

Havant Thicket Reservoir Project

Environmental Statement Volume 4 - Appendices

Appendix A14 Material Resources and Waste

A14.1 Materials Management Strategy

Portsmouth Water Ltd.

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1. Introduction

- 1.1. The Scheme comprises the reservoir site including access roads, and the pipeline between the reservoir site and Bedhampton works. Construction of the Scheme requires the management of significant earthworks to create the reservoir embankments and wetland retention structure at the reservoir site. The installation of the pipeline requires trench excavation along almost the entire length of the pipeline corridor.
- 1.2. The aim is to source earthwork materials required for construction from within the boundary of the Scheme and to prioritise the reuse of excavated materials over the importation of materials for construction.
- 1.3. The management of the following site-won excavated materials has been considered in the Strategy:
 - Soil, both topsoil and subsoil, parent material and underlying geology;
 - Ground based infrastructure that is capable of reuse e.g. road base, concrete slabs; and
 - Made ground.
- 1.4. The purpose of this Strategy is to set out the preferred approach for management of excavated materials and ensure compliance with the waste regulations during the Scheme's construction. The Strategy is based on the preliminary design information presented in the outline planning applications. Details of the anticipated quantities of materials are presented in Chapter 14 Material Resources and Waste in ES Volume 2.

2. Management of excavated materials

Reservoir site

- 2.1. The sources of excavated materials at the reservoir site including access roads are:
 - Stripping of topsoil from areas requiring excavation within the footprint of the reservoir including the extent of the embankments and wetland area;
 - Excavation of underlying geology including clay from within the footprint of the proposed reservoir; and
 - Smaller quantities of excavated materials generated by construction of the access roads, car park and visitor centre.
- 2.2. The topsoil stripped from the reservoir site will be stored in stockpiles within the footprint of the reservoir. A Soil Management Plan (SMP) will be produced detailing the procedures for maintaining the soil quality over the duration of the construction phase. The topsoil will be reused on the embankments and wetland retention structure, following their construction.
- 2.3. It is anticipated that there will be a surplus of topsoil from the reservoir site, as topsoil will not be reinstated in the excavated areas on the reservoir floor. The management of the surplus topsoil will prioritise its reuse at third party sites either in construction or restoration.
- 2.4. The underlying geology, including clay, excavated from within the footprint of the reservoir will be used in construction of the embankments, clay blanket (Bognor Sand Member), clay cut-off (Harwich Formation) and wetland retention structure. Where possible, this material will be moved directly from the excavation to its placement - minimising the double handling of materials.

Pipeline corridor

- 2.5. The sources of excavation materials along the pipeline corridor are:
 - Stripping of topsoil and subsoil from green areas prior to trench excavation;
 - Breakout of roads including road base and concrete slabs from urban areas; and
 - Excavation of Made Ground and underlying geology from the trench.
- 2.6. Temporary construction compounds will also be located along the pipeline corridor. Limited quantities of excavated materials may be stored at the compounds and along the pipeline corridor.

However, excavated material will be transferred to the reservoir site by road, particularly those that require crushing and screening prior to use.

- 2.7. It is anticipated that construction of the pipeline will be concurrent with the reservoir site. The Construction Support Site (CSS) in the north west corner of the reservoir site (the location of the visitor centre) will be utilised for storage and processing of materials from the pipeline corridor. This will require an appropriate waste exemption or environmental permit to be in place.
- 2.8. Breakout and excavation materials will be reused to backfill the trenches and reinstate road infrastructure along the pipeline corridor. Following backfilling of the trench, the stripped topsoil will be reinstated in green areas.

3. Environmental consenting for the reuse of excavated materials

- 3.1. To enable the reuse of excavated material within the Scheme, evidence must be provided to demonstrate that the material is not a waste and therefore not subject to the waste regulations. The Waste Framework Directive 2008/98/EC (WFD) defines waste as 'any substance or object which the holder discards or intends or is required to discard'.
- 3.2. There are several legislative mechanisms to enable the reuse of excavated materials, these include the:
 - Environmental permits and waste exemptions;
 - Exclusion from the Waste Framework Directive – Article 2(1)(c);
 - Waste and Resource Action Programme (WRAP) – Quality Protocol: Aggregate from inert waste; and
 - Contaminated Land: Applications in Real Environment (CL:AIRE) – Definition of Waste: Development Industry Code of Practice (DoWCoP).
- 3.3. These are summarised below and the preferred approach - DoWCoP - is considered further in the context of the Scheme.

Environmental permits and waste exemptions

- 3.4. An environmental permit or waste exemption is required from the Environment Agency to perform certain waste activities including the use, storage, treatment and disposal of waste. It is anticipated that an environmental permit will be required to crush and screen excavated materials using mobile plant at the reservoir site.

Exclusion from the Waste Framework Directive – Article 2(1)(c)

- 3.5. Article 2(1)(c) of the WFD excludes 'uncontaminated soil and other naturally occurring material excavated in the course of construction activities where it is certain that the material will be used for the purposes of construction in its natural state on the site from which it was excavated.' Therefore, where it can be evidenced that excavated material meets these conditions it is not considered a waste under the WFD and can be reused on the site from which it was excavated. Note, an audit trail is required to evidence this.

WRAP Quality Protocol: Aggregates from inert waste

- 3.6. Article 6 of the WFD sets conditions for the full recovery of waste referred to as 'end-of-waste status'. Once these conditions are met the waste is considered to be fully recovered and it shall cease to be a waste under the WFD. In respect to this, WRAP has established a framework with specific criteria for the production of aggregates from inert wastes, typically including gravels, concrete and brick. If the criteria set out are met, the resulting outputs will normally be regarded as having been fully recovered and to have ceased to be waste. This enables the outputs to be used or sold as a product within designated market sectors. The full requirements of the Quality Protocol are set out in the WRAP (2011), Quality Protocol: Aggregates from inert waste.

Definition of Waste: Development Industry Code of Practice

- 3.7. The CL:AIRE Definition of Waste: Development Industry Code of Practice (DoWCoP) has been identified as the preferred environmental consent for the Scheme. DoWCoP sets out good practice to assess whether excavated materials are classified as a waste or not for a particular use. A summary of its scope and requirements is provided below, for the full requirements refer to the document - CL:AIRE (2011), The Definition of Waste: Development Industry Code of Practice, Version 2.

Scope of DoWCoP

- 3.8. The scope of DoWCoP includes the following excavated materials:
- Soil, both topsoil and subsoil, parent material and underlying geology;
 - Soil and mineral based dredgings;
 - Ground based infrastructure that is capable of reuse within earthworks projects e.g. road base, concrete floors;
 - Made ground;
 - Source segregated aggregate material arising from demolition activities, such as crushed brick and concrete, to be reused on the site of production within earthworks projects or as subbase or drainage materials; and
 - Stockpiled excavated materials that include the above.
- 3.9. DoWCoP applies to reuse of excavated materials:
- For use on the site from which it has been excavated, either with or without treatment (referred to as 'site of origin');
 - For use directly without treatment at another development site (referred to as 'direct transfer');
 - For use in development of land other than the site from which the material has been excavated, following treatment at an authorised 'hub site' which may involve a soil treatment facility (referred to as a 'cluster project'); or
 - A combination of the above (referred to as a 'combination scenario').

Demonstrating the four factors

- 3.10. DoWCoP states that in deciding whether excavated material is considered waste, the aims and objectives of the WFD must be considered. The primary aim of the WFD is the protection of human health and the environment.
- 3.11. There is no single factor that can be used to determine if something is a waste or when it ceases to be waste. However, in the context of excavated materials used on sites undergoing development, DoWCoP identifies four factors that need to be demonstrated:
- Factor 1: Protection of human health and protection of the environment;
 - Factor 2: Suitability for use, without further treatment;
 - Factor 3: Certainty of use; and
 - Factor 4: Quantity of material.
- 3.12. DoWCoP requires that these four factors are demonstrated through the production of a Materials Management Plan (MMP) and supporting evidence detailing the proposed reuse of materials on the site that will be prepared by the appointed contractor(s).
- 3.13. Importantly this should include a Remediation Strategy or Design Statement derived using appropriate risk assessments. The MMP and supporting evidence is reviewed by a Qualified Person who signs and submits a declaration to CL:AIRE, subject to the four factors being satisfactorily demonstrated. Earthworks can only commence once this process has been successfully completed.

Verification Plan

- 3.14. A Verification Plan must be included in the MMP. The Verification Plan identifies how the movement and placement of materials is to be recorded and the quantity of material to be used. It should contain a statement on how the use of the materials relate to the remediation or design objectives. A Verification Report must be produced and submitted to CL:AIRE once construction is complete. This provides an audit trail to show that materials and wastes have been used in accordance with the MMP and verifies that the remediation and design objectives have been met.

4. Proposed approach for the Scheme

- 4.1. To enable the reuse of excavated materials to be maximised across the Scheme, it is proposed that the reservoir site and pipeline corridor are considered a single 'site of origin' under DoWCoP. This will facilitate the movement of excavated materials from the pipeline corridor (including concrete, road base, made ground and soils) to the reservoir site for temporary storage and processing and is subject to the appointed contractor(s) agreeing this approach with the Environment Agency.
- 4.2. The four factors that need to be satisfied in DoWCoP are considered below, in the context of the Scheme.

Factor 1: Protection of human health and protection of the environment

- 4.3. DoWCoP states that: 'The reuse of material should not create an unacceptable risk to the environment or human health'.
- 4.4. A ground investigation at the reservoir site has been completed and a ground investigation of the pipeline corridor is planned prior to construction commencing. This will confirm the ground conditions that are present across the Scheme and the potential for any contaminated materials. In addition, site-specific reuse criteria will be developed to determine whether excavated materials are chemically suitable for their intended use and therefore whether they pose an unacceptable risk to human health or the environment.

Factor 2: Suitability for use, without further treatment

- 4.5. DoWCoP states that: 'The material must be suitable for its intended use in all respects (i.e. geotechnically and chemically)'.
- 4.6. A ground investigation at the reservoir site has been completed and a ground investigation of the pipeline corridor is planned prior to construction commencing. This will confirm the ground conditions that are present across the Scheme. The information from the ground investigations and appropriate environmental risk assessments will be used to develop site-specific reuse criteria to determine whether excavated materials meet the chemical and geotechnical requirements for their intended use.

Factor 3: Certainty of use

- 4.7. DoWCoP states that: 'The holder of the material must be able to demonstrate that the material will actually be used and that the use is not just a probability but a certainty'.
- 4.8. Outline planning applications for the reservoir site and access roads and pipeline corridor are in the process of being submitted. A detailed design will be submitted at a later stage as part of the reserved matters applications. These applications - subject to their approval - will provide certainty of use as the Scheme will be required to meet the agreed planning conditions.

Factor 4: Quantity of material

- 4.9. DoWCoP states that: 'Materials should only be used in the quantities necessary for that use, and no more.'
- 4.10. The outline planning applications and reserved matters applications for the reservoir site and access roads and pipeline corridor will provide detailed design information, including the quantity of earthwork materials required for construction. Subject to their approval, these planning applications will confirm the quantity of material required.

5. Stakeholder engagement

- 5.1. It is intended that this Strategy will be developed into an MMP in accordance with DoWCoP, based on the detailed design information. The appointed contractor(s) will be involved in this process. The Environment Agency and Hampshire County Council will be consulted by the appointed contractor(s) regarding the detailed design and the proposed plan for management of site-won materials prior to a declaration being submitted to CL:AIRE.

6. Summary

- 6.1. The Scheme will require significant earthworks and management of excavated materials in the creation of the embankments and wetland retention structure at the reservoir site and in the backfilling of trench excavations along the pipeline corridor. It is a requirement of the Scheme that these materials are primarily site-won, i.e. sourced from within the Scheme's boundary. This Strategy identifies CL:AIRE DoWCoP as the preferred environmental consent to enable reuse of excavated materials during construction. It is proposed that the reservoir site, access roads and pipeline corridor are considered a single 'site of origin' under DoWCoP, to allow the reuse of materials to be maximised across the Scheme. It is intended that the Strategy will be developed into an MMP once detailed design information is available and that the relevant stakeholders will be consulted regarding the Scheme's approach to materials management as part of its development.



Atkins
The Hub
500 Park Avenue
Aztec West
Bristol
BS32 4RZ