BANWELL BYPASS

Environmental Statement

HIF Banwell Bypass and Highways Improvements Project

Environmental Statement Chapter 16 - Environmental Management

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Contents

16 Environmental Management

16.1 Introduction

16.1.1 The results of the Environmental Impact Assessment (EIA) carried out for the Scheme and reported in the topic chapters of this Environmental Statement (ES), have identified elements that need to be addressed during detailed design, construction and aftercare in the event that planning permission is granted:

a) Potentially significant effects associated with the Scheme;

b) Measures to avoid, reduce or remedy (mitigate) these adverse environmental effects;

c) Opportunities for environmental enhancement.

16.1.2 To ensure these measures are properly implemented and to ensure compliance with relevant legislation, policy, planning conditions, relevant licences and consents and the Scheme's Environmental Management System (EMS) it is essential there is effective environmental management throughout the construction, operation and aftercare of the Scheme.

16.1.3 The environmental management would be controlled in accordance with different action documents depending on the phases of the Scheme. The key components are outlined Image 16-1.

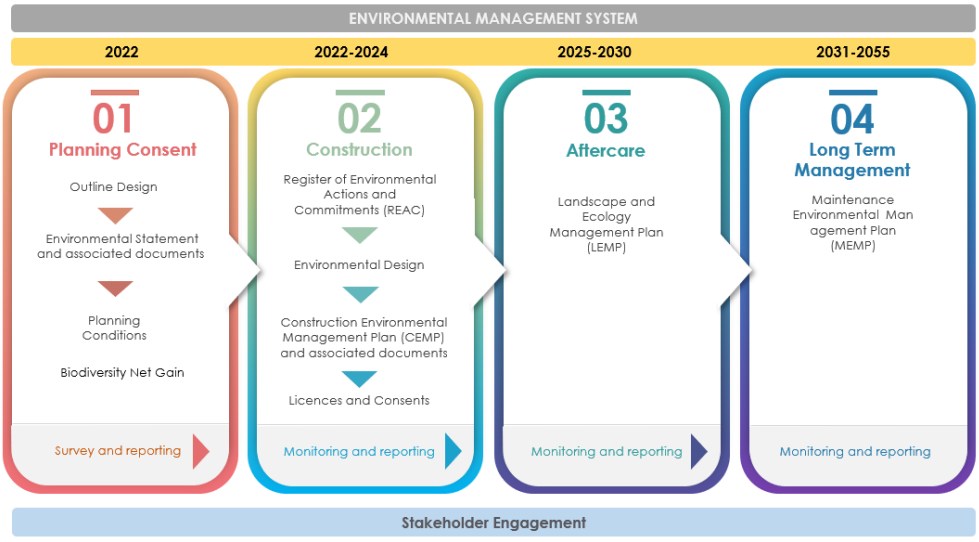

Image 16-1 Key Environmental Management Components Image

16.2 Environmental Management System

16.2.1 Ensuring compliance with environmental commitments is a process known as Environmental Management which would be delivered by the project team working within a framework set out in an EMS. The EMS is a procedure run by an organisation to ensure that its activities are complaint with legislation and policy and with its own environmental policies and commitments.

16.2.2 The contractor would set up and maintain the project EMS in compliance with ISO 14001 and ISO 14004. A Construction Environmental Management Plan (CEMP) would form the basis for environmental management of the Scheme. It would ensure that environmental issues are properly addressed initially through the construction phase and establishes the basis for ensuring environmental issues and commitments are dealt with during operation and aftercare of the Scheme.

16.3 The Construction Environmental Management Plan

16.3.1 The CEMP would ensure that environmental issues are properly addressed initially through the construction phase and establishes the basis for ensuring environmental issues and commitments are dealt with during operation and aftercare of the Scheme. Refer to ES Volume 3 - Appendix 16.A - for the Outline CEMP.

16.3.2 The purpose of a CEMP is to:

a) Provide effective, site-specific procedures and mitigation measures to monitor and control environmental impacts throughout the construction phase of the project; and

b) Ensure that construction activities so far as is practical do not adversely impact amenity, traffic or the environment in the surrounding area.

16.3.3 The CEMP would be a ‘live’ document that would be developed further during the statutory process and during construction in consultation with the Statutory Environmental Bodies (SEBs). Some of the licences, method statements and the draft Register

of Environmental Actions and Commitments (REAC) that would form part of the CEMP have been identified with the ES.

16.3.4 The REAC would be a 'live' document that would bring together in one place all the environmental actions and commitments to be addressed during the implementation and operation of the Scheme. It would clearly identify the actions and commitments, the reference document and the action document for delivery. It would differentiate between elements of essential mitigation and enhancement. It would be used to keep track of all the relevant Scheme commitments and to ensure they are fulfilled.

16.3.5 The REAC would list relevant commitments made within this ES and associated documents to include the Environmental Master Plans (EMP), Habitats Regulations Assessment (HRA), Biodiversity Net Gain (BNG) assessment. It would be developed further during the planning process and during construction and may include further commitments made from:

a) The outcomes of consultation with the landowners, SEBs and other stakeholders;
b) Findings of additional surveys or supplementary information;
c) Planning conditions; and
d) Licences and consents.

16.3.6 The REAC would be implemented primarily through the CEMP and associated documents, the Landscape and Ecological Management Plan (LEMP) and the Maintenance Environmental Management Plan (MEMP). An outline REAC is provided in ES Volume 3 - Appendix 16.B - Register of Environmental Actions and Commitments.

16.4 Landscape and Ecological Management Plan

16.4.1 The Landscape and Ecological Management Plan would outline the requirements for the management and monitoring of the landscape and ecological elements of the Scheme during a 5 year aftercare and establishment period, or as agreed with the Local Planning Authority. The aftercare period would commence on completion of the construction. The plan would include the following:

a) Protection, management and maintenance of existing retained vegetation;

b) Protection, management and maintenance of new planting, and seeding;

c) Protection, management and maintenance of ecological measures, including habitat and species protection measures;

d) Habitat creation areas;

e) Details for the disposal of Invasive Non-Native Species or other pernicious weeds would be included in an Invasive Non-Native Species Method Statement;

f) Summary schedule of activities and monitoring required including timetable;

g) Procedure for monitoring compliance; and

h) Procedures for reporting on completion and establishment of measures during the aftercare period e.g. reporting programme, site inspections, involvement of statutory bodies, reporting on success and establishment.

16.4.2 An outline of the contents of the LEMP is included in ES Volume 3 Appendix 16.B Pre-Construction Landscape and Ecological Management Plan.

16.5 The Maintenance Environmental Management Plan

16.5.1 A Maintenance Environmental Management Plan (MEMP) would set out a proposed strategy for the future maintenance and management of the environmental mitigation, to include enhancement where appropriate. This plan would be a development of the LEMP and would be prepared for the 25-year period following the end of the 5-year aftercare period. This timescale would allow for a total of 30 years management for Biodiversity Net Gain.

16.5.2 The MEMP shall include, but not be limited to, the following:

a) Approaches for the regular maintenance of the environmental mitigation:

b) 25-year objectives for the mitigation areas;

c) A timetable for the implementation of each regular maintenance operation during a typical 12-month period, together with an overall 25 year timetable showing any variation to the regular maintenance tasks during the period of the MEMP and with any 20 year objectives or as agreed;

d) A timetable showing the anticipated date or timeframe at which the function attributed to each area as identified in the Environmental Masterplans (EMP) would be achieved during the 25 year period of the MEMP. This would build upon those that have been achieved by the end of the aftercare period;

e) A timetable showing the regular monitoring requirements for each element of the environmental mitigation, including those in relation to habitats and species and/ or water quality, as agreed with the relevant Statutory and Non-Statutory bodies;

f) Any supporting information as considered appropriate including agreements made with third parties, actions identified during the aftercare environmental performance and monitoring reports.

16.6 Environmental Master Plan

16.6.1 The environmental mitigation measures proposed within this ES are illustrated on the Environmental Masterplan (refer to Refer to Planning Document – Environmental Masterplan) and follow the 'Functions' and 'Elements' methodology as outlined in DMRB.

16.6.2 All mitigation measures have been ascribed the purpose or Environmental 'Function' and the nature or Landscape or Environmental 'Element'. These are described as follows:

16.6.3 **Environmental 'Functions'**: The codes identify the objectives to the various features of the highway estate. This includes the ability, when appropriate, to ascribe highway and structural elements an environmental function that would inform its design and influence maintenance techniques.

16.6.4 **Landscape 'Elements'**: The codes describe the core Elements of the 'soft estate' such as grass, planting, wetland, hedges. It also contains provision for inclusion of 'hard' landscape features, such as decorative railings, feature paving materials, where these are there for specific landscape reasons.

16.6.5 **Environmental 'Elements'**: The codes describe non-landscape features, enabling the description of such 'elements' as noise attenuation measures, water quality controls, protected species, and legislated elements such as injurious weeds and pests. Many of these elements interact closely with landscape functions and elements.

16.7 Environmental Roles and Responsibilities

Contractor's Project Manager

16.7.1 The Contractor's Project Manager would be responsible for developing the Construction Environmental Management Plan (CEMP) for the Scheme. The contractor's Environmental Manager would oversee and audit the internal systems and plans to ensure compliance with the environmental management system.

Contractor's Environmental Manager

16.7.2 The Environmental Manager would promote and lead the site safety and environmental culture and would be responsible for the environmental works on site and would ensure that all the measures stated within the Environmental Statement and the Construction Environmental Management Plan to protect the Environment are adhered to.

16.7.3 They would ensure that all works are carried out in a planned, controlled, and safe manner, in accordance with statutory regulations, current standards, and the Company SHEQ standards.

Environmental Coordinator (ECO)

16.7.4 The ECO would co-ordinate the design development and ensure that the commitments in the REAC are addressed in the detailed design and construction documentation. They would coordinate the activities of the environmental specialists and oversee the preparation of the LEMP, MEMP and monitoring reports.

16.7.5 The ECO would be an experienced Chartered Member of an appropriate environmental profession. Their role would be to ensure that the key environmental documents are properly considered during the development of the detailed design and during construction. The ECO would oversee the Environmental Compliance Process.

16.7.6 The ECO would identify works that are likely to have a significant

environmental impact and advise the contractor how to avoid the impacts. If necessary, the ECO would identify activities that should only proceed once they have agreed that adequate measures are in place for environmental protection. As works progress the ECO would review the contractor's environmental performance against the commitments, objectives and targets/ key performance indicators in the CEMP.

16.7.7 The CEMP and all the documents it contains would be developed to contain procedures for checking, auditing and corrective action. These procedures would continue through the construction and aftercare period.

Environmental Clerk of Works (ECoW)

16.7.8 The Environmental Clerk of Works (ECoW) would support the ECO during pre-construction and construction. The ECoW would be an experienced environmental professional with a broad-based competency in environmental management, construction and environmental surveys. The ECoW would assist the ECO by overseeing the implementation of environmental mitigation and compliance with environmental management systems and plans. The ECoW would be assisted by ecologists, landscape architects, arboriculturists and other specialists as required. The ECoW would liaise with the archaeologist responsible for archaeological recording and investigations to ensure that archaeological sites are protected from damage until the necessary archaeological works are completed.

16.7.9 Both the ECO and ECoW would work with the contractor's Environmental Manager to apply the CEMP through the AGC's Environmental Management System (EMS).

16.7.10 The ECoW would be expected to carry out training for the contractor's site management team and for other site personnel.