

METHODOLOGY: SITE CLEARANCE AND SITE INVESTIGATION

The methodology to be followed is required to clear the site of vegetation and scrub in advance of a geological site investigation to establish the physical properties of the below ground strata and identify any below ground obstructions which will need to be evaluated and considered in any future foundation approach, for future land development.

This methodology is to be employed within the red lined boundary area identified in figure 1 below:



Figure 1 boundary of Site investigation

ARCHAEOLOGICAL MITIGATION MEASURES:

The site location is a Scheduled Monument and as such we will adopt Archaeological control measures as identified in our Written Scheme of Investigation which has been developed by Bruce Glendinning of CFA Archaeology attached. This is to be reviewed in conjunction with the desk based assessment contained in Historic Environment Assessment prepared by Waterman Group also attached.

PROGRAMME OF ACTIVITIES:

A provisional programme of work activities has been developed and is contained in the site clearance programme attached. The site clearance will be implemented outside the nesting period for Breeding Birds which is generally March to August inclusive.

SITE CLEARANCE METHODOLOGY:

A review of the site has been carried out to consider access and health and safety hazards to be controlled within the RAMS for the task sequence. This will be developed following discussions with Historic Scotland and signed off prior to works commencement by the Principal Contractor and operatives who will carry out the task sequence.

SITE CLEARANCE – TREE FELLING, VEGETATION AND SCRUB

The trees located within the confines of the site investigation boundary are exempt from the SMC governance due to their trunk size, but we will ensure that removal is carefully carried out to ensure no accidental damage is caused to the monument. These trees will be cut at ground level and we will spray the ground with an appropriate herbicide to allow access to the proposed site investigation locations.

The vegetative scrub located on the site will be strimmed of grass and again sprayed with herbicide.

All vegetation resulting from these operations will be removed from site and no burning of brash will be carried out within the scheduled area.

SITE INVESTIGATION METHODOLOGY:

The rationale for selecting the location of the bored piles and trial pits, directs that it is important to try and answer as many questions as possible about the underlying structures on the site as it is a scheduled monument and this information will be required to inform the detailed design.

ROTARY BOREHOLE AND CORE LOCATIONS – locations are identified on SI location plan WIB15199-199_R_1_1_5_NH

Rotary drilling is used when drilling through bedrock. This method is adopted when more detailed information is required regarding the underlying bedrock and its physical characteristics. This will also provide a comprehensive understanding of the existing below ground infrastructure and potential obstructions. Samples will be removed from site for laboratory analysis.



A small rotary boring machine will be utilised to complete this activity and the augered hole will be plugged upon completion. Boreholes and concrete cores will be no greater than 300mm and all bore holes may commence with a 2m wide x 2m long x 1m deep pre-bore hole / starter pit.

All works will be observed and recorded in line with the Archaeological Written Scheme of investigation.

TRIAL PITS AND TRENCHES – locations are identified on SI location plan WIB15199-199_R_1_1_5_NH

We will utilise a small 6t or 13t excavator to carry out trial pit excavations to establish the position, depth and thickness of the previous cooling tower foundation and other areas located on the site.



Trial pit sizes will be 2m wide x 3m long to a depth maximum of 5m, Trial Trench will be 2m wide x 5m long x maximum 5m deep all boreholes may commence with a 1m wide x 1m long x 1m deep pre-bore hole / starter pit .

Soil samples will be removed from site for analysis.

Find below in Table (1) a schedule of SI type, size and reason for undertaking:

SI Type	Size / Depth (No greater than)	Reason for location
BH1	250mm	To establish below ground geological properties to inform master planning and foundation design.
BH2	250mm	To establish below ground geological properties to inform master planning and foundation design
BH3	250mm	To establish below ground geological properties to inform master planning and foundation design
BH4	250mm	To establish below ground geological properties to inform master planning and foundation design
BH5	250mm	To establish below ground geological properties to inform master planning and foundation design
BH5	250mm	To establish below ground geological properties to inform master planning and foundation design
BH7	250mm	To establish below ground geological properties to inform master planning and foundation design
BH8	250mm	To establish below ground geological properties to inform master planning and foundation design
BH9	250mm	To establish below ground geological properties to inform master planning and foundation design of the proposed bridge.
TP2	2m wide x 3m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the timber basin to inform master planning and foundation design.
TP3	2m wide x 3m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the timber basin to inform master planning and foundation design.
TP4	2m wide x 3m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the timber basin to inform master planning and foundation design. Specifically this trench is targeted to identify the inner edge of the basin
TP5	2m wide x 3m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the timber basin to inform master planning and foundation design. Specifically this trench is targeted to identify the inner edge of the basin.
TP6	2m wide x 3m long x5m deep	To establish the make up and depth of the infill of the former timber basin.
TP7	2m wide x 3m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the timber basin to inform master planning and foundation design.
TP8	2m wide x 3m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the timber basin to inform master planning and foundation design. Specifically this trench is targeted to identify the inner edge of the basin.
TP9	2m wide x 3m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the proposed cooling tower foundations to inform master planning and foundation design.
TT1	2m wide x5m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the proposed cooling tower foundations to inform master planning and foundation design.
TT2	2m wide x 10m long x5m deep	To identify the structural make up and depth from the surface of any surviving remains of the proposed cooling tower foundations and the formation of the canal side edge to the in-filled former timber basin.

TT3	2m wide x5m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the proposed cooling tower foundations to inform master planning and foundation design.
TT4	2m wide x5m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the proposed cooling tower foundations to inform master planning and foundation design.
TT5	2m wide x5m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the known cooling tower foundations to inform master planning and foundation design.
TT6	2m wide x5m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the known cooling tower foundations to inform master planning and foundation design.
TT7	2m wide x5m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the known cooling tower foundations to inform master planning and foundation design.
TT8	2m wide x5m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the known cooling tower foundations to inform master planning and foundation design.
TT9	2m wide x10m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the coke kilns to inform master planning and foundation design.
TT10	2m wide x10m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the coke kilns to inform master planning and foundation design.
TT11	2m wide x10m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the coke kilns to inform master planning and foundation design.
TT12	2m wide x10m long x5m deep	To establish the structural make up and depth from the surface of any surviving remains of the coke kilns to inform master planning and foundation design.
CC1	250mm	To identify below ground physical properties of proposed cooling tower foundations and strata beneath this infrastructure.
CC2/CP1	250mm	To identify below ground physical properties of proposed cooling tower foundations and strata beneath this infrastructure.
CC3/CP2	250mm	To identify below ground physical properties of existing cooling tower foundations and strata beneath this existing infrastructure.
CC4	250mm	To identify below ground physical properties of existing cooling tower foundations and strata beneath this existing infrastructure.
BH2/CP2	250mm	To identify below ground physical properties of proposed cooling tower foundations and strata beneath this infrastructure.

Table 1 – SI type, size and reason for undertaking

All excavations will be observed and recorded in line with the agreed Archaeological Written Scheme of investigation with Historic Scotland. Upon completion the trial pits will be filled in with the previously excavated materials.

Hazardous Materials

If any hazardous materials such as asbestos are recorded during the SI works, it will be double bagged (if possible) and removed to a licensed facility. If large quantities of Hazardous materials are encountered during the works, excavations will be stopped in that location and clean soils placed over the exposed area.