A585 Windy Harbour to Skippool Improvement Scheme

TR010035

7.2 Outline Construction Environmental Management Plan

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A585 Windy Harbour to Skippool Improvement Scheme

Development Consent Order 201[ ]

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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1 INTRODUCTION AND BACKGROUND

1.1 Purpose of this Outline Construction Environmental Management Plan

1.1.1 This document is the Outline Construction Environmental Management Plan (CEMP) for the A585 Windy Harbour to Skippool Improvement Scheme (hereafter referred to as the Scheme). The purpose of the Outline CEMP is to manage the construction effects of the Scheme as identified within the Environmental Statement (ES) (document reference TR010035/APP/6.1 - 6.20) and to demonstrate compliance with environmental legislation.

1.1.2 The general process for the management of environmental effects on Highways England Schemes is set out in the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 2, Part 5, HD205/08 and Part 6, HD48/08 (Highways Agency, 2008). More specific advice is provided in the Interim Advice Note ("IAN") 183/14 Environmental Management Plans (IAN 183/14) (Highways Agency, 2014). The guidance in IAN 183/14 takes into consideration Environmental Management Plans: Practitioner Best Practice Series, Volume 12 (IEMA, 2008) and BS EN ISO 14001: Environmental Management (BSI, 1996, as amended).

1.1.3 The Outline CEMP provides an overarching framework for environmental management during construction and ultimately operation and identifies the environmental risks associated with the implementation of the Scheme as identified at that stage.

1.1.4 The predicted environmental effects of the Scheme identified in the ES and the related actions and mitigation measures in the Record of Environmental Actions and Commitments (REAC) (document reference TR010035/APP/7.3 – Rev 2) have formed the basis for developing this Outline CEMP.

1.1.5 This Outline CEMP would be refined and used to develop the detailed CEMP once a Contractor is appointed, design and construction plans are finalised and more detailed information on environmental effects becomes available.

1.1.6 Prior to the commencement of construction, the CEMP would be made fully comprehensive, taking account of detailed design and construction planning and (in the case of the Scheme) the outcome of the Development Consent Order (DCO) process. The CEMP is maintained and revised during the construction period to take account of any changes in design or external factors such as regulations and standards, any unforeseen circumstances as they arise, such as new protected species or new archaeological finds, and any failings in environmental performance identified from routine inspections and audits.

1.1.7 Towards the end of the construction period the CEMP is used to develop a Handover Environmental Management Plan (HEMP) which is the main vehicle for passing essential environmental information to the client and crucially to the body responsible for the future maintenance and operation of the scheme.

Objectives of the Outline CEMP

1.1.8 The Outline CEMP:

- Provides the framework for recording environmental risks, commitments and other environmental constraints and clearly identify the structures and processes that would be used to manage and control these aspects

- Seeks to ensure compliance with relevant environmental legislation, government policy objectives and Scheme-specific environmental objectives
- Provides the mechanism for monitoring, reviewing and auditing environmental performance and compliance during detailed design construction and operation

1.1.9 The Outline CEMP is one of a suite of documents to be submitted as part of the application to the Planning Inspectorate (the Inspectorate) for development consent approval.

1.2 Environmental Control Plans (ECPs)

1.2.1 Environmental Control Plans (ECPs) are key documents which ensure that the construction-related mitigation measures and actions set out in the REAC (document reference TR010035/APP/7.3 – Rev 2) are successfully implemented on site. ECPs inform the works and the development of associated task-specific Risk Assessments and Method Statements.

1.2.2 It is expected that some or all of the following ECPs would be prepared / finalised, as appropriate, for the Scheme as part of the detailed final CEMP:

- Bird Mitigation Strategy (Appendix B) – provides the mitigation to offset the potential construction disturbance / displacement impacts on the over-wintering bird populations associated with the Morecambe Bay and Duddon Estuary Special Protection Area (SPA) and Morecambe Bay Ramsar site. This strategy is provided at Appendix B and has been consulted on and agreed with Natural England
- Biodiversity Enhancement Strategy (Appendix C) – sets out measures to enhance biodiversity that are over and above those required to mitigate adverse impacts. This strategy is provided at Appendix C and has been consulted on and agreed with Natural England
- Soil Management Plan (Appendix D) –sets out measures to ensure protection, conservation and reinstatement of soil material, its physical and chemical properties and functional capacity for agricultural use. A draft can be found at Appendix D
- Soil Resource Plan (Appendix E) – sets out the areas and type of soil to be stripped, haul routes, the methods to be used, and the location, type and management of each soil stockpile to help protect and enhance soil resources on site. This plan would be prepared by the Contractor once appointed during the detailed design stage
- Noise and Vibration Management Plan (Appendix F) – outlines how construction noise and vibration would be managed throughout the construction of the Scheme including any noise limits agreed with Wyre Council and Fylde Borough Council. This plan would be prepared by the Contractor once appointed during the detailed design stage
- Pollution Control Plan (Appendix G) – sets out best practice pollution prevention guidelines and appropriate control measures to protect from pollution events. The plan would include for activities such as excavation and dewatering, storage of fuels, chemicals and oils, vehicle washing, pollution control and emergency contingency. A draft Pollution Prevention Plan is

provided in Appendix G

- Emergency Spillage Response Plan (Appendix H) – sets out the procedures for dealing with emergency situations involving loss of containment. This plan would be prepared by the Contractor once appointed during the detailed design stage
- Emergency Flood Response Plan (Appendix I) – sets out the principles of a response to a significant flood during construction to ensure a coordinated response in the event of an emergency situation. This plan would be prepared by the Contractor once appointed. The Contractor would make appropriate use of the Environment Agency's Flood Warning service. The proposed construction compound situated north east of Skippool Junction is located wholly within the floodplain and the compound south of Garstang Road East is partially located in the floodplain. In order to avoid flood risk impacts when establishing these compounds, existing ground levels will be maintained within the areas of the compounds that are in the floodplain, sites will be bounded by open link fencing and, where practicable, welfare, office facilities and bulk materials stockpiles would be avoided in these areas. Appropriate measures, such as keeping watercourses clear of obstructions and debris to reduce blockage risk, will be implemented by the Contractor in order to prevent potential flooding events. Suitable access and safe refuges are to be identified for use in the event of a flood and these would be communicated to all site personnel as part of the Contractor's site induction. Appropriate provision would be made available for access to Main River watercourses (the Main Dyke and Horsebridge Dyke) and associated flood risk structures, to ensure the Environment Agency is able to carry out their statutory duties.
- Dewatering Management Plan (Appendix J) – sets out the approach / method for the removal of water below the existing water table during construction of the Scheme. This plan would be prepared by the Contractor once appointed during the detailed design stage and agreed with the Environment Agency
- Construction Water Management Plan (Appendix K) – outlines how water would be managed during construction. It also identifies arrangements and methods for dealing with surface water arising during construction. This plan would be prepared by the Contractor once appointed during the detailed design stage
- Site Waste Management Plan (SWMP) (Appendix L) – provides a structured approach to minimising waste on site and waste management during the construction of the Scheme. A draft SWMP is provided in Appendix L
- Materials Management Plan (Appendix M) – sets out the relevant regulations and approach for dealing with excavated ground materials as a result of the Scheme. A draft Materials Management Plan is provided in Appendix M
- Borrowpit Restoration and Aftercare Plan (Appendix N) – sets out detailed restoration and aftercare for the proposed borrowpits. A Borrowpit Restoration and Aftercare Plan is provided in Appendix N
- Asbestos Management Plan (Appendix O) – sets out the measures in place to manage asbestos that may potentially be present on site to prevent persons being exposed. A draft Asbestos Management Plan is provided in Appendix O.

- REAC (document reference TR010035/APP/7.3 – Rev 2) (Appendix P) – sets out all the environmental commitments the Contractor must adhere to during the construction phase. The REAC also provides some details of the commitments that would need to be carried forward in the HEMP
- Flood Warning and Evacuation Plan (Appendix Q) – sets out procedures to manage residual tidal flood risk to the Scheme local to the Skippool Junction
- Soft Landscape Planting Specification (Appendix R) – sets out the outline planting specification

1.2.3 As noted above all ECPs would be developed to their full detail for the final CEMP during the detailed design and construction planning phase.

1.2.4 ECPs are live documents that are subject to updating and refinement as required changing needs of the works during construction.

1.3 The Scheme

1.3.1 The Scheme comprises an offline bypass between the A585 at Windy Harbour and Skippool near Poulton-le-Fylde. The road bypasses the village of Little Singleton.

1.3.2 The general arrangement of the Scheme is shown on document 2.5 (document reference TR010035/APP/2.5). The A585 Windy Harbour to Skippool Improvement Scheme ('the Scheme') consists of:

- A 4.85km (3 miles) long dual 2-lane carriageway bypass from Windy Harbour Junction to the Skippool Junction
- Four new junctions including: conversion of Skippool Junction to a traffic signal-controlled crossroads with A588 Breck Road and B5412 Skippool Road; Skippool Bridge Junction in the form of a three-arm traffic signal-controlled junction with the existing Mains Lane; Poulton Junction in the form of a signal-controlled crossroads connecting the new bypass to A586 Garstang Road East and modification to Little Singleton Junction (also known as Five Lane Ends) to accommodate U-turning traffic including buses. Between Skippool Bridge Junction and Poulton Junction the bypass is on embankment. East of Poulton Junction through to east of Lodge Lane the bypass is mostly in cutting
- Three new major structures including: replacement of Skippool Bridge; Lodge Lane Bridge and Grange Footbridge
- Alterations to the existing road network on completion of the bypass include: detrunking the A585 between Skippool Bridge Junction and the end of Garstang New Road east of Little Singleton; applying a reduction in speed limit to 30mph and providing a combined footway/cycleway along Mains Lane between Shard Road Junction and Little Singleton; altering Garstang New Road east of Little Singleton to allow restricted access to farmers' fields and provide a shared footway/cycleway route between Windy Harbour Junction and Little Singleton; applying a reduced speed limit of 30mph along Garstang Road East between the proposed Poulton Junction and Little Singleton and upgrading the lighting along Mains Lane and Garstang Road East

1.4 Scheme Objectives

1.4.1 Through the operation, maintenance and improvement of the UK's strategic road

network, Highways England's vision and aspiration for the environment is:

> *"a strategic road network working more harmoniously with its surroundings to deliver an improved environment. This is our vision for the environment, and we are committed in our resolve to deliver it*." (Highways England Environment Strategy, 2017)

1.4.2 The Scheme objectives are listed below:

- Reduce congestion on the existing A585 through Little Singleton Junction, Shard Junction and Skippool Junction
- Reduce severance and Improve access across the A585 between Little Singleton and Skippool Junctions
- Improve connectivity and community cohesion
- Make the A585 route safer by reducing conflicts between users
- Improve journey time reliability by reducing congestion
- Deliver capacity enhancements to the Strategic Road Network whilst supporting the use of sustainable modes
- Support employment and residential/commercial development and growth opportunities
- Support the removal of obstacles to economic growth potential in both Wyre and Fylde
- Reduce/minimise the impact on the wider environment particularly for air quality and noise
- Complement and realise the full benefits of the earlier pinch point scheme at Windy Harbour junction

1.5 Compliance with the Environmental Statement

1.5.1 An Environmental Impact Assessment (EIA) has been undertaken for the Scheme and an ES has been prepared in accordance with the Infrastructure Planning (EIA) Regulations 2017 ('EIA Regulations'). In line with the requirements of these regulations, the ES contains the assessment of the potential impacts on the environment that may be caused during construction of the Scheme and describes proposed mitigation measures.

1.5.2 The measures to be adopted by the Contractor to mitigate environmental impacts are set out within REAC (document reference TR001035/APP/7.3 – Rev 2).

1.5.3 Information on the environmental management process, through to construction and hand-over is included within this Outline CEMP.

1.6 Liaison with Local Planning Authorities and Statutory Bodies

1.6.1 Liaison would be required with Fylde Borough Council, Wyre Council and Lancashire County Council together with statutory bodies to ensure that the Scheme proposals and recommended mitigation measures are acceptable to the authorities and statutory bodies.

2 PROJECT TEAM ROLES AND RESPONSIBILITIES

2.1 Responsibilities

2.1.1 A management structure that includes an organisational chart encompassing all staff responsible for environmental work is to be included within the final CEMP. This would set out the respective roles and responsibilities with regard to the environment and identify the nominated Construction Environmental Manager. Illustrative key roles and responsibilities are set out in Table 2-1

Table 2-1: Roles and Responsibilities

Role	Main Environmental Responsibilities
Highways England Project Manager	Overseeing implementation of whole Scheme and the individuals undertaking specific roles and duties. To be reported to as per contract requirements and internal organisation Environmental Management Systems.
Contractor Project Manager	Responsible for management of the construction phase of the project. Has overall responsibility for the environmental performance of the Scheme. Regular communication with Highways England and the relevant statutory environmental bodies on all environmental matters (as they arise).
Contractor Construction Environmental Manager	• Ensuring compliance with environmental legislation, consents, objectives, targets and other environmental commitments, including those arising from the ES • Maintenance of Environmental documentation • Management of environmental specialists and monitoring compliance of construction activities in line with the Environmental Control Plans and the relevant environmental legislation / licences, reviewing and developing the ECPs throughout the construction period, and acting as the focal point of contact for all environmental issues on site • Liaison with relevant consultees / stakeholders. • Accompany statutory authorities on site visits (with Environmental Clerk of Works (ECoW) if necessary). • Compiling applications for unexpected authorisations with assistance of ECoW if necessary • Investigation of environmental incidents • Assisting with the delivery of environmental training to the workforce • Receiving and disseminating Environment Agency flood warnings and implementing actions documented in the Emergency Flood Response Plan. • Assisting in review of method statements. • Identification of key environmental concerns on site as Scheme develops. • Instruction and confirmation of key requirements of each section on site as job progresses to site personnel

Role	Main Environmental Responsibilities
	• Assessing and checking survey results and updating databases, ECPs etc. with any new information • Identification of cost savings and best practice activities • Ongoing liaison with Contractor's site supervisors, site management team, and general construction workers
Contractor Environmental Clerk of Works	• Supporting the project team in delivering the environmental components of the works during the construction phase • Delivering environmental training to the workforce • Recording the progress of the environmental works • Monitoring and supervising construction activities in relation to environmental aspects • Walkover of all activities on the site and ongoing monitoring of works area to ensure compliance with key environmental legislation compliance and control plans • Assisting in review of method statements • Identification of key environmental concerns on site as project develops • Instruction and confirmation of key requirements of each section on site as job progresses to site personnel • Monitoring and updating Environmental Manager on the progress of pre-construction surveys • Assisting in monthly formal audits with Environmental Manager • Assessing and checking survey results and updating databases, ECPs etc. with any new information • Identification of cost savings and best practice activities • Immediate reporting of incidents to the Safety Health and Environment (SHE) department • Ongoing liaison with Contractor's site supervisors, site manager, and general construction workers • Providing daily updates to Environmental Manager on site progress, compliance, issues, problems, successes, etc • Accompanying statutory authorities on site visits (with Environmental Manager if necessary)
Environmental Specialists	As required, archaeologists, ecologists, geotechnical engineers and hydrologists, etc. would be responsible for undertaking pre-construction surveys and watching briefs, as well as providing advice on specific issues (as they arise) throughout the construction phase.
Community Liaison	Communications with the public and interested parties,

Role	Main Environmental Responsibilities
Manager	outreach and education, where appropriate.

2.2 Lines of Communication

2.2.1 The Contractor would direct all queries regarding the CEMP and actions within it through Highways England prior to initial contact with statutory consultees (e.g. the Environment Agency, Natural England and Historic England). The Contractor would typically then act as the primary contact with statutory consultees leading up to and during the construction phase.

2.2.2 The Contractor would establish and maintain procedures for internal communications between the various levels and functions of the team during construction. Internal communications include:

- Advising of non-conformances to relevant managers
- Communicating environmental commitments to the construction team
- Communicating the environmental policy to the construction team
- Raising awareness of environmental issues to the construction team
- Reporting incidents to relevant managers

2.2.3 The Contractor would also document and respond to any relevant communications from external interested parties during construction. External communications may include, but would not necessarily be limited to:

- Dealing with complaints from members of the public
- Dealing with the media

Contact Details of Key Personnel

2.2.4 Overseeing management of the Scheme would be directed by Highways England. Highways England may delegate some site supervision roles and procure specialist consultants to supervise, monitor or check the Contractors procedures for sensitive activities where required. The key project contacts for Highways England and the Contractor related to environmental management are listed in Table 2-2.

2.2.5 [Note: Individual names and contact details would be confirmed and inserted by Highways England and the appointed Contractor in the final CEMP].

Table 2-2: Key Site Contacts

Role	Contact	Organsation	Telephone	Email
Client Project Manager	TBC	Highways England	TBC	TBC
Contractor Project Manager	TBC	The Contractor	TBC	TBC
Contractor Environmental Manager	TBC	The Contractor	TBC	TBC

Role	Contact	Organsation	Telephone	Email
Environmental Clerk of Works	TBC	The Contractor	TBC	TBC
Environmental Specialists	TBC	The Contractor	TBC	TBC
Community Liaison Manager	TBC	The Contractor	TBC	TBC

2.3 Monthly Reporting

2.3.1 It is expected that the following reports would be provided to Highways England on the agreed basis as part of the monthly contract Progress Report:

- Monthly environmental reports of key issues
- Waste management volumes and recycling figures
- Carbon calculator submitted using the Highways England template
- Environmental incidents and near misses

2.3.2 These would form part of the agenda at formal monthly contract Progress Meetings between Highways England and the Contractor.

3 TRAINING AND AWARENESS

3.1 General

3.1.1 The Contractor would comply with the procedures set out within their internal health and safety management system.

3.1.2 All personnel on site would be made aware of the company Environmental Policy, relevant Environmental Legislation, the REAC (document reference TR010035/APP/7.3 – Rev 2) and the relevant ECPs included in the CEMP.

3.1.3 The Contractors team would be briefed on the following topics as a minimum / as appropriate:

- Company Environmental Policy
- General environmental awareness
- Cultural heritage / archaeology
- Waste management
- Working in or near watercourses and their floodplains, including protocols for flood risk emergencies
- Surface water pollution and control
- Ecology / European Protected Species
- Spills and emergency response procedures
- Dust management
- Noise management

3.1.4 Specific training needs would be identified and provided for all personnel involved in work activities that could result in an adverse impact on the environment. The training would include reference to the importance of adhering to the contents of the CEMP and the potential consequences of departure from specified method statements. Environmental training in the form of toolbox talks would also be undertaken on site, evidence of which (along with all other training) would be maintained on record as part of the Contractors management system.

3.2 Safety and Security

3.2.1 The Contractor would need to consider a number of safety issues including but not restricted to:

- Working adjacent to built-up areas
- Working in, over or adjacent to watercourses including the Main Dyke and the tidal Horsebridge Dyke (Skippool Creek)
- Working on or adjacent to public roads, footpaths or cycle tracks or in proximity to live traffic
- Working at height
- Undertaking electrical works
- Working over or adjacent to, or diverting statutory undertakers' plant

- Handling contaminated materials

3.2.2 The Contractor would need to ensure that the construction site, compounds and storage areas would be secured from public access.

3.3 Site Inductions

3.3.1 Prior to commencing work on site, all personnel would undergo a site induction, where the Contractor would communicate the environmental objectives, requirements and responsibilities to the workforce. Environmental Site Rules would detail site personnel's obligations while on site. This would introduce accountability for personnel working on the Scheme.

4 CONSTRUCTION PROGRAMME

4.1.1 The construction of the scheme would be programmed to take approximately 2 years to complete starting in Spring 2020 and finishing in Summer 2022.

4.1.2 Environmental surveys would be carried out prior to starting construction works.

4.1.3 Appendix 2.1: Construction Information (document reference TR010035/APP/6.2.1) within the ES provides an indicative construction programme including phasing for the construction of each element.

5 ENVIRONMENTAL ACTIONS AND COMMITMENTS RECORD

5.1.1 The REAC (document reference TR010035/APP/7.3 – Rev 2) identifies the environmental commitments made when undertaking the environmental assessment to address the potential environmental effects of the Scheme. The intention is that the finalised REAC would form part of the final CEMP before construction commences.

5.1.2 The REAC would be updated as the Scheme progresses and would be developed at the end of construction on completion of the Scheme in to a HEMP, the main vehicle for passing essential environmental information to the Client and crucially to the body responsible for the future maintenance and operation of the asset.

6 CONSENTS, COMMITMENTS AND PERMISSIONS

6.1.1 The Contractor would be required to obtain and implement all permits, consents and licences necessary during the construction phase. The Contractor would need to manage the submission and approval of those required prior to the commencement of any site works. Table 6-1 provides an anticipated list which would need to be reviewed and updated, as required, as the project progresses.

6.2 Consents and Agreements Position Statement

6.2.1 The Consents and Agreements Position Statement (document reference TR010035/APP/5.5 – Rev 1) sets out Highway England's intended strategy for obtaining consents and associated agreements needed to implement the Scheme. It identifies at a high level what consents are expected to be needed for the Scheme, together with how those consents would be obtained.

6.2.2 Table 6-1 would be updated for the final CEMP.

Table 6-1: Anticipated Permits, Consents and Licenses

	Project Delivery Requirements and Organisation Obtained From	Details	Notes
1	Flood Risk Activity Permit (FRAP) – Environment Agency	The Environmental Permitting (England and Wales) Regulations 2016 require a permit to be obtained for any activities which will take place: • On or within 8 metres of a main river (16 metres if tidal) • On or within 8 metres of a flood defence structure or culvert (16 metres if tidal) • On or within 16 metres of a sea defence • Involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert In a floodplain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if it's a tidal main river) and you don't already have planning permission. The Main Dyke and Horsebridge Dyke are both tidal Main Rivers and FRAPs would be required for the new bridge crossing of the Main Dyke; works to the culverted reach of the Horsebridge Dyke and construction of headwalls for the new drainage outfalls to these watercourses. Construction of the temporary floodplain compensation storage areas adjacent to the Main Dyke, set up of the construction compounds at Skippool Junction and immediately to the south of Garstang Road East and building of any haul roads across the floodplain, are also likely to require FRAPs.	Consent applications need to be supported by detailed design drawings, construction method statements, and an environmental risk assessment. This permit would be applied for by the Contractor.

	Project Delivery Requirements and Organisation Obtained From	Details	Notes
2	Ordinary Watercourse Consent – Lancashire County Council	Required by Water Resources Act 1991 or the Land Drainage Act 1991 for works with the potential to impeded flow in any ordinary watercourse. Consent would be required for the proposed new culverts on 5 field ditches and extension of existing culverts on 2 ditches.	Consent applications need to be supported by detailed design drawings and a construction method statement. Consent to be applied for by Contractor.
3	Marine License - Marine Management Organisation (MMO)	License from the MMO needed for the proposed works at the north end of Skippool Clough Culvert (on the Horsebridge Dyke) near Skippool roundabout.	Consent needed for any works below Mean High Water Springs of the Wyre Estuary. Deemed Marine License included within the DCO.
4	Water Abstraction License – Environment Agency	A temporary license required for abstraction from surface water or groundwater of >20m^3/day for less than 28 days, or a permanent license if exceeding in quantity or duration under section 21 of the Water Resources Act 1991.	Contractor to apply for license from the Environment Agency.
5	Permit for temporary dewatering and discharge from excavations – Environment Agency	Required for dewatering activity lasting for more than 3 consecutive months; for discharge within, or less than 500 metres upstream of a designated site (Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), SPA, National Nature Reserve (NNR), Local Nature Reserve (LNR)); for discharge of contaminated surface water (e.g. containing silt).	Contractor to apply for permit from the Environment Agency.
6	Removal of trees	-	Removal of trees would be permitted under the DCO with exclusion of vegetation noted as being retained on the Environmental Masterplan (document reference TR010035/APP/6.19 – Rev 1).
7	Removal of hedgerows	-	Removal of hedgerows would be permitted under the DCO with exclusion

	Project Delivery Requirements and Organisation Obtained From	Details	Notes
			of vegetation noted as being retained on the Environmental Masterplan (document reference TR010035/APP/6.19 – Rev 1).
9	Temporary footpath closures – Lancashire County Council	Temporary closure orders under the Road Traffic Regulations Act from Lancashire County Council.	Temporary closures would be authorised by the DCO but notification of works is required. Temporary footpath closures identified on 2.4 Streets, Rights of Way and Access Plans (document reference TR010035/APP/2.4 – Rev 1)
11	License to carry out works affecting great crested newts under the Wildlife and Countryside Act 1981 (as amended) – Natural England	Draft license issued to Natural England and letter of no impediment sought. Consent required for any works with potential to damage or disturb great crested newts or their habitat. Final license to be submitted to Natural England to achieve formal consent.	License would need to be consented prior to habitat modification or ground-intrusive works within 250m of confirmed great crested newt ponds.
12	License to carry out works affecting bats under Wildlife and Countryside Act 1981 (as amended) – Natural England	Draft license issued to Natural England and letter of no impediment sought. Consent required for any works with potential to damage or disturb bats or their roosts. Final license to be submitted to Natural England to achieve formal consent.	Demolition of 2 buildings with confirmed bat roosts would required license to be in place prior to demolition.
13	Section 61 Consent – Wyre Council and Fylde Council	Prepare and submit a Section 61 (of the Control of Pollution Act 1974) application. A Section 61 application outlines the works which are planned to take place, the working hours of the site and a plan to mitigate potential noise and vibration impact by best practical means.	The Section 61 must be applied for within 28 days before intended works are to take place. If a Contractor has carried out any works prior to this date, except for any minor preparation, then a prior consent will not be issued.

6.3 Recording

6.3.1 A register of environmental permits and a record of all consents, licenses etc. relating to construction activities would be maintained by the Contractor and made available for audit by Highways England.

6.3.2 Any conditions related to each consent, permission or agreement would be added to the REAC (document reference TR010035/APP/7.3 – Rev 2) where appropriate.

7 ENVIRONMENTALLY SIGNIFICANT CHANGES

7.1 Change Control Procedure

7.1.1 The design team and site construction team must identify and report any changes to the Scheme design, construction methods, ECPs etc. that would result in a change to the CEMP or affect an environmental commitment or agreement. Only changes which have been approved would be implemented.

7.1.2 Where changes relate to the Scheme design, they should be managed in line with the Contractors internal change management processes.

7.1.3 For any changes identified on site of an environmental aspect, including those raised as an incident/unexpected find and reported as per the relevant ECP e.g. unexpected contaminated land, or protected species, this shall be notified using the Contractors early warning process.

7.2 Responsibility for Approval of Changes

7.2.1 Highways England or their appointed agent would have responsibility for approval of all significant changes to the Scheme design, including those that would result a change to the CEMP or affect any environmental commitments or agreement.

7.2.2 Where applicable, this may require Secretary of State (SoS) or other third-party approval as set out in the DCO requirements.

7.2.3 Where necessary Highways England would seek advice from environmental specialists and/or consult with relevant parties and statutory bodies, such as Natural England or the Environment Agency, before approving changes.

8 ENVIRONMENTAL MONITORING REQUIREMENTS

8.1 General Requirements

8.1.1 The ES (document reference TR010035/APP/6.1-6.20) and REAC (document reference TR010035/APP/7.3 – Rev 2) propose certain requirements for environmental monitoring to ensure the identified mitigation measures and actions can be tracked and closed out when completed. Some of these are specific e.g. noise monitoring, others are more general e.g. covered by regular inspection / audit or confirmation by the construction team that an element of the Scheme design has been completed.

8.2 Detailed Requirements

8.2.1 The details of specific monitoring and reporting requirements are outlined in the REAC (document reference TR010035/APP/7.3 – Rev 2).

9 MONITORING TO ENSURE COMPLIANCE WITH THE CEMP

9.1 Regular Inspections and Monitoring

9.1.1 The Contractor would carry out formal SHE inspections of all work areas at least every 7 days. Inspections shall detail realistic timescales for actions and these would be monitored by the site team. Data from inspections shall be used for trend analysis purposes to allow pin point targeting of recurring issues.

9.1.2 The Contractor would ensure that competent persons undertake all other statutory inspections at required intervals.

9.1.3 In addition to the above, the Contractor shall monitor health, safety and environmental standards and performance as follows:

- The Contractors Supervisors would monitor their work areas SHE conditions and performance daily / routinely
- Spot checks of sub-contractors' inspections and documentation (including registers) verifying compliance
- Sample checks of sub-contractors / Contractors briefing of own team on method statements through the use of stop shift audits
- Sample checks on the training of staff by sub-contractors / Contractor
- Periodic audits, checks and inspections by the SHE Team (this includes the monthly scored inspection)
- Monthly reviews of risk assessments / method statements
- Sample checks of compliance with method statements and Permits to Work.

9.2 Procedures in the Event of Failure to Comply with the CEMP

9.2.1 Any persons who disregard the SHE rules and arrangements detailed in this plan would in the first instance receive a written warning from the Contractor Project Manager or nominated person; subsequent misdemeanor would provoke the removal of the person from site. The Contractor project manager reserves the right to remove from site instantly any person whose acts or omissions in his opinion constitute serious danger to people or property.

9.2.2 Moreover, the Contractor may give reasonable directions to any contractor sharing the site for the purposes of construction (regardless of contractual arrangements) in order for him to comply with duties under Construction Design Management (CDM) Regulations 2015.

9.2.3 The Principal Contractor is given the authority under Regulation 22(1)(e) of CDM 2015 to issue reasonable directions to contractors. Such directions must:

- Relate to compliance with the Principal Contractor's duties
- Be reasonable given the specific circumstances applicable at the time

CEMP Review

9.2.4 The CEMP can be reviewed as often as is necessary to include the significant changes in equipment, risk, and scope of works, circumstances, people or other organisational change.

9.2.5 The review would be conducted using the Contractors internal management system and be recorded.

9.2.6 The suitability of and performance against the CEMP would be reviewed to ensure that it remains valid and reflects the arrangements for managing current activities on site.

10 ENVIRONMENTAL ASSET DATA AND AS BUILT DRAWINGS

10.1.1 Identifying and recording EnvIS data is an ongoing process. A revised set of as built drawings and environmental asset data would be submitted to EnvIS upon completion of the construction phase. The drawings would reflect any changes made to the specifications and working drawings in line with the requirements set out in IAN 84/10.

Note: this approach would align with and inform the requirements of the 'As-Built Documentation' required at Project Control Framework (PCF) Stage 6.

11 REFERENCES

BSI (1996, as amended) BS EN ISO 14001: Environmental Management

Highways Agency (2008) *Design Manual for Roads and Bridges ("DMRB") Volume 11, Section 2, Part 5, HD205/08 and Part 6, HD48/08*

Highways Agency (2010) Interim Advice Note ("IAN") 84/10 Environmental Design and Management Section 10 Environmental Information System –EnvIS (IAN 84/10)

Highways Agency (2014) *Interim Advice Note ("IAN") 183/14 Environmental Management Plans (IAN 183/14)*

IEMA (2008) *and Environmental Management Plans: Practitioner Best Practice Series, Volume 12*

Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

12 ABBREVIATIONS

Term	Meaning
BSI	British Standards Institution
CDM	Construction Design and Management
CEMP	Construction Environmental Management Plan
DCO	Development Consent Order
DMRB	The Design Manual for Roads and Bridges
ECoW	Environmental Clerk of Works
ECP	Environmental Control Plan
EIA	Environmental Impact Assessment
EnvIS	Environmental Information System
ES	Environmental Statement
FRAP	Flood Risk Activity Permit
HEMP	Handover Environmental Management Plan
IAN	Interim Advice Note
IEMA	Institute of Environmental Management and Assessment
km	Kilometre
LNR	Local Nature Reserve
m	Metre
m3	Cubic metre
MMO	Marine Management Organisation
NNR	National Nature Reserve
PCF	Project Control Framework
REAC	Record of Environmental Actions and Commitments
SAC	Special Area of Conservation
SHE	Safety, Health and Environment
SoS	Secretary of State
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SWMP	Site Waste Management Plan
TBC	To Be Confirmed

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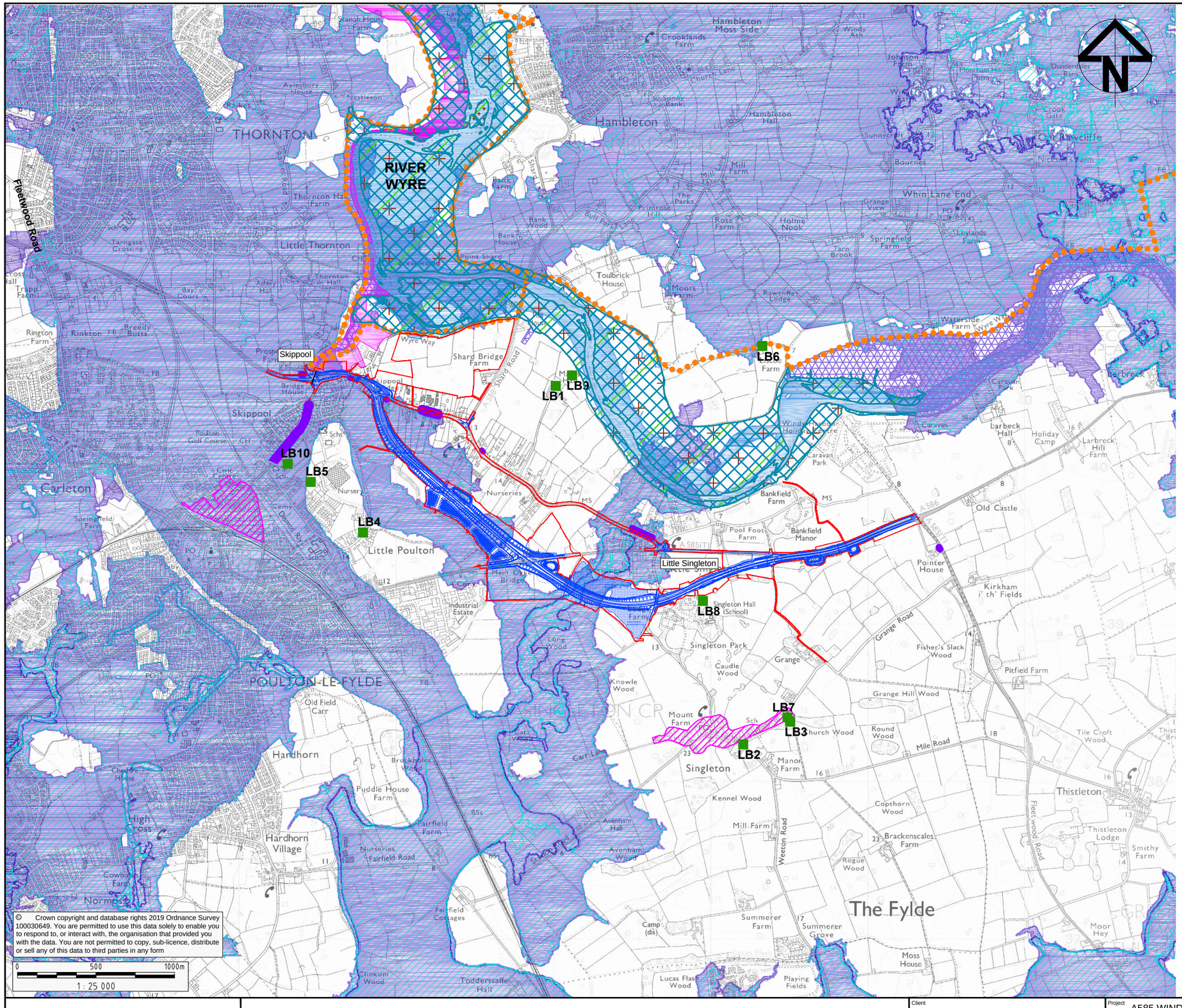
Appendix A – Constraints Map



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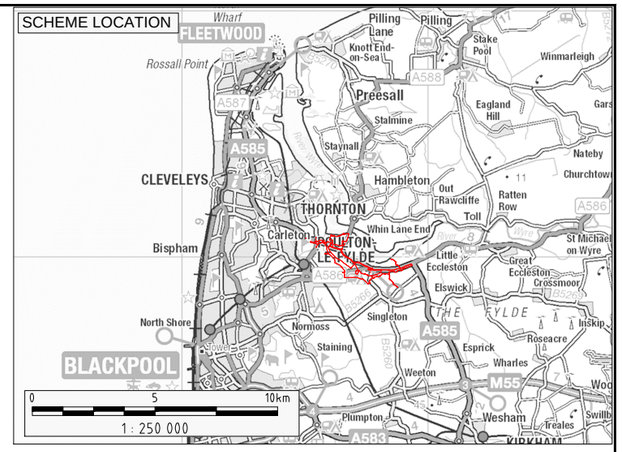

ID	Name
LB1	Mains Hall
LB2	Former Fire Engine House at Corner of Church Road
LB3	Church of St Anne
LB4	End Cottage Old Farm
LB5	The Manor
LB6	Liscoe
LB7	Lychgate to Church of St Anne
LB8	Ice House at Singleton Hall
LB9	Dovecote in Field, Circa 150m north of Mains Hall
LB10	Former Chapel of St John And Attached Priest's House
CA1	Poulton-le-Fylde Conservation Area
CA2	Singleton Conservation Area

KEY:

- Draft Order Limits
- The Scheme
- Wyre Way
- Wyre Estuary Country Park
- Noise Important Area
- Morecambe Bay and Duddon Estuary Special Protection Area
- Morecambe Bay Ramsar Site
- Morecambe Bay Site of Special Scientific Interest
- Wyre and Lune recommended Marine Conservation Zone
- Biological Heritage Site
- Flood Zone 2
- Flood Zone 3
- Grade II Listed Building
- Conservation Area

Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
1	S8	MAY19	S8 - DEADLINE 2 SUBMISSION	JN	KB	NH
0	S8	OCT18	S8 - DCO SUBMISSION	JN	KB	NH

Client: highways england

Project: A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME

Drawing Title: ENVIRONMENTAL STATEMENT REGULATION 5(2)(a) CEMP: ENVIRONMENTAL CONSTRAINTS

Status	S8 - DEADLINE 2 SUBMISSION	Revision	1
Scale	1:25 000 @ A3	Date	MAY 2019
Drawn By	J.NORMAN		
Checked By	K.BURROWS		
Approved By	N.HENDERSON		
PINS No.	TR010035		FIGURE 1

Drawing number (HE PIN | Originator | Volume | Location | Type | Role | Number): HE548643-A585-EAC-SZ_GN000-DR-L-3104

Appendix B – Bird Mitigation Strategy

A585 Windy Harbour to Skippool Improvement Scheme

TR010035

Bird Mitigation Strategy

APFP Regulation 5(2)(q)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 7

October 2018

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585 Windy Harbour to Skippool Improvement Scheme
Development Consent Order 201[ ]

BIRD MITIGATION STRATEGY

Regulation Number:	Regulation 5(2)(q)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/7.2
Author:	A585 Windy Harbour to Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	October 2018	DCO submission

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CONTENTS

LIST OF APPENDICES

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1 INTRODUCTION

1.1 Overview

1.1.1 This document provides the Mitigation Strategy for the A585 Windy Harbour to Skippool Improvement Scheme (hereinafter referred to as 'the Scheme'), to offset the potential disturbance / displacement impacts on the over-wintering bird populations associated with the adjacent Morecambe Bay and Duddon Estuary Special Protection Area (SPA) / Morecambe Bay Ramsar site.

1.1.2 This document forms Appendix B to the Outline Construction Environmental Management Plan (CEMP) (document reference TR010035/APP/7.2). All mitigation and monitoring commitments for the Scheme (including this Mitigation Strategy) have been incorporated into the Record of Environmental Commitments (REAC) (document reference TR010035/APP/7.3) within the Outline CEMP. The Outline CEMP would be part of the contract documents and would therefore be an Employer's Requirement during the construction of the Scheme. Fulfilment of the mitigation measures are also an obligation under the draft Development Consent Order (DCO) Requirement 4 (document reference TR010035/APP/3.1).

1.1.3 To assist with the implementation of this Mitigation Strategy, an Environmental Manager and/or Ecological Clerk of Works (ECoW) as required by the REAC (document reference TR010035/APP/7.3) would be employed during the construction phase of the Scheme. This individual would be responsible for overseeing the works, ensuring the mitigation measures are implemented, and liaising with Natural England, where / if necessary.

1.2 Background

1.2.1 The Habitats Regulations Assessment (HRA) (document reference TR010035/APP/5.4) and Chapter 8: Biodiversity of the Environmental Statement (document reference TR010035/APP/6.8) identified the potential for disturbance / displacement effects on SPA / Ramsar site species associated with the construction works of the Scheme. Potential for adverse effects on pink-footed geese, lapwing and curlew could not be ruled out, and therefore, mitigation was required (further details are provided in Section 6 of the HRA (document reference TR010035/APP/5.4)) and Chapter 8: Biodiversity (document reference TR010035/APP/6.8) Section 8.6. No other mitigation measures were considered necessary in relation to potential impacts on SPA / Ramsar site birds. Mitigation measures in relation to protecting water quality of the SPA / Ramsar site are set out within the REAC (document reference TR010035/APP/7.3).

1.3 Mitigation Land

1.3.1 An area of land was identified within the draft order limits to provide mitigation for the potential disturbance / displacement impacts during construction. The size and location of the area was agreed in consultation with Natural England. The location of the mitigation area is shown on Figure 1, Annex A.

1.3.2 The mitigation area would be under the control of Highways England for the duration of the construction period (2020 to 2022) and negotiations have commenced with the land owner.

1.3.3 The land would be managed by Highways England in consultation with the landowner / tenant for the duration of the construction works.

2 MITIGATION STRATEGY

2.1 Location of Mitigation Area

2.1.1 The mitigation land comprises a single area (encompassing 5 fields totaling 14.5ha) to the north of the Scheme. The location of the fields would allow easy access for birds from the adjacent River Wyre, which forms part of the SPA/Ramsar site. The location of the mitigation area is shown on Figure 1, Annex A.

2.1.2 The mitigation area would provide an alternative foraging area away from the potential temporary disturbance / displacement associated with the construction works. The mitigation area would provide a combination of habitats suitable for pink-footed geese, lapwing and curlew. The draft mitigation plan is shown on Figure 2, Annex A, and shows how the land would be split to allow for the differing habitat management requirements for these three species (as well as other SPA / Ramsar site wintering waterfowl, including little egret).

2.2 Current Management of Mitigation Area

2.2.1 The fields are currently farmed as arable, and the most recent crop (in 2017 / 18) was forage maize.

2.3 Current Use of Mitigation Area by Pink-footed Geese, Lapwing and Curlew

2.3.1 No pink-footed geese were recorded within the mitigation area during the bird surveys, however, they were recorded in fields to the east of the mitigation area utilising sheep grazed fields (refer to Figure 3, Appendix 1 of the HRA Report (document reference TR010035/APP/5.4).

2.3.2 One record of a single curlew was recorded within the mitigation area in October 2017, but no other curlew were recorded using the area during the bird survey period (refer to Figure 4, Appendix 1 of the HRA Report (document reference TR010035/APP/5.4).

2.3.3 A small number of lapwing were recorded during each of the 2 winter survey periods. Five records of between 1 and 8 birds were recorded between September 2016 and April 2017 and 4 records of between 1 and 11 birds were recorded in November 2017 with a further record of 1 bird in April 2018 (refer to Figure 5, Appendix 1 of the HRA Report (document reference TR010035/APP/5.4).

2.4 Shooting Rights

2.4.1 The parcels of land surrounding the mitigation area to the east and southwest would also be within the ownership of Highways England for the duration of the construction phase (as indicated by the green hatching on Figure 1, Annex 1). No shooting would be permitted on the land owned by Highways England during the construction phase. This would include the mitigation area, and land surrounding the mitigation area allowing birds to use the full extent of the mitigation area. Although the land surrounding the mitigation area would not be specifically managed for SPA/Ramsar site species during the construction phase, it would continue to be farmed, and, as such would be available for birds during this time, should they wish to use it.

2.5 Implementation of the Mitigation Strategy for Pink-footed Geese

2.5.1 Twelve and a half hectares of the mitigation area have been allocated specifically for pink-footed geese (as shown by the orange hatching on Figure 2, Annex A). The following measures would be implemented in this area to increase the suitability of the land for pink-footed geese for the duration of the construction works.

Crop Management

2.5.2 The Royal Society for the Protection of Birds (RSPB) provides advice to farmers on the sensitive management of farmland for pink-footed geese, refer to Annex B. The advice suggests that '*pink-footed geese prefer food with high levels of carbohydrates and/or nitrogen and low levels of fibre. Sugar beet tops and spilled grain in stubble fields are ideal. Harvested sugar beet fields are the preferred feeding sites during the rest of the winter. Pink-footed geese also feed on improved grassland, ideally near their night-time roost sites*.' Based on this information, the following management options are being considered in consultation with Highways England and the tenant farmer:

Option 1: Two crops

2.5.3 Sow 2 fields with a pasture crop (*Lolium* sp./clover) for the duration of the construction phase. The crop would be planted in spring 2020, then cut short (to a sward depth of approximately 5cm) in late summer (e.g. as silage) or grazed to produce a short sward ready for the pink-footed geese when they arrive in autumn / winter. The pasture crop would be allowed to regrow in the second spring / summer and cut or grazed again in late summer ready for the second winter.

2.5.4 The other 2 fields could be cropped with an arable crop such as wheat or barley. The crop would be sown in spring 2020 and harvested in late summer. The stubble would remain over the winter for the geese to feed on and replanted the following spring. The crop would be harvested again in the second summer ready for the geese to feed on the stubble for the second winter.

Option 2: Single crop of arable in all fields

2.5.5 All 4 fields would be cropped with an arable crop, such as wheat or barley, and managed as above.

Option 3: Single crop of pasture in all fields

2.5.6 All 4 fields would be sown with a pasture crop (*Lolium* sp. /clover) and managed as above.

Hedgerow Management

2.5.7 The hedgerows between the fields within the mitigation area (shown as green lines on Figure 2, Annex A) would be cut short for the duration of the construction works (1 to 1.5m). The hedgerows themselves would not be removed but cut sufficiently low to allow good sightlines across the fields. The hedgerows would be cut in late summer (August / September) of 2020 to avoid the bird nesting season, and to ensure that they are cut prior to the birds returning in autumn / winter. It may be necessary to re-cut the hedgerows prior to second winter of the construction phase.

2.5.8 Following completion of the construction works (summer 2022), the hedgerows would be allowed to regenerate. Any significant gaps would be replanted to ensure the hedgerows are returned to their pre-construction state.

Supplementary Feeding

2.5.9 In the event the crops are not considered to provide sufficient food for the geese, a program of supplementary feeding would be developed. Any supplementary feeding would be undertaken by the farmer in consultation with Highways England and Natural England. The exact requirements (in terms of the type and amount of feed, and

duration) would be determined depending on the need which has arisen through monitoring (refer to Section 3).

2.6 Implementation of the Mitigation Strategy for Lapwing and Curlew

2.6.1 An area of 2ha has been allocated for mitigation specifically for lapwing and curlew. (as shown by the purple hatching on Figure 2, Annex A). The following measures would be implemented in this area to increase the suitability of the land for lapwing and curlew for the duration of the construction works.

Provision of New Scrapes

2.6.2 Up to 5 new scrapes would be created to provide additional foraging habitat for lapwing and curlew throughout the winter period. These features would also provide benefit for other SPA / Ramsar site species during the construction phase of the Scheme. The scrapes would be created in accordance with the advice set out with the RSPB guidance: Farming for Wildlife. Scrape creation for Wildlife, refer to Annex C.

2.6.3 The scrapes would be created using a combination of hand tools and small-scale machinery and would be undertaken in late summer (August / September) to avoid the bird nesting season and ensure that they are in place prior to the autumn / winter.

Maintenance of a Short Sward Around the New Scrapes / Ponds

2.6.4 The field around the scrapes would be planted with a pasture crop (*Lolium* sp./clover) for the duration of the construction phase. The crop would be planted in spring 2020, then cut short (to a sward depth of approximately 5cm) in late summer (August / September) in both construction years to ensure that the sward height is kept low (approximately 5cm) prior to the start of the autumn/ winter period. [Note: the crop could be cut (e.g. for silage) or grazed, this would be determined in consultation with the farmer, and how easily the field can be accessed around the new scrapes]

Scrub Management Around the Existing Ponds

2.6.5 The scrub around the existing 3 ponds would be reduced to improve sightlines across the mitigation area and increase suitability of the ponds for lapwing and curlew. The fringes of the ponds may also be extended to create sloping edges, again improving their suitability for waders and waterfowl.

2.6.6 The work would be undertaken in late summer to avoid the bird breeding season, and if necessary may need to be repeated prior to the second winter to ensure that the sightlines are maintained, and the ponds remain suitable.

3 MONITORING

3.1.1 In order to ensure the success of the mitigation measures, monitoring would be carried out throughout the construction phase of the Scheme. The monitoring (including reporting) would be undertaken by the Environmental Manager/ ECoW for the Scheme, or equivalent appointed ecologists.

3.2 Objectives

3.2.1 To determine the success or otherwise of the Bird Mitigation Strategy, 2 objectives have been developed.

3.2.2 The objectives of the monitoring include:

- Objective 1: Ensuring the habitat creation / management is in place and suitable for use by pink-footed geese, lapwing and curlew
- Objective 2: Determining if pink-footed geese, lapwing and curlew are using the mitigation area

3.2.3 In order to determine whether these objectives have been met, the following criteria will be agreed in consultation with Highways England and Natural England.

Objective 1: Ensuring the habitat creation/management is in place and suitable for use by pink-footed geese, lapwing and curlew		
Ensure the habitat has been created/ managed prior to the first winter (2020/2021)	Site visit in August / September 2020 to confirm works have been completed	Determine if any remedial work is required. Ensure remedial measures completed prior to first winter
Ensure habitats remain suitable prior to second winter (2021/2022)	Site visit in August / September 2021 to confirm habitats remain suitable	Determine if any remedial work is required. Ensure remedial measures completed prior to second winter
Ensure habitat remains suitable throughout construction phase	Monthly site visits between October and March (inclusive) to confirm habitats remain suitable	Determine if any remedial work is required. Rectify any issues as soon as possible

Objective 2: Determining if pink-footed geese, lapwing and curlew are using the mitigation area		
Are pink-footed geese, lapwing and curlew using the mitigation area?	Bird surveys once a month between October and March (inclusive) in both years. Vantage point surveys from suitable locations to avoid disturbance to any birds which may be using the mitigation area, or adjacent land.	Results of each survey visit to be reviewed to determine if further surveys required, or if additional measures are necessary, such as supplementary feeding. Results would be reviewed in consultation with Natural England, where appropriate.

3.3 Achieving the Objectives of the Mitigation Strategy

3.3.1 As discussed with Natural England, it may not be possible to achieve Objective 2, if

birds choose not to utilise the mitigation area during the construction phase of the Scheme. Therefore, it was agreed that if the bird counts do not meet the objective (i.e. pink-footed geese, lapwing and curlew are not recorded using the fields), but it can be demonstrated that Objective 1 has been met, this would still determine that the Bird Mitigation Strategy has been effective.

4 PROGRAMME

4.1.1 A draft programme is detailed below which assumes a start date of Spring 2020.

	2020												2021												2022											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Pink-footed geese																																				
Crop management for pink-footed geese (planting crop) [*depending which option is chosen*]																																				
Crop management for pink-footed geese (cutting crop) [*depending which option is chosen*]																																				
Hedgerow management (cutting)																																				
Hedgerow management (replanting gaps, if required)																																				
Lapwing and curlew																																				
Provision of new scrapes																																				
Maintenance of short sward (planting crop)																																				
Maintenance of short sward (cutting)																																				
Scrub management																																				
Monitoring																																				
Ensure habitats created/ managed prior to first winter																																				
Ensure habitats remain suitable prior to second winter																																				
Ensure habitat remains suitable throughout construction phase (monthly checks)																																				
Bird monitoring surveys																																				

	2020												2021												2022											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
(monthly visits)																																				

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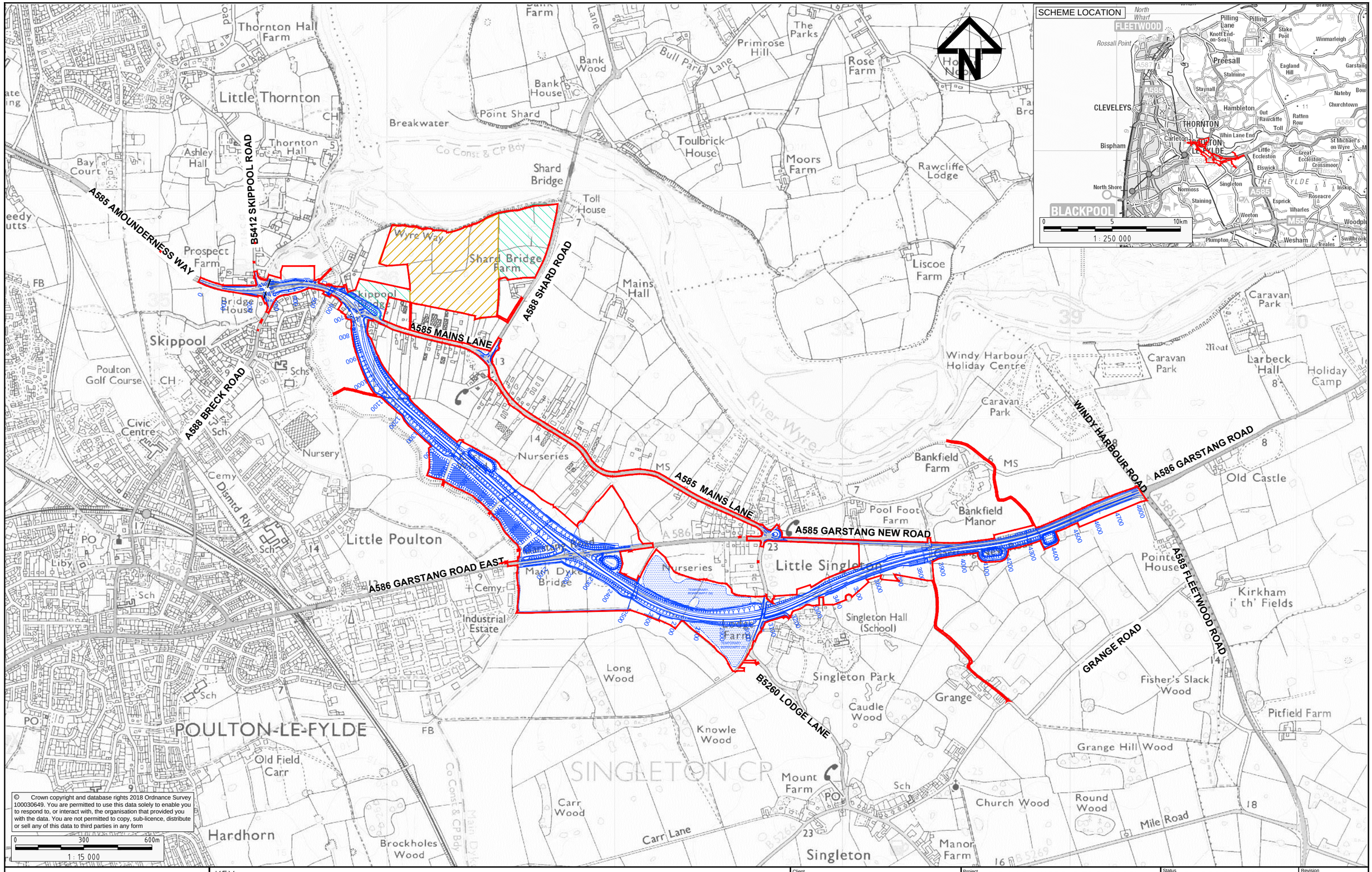
ANNEX A – Drawings



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KEY:

🟥	Draft Order Limits
▨	The Scheme
▨	Mitigation Area
▨	Land Surrounding Mitigation Area

Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
0	S8	OCT18	S8 - DCO SUBMISSION	JN	KB	NH

Client
highways england

Project
A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME

Drawing Title
ENVIRONMENTAL STATEMENT
REGULATION 5(2)(a)
CEMP BIRD MITIGATION STRATEGY:
LOCATION OF MITIGATION AREA FIGURE 1

Status	S8 - DCO SUBMISSION	Revision	0
Scale	1:15 000 @ A3	Date	OCT 2018
Drawn By	J.NORMAN		
Checked By	K.BURROWS		
Approved By	N.HENDERSON		
PINS No.	TR010035		FIGURE 1

Drawing number HE PIN | Originator | Volume | Location | Type | Role | Number
HE548643-A585-EAC-SZ_GN000-DR-L-3105

SCHEME LOCATION

SEE INSET

SCALE 1:8 000

A585 AMOUNDERNESS WAY
B5412 SKIPPOOL ROAD
A588 SHARD ROAD
A585 MAINS LANE
A588 BRECK ROAD
A585 MAINS LANE
A585 GARSTANG NEW ROAD
A586 GARSTANG ROAD EAST
WINDY HARBOUR ROAD
A586 GARSTANG ROAD
A588 FLEETWOOD ROAD
B5260 LODGE LANE
Carr Lane

0 300 600m
1 : 15 000

0 5 10km
1 : 250 000

KEY:

- Draft Order Limits
- The Scheme
- PFG Habitat Management
- Lapwing and Curlew Habitat Management
- Land Surrounding Mitigation Area
- Scrapes
- Hedgerow Management

Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
0	S8	OCT18	S8 - DCO SUBMISSION	JN	KB	NH

Client: highways england

Project: A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME

Drawing Title: ENVIRONMENTAL STATEMENT REGULATION 5(2)(a) CEMP BIRD MITIGATION STRATEGY: MANAGEMENT PROPOSALS FIGURE 2

Status	S8 - DCO SUBMISSION
Revision	0
Scale	1:15 000 @ A3
Date	OCT 2018
Drawn By	J.NORMAN
Checked By	K.BURROWS
Approved By	N.HENDERSON
PINS No.	TR010035
	FIGURE 2

Drawing number: HE548643-A585-EAC-SZ_GN000-DR-L-3106

ANNEX B – RSPB Farming for Wildlife. Pink-footed goose

RSPB

for birds
for people
for ever

ENGLISH NATURE

FARMING FOR WILDLIFE

Pink-footed goose

Andy Hay (rspb-images.com)

The pink-footed goose is a small, brown goose with pink legs, a small black and pink bill and a distinctive grey forewing in flight.

Internationally-important numbers of pink-footed geese now spend the winter in the UK. In the 1960s, only 50,000 birds wintered in the UK – now there are more than 200,000. There are regularly more than 100,000 pink-footed geese in north Norfolk and the Broads. They feed in the arable farmland on post-harvest cereal stubbles, sugar beet tops and winter wheat crops. Damage to crops can be minimised with careful management.

WHAT DO PINK-FOOTED GEESE NEED?

Undisturbed daytime feeding sites

Pink-footed geese are highly susceptible to human disturbance. Research suggests that they avoid feeding in fields less than 6 hectares (ha) in size and fields that are close to roads. Shooting disturbs the geese more and disperses them over a wide area, often onto vulnerable crops.

A supply of carbohydrate-rich food

In mid-winter, most geese prefer food with high levels of carbohydrates and/or nitrogen and low levels of fibre. Sugar beet tops and spilled grain in stubble fields are ideal. Stubble fields are only available to the geese in autumn and early winter, before they are ploughed.

Harvested sugar beet fields are the preferred feeding sites during the rest of the winter. Pink-footed geese also feed on improved grassland, ideally near their night-time roost sites.

GUIDELINES OVERLEAF

HOW CAN I ENCOURAGE PINK-FOOTED GEESE?

Avoid disturbing geese feeding on sugar beet tops

- Disturbing geese whilst they are feeding on harvested sugar beet fields can result in moving the birds onto growing crops. It is best to avoid walking on these fields, or travelling through them in all-terrain vehicles. Please avoid shooting geese as they feed.
- Target goose management measures on larger fields (>6 ha) away from major roads and on fields that you know are traditionally used by geese.

Leave sugar beet tops as long as possible

- Pink-footed geese prefer to feed on post-harvest sugar beet tops. They will graze on harvested sugar beet fields for up to 30 days after harvest. So, where possible, avoid ploughing in sugar beet tops directly after harvest to sow a winter cereal. Consider growing a spring-sown cereal instead.
- Avoid using sheep to graze on the sugar beet aftermath if you are planning to carry out goose management on these fields.

Avoid partial harvesting of sugar beet fields

- Partial harvesting of sugar beet fields can give pink-footed geese access to unharvested sugar beet roots. Where possible, try to harvest fields completely and avoid harvesting strips through fields.

HOW CAN I DETER GEESE FROM SENSITIVE CROPS?

- Avoid shooting at geese feeding on sensitive crops as this can disperse the geese over a wider area, often onto other vulnerable crops.
- If geese are grazing vulnerable crops, walking out onto the field is often enough to move them on – providing that there are suitable, undisturbed fields available nearby.
- Scarecrows, large fertiliser sacks and farm machinery (eg bowsers) have been used successfully to deter geese from settling on vulnerable crops.

PRIORITY ACTION

- Avoid disturbing geese feeding on sugar beet tops
- Leave sugar beet tops on the field surface for as long as possible
- Target goose management measures on large fields away from roads
- Over-wintered stubbles can be funded by agri-environment schemes

You can get further information on these and other ways of managing your farm for wildlife from:

RSPB regional farmland adviser,
Eastern England Regional Office, Stalham House, 65 Thorpe Road, Norwich, Norfolk NR1 1UD Tel: 01603 661662
E-mail: easternfarmlandadvice@rspb.org.uk

British Sugar plc
Oundle Road
Peterborough PE2 9QU
Tel: 01733 563171
E-mail: info@britishsugar.co.uk

English Nature, Norfolk team,
60 Bracondale, Norwich, Norfolk NR1 2BE
Tel: 01603 598400
E-mail: norfolk@english-nature.org.uk

RSPB regd charity no 207076

850-0999-04-05

ANNEX C – RSPB Farming for Wildlife. Scrape Creation for Wildlife.

RSPB

a million voices for nature

FARMING FOR WILDLIFE

Scrape creation for wildlife

Above: Wetland invertebrates and birds will benefit from the creation of scrapes on your land

Scrapes are shallow depressions with gently sloping edges, which seasonally hold water. They create obvious in-field wet features that are very attractive to wildlife.

They support a wide variety of invertebrates and can provide important feeding areas for breeding wading birds and their chicks.

BENEFITS OF SCRAPE CREATION

Creating new scrapes, and other wet features, is a great way of enhancing damp grassland for wildlife.

They support a wide variety of aquatic, terrestrial and aerial invertebrates, such as beetles, bugs and molluscs, some of which can be rare and of conservation importance.

Research has shown that wet features can provide very important feeding areas for breeding wading birds such as lapwings and redshanks, and their chicks, which find lots of invertebrate food in and around the wet muddy edges. Other farmland birds such as tree sparrows and yellow wagtails may also benefit from these insect-rich areas.

GUIDELINES OVERLEAF

CREATING SCRAPES ON YOUR LAND

Location

The suitability of site for scrape creation may depend on factors such as:

- soil type
- size of site
- land levels and topography
- water sources and quality
- existing land drainage systems and drain locations
- existing flora and fauna, SSSI designations and archaeological/landscape features.

Scrapes for wading birds will usually be located in the lower lying and more open areas of a site, away from tall hedges, woodland and overhead lines. Fields over three hectares are best, while for some aquatic invertebrates a wider variety of situations will be of benefit.

Avoid areas with existing wildlife interest and seek advice about features of landscape, historical or archaeological importance, as scrapes may not be appropriate in some situations. Create a 'cluster' of scrapes of varying sizes and designs, rather than one big one, to provide the greatest benefits for a range of wildlife.

Mike Shurmer (RSPB)

Scrape creation

Gary Woodburn (RSPB)

A simple scrape feature

Scrape design

The most important parts of scrapes for wildlife are the margins. Shallow water and muddy edges provide ideal conditions for wetland invertebrates and plants, and allow access for waders and their chicks to find food. A scrape can be any shape, but edges should always be very gently sloping and with irregular and varied outlines if possible.

Scrapes should be shallow, though not with a uniform depth across the whole area. Deeper areas towards the middle of the scrape should be around 50 cm deep, with humps and hollows throughout to provide as many niches for plants and animals as possible. The suggested minimum size of a scrape is approximately 20 m2. Three of these per hectare would represent a good level of habitat provision. Management of the scrape and sward may also be a factor when deciding on design. If mowing is used, keep the scrape layout simple to make tractor operations simple and quick. Shallow scrapes can be mown through.

Soils

Scrapes can be created on a variety of soil types. On low permeability soils, for example clays and silts with poor structure, the objective is to retain 'perched water' in the features. On permeable soils, for example peats, or those with sand or gravel elements, the objective may be to raise the general water table in the soil so that scrapes will 'break through' to the water table, creating obvious in-field wet features.

Water supply and quality

Scrapes should hold water from March through to the end of June to provide feeding areas for waders and their chicks. These features will usually remain wetter for longer than the surrounding grassland, and so become increasingly important as the rest of the site dries out as summer progresses. Wader chicks may be particularly reliant on these areas to ensure they can find enough food before fledging.

Nigel Blake (rspb-images.com)

Redshank

Gary Woodburn (RSPB)

A scrape created on an old ditch line, with water control pipe

Some scrapes will simply be fed by rainfall and winter floodwater, where this is sufficient. Scrapes can also be created along in-field ditch lines where they are fed by water from the ditch, or connected to them by a footdrain or similar water carrier. Providing an outflow with a control sluice will allow levels in the scrape to be controlled.

Connecting the scrape to a water source may be preferable for wading birds, as the feature is likely to retain water and its associated muddy feeding margins for longer. However, this may be less beneficial for other associated wildlife, if such water contains excessive nutrients, chemicals or silt. Allowing some scrapes to completely dry up at the end of summer will also benefit some invertebrates by limiting larger predators and maintaining early successional habitat stages. A variety of connected and non-connected features are probably best.

Scrape management

Once the scrape is created, it is important to maintain open, muddy margins where wading birds can find and access food. If the margins become too overgrown with plants such as rush, wader use will decline rapidly. Allow livestock to graze and poach the margins at low levels, and do not fence the scrape off. Mowing all, or some of, the margins each year may also be required.

Maintain a small proportion of longer marginal vegetation to provide additional habitat variety, which will benefit invertebrates and plants and provide cover for chicks.

Consents and licensing

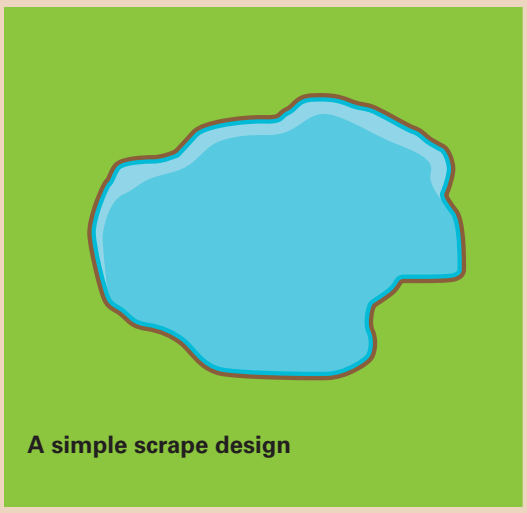
Creating water-retaining features such as scrapes may require consents, licenses or permissions. Consult with the relevant statutory body at an early stage, which may be able to provide advice and help with your project.

Funding

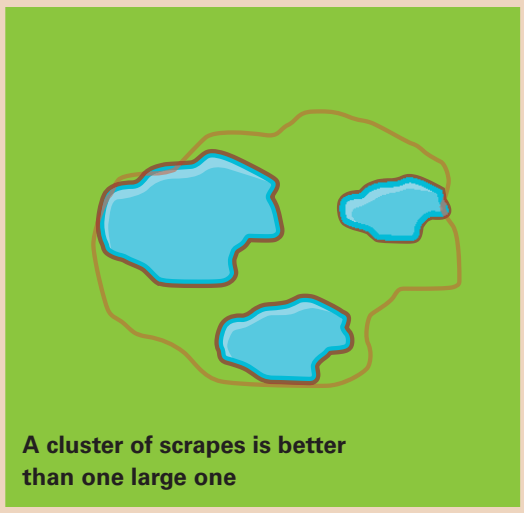
The scrapes, foot drains and grazing management outlined in this leaflet may be eligible for grant funding under current agri-environment schemes.

Chris Knights (rspb-images.com)

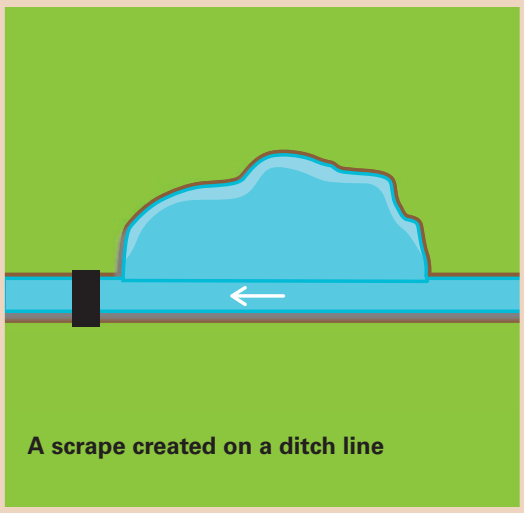
A lapwing chick feeding at the muddy margins of a scrape



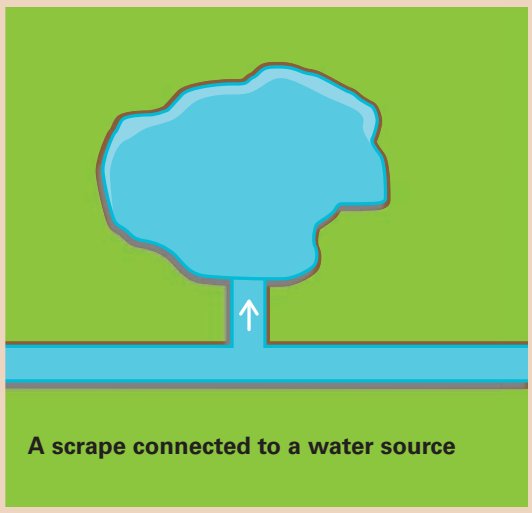
A simple scrape design



A cluster of scrapes is better than one large one



A scrape created on a ditch line



A scrape connected to a water source

FOOT DRAINS AND THE ROTARY DITCHER

Foot drains are long, linear scrapes, typically up to three metres wide and 50 cm deep, which are designed to hold surface water and act as important wet features in their own right. They can also be used to channel water to the centre of fields from perimeter ditches and to feed other wet features.

As they are long and narrow, foot drains provide more wet edge relative to the area of the feature, therefore providing more feeding areas for wading birds. Recent studies have also shown that creating such features is highly beneficial for wetland invertebrates, such as aquatic beetles and flies. 'Foot drain floods' are areas where water overtops foot drains in spring, to create areas of shallow splashing which are an important additional habitat feature for waders.

RSPB research (Eglington 2007 & 2010) has shown that:

- fields with high foot drain flood densities attracted significantly higher densities of nesting lapwing, which nested near such features
- later in the season, chick field use increased significantly with foot drain density and chicks were more likely to forage nearer foot drain floods in areas of wet mud created by receding water levels
- in late season, lapwing chick body condition was significantly higher in fields with foot drain densities of more than 150 m/ha
- wet pools and foot drains supported a greater biomass of terrestrial invertebrates, and a greater abundance of aerial invertebrates, than the surrounding grazing marsh.

Foot drains can be designed to minimise impacts on field management. If topography allows, foot drains can be spaced to allow tractors to cut and turn between them. Simple crossing points can be installed to enable machinery to move across the field. Soil type, topography and water level management are all important when designing the layout of foot drains. Combining scrapes and areas of shallow splashing within foot drain layout and function may provide most benefit.

The rotary ditcher

A foot drain with associated areas of shallow splashing

Gary Woodburn (RSPB)

The rotary ditcher

Mike Shurmer (RSPB)

Foot drains can be created with a rotary ditcher or 360° excavator. The RSPB imported a rotary ditcher from the USA in 2002 with the support of the Heritage Lottery Fund. A rotary ditcher has several advantages:

- foot drains can be created at a rate of up to 200 m per hour – 10 times faster and half the cost of an excavator
- laser-levelling gives an accurate depth of excavation, with adjustable cutting blades able to create variable foot drain profiles
- spoil is spread up to 30 m away as the foot drain is dug
- the machine can also create ditches and simple scrapes up to 12 m wide
- the rotary ditcher and operator can be contracted to work on your site.

For more information visit www.rspb.org.uk/rotaryditcher

KEY POINTS

- Creating wet scrapes, foot drains and pools is a great way of enhancing damp grassland for wildlife.
- They support a wide variety of wetland invertebrates, including rare and important species.
- They encourage wading birds to nest on a site and provide invertebrate rich areas for feeding.

For further information on this and other ways of managing your land for wildlife, please contact:

The RSPB, Conservation Management Advice,
UK Headquarters, The Lodge, Sandy, Bedfordshire SG19 2DL
Tel: 01767 680551
E-mail: conservation-advice@rspb.org.uk
www.rspb.org.uk

Front cover images: Alsoton wetland by Gavin Thomas (RSPB), lapwing by Nigel Blake and great diving beetle by Richard Revels (both rspb-images.com)

223-2108-09-10

Appendix C - Biodiversity Enhancement Strategy

A585 Windy Harbour to Skippool Improvement Scheme

TR010035

Biodiversity Enhancement Strategy

APFP Regulation 5(2)(q)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585 Windy Harbour to Skippool Improvement Scheme

Development Consent Order 201[ ]

BIODIVERSITY ENHANCEMENT STRATEGY

Regulation Number:	Regulation 5(2)(q)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/7.2
Author:	A585 Windy Harbour to Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	October 2018	DCO submission

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1 INTRODUCTION

1.1 Overview

1.1.1 This document outlines the Enhancement Strategy for the A585 Windy Harbour to Skippool Improvement Scheme (hereinafter referred to as 'the Scheme').

1.1.2 This document forms Appendix C to the Outline Construction Environmental Management Plan (CEMP) (document reference TR010035/APP/7.2). All enhancement measures proposed for the Scheme (including this Strategy) are considered to be part of the Record of Environmental Commitments within the Outline CEMP. The Outline CEMP would be part of the contract documents and would therefore be an Employer's Requirement during the construction of the Scheme. Fulfilment of the enhancement measures would also be an obligation under the Development Consent Order (DCO) under Requirement 4 (document reference TR010035/APP/3.1).

1.1.3 To assist with the implementation of the measures set out within this Biodiversity Enhancement Strategy, an Environmental Manager or Ecological Clerk of Works (ECoW) would be employed during the construction phase of the Scheme. This individual would be responsible for overseeing the works, ensuring the enhancement measures are implemented, and liaising with stakeholders, such as Natural England, where necessary.

1.2 Background

1.2.1 New Schemes have a commitment, under current legislation to demonstrate biodiversity enhancement, where appropriate. The National Networks National Policy Statement (NN NPS) (2014) aims to reduce overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, and underlines the requirement to adhere to the existing legislation and policy in relation to biodiversity. In particular, the NN NPS sets out the requirement that "*the applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.*" The Highways Agency Environmental Strategy (2010) also gives consideration to the approach to biodiversity and nature conservation, with the aim of contributing to the creation of coherent and resilient ecological networks by maximising opportunities for protecting, promoting, conserving and enhancing our natural environment. Under this Strategy, projects such as the Scheme must implement actions to protect and enhance the value of Highways England's estate and to maximise the contribution to biodiversity.

1.2.2 In addition, Highways England's Biodiversity Plan (Highways Agency, 2015), published in June 2015, details the aims and obligations it has to deliver as part of the Government's Regional Investment Strategy (RIS) in terms of biodiversity. Highways England is expected to ensure the design of their road schemes reduce impacts on the environment by delivering a reduction in habitat fragmentation and enhancing biodiversity value. They should also actively manage habitats to ensure high species diversity and reduced fragmentation. This is further supported by Highways England's Licence (Highways England, 2015) within paragraphs 4.2g, 4.2h (principles of sustainable development) and 5.2.

1.2.3 This Biodiversity Enhancement Strategy outlines the measures which would be implemented to demonstrate biological enhancement across the Scheme.

1.3 Enhancement Areas

1.3.1 All enhancement would be carried out within the draft order limits. The areas of enhancement have been selected in locations which would form part of the soft estate of the completed Scheme.

1.3.2 The land would be managed by Highways England in consultation with the stakeholders, as required. The enhancement measures would be managed in perpetuity for the benefit of local wildlife.

2 ENHANCEMENT STRATEGY

2.1.1 This Biodiversity Enhancement Strategy has been developed in consultation with Natural England.

2.2 Biodiversity Net Gain

2.2.1 To determine the biodiversity net gain of the Scheme, the Highways England Habitat Metric (defined by 'Biodiversity Units') has been calculated.

2.2.2 The biodiversity units have been determined using the metric calculation published by Highways England in April 2018 within Chief Highway Engineer Memorandum 422/18, hereafter referred to as the 'CHE Memorandum' (Highways England, 2018). The metric was designed with reference to standard industry practice relating to biodiversity offsetting, namely Biodiversity Offsetting Pilots Technical Paper: the metric for the biodiversity offsetting pilot in England (Defra, 2012).

2.2.3 The metric required the calculation of Biodiversity Units based on 5 factors: Distinctiveness, Condition, Area (or metres), Time till target condition and Difficulty of creation/restoration.

2.2.4 Full details of the Biodiversity Metric Calculation for the Scheme are provided in Appendix 8.9: Biodiversity Metric Calculation (document reference TR010035/APP/6.8.9).

2.2.5 The results of the calculation determined that there would be a net gain of 17 biodiversity units for non-linear habitats (grassland, woodland, etc.) and 72,062 biodiversity units for linear habitats (hedges, ditches, etc.). Although there is currently no measure to determine the relative significance of this figure. Broadly speaking, this number equates to the Scheme resulting in a net increase in biodiversity value after the Scheme is completed, when compared to the baseline conditions before construction.

2.2.6 The net increase in biodiversity is as a result of increasing the quality of the habitats post-construction (for example, defunct or species-poor hedgerows would be replanted so as to achieve species-rich and continuous hedgerows, once re-established), and increasing the quantity of the habitats (for example, less than 1ha of broadleaved woodland would be lost, but this would be replaced with more than 5ha of new woodland planting). By improving the quality of the habitats this would increase the distinctiveness score after construction and increasing the quantity of the habitat would increase the area score after construction. Thereby resulting in a net increase in the number of biodiversity units post construction.

2.2.7 It should be noted that the Biodiversity Metric only looks at habitat loss and gain in relation to habitat features and, therefore, does not take into consideration other wider environmental benefits of the Scheme, which would also add to biodiversity gain.

2.3 Enhancement

2.3.1 Enhancement measures are those which are over and above the measures which have been implemented to mitigate for potential impacts on the Scheme. The Biodiversity Metric calculates the biological gains associated with implementing the mitigation for the Scheme (incorporating biodiversity, landscape and drainage mitigation). To further demonstrate biodiversity gain, a number of enhancement measures have also been included as part of the Scheme, as set out within Table 1.

Table 1: Enhancement Measures

Enhancement measure	Location (as indicated on the Environmental Masterplan (document reference TR010035/APP/6.19)	Programme	Management
Reptile hibernacula	One hibernaculum in each area. Adjacent to wetland area 1 (sheet 5), wetland area 2 (sheet 7), pond (sheet 10), pond (sheet 11), wetland area 3 (sheet 12), wetland 4 (sheet 13)	To be installed at the same time as the wetland areas – use waste material from the construction phase.	No further management required.
Bird boxes	One bird box to be located in the vicinity of each bat box (25 total) (sheet 7 and 9)	To be installed at same time as bat boxes.	Check boxes annually. Reinstate or repair boxes where required.
Bee posts	Around ponds (sheet 6) Around pond (sheet 11) if within draft order limits	To be installed at same time as ponds – use waste material from construction phase, or purchase posts, if necessary.	No further management required.
Wildflower meadow	Around wetland area 2 (sheet 7) Around pond (sheet 11)	To be planted in spring after wetland areas have been completed.	Cutting regime to include annual cut in July / August and remove arisings). Scrub management may be required. Works would be undertaken by Highway England's maintenance contractor.
Sensitive management of the ditch network	Ditch network across the Scheme	N/A	Undertake clearance of ditches outside of the bird breeding season. Where possible, clear ditches on a rotation basis to enable different sections of the ditch network to be at different stage of

Enhancement measure	Location (as indicated on the Environmental Masterplan (document reference TR010035/APP/6.19)	Programme	Management
			vegetation growth. Works would be undertaken by Highway England's maintenance contractor.
Sensitive management of the wetland areas	Wetland areas 1 (sheet 5), 2 (sheet 7), 3 (sheet 12), and 4 (sheet 13)	N/A	Edges of the wetland areas will be graded (gradient between 1:1.5 and 1:3) which will be suitable for waterfowl and waders during winter periods

3 MONITORING

3.1.1 To ensure the success of the enhancement measures, monitoring would be carried out.

3.1.2 The detailed monitoring requirements of the enhancement measures would be determined in consultation with Natural England and would form part of the Handover Environmental Management Plan (HEMP) for the Scheme.

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Appendix D – Draft Soil Management Plan

A585 Windy Harbour to Skippool Improvement Scheme

TR010035

Draft Soil Management Plan

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585 Windy Harbour to Skippool Improvement Scheme

Development Consent Order 201[ ]

DRAFT SOIL MANAGEMENT PLAN

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/7.2
Author:	A585 Windy Harbour to Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	October 2018	DCO submission

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1 INTRODUCTION

1.1 Background

1.1.1 The purpose of the Soil Management Plan (SMP) is to provide details of the methodology, control measures and monitoring programme for the site preparation and reinstatement work phases of the Scheme. This includes all land within the site boundary where soils would be disturbed by the construction works.

1.1.2 The SMP would be used as a tool by Highways England and the appointed Agent(s), Contractor(s) or sub-contractor(s) acting on their behalf, as a method to control, record and audit activities relating to soil conditions and soil quality for future re-use. It includes requirements and standards for any imported topsoil and subsoil required.

1.1.3 The SMP draws on key guidance documents as follows:

- Defra Construction Code of Practice for the sustainable use of soils on construction sites
- BS 3882:2015 – Specification for topsoil
- BS 8601:2013 – Specification for subsoil and requirements for use

1.1.4 This document is a Draft SMP. Prior to any soil stripping works commencing the SMP would be updated to provide the required detail (as highlighted throughout this draft). The final SMP would be submitted to Highways England (timeframe to be agreed with Highways England) for review, comment and acceptance.

2 ROLES AND RESPONSIBILITIES

2.1.1 The implementation and audit of the SMP would require certain key responsibilities to be assigned to defined roles. The Contractor would have in place individuals with sufficient training and expertise in assessing soils, soil conditions and soil handling operations to ensure the measures outlined herein can be implemented, supervised and monitored effectively.

2.1.2 In advance of any soil stripping works commencing the Contractor would confirm full details of roles and reporting mechanisms to Highways England for review and acceptance.

3 BASELINE CONDITIONS

3.1.1 A number of different soil types are mapped within the application site (see Figure 10.2 of Chapter 10: People and Communities (document reference TR010035/APP/6.10). At the western limit of the Scheme the soils associated with the Main Dyke floodplain are mapped as loamy and clayey soils of coastal flats with naturally high groundwater. These are mapped as belonging to the Wisbech Association which are developed in Marine Alluvium. Typical profiles can be in excess of 1m in depth with evidence of waterlogging (gleying) within 20cm of the ground surface.

3.1.2 On slightly elevated ground running north-south around Little Singleton and north west towards Skippool Bridge, the soils are mapped as slightly acid loamy and clayey soils with impeded drainage. These are assigned to the Flint Association which are developed in till deposits. Profiles can be deep, but evidence of gleying in not normally seen within 60cm of the ground surface.

3.1.3 To the east the soils are mapped as slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils, with soils more typical of the coastal flat soils found within the lower lying areas. These are assigned to the Salop Association, developed in till deposits. These are also deep soils and can show gleying up to 25cm below ground level.

3.1.4 In advance of soil stripping works commencing a soil survey would be undertaken to develop a Soil Resources Plan (SRP) in line with guidance in the Defra Construction Code. The SRP would be used to inform aspects of this SMP.

4 CALCULATION OF SOIL VOLUMES

4.1.1 The soil stripping, storage and restoration plans (see following sections) would be based on soil volume calculations using the data presented in the SRP (see above).

4.1.2 The clear tracking of actual moved and stockpiled volumes of both topsoil and subsoil would be undertaken to allow restoration re-use plans to be revised based on actual volumes (including required actions in relation to the overall topsoil / subsoil balance).

4.1.3 Clear segregation and storage of topsoil and subsoil resources would be critical to maximizing re-use. All topsoil, subsoil and underlying strata would be stripped and stockpiled separately.

4.1.4 If, once detailed survey information is available, there is a requirement to import topsoil and/or subsoil materials it would be confirmed that these conform to the specifications as set out in the British Standards for topsoil and subsoil (referenced in Section 1.3).

5 SOIL PROTECTION STRATEGY

5.1 Introduction

5.1.1 Since soil is a vulnerable and non-renewable resource, care must be taken throughout all handling, transporting and stockpiling activities to ensure that the soil resources of the site are protected and conserved. Many construction activities have the potential to damage soils. The purpose of this section of the SMP is to describe how the management of soils would be controlled and to specify how soils would be protected and their quality conserved throughout all stages of the work.

5.1.2 Failure to protect soils during disturbance can lead to their degradation with consequential environmental impacts both on-site and off-site, such as: (a) soil erosion, (b) loss of soil organic matter; leading to loss of nutrients and a decline in soil fertility, (c) soil compaction leading to loss of soil structure and reduced permeability to water (leading to waterlogging) and restricted aeration and rooting potential, and (d) loss of soil biological activity.

5.1.3 Degradation of soils can lead to adverse impacts on the landscape, including: (a) alteration to the hydrology of the site caused by changes in surface runoff, (b) increased sediment loading to adjacent watercourses, (c) poor re-establishment of vegetation, and (d) visual impact of slope failure or soil erosion leading to bare soil surfaces.

5.1.4 Measures are provided in this SMP to ensure, as far as is practicable, that soils on site would be stripped, handled and stored appropriately so that they can be re-used in restoration of the site.

5.2 Outline Soil Protection Measures

5.2.1 This SMP describes procedures for soil stripping, handling, transporting, storing, and restoration of soils to maintain, as far as practicable, their soil quality and viability.

5.2.2 There would be a number of control measures at each stage of the works. A summary of these measures is outlined in bullet form below and described in more detail in the following sections.

Early soil protection measures

- Measures for in-situ soil protection during early site clearance activities

Soil recovery and storage (stockpiling)

- In-situ soil protection ahead of stripping; pre-treatment of existing vegetation
- Measures for handling and stockpiling; measures to ensure correct segregation of different topsoil and subsoil resources
- Measures for separate storage of different soil types; and method and locations of stockpiling

Soil reconditioning (for use where required)

- Measures to recondition wet and plastic topsoil and subsoil resources before re-use
- Measures to ensure correct segregation of different topsoil and subsoil resources; measures for handling and to optimise soil drying and re-aeration

- Methods to monitor the process

Soil restoration methods

- soil prescriptions for each different land use; soil handling/replacement methods; and in situ soil treatments for each different land use

Monitoring

- Monitoring programme; soil assessment procedures for (a) soil stripping and storage (b) soil reconditioning and (c) restoration activities
- Acceptability criteria for soil storage, reconditioning and soil replacement activities
- Failures of acceptability criteria and corrective actions

Quality control and auditing measures

- Quality control, auditing procedures and plans; criteria for cessation of works
- Non-compliances and corrective actions
- Use of tool box talks

5.3 Wet Weather Working and Cessation of Works

5.3.1 There is no requirement for the cessation of earthworks under this SMP. However adverse weather can cause difficult and/or dangerous working conditions and therefore may warrant a cessation of works. Criteria for the cessation of works would be agreed with relevant stakeholders in advance of any site operations commencing.

5.4 Use of Tool Box Talks

Regular Tool Box talks would be used to ensure that all site staff are aware of the SMP and applicable soil handling and soil protection procedures. The Tool Box Talks would be site-specific, discussing soil conditions and approaches to soil handling at the site.

6 SOIL MANAGEMENT MEASURES

6.1.1 Outlined below is further detail of soil management measures. Prior to any soil stripping work commencing the SMP would be updated and appendices added to fully detail the approach for each step, based on the requirements of the Defra Construction Code. The revised SMP would be issued to Highways England for acceptance.

6.2 Early Soil Protection Measures

6.2.1 During the earthworks it is essential that soils are adequately protected. Plant and vehicles servicing these activities should be managed to ensure they do not traffic across *in situ* soils. Demarcated access routes would be provided to ensure single points of access to soil strip and storage areas to minimise compaction of underlying soils.

6.2.2 There would be no vehicle access to areas of the site outside the marked access routes (except for light vehicles for site checks and vehicles directly involved with topsoil / subsoil / overburden stripping and transportation). The access plan would be prepared and added to the SMP prior to start of works by the Contractor and issued to Highways England for acceptance.

6.2.3 There would be no lay-down of materials except for those materials required for specific on-going construction activities either within the route corridors or anywhere outside designated storage areas. Subject to ground conditions, materials can be temporarily stored on topsoil if it is considered this would not be detrimental to soil quality.

6.3 Soil Recovery and Storage (Stockpiling)

6.3.1 Before any soil stripping activities take place, a soil strip phasing plan would be prepared by the Contractor, added to the SMP and issued to Highways England for acceptance.

6.3.2 The plan would provide timescales and sequencing of topsoil and subsoil stripping and proposed haul routes. The earthworks would be phased to ensure that topsoil is stripped in each part of the site ahead of subsoil materials and that all soils are stripped from a designated area prior to bulk excavation and earthworks activities within that area.

6.4 Soil Segregation

6.4.1 To ensure that the correct topsoil and subsoil depths are stripped and stockpiled tool box talks would be used to provide the required information and works would be supervised by suitably qualified personnel. The sources of all soil stockpiled would be logged/tracked and would be subject to the auditing process described in the SMP.

6.4.2 Separate stockpiles would be created for different types of topsoil and subsoil. Documentation and physical control measures (such as signing of stockpiles) would be put in place to prevent accidental mixing and to ensure that soils are segregated according to source location. Where there are spatial constraints it may be required to stockpile soils up against each other, with physical separation being achieved by means of a geomembrane barrier / marker layer to ensure no mixing occurs.

6.4.3 All soils to be re-used for landscape restoration would be free from significant quantities of foreign matter or other materials which would render the soils unsuitable for re-use.

6.5 Pre-treatment of Existing Vegetation

6.5.1 It is good practice to reduce the quantity of vegetation entering the storage stockpiles to minimise the formation of anaerobic conditions during storage. As such, in advance of soil stripping, the topsoil would be cleared of surface vegetation and arising removed by a method suited to the vegetation type present. The effectiveness of these operations would be assessed by suitably qualified personnel.

6.6 Methods of Soil Stripping

6.6.1 Where possible a suitably sized hydraulic excavator (maximum 60 tonne) would be used to strip the topsoil and subsoil. Alternatively, a tracked dozer may be used to strip the soils. Dump trucks would be used to transport the soils to their allocated storage location. All procedures would be planned to involve minimum tracking to minimise compaction. Access for dump trucks would be via dedicated marked routes to prevent compaction of non-stripped topsoil and subsoil.

6.7 Soil Storage

6.7.1 Key issues for soil handling, storage and eventual re-use are soil moisture content and soil consistency (plasticity). Soils that are stripped when plastic would require to be reconditioned before re-use for restoration. During the works, soil plasticity status would be determined *in situ* prior to stripping (using a hand test – the approach would be set out for acceptance by Highways England in an updated SMP).

6.7.2 When required prior to soil re-use, windrows for soil drying would be no more than 2m in height. Only once the soil moisture content of windrowed soil has reduced sufficiently and the soil is non-plastic in consistency would it be moved to its final stockpile location or final re-use location.

6.7.3 The general principles governing stockpile location and stability which would be adhered to are as follows:

- All areas designated as stockpiling areas would be stripped of topsoil and subsoil resources prior to stockpiling
- Stockpiles would not be positioned within the root or crown spread of trees, or adjacent to ditches, watercourses or existing or future excavations
- Topsoil and subsoil stockpiles would be seeded with a neutral grassland seed mix to maintain slope stability and to prevent erosion or dust generation
- Grass seeded and maintained stockpiles would have a maximum side slope that is based on geotechnical stability
- Topsoil and subsoil stockpiles would be managed and monitored throughout their lifetime to ensure maintenance of stockpile stability and integrity

6.7.4 Measures to manage and treat site runoff and prevent erosion and dust generation during soil stripping and stockpiling works would be set in place through a series of specific control measures. These would be described in the Construction Environmental Management Plan (CEMP) (refer to the Outline CEMP (document

reference TR010035/APP/7.2)). Construction methodologies would ensure appropriate bio-security (disease and pest control) and weed control to protect both on-site soils and adjacent land holdings.

6.8 Stockpile Locations, Treatment Areas and Access Routes

6.8.1 The location of topsoil and subsoil stockpiles would be clearly set out on stockpile plans which would be added to this SMP and issued to Highways England for acceptance. Once agreed, locations would be clearly marked out on the ground.

6.8.2 This would include clear mapping of required access routes to stockpile locations for all phases of the soil stripping, transport and stockpiling activities. As works progress and change location, the access route demarcation and signage would be changed accordingly, in advance.

7 SOIL RESTORATION METHODS

7.1 Introduction

7.1.1 The primary objective of soil restoration is to provide soil profiles suitable for the final landscaping proposed.

7.1.2 During the placement of topsoil and subsoil resources in their final location the methods outlined above would be followed. This would include, but not be limited to, the implementation of an access and egress plan for vehicles and plant to prevent unnecessary trafficking of restored areas, use of appropriate scale plant, such as 360° excavators rather than bulldozers, avoidance of double handling and avoidance of mixing topsoil and subsoil.

7.1.3 During restoration works, measures to manage and treat site runoff, and prevent erosion and dust generation would also be set in place through a series of specific control measures. These requirements would be set out in the CEMP. Specific issues would be around biosecurity (disease and pest control) and weed control to protect both on-site soils and adjacent land holdings during restoration.

7.1.4 These activities are detailed further in the following sections.

7.2 Placement and *in situ* Treatment of Soil Materials

7.2.1 Prior to restoration activities taking place, topsoil would have been stored in stockpiles for extended periods. To confirm continuing suitability of stockpiled soils for restoration, they would be visually inspected, and assessments carried out before their re-use (see Section 8 Monitoring). If any soil is found to be plastic or display excessive anaerobic conditions the materials would be reconditioned as detailed above. It would be the responsibility of the Contractor to assess soil conditions in each stockpile and to recommend appropriate pre-treatment prior to soil placement should it be required.

7.2.2 During topsoil and subsoil placement there are two fundamental requirements: (a) to replace and spread out the necessary combination of topsoil and/or subsoil to re-create the soil profile and (b) to ensure careful handling and re-placement of soils, avoiding compaction and any unnecessary damage to soil structure. The following procedure (which is further detailed in the Defra Construction Code of Practice) is designed to ensure that these requirements are met.

7.2.3 The SRP would clearly set out the topsoil and subsoil thickness in undisturbed soils and these thicknesses would be replicated in the restored soil profiles.

7.2.4 After the placement of each soil layer (overburden, topsoil and/or subsoil) it is essential that it is mechanically cultivated using appropriate tillage equipment to loosen/break up compaction and restore soil structure. To be fully effective, these cultivations would be carried out when the soils are dry and friable. Otherwise the cultivation tool/tine merely cuts and smears the soil rather than lifting, fracturing and loosening it.

7.2.5 Prior to the placement of stockpiled subsoil and topsoil, the re-profiled surface would be overlain with overburden material to create the required landform. After placement of overburden, the area would be deep ripped prior to placement of stockpiled subsoil and topsoil. This operation would be checked by suitably qualified personnel to ensure satisfactory decompaction has been achieved.

7.2.6 The various topsoil and/or subsoil materials would be placed in layers over the ripped overburden using suitable machinery. The topsoil and subsoil would be checked by suitably qualified personnel to ensure compliance with the appropriate parameters at this stage (soil type, soil depths and stoniness). Once the soil profiles have been formed, the topsoil and subsoil would be thoroughly decompacted, loosened and prepared using land restoration/agricultural machinery to ensure they meet soil structure and aeration criteria.

7.2.7 Subsoil cultivation is scheduled after the topsoil is placed to allow the subsoil to be decompacted without risk of re-compaction during topsoil spreading. This approach would also 'key in' the topsoil with the subsoil to produce a soil profile that displays continuity between each layer.

8 MONITORING

8.1 Introduction

8.1.1 To ensure soil quality is maintained throughout the works, key stages would be monitored by appropriately trained and experienced personnel.

8.2 Monitoring Programme

8.2.1 The monitoring programme shall incorporate the following:

Soil Recovery

- The effectiveness of vegetation pre-treatment in advance of soil stripping
- An assessment of soil plasticity ahead of soil stripping. This would determine whether a soil reconditioning stage is needed after storage and before re-use

Storage

- Assessment of soil stockpiles to ensure soil quality is maintained during storage and to determine reconditioning requirements

Reconditioning

- The effectiveness and progress of the soil reconditioning process

Soil replacement

- Key stages of the soil placement and decompaction/cultivation sequence to check correct soil spreading and effectiveness of tillage operations
- An assessment of the acceptability of the replacement soil profiles for the restoration design

8.3 Personnel

8.3.1 The monitoring tasks shall be conducted by specialist personnel with appropriate experience and training for their role.

8.4 Documentation

8.4.1 Inspection processes, checklists and acceptability criteria would be developed by the Contractor and issued to Highways England for acceptance prior to any works commencing. Documentation of the monitoring undertaken, including clearly marked up plans, would be maintained and made available to Highways England.

8.5 Reporting of Findings

8.5.1 The findings of all examinations and assessments would be recorded and held by the Contractor for record keeping and to enable actioning of necessary corrective actions.

8.6 Failures of Acceptability Criteria and Corrective Actions

8.6.1 Where the soils are found to be non-compliant in any respect, appropriate means of remediation would be proposed by the appointed Contractor for acceptance by Highways England. Once the affected area has been treated, it would be reassessed before sign-off.

9 AUDITING

9.1.1 An audit checklist would be developed by the Contractor and issued to Highways England for acceptance. This would be updated in advance of works commencing to identify key dates and responsible persons. This would then be used during the works to ensure all checks have been undertaken and required records completed.

Appendix E - Soil Resource Plan [To be prepared by the Contractor prior to construction commencing]

Appendix F - Noise and Vibration Management Plan [To be prepared by the Contractor prior to construction commencing]

Appendix G – Draft Pollution Control Plan – Rev 1

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TR010035

Draft Pollution Control Plan

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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DRAFT POLLUTION CONTROL PLAN

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010035
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Author:	A585 Windy Harbour to Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	October 2018	DCO submission
Rev 1	May 2019	Deadline 2 Submission

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LIST OF APPENDICES

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1 POLLUTION CONTROL PLAN

1.1 Introduction and Background

1.1.1 This plan is the draft Pollution Control Plan. It details the preventative actions to be taken for the construction of the Windy Harbour to Skippool Improvement Scheme (the Scheme) and should be read in conjunction with the Outline Construction Environmental Management Plan (CEMP) (document reference TR010035/AP/7.2 – Rev 1). Following the appointment of the Contractor this draft Pollution Control Plan would be developed into the final Pollution Control Plan and used on site during construction.

1.1.2 Pollution prevention and control measures have been embedded into the Scheme design for example drainage design. The purpose of this plan is to ensure that where potential pollution pathways are created during the works e.g. topsoil stripping, replacing Skippool Bridge etc, that pollution prevention methods are employed.

1.1.3 The Environment Agency would be consulted on the contents of this plan.

1.1.4 Where appropriate the Scheme would take into account the Environment Agency Pollution Prevention Guidelines (PPGs) (whilst these have been withdrawn as EA guidance, they are still considered to be best practice for baseline for pollution prevention) and CIRIA Guidance outlined in Table 1-1.

Table 1-1: PPGS and CIRIA Guidance

PPG / CIRIA Guidance	Title
PPG1	General Guide to the Prevention of Pollution
PPG2	Above Ground Storage Tanks
PPG3	Use and design of oil separators in surface water drainage systems
PPG4	Treatment and disposal of sewage where no foul sewer is available
PPG5	Works and maintenance in or near water
PPG6	Working at construction and demolition sites
PPG7	Refuelling facilities
PPG8	Safe storage and disposal of used oils
PPG13	Vehicle washing and cleaning
PPG18	Managing fire-water and major spillages
PPG20	Dewatering underground ducts and chambers
PPG21	Pollution Incident Response Planning
PPG22	Dealing with spillages on highways
PPG26	Storage and handling of drums and intermediate bulk containers (IBCs)

PPG / CIRIA Guidance	Title
PPG27	Installation, decommissioning and removal of underground storage tanks (USTs)
C532	Control of water pollution from construction sites: guidance for consultants and contractors
C741	Environmental Good Practice on Site'
C736	Containment Systems for the Prevention of Pollution

1.2 Definitions

1.2.1 The following are definitions of terms used thought this draft Plan:

- **Pollution** – the harmful impact on the local atmospheric, aquatic or land environment caused by the release of hazardous or nuisance-causing substances; excessive noise and vibration
- **Accidental Pollution** - where an accident results in pollution
- **Environmental Incident –** any event, activity or condition that causes, could have caused, or has the potential to cause damage to people, damage to property or the environment
- **Consent Infringement –** where the limits (of potential pollution) set as conditions of consents, permits or licences are exceeded or where methods of operation are not in accordance with procedures or conditions set by the regulatory authority
- **Non-Compliance –** any event, activity or condition that does not comply

1.3 Pollution Control Measures

1.3.1 A number of pollution control measures are set out in Appendix A in relation to the potential sources of pollution that may affect the Wyre Estuary.

1.4 Pollution Receptors

Pollution of Surface Water and Groundwater

1.4.1 Pollution of surface water and groundwater includes spillages or escape of poisonous, noxious or potentially polluting solids, liquids, fire water run-off and gases that could enter controlled waters (rivers, streams, lakes and groundwater) directly or via surface water drainage systems e.g. fuel, oils, chemicals. It can be caused by:

- Use of potentially polluting substances near groundwater abstraction boreholes
- Use of potentially polluting substances near wells and springs
- Use of potentially polluting substances in areas where groundwater is vulnerable, e.g. high groundwater table and thin covering soil
- Sub-water table construction using materials containing potential pollutants

Pollution of the Ground

1.4.2 Pollution of the ground includes spillages and escape of poisonous, noxious or

potentially polluting solids or liquids, fire water run-off directly or indirectly onto the ground anywhere on the site, adjacent land, haul roads, access roads, hardstanding or public highways.

Pollution of Assets

1.4.3 Pollution of assets includes discharge of poisonous, noxious or potentially polluting solids or liquids, for which consent has not been granted, into the assets e.g. sewerage undertakers' sewers; whether by accident or with intent.

1.5 Pollution Prevention

Refuelling

1.5.1 The fuelling of mobile and static plant on site provides a potential for contamination of the environment. This may be either localised, or more widespread owing to waterborne or airborne dispersal. The potential risk involved in fuel- filling plant and equipment is recognised therefore certain precautions must be carried out whilst employees or sub-contractors are engaged in work of this nature. The detailed re-fuelling procedure would be developed by the Contractor for the following activities:

- Delivering fuel to the site
- Storage areas
- Mobile bowsers and containers
- Spill kit requirements
- Fuel dispensing
- Posting of procedure

Handling and Storage of Fuels and Other Potentially Polluting Materials

1.5.2 The following would be adhered to and followed during construction:

- Keeping the use of substances, products and materials which have, either directly or indirectly, the potential to pollute water, to the minimum necessary for their operations
- Ensuring the servicing of equipment is conducted on hardstanding remote from any watercourse / drain / ditch
- Ensuring refuelling operations are only undertaken by fully trained operatives
- Making certain mobile fuel bowsers are not left with 30m of watercourses outside of working hours where possible
- Fuel bowsers and stores would be secured against vandalism when not in use
- In line with the Control of Pollution (Oil Storage) Regulations 2001 bulk stores (including static tanks and drum stores) of potentially polluting liquids (including fuel, oils and chemicals such as concrete release agents and other curing agents, organic solvents, water proofing and sealing agents), would be sited on an impervious base surrounded by an impermeable bund capable of holding 110% of the largest container or 25% of the total capacity of all tanks whichever is the greater. All storage tanks and drums would as far as practicable, secured from vandalism when unattended

- Inspections would be undertaken of all areas where potentially polluting liquids are stored in mobile fuel bowsers at least once a week and immediately after prolonged periods of heavy rainfall
- Correct disposal of any contaminated waste water collected from bunded areas and plant nappies would be carried out in the proper manner in accordance with legislative requirements and relevant best practice guidance
- Any identified leaking or empty fuel or oil drums or chemical containers would be removed from site in accordance with legislative requirements and relevant best practice guidance
- Clearly marked spill kits would be maintained with adequate quantities of appropriate absorbent materials (including booms, granules and matting) at each location where potentially polluting liquids are stored and handled
- Undertaking of regular (daily) visual checking of waterbodies located near areas of construction works for changes in water colour, transparency and for signs of oil sheen, scum or foam build up. Measures would then be put in place to rectify any changes identified

COSHH Material Handling, Storage and Waste

1.5.3 The following would be adhered to regarding COSHH material handling, storage and waste:

- COSHH assessments would be briefed to operatives via the task briefing where stipulations for storage, handling and waste will be briefed
- Storage of COSHH materials and waste would be in a secure, bunded, and sheltered area. If materials are stored in a sealed container it would be vented
- Areas would be supervised and records of materials maintained via a register which would be held by the stores manager. Waste stored in, or removed from, the area would be recorded
- Waste would be segregated, stored in suitable, sealed containers and classified according with the Environment Agency Guidance on the classification and assessment of waste Technical Guidance WM3 (WM3)
- Clearly marked spill kits would be maintained with adequate quantities of appropriate absorbent materials (including booms, granules and matting) at each location where potentially polluting liquids are stored and handled

Plant

1.5.4 All plant suppliers would be required to provide equipment that complies with the Contractors minimum standards prior to arriving at site.

1.5.5 Material Stockpiles

1.5.6 Stockpiles would be located away from watercourses, site drainage would be installed to prevent uncontrolled silty run-off entering a watercourse by use of swales and pollution chambers/interceptors.

1.5.7 Should any contaminated material be found on site, it would be stored on an impermeable membrane or a hard standing. Where appropriate, contaminated stockpiles will be covered and/or provided with a bund to prevent escape of

contamination via run-off.

Pumping works

1.5.8 Pumping works would be controlled to prevent pollution of watercourses and drainage systems. A Permit to Pump procedure would be followed to support activities and the pumping team which would indicate the hierarchy of pumping/discharge and compliance requirements.

1.5.9 Locations for pumping to would be approved by the relevant statutory body under consent where appropriate. Water use would be managed as sustainably as possible with water reuse a priority.

Mud and Dust Control

1.5.10 To prevent mud from being carried onto public roads the Construction Manager would where necessary, arrange wheel washers. If practical and economic they would be mechanical with contained effluent systems. They would be positioned on a surfaced site road as far away as possible from the site egress point (to allow vehicles to 'dry off' before reaching the public road).

1.5.11 Wheel washes would use harvested rainwater and/or re-circulate water where possible to reduce water usage on site. Vehicles would be washed down in specified areas that have drainage and appropriate filtration prior to discharge to surface water.

1.5.12 Any topsoil bunds would be seeded or sealed as necessary to prevent dust and run-off and would be inspected for invasive species and weed control will be used if necessary.

1.5.13 Temporary, short term stockpiles would be monitored and dampened down, to prevent dust arising.

1.5.14 Preference will be given to water stored on site or harvested for the purpose of dust suppression to avoid Potable Water use.

1.5.15 Measures to control dust are outlined further in the Outline CEMP (document reference TR010035/APP/7.2).

Wheel Wash Systems

1.5.16 The need for vehicle / plant / wheel wash bays. Wash bays shall be established in accordance with EA guidelines – PPG 5 Works in or near watercourses, and a competent person responsible for the maintenance and vehicle washing would be appointed. Wheel wash facility units would as noted above be of the type that recycles water.

Concrete Washout

1.5.17 Designated areas would be provided for washing out concrete delivery lorries and concrete pumps. These would consist of a small skip or suitably constructed containment pit lined with an impermeable membrane. Concrete washout water would be managed in line with the Environment Agency position statement July 2011, '*Managing concrete wash waters on construction sites'.*

1.5.18 Concrete washout water is a slurry containing toxic metals. It is also caustic and corrosive, having a pH near 12. (In comparison, drain cleaner has a pH of 13.5) For

this reason it is highly polluting. The safe pH ranges for aquatic life habitats are 6.5 – 9 for freshwater and 6.5 – 8.5 for saltwater.

1.5.19 After concrete is poured on site, the chutes of ready mixed concrete trucks and hoppers of concrete pump trucks must be washed out to remove the remaining concrete before it hardens. Equipment such as wheelbarrows and hand tools may also need to be washed down.

1.5.20 When the wash water in a construction site concrete washout container has been removed or allowed to evaporate, the hardened concrete that remains can be crushed and reused as a construction material or delivered to a recycler with the Duty of Care documentation.

Flood Warnings

1.5.21 In accordance with the Flood Risk Assessment (document reference TR010035/APP/5.2) mitigation measures have been built into the Scheme, e.g. the provision of flood compensation areas.

1.5.22 In an emergency situation further detail would be outlined in the Emergency Flood Response Plan appended to the CEMP.

1.6 Training

1.6.1 Site security staff, the stores manager, supervisors, callout staff, the rapid response team and the Environmental Manager and Advisor would be trained in the use of emergency equipment and spill kits and will be fully briefed on the actions to be taken to deal with and report an environmental incident.

1.6.2 Site-specific toolbox talks would include details of the actions to be taken in the event of an environmental incident.

1.6.3 The Environmental Manager would ensure that appropriate environmental toolbox talks on dealing with an environmental incident are regularly delivered to the directly employed and subcontract workforce.

1.6.4 Environmental Site Notices, posters and advisory notices dealing with environmental incidents would be displayed in the main site office notice boards.

1.7 Notification Procedures

Emergency Contacts

1.7.1 Emergency contacts would be outlined in the final Pollution Control Plan developed by the Contractor.

Notification of Environmental Incidents

1.7.2 Minor environmental incidents would be notified to the Environmental Manager as soon as practicable following an incident. An Environmental Incident Report Form would be completed for all environmental incidents and circulated to relevant staff.

1.7.3 Intermediate and major environmental incidents would in the first instance be notified to the Works Manager, who would notify the Environmental Manager and other appropriate personnel. This may also include the Environment Agency.

1.8 Incident Control

Pollution Control Equipment

1.8.1 All staff would have a responsibility to identify, and if possible, control and restrict the adverse effects of environmental incidents by using the emergency equipment provided on site. In addition to this the Environmental Manager and appointed, trained staff members would regularly inspect the site, especially areas where the bulk of the work is occurring, as these would be the most sensitive. It is therefore likely that they would either discover that an environmental incident has occurred or be quickly summoned to the event. They would be trained in the use of spill equipment including booms and spill kits to control the impact of spillages and other pollution events.

1.8.2 In case of an emergency the initial response would be followed up with a call to the Environmental Manager or designated staff member who will then, where necessary, call for the appropriate authorities' assistance i.e. the emergency services, the Environment Agency, local water company or specialist personnel.

1.8.3 The Environmental Manager would ensure that the spill equipment is appropriately located, maintained, tagged, and recorded. A minimum stock level list would be maintained and a stores procedure and register would be set up to ensure that the issue of the equipment is tracked as well as making certain that the correct disposal methods are being followed.

1.8.4 The Environmental Manager will decide the position, both static and mobile, quantity and type of emergency spill kits kept on site. The specific location of spill kits would be detailed in the Spill Kit Register which would be maintained by the Environmental Team. Spill kits would be expected to contain the following as a minimum:

- Absorbent granules
- Oil only socks
- Oil only cushions
- Oil only pads
- Plugging granules or equivalent
- Disposal bags
- Contents sheet
- Gloves

1.8.5 Spill Kits would be placed in a waterproof dry bags or spill kit bin and made tamper proof by placing a tamper tag around the bag buckle/ bin lid opening and tagged to ensure it can be signed by the individual undertaking an inspection:

Emergency Call out Services

1.8.6 The Environmental Manager would ensure that emergency call-out services are established where appropriate e.g. vacuum tanker for removal of oily water from sumps/drains. The Contractor would specify their emergency contact.

1.9 Incident Reporting

Classification of Environmental Incidents

1.9.1 "Minor" environmental incident is capable of being resolved by immediate action on a localised scale by those present at or near the incident.

1.9.2 “Intermediate” environmental incident requires the mobilisation of resources from outside the work-site.

1.9.3 “Major” environmental incident requires the assistance of external emergency services and/or regulatory authorities.

Investigating and Reporting Environmental Incidents

1.9.4 Environmental incidents would be recorded using an Incident Form. This would include details of corrective action implemented to ensure that the incident has been controlled and details of preventative action agreed with the Environmental Manager to prevent recurrence of similar incidents. In the case of a major environmental incident a written investigation report would be produced. This would include details of corrective and preventative actions that are to be implemented before the work can resume.

Appendix A - Pollution Control Measures

Pollutant	Cause/Source	Location	Mitigation	Comment
Foul sewage	Damage to existing pumped foul sewer	Skippool Clough Culvert and Skippool works compound	Full survey of route and depth of foul sewer to be carried out and recorded.	
Foul sewage	Overflow of septic tank or break in connection to mains sewer	Skippool works compound welfare facilities	Where it is not possible to connect compounds to main sewer supplies, effluent from the site welfare facilities will be discharged and stored in effluent tanks located under the welfare units. The effluent tanks will be monitored daily and emptied through the contract hire agreement.	
Foul sewage	Demolished buildings with septic tanks and other septic tanks affected by the works	West Wynds, The Beeches, 195 Mains Lane	Ensure all septic tanks are emptied prior to their removal. Disposal to a registered waste disposal site.	
Asbestos	Damage to existing asbestos cement water main	Skippool Clough Culvert / Skippool Bridge	Dispose of asbestos in water main in accordance with requirements of the Scheme Asbestos Management Plan.	Refer to the draft Scheme Asbestos Management Plan. (TR010035/APP/7.2 – Rev 1 Appendix O)
Asbestos	Possible asbestos in existing headwall	Skippool Clough Culvert	Check for presence of asbestos before any demolition works undertaken. If found, dispose of asbestos in accordance with requirements of Scheme Asbestos Management Plan.	
Fuel spillage	Construction works	Skippool Clough Culvert	No fuelling of machines at the work site Provide sump within cofferdam for collection of minor spills. Daily inspections of integrity of cofferdam to prevent leaks	
Fuel spillage	Machine refueling	Works compound – particularly Skippool compound	Refer to paragraph 1.4.2. Daily inspections of integrity of containment bunds to prevent leaks.	
Hydraulic oil spillage	Machine maintenance or break-down	Mostly Skippool works compound	All machinery will be checked on arrival and daily, with particular attention paid to hydraulic	

Pollutant	Cause/Source	Location	Mitigation	Comment
			hoses to discover damage or significant wear. Results will be recorded on plant inspection sheets. Any damage to the equipment will be reported and will not be used until fixed. No plant will be left unattended during breaks. All plant will be stored in the construction compounds at the end of each working day. Specific areas will be designated for routine plant maintenance. Drip trays will be used during maintenance such as replacement of fuel filters. Surface water run-off from plant maintenance may cause pollutants to enter controlled waters. Site-wide protection of surface waters and drainage systems will be in place. All fitters' vans, excavators and dozers must carry their own individual spill kits. Plant maintenance and repairs will only be undertaken by trained and competent operatives. Waste arising from plant maintenance, e.g. old fuel filters, oil, etc. shall be disposed in the appropriate containers and sent to a suitably licensed facility. Daily inspections of integrity of containment bunds to prevent leaks	
Fuel spillage	Vehicle collision on public highway	Mainly Skippool to Skippool Bridge	Contractor to be aware of route of existing and altered highway drainage so that emergency containment measures can be pre-planned.	
Fuel spillage	Skippool service (petrol) station	Immediately adjacent to Main Dyke	Outside control of contractor. Contractor to be aware of existing pollution prevention	Petrol station has petrol interceptors

Pollutant	Cause/Source	Location	Mitigation	Comment
			measures at the petrol station.	on the site.
Silt	Wheel washing	Skippool works compound	Refer to paragraph 1.5.16.	
Silt	Excavated material spillage and mud on wheels	Skippool Clough culvert / Skippool Bridge	Access track to work site to be kept free of mud. Bunding extended from cofferdam along watercourse to above the maximum expected flood level. Provision of settlement ponds for site run-off. Daily inspections of integrity of containment bunds to prevent leaks.	
Silt	Earthworks and haul routes	Adjacent to Main Dyke from Lodge Lane northwards and “Pool Foot Creek” west of Windy Harbour Junction	Provision of temporary cut-off drains, settlement ponds and bunds.	
Silt	Dewatering of cofferdam	Skippool Clough Culvert	Discharge of pump to be to a settlement pond.	
General	Site debris	Skippool Clough Culvert	Construct cofferdam to a level above the normal high-water maximum height to prevent wash-out.	Typical annual High Water Spring = about 5.9m AOD
General	Site debris	Skippool Bridge	Construct sheet piled walls to a level above the normal high-water maximum height to prevent wash-out.	Typical high water level in Main Dyke about 5m AOD
Demolition debris	Demolition of highway structures	Skippool Clough Culvert	Provide temporary containment structure downstream of north headwall prior to demolition.	
Demolition debris	Demolition of highway structures	Skippool Bridge	Provide demolition “crash decks” under the structure.	
Demolition	Demolition of buildings	West Wynds, Old	Provide screening around demolition site.	

Pollutant	Cause/Source	Location	Mitigation	Comment
debris		Mains Lane adjacent to Main Dyke	Ensure all services capped off. Provide bunding around demolition site for noxious run-off.	

Appendix H - Emergency Spillage Response Plan [To be prepared by the Contractor prior to construction commencing]

Appendix I - Emergency Flood Response Plan [To be prepared by the Contractor prior to construction commencing]

Appendix J - Dewatering Management Plan [To be prepared by the Contractor prior to construction commencing]

Appendix K - Construction Water Management Plan [To be prepared by the Contractor prior to construction commencing]

Appendix L – Draft Site Waste Management Plan

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Draft Site Waste Management Plan

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DRAFT SITE WASTE MANAGEMENT PLAN

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1 DRAFT SITE WASTE MANAGEMENT PLAN

1.1 Introduction and Background

1.1.1 On 1st December 2013, the Site Waste Management Plans (SWMP) Regulations 2008 were repealed. However, the implementation of a SWMP remains industry best practice and is a requirement of Highways England for the delivery of their Schemes. This draft SWMP has been prepared in accordance with the repealed SWMP Regulations 2008 and provides a framework for the appointed Contractor to develop the Scheme's SWMP.

1.1.2 Preparing the draft SWMP facilitates the identification and implementation of waste minimisation opportunities at the design stage. It also facilitates reuse and recycling opportunities during the construction phase, which would reduce the quantities of waste sent to landfill.

1.1.3 The main purpose of the SWMP is to assess and record how waste is reduced, reused, recycled and disposed of by a Scheme. This means:

- Recording decisions taken to prevent waste through concept and design
- Forecasting waste produced onsite
- Planning how to reduce, reuse and then recover the forecast waste
- Implementing and monitoring the planned waste related activity
- Reviewing the SWMP and recording lessons learnt

1.2 SWMP

1.2.1 The aim of a SWMP is to encourage waste reduction and recovery practice levels, highlighting areas where good and best practice in waste minimisation and management can be achieved. The SWMP seeks to facilitate waste minimisation and encourage reuse and recycling opportunities during the construction phase. This all reduces the quantities of construction, demolition and excavation waste sent to landfill.

1.2.2 The final SWMP to be developed by the appointed Contractor would include the following:

- Stage 1 - Policy and setup: this section would provide a record of the administration details and set Scheme targets and stretch targets
- Stage 2 - Preparation and concept design: this section would outline the initial concept and present the design decisions to reduce waste
- Stage 3 - Detailed design: this section would forecast the waste and record the waste reduction / minimisation actions
- Stage 4 - Pre-construction: this section would record waste carriers, waste destinations and waste management and recovery actions
- Stage 5 - Construction: this section would record the actual waste movements
- Stage 6 - Post completion and use: this section would outline the outcome of reviews undertaken and compare actual quantities with estimates

1.2.3 The SWMP could be used in conjunction with existing waste management tools and

systems, such as the Waste and Resources Action Programme (WRAP) Net Waste Tool or the Building Research Establishment (BRE) SmartWaste.

1.2.4 The SWMP would provide options for planning and processing waste during the construction phase of the Scheme. It would demonstrate that the Scheme would maximise opportunities for reuse and recycling that are cost neutral (or cost negative) and would divert waste from landfill.

1.3 Outline SWMP Implementation

1.3.1 Excel based workbook template, produced by WRAP is provided at Annex A. This provides a focal point to collect waste data from construction-related activities onsite.

1.3.2 It is expected this would be developed and populated by the appointed Contractor.

1.4 Key Roles

1.4.1 The key roles and associated responsibilities for implementation of the SWMP are summarised below. These roles and responsibilities are based on those required by the now repealed SWMP Regulations 2008:

Table 1-1: Key Roles

Team Member	Key Role
Developer	• Promote waste minimisation and insist on good practice from all team members • Ensure that all hazardous wastes have been identified prior to reconstruction • Review strategy over time and identify waste reduction opportunities
Designer	• Consider design options and reduce bespoke elements • Promote reuse / retainment of existing elements • Specify the use of recycled content materials • Identify waste prevention and reduction opportunities
Principal Contractor – Site Manager	• Develop site specific waste strategy, implement and communicate to all parties • Assist in design process to reduce waste and monitor implementation • Drive segregation of waste arisings and designation of areas for waste activities • Facilitate onsite storage compounds and treatment of segregated materials • Reduce waste being brought onto site as

Team Member	Key Role
	packaging, etc. • Ensure appropriate waste storage and containers onsite • Identify and confirm all destinations for waste leaving the site, including hazardous • Ensure appropriate offsite transport in line with local regulatory requirements • Keep proper records of all wastes produced, reused and sent offsite
Subcontractors	• Develop method statements for activities onsite • Liaise with the Principal Contractor and agree way forward • Assist in ensuring onsite practices are safe and would not impact the environment • Ensure that wastes are properly segregated
Site Workers	• Question unsatisfactory practices onsite and follow instructions as provided • Assist in ensuring onsite practices are safe and would not impact the environment • Ensure that wastes are properly segregated

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ANNEX A – WRAP SWMP TEMPLATE

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Site Waste Management Plan

Version 3.1

Click here for help ?

Introduction

A Site Waste Management Plan (SWMP) is used to plan, implement, monitor and review waste minimisation and management on construction sites.

WRAP's SWMP Template is a tool that enables you to identify good and best practice opportunities to drive down waste and potentially reduce costs.

This tool will help you to:

- produce an effective SWMP;
- set actions to prevent, reduce and recover waste;
- identify waste reductions at the design stage;
- forecast the waste arisings;
- record waste carriers and waste management facilities;
- prepare waste management actions;
- record actual waste movements;
- benchmark against Standard, Good and Best Practice; and
- review and compare waste figures across projects.

Guidance

Please click on the questions below for more information on the SWMP template.

- Why use the SWMP template?
- What is a SWMP used for?
- Who should use the SWMP template?
- How to use the SWMP template?
- How to maximise the effectiveness of the SWMP?
- What are the benefits of using the WRAP SWMP?
- What are the alternatives to the SWMP template?
- Additional advantages

Document control

Revision number	Review Date (DD/MM/YY)	User / Name	Summary of actions / amendments	Project stage
1	01/10/2018	Arcadis (UK) Limited	Draft SWMP issued to Principal Contractor	Design Stage

Why use the SWMP template?

Back to top

The SWMP facilitates the identification and implementation of waste minimisation at the design stage and reuse and recycling opportunities during on site operations, reducing the quantities of construction waste sent to landfill.

To understand why populating a SWMP is important, it is useful to refer to the **SGBP levels** t in this tool. It details the standard, good and best practice levels for waste management and recovery throughout all project stages. It also lists potential opportunities at each project stage and offers guidance on how to achieve improved project waste performance.

What is the SWMP used for?

Back to top

A SWMP is used to:

- record decisions taken to prevent waste through concept and design;
- forecast waste produced on site;
- plan how to reduce, reuse and then recover the forecasted waste;
- implement and monitor the planned activity; and,
- review the SWMP and record lessons learnt.

Who should use the SWMP and when?

Back to top

A SWMP can be used on any construction site. The client and the principal contractor will work together to develop and maintain the SWMP with input from the project team. A SWMP should be started as early in the project as possible to achieve the greatest benefit.

The diagram on the **Project Homepage** ıows the project stages at which each sheet should be completed. There are also links to guidance on how to complete each sheet and why.

How to use the SWMP?

Back to top

The Template is presented in a series of 6 stages that cover the construction project cycle from policy and setup to project completion and use:

- **setup:** administration details and setting targets;
- **preparation and concept design**: initial concept and design decisions to reduce waste;
- **detailed design:** waste forecasts and waste reduction actions;
- **pre-construction:** waste carriers, waste destinations, waste management and recovery actions;
- **construction:** recording actual waste movements, and;
- **post completion and use:** KPIs, reporting, and comparing actual quantities with estimates.

The inputs required to complete the tool include:

- project targets;
- basic waste forecast (WRAP's Net Waste Tool can be used to generate this data); and,
- actual waste data.

Users should work through the tool stage by stage. Completing the Template should take a few hours, depending on the project size. Further time may be required to implement actions determined in the SWMP, although savings in materials and waste disposal should more than offset the invested time.

All sheet tabs coloured in **blue** are for information and guidance, all others require data entry from the user.

How to maximise the effectiveness of the SWMP?

Back to top

The Client and the Principal Contractor should update the SWMP when any waste is removed from site and state:

- the identity of the person removing the waste;
- the waste carrier registration number;
- a copy of, or reference to, the written description of the waste required by section 34 of the Environmental Protection Act 1990;
- the site that the waste is being taken to; and,
- whether the operator of that site holds a permit under the Environmental Permitting (England and Wales) Regulations 2007 or is registered under those Regulations as a waste operation exempt from the need for such a permit.

The SWMP should be reviewed and updated regularly to ensure that it is representative of the project. Alongside this, effective co-ordination and co-operation among contractors at work during the construction phase is needed. A site induction and any further information and training needed for work to be carried out within the terms of the SWMP should be provided to every worker
Effectiveness of the SWMP is improved by making arrangements to enable the principal contractor and the workers to co-operate effectively in promoting and developing measures to ensure that any waste arising on site is managed within the terms of the SWMP.
Both the client and the principal contractor must take reasonable steps to ensure that sufficient site security measures are in place to prevent the illegal disposal of waste from the site
The SWMP should be kept at the site office or on site and available to any contractor carrying out work described in the plan.

What are the benefits of using the WRAP template?

Back to top

The WRAP SWMP template:

- can facilitate substantial reductions in waste arisings and deliver associated cost and environmental gains;
- is applicable to all sizes of project and all types of construction;
- enables users to identify and demonstrate a progression from Standard to Good and Best Practice;
- requires minimum data entry by automatically pulling through data and using a predetermined list of waste;
- allows the transfer of data from WRAP"s Net Waste Tool to forecast waste arisings sheet;
- enables calculation of KPIs on waste and materials for projects; and
- allows for easy identification of areas where you can improve.

What are the alternatives to the SWMP template?

Back to top

This SWMP template is a comprehensive tool that is applicable to all sizes of project and all types of construction.

There is a **SWMP Lite** which is a simplified version of this SWMP tool aimed at the smaller contractors and tradesmen. As well as CD&E activities it includes options for Fit out, Refurbishment, Retrofit and Strip out projects.

http://www.wrap.org.uk/content/site-waste-management-plan-template-lite

Additional advantages

Back to top

The SWMP Template can be used in conjunction with other WRAP tools:

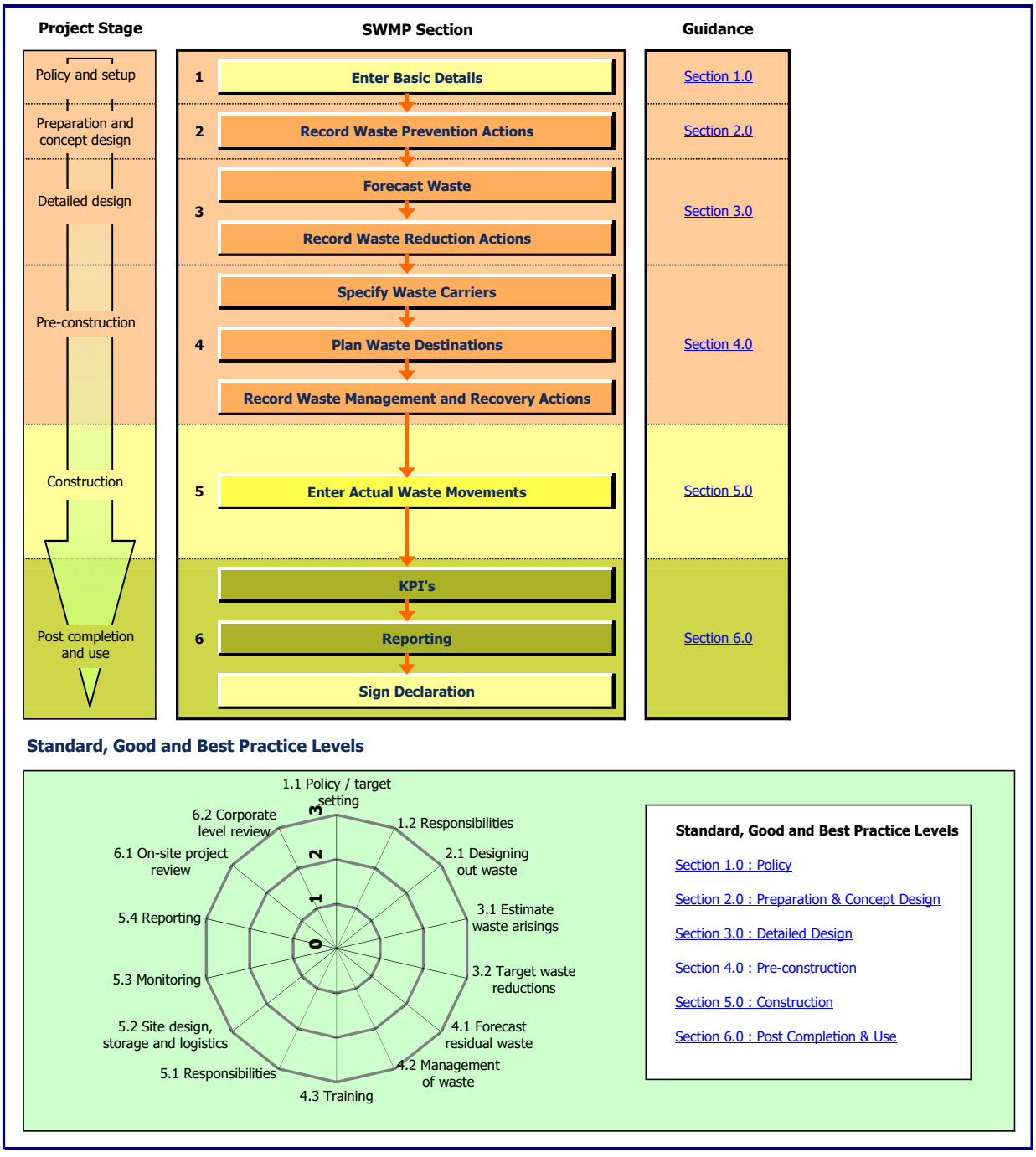
The Net Waste Tool: Waste forecast data generated in the Net Waste Tool can be automatically loaded into the WRAP SWMP Template (nwtool.wrap.org.uk).

The Waste to Landfill Reporting Portal: Actual recordings of waste performance can be uploaded from the SWMP Template into the Waste to Landfill Reporting Portal (reportingportal.wrap.org.uk) – useful if you have signed up to the Construction Commitments, or need to collate SWMP performance across a number of sites for corporate reporting

Site Waste Management Plan

Version 3.0

Project title : A585 Windy Harbour to Skippool Improvement Scheme



Standard, Good and Best Practice Levels

Standard, Good and Best Practice Levels

Section 1.0 : Policy

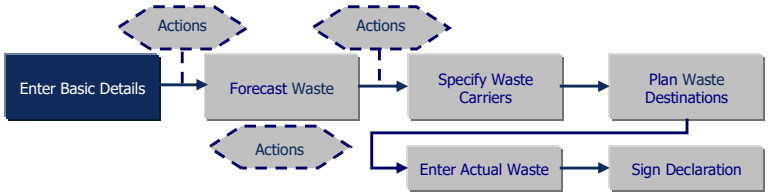
Section 2.0 : Preparation & Concept Design

Section 3.0 : Detailed Design

Section 4.0 : Pre-construction

Section 5.0 : Construction

Section 6.0 : Post Completion & Use



What to enter? Enter details of the project client, principal contractor, location and value . Select the metrics for the project (e.g. floor area) and record any project targets (e.g. waste to landfill, waste arisings, etc).

When? The basic details, metrics, project targets and the schedule sections of this sheet should be completed at the onset of a project. The sign off, explanation of deviation from the plan and lesson learnt sections should be completed at the end of the project.

Why? To provide project details and identify the person(s) responsible for the project SWMP.

Basic Details

Client name :	Highways England
Principal contractor :	TBC
Owner of document :	Arcadis (UK) Limited
Project title :	A585 Windy Harbour to Skippool Improvement Scheme
Project Reference :	HE548643-ARC-EAC-A585-RP-ZM-3196
Project location :	
Project postcode :	
Construction value :	
Type of construction :	Highways
Activity :	New construction

Metrics

Please select metrics applicable to your project. These metrics are then used in the KPI sheet to track your progress.

Metric	Amount	Unit
Footprint (m2) of site		m2

Project targets

Please select project targets applicable to your project

KPI	Phase	Target	Unit

Schedule

Start date :		dd/mm/yy
Completion date :		dd/mm/yy

Site Waste Management Plan Sign Off

Position	Name	Contact Details
Client	Highways England	
Principal Contractor	TBC	

Site Waste Management Plan Drafter	Arcadis (UK) Limited	
Others (optional)		
Client WM Representative (if applicable)		
Project Manager		
Waste Management Coordinator/Champion		
Design Coordinator		
Document Controller / Secretary		

This is stage 6.3 of the template. Complete this declaration at the end of the construction project.

Confirmation that the plan has been monitored on a regular basis to ensure that work is progressing to plan and that the plan was updated.	
Signed by:	
Organisation:	
Position:	
Date:	
Signed by:	
Organisation:	
Position:	
Date:	

Explanation of any deviation from the plan	
1	
2	
3	
4	
5	
6	
7	

Where relevant, drawing on any lessons learnt, an action plan to address these for the next project	
1	
2	
3	
4	
5	
6	
7	

Tell me about:

2 Waste Prevention Actions
3 Waste Reduction Actions
4 Waste Management and Recovery Actions

What to enter? Record relevant details including the action taken, action owner and waste impact for each of the following:

- the waste prevention actions taken before the development of the SWMP. This could include decisions taken at the **design stage** such as specifying modular units or standard sizes;
- any actions identified to reduce the forecast waste. The information is added to the waste prevention actions; and
- planned site practices, to record any actions that impact on project waste recovery. This could be actions such as on site practice or the segregation requirements of the waste contractor.

When? This worksheet should be populated during the **preparation and concept design** stage. Subsequently, actions identified to reduce the forecast waste during the **detailed design** stage should be added to the table. Finally, the actions for project waste recovery arising during **pre-construction** should be entered here too.

Why? This information forms an action log that is built up throughout the development of the SWMP / duration of the project and can be printed out for use on site.

Waste Actions

Enter actions in the next available row below

Number	Type of Waste Action	Action Taken	Action owner	Reference to project document /	Waste stream	Material type	Estimated Cost Saving	Waste reduced		Date for completion (dd/mm/yyyy)	Status
								(m^3)	(tonnes)		
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											

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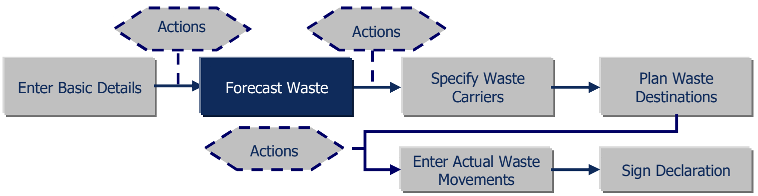

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Tell me about this sheet

Highways England
TBC
Arcadis (UK) Limited
A585 Windy Harbour to Skippool Improvement Scheme

What to enter? Enter your forecast for each waste material using the included pre-determined list of wastes. The template will automatically convert your estimate from tonnes to m³, or m³ to tonnes.

When? This worksheet should be completed by the project team during the **detailed design** stage.

Why? This worksheet is key to planning how to reduce, reuse and recover waste. Data entered here is used within the reporting sheet to measure forecast vs. actual performance.

Forecast Waste

						Forecast Quantities		Calculated Quantities (Converting between m^3 and t)		
C, D or E Activity	**Waste Stream**	**Material Type**	**Further description of waste - optional**	**Suggested LOW Code**	**Waste or Re-Use**	**(m^3)**	**(tonnes)**	**(m^3)**	**(tonnes)**	**Forecast provided by**
Excavation	*Packaging*	*plastic packaging*	*plastic packaging*	*15 02 02*	*Off-site destination*	*###*	*###*	*###*	*###*	*A.N Other*
								0.00	0.00	
								0.00	0.00	
								0.00	0.00	
								0.00	0.00	
								0.00	0.00	
								0.00	0.00	
								0.00	0.00	
								0.00	0.00	
								0.00	0.00	
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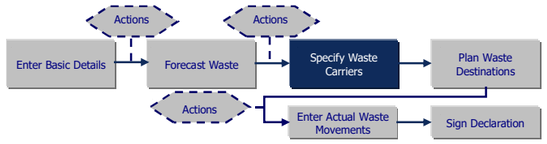

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Tell me about this sheet

Highways England
TBC
Arcadis (UK) Limited
A585 Windy Harbour to Skippool Improvement Scheme

What to enter? Enter the details of each waste carrier and each waste management facility you intend to use.

When? This sheet should be completed by the person responsible for the SWMP during the **pre construction** phase.

Why? The template uses this information in subsequent sheets to enable you to match waste streams with waste facilities and actual waste movements. Entering the data on this sheet avoids repetitive data entry on subsequent sheets within the tool. It also helps to:

- identify all persons removing the waste; and
- identify all waste carriers and registration numbers.

The Client and the Principal Contractor must take all reasonable steps to ensure that:

- they have a copy of, or reference to, the written description of the waste required by section 34 of the Environmental Protection Act 1990;
- all waste from the site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990(3) and the Environmental Protection (Duty of Care) Regulations 1991(4); and
- materials will be handled efficiently and waste managed appropriately.

Specify Waste Carriers

Name	**Contact Details**	**Date checked with Environment Agency** (dd/mm/yyyy)	**Registration Number**	**Expiry Date** (dd/mm/yyyy)

Specify Waste Management Facilities

Name	**Type of facility**	**% reused if known**	**% recycled if known**	**% energy recovery if known**	**% total all forms of recovery**	**Overall diverted from landfill /**	**Date checked with Environment Agency** (dd/mm/yyyy)	**Licence / Exemption Number**	**Location of relevant documentation, e.g. WTN**	**C, D or E Activity** (Leave blank if same facility & recovery rate are used for different waste streams)	**Waste Stream**
						0%					
						0%					
						0%					
						0%					
						0%					
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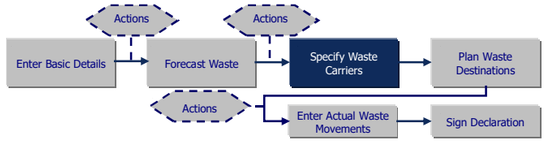

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A585 Windy Harbour to Skippool Improvement Scheme

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Name	Contact Details	Date checked with Environment Agency (dd/mm/yyyy)	Registration Number	Expiry Date (dd/mm/yyyy)

Specify Waste Management Facilities

Name	Type of facility	% reused if known	% recycled if known	% energy recovery if known	% total all forms of recovery	Overall diverted from landfill /	Date checked with Environment Agency (dd/mm/yyyy)	Licence / Exemption Number	Location of relevant documentation, e.g. WTN	C, D or E Activity (Leave blank if same facility & recovery rate are used for different waste streams)	Waste Stream
						0%					
						0%					
						0%					
						0%					
						0%					
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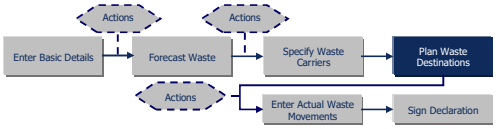

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Tell me about this sheet

Highways England
TBC
Arcadis (UK) Limited
A585 Windy Harbour to Skippool Improvement Scheme

What to enter? Enter a waste management action for each different waste type. The template consolidates the material types into a pre-determined list of waste streams and allows you to select a waste management facility and disposal cost for each waste stream.

When? This sheet should be completed during the pre-construction phase.

Why? Plan Waste Destinations' performs one simple task – it allows you to match up your forecast waste streams with expected waste management facilities (entered in 'Specify Waste Carriers').

The Client and the Principal Contractor must take all reasonable steps to ensure that:
- they have a copy of, or reference to, the written description of the waste required by section 34 of the Environmental Protection Act 1990;
- all waste from the site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990(3) and the Environmental Protection (Duty of Care) Regulations 1991(4); and
- materials will be handled efficiently and waste managed appropriately.

Total estimated forecast waste	Total (m^3)	Total (t)
Total from Waste Streams	0.00	0.00
Total Reused on site	0.00	0.00

Plan Waste Destinations

Construction
Demolition
Excavation

Construction

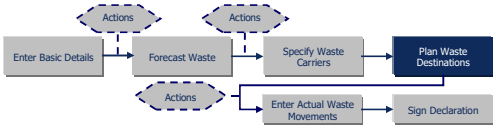
Waste sent offsite	Forecast: Estimated Volume (m^3)	Forecast: Estimated Weight (t)	Proposed Destination	% Diverted from landfill	Cost of waste disposal: £/m^3	Cost of waste disposal: £/t	Cost of waste disposal: Cost Forecast	Comments
	0.00	0.00					£0.00	

Retained on site	Forecast: Estimated Volume (m^3)	Forecast: Estimated Weight (t)
	0.00	0.00

Demolition

Waste sent offsite	Forecast: Estimated Volume (m^3)	Forecast: Estimated Weight (t)	Proposed Destination	% Diverted from landfill	Cost of waste disposal: £/m^3	Cost of waste disposal: £/t	Cost of waste disposal: Cost Forecast	Comments
	0.00	0.00					£0.00	

Retained on site	Forecast: Estimated Volume (m^3)	Forecast: Estimated Weight (t)
	0.00	0.00



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TBC
Arcadis (UK) Limited
A585 Windy Harbour to Skippool Improvement Scheme

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Total from Waste Streams	0.00	0.00
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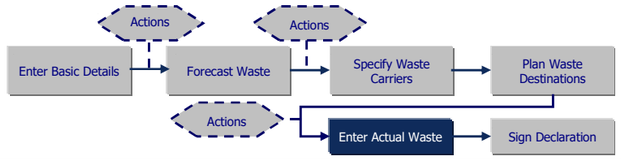
Plan Waste Destinations

Construction
Demolition
Excavation

Excavation

Waste sent offsite	Forecast: Estimated Volume (m^3)	Forecast: Estimated Weight (t)	Proposed Destination	% Diverted from landfill	Cost of waste disposal: £/m^3	Cost of waste disposal: £/t	Cost of waste disposal: Cost Forecast	Comments
	0.00	0.00					£0.00	

Retained on site	Forecast: Estimated Volume (m^3)	Forecast: Estimated Weight (t)
	0.00	0.00



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Tell me about this sheet

Highways England
TBC
Arcadis (UK) Limited
A585 Windy Harbour to Skippool Improvement Scheme

What to enter? Enter the details of each waste movement (using the pre-determined list of wastes) and its destination for your project. Note - the template pulls through waste carrier and waste management facility data entered earlier in tab 4-Specify Waste Carriers (to avoid repetitive data input). Enter your data in the 'Actual Waste Movements' table starting at cell C30. The summary 'Waste totals' table will update accordingly.

When? Record your actual waste movements once the construction team has mobilised on site.

Waste Totals

Display summary as:
Tonnes

Waste Stream	Total waste arising (Tonnes)	Total material retained on site (Tonnes)	Total waste sent offsite (Tonnes)	Total waste to landfill (Tonnes)	Total waste recovered offsite (Tonnes)	Cost of waste disposal
Inert - Soil & stones						£0.00
Hazardous - Soil & stones						£0.00
Non Haz (Non Inert) - Dredgings						£0.00
Segregated Haz - Soil & stones						£0.00
Gypsum						£0.00
Metals						£0.00
Wood						£0.00
Packaging						£0.00
Inert - Building rubble						£0.00
Inert - Glass						£0.00
Mixed Hazardous - C&D waste						£0.00
Mixed C&D waste						£0.00
Segregated Haz Waste						£0.00
Other C&D segregated waste						£0.00
Total						**£0.00**

Actual Waste Movements

Movement Number	C, D or E Activity	Waste Stream	Material Type	Further description of waste (optional)	LOW Code used	On or off site destination	Off site carrier	Off site destination	On site reuse explanation (optional)	Overide facility recovery rate for individual skip	Overall diversion from landfill / recovery (further detail on Sheet 4)	Date of Movement(s) (dd/mm/yyyy)	Waste Totals (m^3)	Waste Totals (tonnes)	Waste Totals Actual Cost	Waste Totals £/m^3	Waste Totals £/t
1											100%						
2											100%						
3											100%						
4											100%						
5											100%						
6											100%						
7											100%						
8											100%						
9											100%						
10											100%						
11											100%						
12											100%						
13											100%						
14											100%						
15											100%						
16											100%						
17											100%						
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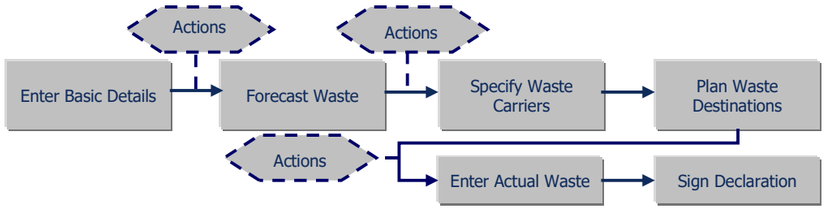

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Tell me about this sheet

1.0 Policy

Step 1.1	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Policy / target setting	At this early stage it is advisable that high level targets are set which will govern and inform company strategy. These targets will then be incorporated into each construction project as they progress along the project lifecycle (and through the RIBA or equivalent stages).	Standard	Set high level qualitative aspirational policy goals for company performance on reducing waste arisings and increasing waste recovery.	WRAP have produced a number of Model Procurement clauses which can be incorporated into procurement documents to help meet these requirements. The model wording relates to policy documents, invitation to tender documents, pre-qualification questionnaires or contractual appointment documents. Actions 1A, 1B and 1C contain model wording that helps clients and principal contractors to set corporate, high level and project specific targets for achieving resource efficiency in construction projects. The guidance can be found here: http://www.wrap.org.uk/content/approach-procurement-resource-efficiency t-	None	
		Good	Insert quantified company wide targets for reducing waste arisings and increasing waste recovery into company policy documents.			
		Best	Process to insert quantified project specific waste reduction targets based on industry Best Practice benchmarks or previous project experience for reducing waste arisings and increasing waste recovery into company policy documents.			

Step 1.2	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Responsibilities (for the SWMP)	There are a number of required responsibilities for early stage coordination of the Site Waste Management Plan (SWMP). Responsibilities for the operation of the SWMP are listed below in section 5.1.	Standard	Meet requirements for identifying the client, principal contractor and person drafting the Site Waste Management Plan.	WRAP have produced a number of Model Procurement Requirements to help incorporate these requirements into prequalification questionnaires and invitation to tender documents The guidance can be found here: http://www.wrap.org.uk/content/approach-procurement-resource-efficiency t-	None	
		Good	Involve all members of the project team and ensure everyone knows about SWMP and how it affects them.			
		Best	Include SWMP responsibilities as an agenda item at project team meetings, ensuring all team members are involved and contribute to project waste reduction and recovery actions			

2.0 Preparation and Concept design

It is advisable that early on in the design process waste planning is included in the agenda of client and design team meetings. The design guidance document, Designing out Waste, identifies the process that can be applied to further achieve this aim:

Step 2.1	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Designing Out Waste	There are numerous opportunities to reduce waste during the design process. Designing out waste before it arises is one of the most efficient ways to reduce project waste arisings. However, as such decisions need to be taken early, engagement with the design team early on in the life of a project is key.	Standard	Capture decisions made that may have an impact on waste. These decisions may not have been taken with waste reduction in mind, but may have an effect on project waste arisings nonetheless.	WRAP provide regeneration and demolition guidance that can be found here: http://www.wrap.org.uk/construction/tools_and_guidance/regeneration.html te WRAP provide guidance on Designing Out Waste, which can be found here: http://www.wrap.org.uk/designingoutwaste	None	
		Good	Discuss with the project team at an early design stage how it might be best to reduce waste arisings through making changes to the design.			
		Best	Systematically identify, prioritise and implement waste reduction actions at the design stage. Consider cost, programme and waste reduction potential.			

3.0 Detailed Design

Step 3.1	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Estimate waste arisings	edcf	Standard	Standard practice is to estimate waste arisings at the pre-construction stage.	WRAPs freely available Net Waste Tool allows you to enter simple project details and forecast likely waste arisings, together with suggesting waste reduction and segregation opportunities and recycled content material substitutions. The Net Waste Tool can be accessed here: http://nwtool.wrap.org.uk/ http://nwtool.wrap.org.uk/	None	
		Good	Forecast waste arisings for each component using industry data.			
		Best	Forecast waste arisings for each component using modified wastage rates based on past company experience.			

Step 3.2	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)

Target waste reductions	This Step involves identifying and recording waste reduction methods to reduce the quantity of waste estimated in Step 3.1.	Standard	Identify waste management action for each of the different waste types forecast to arise on the construction project, including re-using, recycling, recovery and disposal.	WRAPs freely available Net Waste Tool allows you to enter simple project details and forecast likely waste arisings, together with suggesting waste reduction and segregation opportunities and recycled content material substitutions. The Net Waste Tool can be accessed here: http://nwtool.wrap.org.uk/ http://nwtool.wrap.org.uk/ WRAP also provide guidance on logistics planning that can be found here: http://www.wrap.org.uk/construction/how_do_i_reduce_waste/logistics.html	None	
		Good	Target waste arisings for each construction component using industry standard actions			
		Best	Target waste arisings for each construction component. As an example these actions could be to target accurate ordering (accurate material requirements, realistic wastage rates), logistics planning (delivery strategy, adequate storage, efficient movement of materials to the workface) or installation elements (efficient working and installation and storage of offcuts for reuse).			

4.0 Pre-construction

Step 4.1	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Forecast residual waste	In addition to designing out waste at (Step 2.1), and estimating outline waste arisings (Step 3.1), it is required to forecast residual waste arisings before going to site. This final residual waste forecast is the last and most detailed waste forecast that is done before site mobilisation. Once this final waste forecast is completed, waste management and recovery options can be implemented to ensure the waste is recycled, reused or recovered.	Standard	Forecast waste according to general estimates, fulfilling requirement to identify each waste type expected to be produced in the course of the project.	WRAPs freely available Net Waste Tool allows you to enter simple project details and forecast likely waste arisings, together with suggesting waste reduction and segregation opportunities and recycled content material substitutions. The Net Waste Tool can be accessed here: http://nwtool.wrap.org.uk/ http://nwtool.wrap.org.uk/ WRAP have produced a number of Model Procurement Requirements to help incorporate these requirements into prequalification questionnaires invitation to tender documents, and appointment contracts. The guidance can be found here: http://www.wrap.org.uk/content/approach-procurement-resource-efficiency t-	None	
		Good	Good practice relates to forecasting waste arisings at the detailed design stage. Refer to Step 3.1. Good practice for Step 4.1 relates to forecasting residual waste arisings in conjunction with the principal contractor and agreeing the waste reduction and recovery standards to be achieved on the project.			
		Best	Building on Good Practice, hold talks with the rest of the supply chain (waste management contractors, sub-contractors) to determine waste reduction and recovery actions for the project.			

Step 4.2	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Management of Waste	This step relates to the efficient management of waste once it has been created on site. Step 4.2 which deals with the management of waste on site should be implemented in line with any targets identified in sections 1.0, 2.0 and 3.0 above. As noted above in Step 2.1, off-cuts should be stored safely on site for reuse.	Standard	Identify waste management action for each waste stream	WRAPs freely available Net Waste Tool allows you to enter simple project details and forecast likely waste arisings, together with suggesting waste reduction and segregation opportunities and recycled content material substitutions. The Net Waste Tool can be accessed here: http://nwtool.wrap.org.uk/ http://nwtool.wrap.org.uk/ WRAP also provide guidance on developing and implementing a material logistics plan. The logistics plan guidance can be found here: http://www.wrap.org.uk/construction/construction_waste http://www.wrap.org.uk/construction/how_do_i_reduce_waste/logistics.html The Building Research Establishment's BREMAP online tool allows you to enter the postcode of your site and pin point waste management facilities and materials/products suppliers within a region or radius of your chosen distance. It can be found here http://www.bremap.co.uk/	None	
		Good	Identify recycling and recovery options for each waste stream for which recycling and recovery is viable			
		Best	Maximise opportunities for resource efficiency through following the waste hierarchy (prevention, minimisation, reuse, recycling, recovery, disposal)			

Step 4.3	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Training	It is necessary that all site workers are trained on the Site Waste Management Plan, providing information on how it affects them. Training prospects should be seen as opportunities to engage with the supply chain and gain buy-in from them – as it will be the supply chain who will be able to significantly contribute to any project resource efficiency targets.	Standard	The principal contractor should provide training to every construction worker needed for the particular work to be carried out within the terms of the site waste management plan. This can be in the form of toolbox talks.	WRAP provide a wealth of background information on waste reduction and recovery, including guidance documents, case studies and best practice guides. General WRAP construction guidance can be found here: http://www.wrap.org.uk/construction/tools_and_guidance/index.html WRAP also provide a short guidance note for small and medium sized contractors on reducing construction waste. It can be downloaded here: http://www.wrap.org.uk/sites/files/wrap/W676%20Actions%20to%20reduce%20waste%20in%20construction%20projects%20and%20minor%20works_FINAL.pdf	None	
		Good	Building on standard practice, provide bespoke training to all subcontractors and identify waste reduction actions where they can contribute.			
		Best	Building on good practice and share experience from previous projects or sites. Use the training exercise to inform continual improvement.			

5.0 Construction

Step 5.1	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Responsibilities (on site)	Once the SWMP has been developed it must be implemented on site. This Step outlines how to assign responsibility for ensuring the SWMP is delivered.	Standard	Meet requirements for identifying the client, principal contractor and person drafting the Site Waste Management Plan.	WRAP have produced a number of Model Procurement Requirements to help incorporate these requirements into prequalification questionnaires and invitation to tender documents The guidance can be found here: http://www.wrap.org.uk/content/approach-procurement-resource-efficiency	None	
		Good	Waste champion is appointed for the whole site.			
		Best	Building on Good Practice, individuals and sub contractors should be made responsible for specific waste streams, with the waste champion holding these project members to account.			

Step 5.2	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Site design, storage and logistics	Space permitting, key waste streams should be segregated. The segregation scheme should include appropriate training, monitoring and enforcement with clear signage and using the National Colour Coding Scheme.	Standard	Meet requirement that all waste from the site is dealt with in accordance with the Environmental Protection Act and Environmental Protection (Duty of Care) Regulations.	WRAP have produced a number of Model Procurement Requirements to help incorporate these requirements into prequalification questionnaires and invitation to tender documents The guidance can be found here: http://www.wrap.org.uk/construction/achieving_resource_efficiency/model_procurement_requirements/index.h	None	
		Good	Before work starts on site consider layout and skip locations. Use segregated containers at the workface.			
		Best	Ensure separate containers are provided for Hazardous Waste, material storage areas are clearly located and signed or arrange for just in time delivery and prevent double handling			

Step 5.3	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Monitoring	Monitoring progress against the actions in the site waste management plan more often that every six months can inform ongoing site achievement of the planned waste reduction and recovery actions. It can be part of the live review process and inform continual improvement. Once data is collected, it	Standard	Monitor and update the Site Waste Management Plan not less than every six months	WRAP provide guidance on measurement and reporting on construction projects. It can be found here: http://www.wrap.org.uk/construction/tools_and_guidance/reporting_portal.html	None	
		Good	Principal contractor to review the construction schedule and set appropriate project review and monitoring dates with the client.			

	will form a baseline against which clients can evaluate and improve on resource efficiency performance. Step 5.3 should therefore be linked with Step 6.2.	Best	Building on Good Practice, review site progress against the Site Waste Management Plan and implement changes to revise site activities based on performance where necessary.			

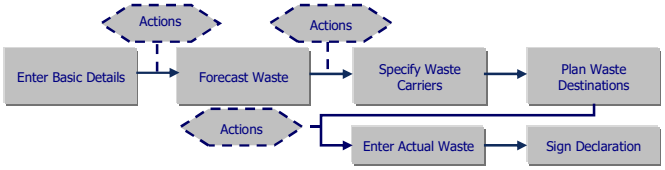
Step 5.4	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
Reporting	Reporting is an integral part of the Site Waste Management Plan process. Good and best practice relate to recording and reporting waste arisings in increasing levels of detail. WRAP provide a method note that defines the standard by which the construction industry has agreed to record and report waste arisings. The link to this guidance is listed in the 'guidance'	Standard	Ensure the Site Waste Management Plan is kept at the site, and that the Plan is available for two years after completion of the construction project.	WRAPs Reporting Portal has been developed to allow the construction industry to report on its progress in implementing Site Waste Management Plans and record actual site achievements. It can be found here: http://www.wrap.org.uk/construction/tools_and_guidance/reporting_portal.html	None	
		Good	Report waste generation, recovery and disposal arising by construction phase (construction, demolition and excavation).			
		Best	Report lessons learnt through the project, including the good and best practice levels achieved.			

6.0 Post-completion

Step 6.1	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)
On-site project review	The on-site project review is an opportunity for the site project team to review their progress post completion. Good and best practice items relate to the process of continuous review and learning.	Standard	Meet requirements to compare Site Waste Management Plan forecast versus actual performance, and record any deviations from the Plan.	WRAPs National Reporting Portal has been developed to allow the construction industry to report on its progress in implementing Site Waste Management Plans and record actual site achievements. It can be found here: http://www.wrap.org.uk/construction/tools_and_guidance/reporting_portal.html	None	
		Good	Building on Standard Practice, review the Site Waste Management Plan to identify any improvements that could have been made (e.g. to improve waste reduction or recovery, or the accuracy of the forecast).			
		Best	Building on Good Practice, hold a post completion project team meeting to debrief and learn lessons from the Site Waste Management Plan process that can be used to inform future practice.			

Step 6.2	Explanation	Practice Level	How to achieve	Guidance available to help	Practice level targeted (please select)	Action (use to record more detail if you wish)

Corporate level review	The corporate level review uses the SWMPs produced on individual sites to compare construction projects against company baseline performance. If a baseline does not exist, then the first project will become the baseline against which performance in future projects will be measured against.	Standard	Meet requirements to compare Site Waste Management Plan forecast versus actual performance, and record any deviations from the Plan.	WRAPs Reporting Portal has been developed to allow the construction industry to report on its progress in implementing Site Waste Management Plans and record actual site achievements. It can be found here: http://www.wrap.org.uk/construction/tools_and_guidance/reporting_portal.html	None	
		Good	Record project performance in the following areas: cost savings achieved, total waste arisings, total waste to landfill, total waste reductions achieved and recycled content used.			
		Best	Use data collected in Step 6.1 standard practice to benchmark performance across your portfolio of projects, using the data to inform continual improvement. Using the data gathered and lessons learnt, set company policy on expected metrics (cost savings, waste arisings, waste reductions, total waste to landfill) for similar project types going forward. Integrate lessons learnt into corporate construction procedures.			



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Tell me about this sheet

My targets

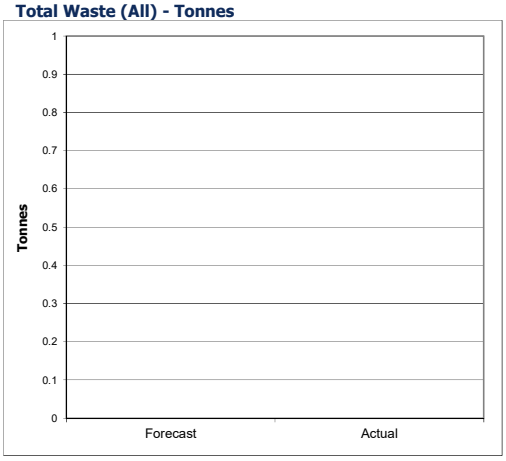
KPI	Target

KPI Report

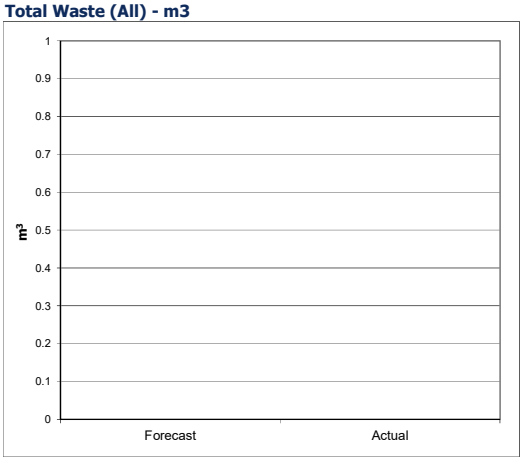
Select Metric :	Total
Select Phase :	All

	Forecast		Actual	
	m^3	Tonnes	m^3	Tonnes
Total Waste	0.00	0.00	0.00	0.00
Total Waste to landfill	0.00	0.00	0.00	0.00
% Waste diverted from landfill	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
% Material reused on site	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

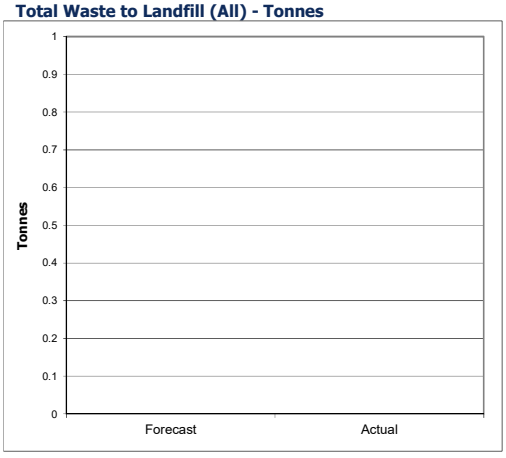
Total Waste (All) - Tonnes



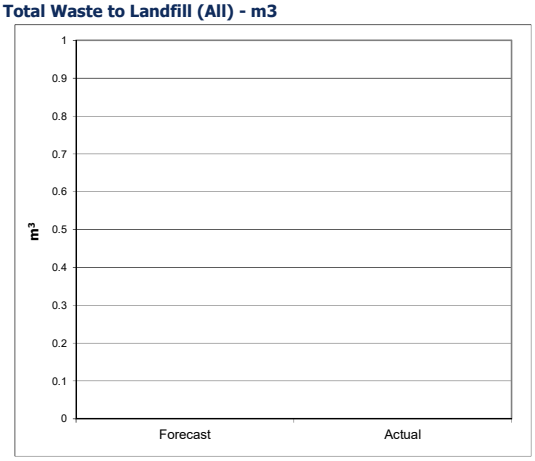
Total Waste (All) - m3

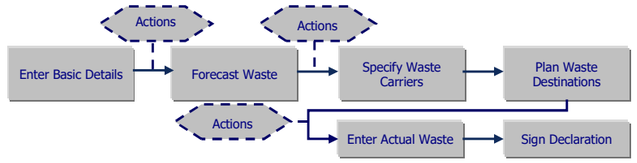


Total Waste to Landfill (All) - Tonnes



Total Waste to Landfill (All) - m3





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Tell me about this sheet

Highways England
TBC
Arcadis (UK) Limited
A585 Windy Harbour to Skippool Improvement Scheme

View data in: tonnes

Reporting

Combined stages C,D and E

Construction

Demolition

Excavation

	Forecast		Actual	
	m³	Tonnes	m³	Tonnes
Total Waste	0.00	0.00	0.00	0.00
Total Waste to landfill	0.00	0.00	0.00	0.00
% Waste diverted from landfill	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
% Materials reused on site	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Combined stages C, D and E

		Waste and material arisings		Waste sent offsite		Materials kept onsite		Sent to landfill		Diverted from landfill		Cost of waste disposal (offsite)	
Forecast/Actual		F	A	F	A	F	A	F	A	F	A	F	A
Unit		tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	£	£
Total													
Class	Non Haz (Inert)												
	Haz												
	Non Haz (Non Inert)												
Assigned Waste Stream	Inert - Soil & stones												
	Non Haz (Non Inert) - Soil & stones												
	Non Haz (Non Inert) - Dredgings												
	Segregated Haz - Soil & stones												
	Gypsum												
	Metals												
	Wood												
	Packaging												
	Inert - Building rubble												
	Inert - Glass												
	Mixed Hazardous - C&D waste												
	Mixed C&D waste												
	Segregated Haz Waste												
	Other C&D segregated waste												
List of Waste (LOW) Code	08 01 11*												
	08 01 12												
	08 01 13*												
	08 01 14												
	edcf												
	08 03 18												
	13 01 12*												
	13 01 13*												
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	15 02 03												

Recovery of materials and wastes												
Re-used				Recycled				Energy recovery				
off-site		on-site		off-site		on-site		off-site		on-site		
F	A	F	A	F	A	F	A	F	A	F	A	
tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	

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Construction	**Waste and material arisings**		**Waste sent offsite**		**Materials kept onsite**		**Sent to landfill**		**Diverted from landfill**		**Cost of waste disposal (offsite)**		**Recovery of materials and wastes**											
													Re-used				**Recycled**				**Energy recovery**			
													off-site		**on-site**		**off-site**		**on-site**		**off-site**		**on-site**	
Forecast/Actual	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**	**F**	**A**
Unit	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	£	£	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes
Total																								

Class	Non Haz (Inert)												
	Haz												
	Non Haz (Non Inert)												
Assigned Waste Stream	Inert - Soil & stones												
	Non Haz (Non Inert) - Soil & stones												
	Non Haz (Non Inert) - Dredgings												
	Segregated Haz - Soil & stones												
	Gypsum											FALSE	
	Metals											FALSE	
	Wood											FALSE	
	Packaging											FALSE	
	Inert - Building rubble											FALSE	
	Inert - Glass											FALSE	
	Mixed Hazardous - C&D waste											FALSE	
	Mixed C&D waste											FALSE	
	Segregated Haz Waste											FALSE	
	Other C&D segregated waste											FALSE	
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Demolition

		Waste and material arisings		Waste sent offsite		Materials kept onsite		Sent to landfill		Diverted from landfill		Cost of waste disposal (offsite)		Recovery of materials and wastes											
														Re-used				Recycled				Energy recovery			
														off-site		on-site		off-site		on-site		off-site		on-site	
Forecast/Actual		F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A
Unit		tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	£	£	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes
Total																									
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	Non Haz (Non Inert)																								
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	Segregated Haz - Soil & stones																								
	Gypsum											FALSE													
	Metals											FALSE													
	Wood											FALSE													
	Packaging											FALSE													
	Inert - Building rubble											FALSE													
	Inert - Glass											FALSE													
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Excavation

		Waste and material arisings		Waste sent offsite		Materials kept onsite		Sent to landfill		Diverted from landfill		Cost of waste disposal (offsite)		Recovery of materials and wastes											
														Re-used				Recycled				Energy recovery			
														off-site		on-site		off-site		on-site		off-site		on-site	
Forecast/Actual		F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A	F	A
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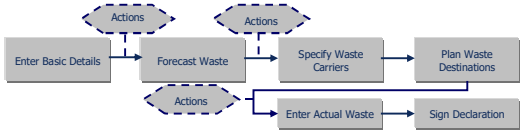
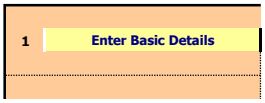


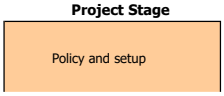
E-learning: A full e-learning module can be found on the WRAP website. This will show you how to complete the template and work through an example.
http://www.wrap.org.uk/content/site-waste-management-plan-tools-video-tutorials

Welcome to the WRAP Site Waste Management Plan Template. This short help page has been provided to guide you through how to use the template. You may find it easier to use Excel Full Screen view to navigate around the SWMP Template.

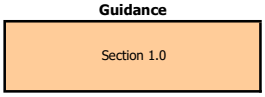
Project Homepage



This is the main part of the SWMP Template and allows you navigate to all worksheets in the Template. The buttons on the homepage as shown here allow you to navigate through the document. Start at the top with Enter Basic Details and end at the declaration, each button is also accompanied by guidance as shown.

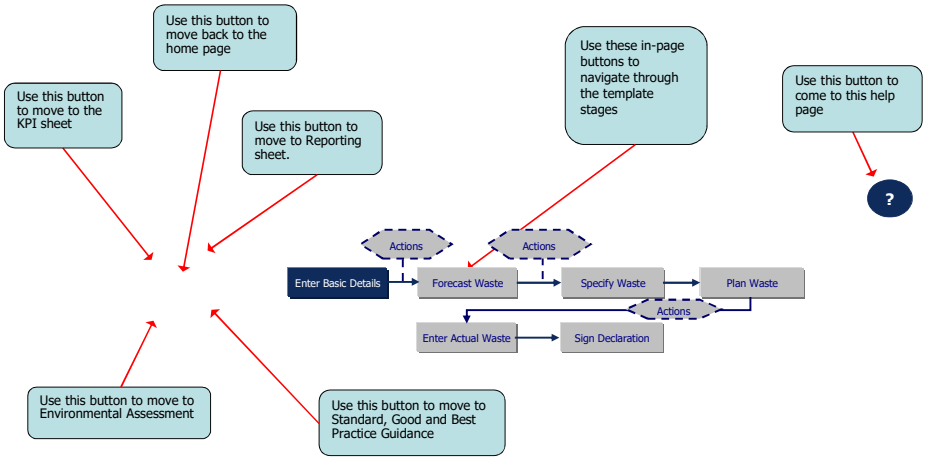


The template follows the project stages to help you find where you are in your project.

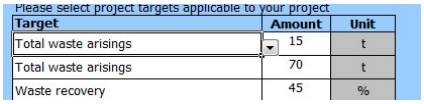


Each Step is accompanied by guidance that explains how to use an SWMP to achieve Good and Best Practice waste reduction and recovery on site.

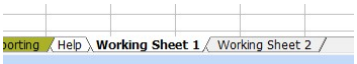
The 'Tell me about your sheet' tab tells you what each sheet is for and how to use it. If you get stuck hover over the box and it will tell you what to do.



There is more guidance on each sheet, hover over a box where you see a red triangle in the corner.



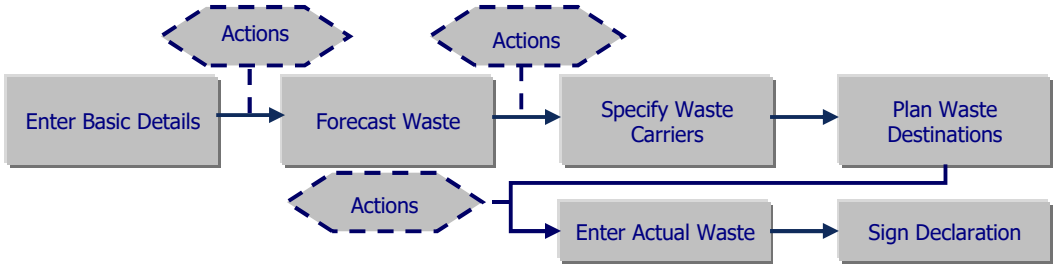
When you click on a box you will see that some you enter using a drop down list and others use free entry. Look for the arrow on the right side of the box. If there is one there click it and select from the menu.



There are two working sheets provided for you to carry out your own calculations.

SWMP Tracker
The SWMP Tracker can be used to collate and analyse data from multiple SWMP Templates. Data can also be transferred directly from the Tracker to the Waste to Landfill Reporting Portal.

Access the SWMP Tracker http://swmptracker.wrap.org.uk
SWMP Tracker User Guide http://swmptracker.wrap.org.uk/Documents/SWMPTrackerUSERGUIDE.pdf



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Tell me about this sheet

Environmental Assessment Methods

An advantage of using the SWMP template is to meet requirements for Environmental Assessment Methods such as BREEAM and CEEQUAL.

This page helps users who are striving towards achieving requirements of these Environmental Assessments to draw out the information they require.

It should be noted that:

- not all projects require an Environmental Assessment but those that do can use this sheet for guidance; and
- users should check the relevant assessment manuals (if) applicable to their project for compliance with waste management requirements.

Common Requirements for Environmental Assessment Methods (EAMs)

There are some requirements with regards to Site Waste Management Planning that are common to many EAMs. The following is a suggested list of good practice which may be required for compliance. Users should check the guidance for the relevant assessment method for exact requirements.

- Compliance with Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) Regulations 1991(4).
- Regular updating of the SWMP and evidence of review and implementation.
- Determine and follow a formal waste minimisation plan.
- Set targets to reduce, re-use and / or recycle waste.
- Active monitoring of targets for the duration of the project.
- Report % of inert waste material that has been segregated (on or off-site) and diverted from landfill.
- Report % by volume of non-hazardous waste material that has been segregated (on or off site) and diverted from landfill.

BREEAM

A Site Waste Management Plan is required to achieve credits under the BREEAM issue relating to construction waste management. There are certain aspects that must be included in a SWMP. The checklist below summarises some of these.

It is important to note that either mass **or** volume can be recorded for BREEAM and users are advised to choose the unit that suits their project and targets most appropriately.

Users must refer to their BREEAM guidance to confirm compliance as the requirements can differ between BREEAM schemes.

Checklist

Does your SWMP include the following?	Completed?	Notes
Target benchmark for resource efficiency i.e. m^3 of waste per $100m^2$ or tonnes of waste per $100m^2$	No	
Procedures and commitments for minimising non-hazardous waste in line with the benchmark	No	
Procedures for minimising hazardous waste	No	
Procedures for monitoring, measuring and reporting hazardous and non-hazardous site waste	No	
Procedures for sorting, reusing and recycling construction waste into defined waste groups (see additional guidance section), either on site or through a licensed external contractor	No	
The name or job title of the individual responsible for implementing the above.	No	

	Forecast		Actual	
	Total (m^3)	**Total** (t)	**Total** (m^3)	**Total** (t)
Construction waste per 100m^2 GIFA	No GIFAm2 entered	No GIFAm2 entered	No GIFAm2 entered	No GIFAm2 entered

Diversion of non-hazardous waste from landfill	**Volume** (%)	**Tonnage** (%)	**Volume** (%)	**Tonnage** (%)
Non-demolition %	No waste	No waste	No waste	No waste
Demolition %	No waste	No waste	No waste	No waste

Appendix M – Draft Materials Management Plan

A585 Windy Harbour to Skippool Improvement Scheme

TR010035

Draft Materials Management Plan

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 7

October 2018

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585 Windy Harbour to Skippool Improvement Scheme

Development Consent Order 201[ ]

DRAFT MATERIALS MANAGEMENT PLAN

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/7.2
Author:	A585 Windy Harbour to Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	October 2018	DCO submission

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CONTENTS

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1 DRAFT MATERIALS MANAGEMENT PLAN

1.1 Introduction

1.1.1 Given the quantities of material resources to be used and waste arisings associated with the Scheme, together with the material deficit, a need has been identified for a Materials Management Plan (MMP). The purpose of an a MMP is to set out how the materials associated with the Scheme would be procured, handled and managed in the most efficient and sustainable manner.

1.1.2 This draft MMP provides the framework the appointed Contractor would use to develop the final Scheme MMP.

1.2 MMP

1.2.1 The final MMP would need to provide details of appropriate management of onsite and off-site reuse of materials and also demonstrate that the following principles for the use of site-won materials as 'non waste' are met:

- The material is suitable for its intended use in all respects (suitability for use)
- There is a requirement for the material (certainty of use)
- The quantity of the material required is defined
- The potential risks to human health and the environment from the material have been considered and assessed

1.2.2 Where practicable, waste streams that have the potential to be reused onsite or transported offsite for reuse / recycling would be segregated in separate containers (for example metals, plastics). Although every effort would be made to retain all suitable materials onsite, it is possible that some of these materials cannot be reused or recycled during the construction of the Scheme. In these situations, the Site Managers would work to identify suitably licensed waste facilities in order for material to be redistributed to other suitable sites. This represents the most sustainable alternative to landfill disposal.

1.2.3 The MMP is expected to follow the layout and cover, as appropriate, the broad issues outlined below.

1.3 Scheme Details

1.3.1 Site details and materials, aims, targets, objectives and key performance indicators for efficient material use would be outlined in the final MMP. For example:

- 100% of suppliers and subcontractors operate their own ISO 14001 accredited Environmental Management System

1.4 The Materials Management Team

1.4.1 The Materials Management Team (e.g. Scheme's Project Manager, Buyer, Environmental Manager, Construction Teams, Subcontractors, etc.) would be identified and contact details and individual responsibilities provided.

1.5 Communication

1.5.1 Communication is a major part of the success of any scheme and communication of the MMP is paramount to its implementation. A communication strategy, including

meetings and training and toolbox talk plan, would be outlined.

1.6 Material Resources to be Used

1.6.1 The material resources to be used, including types and quantities, would be outlined, including details of the intended use for the borrowpits.

1.6.2 Where feasible the Scheme's design team and appointed Contractor would research and investigate sustainable procurement options for material resources, that:

- Are non-hazardous
- Are reused, refurbished or recycled
- Are recyclable
- Are from renewable sources
- Are lower in embodied energy
- Have a lower carbon footprint
- Have a lower water footprint
- Consider transport impact and mode, balancing the cost and benefits

1.7 Material Resources Suppliers

1.7.1 A methodology for selecting the material resources suppliers would be outlined. Material suppliers would be asked a selection of questions, depending on the material resources in question, for example:

- Is the material resource certified under BRE BES 6001 or BS 8902 or 8905?
- Is your company registered under the Carbon Reduction Commitment Energy Efficiency scheme?
- Can your material resources be reused or recycled after use?
- What is the reused or recycled content of the material resource?
- Can you provide information on the embodied energy of the material resource?
- Can you provide information on the carbon and water footprint of the material resource?
- How far does the material resource have to be transported?
- By what mode is the material resource transported?
- Can packaging be returned to the supplier?
- Can unused material resources be returned to the supplier?
- Is the material resource hazardous?
- Is the wood FSC certified or equivalent?

1.7.2 Suppliers would be scored on their performance against the established criteria. This score would be considered when the supplier is chosen.

1.8 Waste Arisings

1.8.1 The existing ground conditions and the estimated types and quantities of key waste streams likely to arise from the Scheme would be outlined.

1.8.2 Waste arisings would be recorded in the SWMP (draft appended to the Outline CEMP (document reference TR010035/APP/7.2).

1.9 Approach to Material Resources Management During Construction

1.9.1 Phasing of materials use and environmental management and mitigation would be outlined.

1.9.2 Minimisation of material resources through attention to specifications, delivery, storage, handling, use and disposal of material resources would be described.

1.9.3 Method of transporting material resources to minimise road transport would be outlined (where possible).

1.10 Site Records

1.10.1 The the following records would be kept in the MMP:

- Licenses and permits relevant to the MMP
- Material resources tracking, treatment, disposal and delivery notes records
- Records of any contingency arrangement for material resources and waste arisings that had to be implemented would also be detailed

Appendix N – Borrowpit – Restoration and Aftercare Plan

A585 Windy Harbour to Skippool Improvement Scheme

TR010035

7.2 Draft Borrowpit Restoration and Aftercare Plan

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 6

October 2018

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585 Windy Harbour to Skippool Improvement Scheme

Development Consent Order 201[ ]

DRAFT BORROWPIT RESTORATION AND AFTERCARE PLAN

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/7.2
Author:	A585 Windy Harbour to Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	October 2018	DCO submission

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

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1 EXECUTIVE SUMMARY

1.1.1 This document is the draft Borrow pit Restoration and Aftercare Plan which would be developed by the Contractor once appointed. It must be complied with under Requirement 4 in the Development Consent Order (DCO) (document reference TR010035/APP/3.1) for the A585 Windy Harbour to Skippool Improvement Scheme.

1.1.2 This draft plan sets out the framework for the restoration and aftercare processes for the borrow pits (should they be used), and presents a timeline for how the final Borrow pit Restoration and Aftercare Plan would be developed in consultation with relevant stakeholders and landowners.

1.1.3 Following extraction of construction fills from the borrow pits (if they were to be used) Highways England and the Contractor would restore them back to their original use; agriculture.

2 INTRODUCTION

2.1 Background to the Scheme

2.1.1 The A585 is the main road in and out of Fleetwood and surrounding areas. It is heavily congested between Windy Harbour and Skippool and drivers currently suffer from significant delays during peak periods.

2.1.2 Congestion is particularly severe at the junction with the A586 at Little Singleton and the signalised junction with the A588 at Shard Road. A high number of accidents are reported at these junctions and the volume of traffic is a concern for local people, pedestrians, equestrians and cyclists.

2.1.3 The Windy Harbour to Skippool Improvement Scheme (The Scheme) was originally identified as a priority in the Department for Transport's Road Investment Strategy (RIS) 2014.

2.1.4 In April 2014, the then Highways Agency (now Highways England) produced the South Pennines Route Strategy document, which included the A585 between the M55 and Fleetwood. This report predicted an increased demand on the A585 route, therefore further validating the need for highway improvement.

2.2 Scheme Description

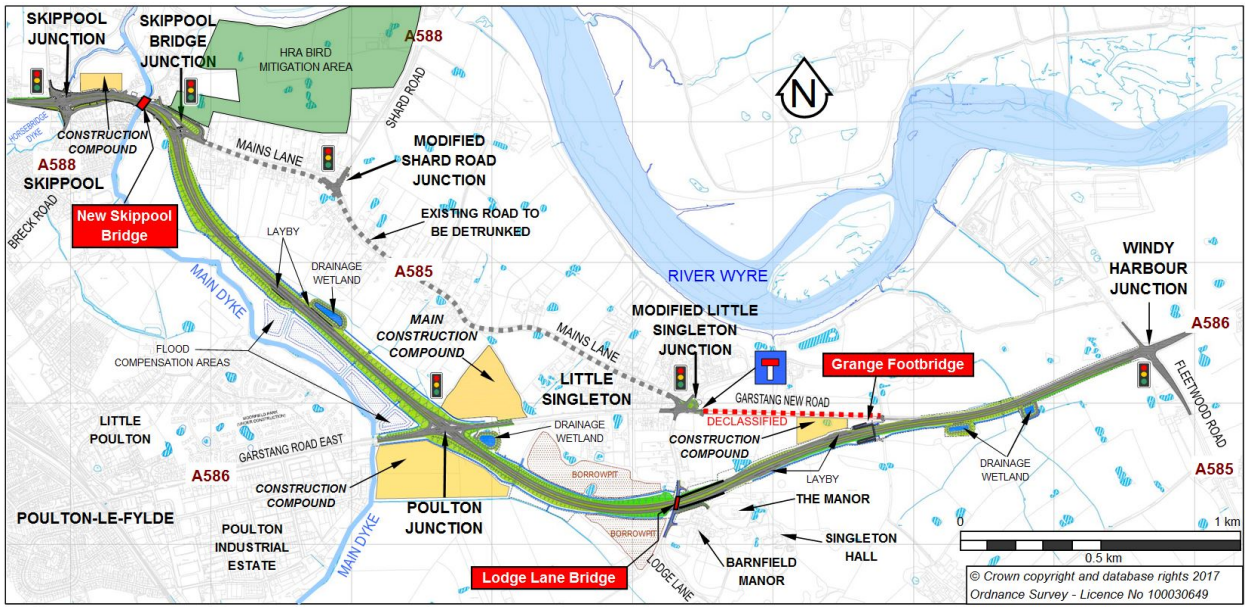
2.2.1 Highways England is proposing an A585 Windy Harbour to Skippool Scheme which is to provide an improvement to 4.86km of the existing single carriageway A585 trunk road route that extends in a generally north west direction for approximately 19km between M55 Junction 3 and the port of Fleetwood at the northern end of the Fylde Peninsula.

2.2.2 The general arrangement of the Scheme is shown on document 2.5 (document reference TR010035/APP/2.5) – a summary is provided in Figure 2-1. The Scheme consists of:

- A 4.85km (3 miles) long dual 2-lane carriageway bypass from Windy Harbour Junction to the Skippool Junction
- Four new junctions including: conversion of Skippool Junction to a traffic signal-controlled crossroads with A588 Breck Road and B5412 Skippool Road; Skippool Bridge Junction in the form of a three-arm traffic signal-controlled junction with the existing Mains Lane; Poulton Junction in the form of a signal-controlled crossroads connecting the new bypass to A586 Garstang Road East and modification to Little Singleton Junction (also known as Five Lane Ends) to accommodate U-turning traffic including buses. Between Skippool Bridge Junction and Poulton Junction the bypass is on embankment. East of Poulton Junction through to east of Lodge Lane the bypass is mostly in cutting
- Three new major structures including: replacement of Skippool Bridge; Lodge Lane Bridge and Grange Footbridge
- Alterations to the existing road network on completion of the bypass include: detrunking the A585 between Skippool Bridge Junction and the end of Garstang New Road east of Little Singleton; applying a reduction in speed limit to 30mph and providing a combined footway/cycleway along Mains Lane between Shard Road Junction and Little Singleton; altering Garstang New Road east of Little Singleton to allow restricted access to farmers' fields and provide a shared

footway/cycleway route between Windy Harbour Junction and Little Singleton; applying a reduced speed limit of 30mph along Garstang Road East between the proposed Poulton Junction and Little Singleton and upgrading the lighting along Mains Lane and Garstang Road East

Figure 2-1: The Scheme



2.3 Borrow pits

2.3.1 The Scheme has a net deficit of approximately 225,000 cubic metres (cu.m) of general fill material and approximately 100,000 cu.m. of granular fill material. The 2 options to address this deficit include importing material or importing the material and using borrow pits. The decision of which option to choose has been left for the Contractor to make once appointed.

2.3.2 If the option to use borrow pits is selected by the Contractor, 2 borrow pits locations have been identified. Their locations were selected as they are as close as possible to where the material is required.

2.3.3 As the majority of the material is required to construct the embankment north of Poulton Junction the location of the borrow pits has been chosen to avoid construction traffic having to pass through Little Singleton or having to cross the existing A585 road. Excavating the material locally from the borrow pits would reduce the amount of material that would have to be imported and therefore would reduce the number of lorry movements.

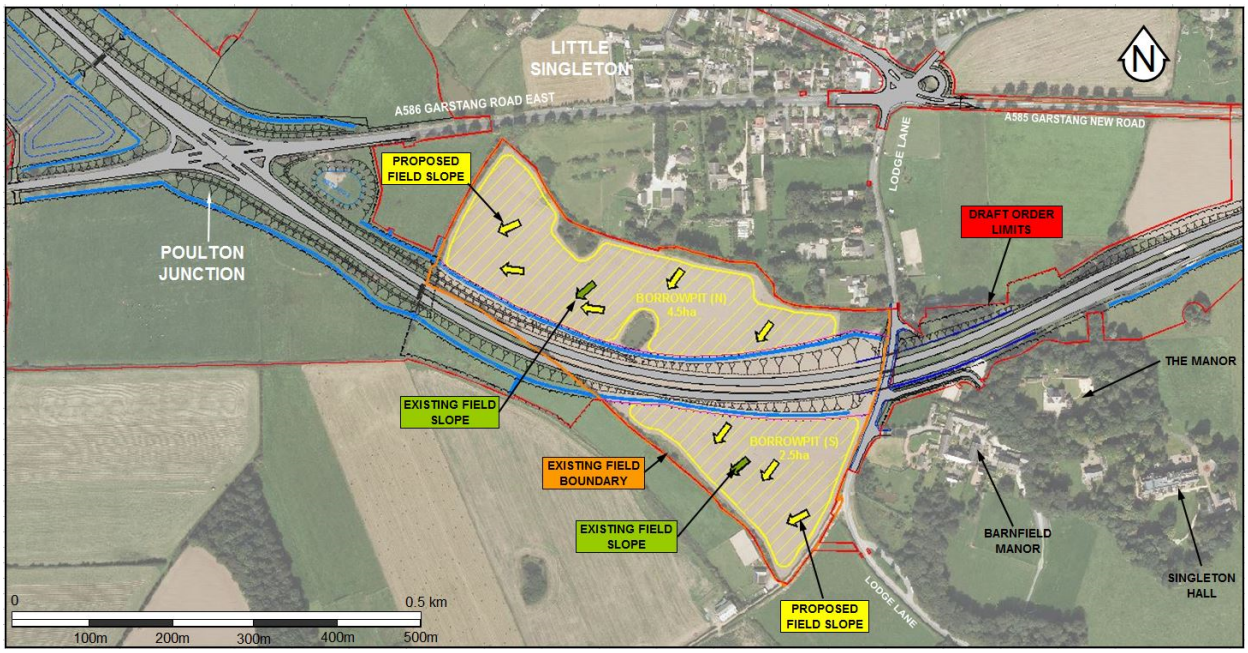
2.3.4 Locations of the 2 borrow pits are presented on Figure 2-2. They are within a single field south of Little Singleton, west of Lodge Lane on both the north and south sides of the bypass. This existing field east of Lodge Lane belongs to Singleton Lodge Farm and is approximately 12.6 hectares (31 acres) in area and falls in a south-westerly direction at between 1 in 30 and 1 in 16 and is surrounded by hedgerows with mature vegetation to the north and field ditches along the south and west field boundaries.

2.3.5 This field currently has an Agricultural Land Classification as Grade 2 as shown on available agricultural land classification mapping. Grade 2 land is described as 'very

good quality agricultural land', defined as:

"Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1."

Figure 2-2: Borrow pits Location



2.3.6 The borrow pits would provide approximately 70,000 cu.m of general material to construct the embankment north of Poulton Junction and associated environmental screening mounds. The borrow pits would be exclusively for use in connection with the Scheme and would not provide materials for other projects or for local needs.

2.3.7 The northern borrow pit would be about 4.5 hectares in area (11.1 acres) and the southern borrow pit would be about 2.5 hectares in area (6.3 acres).

2.4 DCO Application

2.4.1 Both borrow pits are located within the draft order limits.

2.4.2 Issues relating to their design and environmental effects are outlined within the Environmental Statement (ES) (document reference TR010035/APP/6.1-6.17) forming part of the DCO application documents.

2.4.3 The option of using the borrow pits where this represents the worst case is presented in several ES Chapters (document reference TR010035/APP/6.1-6.17).

2.4.4 The borrow pits are shown on the general arrangement plans (document reference TR010035/APP/2.5) and the works plans (document reference TR010035/APP/2.3) which cross-refer to the 'authorised works' in Schedule 1 of the draft DCO (document reference TR010035/APP/3.1).

2.5 Definitions

2.5.1 The following definitions have been adopted for the purposes of this draft plan:

- Borrow pit – area within the draft order limits used for the excavation of construction fill materials
- Draft Borrow Pit Restoration and Aftercare Plan – this document
- Final Borrow Pit Restoration and Aftercare Plan – the document the Contractor and Highways England would prepare (if the borrow pits are to be used) in accordance with this draft plan
- Detailed design – the process of developing the detailed design for the Scheme
- Construction – all construction and related activities necessary to deliver the Scheme
- Excavation – the removal of construction fills from the borrow pits, including site preparation and the stripping and storage of soils
- Restoration – the works delivered following completion of excavation, including regrading of excavations, the placement and preparation of soils
- Aftercare – any management of the restored site to ensure that the restoration is established, is sustainable and delivers the proposed after use (also refer to Section 4.3)

2.6 Borrow Pit Documentation

2.6.1 The proposed documentation applicable to the restoration and aftercare phases comprises:

- A draft Borrow Pit Restoration and Aftercare Plan (this document)
- A final Borrow Pit Restoration and Aftercare Plan to be developed by the Contractor and Highways England

2.6.2 The final plan would include detailed designs, specifications and schedules for the implementation of the restoration and aftercare of borrow pits in accordance with this draft plan. The final plan would be prepared in accordance with good practice and necessarily links to other DCO documentation relevant to the excavation, restoration and aftercare stages. The principal documents would comprise:

- The made DCO
- The Construction Environmental Management Plan (CEMP) developed by the Contractor in accordance with the Outline CEMP (document reference TR010035/APP/7.2)
- The Final Soil Management Plan (SMP) developed by the Contractor in accordance with the Draft SMP appended to the Outline CEMP (document reference TR010035/APP/7.2)
- The Record of Environmental Actions and Commitments (REAC) (document reference TR010035/APP/7.3)

3 THE DRAFT PLAN

3.1 Purpose of this Draft Plan

3.1.1 The purpose of this draft plan is to set out the structure, principles and content to be developed by Contractor (once appointed) and Highways England to include in the final plan and a timeline for how the final plan would be developed in consultation with stakeholders / landowners.

3.2 Review of the Draft Plan

3.2.1 This draft plan is at a necessarily high-level and the precise detail of the restoration and aftercare would be covered by the final plan developed by the Contractor and Highways England.

3.2.2 It should be noted that there remains potential for unexpected circumstances to arise during the detailed design and excavation phases which might trigger a need to modify this draft plan.

4 DEVELOPMENT OF BORROW PIT PROPOSALS

4.1 Design

4.1.1 The detailed designs for the borrow pits would be developed in parallel with the detailed design of the Scheme once a Contractor has been appointed and a decision has been made on whether or not to use the borrow pits.

4.1.2 The preliminary design shows that material could be excavated from the borrow pits up to 2.5m below existing ground level.

4.1.3 The existing topsoil and subsoil materials within the field would be stripped (in accordance with the SMP) and stored nearby. Excavation would allow for approximately 70,000 cu.m of material to be excavated. The stripped topsoil and subsoil materials would then be used to restore the land to agricultural use. However, "Limits of Deviation" includes a tolerance that would allow further excavation (for example - if deeper material was better quality) while retaining the proposed profile by backfilling.

4.1.4 In the draft DCO (document reference TR010035/APP/3.1) Section 6 provides limits of deviation which in relation to the borrow pit are:

in respect of the borrow pits, during excavation to a maximum of 10 metres downwards and to any distance upwards to ground level and, following restoration, to a maximum of 2.6 metres downwards and to any distance upwards to ground level.

4.1.5 The design of the borrow pits would allow the land to be returned to agriculture. The excavation works would be limited to avoid affecting existing hedgerows and trees particularly along the northern and western boundaries of the field. Further details can be found in the Engineering Section Drawings (document reference TR010035/APP/3.1)

4.1.6 Detailed design would be undertaken by the Contractor and Highways England in consultation with stakeholders / landowners and would follow best practice for such works including:

- Planning Practice Guidance – Guidance, Restoration and aftercare of minerals sites – Department for Communities and Local Government (2014)
- Good practice guide for handling soils – Ministry of Agriculture Fisheries and Food (2000)
- Defra Guidance for Successful Restoration of Minerals and Waste Sites – Department for Environment, Food and Rural Affairs (2004)
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites – Department for Environment, Food and Rural Affairs (2009)

4.2 Restoration Plan

4.2.1 Restoration plans and restoration work would be delivered by the Contractor in consultation with stakeholders / landowners.

4.2.2 The material from the borrow pits would be excavated by the Contractor as necessary to meet the Scheme construction programme needs. This could mean excavation and restoration are phased during construction. Timing would also need to take account

of seasonal constraints on earth moving due to poor weather.

4.2.3 On completion of the excavation works it is expected the Contractor would regrade to a slope of between 1 in 10 and 1 in 15 by steepening the existing ground slope falling in a south-westerly direction. The previously stored subsoil and topsoil would be reinstated (in the correct order to recreate the soil profile) on the new ground profile. Ponds within the northern part of the field would be reinstated in approximately the existing locations (as agreed with the landowner) and new field drainage would be provided with an outfall into existing field ditches west of the borrow pits.

4.2.4 Where agricultural uses are to be resumed on land disturbed during the construction of the Scheme, the design objective is to avoid any reduction in long term capability, which would downgrade the quality of land restored to agriculture and to provide a sufficiently deep soil profile to manage both wetter and drier conditions in the future due to climate change impacts.

Groundwater Management

4.2.5 On restoration, existing baseflow and catchment runoff characteristics will be maintained for surface water features. Similarly, the groundwater regime will maintain baseflow connectivity with the surface water regime. This will be achieved through appropriately designed drainage systems to control groundwater levels to sustain groundwater baseflow to nearby field ditches.

4.3 Aftercare Plan

4.3.1 Highways England would monitor the reinstatement for a period of 5 years. Assessments of soil physical and chemical characteristics will form part of the monitoring process, based on acceptance criteria to be detailed in the SMP. An aftercare plan would be set out in the final plan covering years 1-5 as this would be in accordance with good practice.

4.3.2 The preparation of aftercare plan would be undertaken by Highways England and the Contractor.

4.3.3 Further detail of the restoration and Aftercare Plans is set out in Section 5 of this document.

5 RESTORATION AND AFTERCARE PLANS

5.1 Purpose

5.1.1 The purpose of the restoration and aftercare plan is to set out in detail the restoration and aftercare arrangement for the borrow pits if they are used by the Contractor. The final plan would be developed with stakeholders / landowners. The final plan would be detailed and tailored to the specific requirements of each borrow pit.

5.1.2 The final plan would build on this draft plan and would define at a detailed level:

- The restoration work necessary post excavation to prepare the site for the proposed after use
- The proposed after use
- Any works during aftercare proposed
- Liaison with stakeholders / landowners
- Timescales
- A monitoring programme

5.1.3 The final plan would be supported by drawings and specifications for both the restoration and aftercare stages.

5.2 Scope of the Final Restoration Plan

5.2.1 The final restoration plan would comprise:

- The design for the borrow pit
- Operations and techniques to implement the design
- Specification of materials
- Site specific provisions
- Links to DCO documentation
- Reference to key guidance documents
- Any key site specific assessments and other documents as appendices
- A programme and phasing (where applicable) for restoration works

Restoration Operations and Techniques

5.2.2 This part of the final restoration plan would include details of the following:

- Management of stored over burden and soils for restoration purposes
- Ground shaping to final levels following completion of excavation
- Relief of compaction
- Ground preparation for soiling
- Removal of soils from storage, any required reconditioning and their placement
- Removal of obstructions / stone picking
- Cultivation and preparation of land for agricultural purposes

- Seeding
- Details of pond reinstatement
- Drainage
- Water supply for agricultural purposes

Specification

5.2.3 The specification would define the quality and size of materials used within the restoration including the following where applicable:

- References to British Standards
- Plant protection
- Seed for agricultural purposes – including sowing rate
- Soil improvers and fertilisers for agricultural purposes, if required
- Site specific installations

5.3 Scope of the Aftercare Plan

5.3.1 The aftercare plan would include details of:

- Any monitoring and management required in years 1 - 5
- Programme and phasing for aftercare works

Aftercare Operations in Years 1-5

5.3.2 It is landscape industry good practice, to undertake a period of 5 years 'establishment aftercare' following completion of landscape works. A 5 year aftercare period enables sown grass and wild flower seed mixes, planting plots, individual trees and marginal planting to water areas, to become properly established and for weed management to be successful. In addition, it is designed to enable the effective eradication of invasive or noxious weeds, which are often a problem on recently disturbed or former arable land.

5.3.3 Aftercare operations would be based on the widely used NEC 3000 Series Specification for Landscape and Ecology Works.

5.3.4 The Outline CEMP (document reference TR010035/APP/7.2) sets out provisions for agricultural restoration and establishment including:

- Pre-construction survey, testing and recording of the existing topsoil and subsoil conditions
- Pre-construction activity to establish the exact nature of the existing field drainage system including any associated farm drainage which may be affected by the Scheme
- Assessment and agreement of replacement drainage to be installed during restoration
- Assessment of appropriate levels of compensation based on farm and construction record

5.3.5 It is recognised that, where applicable, landowners / tenants may wish to carry out

aftercare operations themselves, this is considered good practice and Highways England and the Contractor would work with landowner/tenants.

5.3.6 The aftercare programme must recognise the limitations and specific needs of a site reinstated to agriculture following excavation. The ultimate aim of the restoration and aftercare is to return land to an agreed end use within the 5 year period taking into account any new constraints presented by the changed land surface form.

6 PROGRAMME

6.1.1 Stakeholder / landowner engagement in the development of the final plan would be a 2 stage process comprising:

- Preparation of an advanced draft during detailed design and prior to commencement of excavation
- Preparation of the final plan on completion of excavation and prior to the commencement of the restoration phase

6.1.2 The programme for the final plan would be determined by the Contractor and Highways England. However Table 6-1 presents a high-level timeline and identifies the key responsibilities and stakeholder / landowner involvement.

Table 6-1: High-level Timeline and Key Responsibilities

Actions – Including Responsibilities	Timeline
Detailed design of borrow pits (Contractor)	During detailed design
Preparation of advanced draft and final document (Contractor)	During detailed design (involve landowner / stakeholders)
Liaison on Borrow pit Restoration and Aftercare Plan (Highways England and Contractor)	During detailed design (involve landowner / stakeholders)
Monitor excavation (Highways England and Contractor)	During excavation period (involve landowner / stakeholders)
Update final plan with actual excavations (Highways England and Contractor)	During excavation period (involve landowner / stakeholders)
Deliver restoration works (Contractor)	During restoration period (involve landowner / stakeholders)
Monitor restoration activities (Highways England and Contractor)	During restoration period (involve landowner / stakeholders)
Confirm works are satisfactory (Highways England and Contractor)	At the end of the restoration period (involve landowner / stakeholders)
Five years monitoring and management (Highways England)	Aftercare period (involve landowner / stakeholders)

Appendix O – Asbestos Management Plan

A585·Windy·Harbour·to·Skippool Improvement Scheme

TR010035

7.2 Scheme Asbestos Management Plan

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 7

October 2018

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585·Windy·Harbour·to·Skippool Improvement Scheme

Development Consent Order 20[ ]

SCHEME ASBESTOS MANAGEMENT PLAN

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/7.2
Author:	A585·Windy·Harbour·to·Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	October 2018	DCO Submission

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1 EXECUTIVE SUMMARY

1.1 Asbestos Background

1.1.1 In the UK the Control of Asbestos Regulations 2006 (CAR 06) came into force on 13th November 2006, bringing together three previous sets of regulations covering the prohibition of asbestos, the control of asbestos at work and the asbestos licensing regulations. Asbestos Containing Materials (ACMs) are known to exist within the highway boundary, in roads, drainage, structures, associated buildings and other assets. Road tunnels, depots and other buildings are considered to pose the highest risk for highway works. ACMs only pose a risk to health if the material is disturbed and the fibres become airborne and can then be inhaled. CARs have been revised and the current relevant CAR is CAR 2012.

1.1.2 Highways England has agreed with the Health and Safety Executive (HSE) that they will treat all highway structures as workplaces / non-domestic premises and as best practice all assets would be surveyed within a 20-year timescale from April 2005 as noted in part 4 GD05/16. To comply with this Highways England had issued GD05/16 – “Asbestos Management in trunk road assets” which details the processes and requirements for Asbestos Management Plans to cover their legal duties to protect their operatives, contractors and third parties from asbestos exposure which may be contained within the highway network.

1.2 Scheme Asbestos Management Plan Compliance

1.2.1 This Scheme Asbestos Management Plan (SAMP) will be produced for the A585 Windy Harbour to Skippool Improvement Scheme in line with the requirements of the Highways England document GD05/16.

1.2.2 http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol0/section2/gd516.pdf

1.2.3 Highways England’s Strategic Network General Asbestos Management Plan (GAMP) is to be aligned with current regulations and GD05/16, and the specific requirements to comply with CAR12 Regulation 4 as set out in GD05/16.

1.2.4 http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol0/section2/GD0516GAMP.pdf

1.2.5 The purpose of this document is to outline the process and programme in relation to locating, assessing and managing asbestos-containing materials (ACMs) which may be encountered during the works. The SAMP outlines how and when Asbestos Action Plans (AAPs) will be prepared.

1.2.6 The requirement to produce a Scheme Asbestos Management Plan is part of the Highways England asbestos management system which has been implemented as the means by which Highways England will discharge its duties under CAR 2012.

1.2.7 Although not specifically required by CAR 2012 asbestos surveys (AAPs) are needed to identify and assess the condition of any asbestos containing materials which is needed for the legally required asbestos register and the subsequent management of any asbestos found within a structure.

1.2.8 However, an asbestos register is required by CAR for non-domestic premises and the SAMP will be treated as a compilation of all asbestos information for the Scheme.

1.2.9

2 INTRODUCTION

2.1 Scheme Description

2.1.1 Highways England (the Applicant) has been investigating options to alleviate a major bottle neck along the A585 between the Windy Harbour junction and the Skippool junction near Poulton-le-Fylde, Lancashire. Between 2015 and 2017, work was undertaken to develop and appraise options to address these issues. On 24 October 2017, Highways England announced that an offline 'southern' bypass solution between the two junctions was the preferred solution.

2.1.2 The Scheme is a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008 as amended. Therefore, an application for Development Consent Order (DCO) is required to be submitted by Highways England to the Secretary of State (SoS) for Transport via the Planning Inspectorate (the Inspectorate).

2.2 Scheme Background

2.2.1 The Department for Transport (DfT) outlined in its Road Investment Strategy (RIS) Statement 2014, its aims for the Strategic Road Network (SRN). Part of this was to identify key investment needs on the SRN so Highways England developed a Route Based Strategy (RBS) to focus on those routes in the greatest need of improvement. The A585 Windy Harbour to Skippool Improvement Scheme was identified as a priority and included in the RIS for delivery in Road Investment Period 1 (to start construction by March 2020).

2.2.2 In April 2014, the then Highways Agency produced the South Pennines Route Strategy (SPRS) document with supporting evidence and Technical Annex. The South Pennines route includes the whole of the A585 from the M55 through to Fleetwood. The SPRS reports on the planned growth for the area and the possible new uses for the Port of Fleetwood. This implies a significant increase in demand for the A585 route. Consequently, ensuring that the route would accommodate any future growth is a key priority.

Overview

2.2.3 The A585 Windy Harbour to Skippool Improvement Scheme is to provide an improvement to approximately 4.8km of the existing single carriageway A585 Trunk Road route that extends in a generally north-west direction for about 19km between M55 Junction 3 and the port of Fleetwood at the northern end of the Fylde Peninsula.

Figure 1- A585 (T) Route and study area

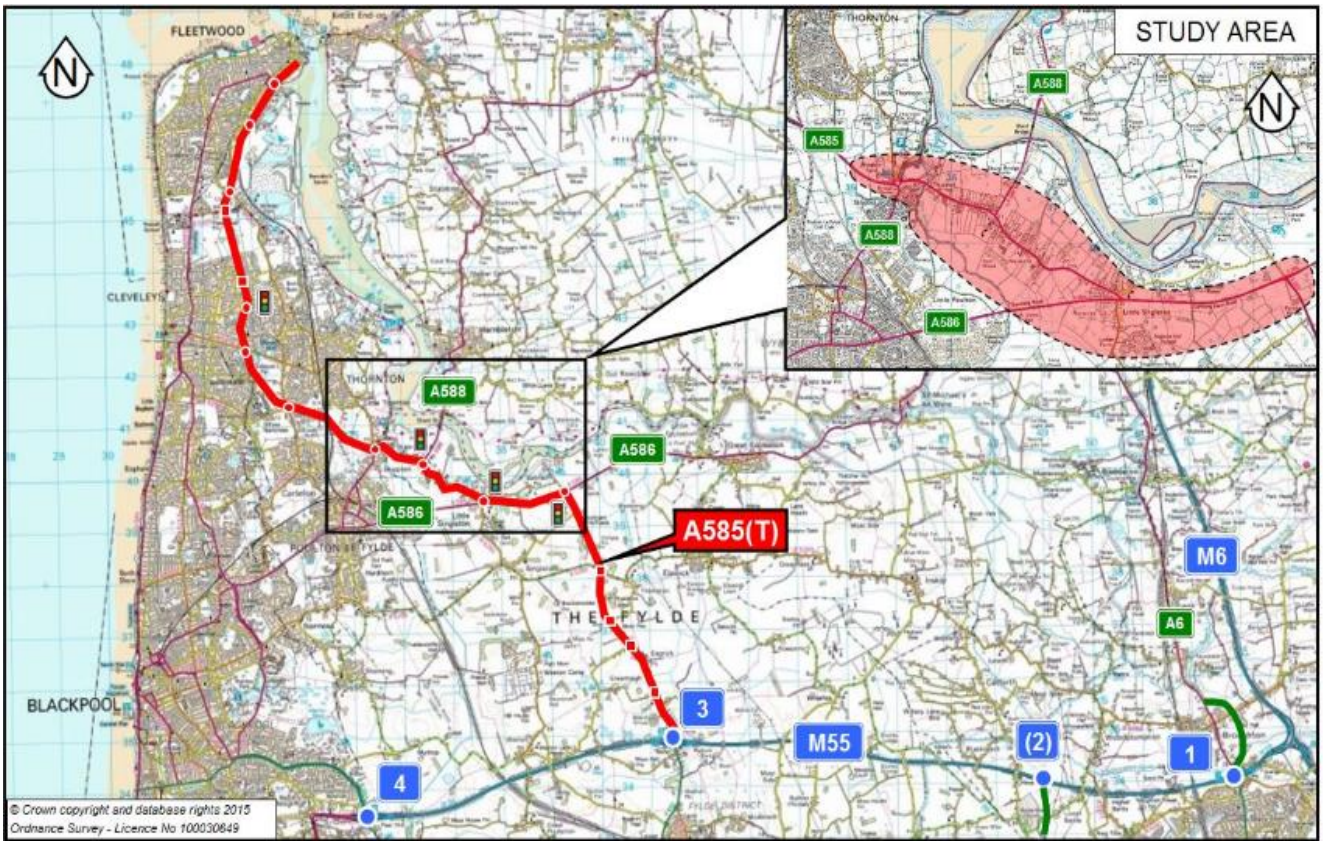
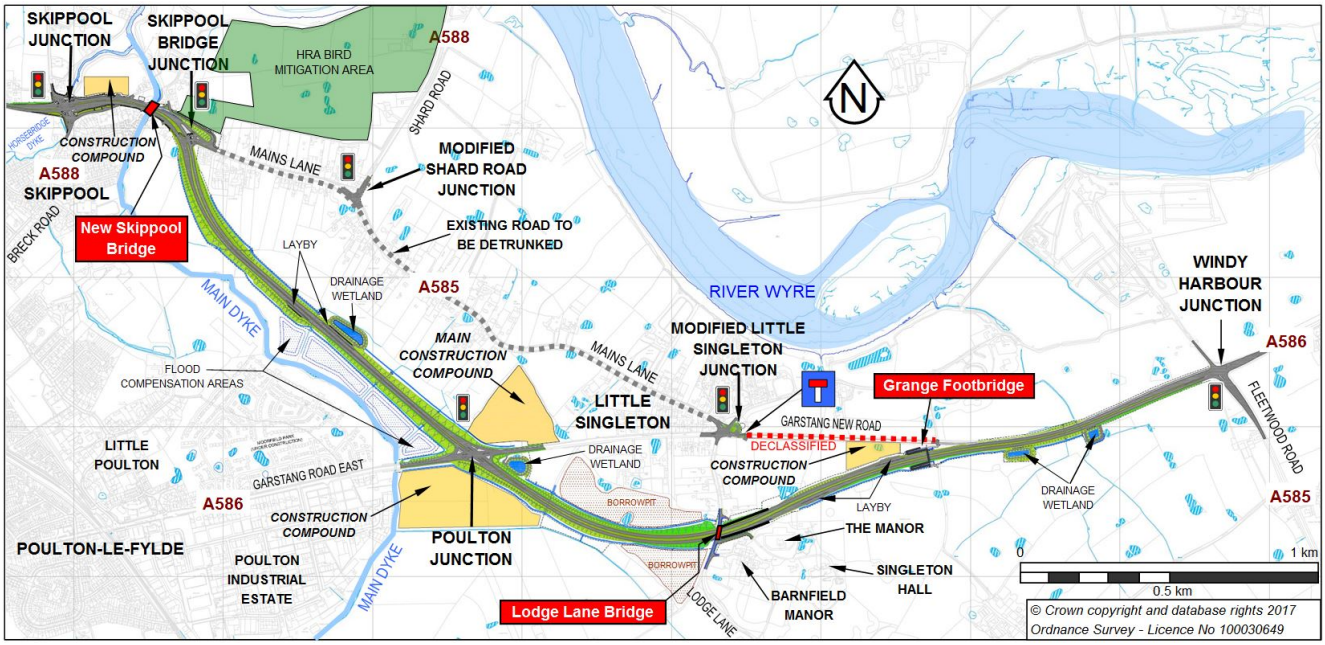


Figure 2 – The Scheme



2.2.4 The scheme includes the following features:

- 4.85km (3 miles) of new two lane dual carriageway bypass connecting Windy Harbour Junction to Skippool Junction
- Four new junctions comprising;
  - Conversion of Skippool Junction to a traffic signal-controlled crossroads with A588 Breck Road and B5412 Skippool Road
  - Skippool Bridge Junction in the form of a three-arm traffic signal-controlled junction with the existing Mains Lane
  - Poulton Junction in the form of a signal-controlled crossroads connecting to A586 Garstang Road East
  - Conversion of Little Singleton Junction (also known as Five Lane Ends) to a roundabout
- Four new structures comprising:
  - Skippool Bridge
  - Lodge Lane Bridge
  - Skippool Clough Culvert (Note: this is dependent on the results of a condition survey. It may need strengthening as it passes below the new Skippool junction)
  - Grange Footbridge
- Three construction compounds at chainage (Ch) 200, Ch.500 and Ch.3600
- Associated works for temporary access, temporary lay-down and work areas and ancillary works

3 PARTIES INVOLVED

3.1 Project Team

3.1.1 Table 3-1 key management contact details for the scheme:

Table 3-1 Project Team

Name	Role	Contact Details
Highways England		
Bruce Allan	Senior Responsible Officer	Bruce.Allan@highwaysengland.co.uk
Emma White	Programme Manager	Emma.white@highwaysengland.co.uk
David Hopkin	Project Manager	David.hopkin@highwaysengland.co.uk
Hassan Malik	Project Support	Hassan.malik@highwaysengland.co.uk
Arcadis Management		
Elena Vrabie	Project Director	Elena.vrabie@arcadis.com
Nick Henderson	Project Manager	Nicholas.henderson@arcadis.com
Principal Designer Team		
Tim Goddard	Principal Designer	Tim.goddard@arcadis.com

4 SCHEME EXTENT

Asset Type	Asset Sub Type	Assumed Materials	How Asset will be Affected by the Proposed Works	Asbestos Action Plan (AAP) Status (Red, Amber, Green status)	Further Asbestos Surveys Required
Structures	Skippool Culvert (13265)	Chrysotile	N/A	Contains ACMs – Survey Ref ANO1193-018. AAP Ref 71135111	No
	Skippool Clough Culvert (19720)	N/A	New bypass above culvert. Currently does not affect the culvert.	Survey Ref ANO1193-019. AAP Ref 71135111 Testing confirmed non ACMs	No
	Skippool Bridge	Steel / Concrete beams, Concrete foundations, Stone Parapets **Risk of Asbestos**	Bridge is being demolished and replaced as part of the scheme.	No AAP	Yes
Road Restraint	Pedestrian guardrails	Tubular steel or timber post and rail fencing, concrete foundations	N/A	No AAP	Yes
	Vehicle Restraint System	Tubular steel or timber post and rail fencing, concrete foundations	Limited VRS within scheme. New VRS will be provided	No AAP	Yes
Drainage	Filter Drains	Perforated pipe (assumed concrete or plastic) **Risk of asbestos**	N/A	No AAP for A585 or A586/ Lodge Lane	Yes Locations and age of assets to be confirmed
	Carrier drains	Concrete or plastic pipe **Risk of asbestos**	N/A	No AAP for A585 or A586/ Lodge Lane	Yes Locations and age of assets to be confirmed
	Gullies	Assumed cast iron or concrete	Gullies to be reutilised where can. Others will be replaced with new.	No AAP for A585 or A586/ Lodge Lane	Yes Locations and age of assets to be confirmed
	Gully outfalls	Pitch fibre pipe **Risk of asbestos**	N/A	No AAP for A585 or A586/ Lodge Lane	Yes Locations and age of assets to be confirmed

Asset Type	Asset Sub Type	Assumed Materials	How Asset will be Affected by the Proposed Works	Asbestos Action Plan (AAP) Status (Red, Amber, Green status)	Further Asbestos Surveys Required
Drainage	Culverts Less than 1.5 Meter Span	Varies		No AAP	Yes, Awaiting report of CCTV Surveys
	Cross drains	Assumed concrete or plastic **Risk of asbestos**	N/A	No AAP for A585 or A586/ Lodge Lane	Yes, Awaiting report of CCTV Surveys
	Manholes / Catch Pits	Concrete	Modified where new drainage system is going to be tied in.	No AAP	Yes, Awaiting report of CCTV Surveys
	Bridge drainage units	Assumed cast iron	N/A	No AAP for A585 or A586/ Lodge Lane	Yes, Awaiting report of CCTV Surveys
Earthworks	Standard earthworks	Underlying Material	N/A	No AAP for A585 or A586/ Lodge Lane.	No, GI confirmed no asbestos present
	Steepened earthworks	Underlying Material	N/A	No AAP for A585 or A586/ Lodge Lane.	No, GI confirmed no asbestos present
	Minor retaining walls	Varies	N/A	No AAP for A585 or A586/ Lodge Lane.	No, GI confirmed no asbestos present
Pavement	Mainline carriageway	Bitumen or tar bound macadam, CBM pavement quality concrete	Part of pavement will be planed out.	AAP Received for A585 No ACMs Found	No
				Further Surveys / AAPs required	Yes

Asset Type	Asset Sub Type	Assumed Materials	How Asset will be Affected by the Proposed Works	Asbestos Action Plan (AAP) Status (Red, Amber, Green status)	Further Asbestos Surveys Required
				for A586 and Lodge Lane	
Kerbs footways and paved areas	Kerbs	In situ asphalt kerbs, pre-cast concrete	Where needed kerbs will be re-aligned and replaced	AAP Received for A585 No ACMs Found	No
				Further Surveys / AAPs required for A586 and Lodge Lane	Yes
	Hard standing to communications cabinets etc	Pre-cast concrete slabs / in situ concrete	N/A	AAP Received for A585 No ACMs Found	No
				Further Surveys / AAPs required for A586 and Lodge Lane	Yes

Asset Type	Asset Sub Type	Assumed Materials	How Asset will be Affected by the Proposed Works	Asbestos Action Plan (AAP) Status (Red, Amber, Green status)	Further Asbestos Surveys Required
Kerbs footways and paved areas	Access steps	Assumed pre-cast concrete slab treads on brick or kerb risers	N/A	AAP received for A585 - no ACMs found	No
				Further surveys / AAPs required for A586 and Lodge Lane	Yes
	Maintenance footways	Pre-cast concrete slabs	N/A	AAP received for A585 - no ACMs found	No
				Further surveys / AAPs required for A586 and Lodge Lane	Yes
Traffic signs, road markings, Street Lights & Controls	Signs	Assumed metal backing metal posts concrete foundations	Existing signs to be removed and replaced.	Further surveys / AAPs required	Yes
	Road markings	Standard lining or varying age	Markings at tie in points amended	Further surveys / AAPs required	Yes
	Road studs	Assumed metal, glass, plastic and rubber	As above	Further surveys / AAPs required	Yes
	Street Lighting Columns	Assumed metal, glass, plastic and rubber	N/A	Further surveys / AAPs required	Yes
	Lighting columns, Controls equipment	Metal, glass plastic	N/A	Further surveys / AAPs required	Yes
Utilities	Gas	TBC	Diversion works for new bypass	Further surveys / AAPs required	Yes
	Electric	Ducting, Backing boards, Fuses	Diversion works for new bypass	Further surveys / AAPs required	Yes
	Water	Carrier System	Diversion works for new bypass	Further surveys / AAPs required	Yes
	Telecoms	Ducting, Backing boards	Diversion works for new bypass	Further surveys / AAPs required	Yes

5 FURTHER ASBESTOS SURVEYS REQUIRED

5.1.1 All further asbestos surveys will be carried out during PCF Stage 5 once a Delivery Partner has been appointed.

6 PROCUREMENT OF SPECIALIST ASBESTOS SERVICE

6.1 Requirement for Surveys

6.1.1 The HSE recommends and Highways England requires, that specialist asbestos surveying and laboratory testing organisations should be UKAS accredited to ISO 17020 and 17025 respectively. The scheme contractor, working on behalf of the Highways England Major Projects Directorate (MPD) will let the appropriate contract with the Surveying and Testing Organisation. The AAP may recommend that there is a specific requirement to undertake Management Surveys and/or Refurbishment and Demolition often referred to as R&D surveys.

6.1.2 The difference between the Management Survey and the R&D Survey is that the scope of the Asbestos Management Survey, previously known as a Type 2, is to locate, as far as reasonably practicable, the presence and extent of any suspect ACMs. The scope of the R&D survey should be directly related to the planned works, it is a more intrusive survey than the management survey and involves destructive inspection methods such as lifting of floor coverings, breaking into the fabric of the building or structure taking samples sending the samples to the laboratory for testing so it can be safely removed before Refurbishment or Demolition.

6.1.3 The scheme contractor will be responsible for obtaining approval from the Highways England Scheme Project Manager prior to awarding any contract for the proposed specialist services.

6.1.4 All surveys must comply with the requirements of HSG264 (Asbestos: The Survey Guide), published by HSE.

6.2 Planning Surveys

6.2.1 In the planning for surveys the following issues need to be considered

- Whether records indicate a strong likelihood of the presence of Asbestos Containing Material (ACM) or not.
- The risk posed by working under traffic management compared to the likely risk of disturbing ACM during planned maintenance work.
- Known consistency of materials/components based on contract limits during the original construction work and the repeated detailing on bridges and culverts. This will allow representative sampling and assessment work to take place. However, previous modifications to assets need to be considered.
- Similarity in the appearance of construction details in buildings and other similar structures.
- Combining survey work for asbestos with other maintenance activities within planned traffic management measures.

6.2.2 Wherever possible asbestos surveys should be combined with any planned inspections to take advantage of shared access arrangements

6.2.3 GD05/16 includes a generic specification based around HSG264 but requires the specialist surveyor to recommend actions for each known or presumed ACM. Recommended actions should be produced by the surveyor in conjunction with the provider to make sure the decisions on actions are appropriate for the asset in question. These actions will form the ‘action plan’ column on the asbestos register

required for the inclusion in the AAP format.

6.2.4 The following survey types will be appropriate in the following general circumstances in the Table 6-1 below.

Table 6-1 Asset Type

Asset Type	Element / Feature included in the survey	Survey type (As HSG264)
Buildings, compounds, miscellaneous structures	All visible components or materials in roofs, ceiling, walls floors etc. where no intrusive maintenance work is planned to hidden components	Management survey
	All components where intrusive work is planned during refurbishment, modification, demolition, reconstruction or extension of a building structure	Refurbishment and Demolition survey
Highway Structures	All visible materials in structure – no intrusive work planned	Management survey
	All materials / components in the structure which would be affected by intrusive work e.g. waterproofing or joint repair.	Refurbishment and Demolition survey
	Any demolition or reconstruction	Refurbishment and Demolition survey
Highways General	All visible surface features – no work planned which could affect ACMs in the ground e.g. in ducts and surface water drains.	Management survey
	All elements which could be affected by major construction work – e.g. ducts, chambers, surface water drains, buried joints, utilities infrastructure	Refurbishment and Demolition survey
	Any demolition or reconstruction - e.g. major widening, new slip roads or junctions.	Refurbishment and Demolition survey

7 SCHEME ASBESTOS MANAGEMENT PLAN (SAMP)

7.1 Programme of Works

7.1.1 Table 7-1 Key Dates

Table 7-1: Key Dates

Scheme Asbestos Management Plan	03rd Jan 2018	06th June 2018
Produce Scheme Asbestos Management Strategy	03rd Jan 2018	09th April 2018
Arrange Surveys	To be undertaken during PCF Stage 5	
Carry out Surveys		
Produce Scheme Asbestos Management Plan	24th April 2018	31st May 2018
Submit Scheme Asbestos Management Plan to Highways England	01st June 2018	
Consultation on Scheme Asbestos Management Plan	01st June 2018	15th June 2018
Update Scheme Asbestos Management Plan	16th June 2018	30th June 2018
Final Stage 3 Submission of Scheme Asbestos Management Plan		30th June 2018

Appendix P – Record of Environmental Actions and Commitments to be inserted prior to construction (refer to document reference TR010035/APP/7.3 – Rev 2)

Appendix Q – Draft Flood Warning and Evacuation Plan – Rev 1

A585 Skippool to Windy Harbour Improvement Scheme

TR010035

7.2 Draft Flood Warning and Evacuation Plan

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 7

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585 Skippool to Windy Harbour Improvement Scheme

Development Consent Order 201[ ]

DRAFT FLOOD WARNING AND EVACUATION PLAN

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/7.2
Author:	A585 Skippool to Windy Harbour Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	May 2019	Deadline 2 Submission
Rev 1	July 2019	Deadline 4 Submission

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CONTENTS

LIST OF TABLES

1 EXECUTIVE SUMMARY

1.1.1 The draft Flood Warning Evacuation Plan (FWEP) is informed by the findings of the Flood Risk Assessment (FRA) (document reference TR010035/APP/5.2 – Rev 1) which highlights that tidal flooding is the main source of flood risk to the A585 Windy Harbour to Skippool Improvement Scheme (the Scheme). Tidal modelling, undertaken to inform the FRA has confirmed that the Scheme is at risk of tidal flooding during a 0.5% AEP (1 in 200 annual probability) event in the area to the east of Skippool Junction. The draft FWEP establishes the preliminary emergency arrangements in the event of a flood occurring during the operational phase of the Scheme.

1.1.2 Highways England would be responsible for developing the draft FWEP into the final FWEP, which would be submitted to the Secretary of State as part of the discharge of Requirement 2 within the Development Consent Order, to ensure suitable preparation and protection of road users and personnel in the instance of a flood.

1.1.3 Several pre-occupation actions have been outlined within the draft FWEP, including placing the Scheme on the Environment Agency (EA) Flood Warning system and identifying appropriate evacuation routes. The Scheme spans two EA Flood Warning Areas: Wyre Estuary at Skippool, bordering Breck Drive and Myrtle Avenue, and Wyre Estuary at Skippool, area east of Breck Road, as well as one Flood Alert area of wider geographical extent, namely Wyre Estuary from Fleetwood and Knott End to Little Eccleston. An explanation of the trigger levels of the EA Flood Warning system and the corresponding procedures and actions are included in the draft FWEP and further specific information bespoke to the Warning and Alert Areas named above, for example, the likelihood of occurrence of alerts/warnings being issued, would be added to the final FWEP. The FWEP also provides contact details for Emergency Services and the relevant instances for contacting each service. Such information would be utilised in the training of personnel involved in the operation of the Scheme.

2 INTRODUCTION

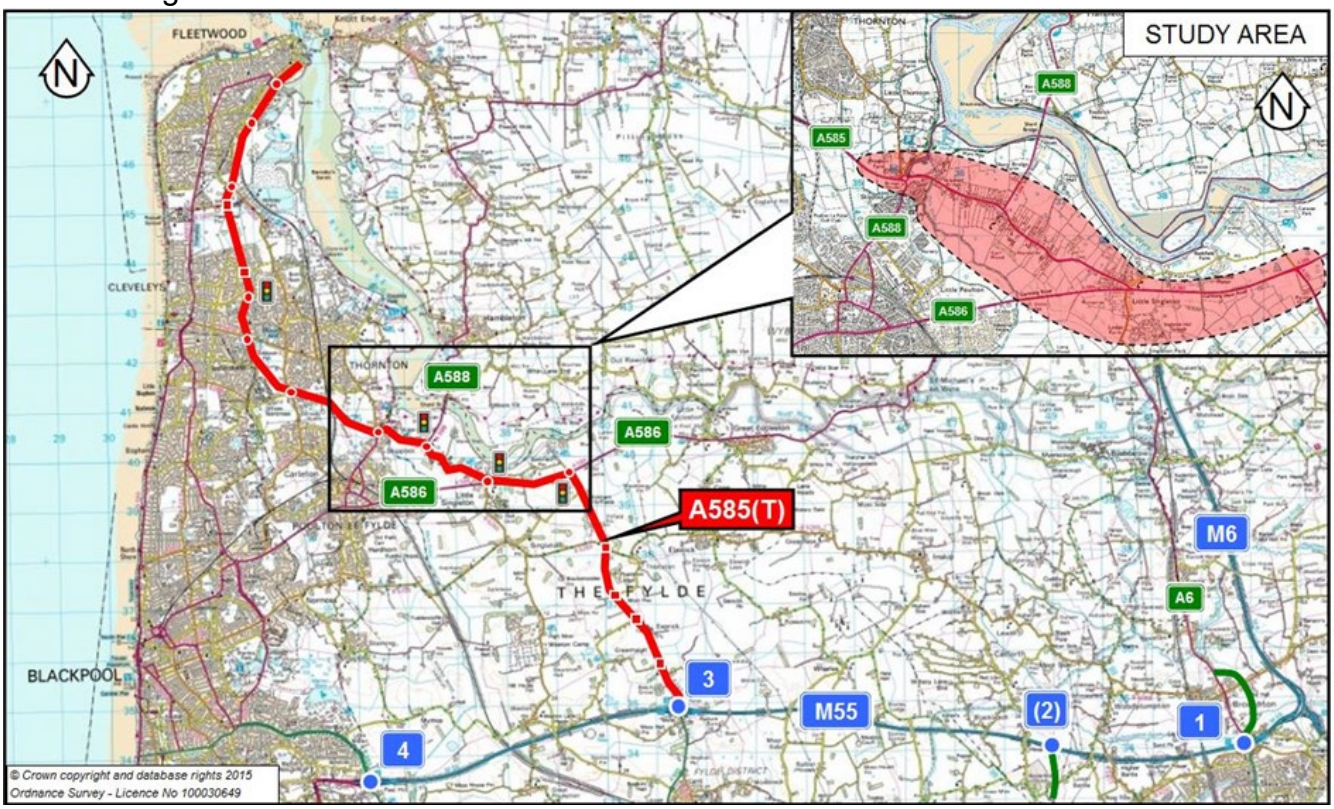
2.1 Background

2.1.1 Highways England is proposing construction of a new bypass of the A585 between Windy Harbour and Skippool, Lancashire, to ease severe congestion at peak times and improve the road's poor safety record.

2.1.2 Arcadis Consulting (UK) Ltd (Arcadis) has been commissioned by Highways England to prepare a draft FWEP for the operational phase of the A585 Windy Harbour to Skippool Improvement Scheme (the Scheme).

2.1.3 The Scheme is located to the south of the estuary of the River Wyre, as shown in Figure 2-1, and crosses a number of tributaries of the River Wyre, as well as several ordinary watercourses.

Figure 2-1: Site Location Plan



2.1.4 The existing road network through Skippool is partially at risk of tidal flooding. A FRA (document reference TR010035/APP/5.2 – Rev 1) has found that tidal flooding is the main source of flood risk to the Scheme during its operational phase (detailed in Section 2). The FRA also concluded that considering the need to tie in the improvement works with the vertical alignment of the existing road network there is no practicable mitigation to wholly protect the Scheme from tidal flooding over its design lifetime.

2.1.5 The EA confirmed in their Relevant Representation that they accept the tidal flood risk during the operation of the Scheme, providing that it is managed via the implementation of a FWEP.

2.1.6 This draft FWEP has therefore been prepared to provide information on flood emergency response actions. The draft FWEP has been informed by the findings of

the FRA (document reference TR010035/APP/5.2 – Rev 1) and the bespoke hydraulic modelling that has been undertaken to quantify flood risk to the operational Scheme. This plan will be developed into a final Plan by the future operator of the Scheme.

2.2 The Scheme

2.2.1 The A585 Skippool to Windy Harbour Improvement Scheme consists of:

- A 4.85 km (3 miles) long dual 2-lane carriageway bypass from Windy Harbour Junction to the Skippool Junction
- Four new junctions including: conversion of Skippool Junction to a traffic signal-controlled crossroads with A588 Breck Road and B5412 Skippool Road; Skippool Bridge Junction in the form of a 3-arm traffic signal-controlled junction with the existing Mains Lane; Poulton Junction in the form of a signal-controlled crossroads connecting the new bypass to A586 Garstang Road East and modification to Little Singleton Junction (also known as Five Lane Ends) to accommodate U-turning traffic including buses. Between Skippool Bridge Junction and Poulton Junction the bypass is on embankment. East of Poulton Junction through to east of Lodge Lane the bypass is mostly in cutting
- Three new major structures including: replacement of Skippool Bridge, Lodge Lane Bridge and Grange Footbridge
- Alterations to the existing road network on completion of the bypass include: de-trunking the A585 between Skippool Bridge Junction and the end of Garstang New Road east of Little Singleton; applying a reduction in speed limit to 30mph and providing a combined footway/cycleway along Mains Lane between Shard Road Junction and Little Singleton; altering Garstang New Road east of Little Singleton to allow restricted access to farmers' fields and provide a shared footway/cycleway route between Windy Harbour Junction and Little Singleton; applying a reduced speed limit of 30mph along Garstang Road East between the proposed Poulton Junction and Little Singleton and upgrading the lighting along Mains Lane and Garstang Road East

2.2.2 The design life of the different components of the Scheme varies but the maximum design life is estimated at 120 years.

2.3 Terminology

2.3.1 Flood risk is a product of both the likelihood and consequence of flooding. Throughout this draft Plan, flood events are defined according to their likelihood of occurrence. Floods are described according to an 'annual chance', meaning the chance of a particular flood occurring in any one year. This is directly linked to the probability of a flood. For example, a flood with an annual chance of 1 in 100 (a 1 in 100 chance of occurring in any one year on average), has an annual exceedance probability (AEP) of 1%.

3 SOURCES OF FLOOD RISK

3.1 Overview

3.1.1 The Scheme is located to the south of the estuary of the River Wyre and crosses Main Dyke and Horsebridge Dyke which are main river tributaries of the River Wyre, as well as several ordinary watercourses.

3.1.2 A qualitative assessment of flood risk reported in the FRA (document reference TR010035/APP/5.2- Rev 1) identified that the Scheme could potentially be at risk of flooding from tidal and fluvial sources. Detailed modelling quantified these risks and the results of the river model showed that the Scheme would not be at risk of fluvial flooding over its design lifetime, inclusive of the predicted effect of climate change. This conclusion applies to conditions in which watercourses have free discharge to the Wyre Estuary, and when the watercourses are in a 'tide locked'[1] condition.

3.1.3 Tidal model results confirmed that small parts of the Scheme are at risk of tidal flooding during a 0.5% AEP (1 in 200 annual probability) event. Tidal flooding was concluded as the main source of flood risk to the operational Scheme. Note that the existing road network is currently at risk of tidal flooding.

3.2 Tidal flood risk

3.2.1 A two dimensional (2D) hydraulic model of the River Wyre was developed by JBA Consulting, submitted to the EA in 2015 and supplied to Arcadis to inform the FRA (document reference TR010035/APP/5.2 – Rev 1). The model was enhanced and used to assess both the risk of tidal flooding to the Scheme and any change in tidal flood risk to third parties resulting from the Scheme, assuming that existing flood defences on the Wyre remain in place. Results from the enhanced tidal model (defended scenario) show that immediately east of Skippool Junction the Scheme is at risk of tidal flooding during a 0.5% AEP event with and without an allowance for climate change. In an undefended scenario, the EA model predicts flooding of the Skippool junction area of the Scheme to a depth of approximately 600mm. A summary of the enhanced tidal model results is shown in Table 3-1. There is considerable variation in predicted flood depths across the Scheme however, for all modelled events, the deepest flood depths are predicted on the eastbound carriageway at the Breck Road exit off Skippool Roundabout. Figures showing the spatial distribution of flood depths along the proposed Scheme are included in the FRA.

Table 3-1: Modelled Tidal Flood Levels and Flood Risk to the Scheme

Scenario	East of Skippool Junction
Arcadis Modelled 0.5% AEP (defended)	Maximum depth of flooding predicted: Approximately 400mm (eastbound carriageway, Skippool Roundabout Breck Road exit) Depth of flooding on westbound carriageway, Skippool Roundabout, entrance from Breck Road: Approximately 80mm
Arcadis Modelled 0.5% AEP plus UKCP18	Maximum depth of flooding predicted: Approximately 1m (eastbound carriageway, Breck Road exit)

[1] Tide lock occurs when high water levels in an estuary or at the coast prevent a watercourse from freely discharging.

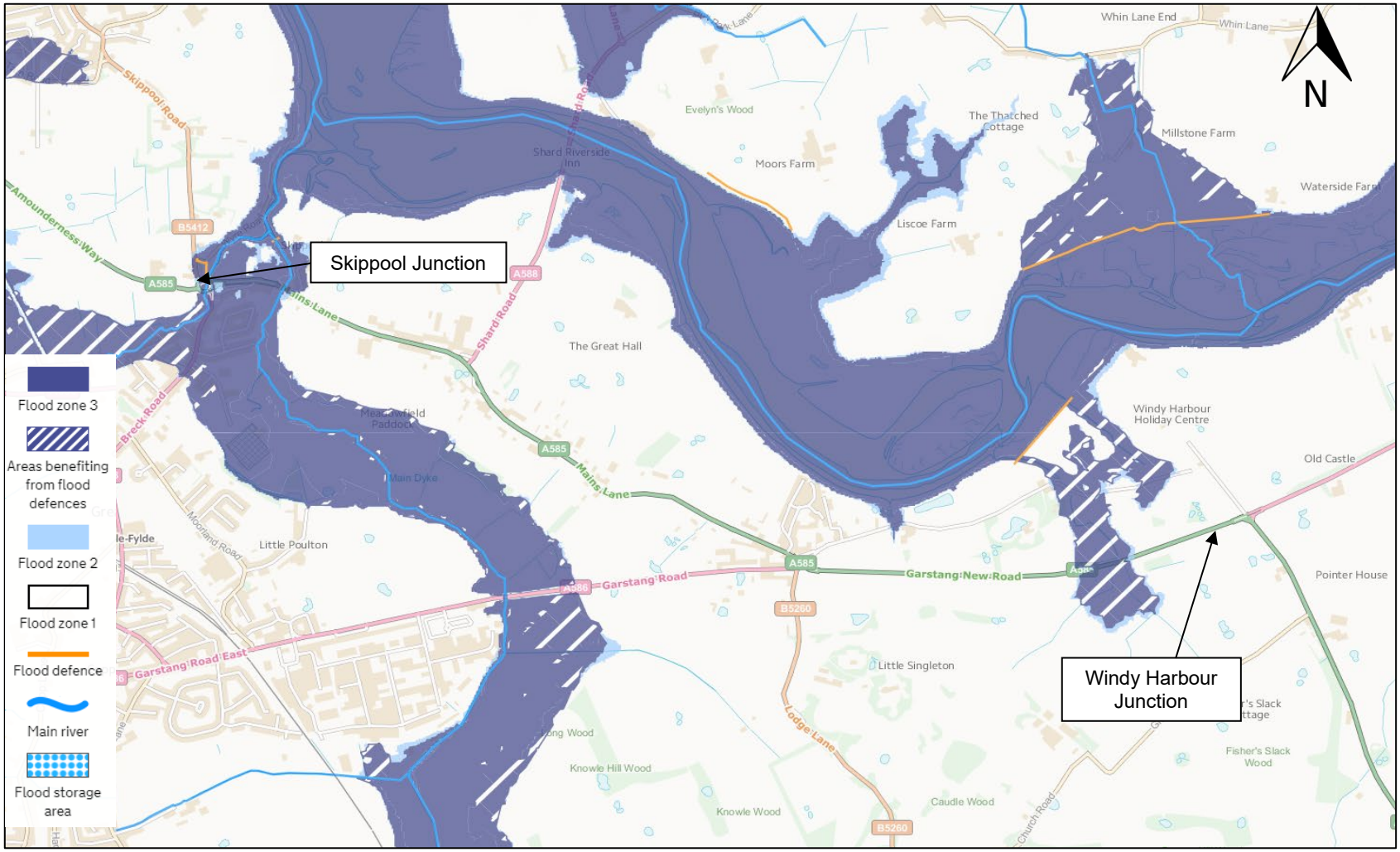
Scenario	East of Skippool Junction
Climate Change** (defended)	Depth of flooding on westbound carriageway, Skippool Roundabout, entrance from Breck Road: Approximately 490mm

* UK Climate Impacts Programme 2018 Data (UKCP18)

3.2.1 The EA flood map for planning shows another small area of the Scheme as potentially located in the tidal floodplain of the Wyre Estuary. This area is located west of Windy Harbour Junction (to the south of Pool Foot Creek), illustrated in Figure 3-1.

3.2.2 Results from the EA tidal model for this area confirm that the Scheme is not at risk of inundation during the 0.5% AEP plus climate change (defended) event. The minimum elevation of the road at this location would be 7.2m AOD, with a tidal flood level prediction of 6.4mAOD.

Figure 3-1: EA Flood Map for Planning



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4 FLOOD WARNING AND EVACUATION PLAN OVERVIEW

4.1 Aims and objectives

4.1.1 The key aim of the draft FWEP is to provide Highways England with clear indicators confirming when the Scheme should be closed in the unlikely event of a flood emergency. The draft FWEP also provides key information for responding to a flood warning and planning for closure/evacuation.

4.2 Location

4.2.1 This draft FWEP has been prepared specifically for Skippool Junction and the area immediately to the east as this is the part of the Scheme identified as at risk of tidal flooding.

4.3 Evacuation triggers

4.3.1 EA Flood Warnings and alerts are used as the triggers in this draft FWEP. Flood Warning Areas are geographical areas where flooding is expected to occur and where a Flood Warning Service is provided by the EA. They generally contain properties that are expected to flood from rivers or the sea and define locations that represent a discrete community at risk of flooding. The purpose of Flood Warnings is to alert people that flooding is expected, and warnings are issued when flooding is expected to occur. Severe Flood Warnings are issued when there is a danger to life or widespread disruption is expected. The Scheme spans two EA Flood Warning Areas: Wyre Estuary at Skippool, bordering Breck Drive and Myrtle Avenue, and Wyre Estuary at Skippool, area east of Breck Road. Further information is provided in Section 6.1.

4.4 Plan structure

4.4.1 This draft FWEP is broken down into the following sections:

- Section 5 - outlines the key ‘pre-occupation’ actions that the Scheme Operator must complete to implement the FWEP
- Section 6 - provides details of key contacts and information
- Section 7 - outlines the FWEP triggers and procedures that must be followed to evacuate the Scheme
- Section 8 - summarises training requirements to support the FWEP
- Section 9 - confirms the requirements for updating and reviewing the FWEP
- Section 10 - provides a list of sources of additional information for use in updating and reviewing the FWEP

5 PRE-OCCUPATION ACTIONS

5.1.1 Prior to opening, it shall be the responsibility of the Scheme Operator to ensure that all actions outlined in Table 5-1 are completed.

Table 5-1: Pre-occupation Actions

No.	Action	Further Information	Completion Date and Signature
1	Undertake a review of the FWEP and make updates to take into account new or additional information.		
2	Place the Scheme Operator on the EA Flood Warning Service.	Flood Warnings can be signed up to via the following routes: Gov.uk Website - https://www.gov.uk/sign-up-for-flood-warnings Telephone - 0345 988 1188	
3	Ensure all staff involved in the operation of the Scheme are aware of the FWEP and are trained sufficiently to implement the procedures.		
4	Ensure a suitable warning system is designed and implemented to notify road users of road closure and evacuation routes in a flood event.	The warning system could include emergency road signs and broadcasts on local radio stations and social media.	
5	Identify appropriate alternative routes which are located outside of the flood extent.		
6	Develop an emergency access and egress plan for the emergency services.		
7	Ensure contact details for Fylde and Wyre Councils*, in addition to Lancashire County Council as the local highway authority, are up to date.	Current contact details shown in Table 5-1.	

* The Scheme is located in Fylde and Wyre Council Boroughs.

6 KEY CONTACTS AND INFORMATION

6.1 Flood management and evacuation plan

6.1.1 Table 6-1 lists contact numbers for personnel and agencies that have key roles within the FWEP. Table 6-1 shall be completed and kept up to date by the Scheme Operator.

Table 6-1: Key Personnel and their Contact Numbers

Key Personnel	Name	Role	Contact Number
Scheme Operator / Project Manager		Ensures that the FWEP has been put in place. Ensures sufficient resources and equipment (people, time, money, flood boards) are provided to implement the FWEP.	
EA Flood Warning	-	The EA would issue a Flood Warning to the Scheme Operator.	0345 988 1188
Fylde Borough Council* Emergency Response Team	Chris Hambly	Coordinating actions between Scheme Operator and emergency services.	Normal Office Hours: 01253 658422 Out of Hours: 01253 642111
Wyre Council* Emergency Response Team		Coordinating actions between Scheme Operator and emergency services.	Normal Office Hours: 01253 891000 Out of Hours: 01253 895116
Lancashire County Council		Local Highway Authority	0300 123 6780

* The Scheme is located in Fylde and Wyre Council Boroughs.

6.2 Emergency services

6.2.1 Table 6-2 provides contact numbers for the emergency services.

In an emergency where there is a real and immediate threat to life or property always dial 999.

Table 6-2: Contact Numbers for Emergency Services

Organisation	Contact
Lancashire Fire and Rescue Service	01772 862545
Lancashire Constabulary	101
North West Ambulance Service NHS Trust	999
EA	0345 988 1188

The closest hospital with an Accident and Emergency Department to the Scheme is Blackpool Victoria Hospital. The hospital can be contacted on 01253 300000. The address is: Whinney Heys Road, Blackpool, Lancashire, FY3 8NR.

6.3 Other numbers

6.3.1 Table 6-3 provides a list of other useful numbers and shall be completed by the Scheme Operator.

Table 6-3: Other Useful Contact Numbers

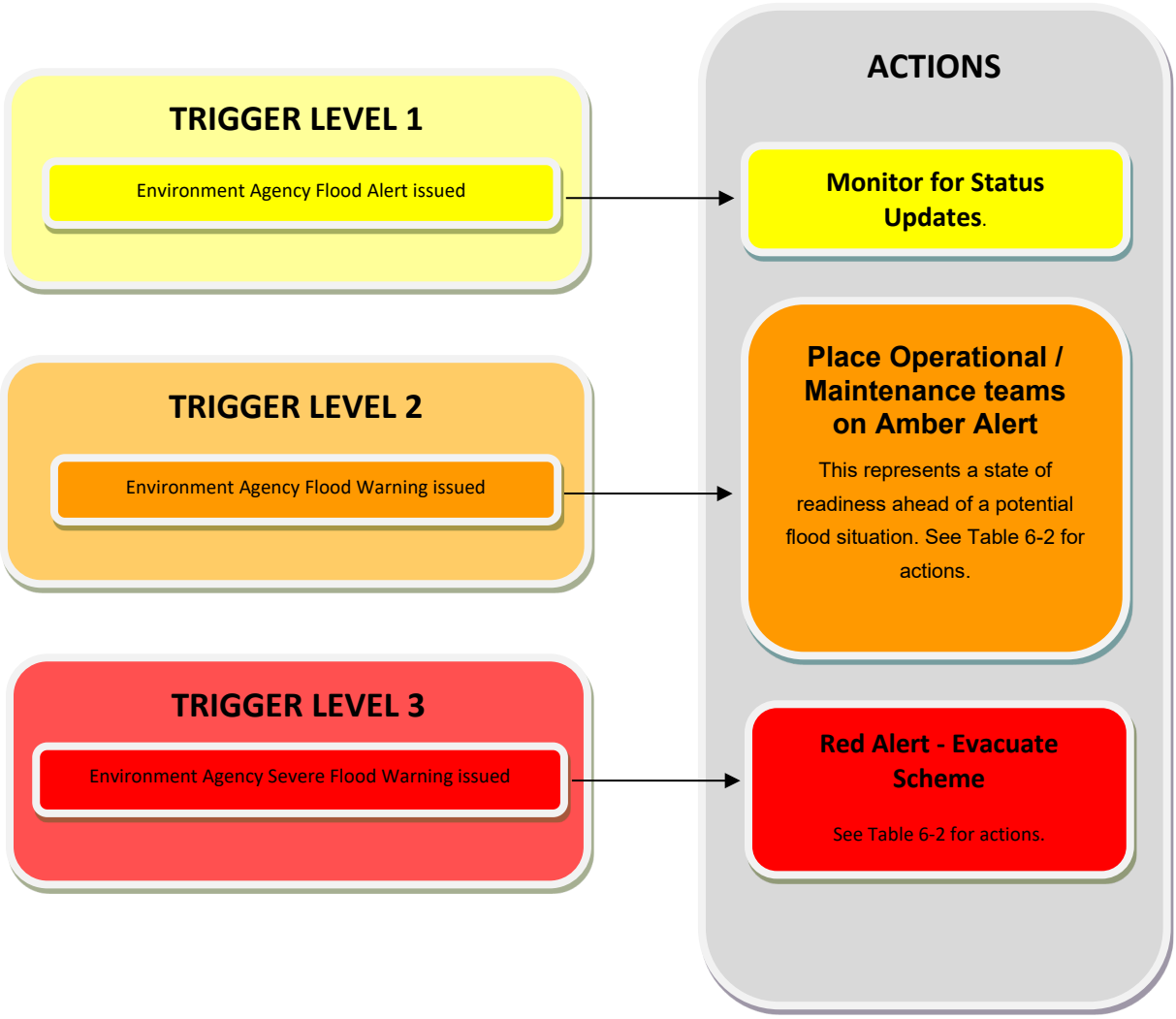
Organisation	Name	Contact Number
Water Company	United Utilities	0345 672 3723
Telephone Provider		
Local Council	Fylde Borough Council	01253 658422
	Wyre Council	01253 891000
Local Radio Station	BBC Radio Lancashire	
Local TV Stations	BBC North West	

7 FLOOD MANAGEMENT AND EVACUATION

7.1 Overview

7.1.1 An overview of the FWEP procedures is shown in Figure 7-1. This figure shows the three trigger levels, which are based on the EA Flood Warning system and the corresponding actions that would need to be implemented. At trigger level 1, a flood alert is issued earlier than a flood warning to provide advance notice of the possibility of flooding. Alerts may be issued when there is less confidence that flooding will occur in a Food Warning Area. The Scheme is in the Wyre Estuary from Fleetwood and Knott End to Little Eccleston Flood Alert area.

Figure 7-1: Flood Warning and Evacuation Plan Procedures



7.2 Environment Agency flood warning service

7.2.1 The Scheme would be linked to the EA Flood Warning Service so that when the EA issues a Flood Alert or Warning, the service would send an automated warning message to a nominated person or persons with the operational or maintenance team.

Upon receipt of an EA Flood Warning the nominated personnel shall notify relevant colleagues and complete a review to ensure that the Scheme and relevant personnel are in a state of readiness ahead of a potential flood situation.

7.2.2 The EA Flood Warnings are outlined in Table 7-1 (note this is generic guidance issued by the EA which is not specific to the Scheme).

Table 7-1: Environment Agency Flood Warnings[2]

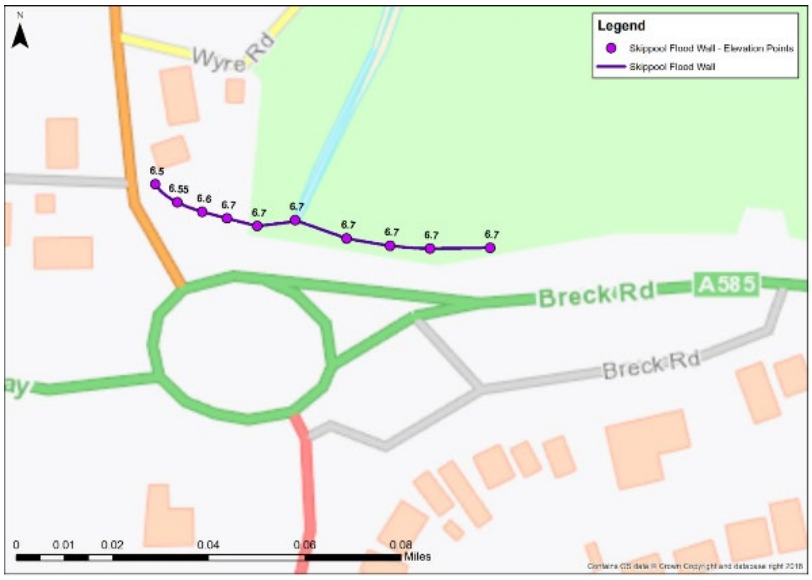
Symbol	Risk	Status	When it is used	What to do
	High Risk	**Severe Flood Warning** Severe flooding Danger to life	When flooding poses a significant threat to life.	• Stay in a safe place with a means of escape. • Be ready to evacuate. • Cooperate with the emergency services. Call 999 if you are in immediate danger.
	Medium Risk	**Flood Warning** Flooding is expected Immediate action required	Half an hour to one day in advance of flooding.	• Move family, pets and valuables to a safe place. • Turn off gas, electricity and water supplies if it is safe to do so. Put flood protection equipment in place.
	Low Risk	**Flood Alert** Flooding is possible Be prepared	Two hours to two days in advance of flooding.	• Be prepared to act on your flood plan. • Prepare a flood kit of essential items. Monitor local water levels and the flood forecast on our website.
	Very Low Risk	**Warnings no longer in force** No further flooding is currently expected in your area	When river or sea conditions begin to return to normal.	• Be careful. Flood water may still be around for several days. If you've been flooded, ring your insurance company as soon as possible.

[2] *Flood Warnings for England (EA, 2019) https://flood-warning-information.service.gov.uk/warnings (Accessed March 2019)*

7.3 Flood warning and evacuation procedures

7.3.1 Scheme specific actions and procedures are outlined in Table 7-2.

Table 7-2: Flood Evacuation Procedures

Warning Trigger	Procedures
1 EA Flood Alert for the Wyre Estuary from Fleetwood and Knott End to Little Eccleston area.	Monitor for flood warning status updates
2 EA Flood Warning for the Wyre Estuary at Skippool, bordering Breck Drive and Myrtle Avenue, and/or Wyre Estuary at Skippool, area east of Breck Road	Place relevant personnel on Amber Alert, representing a state of readiness ahead of a potential flood situation. Deploy flood boards at the gaps in the dwarf walls, situated either side of the Horsebridge Dyke/Skippool Clough culvert at the Wyre Way, to ensure a continuous line of defence with a crest height of 6.7mAOD is in place.  Check that all necessary equipment can be accessed, is available for efficient deployment and is in good condition for use, with specific reference to road closure signage and high visibility jackets and communication devices for relevant personnel.
3 EA Severe Flood Warning	Take immediate action. Enforce road closure and start evacuation of any road users, directing them onto the agreed evacuation route. Contact relevant Emergency Services and Local Authority Emergency responses teams, and the EA, to confirm that the road is being closed due to the risk of

Warning Trigger	Procedures
	flooding. Issue social media alerts to publicise the road closure.

7.4 Indicative flooding sequence and timings

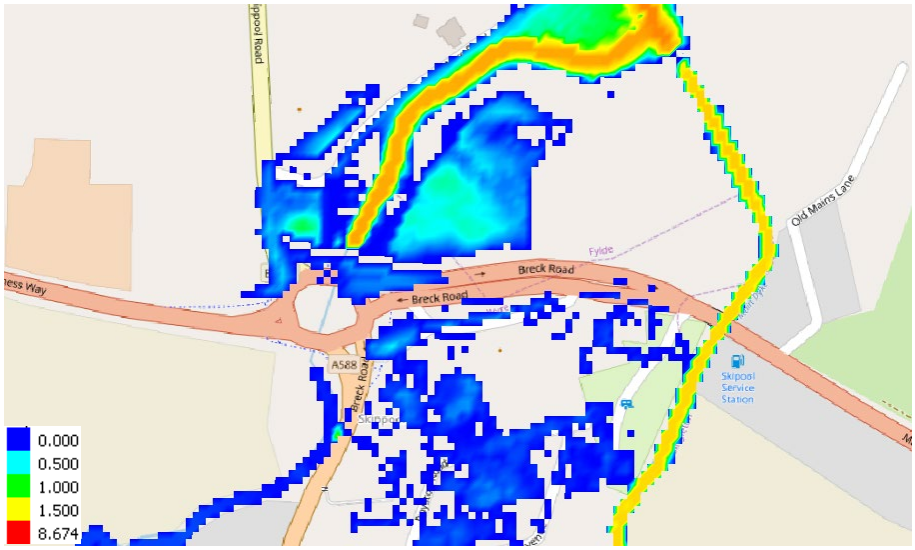
7.4.1 Tidal flooding is complex and can be influenced by a number of variable factors such as rainfall, wind, seasonality and sea level rise. Although predicting the timing of high and low tides is a well-established practice, it is difficult to predict the timing of potential tidal flooding.

7.4.2 However, the enhanced 2D model used to inform the FRA (document reference TR010035/APP/5.2 – Rev 1) gives an indication of the timing of the progress of tidal floodwater up the Wyre Estuary, Skippool Creek and subsequently overland to reach the Scheme. During the modelled 0.5% AEP event (without an allowance for climate change), the model starts at 80 hours and flood waters propagate up the Wyre Estuary reaching the area local to the Scheme, via the Skippool Creek, at 84 hours. The flood waters do not overtop the road in the first tidal cycle but do in the second tidal cycle; flooding of the Scheme occurs at approximately 97 hours. This suggests it would take approximately 17 hours for tidal flood waters to inundate the Scheme during a 0.5% AEP event (without an allowance for climate change).

7.4.3 During the modelled 0.5% AEP event, with the UKCP18 allowance for climate change, the model starts at 80 hours; flood waters propagate up the Wyre Estuary (and Skippool Creek) and the Scheme starts to become inundated at 84.5 hours. Therefore, it would take tidal flood waters 4.5 hours to reach the Scheme during a 0.5% AEP plus the UKCP18 climate change allowance event.
It is recommended that the Scheme Operator should aim to evacuate Skippool Junction within 4.5 hours of the evacuation procedure being implemented (i.e. within 5 hours of the Red Alert).

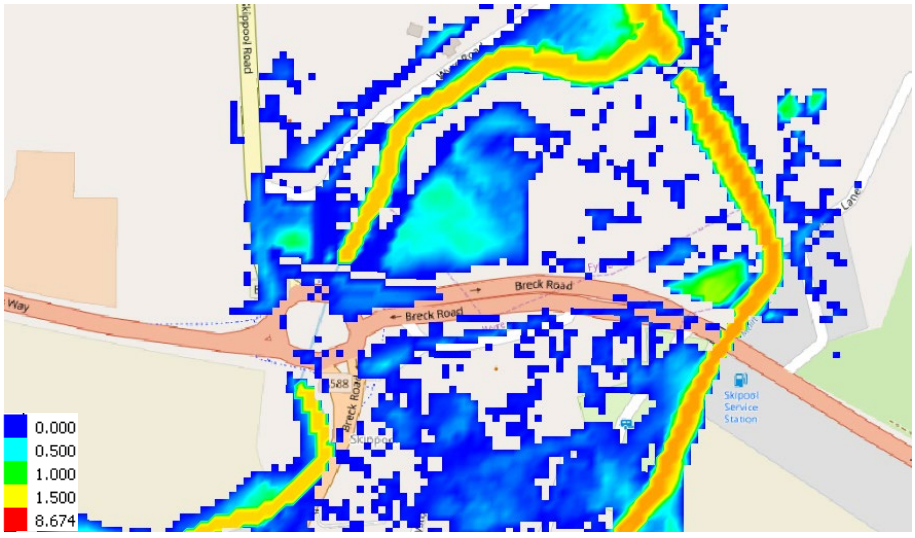
7.4.4 During the 0.5% AEP event (second tidal cycle only), flood waters start to recede from around 98.25 hours and by 99.5 hours the smallest extent of flooding on the Scheme is reached (Figure 7-2). As a result, at least part of the Scheme remains flooded for 15 hours, from 97 hours until the end of the simulation at 115 hours.

Figure 7-2: Flood depths (m) predicted at the time when the maximum reduction in flood water after the second tidal peak occurs (99.5 hours)



7.4.5 During the first tidal cycle for the 0.5% AEP event inclusive of the UKCP18 climate change allowance, flood waters start to recede from around 86.5 hours and by 88.3 hours the smallest floodwater extents on the Scheme are reached. However, flood water remains on the road as shown in Figure 7-3. Flood water from the second tidal cycle starts to overtop the road from 96.25 hours. As a result, at least part of the Scheme remains flooded for 30.5 hours, from 84.5 hours until the end of the simulation at 115 hours.

Figure 7-3: Flood depths (m) predicted at the time when the maximum reduction in flood water between the first and second tidal cycles occurs (88.3 hours)



7.4.6 During the 0.5% AEP event, the peak velocities recorded by the model as the tidal flooding overtops the Scheme east of Skippool Roundabout are generally around 0.5m/s. When an allowance for climate change is added, overtopping velocities increase to around 2m/s. Immediately east of Skippool Roundabout, there are localised areas where higher velocities of up to 3.5m/s are predicted.

7.5 Evacuation route

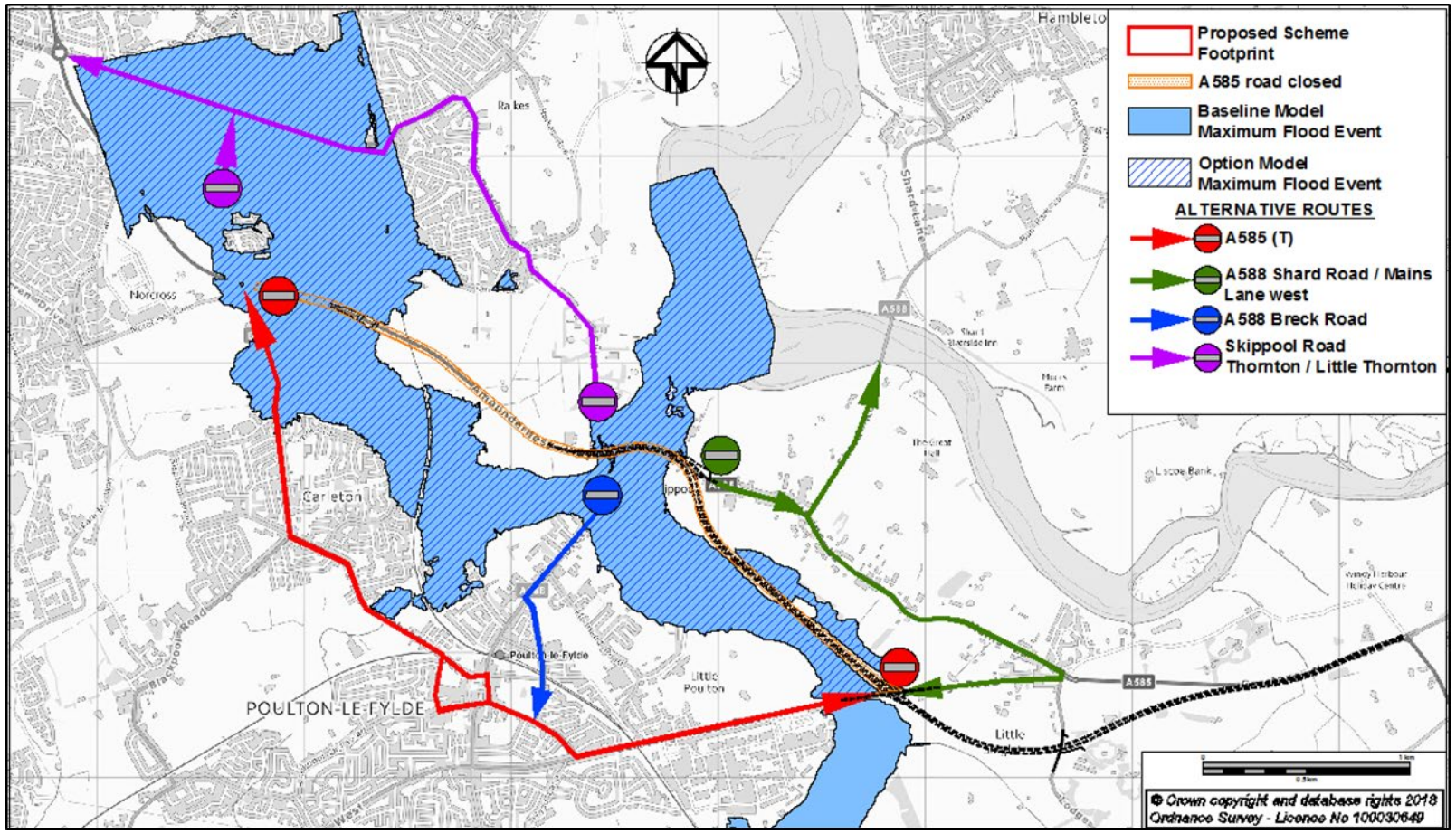
7.5.1 An evacuation route for road users that avoids the flooded part of the Scheme is

described below. It is recommended that a route is confirmed, in consultation with the emergency planning teams at the Local Authorities.

7.5.2 In the rare event of road closure following the procedure shown in Figure 7-1, the parts of the Scheme located in the predicted tidal flood extent should be evacuated using the surrounding road network that is located outside of the predicted flood extent. Figure 7-2 shows the extent of predicted tidal flooding from the enhanced 2D model for the 0.5% AEP plus climate change. The figure also shows alternative routes for road users in the event of closure of the Scheme. The red route represents a diversion on the A585 between Norcross and Poulton Junction. The green route illustrates a diversion route for Shard Road / Over Wyre and the north-west end of Mains Lane. The blue route shows the proposed diversion for A588 Breck Road and the purple route is a diversion (via Victoria Road) for Skippool Road, Little Thornton & Thornton traffic to join the A585 north of Norcross.

7.5.3 During the 0.5% AEP plus UKCP18 climate change allowance, the following restrictions apply: The purple route should not be used because tidal flooding moves overland from the Thornton / Cleveleys area and inundates the Amounderness Way / Victoria Road roundabout at 88 hours. The red route is inundated immediately south of this roundabout at 99 hours and could therefore be subject to a longer warning time giving uses time to leave the area to the south. The remainder of this route along Poulton Road and Garstang Road East is not inundated

Figure 7-4: Suggested Alternative Routes and the 0.5% AEP plus Climate Change (UKCP18) Flood Extent (Note that an output zone has been applied to the model in order to reduce file sizes. As a consequence, flood outlines at Norcross / Thornton and in the River Wyre itself are curtailed. This is a visualisation issue only).



7.6 Water level falling

7.6.1 As detailed in Table 6-2, the EA Flood Warnings identify a 'potential' rather than 'actual' threat. It should be noted that not all events result in an automatic progression from one warning to another with the end result being flooding and evacuation. It is possible for smaller events to trigger initial warnings with water levels subsequently falling before flooding occurs.

7.6.2 The EA regularly update their Flood Warning Service and notify users when a Flood Warning or Alert are 'no longer in force'. Flood Warnings and Alerts may no longer be in force due to the following triggers:

- Risk of flooding has passed
- River or sea levels have dropped back below Severe Flood Warning or Flood Warning levels
- No further flooding is expected
- Professional judgment and discussions with partners agree that a Severe Flood Warning status is no longer needed

7.6.3 If the Scheme Operator received notification that a Flood Warning or Alert is no longer in place, they could downgrade to a lower Trigger Level (see Figure 7-1) and corresponding procedures.

8 TRAINING

8.1.1 The Scheme Operator shall ensure that all staff involved in the operation and maintenance of the Scheme are aware of the potential flood risk around Skippool Junction and have been trained in how to respond to manage this risk. The training, as a minimum, shall cover:

- Requirements of the FWEP
- Confirmation of Key Roles within the FWEP, clearly identifying positions held, responsibilities, communication and chain of command
- Evacuation Routes
- All staff shall be trained as part of the Scheme induction prior to opening and as part of new employee induction
- All staff shall be re-trained annually

8.1.2 All training completed shall be documented and recorded. Relevant personnel should also be made aware of any updates to the FWEP through appropriate staff briefings.

9 FLOOD WARNING AND EVACUATION PLAN REVIEW

9.1.1 The final FWEP shall be subject to update/review:

- Whenever there are changes to any of the contact numbers, names or roles held within the FWEP
- Every 12 months and after a flood event, to confirm all information is still relevant

9.1.2 All updates/reviews shall be documented and recorded, and the Scheme Operator shall ensure an up-to-date version of the FWEP is available at all times.

9.1.3 When the FWEP is updated, Table 9-1 shall be completed for document control purposes and to understand why changes were needed.

Table 9-1: FWEP Review and Update Document Control

Version	Date	Prepared by	Checked by	Approved by	Reasons for Revision

10 SOURCES OF ADDITIONAL INFORMATION

10.1.1 Table 10-1 provides a list of additional sources of information that may be useful when reviewing and updating the FWEP.

Table 10-1: Additional Sources of Information

Name	Contact Number	Website Link
Arcadis Consulting (UK) Limited	029 2092 6700	http://www.arcadis.com
EA	03708 506 506	https://www.gov.uk/government/organisations/environment-agency
Lancashire Fire and Rescue Service	01772 862545	https://www.lancsfirerescue.org.uk/
Lancashire Constabulary	101	https://www.lancashire.police.uk/
Lancashire County Council Highways	0300 123 6780	https://www.lancashire.gov.uk/roads-parking-and-travel/roads/
Association of British Insurers	0207 600 3333	https://www.abi.org.uk/
Fylde Borough Council	01253 658422	http://www.fylde.gov.uk/
Wyre Local Council	01253 891000	http://www.wyre.gov.uk/

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Appendix R – Outline Soft Landscape Planting Specification

A585 Windy Harbour to Skippool Improvement Scheme

TR010035

Outline Soft Landscape Planting Specification

APFP Regulation 5(2)(q)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 7

July 2019

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585 Windy Harbour to Skippool Improvement Scheme

Development Consent Order 201[ ]

OUTLINE SOFT PLANTING SPECIFICTION

Regulation Number:	Regulation 5(2)(q)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/7.2
Author:	A585 Windy Harbour to Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	July 2019	Deadline 4 Submission

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1 OUTLINE SOFT LANDSCAPE PLANTING SPECIFICATION

1.1.1 The following outline specification should be considered as the basis for the preparation of the planting mixes and specifications to be developed during the detailed design stage of the Project. At this stage not all landscape elements have been considered.

1.1.2 The detailed design planting specification and mixes for individual plots should consider commitments made within the Environmental Masterplan specifically with regard to the use of enhanced stock size and specific species as identified on plots 002-03, 002-05, 003-03, 009-03, 009-06, 009-13 ,009-18, 011-05, 011-07, and 011-15.

1.2 LE.2.1 Woodland

- Typically, 60% Trees, 40% Shrubs
- Trees to be typically - 3% Heavy Standard, 5% Standard, 12% Feathered and 80% transplants (typically BRT stock 40-60cm height)
- All Shrubs to be transplants typically BRT stock 40-60cm height
- Tree and shrub species to be planted in random, single species groups of 3, 5 and 7

1.2.2 Species should include, but not limited to, the following:

Species		Mix Percentage
Common Name	**Latin Name**	
Tree		
Field maple	*Acer campestre*	13%
Hawthorn	*Crataegus monogyna*	8%
Bird cherry	*Prunus padus*	7%
Sessile oak	*Quercus petraea*	13%
Pedunculate oak	*Quercus robur*	7%
Rowan	*Sorbus aucuparia*	7%
Wych elm	*Ulmus glabra*	5%
	Sub Total	**60%**
Shrub		
Dogwood	*Cornus sanguinea*	7%
Hazel	*Corylus avellana*	5%
Holly	*Ilex aquifolium*	5%
Wild privet	*Ligustrum vulgare*	5%
Blackthorn	*Prunus spinosa*	5%
Field rose	*Rosa arvensis*	2.5%
Dog rose	*Rosa canina*	2.5%
Elder	*Sambucus nigra*	5%
English Ivy	*Hedera helix*	2%
Honeysuckle	*Lonicera periclymenum*	1%
	Sub Total	**40%**
	Total	**100%**

1.2.3 Alder (*Alnus glutinosa*), Downy Birch (*Betula pubescens*), and White Willow (*Salix alba*) should be considered for use in damp / wet areas, as part of a secondary mix for LE2.1.

1.2.4 Where there is a requirement for increased percentage mix of evergreen species, the percentage of Holly (*ilex aquifolium*), Dogwood (*Cornus sanguinea),* and Honeysuckle *(Lonicera periclymenum*) should be increased and the inclusion of Scots Pine (*Pinus sylvestris*), and Beech (*Fagus Syvlatica*) should be considered.

1.3 LE.2.2 Woodland Edge

- Typically, 40% Trees, 60% Shrubs
- Trees to be typically - 3% Heavy Standard, 7% Standard, 15% Feathered and 75% transplants (typically BRT stock 40-60cm height)
- All Shrubs to be transplants typically BRT stock 40-60cm height
- Tree and shrub species to be planted in random, single species groups of 3, 5 and 7

1.3.2 Species should include, but not limited to, the following:

Species		Mix Percentage
Common Name	**Latin Name**	
Tree		
Field maple	*Acer campestre*	6%
Hawthorn	*Crataegus monogyna*	12%
Crab apple	*Malus sylvestris*	4%
Bird cherry	*Prunus padus*	5%
Sessile oak	*Quercus petraea*	4%
Rowan	*Sorbus aucuparia*	5%
Wych elm	*Ulmus glabra*	4%
	Sub Total	**40%**
Shrub		
Dogwood	*Cornus sanguinea*	5%
Hazel	*Corylus avellana*	10%
Holly	*Ilex aquifolium*	6%
Wild privet	*Ligustrum vulgare*	5%
Blackthorn	*Prunus spinosa*	8%
Field rose	*Rosa arvensis*	5%
Dog rose	*Rosa canina*	5%
Elder	*Sambucus nigra*	5%
Guelder rose	*Viburnum opulus*	6%
English Ivy	*Hedera helix*	2%
Honeysuckle	*Lonicera periclymenum*	1%
	Sub Total	**60%**
	Total	**100%**

1.3.3 Alder (*Alnus glutinosa*), Downy Birch (*Betula pubescens*), and White Willow (*Salix alba)* should be considered for use in damp / wet areas, as part of a secondary mix for LE2.1.

1.3.4 Where there is a requirement for increased percentage mix of evergreen species, the percentage of Holly *(ilex aquifolium*), Dogwood *(Cornus sanguinea*), and Honeysuckle *(Lonicera periclymenum*)

1.4 LE.2.4 Linear belts of shrubs and trees

- 25% Trees, 75% Shrubs
- Trees to be typically - 10% Heavy Standard, 10% Standard, 10% Feathered and 70% transplants (typically BRT stock 40-60cm height)
- All Shrubs to be transplants typically BRT stock 40-60cm height
- Tree and shrub species to be planted in random, single species groups of 3, 5 and 7

1.4.2 Species should include, but not limited to, the following:

Species		Mix Percentage
Common Name	**Latin Name**	
Tree		
Field maple	*Acer campestre*	10%
Bird cherry	*Prunus padus*	5%
Pedunculate oak	*Quercus robur*	5%
Wych elm	*Ulmus glabra*	5%
	Sub Total	**25%**
Shrub		
Dogwood	*Cornus sanguinea*	5%
Hawthorn	*Crataegus monogyna*	10%
Hazel	*Corylus avellana*	10%
Holly	*Ilex aquifolium*	6%
Wild privet	*Ligustrum vulgare*	5%
Blackthorn	*Prunus spinosa*	20%
Field rose	*Rosa arvensis*	5%
Dog rose	*Rosa canina*	5%
Elder	*Sambucus nigra*	5%
Guelder rose	*Viburnum opulus*	6%
	Sub Total	**75%**
	Total	**100%**

1.5 LE.2.5 Shrubs with intermittent trees

- 90% Shrubs, 10% Trees
- Trees to be typically - 10% Heavy Standard, 20% Standard, 20% Feathered and 50% transplants (typically BRT stock 40-60cm height)
- All Shrubs to be transplants typically BRT stock 40-60cm height
- Tree and shrub species to be planted in random, single species groups of 3, 5 and 7

1.5.2 Species should include, but not limited to, the following:

Species		Mix Percentage
Common Name	**Latin Name**	
Tree		
Field maple	*Acer campestre*	10%
Hawthorn	*Crataegus monogyna*	2%
Bird cherry	*Prunus padus*	5%
Sessile oak	*Quercus petraea*	2%
Rowan	*Sorbus aucuparia*	2%
Sub Total		**10%**
Shrub		
Dogwood	*Cornus sanguinea*	5%
Hazel	*Corylus avellana*	20%
Broom	*Cytisus scoparius*	5%
Holly	*Ilex aquifolium*	5%
Blackthorn	*Prunus spinosa*	20%
Field rose	*Rosa arvensis*	5%
Dog rose	*Rosa canina*	5%
Elder	*Sambucus nigra*	10%
Gorse	*Ulex europaeus*	5%
Guelder rose	*Viburnum opulus*	6%
Sub Total		**90%**
	Total	**100%**

1.6 LE.2.6 Shrubs

- 100% Shrubs - all to be transplants typically BRT stock 40-60cm height
- Shrub species to be planted in random, single species groups of 3, 5 and 7

1.6.2 Species should include, but not limited to, the following:

Species		Mix Percentage
Common Name	**Latin Name**	
Shrub		
Alder	*Alnus glutinosa*	5%
Hawthorn	*Crataegus monogyna*	10%
Crab apple	*Malus sylvestris*	20%
Rowan	*Sorbus aucuparia*	5%
Dogwood	*Cornus sanguinea*	5%
Hazel	*Corylus avellana*	20%
Broom	*Cytisus scoparius*	5%
Holly	*Ilex aquifolium*	5%
Blackthorn	*Prunus spinosa*	20%
Field rose	*Rosa arvensis*	5%
Dog rose	*Rosa canina*	5%
Elder	*Sambucus nigra*	10%
Guelder rose	*Viburnum opulus*	6%
	Sub Total	**90%**
	Total	**100%**

1.7 LE.5.1 Individual Trees

1.7.1 100% Trees – all to be Heavy Standard. Species could include, but not limited to, the following:

- Scots pine *Pinus sylvestris*
- Crab apple *Malus sylvestris*
- Pedunculate oak *Quercus robur*
- Sessile oak *Quercus petraea*
- Rowan *Sorbus aucuparia*
- Whitebeam *Sorbus aria*