to:

Record the presence/absence of the respective species required by each survey and recommend further considerations and survey work as required.

1. No otters were recorded in the proposed development site, or up to 250m in the surrounding area.
2. The Habitat description is neutral grassland, semi-improved, marshy grassland and broadleaved semi-natural mix
3. The riparian corridor of Alder Trees along the stream bank has a potential to be of high value to wildlife
4. Bat roost potential is low to 85% of the trees and medium to high to 15% of the trees
5. Bats were observed foraging overhead.
6. No red squirrels were recorded
7. No specially protected, sensitive or rare species of breeding birds were recorded
8. Calls and visual sightings of birds were, Wood-pigeon (*Columba palumbus*); jackdaw (*Corvus monedula*); jay (*Garrulus glandarius*); blackbird (*Turdus merula*), robin (*Erithacus rubecula*); wren (*Troglodytes troglodytes*); chaffinch (*Fringilla coelebs*); great tit (*Parus major*); blue tit (*Parus caeruleus*); coal tit (*Parus ater*); tawny owl (*Strix aluco*). N.B this list is not exhaustive.
9. Tree species recorded: alder (*Alnus glutinosa*); ash (*Fraxinus excelsior*); sycamore (*Acer pseudoplatanus*); Silver birch (*Betula pendula*); Wych elm (*Ulmus galbra*); elder (*Sambucus nigra*); rowan (*Sorbus aucuparia*); and Sessile oak (*Quercus petraea*). Note a separate Tree Survey by Arboretum International is submitted with this application.

1.4 Ecological Report Recommendations and Mitigation

Due to the Special Area of Conservation status of the River Tay for its otter interest, it is recommended that the site, is re-surveyed for otters in 6 months' time to verify that there remains no otter activity on the site.

The riparian corridor is proposed to be maintained as a wildlife corridor through the development. A small number of trees will be removed for access routes, it is

recommended that these trees are surveyed for the potential of bat roosts and presence of any breeding birds before work commences.

The survey took place outside the breeding bird season (April to July), it is recommended that a breeding bird survey is carried out across the proposed development site, with a focus on Schedule 1 and vulnerable bird species takes place during this time.

Recommendations to minimize disturbance or damage to species of birds that are not specially protected should be followed and it is recommended that construction work is aware of the possibility of breeding birds between February and late July. Although the disturbance of non-Schedule 1 species is not illegal, it is good practice to avoid it where possible.

1.5 Scope of CEMP

The purpose of the CEMP will be to ensure that the existing environments are protected during construction and occupation of the proposed development.

The Contractor appointed for the scheme shall hold and maintain for the duration of the project, an Environmental Management System (EMS).

It has been agreed that the system will be adopted for implementation during the construction period. This will be undertaken through the development of a project specific Construction Environmental Management Plan (CEMP). The CEMP will include full details of:

- Register of environmental aspects [effects of the Scheme];
- Roles and responsibilities;
- Communication and co-ordination;
- Training and awareness;
- Operational control;
- Checking and corrective action;
- Environmental control measures.

The CEMP to be adopted on this project would fall within the scope of the Contractor's environmental management system, and as such will be subject to regular audits by the Clients representatives.

A draft of the CEMP will be circulated to all Statutory Authorities prior to works commencing for information and comments.

All works on site will be undertaken in compliance with the CEMP.

1.6 Other Planning and Legal Requirements

Of particular Note is the River Tay SAC. The guidance published by Scottish Natural Heritage – Advice to Developers when considering new projects which could affect the River Tay Special Area of Conservation – shall be followed.

General Site Environmental Management Procedures

2.1 Construction Project Management Responsibilities

The Project Director will have overall responsibility for the project, with a designated Environmental Manager being responsible for the development and implementation of the CEMP. Other members of the project team would also be assigned specific roles and will be responsible for the correct application of the CEMP. Individual specialists may also be appointed to provide expert advice.

Suggested specific roles are described below:

2.1.1 Project Director

The Project Director will have overall responsibility for environmental performance throughout the construction period and would ensure that appropriate resources are made available and environmental control and any agreed or appropriate protection measures are implemented.

2.1.2 Environmental Manager

An Environmental Manager will be responsible for co-ordinating and managing all the environmental activities during the construction phase. The Environmental Manager will carry out the following duties:

- Develop and review the CEMP and specialist procedures;
- Lead the appointment of construction staff and environmental specialists;
- Ensure delivery of environmental training to personnel within the project team;

- Monitor construction activities and performance to ensure compliance with the CEMP and that identified and appropriate control measures are being effective; and,
- Act as a main point of contact between the regulatory authorities and the project on environmental issues.

2.1.3 Site Waste Manager

This position would support the Environmental Manager in delivering the environmental component of the project and be specifically responsible for waste management issues arising from the project. The Site Waste Manager would be responsible for the following:

- Ensure compliance with Duty of Care at all times;
- Implement and monitor measures to ensure correct waste minimisation, segregation and disposal; and,
- Carry out testing and audits as required by the Waste Management Procedure in the CEMP.

2.1.4 Ecologist

Emma O'Shea of Tay Ecology is appointed to support the project in addition to her role as Environmental Manager.

Her role is to undertake any required Watching Briefs during construction and to assist the project team with specific issues as they arise during the project.

2.2 Monitoring and Enforcement

The construction team using a field inspection sheet will carry out day to day monitoring of construction activities. In addition, a weekly inspection will be completed by the MER, against a suite of agreed site standards. The results of these inspections will be discussed at the monthly Project Environmental Forum.

The Environmental Manager will also carry out a monthly assessment of the project's environmental performance, based upon the performance measured by the MER during the period, environmental monitoring undertaken and his/her own site inspections.

Regular audits will be completed to verify that the Project is compliant with the established CEMP, contractual requirements and legislation.

2.3 Review and update of CEMP

A Register of Environmental Aspects is produced to detail the environmental risk associated with the construction works together with all the commitments and agreements made with the relevant Statutory Authorities.

This Register will be used to inform the environmental procedures and provide a tool for construction teams when preparing construction method statements or field briefings.

The Register will be regularly updated throughout the construction phase and incorporated into the CEMP. This will be checked and signed off by the EM

2.4 Third Party Liaison and Public Relations

Public relations are of key concern during this development and the public shall be kept informed at stages during the development. A public information leaflet shall be provided which shows the movements of vehicles outwith the site and highlights the stages of the operations within site.

The Environmental Manager shall be provided as the point of contact with mobile telephone numbers advised and notice added to the site entrance provided contact information

2.5 Environmental Incidents

An Incident where the release of a potentially hazardous or toxic agent (a source) may result in exposure via the environment (a pathway) of a human population (receptors) creating a risk of adverse health impacts.

In this case the likely environmental hazards are:

Pollution through diesel spills. Fire. Water damage. General building debris.
Wildlife incidents.

In all cases a register and log book shall be maintained throughout the development. This will identify the activities and the hazards associated with those activities.

Notification must be made to the EM and if appropriate SEPA, Police or PKC...

2.6 Communication and Co-ordination

Co-ordination within the project will be achieved through periodic meetings of a Project Environmental Forum attended by representatives from the construction team (including subcontractors), and the Environmental Manager. Representatives from the Statutory Authorities will also be invited to attend these meetings.

The contractors will be expected to follow the guidance of the “Considerate Contractors Scheme” at all times ensuring that no one is inconvenienced by the works.

2.7 Training and Awareness

A project specific training plan will be produced to ensure personnel allocated with environmental responsibilities are competent to carry out their duties. As a minimum, all staff will receive an environmental briefing as part of their site induction. Supervisors will support information at induction through completing briefings and ‘toolbox talks’ prior to specific activities commencing.

2.7.1 River Tay SAC

Staff will be briefed on the importance of the River Tay SAC including the contents of the “Scottish Natural Heritage (2011) River Tay Special Area of Conservation (SAC): Advice to developers when considering new projects which could affect the River Tay Special Area of Conservation” at the site induction by the Environmental Manager and Ecologist, Emma O’Shea, Tay Ecology.

2.7.2 Environmental Incidents Recording

Staff will be briefed on the register and log book for the recording of environmental incidents and what constitutes an incident including pollution through diesel spills; fire; water damage; general building debris; and wildlife incidents. They will be made aware that the EM must be notified, and if appropriate SEPA, Police or PKC.

2.7.3 Construction Environmental Management Plan Action Points

Staff induction will include awareness of points 4.1 – 4.18 in section 4 if not already raised in specific training elements as mentioned above.

2.8 Operational Control

All activities on site will be reviewed against the requirements of the CEMP via an integrated risk assessment and method statement procedure. The construction teams will review environmental risks associated with the construction process and appropriate control measures included in method statements and field control sheets.

All Environmental and Ecological Risk Assessments and method statements shall be attached to the construction Phase CEMP

3.0 Contractors and Contacts List

Client:	Robert A. Price, Bolfracks Estate, Aberfeldy PH15 2EX
Architect:	Fearn Macpherson Chartered Architects, Unit 4 Dunkeld Road, Aberfeldy, Perthshire, PH15 2AQ
Landscape Architect:	Brown Earth Landscapes, Aikenhead, Essendy, Blairgowrie, PH10 6QZ
Consultant Ecologist:	Emma O'Shea, Tay Ecology, Fairway, Golf Course Road, Pitlochry, PH16 5QU
Structural Engineer:	Morgan Associates, 30 Whitehall Street, Dundee, Angus, DD1 4AF
Transport Planners:	SIAS Limited, 37 Manor Place, Edinburgh EH3 7EB
Environmental Consultancy:	MNV Consulting, Stirling Road, Callander, FK17 8LE
Arborist:	Arboretum Internationale Limited, Ochil Cottage, Main Road, Guildtown, Perth & Kinross, PH2 6BS

4.0 Construction Environmental Management Plan Actions

Specific procedures to manage the key environmental aspects of the project will be developed by the Contractor prior to work commencing. This will include the following:

4.1 Earthworks and imported material

Soil biodiversity is central to sustaining ecosystems. The site is an agricultural field. No subsoil materials are planned to be imported or exported as a result of this proposal, with the existing boundaries remaining untouched.

Imported topsoil shall be free of contaminants and invasive species. It shall also be stored away from the river with a polythene bund around the base as temporary protection from any spillages.

4.2 Protection of Water Bodies and Rivers and Prevention of Water Pollution

Consents would be required from the Scottish Environment Protection Agency (SEPA) and SNH for the design of permanent outfalls to surface waters, and for temporary discharges or works affecting controlled watercourses.

The final system for sewage disposal has not yet been designed, however initial consultations have been held with Scottish Water with connection to the mains

It is proposed to install a temporary bund across the River Boundary Section of the site, to prevent any accidental spillage of pollutants such as concrete or other liquids, to the stream and consequently the River Tay. In addition bunds are required around the topsoil store and the welfare and car parking area. No vehicles shall be refuelled outwith the banded areas.

Applications for consents would be made to SEPA in accordance with these requirements and works would be undertaken in accordance with any conditions imposed.

Suitable protection for watercourses potentially affected by the works would be installed prior to relevant works proceeding. These measures would be in-line with Environment Agency Pollution Prevention Guidelines.

Protection measures would be developed in consultation with Scottish Environment Protection Agency and would include:

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- Balancing ponds and water treatment areas, which would be excavated as early as possible in the main earthworks programme to provide water storage and silt settlement lagoons throughout the construction period.
 - A site rainwater run-off containment and management plan, which would channel rainwater along designed 'v' ditches that incorporate baffles and flow restrictors (ideally biological) to allow sediment to settle out prior to discharge.
 - Water collected in excavations would be pumped into designated 'v' ditches where available or into dedicated settlement lagoons.
 - The main compound would have an impermeable and bunded surface to its vehicle maintenance and fuel storage areas, with a closed drainage system equipped with both a silt settlement facility and oil interceptor.
 - If it proves necessary to store oils, fuels, chemicals or hazardous materials bunded storage areas, located in main compounds, would be provided for the duration of the construction period for the storage of oils, fuels, chemical and other hazardous construction materials. Local storage of these materials would also be within bunded facilities.
 - All plant and equipment would utilise biodegradable hydraulic oil.
 - Plant and equipment would be stored in those areas designated by SEPA as being less susceptible to possible pollution incidents, or on dedicated hard standing.

Plant would be refuelled in areas approved by SEPA or using an approved technique.

- The site manager will obtain a daily flood risk report from SEPA at the commencement of each working day, and take measures to prevent adverse environmental, economic, and health and safety outcomes.
- All mobile plant will be equipped with spill kits.
- Wastewater from the temporary staff toilets and washing facilities will be discharged to sealed containment systems, and disposed via licensed contractors.
- The site construction compound will have a contained drainage system and would be equipped with a facility for recycling aggregates and water for reuse on site.
- Early seeding of embankments near watercourses will be undertaken to reduce the potential for sediment run-off.

Monitoring of the watercourses potentially affected by the works will be undertaken, at a minimum frequency of once per week whilst construction operations are in progress. This will comprise as a minimum, weekly samples taken at agreed locations, with those samples being analysed for suspended solids, Ph and hydrocarbons.

In addition, periodic monitoring will be carried out by site teams comprising:

- Visual assessments for oil and silt;
- Analysis of Ph levels using mobile indicator equipment, where necessary.

4.3 Site Establishment, Parking, Accommodation and Storage Areas

The proposed site plan for the duration of the construction period is drawing 961/P/06.

Site establishment and access for construction vehicles has been considered carefully in consideration of the neighbouring properties and the surrounding road network capacities.

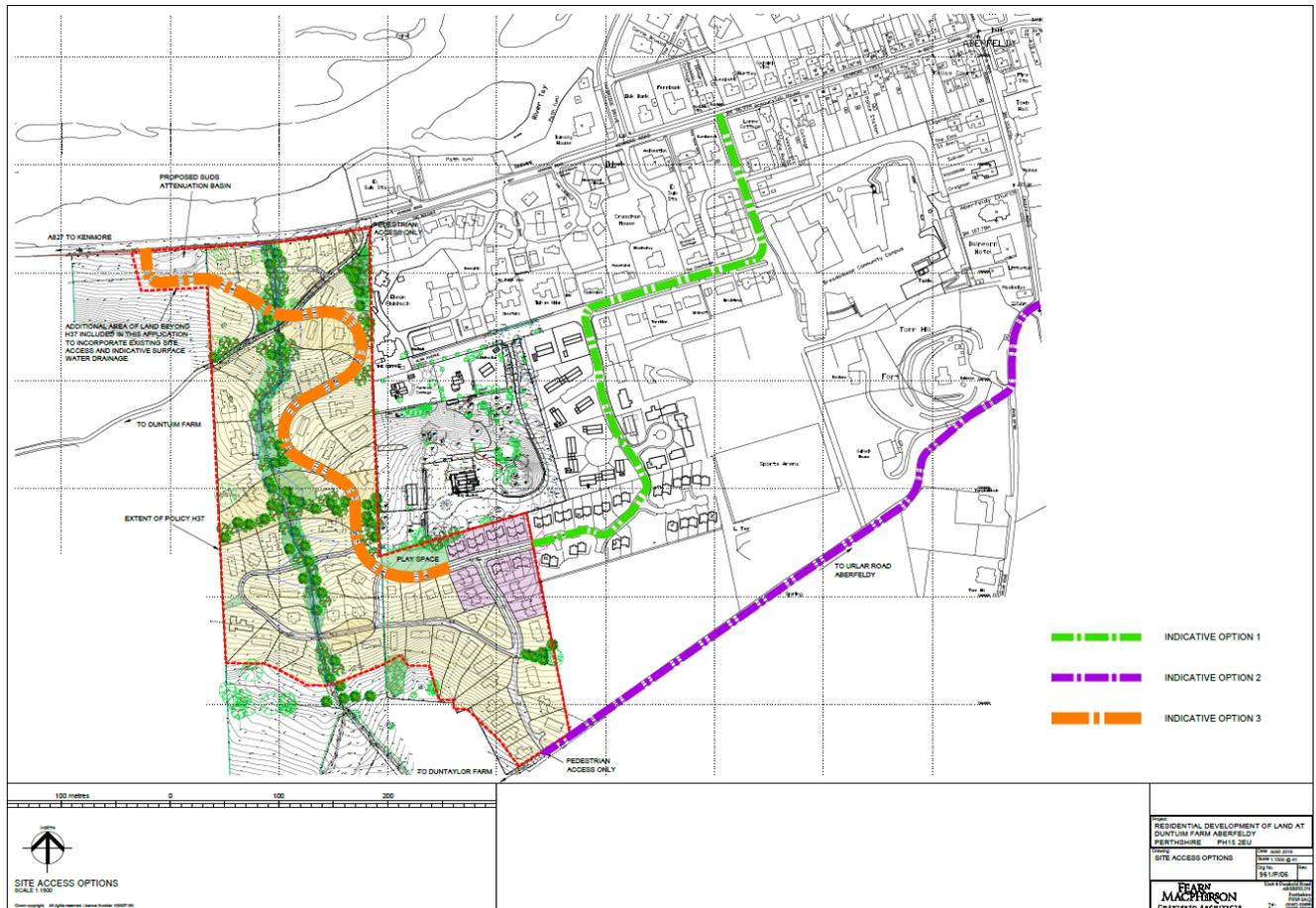
Option 1 – From Kenmore Street via Alma Avenue through Duntaylor Avenue to access the site of the proposed affordable housing area.

Many representations were made during the public consultation process about the concerns of the residents and suitability of the roads. This road access may be required for short periods of time and for service connections, however it is not considered to be the most suitable route.

Option 2 – From Crieff Road and Urlar Road to access track to Duntaylor Farm.

This provides access to the top of the proposed development anyway, and the junction of the access farm road at Urlar road is not considered to be most suitable due to visibility splay, pedestrians around the school and the width of the access road.

**RESIDENTIAL DEVELOPMENT OF LAND
AT DUNTUIM FARM, ABERFELDY
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN**



Construction Access Options

Option 3 – From A827 via the newly built farm access and a new construction road through the site.

This has potentially the least impact upon residents in that it will use the existing access road and for the period of construction, a temporary access road, following the contours of the agricultural land can be installed. During the phase of the development this road will be constructed as required to adoptable standards complete with drainage and service tracks, but in the initial phase, this is not required. This is the most suitable construction access route with least impact on the existing road network and residents.

These options require development and agreement with roads officers of PKC and others. Parking and Accommodation shall vary, depending upon which phase is being constructed. It shall be continued within suitable secure fencing

4.4 Topsoil Management

Existing topsoil shall be salvaged, stored and re-used for rehabilitation.

Draft Methodology

- Determine depth of topsoil on 10-metre spacing.
- The depth of material should be at least 70mm. Soil factors such as rock fragments, slope, depth to water table and layer thickness affect the ease of excavation and spreading of topsoil.
- Keep topsoil separate from overburden, and store layers separately to ensure that material is restored in the same order that it was removed.
- Generally, the upper part of the soil that is richest in organic matter is most biodiverse.
- Organic soils such as muck and peat do not make good topsoil. They can be identified by their extremely light weight when dry

Stockpiling

- Select stockpile location to avoid slopes, natural drainage ways and traffic routes.
- Sediment barriers - sediment fences or other barriers may be necessary to retain sediment.
- Temporary seeding - protect topsoil stockpiles by temporarily seeding as soon as possible, within 30 days after the formation of the stockpile.
- Permanent vegetation - if stockpiles will not be used within 12 months they should be stabilized with permanent vegetation to control erosion and weeds.

Site Preparation

- Before spreading topsoil, establish erosion and sedimentation control structures such as diversions, dykes, waterways and sediment basins.
- Maintain grades on the areas to be topsoiled according to the approved plan. Adjust grades and elevations for receipt of topsoil.
- Roughening - Immediately prior to spreading the topsoil, loosen the subgrade by disking or scarifying to a depth of at least 100 millimetres to ensure bonding of the topsoil and subsoil.
- Ensure that soil horizons are replaced in the same order that they were removed.

- Uniformly distribute topsoil to pre-mining thickness. If sufficient topsoil is available, a minimum compacted depth of a half metre on 3:1 slopes and one metre on flatter slopes is suggested. Do not spread topsoil while it is frozen or muddy.

Additional topsoil required for the establishment of the landscaping scheme shall be imported and certified free from contaminants and invasive species. In addition it shall be stored in its own bunded area, away from the river, to prevent spillage into the river either by accident or by bad weather.

4.5 Control of Noise, Vibration, Dust, Odours, Mud, Bonfires

Predicted noise levels, based on the requirements of BS5228, have been calculated for construction activities associated with the works. The duration of the works close to the site boundary is likely to be short in comparison with the total duration of the construction programme, hence the worst-case noise levels are likely to be less frequent than the average noise levels.

To reduce the potential of nuisance being caused by construction activities, the Contractor would introduce control measures when developing construction programmes and methods of work.

Strict controls on the sequencing of works and providing noise protection would be developed on an activity-by-activity basis.

The adoption of Best Practicable Means, as defined in the Control of Pollution Act 1974 is usually the most effective means of controlling noise from construction sites. In addition, the following measures should be considered, where appropriate:

- All mitigation bunds would be constructed at the earliest opportunity.
- On site noise levels would be monitored regularly, particularly when changes in process are required or in response to complaints. The monitoring would be in accordance with the guidance set out in Annex E of BS5228:Part 1:1997.
- Deliveries would be programmed to arrive during daytime hours only. Care would be taken when unloading vehicles to minimise noise. Delivery vehicles

would be routed so as to minimise disturbance to local residents. Delivery vehicles would be prohibited from waiting within the site with their engines running.

- All plant items would be properly maintained and operated according to manufacturer's recommendations in such a manner as to avoid causing excessive noise. All plant would be sited so that the noise impact at nearby noise sensitive properties is minimised.
- Local hoarding, screens or barriers would be erected as necessary to shield particularly noisy activities.

4.6 Site Working Hours

Site working hours shall be 7-00am to 5-00pm Monday to Friday and 8am – 1pm on Saturday, if required. Hours to be agreed with the local Environmental Health Officer.

4.7 Service Route Corridors

Construction of the Proposed Scheme and access/egress of vehicles will disrupt traffic. Speed restrictions will be imposed where appropriate. A construction traffic management plan will be produced to discuss construction issues including timing and routing of traffic, ahead of commencement of construction or enabling works.

4.8 Waste Management

The CEMP will include detailed proposals for dealing with waste arising from the construction of this project. This will include:

- Storing and reusing earthwork materials and general arising's to negate the export or import of inert materials.
- Storing and reusing on site materials to negate the export or import of inert materials.
- Reduction of site generated waste through waste minimisation and re-cycling initiatives, including the source-segregation of re-usable and recyclable materials.
- Appropriate methods of waste disposal linked to a robust waste disposal audit trail.

- All topsoil and subsoil will be handled and stored carefully to minimise the potential for damage to the soil structure. A detailed method statement will be produced clearly identifying correct stripping, soil handling, storage, placement and programming requirements to avoid compaction and moving the material in unsuitable weather conditions.
- Construction arising's being reused within the site as structural or non-structural fill.
- Detailed procedures and guidance will be developed and implemented through the construction process to minimise the import of non-sustainable raw materials and for identifying opportunities for re-using or re-cycling waste.
- Site office wastes will be collected in separate containers to maximise the opportunities for recycling, this will include:

Can, bottle, and paper banks;

Paint spray cans, (used for surveying), will be logged when issued so that their return is ensured.

4.9 Archaeology

The Historic Environment Scotland Portal has been used to identify scheduled monuments

There are no known archaeological interest sites within the proposed development as this is agricultural land that has been significantly disturbed.

In addition to those measures, the whole of the construction footprint where the ground would be disturbed could be subject to archaeological mitigation including:

- Open area archaeological excavation;
- Archaeological strip, map and sample techniques, and;
- Earthwork survey.

A detailed method statement may be developed to define how archaeological mitigation will be sequenced with earthworks operations. This would be approved by the project archaeologist and would require that all areas be certified prior to construction works commencing/continuing.

Site controls could include:

- An archaeological watching brief in designated areas along the construction corridor to take place during topsoil strips and other earth moving;
- The use of toothless buckets on all excavators, and;
- All information on areas of topsoil stripping to be provided in order to help inform watching brief work.

4.10 Sustainable use of natural resources

The construction works will be designed, built and demolished in such a way that the use of natural resources is sustainable and ensure the following:

- Recyclability of the construction works, their materials and parts after demolition
durability of the construction works
- Use of environmentally compatible raw and secondary material in the construction works.

The constructed lodges are all off site constructed in accordance with best practice principals of the BRE Green Guide to Building Specification.

4.11 Local sourcing of supplies and materials

The construction process proposed will be constructed using locally sustainable materials: i.e. materials that can be used without any adverse effect on the environment, and which are produced locally, reducing the need to travel.

There will be developed a system of operational and supply chain management to judge whether a material is sustainable or not and employ a system of responsible sourcing of construction products.

4.12 Dust and Air Quality

Dust levels along the construction corridor are not expected to be problematic, although dust suppression would be required during dry conditions. Particular care is required to maintain dust emissions at a practicable minimum near sensitive agricultural and ecological receptors.

Appropriate regard to the control of dust and exhaust emissions during the construction works would be included within the CEMP. The use of Best Practicable Means (BPM) (as defined in Part III of the Environmental Protection Act 1990) would be employed, examples of which are given below:

- Seeding and sealing of topsoil stockpiles;
- Sheeting of vehicles transporting materials to and from the site;
- Limiting the speed of site vehicles to 20mph (not including dump trucks);
- Applying a coarse gravel surface (or similar) along the haulage road, where considered appropriate;
- Placing plant as far as possible from sensitive areas and switching engines off when not in use;
- Provision of wheel washing facilities and/or regular use of road sweepers at access points and on local roads (to remove mud from public highways);
- Damping down of haul roads;
- Provision for a Project weather station to record data such as wind (speed and direction), precipitation, temperature etc.

Visual monitoring would be carried out at sensitive locations on a daily basis.

4.13 Biodiversity

Works to protect/mitigate the impacts on biodiversity are described in the Ecological report. Appropriate regard for the protection of local habitats and protected species during the construction works will be included within the CEMP and would incorporate the following measures:

- All site clearance works will be undertaken outside bird nesting season (March to September inclusive), or alternatively measures would be taken to prevent birds nesting within the construction footprint between March and September;
- In areas that are considered to have potential for bat roosts an ecologist should conduct a watching brief.
- An ecologist will carry out a survey immediately prior to site clearance works in order to ensure that there are no protected species present. In the event of protected species being found, works would be delayed until mitigation measures have been agreed with SNH;
- Protection would be provided to create physical separation between construction operations and ecologically sensitive areas. This would include temporary fencing where necessary;
- All areas used for temporary construction operations, for example site compounds, will be subject to complete restoration to agriculture with appropriate aftercare procedures;
- Specialist ecologists will provide expertise to the Contractor throughout the construction period in respect of the following species at the indicated time of year:

Rob Macpherson

For **Fearn Macpherson** Chartered Architects

18th March 2016

Ref: 961 masterplan phase construction and environmental management plan