A12 Chelmsford to A120 widening scheme TR010060

6.5 First Iteration Environmental Management Plan

Appendix J: Materials Management Plan

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

A12 Chelmsford to A120 widening scheme

Development Consent Order 202[ ]

6.5 First Iteration Environmental Management Plan
Appendix J: Materials Management Plan

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Author	A12 Project Team & National Highways

Version	**Date**	**Status of Version**
Rev 1	August 2022	DCO Application

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Appendix J Materials Management Plan

J.1 Background to the plan

J.1.1 The proposed scheme comprises improvements to the A12 between junction 19 (Boreham interchange) and junction 25 (Marks Tey interchange), a distance of approximately 24km, or 15 miles. The proposed scheme involves widening the A12 to three lanes throughout (where it is not already three lanes) with a bypass between junctions 22 and 23 and a second bypass between junctions 24 and 25. It also includes safety improvements, including closing off existing private and local direct accesses onto the main carriageway, and providing alternative provision for walkers, cyclists and horse riders (WCH) to existing routes along the A12, which would be removed. A detailed description of the proposed scheme can be found in Chapter 2 of the Environmental Statement [TR010060/APP/6.1].

J.1.2 This Materials Management Plan (MMP), in outline, sets out the measures that will be implemented by the Principal Contractor (PC) to manage excavated materials and imported materials during construction of the proposed scheme.This management plan will be updated by the PC and included within the second iteration Environmental Management Plan (EMP), as appropriate and necessary, prior to commencement of works in accordance with the relevant Requirements in Schedule 2 of the draft Development Consent Order (DCO) [TR010060/APP/3.1] and the requirements of the first iteration EMP [TR010060/APP/6.5].

J.2 Purpose

J.2.1 This MMP outlines the procedures and measures that would be adopted and implemented by the PC to classify, track, store, transport, reuse and dispose of the excavated materials that would be encountered during the construction of the proposed scheme.

J.2.2 This MMP provides outline information on the key procedures that would be detailed in the MMP, as required by the Environmental Protection Act 1990 (as amended) and Environmental Permitting (England and Wales) Regulations 2016 (as amended).

J.3 Overview

J.3.1 The use of uncontaminated excavated materials within the proposed scheme will be undertaken in accordance with a MMP (or earthworks plan) prepared following the principles of Contaminated Land: Applications in Real Environments (CL:AIRE) Definition of Waste: Code of Practice (DoWCoP) (2011) and these materials will not be classified as waste.

J.3.2 Uncontaminated soil and other naturally occurring material excavated in the course of construction activities where it is certain that the material would be used for the purposes of construction in its natural state on the site from which it was excavated, is excluded from waste regulation by the Waste Framework Directive (2008).

J.3.3 Reuse of fill materials may require remedial treatment and will be developed with the MMP for the CL:AIRE DoWCoP declaration. Construction activities carried out on uncontaminated soils solely for the purpose of improving geotechnical properties are not generally regarded as a waste treatment operation and would not prevent the excavated material being regarded as a non-waste. It is anticipated that the MMP will complement, and be an integral part of, the earthworks for the construction of the proposed scheme, including the excavation and restoration of the borrow pits. Some of the details to be included in the MMP would be dependent on the Design Statement, and/or the Earthworks (Series 600) Specification Appendices (Standards for Highways, 2016) for the proposed scheme, in terms of excavated materials that would be available for the earthworks at the site. In turn, the MMP and the information provided to support material evaluation would assist with the overall classification of materials and wastes.

J.3.4 This MMP is based on the information currently available. The PC will be responsible for preparing, updating and implementing the MMP and ensuring that all required authorisations, consents and permissions are obtained.

J.4 Roles and responsibilities

J.4.1 Roles and parties involved in the preparation and implementation of the MMP (or earthworks plan) for the proposed scheme are set out in Table J.1; this will be updated and included within the second iteration EMP.

Table J.1 Roles in preparation of the MMP (or earthworks plan)

Role	Organisation/Person responsible	Contact
Site Operator / Landowner	National Highways	to be confirmed
Planning Authority	The Planning Inspectorate	to be confirmed
Environment Agency	East Anglia Region	to be confirmed
Principal Contractor	To be confirmed	to be confirmed
Designer (Earthworks)	To be confirmed	to be confirmed
Qualified Person (DoWCoP)	To be confirmed	to be confirmed

J.4.2 In relation to the control and management of materials, the PC will establish the appropriate roles and responsibilities for site staff in accordance with the roles and responsibilities set out in Chapter 2 of the EMP.

J.4.3 The PC will ensure that all personnel working on the site, including sub-contractors, are inducted and appropriately trained in the requirements of the MMP where appropriate.

J.5 Materials classification

J.5.1 All materials that are anticipated to be encountered during the earthworks, excavated from a borrow pit, won from demolition works or imported onto site to be used in the works would be individually classified and identified. Expected material types and the anticipated final destination are set out in Table J.2.

Table J.2 Material type and anticipated final destination

Material type	Anticipated final destination of material (following assessment against reuse acceptability criteria)
Onsite topsoil/subsoil	Reuse of topsoils and subsoils within agricultural land restoration, borrow pit restoration or landscaping
	Reuse as general fill
Onsite made ground	Reuse as general fill
Onsite natural ground	Reuse as general fill
Site-won demolition materials	Reuse as general fill
Imported inert construction, demolition and excavation waste material	If required for backfilling Colemans Farm Quarry in the event that the quarry operators cannot perform this work in advance of construction works in this area

J.5.2 The Earthworks (Series 600) Specification would include a material classification system that would identify different types of material for reuse.

J.5.3 With the exception of imported inert waste material as discussed below, where a particular material is not suitable for its proposed reuse destination then the material would be reused at an alternative location onsite subject to assessment against the appropriate reuse acceptability criteria. Site-won excavated materials[1] would be reused onsite wherever practicable and offsite disposal minimised; offsite disposal would be a last resort.

[1] For the purposes of this MMP, excavated materials are defined as per the definition provided in the CL:AIRE DoWCoP as: '*soil, both top soil and sub-soil, parent material and underlying geology; soil and mineral based dredgings; ground based infrastructure…; source segregated aggregate material arising from demolition activities…; and stockpiled excavated materials that include the above*'.

J.5.4 It is unlikely that importing primary materials would be economically or environmentally viable as general fill for backfilling Colemans Farm Quarry, because of the cost and carbon impact of doing so. It is therefore expected that these materials would comprise of inert construction, demolition and excavation waste sourced from residential developments and/or other large scale infrastructure projects in the region.

J.5.5 It is assumed that this material would be utilised on the proposed scheme through either the CL:AIRE DoWCoP (which authorises the direct transfer of naturally occurring soil and mineral materials[2] from one development site to another as a non-waste), or through a Bespoke Waste Recovery Permit (which authorises the permanent deposit of a range of inert wastes[3]).

J.6 Materials tracking and storage

J.6.1 The PC would identify, measure and record the types, quantities and provenance of all materials used in constructing the proposed scheme in a materials procurement register (or equivalent). A template is provided within Annex B of the Site Waste Management Plan (Appendix L) included within the EMP.

J.6.2 A system would be put in place to identify and track all material movements including site-won excavated materials from earthworks and borrow pits, site-won demolition materials, imported materials, materials for offsite management/disposal and, if assessed to be applicable, material undergoing onsite treatment prior to reuse.

J.6.3 The first stage of the materials tracking process is the identification and classification of the various separate materials.

J.6.4 Responsibility would be assigned to a specified person(s) for record keeping onsite. The individual would be responsible for acquiring and collating all material movement and site testing data throughout the works.

J.6.5 The records of all materials movements onsite and offsite would be kept by the PC in paper and/or electronic format for a minimum period of two years following completion of the works.

[2] Naturally occurring soil and mineral materials are defined in the CL:AIRE DoWCoP as: '*soil, both top soil and sub-soil; parent materials; clays, silts, sands and gravels; underlying geology; and made ground consisting of the aforementioned materials only*'. For example, this excludes the direct transfer of aggregate material arising from demolition.

[3] Permitted wastes are limited to mainly inert wastes as defined in these standard rules, with some limited uses for selected non-inert wastes (e.g. topsoil, peat, soil from cleaning and washing beet and road planings).

J.7 Data management

J.7.1 Data would be stored electronically onsite. Data uploads would be undertaken at appropriate intervals during the earthworks. Location data would be geo-referenced and all stockpile sample nomenclature would ensure individual identification.

J.8 Reporting

J.8.1 Reporting requirements would be set out in the MMP. It would identify how the placement of materials would be recorded and the quantity of material to be used. It would also state how the use of the materials relates to the design objectives.

J.8.2 The design principles for the proposed scheme relating to materials are identified in the Design Principles document [TR010060/APP/7.10] and include:

- Minimal waste and need for new materials: The design of the proposed scheme seeks to reduce the level of waste and need for new materials in constructing the proposed scheme. This would be achieved by creating borrow pits to minimise the amount of new earth and minerals brought onsite, where practicable, the reuse of existing structures, signage, lighting and technology, and efficient and well-managed construction processes.
- Mineral resources: The design of the proposed scheme considers the use of mineral resources from the outset. Where practicable, the proposed scheme would avoid mineral sterilisation and mineral use. This would be achieved though minimising land take in Mineral Safeguarding Areas.

J.8.3 Objectives for the proposed scheme include:

- To ensure that the materials used are protective of harm to human health and protective of the environment
- To ensure that the materials used are both geotechnically and geochemically suitable for the proposed end use
- To ensure that the material would actually be used and that the use is not just a probability, but a certainty
- To ensure that the materials are used in the quantities necessary for that use, and no more which can be indicative of disposal
- To promote and maximise the reuse of site-won materials at the site wherever practicable and minimise offsite disposal (for example in the backfilling for borrow pits during borrow pit restoration)

Demonstrating material geotechnical acceptability

J.8.4 Site-won earthworks materials (including materials from areas of earthworks cut and borrow pits), site-won demolition materials and any imported earthworks materials would be subject to geotechnical analysis. The results of the analysis would be assessed against the material classification criteria included in the Earthworks (Series 600) Specification. The material approval would be documented.

J.8.5 Compacted material would also be subject to *in situ* and laboratory geotechnical testing to determine the achieved level of compaction. No material would be allowed to remain in place where, following comprehensive review, the results indicate the achieved level of compaction does not meet the required standard.

Demonstrating material geochemical acceptability

J.8.6 During the detailed design phase site-specific material acceptability criteria would be developed and incorporated into the Earthworks (Series 600) Specification for the proposed scheme. Site-specific material acceptability criteria would be derived from a detailed site-specific quantitative risk assessment (DQRA).

J.8.7 Site-won earthworks materials (including materials from areas of cut and borrow pits), site-won demolition materials and any imported earthworks materials would be subject to a suite of chemical laboratory analysis appropriate to the ground conditions at the site. The results of the analysis would be assessed against the site-specific material acceptability criteria for the proposed scheme. The material review process would be documented.

J.8.8 No materials would be used in the proposed scheme where the results indicate exceedance of the acceptability criteria, which would be developed to be protective of human health and controlled waters in respect to the proposed end use.

J.8.9 The material would be classified as either suitable for reuse, unsuitable for reuse or that further testing is required.

J.8.10 If the materials are deemed unsuitable for use on the site, the data used for the assessment, or any additional testing identified, would also be used to characterise any waste in line with Technical Guidance WM3 (Environment Agency, 2021b).

Demonstrating effectiveness of treatment

J.8.11 Where materials have been identified as unsuitable for use within the proposed scheme, they would be either designated for offsite disposal or onsite processing or treatment.

J.8.12 Where materials are subject to treatment, the specific treatment approach would be monitored via field measurements and laboratory sampling of the materials. The testing would be carried out by the PC providing the processing or treatment process within the terms of the (Mobile) Environmental Permit and Site Specific Working Plan.

J.8.13 The results of the laboratory testing and field measurements would provide lines of evidence to allow validation of the treatment works, in addition to comparison of determined concentrations against the site-specific material acceptability criteria. Where a material cannot be validated as having been treated to the required standard it would either be sent for additional treatment or, if this is impractical, the material would be sent for offsite management or disposal.

J.8.14 The results of all field and laboratory testing and the acceptability assessment would be documented.

Demonstrating effective removal of unsuitable materials

J.8.15 Materials that are surplus to requirements onsite or are assessed as being unsuitable for use within the proposed scheme, may need to be removed from site as waste.

J.8.16 The waste classification of the material would be determined prior to removal from site. The guidance in WM3 (Environment Agency, 2021b) and Dispose of waste to landfill (Environment Agency, 2021a) would be followed and includes:

- An assessment, based on chemical analysis data, to determine whether the material is hazardous waste, or not. Reuse acceptability criteria testing can be used provided the approach to sampling matches the requirements of WM3 (Environment Agency, 2021b).
- Preparation of basic waste characterisation, including identifying the source, origin and composition of the waste, and the relevant waste code.
- Identification of appropriate pre-treatment of waste, registered waste carrier(s) and destination of the waste materials.
- Where wastes are to be disposed of to landfill, undertaking Waste Acceptance Criteria (WAC) testing to identify the type of landfill that the waste can be sent to and to enable landfill operators to determine whether they can accept it.

J.8.17 All of the above would be documented. Further discussion with regards to the duty of care requirements for disposing of waste offsite is provided within the Site Waste Management Plan (Appendix L) of the first iteration EMP.

Demonstrating protection of controlled waters

J.8.18 The environmental monitoring would include sampling of groundwater and surface water to provide evidence that the works are not mobilising contaminants in groundwater which may also impact surface waters. The results of all monitoring rounds would be documented. The groundwater and surface water monitoring programme would be agreed with the Environment Agency prior to the start of construction and included within the second iteration EMP.

Monitoring

J.8.19 The PC would undertake regular audits and inspections of material procurement and waste management activities to ensure compliance with the requirements of this plan, statutory controls and other proposed scheme policies and procedures relevant to material assets and wastes.

References

Contaminated Land: Applications in Real Environments (CL:AIRE) (2011). The Definition of Waste: Development Industry Code of Practice, Version 2. Available at: [redacted] Accessed December 2021.

Environment Agency (2021a). Disposal of waste to landfill guidance. Available at: https://www.gov.uk/guidance/dispose-of-waste-to-landfill. Accessed November 2021.

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