

Your ref: CA18/2311/174

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2 Mar 2015

Dear [REDACTED]

WFD Abandoned Metal Mines Programme – Cambokeels Mine – CA18/2311/174 – Remediation Scoping Study

This letter sets out our approach to successfully deliver the scoping stage of the Cambokeels Mine project. As requested, our approach will take into account the site constraints, key risks, and treatment options, to achieve the project milestones.

Approach/Methodology

The following outlines our approach/methodology, scope of services and deliverables to address the brief set out in Project Scope Document (CA18/2311/174). The works are split into:

1. Project Management
2. Start Up Meeting
3. Site Visit
4. Review of Existing Information and Data
5. Appraisal of remedial options
6. Health & Safety
7. Risk Register
8. Scoping Report
9. Review Meeting

The following methodology details the works required for the Scoping study.

1. Project Management

As indicated in The Coal Authority's (TCA) Project Scope, the programme for this package runs from the contract award (wk 16th March 2015) to the completion of the scoping report (mid June 2015). We have produced a detailed Master Project Programme spanning the activities included in this package of works.

We will provide regular updates to the TCA PM through telephone conferencing with respect to the project risk register, accruals and invoicing during the duration of the instruction. Short (one page) progress reports will be submitted on a monthly basis throughout the project.

2. Start-up Meeting

It is proposed to combine the start-up meeting and site visit to streamline the process. It is proposed that when the contract is awarded a site visit will be organised by TCA and attended by the following organisations: TCA, Environment Agency, AONB Partnership and Atkins. We assume the meeting will also be fed into by TCA's Operations, Estates and Planning Teams to provide early advice on treatment options from previous experience/schemes, requirements of easements of pipeworks, planning and permitting issues, and a stakeholder engagement strategy where appropriate.

3. Site Visits

See point 2.

4. Review of Existing Information and Data

The review of existing information and data will provide the basis of the work going forward. The review will be a desk based study to gain a thorough understanding of the site, the nature of the problem and possible mitigation measures. This assessment will enable the generation of the conceptual site model (CSM). It will summarise the information available in a focused and succinct manner. The desired outputs from this task include an understanding of the:

- * Site location and setting
- * Water Framework Directive (WFD) catchment boundaries and status
- * Nature of the problem and drivers for remediation
- * Treatment objectives i.e. target water quality
- * Key contributing sources and potential improvements
- * Urgent issues e.g. unstable spoil or tailings, outbreak risks, blocked adits etc.

Information considered to be of particular relevance from the reviewed reports will be summarised and cross referenced in the scoping report; it is not intended that the work re-iterates information which has already been covered. Historical documentation and site information will be required for review. It is assumed that this information would be supplied by the Coal Authority and as such, no allowance has been made for obtaining the information from third parties (excluding the historical maps or BGS borehole logs).

- *Site Location plan, 2014 OS Mapping (supplied by CA);*
- *Mining map (supplied by CA);*
- *Internet resources;*
 - * http://www.subbrit.org.uk/sb-sites/sites/c/cambokeels_mine/
 - * <http://www.mineexplorer.org.uk/cambokeels.htm>
 - * <http://www.aditnow.co.uk/mines/Cambokeels-Lead-Mine/>
 - * <http://www.dmm.org.uk/colliery/c913.htm>
 - * <http://www.mineexploration.com/new/cambokeels.html>
 - * <http://www.mindat.org/loc-1410.html>
 - * <http://www.geograph.org.uk/photo/796760>
 - * http://www.steetleyminerals.co.uk/cms.php?id_cms=11
 - * <http://www.derelictplaces.co.uk/main/printthread.php?t=10058>
 - * <http://www.ukminingventures.com/Weardale.htm>
 - * <http://www.28dayslater.co.uk/forums/showthread.php/25577-Cambokeels-Drift-Mine-Co-Durham-8-1-07>
- *Mining reports and plans if available (to be supplied by CA);*
- *All water quality and flow data to date for the discharges and water courses (supplied by CA);*
 - * Environment Agency Data, 2015, Environment Agency
- *Topographical survey information or lidar data (to be supplied by CA);*
- *Aerial photographs (to be supplied by CA);*
- *Historical OS Plans supplied by Envirocheck (to be obtained by Atkins);*
 - * The purchase of an Envirocheck report is included in these costs
- *BGS Borehole Logs (to be obtained by Atkins); and*
- *Services search information (to be supplied by CA).*

5. Appraisal of Remedial Options

As detailed above it is proposed to appraising the capture, transfer and treatment options for the mine water at Cambokeels which will feed into the final scoping report. The appraisals will cover the following aspects as requested by TCA.

- *The production of the CSM and identification of constraints and sensitivities and data gaps are included in the review of existing information and data section.*
- *An evaluation of potentially suitable remedial techniques and technologies to address the pollution from Cambokeels Mine. It is anticipated that both active and passive treatment options will be discussed at the site visit and these options will be taken forward to the appraisal in conjunction with input from TCA following the findings from the URS treatment technologies assessment and the work undertaken by Atkins on the Barneycraig scheme;*
- *Evaluation of the practicability of the potentially suitable technologies with respect to technical issues, site area and constraints, time scales and regulatory constraints;*
- *Assessment of the effectiveness and durability of the potentially suitable technologies not screened out due to the above constraints;*
- *High level appraisal of costs (capital and operational) and benefit;*
- *Identify the associated risks of each of the potentially suitable technologies not screened out due to the above constraints;*
- *Justifications for screening out certain technologies; and*
- *Identify barriers to implementing a scheme.*

6. Health and Safety

Atkins will consider health and safety throughout the project. Where significant risks are identified then we will make design mitigation recommendations for inclusion in the scoping report. A full appraisal of health and safety risks for a full scheme is not included in this scope however it is proposed to flag significant risks at this stage.

All Atkins site works are subject to the Atkins Operating Safely (AOS) process, which comprises an integrated risk assessment and SOS communications system, and is to be completed prior to all site visits (one visit as per scope). The AOS system automatically monitors site staff whereabouts and triggers emergency protocol in the event that contact is not maintained at regular predetermined intervals. The risk assessments forms the basis of a live document and will be reviewed post site visit and amended as necessary and included as an Appendix to the Scoping report.

7. Risk Register

It is proposed to develop the preliminary risk register for the scheme following the initial site visit. The risk register will be updated following each progress meeting and will be included in the final Scoping report.

8. Scoping Report

The Scoping report will incorporate the tasks included in the Project Scope Document (CA18/2311/174) and those tasks detailed below, plus recommendations for a subsequent feasibility study to refine the selected remedial approach. The Scoping report will also provide a fully itemised and costed scope for this next phase of work i.e. Feasibility Study to include a detailed description of all activities to be undertaken, site works and programme. The scope of works prepared for the services required to input into the next stage of works (Feasibility) will be sufficiently detailed to allow tendering to service providers.

- **Review all available mining plans**

See Review of Existing Information and Data

- **Stakeholder Communication Plan**

A Stakeholder Communications Plan will be produced for the scheme, based on the Environment Agency Mine Waters Communications Plan Template. Direct liaison with stakeholders (Environment Agency, Northumberland County Council, English Heritage, Natural England and local residents/land owners) will be carried out as detailed in the Stakeholder Communications Plan. The Communications Plan should be updated regularly to reflect consultation outcomes.

It is acknowledged that historically the communications for the North Pennines schemes have been carried out by the Area of Outstanding Natural Beauty (AONB) Partnership (Sarah Tooze) and Sarah will lead the stakeholder liaison going forward. No costs are included in this proposal for undertaking liaison with stakeholders.

- ***Review Local Plan to Identify Potential for Renewables and Joint Funding***

Time has been included to review the Wear Valley District Local Plan to identify the potential for renewables from the proposed scheme and joint funding opportunities.

- ***Preliminary Land Requirements and Engagement with the Authority's Property Team***

Time has been included in this offer to liaise with TCA Property Manager to understand the land ownership issues and the impacts on the scheme including access and services and to scope the site surveys that will be required during the design such that suitable licences can be obtained early.

- ***Plans and Drawings***

The production of the following plans and drawings are proposed as part of this scope of services, however these may vary due to the outcome of the data review and site visit discussions:

- * Indicative treatment options;
- * GI exploratory trial pit location plan;
- * Site location plan;
- * Constraints plan;
- * General Arrangement drawing; and
- * Summary plans for the Scoping report.

- ***Ground Investigation Specification***

The aims of the site investigation will be to undertake a high level characterisation of the ground conditions across the site, to steer the optioneering process for identification of feasible schemes for implementation at the site. It is not proposed to undertake the GI in this package of works but to develop a specification that provides sufficient detail to allow tendering for the service providers.

As far as practicable, ground investigation works shall be planned to obtain sufficient information to inform the feasibility report. The process for the GI and reporting will be carried out in line with TCA's new *ground investigation protocol* under the Feasibility package of works. It should be noted that subject to the findings of the geotechnical investigation works and further design development that supplementary geotechnical investigation works which is outside the scope of this tender may be required in advance of detailed design. TCA is advised to allow contingency in their budget and programme for this risk.

Our proposed scope of works for the development of a GI specification are as follow:

- * Preliminary scoping of an intrusive GI to consider the proposed mine water capture points, transfer route and treatment scheme location.
- * The GI scoping will include the preparation of a preliminary trial pit location plan and Bills of Quantities (BoQ) to inform land access requirements/permissions and to allow preliminary budget costs to be derived for the proposed GI works. However, the preparation of GI contract is outside the scope of this tender and it is anticipated TCA will procure the GI contractor directly.
- * Identification of the consents required for the GI works.

- ***Reporting***

Costs have been included to pull together the information collated as part of the scoping package of works along with one set of comments from the Environment Agency, TCA and Stakeholders to produce the Scoping report document and appendices.

The outcome of the Scoping report will be to provide recommendations for a preferred option to be developed into a scheme and take into account the constraints identified as part of this commission (i.e. planning, licences, land acquisition, cost benefit ratios and environmental impacts).

9. Review Meeting

We will attend the review meeting to present the findings of the Draft Scoping report which will include the options appraisal and the justification behind the preferred remedial strategy and recommendations for additional work.

The costs have been developed such that it is assumed that we would attend a live meeting in Mansfield.

Future Work

It is anticipated that additional future work will be required for the Cambokeels Mine scheme, however, such activities have not been identified at this time and are not included in this scope of services. Additional instruction would be needed where additional services are required.

Assumptions and Exclusions

- Findings on performance and efficiency of the treatment options will be informed by third parties and will not be checked by Atkins;
- Indicative whole life costs including capital and annual operational costs of each option will be high level estimates based on assumptions made from the available information. However, it should be noted that all the estimates of costs and maintenance requirements in the Options Appraisal are subject to evaluation by full scale trials and will require input from TCA Operations team;
- Inclusion of four telecoms and three monthly progress reports.
- Only areas either identified in the monitoring reports or specifically identified during the site visit will be investigated for the feasibility assessment;
- Excluding the Historical OS Plans and Borehole Logs, all of the documents and data detailed in Phase 1 will be supplied by TCA and no allowance has been made for obtaining the information from third parties;
- Costs have been included for obtaining an Envirocheck report for the site;
- Only one site visit has been requested in the scope of services;
- It is assumed TCA will supply the relevant mine records for the site for review;
- Mine water monitoring data, service information, topographical survey data and OS tiles will be provided by TCA;
- No flood risk assessments will be undertaken although the associated risks will be identified within the site constraints;
- Any consultation required with landowners will be undertaken by TCA;
- Where changes to the scope of services or work packages or additional options or works are required are identified a variation to the scope of services will be provided along with a revised fee estimate;
- No allowance has been made for carrying out any monitoring at the site and surrounding area;
- Mine water monitoring data, service information, topographical survey data and appropriately scaled digital base map OS tiles will be provided by TCA;
- No ecology, landscape or archaeology site surveys are included in this fee estimate;
- No allowance has been made for permit/consent/licence or planning application fees or the production of the applications themselves (excluding the English Heritage consent for the GI). The fees are to be paid by TCA.
- Only one revision of the draft deliverables is budgeted based on a single set of comments from TCA, where additional amendments be required, a CE will be provided for approval;
- This offer excludes printing costs as it assumes electronic submission of all deliverables;
- Agreements to access the site will be obtained by TCA;
- The site is safe to access and there are no H&S constraints which cannot be easily mitigated; and
- TCA will provide information to Atkins of any pre-treatment requirements, including chemical dosing, for the scheme.

Deliverables

Atkins will prepare the following reports:

- Monthly progress updates;
- Monthly financial reporting;

- Site Visit Risk Assessment;
- Preliminary Risk Register;
- Communications Plan;
- Memo detailing the review of the existing information and data;
- Appraisal of Remedial Options;
- Final Scoping report; and
- Itemised and costed scope for the feasibility Stage.

Budget Estimate

Our budget cost estimates for consultancy services are detailed in the Priced Work Breakdown attached based on the CA18/2311 General Engineering contract. We have bench marked these costs with those supplied for the Barneyraig Mine scheme. The costs for each package of works will be reviewed and revised where appropriate prior to the commencement of each stage. All costs are exclusive of Value Added Tax.

Task	Ref	Time	Expenses	Total
Project Management	S10			
Start up meeting and Site Visits	S1 and S2			
Review of Existing Information and Data	S3			
Appraisal of Remedial Options	S4			
Health and Safety	S5			
Preliminary Risk Register	S6			
Draft Scoping Report (includes GI Specification documents)	S7			
Review Meeting	S8			
Final Scoping Report	S9			
Total				£20,672.80

Programme

On appointment we would expect the works to be programmed as detailed in the table below.

It is envisaged that the technical reports will be fed through to TCA when complete for comment and as such will have been reviewed prior to input into the final feasibility report.

Task	Time Scale
Monthly progress reports and Interim fortnightly telecom.	1 st interim telecom the week commencing 30/03/2015 and monthly thereafter Monthly progress reports the week commencing 13/04/2015 and monthly thereafter
Programme of deliverable for the Scoping Report	See attached programme
Draft Scoping Report	Week commencing 11/05/2015
Review Meeting	Week commencing 01/06/2015
Final Scoping Report	Week commencing 15/06/2015

We trust this budget estimate meets your requirements. Please do not hesitate to contact myself should you need further information.

Yours sincerely,

for Atkins Limited

[Redacted Signature]

[Redacted Name]

Framework Manager