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National Grid's Northwest Cluster Project

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Content

- Background and aims
- Hub site and Cluster site selection
- Contractual approach
- Project team
- Materials management plan
- The project
- Lessons learnt/knowledge transfer
- Acknowledgements

Background

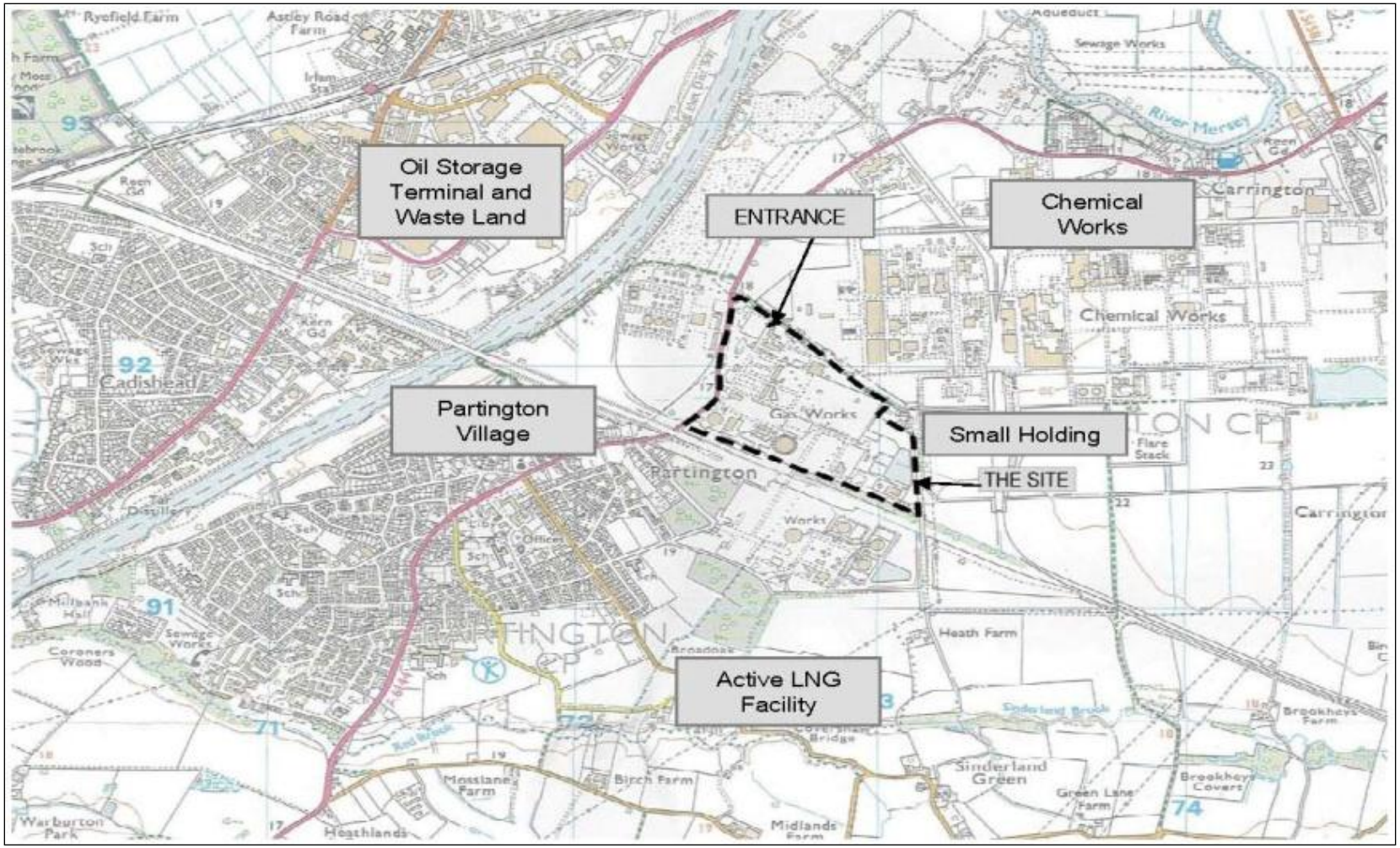
- Pilot trial in Sheffield in 2007/8
  - 2 site Cluster project
  - Material sent from Donor site to Hub, treated and returned
- National Grid granted planning permission for Partington site to be used as temporary treatment hub August 2008
- CL:AIRE Definition of Waste Code of Practice issued September 2008
- Cluster site selection June-December 2009
- Design development and data acquisition January-June 2010
- Contractor appointment September 2010
- Planning permission for Hub site expires 14 August 2011

Aims

- To remediate the selected Cluster sites (including the Hub site)
- Find a more sustainable solution for small or constrained sites
- To demonstrate the value of cluster:
  - Economies of scale
  - Efficiencies
- To test uncertainties with the Cluster approach:
  - Contractual issues
  - Supply chain interaction
- To enable lessons learnt to be applied to the identification of future Cluster sites and to provide a model for future Cluster projects

Hub Site

Location and setting



Hub Site

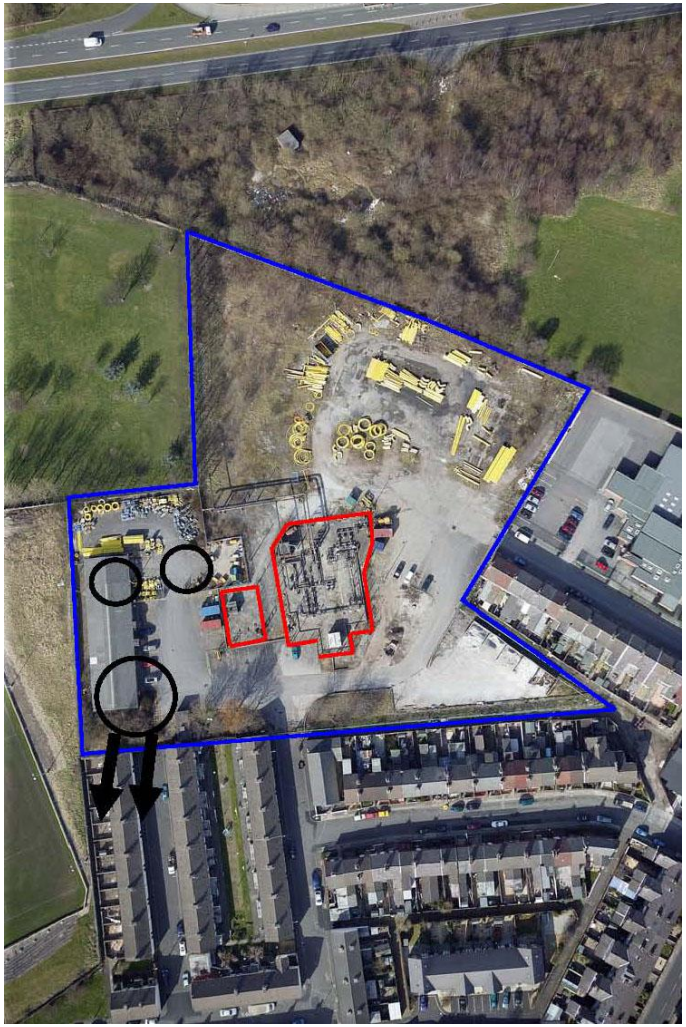
Treatment area

Cluster site selection

- Constrained sites
- Current and proposed site use
- Status of remediation design and permitting (e.g. planning)
- Programme or regulatory drivers
- Extent/quality of SI data
- Any development constraints (e.g. tenants or services)
- Size of site and access (proximity to trunk road network, social constraints such as nearby schools or residential areas)
- Soil characteristics and types of contaminants
- Likely remediation technologies to treat identified contaminants/soil types
- Volume of material for treatment and volume of imported fill required
- Distance to proprietary treatment or disposal facilities

Cluster sites

Donor Sites



Contractual approach

- The project was let as a single contract and was overseen by a Project Manager, who also acted as the Engineer under the Contract
- On each site the Engineering Consultant (there were 3 different consultants involved) acted as designer and Resident Engineer and also provided the Verification Report for their individual site
- The Contractor operated each remediation site as a standalone project, with one Contract's Manager in overall charge of the Cluster project
- The Contractor was given responsibility for designing the treatment processes to achieve the individual site criteria and for programming the works to optimise treatment times

Project Team

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Overall Engineer

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Environmental Consultants

wyg RSK amec

Contractor

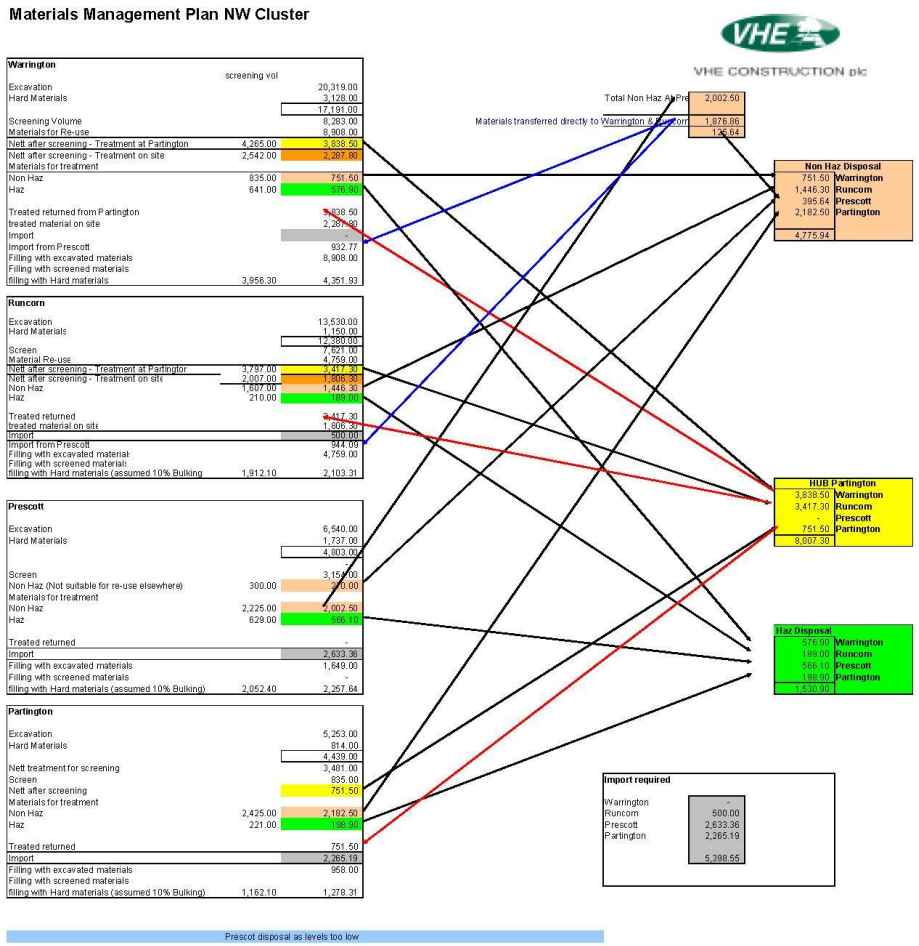
VHE

&

Davis Langdon
An AECOM Company

Materials Management Plan

- Individual MMPs prepared for each donor/receiver site plus overall Cluster MMP.
- QP Declaration for each site.
- Contractor took over responsibility for Cluster MMP in relation to Hub site.
- MMP submission to EA office covering Hub site.



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Timing of Declarations - V2

- Under Version 2 of the Code of Practice:
  - Hub come Donor site - submit prior to dispatch
  - Hub come Receiver site - submit following successful treatment/recovery of the waste and prior to its use at the Receiver site
  - In the case of a Cluster project where material is being transported to the Hub site, treated and returned as part of a batch process, CL:AIRE have advised that a declaration should be submitted for each batch of material before it is released to the Receiver site (i.e. multiple declarations)

Contingency arrangements

- Where a cluster is used, the contingency arrangements are of particular significance . The Code of Practice highlights the following aspects for consideration:
  - Out of specification materials
  - Surplus materials
  - Responsibility for materials/wastes
  - Project programme slippage
  - Extended treatment times
  - Identified area for out of spec materials

- In the case of the NW Cluster project this was largely addressed by having the Contractor identify acceptability criteria for treatment as part of his tender submission, with all material meeting these criteria becoming the Contractor's responsibility to treat or dispose within the programme and other material being the responsibility of the Client (i.e. not covered by agreed treatment rate).

The Project

- Site Works October 2010 – July 2011
- Hub site: Partington
- Donor sites: Partington, Prescot, Runcorn, Warrington
- Receiver sites: Partington, Warrington
- Total material excavated = 49,500m^3
- Total material reused = 30,000m^3
- Total treated (Hub + Warrington) = 16,000m^3
- Disposal:
  - Unsuitable for treatment = 6,500m^3
  - Not economically recoverable within timescale = 13,500m^3
- Primary Treatments used = Bioremediation, Stabilisation
- Completed on time and on budget

Benefits

- Reduction of environmental risks on 4 sites
- Reduction in disposal to landfill
- 109t of CO_2 saved against remediating sites separately
- 97,000 lorry miles saved
- More sustainable remediation of constrained sites at Prescot and Runcorn
- Minimisation of nuisance
- c. 30% cost savings
- Ability to deal with unforeseen issues
- Development of a model for future projects

Lessons Learnt

- Site selection is tricky and takes time
- Be prepared to substitute alternative sites
- Allow contractor to input into the final design
- Keep responsibilities clear
- Ensure that someone is responsible for overall project management
- Don’t make assumptions
- Quality of reporting data is key
- Build flexibility into the project and be prepared for changes

Knowledge transfer

- One of National Grid's key drivers in progressing the Partington project was to enable lessons learnt to be applied to the identification of future Cluster sites and to provide a model for future Cluster projects
- On completion of the project it was added to the CL:AIRE Register of Environmental Benefits on the Definition of Waste website
- Feedback was provided to CL:AIRE during the consultation for Version 2 of the Code of Practice and further issues have been highlighted for consideration in a future revision of the Code of Practice.
- An internal guidance document has been prepared for National Grid on the successful implementation of Cluster Projects.
- A CL:AIRE Case Study has been produced on the NW Cluster Project.

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Sustainability Award

CONSTRUCTING EXCELLENCE in the built environment

CL:AIRE Award for Best Use of the Code of Practice 2012

Acknowledgements

- Client: National Grid Property Holdings
- Contractor: VHE Construction
- Environmental Consultants:
  - Amec - Runcorn
  - RSK - Prescot
  - WYG – Partington and Warrington
- Cost Consultant: Davis Langdon

Any questions?

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