New Children's Home, Pegswood

Remediation and Verification Strategy

FAIRHURST

D/I/D/136018/10

September 2022

CONTROL SHEET

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APPENDICES

1.0 INTRODUCTION

Fairhurst have been commissioned by Northumberland County Council to prepare a Remediation and Verification Strategy for the proposed construction of a two storey children's home in Pegswood, Northumberland. The Remediation and Verification Strategy is to be used to discharge Planning Condition No. 4 of Planning Decision Notice 21/00704/VARCCD dated 14th January 2022.

This document provides a summary of the main contamination and pollution risks identified at the site, sets out the strategy for implementing the reclamation works to mitigate the risks and details the earthwork requirements and the validation procedures to be implemented to control and audit the works, in order to discharge Planning Condition No. 4.

The Principal Contractor will undertake, or appoint sub-contractor/s to undertake elements of, the earthworks and reclamation works and all parties shall assess the information presented in this document and the supporting documentation.

The Principal Contractor has confirmed that all existing topsoil will be stripped and removed from site. Likewise, made ground excavated during the works will not be reused and will be removed from site to a licenced disposal facility. Engineered fill is not to be imported, the only materials to be imported to site are construction aggregates from a natural quarried source, processed recycled aggregates from a WRAP certified source or soils covered by a Registered U1 Exemption or Environment Agency Permit. On this basis, and in accordance with 'The Definition of Waste: Development Industry Code of Practice (DoW CoP), published by Contaminated Land: Applications in Real Environments (CL:AIRE), a Materials Management Plan (MMP) is not required.

2.0 INTERESTED PARTIES

2.1 Parties to the Contract

The parties to the Contract are:

Role	Company	Named Contacts
The Employer	Northumberland County Council	Sara Whitaker
The Engineer	Fairhurst Group LLP	Conor McCue
Principal Contractor	Compass Developments (NE) Ltd	Mark Handyside
Earthworks and Remediation Sub-Contractor/s	TBC	TBC

2.2 Parties to be Consulted

The proposed works shall be to the approval of the following parties prior to commencement of the site work:

Role	Regulator	Named Contacts
Local Planning Authority	Northumberland County Council	TBC
Water Regulator	Northumbrian Water	TBC

3.0 SITE DESCRIPTION AND TOPOGRAPHY

The proposed development site is located in Pegswood, Northumberland, at approximate National Grid Reference NZ 22782 87737. The site has an area of approximately 0.15 hectares and is currently occupied by predominantly vacant land following the demolition of a classroom building associated with Pegswood First School. The site comprises a mixture of relic hardstanding, rough ground, vegetation and mature trees in the south and central areas, and formal asphalt car parking in the north, currently being used as a staff car park for the adjacent school. An outhouse building is present in the east of the development area.

The site is bound to the north by open / playing fields, to the east by land undergoing development with the construction of residential properties, to the south by Longhirst Road with residential properties beyond, and to the west by Pegswood First School with residential properties beyond.

The site is shown on Landform Surveys' topographical survey included in Appendix 1. Current site levels prior to development gently fall from southwest to northeast, with levels of approximately 51.30mAOD shown within the south western corner of the site, falling to approximately 50.20mAOD within the north eastern corner of the site.

4.0 DEVELOPMENT PROPOSALS

The proposed development comprises the demolition of a small existing outhouse in the east of the site and construction of a two storey children's home with associated car parking, hardstanding, private garden space and perimeter fence. The development proposals are shown on Northumberland County Council Drawing Ref. PI191009-(S)02, Appendix 1.

The existing car parking in the north and west of the site is to be retained, extended and supplemented with additional spaces and several of the existing large perimeter trees are also to be retained.

Finished levels for the development are shown on Fairhurst Drawing No. 136018/2002, presented in Appendix 1. A finished floor level of 51.25mOD is proposed for the building, with proposed external levels remaining relatively close to existing.

This remediation strategy assumes that all asbestos removal and demolition works associated with the outhouse are undertaken prior to commencement of the remediation and earthworks and all associated arisings and contaminated materials are removed off site.

It is understood that there are no current plans to grow home grown produce on site, however the operator may choose to do so in the future.

5.0 PREVIOUS INVESTIGATIONS AND REPORTS

The following information has been considered in the compilation of this report:

- Fairhurst, Geo-Environmental Desk Study, January 2020 (Ref. 01)
- Fairhurst, Geo-Environmental Interpretative Report, May 2021 (Ref. 02).
- Fairhurst, Updated Gas Risk Assessment (Addendum to Phase 2 Geo-Environmental Interpretative Report), October 2021 (Ref.03)

6.0 HAZARDS AND SIGNIFICANT GEO-ENVIRONMENTAL RISKS IDENTIFIED

The Geo-Environmental Interpretative Report (Ref. 02) identifies the hazards and significant risks to human health, the built development, landscaping and controlled waters, associated with current site conditions. The following section summarises the hazards and significant risks which will need to be addressed as part of the site development proposals.

6.1 Human Health Risk Assessment

6.1.1 Significant Risks to Human Health Receptors

The following potential significant risks to human health have been identified;

- Asbestos, in the form of loose chrysotile fibre bundles, were recorded within the existing topsoil;
- Marginally elevated concentrations of heavy metals (beryllium), hydrocarbons (dibenzo(ah)anthracene) within the made ground;
- Locally elevated leachable heavy metals and hydrocarbons were recorded within in the made ground;
- Localised elevated heavy metals and hydrocarbons in the groundwater; and
- Elevated soil gas and depleted oxygen concentrations.

6.1.2 End-Users

Post development end-users will be separated from limited contaminants in areas of proposed built development and hardstanding. In areas of proposed soft landscaping and garden where low level contamination could be present, the remediation strategy specifies disposal of asbestos impacted topsoil off site, hand picking of ACMs (if identified) and provision of a clean cover solution as detailed in Section 8.3.1. On this basis, no future pathway for direct contact or ingestion by end-users will exist. In the root protection zone of existing trees it will not be possible to remove or cover existing soils. Further confirmatory testing of the soils shall be taken in these areas to discount the presence of contaminants.

There is the potential risk that below ground potable water supply pipework may come into direct contact with hydrocarbon and heavy metal impacted made ground and groundwater as detailed in Section 8.4.3, with the potential to taint water supplies and impact on end-users.

6.1.3 Adjacent Users

Soils containing elevated determinants present a potential human health risk to adjacent site users if mobilised as wind-blown dust or fibres. The risk of exposure to contaminants is addressed by the adoption of appropriate dust and/ or fibre suppression measures and controls during the remediation/construction works as detailed in Sections 8.2.5 and 8.3.5.

6.1.4 Construction & Maintenance Workers

The risks presented by contaminants to construction workers has not been assessed on the basis that health and safety risk assessments would be undertaken by the Principal Contractor or their Sub-Contractor/s, and that adoption of appropriate health and safety measures including personal

protective equipment, decontamination facilities and monitoring, will adequately mitigate the potential risks to these receptors.

The risk to future construction and maintenance workers from below ground contamination sources which may remain in-situ (i.e. heavy metals, hydrocarbons etc.) should be highlighted in the Health and Safety file prepared on completion of the works.

6.2 Built Development Risk Assessment

The following potential risks to the built development have been identified which require appropriate mitigation;

- Chemical attack on below ground concrete from elevated sulphates within the soils;
- Soil / mine gas and depleted oxygen (mitigation required to address Planning Condition No. 7)

6.3 Controlled Waters Risk Assessment - Surface Waters

The Geo-Environmental Interpretative Report (Ref. 02) concluded that, in view of the surrounding ground conditions and significant distances of approximately 120m and 480m from the site to the nearest minor and significant controlled surface water features (i.e. an unnamed drainage ditch and the Bothal Burn respectively), the pollution risk to controlled surface waters as a result of surface water runoff or migration through base flow is considered to be negligible.

Therefore remediation with regards to controlled surface waters is not proposed.

6.4 Controlled Waters Risk Assessment - Ground Waters

The Geo-Environmental Interpretative Report (Ref. 02) concludes the following in relation to controlled groundwaters:

Elevated concentrations of heavy metals, pH, TPHs and PAHs were recorded within the superficial groundwaters.

The superficial aquifer beneath the site is classified by the Environment Agency as being secondary undifferentiated. The aquifer comprises drift deposits with negligible significance for water supply or river base flow due to the variable characteristics of the strata. Furthermore, The Pennine Middle Coal Measures Secondary A Aquifer has been subject to significant historic mining activity and the quality of the groundwater is anticipated to be low.

Therefore, given specific sources of contamination were not identified, the made ground identified onsite was thin, the minor nature of elevated total and leachable contaminants identified within the made ground, and the presence of low permeability cohesive deposits, it is considered that the elevated determinant concentrations present within the superficial groundwater's are unlikely to be associated with the development site and could be representative of the local groundwater quality.

An increased risk to the underlying aquifers from the proposed development has not been identified.

On the basis of the above, it is considered that the proposed development presents a negligible risk to the underlying bedrock aquifer.

Therefore remediation with regards to controlled groundwaters waters is not proposed.

6.5 Landscaping Risk Assessment

The Fairhurst Geo-Environmental Interpretative Report (Ref. 02) did not identify a significant phytotoxic risk to plants in landscaped areas from contamination onsite.

Therefore remediation with regard to landscaping is not considered necessary.

6.6 Gas Risk Assessment

The Geo-Environmental Interpretative Report (Ref. 02) and subsequent Updated Gas Risk Assessment (Ref. 03) present an assessment of gas risk based on data from 12 No. gas monitoring visits over a 6 No. month period. The results of the gas monitoring are included in Appendix 4 and are summarised below:

- A maximum carbon dioxide concentration of 3.6% was recorded.
- Methane was not detected. A worst case methane concentration of 0.1% v/v was adopted for design based upon the limit of detection for the gas monitor.
- Depleted oxygen concentrations of between 16.50% and 20.40% were recorded.
- No volatile vapours, hydrogen sulphide or carbon monoxide concentrations were recorded.
- A maximum flow rate of 0.6l/hr was recorded.

The gas risk assessment indicates that the site is classified as Characteristic Situation 1; however, gas protection measures appropriate to a Characteristic Situation 2 are required to discharge Planning Condition No. 7.

The site is within a lower probability radon area (i.e. less than 1% of homes are at or above the action level), therefore radon gas protection measures are not a statutory requirement within new buildings on site. The omission of specific radon protection measures should, however, be agreed by the Principal Contractor or their designated specialist designer with Environmental Health as part of the detailed design of the gas protection measures.

7.0 RECLAMATION REQUIREMENTS

To mitigate the risks identified in Section 6.0 and the Geo-Environmental Interpretative Report (Ref. 02), and thereby facilitate the proposed construction works, the following reclamation requirements have been determined as being necessary with respect to the proposed development.

7.1 Measures within Preparatory Works

As part of the preparatory works to facilitate redevelopment, the following measures should be undertaken:

- An ecology survey to confirm the absence of sensitive ecology within and adjacent to the site.
- A botanical survey to discount the presence of invasive species within the development area.
- An intrusive utilities survey to trace and map all existing site services.
- Protection, diversion, decommissioning or upgrade to existing services and drainage, as required during the remediation and earthworks, to accommodate for the proposed development.

7.2 Mitigation Measures during Enabling Works and Construction

The following measures are required during the enabling works / construction phase of redevelopment:

7.2.1 General Measures

- Decommissioning of all installed boreholes in accordance with current Environment Agency guidance following agreement of gas protection designs by the Local Authority to prevent them acting as a pathway for migration of ground gas and contamination.
- Implementation of health, safety, welfare and hygiene practices appropriate to the contamination risks identified as part of site investigation and qualitative risk assessment, including asbestos risk.
- Monitoring for soil gas/vapours in excavations, buried chambers and confined spaces during construction, where deemed necessary and man access is required.
- Control, management and treatment of surface water runoff, as required.
- Implementation of dust and asbestos fibre control measures and monitoring. The specific measures required will be informed by a construction phase risk assessment.
- Approval of a Registered U1 Exemption or Environment Agency Permit for the import of soils and aggregates, if required.

7.2.2 Measures Relating to Potential Asbestos Contamination

- Provision of health and safety procedures/ monitoring and adoption of respiratory protective equipment (RPE) and decontamination facilities, as required, subject to suitable and sufficient asbestos risk assessment by a qualified asbestos specialist in accordance with best practice,

including CIRIA Report C733 Asbestos in Soils and Made Ground (Ref. 04), JIWG CAR Soil Guidance 2016 (Ref. 05) and The Licensed Contractors Guide, HSG247 (Ref. 06).

- Excavation of asbestos impacted topsoil and removal off site to remove the pathway for potential harm to human health.
- Inspection for and hand picking of visible ACMs.
- Disposal offsite of handpicked ACMs and excavated Made Ground containing >0.1% asbestos fibres (if identified) as hazardous waste,
- Retention of undisturbed made ground materials at depth beneath hardstanding or an appropriate clean cover layer.
- Damping down and disposal offsite of previously unidentified Asbestos Containing Materials, if encountered during the site operations, in accordance with the HSE Control of Asbestos Regulations 2012 (Ref. 07).

7.3 Mitigation Measures within the Built Development

It is recommended that the following mitigation measures are incorporated into the built development:

- 'Suitable for Use' clean cover to soft landscaped and garden areas;
- Gas and vapour protection measures (to address Planning Condition No. 7);
- In ground concrete to be to the required design sulphate class; and
- Water supply pipework requirements to be agreed with the Water Regulator once potable water routes are confirmed.

8.0 RECLAMATION STRATEGY

The reclamation strategy for the proposed development presented in the following sections has been designed to meet the recommendations given in the Geo-Environmental Interpretative Report (Ref. 02) and Updated Gas Risk Assessment (Ref. 03) and the reclamation requirements presented in Section 7.0.

The measures presented within the reclamation strategy are required to mitigate and remediate on site contamination sources and are considered appropriate to address the risks and remedial requirements specific to this development.

The remediation strategy, presented in the following section, is structured as follows:

8.1 Enabling Works

The following works are required to be implemented prior to the commencement of the main reclamation works.

8.1.1 Environmental Plans, Health & Safety Plans, Permits and Licences

Existing topsoil will be stripped and removed from site.

Made ground excavated during the works will not be reused and will be removed from site to a licenced disposal facility.

Engineered fill is not to be imported, the only materials to be imported to site are construction aggregates from a natural quarried source, processed recycled aggregates from a WRAP certified source or soils covered by a Registered U1 Exemption or Environment Agency Permit. On this basis, and in accordance with 'The Definition of Waste: Development Industry Code of Practice (DoW CoP), published by Contaminated Land: Applications in Real Environments (CL:AIRE), a Materials Management Plan (MMP) is not required.

Should the importation of materials requiring an Environmental Exemption or Environmental Permit be proposed for use below structures, hardstanding and clean soil cover, these exemptions or permits shall be prepared by the Principal Contractor prior to import.

The Principal Contractor is to apply for all other Environmental Permits or discharge consents and produce relevant Health & Safety Plans for the proposed remedial works (as required).

Copies of all health & safety plans, permits and licenses should be provided to the engineer prior to commencement of the works.

8.1.2 Site and Vegetation Clearance

Site and vegetation clearance is to be undertaken by the Principal Contractor prior to commencement of the reclamation works. Trees requiring protection are to be confirmed by the Principal Contractor with the Employer (Northumberland County Council) and Ecologist prior to commencement of clearance works.

Site and vegetation clearance works are to be undertaken in full accordance with the following to minimise risks associated with sensitive ecological receptors, asbestos and invasive species:

- An asbestos risk assessment undertaken by an appropriate Asbestos Risk Management Specialist and;
- An Ecological / Invasive Species Watching Brief by the Specialist Ecological / Invasive Species Consultant.

Vegetation and unacceptable materials generated by the works are to be disposed of offsite.

8.1.3 Invasive Species

The Principal Contractor is to arrange for an up to date invasive species survey to be undertaken for the site by a Specialist Invasive Species Consultant. Subject to the findings of the survey, a detailed Management Strategy is to be compiled by the Specialist Invasive Species Consultant and implemented by the Principal Contractor.

Successful removal or treatment of any invasive species identified is to be recorded by the Specialist Invasive Species Consultant in a specific Invasive Species Validation Report and provided to the Principal Contractor for inclusion within the works Completion Report.

Copies of the Management Strategy and Validation Report should be provided to the Engineer for their information and record.

8.1.4 Site Compound

A site compound, including all temporary storage and quarantine facilities, shall be established prior to commencement of the remediation works and are subject to agreement by the Client and Principal Designer.

The site compound shall include for all vehicle and plant maintenance and fuelling requirements. Any oil, fuel, lubricant and other potential pollutants shall be handled on the site in such a manner as to prevent pollution of any water course. Fuels and oils if required to be stored on-site shall be contained within bunded compounds and on spill trays. The bunded compounds are to be sufficient in height and construction to be able to contain 10% greater volume than the maximum containers volume to be stored. The floor and walls of the bunded area shall be impervious to both water and oil and any pipe work should be vented downwards into the bunded area. Fuelling and maintenance areas are also to be surrounded by bunds, cut off ditches and temporary blind drains, as required, designed to prevent the egress of accidentally spilled fuels and oils.

The site compound shall also include appropriate welfare and decontamination facilities, for the on-site personnel.

Should decontamination and quarantine areas be required then the site compound should also include clean and dirty transition areas.

The location of the site compound and temporary storage and quarantine facilities, shall be included on a drawing of the site by the Principal Contractor and provided to the Engineer and Employer for approval.

8.1.5 Security and Fencing

The site is within close proximity to existing school and residential development and adjacent to public footpaths/highways and as such security during work hours and heras or similar approved fencing will be required to prevent public access onto the work areas. The extents and specification

of the perimeter fencing/ hoardings and all security requirements shall be agreed by the Principal Contractor with the Employer and Local Authority.

Where considered necessary, site fencing and hoarding shall be installed to enforce the 'clean' and 'dirty' areas of the site and inhibit cross contamination between the two as well as preventing environmental or invasive species contamination of existing areas of the site which have already been remediated or contain clean materials.

Security measures during the works are to be agreed between the Principal Contractor, Employer and Principal Designer.

8.1.6 Unexploded Ordnance Risk (UXO)

The site is within a low UXO risk area as defined by Zetica's online risk map resource (Ref. 08)

The Principal Contractor is to assess this information and determine if a UXO Risk Management Plan, site specific UXO awareness briefings or any other UXO risk mitigation measures are required to be adopted during the reclamation and construction works.

The Principal Contractor's risk assessment and method statements in this regard are to be provided to the Principal Designer for approval.

8.1.7 Potential Archaeological Features of Interest

Should any potential features of archaeological interest be encountered as part of the works then the Local Planning Authority and the County Archaeologist are both to be informed immediately and their agreement sought prior to breakout and/or removal.

8.1.8 Ecology

The Principal Contractor is responsible for ensuring that surveys which are recommended and, where necessary, Watching Briefs and/or mitigation measures to prevent harm to the identified ecological receptors are undertaken as part of the reclamation of the site.

8.1.9 Decommission of Existing Boreholes

Following agreement of the gas protection measures required for the site with the Local Authority, all installed boreholes should be decommissioned in accordance with current Environment Agency guidance to prevent them acting as a pathway for migration of ground gas / migration of contamination.

8.1.10 Utilities Survey

If not already undertaken, the Principal Contractor shall undertake, prior to commencement of the site clearance works, an intrusive utilities survey to trace and map all existing site services.

8.2 Reclamation Works

The following works shall be carried out, as and where determined by the Principal Contractor's methodology and programme.

8.2.1 Disconnection of Services

Utilities not limited to gas, electric, telecoms and water are known to be present adjacent to the site and are anticipated to be present onsite. As part of the construction works the Principal Contractor is

to ensure that disconnection or diversion of all services which could be encountered is undertaken with all the services made safe.

Details of services disconnected or left on-site are to be notified to the Engineer and provided by the Principal Contractor in the works Completion Report.

8.2.2 Breaking out of Existing Concrete Hardstanding and Structures

Although no relic features were encountered during the site investigation, relic structures and drainage (or similar) are anticipated to be present associated with the historic development of the site and demolition of the former classroom. If previously unrecorded foundations or other substructures are encountered then the Engineer shall be informed immediately.

Prior to removal, all relic features encountered shall be photographed and marked on a plan. Structures are to be broken out to the following requirements.

- If relic structures are encountered beneath the footprint of the proposed building, the relic structures shall be fully broken out to avoid impacting on future foundation installation works.
- If relic foundations are encountered beneath areas of proposed hardstanding or drainage, the relic structures shall be broken out to a minimum of 1m below the underside of the construction makeups or trenches to avoid differential settlement and hard spots.

After removal the remaining structure left in place, if any, shall be photographed and their extents marked on a site plan. The final drawing is to be included in the Completion Report.

Existing surface concrete hardstanding which is not to be retained as part of the development, shall be fully broken out and removed off-site to an appropriate facility. Processed hardstanding materials are not to be reused on site.

8.2.3 Previously Identified Potentially Hazardous (Non-Asbestos) Materials

Elevated hazardous concentrations, which could present a risk of harm to human health in a residential with home grown produce end use, were recorded within the existing topsoil and made ground soils.

On this basis, remediation with regard to identified potentially hazardous non-asbestos materials is considered necessary.

All existing topsoil materials are to be removed off site during development, hence removing the pathway to low level asbestos contamination.

Following completion of the development the site will be surfaced in hardstanding, buildings soft landscaping and gardens. A 'suitable for use' cover is to be installed in soft landscaped areas and gardens as described in Section 8.3.1, which as necessary will break potential contaminant linkages to future site users from contaminated Made Ground soils, where left in-situ. It is therefore, considered that ongoing risks to site users and adjacent users are low.

Within tree root protection zones, where it is not possible to remove existing soils or overlay them, the Principal Contractor is to undertake confirmatory testing of the soils to demonstrate that they do not present an ongoing risk to site users if left in-situ. The location of the tree root protection zones is shown on a mark-up of the Proposed Site Plan provided by Northumberland County Council and included in Appendix 1. Samples are to be taken at a frequency of one test per 25m^2 and tested for the chemical suite detailed in the Table 1, Appendix 2.

If the chemical concentrations determined are demonstrated to be below the limits given in Table 1, Appendix 2 then the soils may remain in-situ. However, should the concentrations exceed the limits given in Table 1, Appendix 2, then the Engineer is to be informed and proposals put forward by the Engineer and Landscape Architect to the Local Authority to address the exceedances.

8.2.4 Previously Unidentified Potentially Hazardous (Non-Asbestos) Materials

There is the potential for previously unidentified hazardous (non-asbestos) materials to be encountered onsite during development. Any visual or olfactory evidence of chemically impacted materials (such as hydrocarbons) are to be highlighted to the Engineer and quarantined by the Principal Contractor.

All materials with visual or olfactory evidence of contamination shall be excavated and disposed of off-site. To delineate the extents of the unacceptable materials and to validate that the unacceptable materials have been fully removed, samples of the base and each side wall of the excavation will be required. The base and side samples are to be tested for the chemical suite detailed in the Table 1, Appendix 2, and are to be sampled at the following frequency:

- 1 No. sample per side of excavation (min 4 No. samples)
- 1 No. base excavation sample (min 1 No. sample per $25m^2$)

A visual inspection of the excavation shall be carried out and the extent of the contaminated materials removed shall be recorded, photographed and surveyed. All sample locations shall be surveyed in to an accuracy of +/- 0.10m.

8.2.5 Asbestos Impacted Materials

The Geo-Environmental Interpretative Report (Ref. 02) identified the presence of asbestos in the topsoil during the ground investigation in the form of Chrysotile fibre bundles, which could present a potential risk to human health. The following mitigation measures shall be adopted:

- Provision of health and safety procedures/ monitoring and adoption of respiratory protective equipment (RPE) and decontamination facilities, as required, subject to suitable and sufficient asbestos risk assessment by a qualified asbestos specialist in accordance with best practice, including CIRIA Report C733 Asbestos in Soils and Made Ground (Ref. 04), JIWG CAR Soil Guidance 2016 (Ref. 05) and The Licensed Contractors Guide, HSG247 (Ref. 06).
- Implementation of dust and fibre control measures and monitoring, particularly during the earthworks.
- Excavation of all existing topsoil (known to be impacted by asbestos), and removal off site to remove the pathway for potential harm to human health.
- Inspection for and hand picking of visible ACMs.
- Disposal offsite of handpicked ACMs and excavated Made Ground containing >0.1% asbestos fibres (if identified) as hazardous waste.
- Retention of undisturbed made ground materials at depth beneath hardstanding or an appropriate clean cover layer.
- Damping down and disposal offsite of previously unidentified Asbestos Containing Materials, if encountered during the site operations, in accordance with the HSE Control of Asbestos Regulations 2012 (Ref. 07).

- The Principal Contractor is to undertake further testing and/or implement the controls, which are considered necessary, to satisfy themselves of the potential risks and that the mitigation measures adopted fully address these risks and sever potential pathways to human health.
- Clearance certification is to be produced by a qualified asbestos specialist, to provide documentary evidence by an independent third party that the project was carried in accordance with planning consent conditions, this Remediation Strategy and the further requirements determined necessary by their updated asbestos risk assessments.
- Records relating to the presence of any asbestos identified and retained on site during the works, and its location, are to be retained indefinitely by the site owners and entered into the asbestos register in order to inform future below ground maintenance and construction works.
- Should asbestos impacted soils be identified within the root protection zone of existing trees retained on site, a permit to dig system is to be adopted by the site operator in the future to prevent accidental disturbance by future ground works. This is in addition to any remedial works agreed under Section 8.2.3.

8.2.6 Treatment of Potentially Combustible Materials

The site investigation did not identify the existing made ground to present a potential risk to the proposed development from combustion.

Made ground left in situ, including beneath the building and proposed services, should be re-compacted at the surface layer and be covered with either hardstanding, the building or a clean cover to remove air ingress pathways. Services shall be surrounded by clean aggregates.

Made ground shall not be used as a fill in direct contract with utilities which could present an ignition source, such as electrical supplies, or beneath the proposed building footprint.

The requirements for the compaction of site won made ground shall be fully detailed within an approved Earthworks Specification prepared for the scheme.

8.3 Earthworks

Finished levels for the development are shown on Fairhurst Drawing No. 136018/2002, presented in Appendix 1. A finished floor level of 51.25mOD is proposed for the building, with proposed external levels remaining relatively close to existing.

In consideration of the development proposals, and the Principal Contractor's proposed construction methodology, the current site levels and the tie in requirements adjacent to the site, it is anticipated that the earthwork operations will comprise the following;

- A site strip removing existing vegetation, hardstanding and existing topsoil and disposal off site.
- Re-grading of site levels to form development formation levels, including disposal of excavated made ground materials off site.
- Importation and placement of natural quarried aggregates, processed recycled aggregates from a WRAP certified source or aggregates covered by a Registered U1 Exemption or Environmental Permit, to achieve formation levels (as required) and construction make-ups.
- Excavations for utilities, drainage and foundations.

- Replacement of natural soils, where possible.
- Importation and placement of a clean cover layer in soft landscaping and garden areas (i.e. topsoil and subsoil)

All existing topsoil, and made ground excavated during the works, is to be disposed of offsite to a licenced facility. Made ground and natural deposits have been confirmed to be generally environmentally suitable to remain in-situ beneath either hardstanding or a clean cover layer.

On the basis of the contamination recorded within the made ground soils present on site, these materials shall not be utilised within the clean cover.

The geotechnical requirements for the compaction of imported materials shall be fully detailed within an approved Earthworks Specification prepared for the scheme.

Should proposals change in the future, and the reuse of site won made ground or the importation of engineered fills be required, these reclamation / earthworks would require to be undertaken under an approved Materials Management Plan (MMP), EA Exemption or Environmental Permit.

8.3.1 Clean Cover Requirements

All existing topsoil materials are to be disposed of offsite prior to development. In addition, made ground materials generated during the works are to be disposed of off-site.

In view of the physical and chemical properties of the made ground, and the potential for low level contamination to remain within the soils, a clean cover solution shall be placed in proposed soft landscaped areas and the garden.

The geotechnical properties of the materials utilised as part of the clean cover shall be in accordance with an approved Earthworks Specification, whilst the chemical properties are to be in accordance with the criteria presented in Table 1, Appendix 2 and the testing frequencies provided below:

Clean Cover Source	Site Won / Imported	Required Testing Frequency	Table 2, Appendix 2 Testing Amendments
Topsoil	Site Won	-	Site won topsoil not suitable for use within the clean cover and is to be disposed of offsite during development
Made Ground	Site Won	-	Site won made ground not suitable for use within the clean cover
Natural Superficial Deposits	Site Won	1 per 250m^3 (min 3 No.)	None. All determinands to be tested
Virgin Quarried	Imported	Min 2 No.	TPH, PAH, BTEX, Phenols, Asbestos and MTBE not required to be tested
Crushed Hardcore, Stone, Brick	Imported	1 per 250m^3 (min 3 No.)	BTEX, Phenols and MTBE not required to be tested.
Greenfield / Manufactured Soils	Imported	1 per 250m^3 (min 3 No.)	BTEX, Phenols and MTBE not required to be tested.
Brownfield / Screened Soils	Imported	1 per 100m^3 (min 6 No.)	None. All determinands to be tested

The testing frequencies and the proposed amendments to Table 1 provided above are based upon the recommendations provided within the YAHPAC Verification Requirements for Cover Systems (Ref. 09).

The clean cover shall comprise a minimum of 300mm topsoil and 300mm subsoil, subject to agreement by the Landscape Architect and Local Authority.

Site won materials with visual / olfactory evidence of contamination shall not be utilised within the clean cover.

Validation pits, the positions of which are to be agreed with the Engineer, will be required to demonstrate that an adequate thickness of clean cover soils has been placed. These records, along with appropriate chemical testing results are to be included in the Completion Report.

Desk study, ground investigation, quality protocol information and laboratory testing data shall be obtained by the Principal Contractor for all imported materials. A copy of this information shall be provided to the Engineer for review / comment at least two weeks prior to the inspection and import of the materials on-site by the Principal Contractor.

All imported materials are to be tested at source to demonstrate compliance with the chemical acceptance criteria presented in Table 1, Appendix 2. The appropriate chemical acceptability testing of materials shall be undertaken prior to importation.

8.3.2 Classification and Reuse of Materials

All earthwork operations undertaken as part of the works will be carried out in accordance with the requirements of an approved Earthworks Specification, which is to be prepared for the site, and this Reclamation Strategy.

8.3.3 Compliance with Hazardous Waste and Waste Management Licensing Regulations

The reclamation strategy for the site has been designed to comply with current legislation and industry guidance, including:

- Hazardous Waste (England and Wales) Regulations 2005
- Environmental Permitting
- Contaminated Land Regulations
- Waste Framework Directive
- Waste Classification. Guidance on the Classification and Assessment of Waste. Technical Guidance WM3.

All appropriate licenses are to be obtained by the Principal Contractor, in accordance with Environmental Permitting.

No materials which present a significant risk of harm to receptors including Human Health and the Wider Environment shall be incorporated into the works. Materials may only be incorporated into the permanent works should they comply with the geotechnical requirements of an approved Earthworks Specification and the environmental requirements detailed within Table 1, Appendix 2. Should soils be encountered displaying visual and / or olfactory evidence of contamination, these materials shall be stockpiled in a quarantine area where additional chemical testing shall be undertaken in accordance with the Environment Agency's Framework for the Classification of Contaminated Soils as Hazardous Waste, to determine the most appropriate treatment and disposal options.

All liquids encountered during development and in excavations shall be subject to chemical analysis to determine treatment requirements prior to discharge and / or disposal. The Principal Contractor

shall be responsible for obtaining all necessary approvals (and comply with the requirements) from the Local Authority, Environment Agency and Local Water Authority and obtaining a discharge consent.

8.3.4 Classification and Acceptability of Earthworks Materials

It is not envisaged that site won materials will be reused on site. Existing topsoil and excavated made ground are to be disposed of offsite.

Should the Principal Contractor propose to reuse natural superficial deposits generated by the works these are to be classified by the Principal Contractor, or their Earthworks/ Remediation sub-contractor, in terms of their suitability for reuse on site in accordance with the chemical criteria included in Appendix 2, an approved Earthworks Specification and an approved Materials Management Plan, Exemption or Environmental Permit or Exemption.

8.3.5 General Dust Suppression

Dust generation during the development of the site will mainly arise as a result of excavation, stockpiling, loading and haulage and is not expected to be problematic except during periods of extended dry weather and periods of high winds.

Environmental monitoring shall be undertaken by the Principal Contractor in accordance with the requirements of the Statutory and Regulatory Authorities.

The Principal Contractor shall take all reasonable measures to suppress dust generation at the site. Measures such as damping down shall be adopted and carefully controlled to prevent migration of airborne contaminants.

The requirements for dust suppression of materials potentially impacted with asbestos are detailed in Section 8.2.5.

8.3.6 Noise and Vibration

Site operations shall be carried out in such a manner as to minimise nuisance and to limit as far as practicable, noise emissions from the site. Noise emissions shall, as a minimum, be in accordance with Local Authority requirements.

The Principal Contractor shall take all reasonable and necessary measures to:

- Minimise nuisance caused by vibration that will disturb the school, residents, businesses and the general public adjacent to the site perimeter.
- Ensure that no damage is caused by vibration to services, structures, plant and equipment on or adjacent to the site.

8.3.7 Crushing

Not anticipated as part of the works. Excavated arisings to be disposed of offsite.

8.3.8 Wheel Wash

Preventative measures are to be employed to ensure that no deposition of mud and detritus occurs on public roads.

The Principal Contractor is to determine whether a wheel wash will be necessary during the

reclamation works. Where appropriate, the wheel wash is to be provided at the site exit to protect against mud and contaminated materials, being taken off-site and deposited on local roads. Sweeping and cleaning of the site entrance and public highway(s) is to be carried out, where necessary.

8.3.9 Control of Surface Water Runoff

Surface water run-off during the construction of the development will be controlled (if necessary) by the use of ditches, bunds and sumps which should be implemented by the Principal Contractor. This will prevent surface water generated from the site migrating off site.

The Principal Contractor shall be responsible for all surface waters collected onsite and will either reuse, dispose or discharge the surface waters as detailed below:

- Reused as part of the dust suppression works.
- Disposed to a suitably licensed facility complying with the requirements detailed within this document.
- Discharge into existing drainage following agreement with the Water Authority.
- Discharge into the ground or surface waters ensuring that all necessary discharge consents from the Local Authority, Local Water Authority and Environment Agency have been obtained.

The Principal Contractor shall confirm with the Local Authority, Water Authority and Environment Agency the chemical requirements for any ground or surface waters generated during the works which are to be discharged from site.

8.4 Remedial Measures within the Built Development

8.4.1 Gas Protection

The updated gas risk assessment (Ref. 03) indicates that the site is classified as Characteristic Situation 1 in accordance with CIRIA C665 (Ref. 10) and BS 8485 (Ref. 11). However, Characteristic Situation 2 gas protection measures are required to discharge Planning Condition No. 7.

Gas protection measures shall including for depleted Oxygen (<19%) and include a suitable combination of the measures detailed within Tables 5 (floor substructure design), 6 (ventilation protection measures) and 7 (gas resistant membrane) within BS 8485:2015+A1:2019 (Code of Practice for the design of protective measures for Methane and Carbon Dioxide ground gases for new buildings),

The gas protection measures are to be designed, installed and validated by a Specialist Gas Protection System Contractor with the proposed measures and validation procedures agreed with the Local Authority prior to installation. For the avoidance of doubt this role is not fulfilled by the Engineer.

In accordance with Planning Condition 8, prior to occupation of the building a gas validation and verification report is to be prepared and submitted to the Local Authority by the Specialist Gas Protection System Contractor.

The site is within a lower probability radon area; as such radon gas protection measures are not a statutory requirement within new buildings or extensions on site. The omission of specific radon protection measures should, however, be agreed by the Principal Contractor (or their designated

specialist gas protection system contractor) with the Local Authority as part of the detailed design of the gas protection measures.

Following agreement of any protection measures, all installed boreholes shall be decommissioned in accordance with current Environment Agency guidance to prevent them acting as a pathway for migration of ground gas or contamination.

8.4.2 In Ground Concrete

Buried concrete should be designed to Design Sulphate Class DS-2, ACEC Class AC-2 in accordance with BRE Special Digest 1:2005, Concrete in Aggressive Ground (Ref. 12).

8.4.3 Potable Water Supply Pipework

Water supply pipework is to be resistant to the environmental conditions identified within the site. Chemical testing of the made ground soils and groundwaters on-site has identified a potential risk to human health through permeation of water supply pipes and tainting of the potable supply, and a subsequent requirement for mitigation measures (subject to confirmation by the Local Water Authority (Northumbrian Water)). On this basis, protected water supply pipework may be required.

It is recommended that following confirmation of the proposed route of potable drinking water supplies, the Principal Contractor shall provide the site investigation data to the Local Water Authority for review and request confirmation of their requirements with regards to protection of water supply pipes.

A programme of soil chemical testing may be requested by the Local Water Authority along the proposed alignment of potable drinking water supplies. Chemical analysis shall be undertaken by the Principal Contractor in accordance with guidance given in the UKWIR and the requirements of the Local Water Authority.

As required, the results of this testing should be used to prepare risk assessments for provision to the Local Water Authority determining the requirement for protected potable water supplies, their specification and installation requirements.

The Principal Contractor shall obtain the approval of all chemical testing and materials to be used in relation to potable water supply pipes from the Local Water Authority.

Details of the Local Water Authority correspondence, chemical testing, risk assessments and subsequent specification and installation details / approval of the potable water supply pipes should be provided by the Principal Contractor within the Completion Report.

9.0 WASTE DISPOSAL

9.1 General

The Principal Contractor shall not reuse topsoil, breakout arisings or excavated made ground within the works. These materials shall either be sent to a Waste Recovery Facility for recycling or recovery, or if these processes are not practicable, to a suitably licensed waste disposal facility.

9.2 Waste Management Licensing

The Principal Contractor shall be responsible for obtaining all necessary licenses, permits and approval for reuse of materials (not currently proposed), recycling and disposal.

9.3 Waste Characterisation and Acceptance Criteria

The Principal Contractor shall be responsible for characterising all wastes generated by the site in accordance with The Landfill Directive, the List of Wastes (England) Regulations 2005 and the Hazardous Waste (England and Wales) Regulations 2005, including any subsequent amendments. The Principal Contractor shall be fully responsible for undertaking all additional necessary basic characterisation testing and to categorise the waste with an appropriate six digit European Waste Catalogue code, in accordance with the Environment Agency guidance WM3 (including the June 2018 amendments). The Principal Contractor shall be fully responsible for undertaking all additional necessary testing. The Principal Contractor shall ensure that no mixing of generated wastes occurs and that no cross contamination of waste streams occurs.

Where practicable, and cost effective, materials requiring off-site disposal should be selected and pre-treated to reduce their disposal risk characterisation as hazardous / non-hazardous waste to either non-hazardous or, where possible, inert waste.

9.4 Liaison with Waste Disposal Operators

The Principal Contractor shall be responsible for identifying suitable waste disposal operators for all types of waste likely to be generated by the site. The Principal Contractor shall provide all information required by the operator for them to accept the waste in a timely manner so that waste can be removed from site quickly and large stockpiles of contaminated material are not held on site.

9.5 Chain of Custody

Where materials are to be removed for disposal off-site the Principal Contractor shall comply with the requirements of current legislation, in particular the Control of Pollution Act 1974, the Environment Protection Act 1990, Hazardous Waste (England and Wales) Regulations 2005 and of the Waste Regulation Authority (Environment Agency).

For disposal of materials and liquids the Principal Contractor shall provide the Engineer with documentary evidence to demonstrate his compliance with the duty of care arising under Section 34 of the Environmental Protection Act 1990, this shall include copies of the following:

- Waste management licences or exemptions,

- Environmental permits,
- Written confirmation from the Waste Regulation Authority that the waste disposal facility is suitable to accept the material or liquid,
- Completed Controlled Waste Transfer Note,
- Completed Hazardous Waste Consignment Note,
- Certificate of Registration for any proposed Registered Waste Carriers,
- In the case of recovered materials, details of materials recovered and where they are being delivered to.

The Principal Contractor shall operate a full consignment note system for all materials leaving the site.

A duty of care triplicate ticket system shall be operated for each and every load of material leaving the site. Each ticket shall record: Date; Vehicle Registration Number; Description of Waste; Quantity of Waste and Destination together with a unique ticket number. The top copy shall remain on-site and copies two and three shall travel with the vehicle to the waste disposal facility, where they shall be signed upon receipt of the load. The second copy shall then be retained by the waste disposal facility and the third copy returned to the site. The top copy and third copy shall be given to the Engineer on a weekly basis, together with a summary list of the loads transported each day.

10.0 HEALTH AND SAFETY REQUIREMENTS

10.1 General

The works are to undertaken in accordance with the CDM Regulations 2015. A CDM Health and Safety Pre Construction Information Pack will be provided by the Principal Designer. No works are to commence until the Construction Phase CDM Health and Safety Plan prepared by the Principal Contractor has been approved by the Employer.

The Principal Contractor shall be responsible for providing all necessary information (drawings and documentation, etc.) for preparation of the project CDM Health and Safety File required by either the Principal Designer or the Employer.

10.2 Provision of Personal Protective Equipment

Precautions shall be implemented (i.e. appropriate health and safety measures such as PPE and RPE) based upon a risk assessments carried out by the Principal Contractor. This will avoid the possibility of harm to construction and maintenance workers by direct contact, ingestion and inhalation, particularly in relation to asbestos, earthwork operations and excavations within contaminated soils and groundwaters.

All site workers shall be clearly informed by formal notice about the health and safety risks from the identified soil contaminants and shall be trained in the procedures to be adopted if such materials are encountered in the works. Appropriate health and safety measures and working practices shall be adopted to be generally in accordance with The Health and Safety Executive Publication "Protection of Workers and the General Public during the Development of Contaminated Land".

11.0 RECLAMATION AUDIT PROCEDURE

11.1 Responsibilities of the Principal Contractor

The Principal Contractor shall collate and provide documentary records of the reclamation works carried out during the course of the works and provide them in the form of a Completion Report to the Engineer for inclusion within the Validation Report.

This documentary evidence shall include, but not be restricted to the following information to demonstrate that all requirements detailed within this specification have been achieved:

- Risk assessments and method statements for relevant activities.
- An asbestos risk management assessment and verification report (as required)
- Names and addresses of all contacts and sub-contractors used for works including dates and activities undertaken on-site.
- A site diary and photographic records of all works.
- An Invasive Species Survey following removal of the existing vegetation and surface material and prior to commencement to the proposed reclamation works, along with a full record of any removal required.
- A full record of the decommissioning of existing utilities including inspection record sheets recording presence or absence of contamination.
- Details of services disconnected or left on-site.
- Documentation of all licences, consents, permits etc issued by the Statutory and Regulatory Authorities and evidence of compliance with any requirements detailed within this Remediation Strategy.
- Plans, photographs and records for all investigation / reclamation associated with relic structures and/or archaeological features, if encountered.
- Material import & export information; including volumes, material references and source / destination.
- Documentation for wastes disposed of off-site including details of the removed soils / groundwaters, volumes, transfer notes, landfill details and waste carrier certificates.
- Documentary evidence including desk study and source sampling of all imported materials used onsite, delivery dates, quantities and delivery tickets, site inspection records as necessary along with plans and records of any imported fill materials used for reinstatement onsite. This information should be provided to the Engineer for review and approval prior to the import and placement of any materials.
- A full record of the investigation, treatment and removal of previously unidentified contaminated and hazardous materials (if encountered) including a specific verification report in accordance with the LPA's requirements and this Method Statement.
- Sampling and testing information including a location drawing for soils remaining in-situ within the root protection zone of existing trees; including tabulated chemical test results detailing

location of test, along with result, compliance value and whether or not the test result passes or fails. Details of remedial works undertaken, if required.

- Plans and details of the clean cover placed in landscaped areas and the results of chemical testing to confirm suitable chemical composition. This should include validation pits to confirm thickness.
- Details of all service materials used, water supply pipework agreements with the Local Water Authority and in ground concrete used.
- Where surface waters or dewatered groundwaters are disposed of offsite or discharged to surface waters/ ground, details of the Discharge Consent from the Environment Agency. Where disposed to sewers a Discharge Consent from the utility provider is required.
- Correspondence from the Local Authority prior to installation detailing their agreement to the gas protection measures design, proposed materials and installation methodology
- A Gas Protection Measures Verification Report. The report is to include details, plans, integrity testing and independent verification of the protection measures in accordance with the requirements detailed in CIRIA C735.

The Principal Contractor shall provide the Engineer with all the required documentation relating to the reclamation works within 2 weeks of completion of the reclamation works.

The Principal Contractor is responsible for recording all the information detailed within this document and providing it in relation to the works undertaken to the Engineer electronically on a weekly basis.

11.2 Audit of Site Reclamation / Earthworks by the Engineer

The Principal Contractor shall collate the information detailed in Section 11.1 (and elsewhere in the specification) and provide it to the Engineer in the format of a Completion Report. The Engineer shall prepare a Validation Report based on the information provided within the Completion Report for submission to the Regulators in accordance with Section 11.4.

11.3 Regulatory Approval

The Principal Contractor will be responsible for advising the Local Authority of the programme for the reclamation works and for providing access to inspect the works as they require.

The Principal Contractor will be responsible for advising and seeking the approval from the Local Authority of the remedial actions deemed necessary based upon the testing and monitoring undertaken.

11.4 Validation and Certification of Remediation

A Validation Report, including certification that the reclamation works have been undertaken in accordance with this Method Statement, will be submitted to the Local Planning Authority by the Engineer. This document will be to the approval of the Local Authority.

12.0 REFERENCES

1. Fairhurst, Geo-Environmental Desk Study, Document Ref. D/I/D/136018/02 Issue 1, January 2020.
2. Fairhurst, Geo-Environmental Interpretative Report, Document Ref. D/I/D/136018/07 Issue 2 May 2021.
3. Fairhurst, Updated Gas Risk Assessment (Addendum to Phase 2 Geo-Environmental Interpretative Report), Document Ref. D/I/D/136018/08, October 2021.
4. CIRIA C733 Asbestos in soil and made ground: a guide to understanding and managing risks. 2017.
5. CL:AIRE CAR-Soil Control of Asbestos Regulations 2012. JIWG 2016.
6. HSE Licensed Contractor's Guide HSG247 2006.
7. HSE Control of Asbestos Regulations 2012.
8. Zetica, online Risk Map resource Available at: https://zeticauxo.com/downloads-and-resources/risk-maps/ Accessed on: 01/09/2022
9. Yorkshire and Humberside Pollution Advisory Council, Verification Requirements for Cover Systems, Version 3.2 dated October 2014.
10. CIRIA Publication 665, Assessing Risks Posed By Hazardous Ground Gases to Buildings. Dated 2007.
11. BS 8485:2015+A1:2019. Assessing Risks Posed By Hazardous Ground Gases to Buildings. CIRIA: London.
12. BRE Special Digest No. 1:2005 (3rd Edition), Concrete in Aggressive Ground.

Appendix 1

Drawings

Drawing Ref.	Revision	Originator	Title
P|191009	S(02)	Northumberland County Council	Proposed Site Plan
H244	-	Landform Surveys	Topographic Survey
136018/2002	C	Fairhurst	Proposed Drainage and Levels
136018/9002	-	Fairhurst	As Built Exploratory Hole Location Plan
-	-	Northumberland County Council	Mark-up of Proposed Site Plan

TENDER STAGE

PEGSWOOD PRIMARY SCHOOL

North

NOTE:

Allow for line marking to parking bays

NOTE:

All new fencing and gates to surround New House area to be timber close boarded

NOTE:

All new fencing and gates to School Yard and Car Park Area to be weldmesh

Note

See Structural Engineers drawings for new access, drainage and external works

new childrens home

Car Park

Car Park

Garden

Demolish Existing Outhouse

ENTRANCE

Bin Store

PEDESTRIAN ENTRANCE

NEW PEDESTRIAN ENTRANCE

NEW VEHICULAR ENTRANCE

LONGHIRST ROAD

Existing Access Controlled Pedestrian Gate

existing gates

New Access Controlled Pedestrian Gate

new 2m high weldmesh fence

DP Bay

reconfigure existing steps, landing and handrails to match former details

up

remove soft surfacing and re concrete following demolitions

Existing Palisade 2.0m

Post

Existing kerbs to be grubbed up and existing tarmac car park prepared to be extended as show on proposed plan

GU

dropped kerb

new 1.8m high close boarded timber fence

MH

400x400 concrete paving slabs

new 1.8m high close boarded timber fence

extended concrete areas to form extended car park

Plant Pen

Existing Palisade 2.0m

Bushes

existing site boundary fence

Existing Open Board 2.0m

New Access Controlled Double Gates

Access Controlled Automatic Gates

Stone 0.6m / Railings 0.8m

Dropped kerb and tactile paving

Railings 1.0m

Grass

BX/G

OP

Post

Tarmac

Railings 1.0m

BO

RS

IC

LP

New surface finishes

- New pedestrian grade concrete surface, base and build up
- New vehicular grade tarmac finish laid over existing concrete car park area
- New vehicular grade tarmac surface, base and build up
- Area of demolition (to be finished with concrete surface to pedestrian area and tarmac surface to car park area)
- New vehicular grade tarmac finish on new hardcore and concrete base to extend existing school car park

1:100 Scale in m. 0 1 2 3 4 5

REV A 00/00/00 ADD NOTES

..\TEMPLATES\logo on own.jpg

Property Services, County Hall, Morpeth, NE61 2EF

Pegswood Childrens Home

Proposed Site Plan

DRAWN	SCALE	DATE
LLA	1:100@A1	Nov 2021
CHECK: LG		

DWG LOCATION

PI191009 | (S)02

587775N 422725E | 422750E | 422775E | 422800E | 422825E | 587775N 422850E

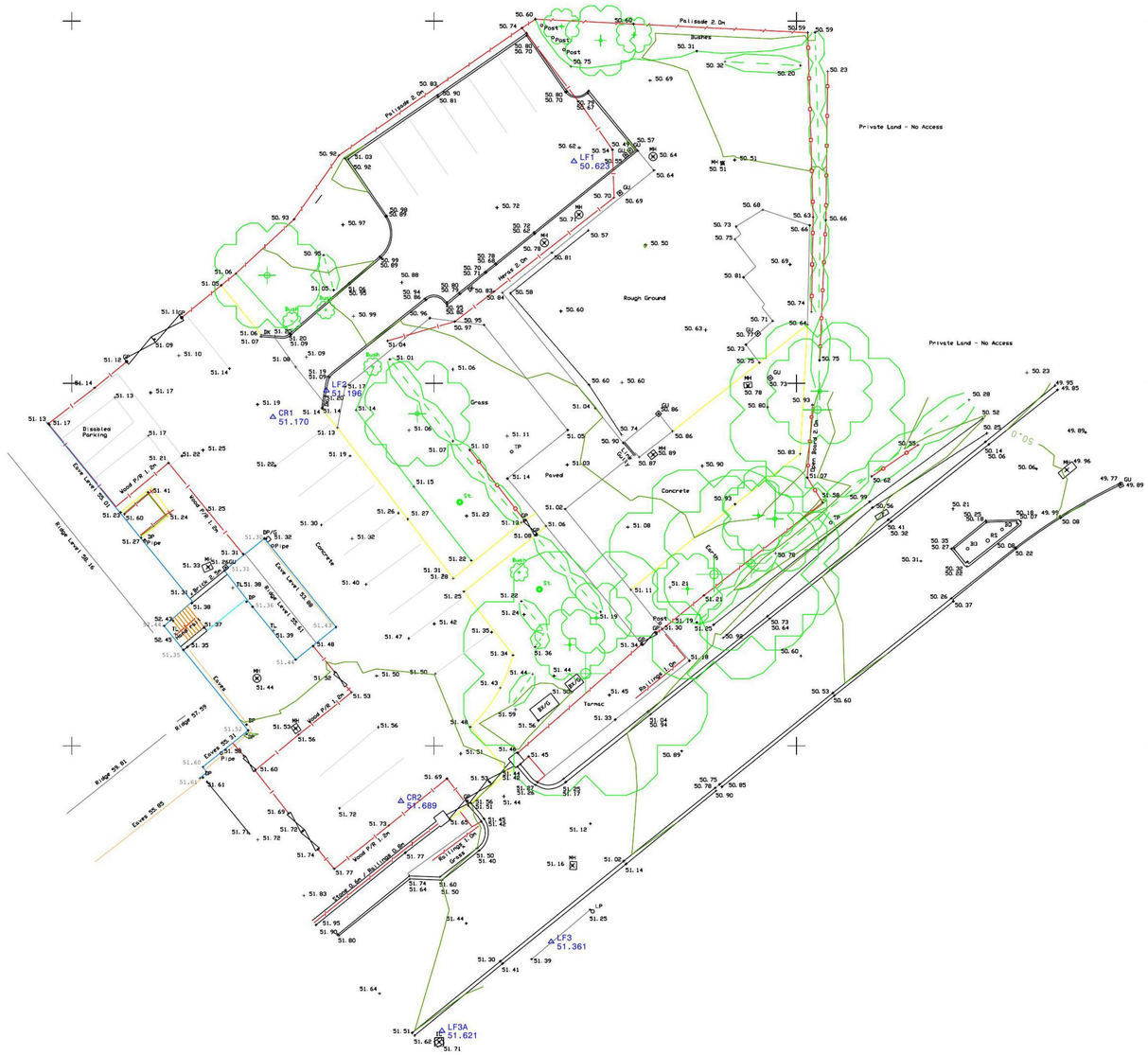
587750N | 587750N

587725N | 587725N

587700N | 587700N

587675N | 587675N

LF1	422784.655	587740.320	50.623
LF2	422767.571	587724.509	51.196
LF3	422783.078	587686.480	51.361
LF3A	422775.543	587680.329	51.621
CR1	422763.882	587722.678	51.170
CR2	422772.718	587696.180	51.689



Legend

Boundary Type and Description

C/B	Close Board
C/L	Chain Link
FE	Misc.
K/R	Knee Rail
O/B	Open Board
Pal	Palisade
M/R	Metal Railings
Pick	Picket
P/R	Post & Rail
P/W	Post & Wire
W/M	Wire Mesh
Brick	Brick Wall
Brick Ret.	Brick Retaining Wall
Stone	Stone Wall
Stone Ret.	Stone Retaining Wall
Block	Block Wall
Misc	Misc. Wall
	Gate

Vegetation

Hedge
Edge of Hedge
Edge of Canopy
Tree and Trunk
Stump
Bush
Verge

General Utility Linestyles

Drainage Combined
Drainage Foul
Drainage Surface
Drainage Unidentified
O/Head Combined
O/Head Electric
O/Head Lines
O/Head Telecom

General Survey Abbreviations

AV	Air Valve	GV	Gas Valve
BH	Borehole Collar	HP	Hand Pit
BX	Box (General)	IBO	Illuminated Bollard
BX/E	Box (Elec)	IC	Inspection Cover
BX/G	Box (Gas)	IL	Invert Level
BX/T	Box (Telecom)	KO	Kerb Outlet
BX/W	Box (Water)	LP	Lampost
BM	Benchmark	LT	Light
BO	Bollard	MH	Manhole
BS	Bus Stop	Mkr	Marker
Bin	Bin	POST	Post (General)
BT	Telecom Cover	PB	Post Box
CCTV	Air Valve	RE	Rodding Eye
CL	Cover Level	RS	Road Sign
DK	Dropkerb	Stay	Cable Stay
DP	Downpipe	SV	Stop Valve
DP/G	Downpipe/Gully	TL	Traffic Light
EC	Electric Cover	TFR	Taken From Records
EOR	End of Records	TP	Telecom Pole
EOS	End of Survey	TV	Cable TV
EOT	End of Trace	UTGA	Unable to Gain Access
EP	Electric Pole	UTL	Unable to Lift
ER	Earth Rod	UTS	Unable to Survey
FH	Fire Hydrant	UTT	Unable to Trace
FL	Floor Level	WL	Water Level
FP	Flag Pole	WS	Window Sample
GP	Gate Post		
G	Girder		
GU	Gully		

Measured Survey Abbreviations

AC	Air Conditioning	SCH	Structural Ceiling Height
AH	Access Hatch	SKY	Sky Light
AP	Access Panel	W	Window Height
BH	Beam Height		
C	Cill Height		
DH	Door Height		
FCH	False Ceiling Height		
FL	Floor Level		
Ht.	Height (General)		
RD	Radiator		

Layout Key

(1)

CO-ORDINATES AND ELEVATIONS ARE SET BY GNSS AT STATION LF1.
CO-ORDINATES ARE TO OS NATIONAL GRID USING OSTN15 TRANSFORMATION
LEVELS ARE TO ORDNANCE DATUM USING OSGM15 GEOID MODEL.
THE REMAINDER OF THE SURVEY IS TO SCALE FACTOR 1 PLANE GRID.

RICS Regulated by RICS

rev	by	date	notes	check

Landform Surveys
professional surveying solutions
Suite 18, YBN, Delta Bank Road, Gateshead. NE11 9DJ
Tel: 0191 2765636
e: office@landform-surveys.co.uk www.landform-surveys.co.uk

CLIENT
Fairhurst
Pegswood First School

TITLE
Topographic Survey

drawn	CR	date	02-08-22	drawing no	scale
checked	MR	date	03-08-22	H244	1/200@A1
clients Ref					

Do not scale from this drawing.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

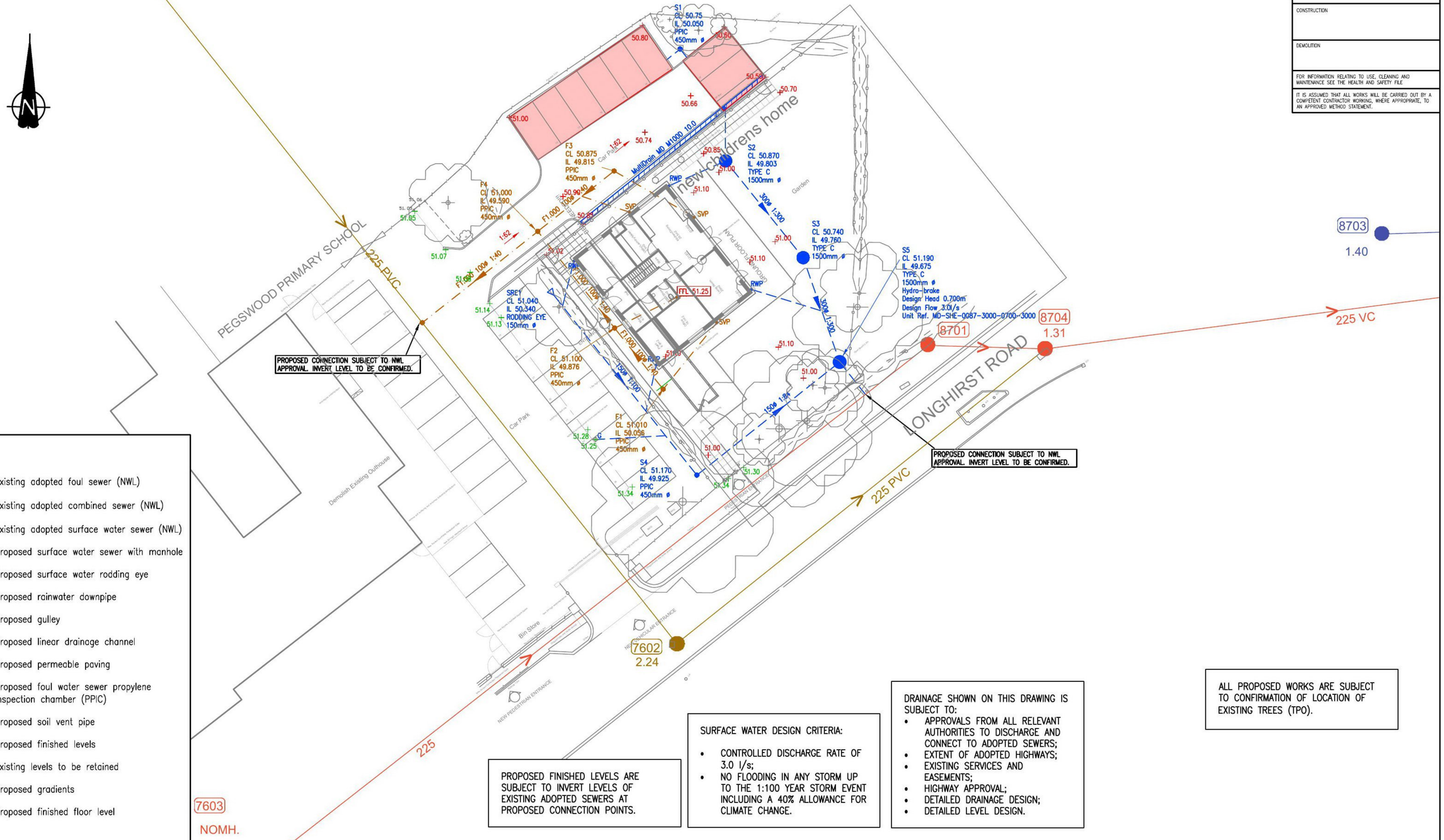
RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DESIGN ASSESSMENT FORM.

CONSTRUCTION

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.



KEY

- Existing adopted foul sewer (NWL)
- Existing adopted combined sewer (NWL)
- Existing adopted surface water sewer (NWL)
- Proposed surface water sewer with manhole
- Proposed surface water rodding eye
- RWP — Proposed rainwater downpipe
- G — Proposed gulley
- Proposed linear drainage channel
- Proposed permeable paving
- Proposed foul water sewer propylene inspection chamber (PPIC)
- SVP — Proposed soil vent pipe
- 17.35 — Proposed finished levels
- 17.74 — Existing levels to be retained
- 1:60 — Proposed gradients
- FFL 17.50 — Proposed finished floor level

PROPOSED FINISHED LEVELS ARE SUBJECT TO INVERT LEVELS OF EXISTING ADOPTED SEWERS AT PROPOSED CONNECTION POINTS.

SURFACE WATER DESIGN CRITERIA:

- CONTROLLED DISCHARGE RATE OF 3.0 l/s;
- NO FLOODING IN ANY STORM UP TO THE 1:100 YEAR STORM EVENT INCLUDING A 40% ALLOWANCE FOR CLIMATE CHANGE.

DRAINAGE SHOWN ON THIS DRAWING IS SUBJECT TO:

- APPROVALS FROM ALL RELEVANT AUTHORITIES TO DISCHARGE AND CONNECT TO ADOPTED SEWERS;
- EXTENT OF ADOPTED HIGHWAYS;
- EXISTING SERVICES AND EASEMENTS;
- HIGHWAY APPROVAL;
- DETAILED DRAINAGE DESIGN;
- DETAILED LEVEL DESIGN.

ALL PROPOSED WORKS ARE SUBJECT TO CONFIRMATION OF LOCATION OF EXISTING TREES (TPO).

Rev.	Date	Description	Drawn	Checked	Approved
C	22/08/22	GULLEY INSERTION AT LOW POINT IN CAR PARK	CP	RH	NB
B	10/03/22	ALTERATIONS FOR NEW SITE LAYOUT	KS	RH	JG/NB
A	17/05/21	TENDER ISSUE.	JH	JG	JG

NOTES

1. This drawing is based on the following received information:
   NORTHUMBERLAND COUNTY COUNCIL Drawing PI191009 (L)02 – Site Plan as Proposed.
   LANDFORM SURVEYS Topographic Survey F027b.
   Existing NWL services information,
2. All road levels and car parking levels at kerb lines are channel levels unless stated otherwise.
3. This drawing is to be read in conjunction with the following FAIRHURST drawing:
   136018/2003 – Proposed drainage notes,
   136018/2004 – Proposed MH Schedules,
   136018/2005 – Proposed drainage construction details, Sheet 1,
   136018/2006 – Proposed drainage construction details, Sheet 2,
   136018/2007 – Proposed drainage construction details, Sheet 3.
   136018/2008 – Proposed drainage construction details, Sheet 4.

Client: NORTHUMBERLAND COUNTY COUNCIL

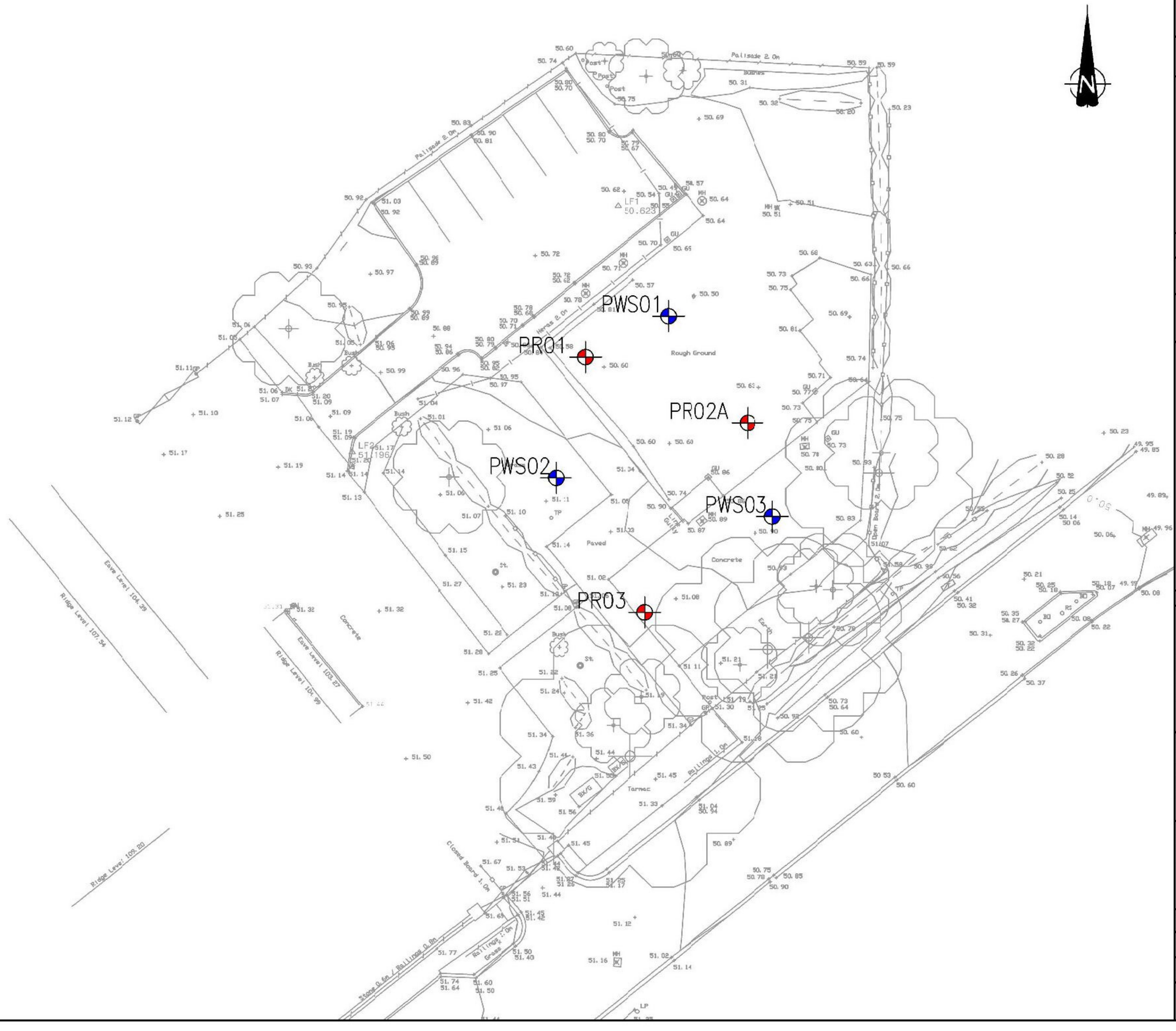
Project Title: CHILDREN HOMES NORTHUMBERLAND COUNTY COUNCIL PEGSWOOD

Drawing Title: PROPOSED DRAINAGE AND LEVELS

FAIRHURST
1 Arngrove Court, Barrack Road, Newcastle-upon-Tyne, NE4 6DB
Tel: 0191 221 0505 Fax: 0844 381 4412

Scale at A2:	Status:	
1:250	Tender	
Drawn: JF	Checked: DN	Approved: MT
Date: 05/06/20	Date: 05/06/20	Date: 05/06/20

Drawing No.: 136018/2002 Revision: C



Do not scale from this drawing.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DESIGN ASSESSMENT FORM NO. D/I/D/136018/05.

CONSTRUCTION

he following Key Significant Hazards to the drilling operations were identified:

- **Risk of harm associated with below ground services.**
- **Risk of contamination (including asbestos) within soils and groundwater.**
- **Risk of interface with members of the public and site users during operations.**
- **Risk of harm associated with soil / mine gas.**
- **Risk of harm associated with mineral instability**

Further information relating to these hazards are detailed within Fairhurst Design Risk Assessment Form D/I/D/136018/05.

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

Key

- Rotary Open Hole Borehole
- Window Sample

Rev.	Date	Description	Drwn.	Chkd.	Appd.

FAIRHURST

1 Arngrove Court
Barrack Road,
Newcastle-upon-Tyne
NE4 6DB

Tel: 0191 221 0505
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Client:

Northumberland
Northumberland County Council

Project Title:

CHILDREN HOMES
NORTHUMBERLAND COUNTY COUNCIL
PEGSWOOD

Drawing Title:

AS BUILT EXPLORATORY HOLE LOCATION PLAN

Scale at A3:	Status:	
1:250	'AS BUILT'	
Drawn:	Checked:	Approved:
CMC	SPP	NB
Date:	Date:	Date:
26/03/21	26/03/21	26/03/21

Drawing No.: 136018/9002

Revision: –

TENDER STAGE

PEGSWOOD PRIMARY SCHOOL

North

NOTE:

Allow for line marking to parking bays

Car Park

NOTE:

All new fencing and gates to surround New House area to be timber close boarded

new childrens home

Demolish Existing Outhouse

Car Park

Garden

New surface finishes

NOTE:

All new fencing and gates to School Yard and Car Park Area to be weldmesh

8m from Oak Tree

Bin Store

PEDESTRIAN ENTRANCE

NEW PEDESTRIAN ENTRANCE

NEW VEHICULAR ENTRANCE

LONGHIRST ROAD

Note

See Structural Engineers drawings for new access, drainage and external works

..\TEMPLATES\logo on own.jpg

Property Services, County Hall, Morpeth, NE61 2EF

Pegswood Childrens Home

Proposed Site Plan

DRAWN: LLA	SCALE: 1:100@A1	DATE: Nov 2021
CHECKED: LG		

PI191009 | (S)02

Appendix 2

Assessment Criteria

Table 1: Acceptance Criteria

All existing topsoil materials are to be excavated and disposed of to a suitably licenced facility.

Excavated made ground soils are not to be reused on site and shall be disposed of to a suitably licenced facility.

Site won materials are not to be reused within the clean cover layer.

All imported earthwork materials to be used within the clean cover, shall be tested and assessed against the Assessment Criteria detailed below at the frequency detailed in Section 8.3.1 (comprising of all the determinands detailed below).

All imported construction and earthwork materials to be used within the works beneath the clean cover, structure or hardstanding, and which are not from a quarried natural source, shall be tested and assessed against the Assessment Criteria detailed below at a frequency of at least 1 No. test suite (comprising of the same determinands detailed in Section 8.3.1 based upon the material source) per 250m^3 of material placed / imported (minimum of 3 No. tests for each material source).

Chemical testing is not required for site won natural superficial deposits to be reused within the works beneath the clean cover, structure or hardstanding.

Determinand	Total Concentration (mg/kg)			Source
	SOM 1.0%	SOM 2.5%	SOM 6.0%	
Metals				
Antimony	550[(a)]			CL:AIRE
Arsenic	37			LQM/CIEM S4ULs
Barium	1,300[(a)]			CL:AIRE
Beryllium	1.7			LQM/CIEM S4ULs
Boron (water soluble)	290			LQM/CIEM S4ULs
Cadmium	11			LQM/CIEM S4ULs
Chromium (III)	910			LQM/CIEM S4ULs
Chromium (VI) - hexavalent	6			LQM/CIEM S4ULs
Copper	pH <6 - 100 pH 6 to 7 - 135 pH >7 - 200			BS3882 / LQM/CIEM S4ULs
Lead	200			CL:AIRE C4SL
Mercury (Total)	1.2			LQM/CIEM S4ULs
Molybdenum	670[(a)]			CL:AIRE
Nickel	pH <6 - 60 pH 6 to 7 - 75 pH >7 - 110			BS3882 / LQM/CIEM S4ULs
Selenium	250			LQM/CIEM S4ULs
Vanadium	410			LQM/CIEM S4ULs
Zinc	pH <6 - 200 pH 6 to 7 - 200 pH >7 - 300			BS3882 / LQM/CIEM S4ULs
Inorganics				
Water Soluble Sulphate	500mg/l	500mg/l	500mg/l	BRE Special Digest 1:2005 Concrete in Aggressive Ground
Organics				
Organic matter	-	-	-	-
TPH				
Aliphatic C5-C6	24	40	80	LQM/CIEM S4ULs
Aliphatic C6-C8	52	110	250	LQM/CIEM S4ULs
Aliphatic C8-C10	13	30	70	LQM/CIEM S4ULs
Aliphatic C10-C12	60	150	360	LQM/CIEM S4ULs
Aliphatic C12-C16	500	1,200	2,600	LQM/CIEM S4ULs
Aliphatic C16-C35	41,000	69,000	94,000	LQM/CIEM S4ULs
Aliphatic C35-C44	41,000	69,000	94,000	LQM/CIEM S4ULs
Aromatic C5-C7	50	110	240	LQM/CIEM S4ULs
Aromatic C7-C8	100	240	550	LQM/CIEM S4ULs
Aromatic C8-C10	20	50	110	LQM/CIEM S4ULs
Aromatic C10-C12	63	150	340	LQM/CIEM S4ULs
Aromatic C12-C16	140	320	660	LQM/CIEM S4ULs
Aromatic C16-C21	260	540	930	LQM/CIEM S4ULs

Determinand	Total Concentration (mg/kg)			Source
	SOM 1.0%	SOM 2.5%	SOM 6.0%	
Aromatic C21-C35	1,100	1,400	1,700	LQM/CIEM S4ULs
Aromatic C35-C44	1,100	1,400	1,700	LQM/CIEM S4ULs
Aliphatic + Aromatic C44-70	1,600	1,800	1,900	LQM/CIEM S4ULs
PAH				
Acenaphthene	210	510	1,100	LQM/CIEM S4ULs
Acenaphthylene	170	420	920	LQM/CIEM S4ULs
Anthracene	2,400	5,400	11,000	LQM/CIEM S4ULs
Benzo(a)anthracene	7.2	11	13	LQM/CIEM S4ULs
Benzo(a)pyrene	2.2	2.7	3.0	LQM/CIEM S4ULs
Benzo(b)fluoranthene	2.6	3.3	3.7	LQM/CIEM S4ULs
Benzo(g,h,i)perylene	320	340	350	LQM/CIEM S4ULs
Benzo(k)fluoranthene	77	93	100	LQM/CIEM S4ULs
Chrysene	15	22	27	LQM/CIEM S4ULs
Dibenzo(a,h)anthracene	0.24	0.28	0.30	LQM/CIEM S4ULs
Fluoranthene	280	560	890	LQM/CIEM S4ULs
Fluorene	170	400	860	LQM/CIEM S4ULs
Indeno(1,2,3-c,d)pyrene	27	36	41	LQM/CIEM S4ULs
Naphthalene	2.3	5.6	13	LQM/CIEM S4ULs
Phenanthrene	95	220	440	LQM/CIEM S4ULs
Pyrene	620	1,200	2,000	LQM/CIEM S4ULs
BTEX				
Benzene	0.087	0.17	0.37	LQM/CIEM S4ULs
Ethylbenzene	47	110	260	LQM/CIEM S4ULs
Toluene	130	290	660	LQM/CIEM S4ULs
o-xylene	60	140	330	LQM/CIEM S4ULs
m-xylene	59	140	320	LQM/CIEM S4ULs
p-xylene	56	140	310	LQM/CIEM S4ULs
Other				
Phenol - Monohydric	120	200	380	LQM/CIEM S4ULs
Asbestos	NAD	NAD	NAD	-
MTBE	49	84	160	CL:AIRE

Table 2 Notes

- The values provided within the table above relate to the determinand upper limits for human health only. The Assessment Criteria is based upon on 1%, 2.5% and 6% soil organic matter content for residential with home grown produce however where a value is not derived the determinands marked with [(a)] are assessed against the residential without gardens assessment criteria.
- Where multiple sources are listed within the table above, the more stringent Assessment Criteria limit is provided.
- Where the UK non-hazardous waste thresholds are below these limits the Principal Contractor shall adopt the non-hazardous waste threshold instead. **Hazardous waste is not to be imported to the site.** Only inert or non-hazardous materials shall be imported. This applies to all determinands.
- Soils which exceed the assessment criteria requirements detailed above are not to be imported to site.
- Depending on the chemical sensitivity of the proposed soft landscaping the upper acceptable limits detailed above may require reducing subject to the Landscape Architects requirements, which are to be confirmed by the Principal Contractor prior to import or reuse.
- The Assessment Criteria presented above is unlikely to be applicable for materials placed adjacent to service pipes. The Assessment Criteria requirements for these materials are to be confirmed by the Water Authority (Northumbrian Water).
- Validation testing shall be carried out in an MCERTS accredited laboratory.
- The above validation testing is for all imported earthwork materials. Site won materials, with the exception of natural superficial deposits, are not to be reused on site.
- The testing suite and frequency of testing for imported earthwork materials shall be as detailed within this Remediation Strategy as a minimum. At the discretion of the Engineer, the proposed testing suite or frequency of testing may be amended as appropriate to the ground conditions encountered during the enabling ground engineering works or following review of desk study and site investigation information for proposed import sources.

SOURCES

1 Land Quality Management (LQM) / Chartered Institute of Environmental Health (CIEH) Generic Assessment Criteria for Human Health Risk Assessment. Second Edition. LQM Ltd 2009 including 2015 errata.

2 The Soil Generic Assessment Criteria for Human Health Risk Assessment. Contaminated Land, Application in Real Environments January 2010.

3 BRE Special Digest 1:2005 Concrete in Aggressive Ground

4 BS3882 (2015) Specification for Topsoil

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