



NUVU DEVELOPMENTS

LAND AT TEN ACRES LANE, NEWTON HEATH

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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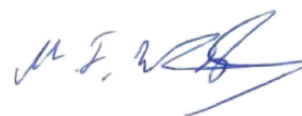
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INTRODUCTION

1

Project Description

- 1.1 The site is located between Ten Acres Lane and Mitchell Street, Newton Heath, Manchester at National Grid Reference 387599, 400309. It is approximately 19 hectares in area. A site location plan, prepared by Planit IE on behalf of Your Housing Group (parent of Nuvu Developments), is provided in Appendix 1.
- 1.2 The proposed development comprises circa 770 plots mainly consisting of 2 storey housing with some 3-storey houses and apartments and a 4-storey community hub with associated roads, driveways, gardens, areas of public open space and a school with associated playing fields (all of which is subject to Local Authority planning approval). A preliminary proposed development layout is shown in Figure 1 (provided to Wardell Armstrong by Nuvu Developments). As noted above, final plans and images are subject to Local Authority planning approval.



Figure 1: Indicative masterplan subject to Local Authority Planning Approval

Purpose and Objectives

- 1.3 The site is subject to an active planning application (129197/FO/2021) for “site remediation works including removal of existing vegetation, ground works and other associated works.” This application includes an Environmental Statement (ES) that assesses the predicted environmental impacts of these activities and identifies environmental mitigation requirements.
- 1.4 The objectives of this Construction Environmental Management Plan (CEMP) are to:

1. Identify environmental control measures that are necessary to deliver environmental mitigation and management, in line with the ES and other supporting environmental assessments provided with the planning application.
 2. Provide a framework for the implementation of these controls.
 3. Describe ancillary working arrangements and practices that will be adopted in order to achieve environmental compliance and good environmental performance (record keeping, communications, incident response etc.).
- 1.5 The overarching aim throughout the proposed remediation works will be to minimise the impact of the works on the surrounding environment (including neighbours, neighbouring buildings, local infrastructure etc), as far as is reasonably practicable and as a minimum in accordance with all relevant legislative requirements and planning commitments.

Limitations and Disclaimers

This CEMP has been prepared in advance of the appointment of a remediation contractor. The remediation contractor will be responsible for environmental compliance, for determining the necessary methods to achieve this, and for agreeing these details with the Local Planning Authority as may be required by any planning consent. The content of this CEMP does not change these responsibilities. Therefore, this CEMP must be considered an interim informative document only, which must be wholly subject to review and resubmission by the remediation contractor (as a 'final CEMP') prior to remediation work commencing. Wardell Armstrong accepts no responsibility or liability for the environmental performance of the remediation work, the remediation contractor's selection of suitable environmental management controls for their working methods, or the adequacy of the contractor's general working arrangements (security, lighting, welfare etc.). All content of the final CEMP must be both originated and verified as suitable by the remediation contractor, regardless of the content of this interim CEMP (which shall be wholly superseded by the final CEMP).

- 1.6 This CEMP is based on the current understanding of the predicted environmental effects of the remediation work. In some cases, there is further assessment work required prior to remediation commencing. There are also a number of pre-construction plans (e.g. Construction Logistics Plan, Dust Management Plan) and reports (detailed Remediation Strategy) that will require preparation. Once the remaining assessment has been completed and the relevant plans and reports prepared, the findings should be reflected in the final

CEMP, prior to remediation work commencing. This will be the responsibility of the remediation contractor. It may result in the use of alternative and/or additional measures to those provided in this interim CEMP, the inclusion of additional detail etc.

- 1.7 Whilst best efforts have been made to ensure that this interim CEMP covers all relevant environmental matters, due to the outstanding assessment and design work this cannot be guaranteed. It shall be the remediation subcontractor's responsibility to ensure that the final CEMP comprehensively covers all relevant environmental matters, once the remaining assessment and design work has been completed.
- 1.8 This CEMP is not a Health & Safety document. Any references to occupational health & safety measures are informative only and should not be taken to be exhaustive nor to replace the obligations of the remediation contractor to fully assess and manage the health & safety risks associated with their remediation work.
- 1.9 This CEMP does not consider BREEAM compliance or carbon emissions. These are good practice considerations that are becoming increasingly prominent on construction projects. It is recommended that these matters are considered by the remediation contractor (once appointed) to deliver a high standard of sustainability and environmental performance, over and above statutory requirements.

Document Review

- 1.10 Construction Environmental Management Plans are 'live' documents that should be subject to periodic review as works progress. The following update periods are recommended for this document:
 1. Full review and resubmission by remediation contractor, prior to remediation work commencing and following completion of all necessary pre-start environmental assessments.
 2. Quarterly review and updates for the duration of the remediation work.

Legislative Compliance

- 1.11 There is a broad range of legislation covering the different aspects of environmental protection and management. This is supported by statutory guidance, standards, and other 'best practice' guidance, including industry codes of practice. Likewise, Health & Safety legislation has an overarching relevance to all aspects of construction and redevelopment work, including environmental compliance. The remediation must be undertaken by a

suitably qualified and competent contractor who is fully conversant with all relevant environmental and health & safety legislation guidance etc. This CEMP is provided on the assumption that this will be the case, and therefore does not attempt to comprehensively list or refer to legislation, standards or guidance.

- 1.12 All necessary operational and environmental consents and permits for the remediation work must be identified and obtained by the remediation contractor prior to the work commencing. The contractor will ensure that the conditions of these consents and permits are adhered to at all times, including necessary monitoring and record keeping.
- 1.13 The remediation subcontractor shall have an ISO 14001 certified Environmental Management System.

Roles and Responsibilities

- 1.14 For the purpose of this interim CEMP, it is assumed that the work will be undertaken by a single contractor ('the remediation contractor').
- 1.15 Typical environmental roles and responsibilities for the remediation work may include, although these may vary depending on the structure and resourcing of the appointed remediation contractor:
- **Remediation Contractor (organisation):** Preparation of final CEMP prior to work commencing, and ensuring all necessary associated planning approvals are in place (as may be required by conditions, should the application be approved). Ensuring that all necessary permits, consents and exemptions are in place for the work.
 - **Client (Nuvu Developments):** Management and communication of environmental issues, in accordance with statutory responsibilities.
 - **Remediation Contractor's Project Manager (named individual):** Overall responsibility for ensuring compliance with the CEMP. Responsibility for incident investigation, and liaison with the client (i.e. developer) or their representative on environmental compliance. Ensuring that site arrangements (storage, waste disposal etc.) are fully environmentally compliant.
 - **Remediation Contractor's Environmental Manager (named individual):** Preparation of the CEMP, and periodic reviews / updates. Ensuring that all measures defined within the CEMP are followed and suitably evidenced. Day-to-day management of

environmental compliance, including site inspections. Delivering environmental training to site operatives. Briefing site personnel on environmental issues.

- **Remediation Contractor's Community Engagement Manager (named individual):**
 Communication with local residents and the Local Planning Authority on environmental matters, including investigation of environmental complaints.

1.16 These roles must be supported by, and interface with, the site Health & Safety and operational management, to ensure that environmental measures are integrated with Health & Safety and that operational aspects of this CEMP (security, pest control etc.) are implemented.

1.17 Table 1 (below) should be populated once the remediation contractor has been appointed and personnel have been assigned to the key roles. The contractor should add or amend roles as necessary to fit their team structure.

Table 1: Key Personnel			
Role	Name	Organisation	Contact Details (mobile phone and e-mail)
Project Manager			
Environmental Manager			
Client			
Health & Safety Manager			
Environmental Support Staff (list as appropriate)			
Site Agent			

Training and Awareness

1.18 An essential aspect of environmental management is ensuring that those undertaking development work are correctly briefed on the required control measures and are able and empowered to implement them. This should be achieved in accordance with the remediation contractor's environmental management system, and may typically include:

- Induction briefings, including testing of knowledge.
- Task briefings before undertaking tasks that have specific environmental risks.
- Toolbox talks.
- Emergency response training, including the use of spill kits.
- Supervision and inspection of work.
- Site environmental reporting procedures.
- Competence qualifications for specific tasks (e.g. asbestos awareness).

2 GENERAL REQUIREMENTS

Working Hours

- 2.1 All work shall be undertaken in accordance with working hours secured by planning condition. Normal working hours in line with Manchester City Council guidance are 07.30 to 18:00 Monday to Friday and 08:00 to 14:00 on Saturdays. In addition, access to the site is usually permitted 30 minutes prior to the working day commencing with noise being kept to a minimum for the first half and hour of the day.
- 2.2 All sub-contractors including suppliers should be made aware of the permitted working hours as the restrictions also apply to deliveries.

Fencing and Security

- 2.3 The remediation contractor shall install perimeter fencing as necessary to prevent inadvertent access or trespass onto the site. Existing perimeter fencing is in place for parts of the site but may not be fully secure or of a suitable height. The remediation contractor should assess the condition of this fencing and extend / repair / replace it as necessary to ensure that the site is fully externally secure. This will also provide external security for the site. The height and form of the perimeter fencing shall be specified by the remediation contractor in their final CEMP, prior to remediation commencing.
- 2.4 Perimeter fencing shall be inspected periodically to ensure it has not been damaged. Any damage shall be repaired immediately.
- 2.5 Internal fencing, to delineate work areas, segregate restricted working areas / additional PPE zones (due to ground contamination), delineate pedestrian routes, provide edge protection for excavations etc., shall be installed by the remediation contractor in line with health & safety requirements.
- 2.6 All access points to the site will be controlled through secured lockable gates.
- 2.7 Security personnel shall be employed as deemed necessary by the remediation contractor, following their assessment of the site.
- 2.8 Lighting will be installed as necessary to provide safe access and site security. However, consideration must be given to light pollution / nuisance to adjacent receptors, to avoid unnecessary lighting. Remediation work will take place during the hours of daylight, which will minimise lighting requirements. A lighting drawing should be included in the

remediation contractor's final CEMP showing the locations, height and specification of any proposed lighting. Measures to minimise light spillage may include the following:

- Site set-up (e.g. compound locations) to be designed with a view to minimise the need for lighting near to residential receptors.
- Construction compounds not to be lit outside working hours, except for security and welfare (should out of hours security be deemed necessary).
- Motion sensors on lighting.
- Use of lights with the minimum brightness / power rating required to achieve the purpose.
- Light fittings that reduce the emission of light above the horizontal.

Compounds and Welfare

- 2.9 Site compound facilities shall be provided by the remediation contractor. The locations and form of the compounds must be determined by the contractor and shown on a drawing in their final CEMP prior to work commencing. Typically for a project of this nature, compounds an arrangement of 1-2 storey modular steel cabin buildings, situated on hard surfacing / compacted aggregate are envisaged. The condition of site offices should be maintained to ensure they are clean, tidy and free from mud and dust. Suitable boot washing facilities must be provided.
- 2.10 Specific details of on-site welfare will be provided as part of the Construction Phase Plan (CPP) produced by the remediation contractor. On-site welfare facilities should include toilets, offices, canteen / mess facility, drying room, hot and cold water, drinking water and facilities to heat meals. The condition of welfare facilities should be maintained to ensure they are clean, tidy and free from mud and dust.
- 2.11 All drainage from sinks, showers, lavatories, boot wash stations should be connected to a septic tank (or other suitable wastewater disposal system) during the works.

Fuels and Chemicals

- 2.12 All fuels and chemicals must be stored in accordance with relevant environmental legislation and guidance. Of particular note, all fuels and oils should be stored in accordance with *The Control of Pollution (Oil Storage) (England) Regulations* and the Environment Agency's

guidance '*Oil Storage Regulations for Businesses*', including suitable bunding, containment and labelling.

- 2.13 Prior to work commencing, and throughout the remediation as necessary, the remediation contractor shall undertake suitable COSHH assessments under the *Control of Substances Hazardous to Health Regulations 2002*, and ensure that all substances are recorded, stored and used correctly in accordance with COSHH requirements. Storage containers should be lockable and labelled as necessary.
- 2.14 All fuelling activities and the storage of fuel should take place in one identified area, greater than 10m from any surface waters or surface water gullies. The fuelling and storage area should be located on hardstanding or a lined area and tanks should comply with current legislation and be suitably bunded with drip trays and secure lids.
- 2.15 Plant and machinery should be fitted with plant nappies, and drip trays beneath oil tanks, engines, gearboxes etc. and these should be checked and emptied regularly and correctly disposed of. Provisions should be made to contain a serious spill or leak through the use of spill kits, booms, bunding and absorbent material, and documented in advance in a Pollution Incident Control Plan (this is a standard remediation contractor document).
- 2.16 Emergency spill kits including absorbent granules and pads should be kept on site at convenient and regular locations, in case of accidental release. Personnel should be trained on the use of spill kits.

Pest Control

- 2.17 The risk of infestation by pests or vermin should be reduced by implementing appropriate storage and regular collection of putrescible waste (see Section 10 of this CEMP). If infestation is found, removal and prevention measures should be implemented promptly in consultation with suitable qualified professionals. Any pest infestation of the site must be notified to the Local Authority as soon as is practicable.

Vehicle Exit Points

- 2.18 The site contains soils that display elevated contaminant concentrations. All vehicles exiting the site will go through contained wheel wash facilities, with the wash water collected and impounded for treatment prior to discharge (see Section 3 for further details regarding the discharge of water).

- 2.19 Any vehicles carrying soil off-site must travel with secure sheeting over the trailer to prevent release of soil or dust. Road sweeping should be deployed at vehicle exit points.
- 2.20 Throughout site works, monitoring of the condition of public roads should be undertaken to ensure no significant deposit of mud or debris. Plant movement across public roads should be limited to prevent the possibility of depositing mud on the road.

Unexploded Ordnance

- 2.21 A UXO risk assessments has previously been undertaken for the site and a low UXO hazard level has been identified. However, this was strictly related to site investigation works and some limited bulk excavations for parts of the site. An updated risk assessment should be undertaken prior to the remediation work, specific to the remediation activities (large scale bulk excavation). This should be used to inform a UXO Response Plan as part of the pre-construction Health & Safety requirements. The response plan should include procedures for notifications to the relevant local authorities, emergency services, residents and businesses.

Burning

- 2.22 Bonfires or any other burning of waste materials will not be permitted.

Signage and Noticeboards

- 2.23 The remediation contractor must provide signage and information boards as required to comply in full with relevant environmental and Health & Safety regulations.
- 2.24 Environmental noticeboards should be displayed in prominent positions in the site offices and canteen. These should include emergency contact details, site constraints / restrictions drawings, the remediation contractor's environmental policy, and relevant briefing / information notices on environmental issues that are pertinent to the site.

Trees and Vegetation Clearance

- 2.25 All remediation work must be undertaken in accordance with:
- Relevant arboricultural legislation and guidance.

- Site-specific protection measures, restrictions and control measures in relation to trees and vegetation clearance, as identified to be necessary through the requisite pre-commencement surveys and reports. This should include suitable specialist technical support and supervision.
- Any planning requirements relevant to trees and vegetation clearance.

2.26 The remediation contractor should seek suitable specialist support to ensure that detailed arboricultural and vegetation clearance measures are incorporated / referred to in the final CEMP, prior to remediation works commencing.

Programme

2.27 The approximate remediation programme is anticipated to be split into at least two phases with the full works being completed within c. 24 months from the commencement date. However, this timeframe is subject to the finalised remedial strategy ultimately adopted by the remediation contractor, timescales for regulatory approvals, and the Japanese Knotweed treatment programme (extent and duration to be fully established).

3 SURFACE WATER MANAGEMENT

- 3.1 The ES identifies a number of potential effects associated with surface water, flooding and drainage. These include silt-laden run-off from exposed surfaces blocking drainage or entering surface watercourses, and the spillage or leaks of pollutants. Sections 6.53 to 6.57 of the ES provide details of the environmental control measures that will be necessary in order to mitigate / control these risks during construction. All of these measures are incorporated into this CEMP. For brevity, the measures are not repeated verbatim from the ES. Instead, an excerpt of the relevant sections is provided in Appendix 2.
- 3.2 The site contains perched water within the Made Ground (landfill waste) that contains notable contamination. Undertaking large scale remediation excavations is likely to result in substantial volumes of contaminated water that will need to be dealt with, and increase leaching of contaminants from soil. This will require careful consideration by means of a full engineering design and Surface Water Management Plan (SWMP). This should be prepared in conjunction with the detailed Remediation Strategy, and will be subject to regulatory approval (including discharge consents). This detailed design and SWMP is beyond the scope of a CEMP and must be completed and approved before the remediation work starts, with appropriate cross-references in the final CEMP. However, in conceptual terms, it may include (but not necessarily be limited to) some or all of the following measures:
- Installation of a temporary construction drainage network, leading to attenuation / impoundment facilities.
 - Perched water collection (dewatering) and impoundment, through active sump pumping of excavations into lined attenuation ponds.
 - Flow barriers to control and collect water.
 - Treatment of impounded waters, through an on-site water treatment plant. These plants typically include oil-water separation and sediment removal facilities but can also include more sophisticated remediation processes (oxidation etc.) as necessary depending on the chemistry of the water being treated.
 - Discharge of treated water to a permitted sewer or surface water point. This will require analysis of the anticipated volumes of water, the availability of a discharge point (and permissible discharge rates), and consideration of chemical acceptability criteria for discharge, in consultation with United Utilities. The impoundment capacity of the site will need to be sufficient to provide sufficient temporary water

storage to accommodate these factors, as off-site removal by tanker is unlikely to be a feasible contingency.

- The use of sediment traps and installation of cut-off ditches and / or geotextile silt-fences around excavations and stockpiles to prevent the uncontrolled release of sediment from the site (i.e. to minimise the risk from increased leaching from exposed surfaces).
- Active leachate collection around areas of known contaminated shallow groundwater.
- The establishment of a designated area with impermeable surfacing and perimeter bunding in which any excavated materials that require storage can be placed if they are known / suspected to contain leachable contamination. Impounded water from this area should be collected , treated and discharged as described above.

4 ECOLOGY

- 4.1 The ES identifies a potential risk from contamination in perched / shallow groundwater and silt-laden run-off entering the non-designated section of the Rochdale Canal that is adjacent to the site. These risks will be mitigated / controlled by the surface water management measures described in Section 3 of this interim CEMP.
- 4.2 In line with the recommendations of the ES, any temporary lighting that is required will be directed away from the bat foraging corridor along the Rochdale Canal. These details should be shown on the remediation contractor's lighting arrangement drawing, as referred in Section 2 of this interim CEMP.
- 4.3 The developer / remediation contractor will be responsible for avoiding, reducing or compensating for any adverse biological effects. Mitigation measures could include, but should not necessarily be limited to, the following:
- Any removal of vegetation with the potential to support nesting birds should, wherever possible, be undertaken outside the bird nesting season. If any active clearance work has to be undertaken during the main nesting season, this should only be undertaken under the supervision of a qualified ecologist to ensure that no active nests are present.
 - A method statement and tool-box talk should be prepared that would include details of pre-construction verification surveys for bats, describing the approach that would be followed to avoid contravening the WCA 1981. Lighting of site during remediation works should avoid the Rochdale Canal corridor, as noted above.
 - Method statement and toolbox talks in regard to reptiles should be prepared to avoid contravening the *Wildlife and Countryside Act 1981*. Removal of suitable habitat should be designed to avoid the risk of injury to reptiles, through measures such as timing ground works to avoid the reptile hibernation period and the gradual removal of habitat. Pre-habitat clearance capture and translocation of slow worms to off-site receptor location is required, with ongoing management / monitoring (in accordance with an approved ecological method statement).
 - Noise control and vibration measures to mitigate damage to ecological receptors (discussed further in Section 8 of this CEMP).
 - The remediation contractor should include measures to reduce or limit air quality and dust effects during the remediation works. Dust control measures to mitigate

damage to ecological receptors are explained in Section 6 of this CEMP, and should largely be controlled through the use of a Dust Management Plan (DMP).

- Construction practices should comply with relevant Environment Agency guidance with a view to preventing the pollution of ground and surface water (in particular the Rochdale Canal). Further detail on these measures is provided in Sections 3 and 11 of this CEMP.

4.4 It is considered that these measures can be secured and delivered through the planning process, including the preparation and submission of an updated / final CEMP by the remediation contractor and other pre-start environmental plans, under conditions.

Invasive Species

4.5 The remediation contractor must ensure that the remediation works do not result in a contravention of the legislation relating to invasive species management. Non-native invasive species at the site include Japanese knotweed and pontic rhododendron.

4.6 Mitigation and control of this issue will include, but not necessarily be limited to, a requirement to prepare a Non-Native Species Management Plan. This plan will be subject to any necessary approvals and will be a mandatory compliance document for the remediation work. The plan will include all measures necessary to deal with invasive plants, together with associated monitoring, validation and management required. This must ensure that the remediation work is fully legislatively compliant, addresses the risks from the invasive species present at the site, and does not spread invasive species. All work involving invasive species shall be undertaken by, or under the direct supervision of (as appropriate), suitably qualified specialists.

5 VISUAL AMENITY

5.1 Environmental measures will need to be implemented so that adverse effects on landscape and visual amenity are avoided, reduced or compensated. These could include, but should not necessarily be limited to, the following:

- The avoidance of unnecessary vegetation removal and the protection of trees or vegetation that are to be retained.
- The retention or provision of screening vegetation along the site boundaries.
- Localised bunding to offer further visual screening.
- Materials and machinery should be stored tidily during the works in order to minimise impacts on views.
- Lighting of compounds and working areas should be restricted to agreed working hours and those which are necessary for security or other requirements (as per Section 2).
- Public roads providing access to the construction site should be maintained free of dust and mud (as per Section 2, this is essential from a contamination perspective in any case).
- All working areas and accesses should be kept clear as work proceeds and when no longer required for the works.
- On completion of the project, of all structures, equipment, surplus soil and materials, waste, notice boards and temporary fences used during the remediation work must be removed with minimum damage to the surrounding area.

5.2 As stated in the ES, it is assumed that hoarding will be used to screen views into the site during remediation. As with all environmental assessments and mitigation measures presented in this interim CEMP, the visual amenity mitigation measures should be reviewed once the detailed Remediation Strategy has been developed.

6 AIR QUALITY (INCLUDING DUST AND ODOURS)

- 6.1 The proposed remediation work comprises large scale excavations through landfill materials. These would need to be accompanied by robust dust and air quality controls.
- 6.2 The remediation contractor will be responsible for minimising emissions of dust and other pollutants. This should be done via the management of air quality and particulate matter (dust) generally in accordance with an Air Quality Statement, a suitable Dust Management Plan (DMP) and by employing good housekeeping and proactive management on site.
- 6.3 To date, an initial Air Quality Statement has been prepared (Wardell Armstrong report reference LD10162/SKL/MTW/AQA-001). Further work will be required in order to develop this and identify mitigation and control measures. The outstanding work includes:
- A detailed construction dust assessment, to be developed in conjunction with the detailed Remediation Strategy.
 - A detailed air quality assessment, to be informed by traffic data as this becomes available, and to be undertaken to an approach to be agreed with the Local Planning Authority.
 - Preparation of a detailed Remediation Strategy.
- 6.4 This work should be completed, with necessary approvals through planning, prior to construction and reflected in the remediation contractor's final CEMP.
- 6.5 However, for feasibility purposes, the environmental control measures that may result from this process are discussed below. This should not be considered an exhaustive list and actual measures may vary from this once the detailed assessments have been completed.

General

- 6.6 Each work activity should be reviewed for dust risk prior to the works commencing. Subsequently, suitable controls and mitigation should be implemented as necessary to reduce dust risk.

Excavations

- 6.7 During excavation works, monitoring should be undertaken and, if required, mitigation measures should be implemented. These measures should include but are not limited to the following:

- Excavations should be phased so that they are confined to small sections of the site at any one time.
- Where practicable, windbreak netting / screening should be positioned around excavations to provide a physical barrier between the site and its surroundings.
- Works should be suspended, if necessary, during windy and adverse weather conditions.
- Water sprays and odour atomisers should be used to suppress dust and odour.

Soil Stockpiles

6.8 Environmental control and management measures to minimise dust, odour and adverse air quality effects from stockpiles should include, but not necessarily be limited to, the following:

- Stockpiles should be located away from site boundaries and / or receptors, and contained within specific areas of the site as far as practicable.
- Stockpiles should be prevented from drying out by using covers and / or the use of a towable water bowser or similar to damp them down.
- Stockpile maintenance and management procedures (see Section 11 of this CEMP for further details).
- Removal of dusty materials from site as soon as practicably possible.
- Stockpile surface areas should be minimised where possible.
- Where practicable, windbreak netting / screening should be positioned around stockpiles to provide a physical barrier between the site and its surroundings.

Haul Roads

6.9 Haul roads should be constructed from a suitable running surface to minimise dust generation, and be subject to dust suppression as necessary during the remediation.

6.10 A suitable site speed limit (to be specified by the remediation contractor) should be enforced, to help minimise dust generation.

Dust and Odour Monitoring

- 6.11 Subject to the findings of the detailed assessments, dust and odour monitoring may be required during the work. This may range from qualitative dust and odour monitoring to quantitative boundary monitoring for dust and or PM10. Details will be specified in the DMP and / or final CEMP once the detailed assessments have been undertaken. These are relatively standard monitoring requirements for brownfield reclamation.

Contaminant-Specific Measures

- 6.12 The measures described above represent general good practice for managing construction dust and air quality. However, where airborne contaminants are present that can travel in dust (e.g. asbestos, polycyclic aromatic hydrocarbons, metals) specific health risks can necessitate even more stringent dust controls and monitoring. Likewise, where volatile organic compounds are present, contaminant-specific air quality control measures can be required.
- 6.13 Any such measures should be specified in the detailed Remediation Strategy. Due to the nature of the material and the potential risk, it is likely to be necessary to adopt precautionary controls and obtain robust verification data. Subject to revision and refinement following completion of the detailed Remediation Strategy, these may include:
- Watching brief for asbestos and other contaminants. If unexpected contamination is found, a 'stop' procedure should be implemented, involving the area being cordoned off, tested, the results assessed and any additional controls identified prior to recommencing work in the affected area.
 - Discriminatory asbestos air monitoring (e.g. fibre monitoring by SEM-EDXS) of ambient air in work areas¹.
 - Boundary asbestos air monitoring, volatile organic compounds (VOC) monitoring, and air/particulate monitoring for PAH and / or metals (or boundary monitoring for

¹ It will also be necessary for the remediation contractor to ensure that all occupational Health & Safety aspects of disturbing and working with asbestos-contaminated ground are addressed, including consideration of any occupational health air monitoring. This is outside the scope of this CEMP.

PM10 if this is assessed to be a suitable proxy), including a suitable period of baseline monitoring such that any effect from the work can be reasonably detected.²

- Where there is a risk of volatile contaminants, deployment of photo-ionisation detection equipment (PID) in plant cabins and other work areas.

- 6.14 Acceptability criteria for certain VOC in air and contaminants in particulates can be determined with reference to published guideline values. The relevant criteria for this site should be specified in the detailed Remediation Strategy, should this monitoring and risk control be identified to be necessary. The final CEMP should then explain how these monitoring requirements will be implemented (e.g. locations and frequencies of monitoring) and the measures to be taken in the event of exceedances e.g. assess, amend controls if necessary, verify success of amendments, provide assurance by greater monitoring etc. The urgency of these measures and effect on site activities depends on the scale of the exceedance and whether it is a spot exceedance of a chronic risk assessment criterion (e.g. annual average allowable exceeded for a short period) or an acute risk assessment criterion.
- 6.15 Asbestos presents a slightly different situation, because there are no 'acceptable' concentrations. Typically, background concentration determined by monitoring undertaken in advance of the works would be used as a benchmark for interpreting results and identifying any precautionary actions.

² It will also be necessary for the remediation contractor to ensure that all occupational Health & Safety aspects relating to the risk to construction workers from the inhalation of vapours or contaminated particulates are suitably addressed, including any assurance monitoring that they deem necessary. This is outside the scope of this CEMP.

7 CULTURAL HERITAGE AND ARCHAEOLOGY

- 7.1 If conditioned, the site will have been subjected to a programme of archaeological trial trenching which will have further assessed the archaeological potential of the site and risk of encountering archaeological remains. This will have reduced the risk of encountering such features during the construction phase.
- 7.2 In the event that additional finds or features of potential archaeological value are discovered, works within that area should stop immediately, the site manager be contacted, the area fenced off and advice sought from the local planning archaeologist.

8 NOISE AND VIBRATION

- 8.1 The remediation contractor will be responsible for avoiding, minimising or compensating for the adverse effects of noise and vibration. Any potentially noisy activities should be pre-assessed and the potential impact on both construction operatives and the local environment considered through the use of a Noise and Vibration Management Plan (NVMP) with mitigation employed as required.
- 8.2 In the first instance, noise and vibration control at the source should be undertaken and control measures should include, but not necessarily be limited to, the following:
- Construction work should be restricted to 0730 to 1800 Monday to Friday and 0800 to 1400 Saturday, with no working on Sundays or Bank Holidays.
 - The use of temporary screens when work is unavoidable next to sensitive receptors.
 - The selection of quiet and low vibration equipment.
 - Plant being well maintained (e.g. lubrication of bearings) and fitted with silencers.
 - Contractor working methods e.g. use of low noise working techniques, avoidance of two noisy pieces of plant working simultaneously near to a sensitive receptor (where practicable), shutting down plant when not in use.
 - The use of acoustic barriers / screens, possibly including acoustic enclosures.
 - The use of less intrusive alarming systems.
 - Briefing of site staff to ensure that they are aware of work within sensitive locations and do not create unnecessary noise.
 - Noisy works taking place at prearranged times and away from receptors.
 - If vibration emissions for any activity cannot be realistically controlled to acceptable levels, then alternative working methods should be identified if possible.
- 8.3 The NVMP should include a noise and vibration monitoring protocol, with monitoring being undertaken as required and where noise and vibration levels exceed agreed / defined limits appropriate action should be taken.
- 8.4 The remediation contractor should liaise with the Local Council to obtain the appropriate consents and liaise with any parties likely to be affected by noise. They will also be required to cooperate with affected parties and accommodate requirements as far as reasonably possible without delaying the process of works on site.

9 TRAFFIC AND TRANSPORT

Site Access and Vehicle Movements

9.1 The proposed primary site access is from Ten Acres Lane as shown in Figure 2.



Figure 2: Proposed site access

9.2 As specified in the Transport Statement (prepared by Vectos) submitted with the planning application, the worst-case daily vehicle movements on /off site during remediation is 44 (22 round trips), consisting of private vehicles and HGVs. Construction / earthworks plant will be limited to within the site boundary with the exception of occasional unavoidable movement on and off site.

9.3 A Traffic Management Plan (TMP) and Construction Logistics Plan (CLP) will be developed by the remediation contractor for acceptance prior to remediation work commencing. These documents will:

- Set out the principles for vehicle / pedestrian access, any road / footpath closures required, HGV routing, principles for deliveries, vehicle movements and plant / construction vehicle movements.
- Identify any required footpath / road closures. These should be lodged by the remediation contractor with Manchester City Council and will be subject to their approval.

- Identify any specific vehicle movements to / from the site requiring special arrangements – for example where large plant equipment is being delivered to site. Should this require road closures or have the potential to cause other traffic disruption then appropriate permissions will be obtained and liaison undertaken (including community engagement for large / abnormal deliveries).
- Vehicle movements to be timed sensitively to minimise effects on rush hour / busy periods.
- No vehicle holding / queuing for site entrance on surrounding streets.
- Suppliers to be made aware of transport routes to and from the site and all deliveries to be pre-booked for a certain delivery time. Vectos advise that HGV's would reach the site along the A62.
- Monitoring of the vehicle routes and traffic movement throughout the day as / if identified to be necessary.
- Trained and competent banksman to control all vehicular movements in and around the site.

Car Parking

- 9.4 On-site parking will be provided to remove the need to park on adjacent roads and to minimise impact to surrounding residents and businesses. This will be physically separated from the areas where mobile plant and lorries are operating by temporary fencing and all plant prohibited from entering the site car park.
- 9.5 Subject to confirmation from the remediation contractor, the site car park and compound will be located close to the site entrance to avoid the need to drive through the working area of the site.

10 WASTE MANAGEMENT

- 10.1 Although no longer a statutory requirement, it is expected that the remediation contractor would produce a Site Waste Management Plan (SWMP) prior to remediation commencing. This will identify the anticipated waste streams, forecast waste volumes, identify waste minimisation opportunities, specify waste storage requirements, and identify the anticipated fate of waste materials. The SWMP will have regard to the waste hierarchy i.e. in preferential order prevent/reduce, reuse, recycle, recover, dispose.
- 10.2 Waste from the general operation and upkeep of the site (canteen waste, packaging, wood/paper etc.) shall be segregated according to List of Waste codes and stored in separate receptacles for each waste code. Non-recyclable and / or mixed materials shall be stored separately. To minimise the risk of vermin and odours, all waste receptacles should be covered and collections should be frequent.
- 10.3 Potentially hazardous wastes (e.g. waste oils) shall be kept separate from other waste and stored in appropriately constructed and labelled containers, prior to off-site disposal. Waste electrical and electronic equipment, including computer equipment, must be recycled at an authorised recycling area.

Waste Soil

- 10.4 The remediation will involve large scale excavations. It is anticipated that the bulk of the material will be re-used, after treatment / remediation where identified to be necessary via the detailed Remediation Strategy. It is intended that this re-use will be undertaken under a Materials Management Plan (MMP) in accordance with the CL:AIRE *Definition of Waste Code of Practice or similar*. This approach will be confirmed through agreement with the relevant regulatory authorities in conjunction with the development of the detailed Remediation Strategy, and delivered under a Qualified Person declaration in accordance with the Code of Practice. The Materials Management Plan will include Materials Movement Schematics, indicating the journey of excavated materials from excavation through to re-use (including locations of treatment areas etc.), and materials tracking forms that will be completed during the works to document compliance with the MMP.
- 10.5 Soil stockpiles shall not be stored for greater than 12 months.
- 10.6 It is likely that a proportion of the excavated soil materials will be unsuitable for treatment and will require off-site disposal as waste. Such materials will be segregated into separate stockpiles, stored as necessary based on their chemical composition (e.g. sheeted, placed on

impermeable surfacing etc.) in a designated hazardous / unsuitable soil storage area, and removed from site as waste.

- 10.7 Any asbestos containing materials (ACM) segregated for disposal during the ground remediation work shall be handled in accordance with the *Control of Asbestos Regulations 2012* and stored in suitable containers (e.g. labelled, covered, lockable asbestos skips) prior to disposal from site by a suitably licensed contractor to a licensed receiving facility.

Responsibilities and Records

- 10.8 The remediation contractor will ensure that all waste Duty of Care obligations are met, including (but not necessarily limited to): ensuring that all waste is correctly assessed and categorised, preventing the illegal deposit or handling of waste, ensure that waste carriers and receivers are appropriately authorised, recording all waste movements (volumes, date, receiving facility, Duty of Care paperwork etc.), completion of Waste Transfer Notes and Hazardous Waste Consignment Notes, compliance checks on waste carriers and receiving facilities, and tracking and verification records as required under the MMP.
- 10.9 All records shall be held for at least the statutory minimum periods (3 years for hazardous waste and 2 years for non-hazardous).
- 10.10 All waste activities (other than those undertaken in accordance with an MMP) shall be undertaken under suitable environmental / waste permits or waste permitting exemptions (if required). Suitable permits and exemptions shall be obtained and maintained by the remediation contractor in accordance with legislative requirements. The remediation contractor will monitor and ensure compliance with any such permits, including keeping compliance records as required by each permit or exemption (e.g. record of material types and volumes used under a U1 exemption, should this exemption be registered).

11 CONTAMINATED LAND

11.1 The site contains soils that display elevated concentrations of various contaminants including total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH) and metals. The soils also contain sporadic occurrences of asbestos (generally at low concentrations), both as free asbestos fibres and fragments of ACM. The remediation work will involve the bulk excavation, storage, movement and re-deposition of these soils.

Human Health

11.2 The remediation work will be undertaken in accordance with all relevant health & safety legislation, including (but not limited to) the *Construction (Design and Management) 2015* and the *Control of Asbestos Regulations 2012*. Under their statutory obligations, the remediation contractor will need to assess the risks to construction workers from exposure to soil contaminants (by direct contact, inadvertent ingestion, dust and vapour inhalation) and provide suitable protection and mitigation measures. This is a health & safety, rather than environmental requirement, so is not discussed in detail in this CEMP. These issues are generally dealt with by a combination of dust suppression, controlled / restricted working areas, PPE/RPE, hygiene / decontamination facilities, and occupational health monitoring and controls.

11.3 In addition to risks to construction workers, there is also potentially a risk to site visitors and adjacent land users from the release of airborne contaminants and dust. This will be minimised as far as is practicable by the following measures:

- Phased excavation. This will ensure that large excavations are not open at any time, minimising the exposed surfaces.
- Minimisation of stockpile storage volumes. This can be achieved through careful logistical planning and phasing excavations to match backfill demand as closely as possible. Preventing an accumulation of stockpiles on site substantially reduces the risk of contaminated dust generation, as stockpiles are a high risk in this regard (raised exposed piles of unvegetated soil).
- Surface sealing of stockpiles (this particularly effective for cohesive material).
- Storage of stockpiles at a distance from sensitive receptors (e.g. residential receptors and the sports pitches and nursery that adjoin parts of the site).

- Limiting of stockpile heights. These shall be specified by the remediation contractor in the final CEMP.
- Sheeting of any stockpiles identified to present a particularly high risk of the generation of contaminated dust (e.g. asbestos containing soil).
- Thorough dust suppression, by means of tractor-bowser and targeted deployment of dust cannons and mist dispersers.

11.4 These risk reduction measures should be accompanied by compliance and assurance monitoring, as described in Chapter 6. The scope of this monitoring, and pass / fail or trigger criteria, should be defined following development of the detailed Remediation Strategy.

11.5 As previously explained, robust controls will be implemented to prevent the release of contaminated soils from the site, including the provision of wheel washes, road sweeping, and sheeting of all loads of soil being removed from the site.

Ground Gas

11.6 Given that the work will involve excavations that are open to the air, it is not anticipated that perimeter ground gas monitoring will be required (as gas would be expected to vent to the atmosphere rather than be forced laterally as a result of ground disturbance). However, this should be confirmed following the completion of ground gas risk assessments and development of the detailed Remediation Strategy.

11.7 Occupational health risks from ground gas, including issues with gas in confined spaces or excavations, must be considered by the remediation contractor as part of their health & safety obligations.

11.8 The risk of gas ingress into construction compound buildings should be considered. If necessary, this can usually be mitigated by providing a clear air space between the floor of the modular compound buildings and the ground surface.

Controlled Waters

11.9 The potential risks, and environmental control measures associated with contamination in shallow groundwater or near surface leachate that may be encountered during the remediation, are described in Section 3.

11.10 Potentially sensitive receptors include the Rochdale Canal and the risk of surface egress of contaminated groundwater at adjacent properties. Due to these contamination risks, the control measures that are described in Section 3 should be supplemented by the following monitoring programme:

- Fortnightly chemical testing of the Rochdale Canal for contamination. Samples should be taken from a minimum of 5 points; upstream of the site, every 200m as the canal passes the site (3 positions), and downstream of the site. The monitoring should include a suitable period of pre-works baseline monitoring. The results should be interpreted by a suitable qualified geo-environmental consultant in the context of the baseline data and Environmental Quality Standards (EQS). Should this identify a significant adverse impact from the works then the Local Planning Authority shall be informed and suitable mitigation measures implemented to reduce contaminant inputs from the site.
- Daily environmental inspections of the site boundary for groundwater seepages or contamination run-off to adjacent land. Should these be identified, then migration prevention / water collection shall be installed at the site boundary.

11.11 Beneath the Made Ground, the site is located on a secondary aquifer (Glacial Till) overlying a bedrock Principal Aquifer. The current understanding is that groundwater within the Principal Aquifer is hydrogeologically isolated from the shallow perched groundwater. Therefore, at present it is not considered that there is a requirement to monitor groundwater during the remediation work, and that the existing deep boreholes should be decommissioned prior to the remediation to remove the risk of the boreholes providing a direct contaminant pathway from the surface to the aquifer. However, this should be reviewed and confirmed once groundwater risk assessments have been completed in full and the detailed Remediation Strategy has been prepared.

Unexpected Contamination

11.12 All remediation works should be done under the direct supervision of a suitably qualified environmental scientist / geo-environmental engineer. This supervision should include a watching brief for contamination, including asbestos and gross hydrocarbon contamination. Should contamination that falls outside that which would be expected under the detailed Remediation Strategy be encountered, then a pause protocol shall be put in place, involving the temporary suspension of work in the affected area, testing, risk assessment, and

identification of any necessary additional control measures, prior to work recommencing in the affected location.

- 11.13 Should any caches of suspected asbestos be encountered, then the affected area shall be quarantined subject to assessment and sampling by an asbestos professional.

Remediation Activities

- 11.14 The proposed development may involve a variety of remediation techniques, subject to the detailed Remediation Strategy and the remediation contractor's preferred approach. It is currently envisaged that the most likely techniques are *ex situ* bioremediation and *ex situ* soil stabilisation.
- 11.15 In simple terms, these activities both involve mixing additives into excavated materials to alter their chemical composition (in the case of bioremediation) or mineralogy / physical characteristics (in the case of stabilisation). With bioremediation, there is then a period of time required for the treatment to take effect (several weeks to months) during which the material is placed in windrows / biopiles under controlled oxygen, moisture and temperature conditions, and may be periodically turned. Windrows / biopiles can present an odour issue, either from the hydrocarbons being treated or from the additives used to treat them (e.g. mushroom compost). Therefore, windrows / biopiles should be placed at a suitable distance from sensitive off-site receptors, with accompanying targeted odour monitoring during the period that windrows / biopiles are present.

Crushed Concrete

- 11.16 It is understood that parts of the site contain relic foundations that may be removed during the remediation work. Should there be a requirement to crush this material for re-use as a recycled aggregate, then this should be done in accordance with the WRAP Quality Protocol '*Aggregates from Inert Waste*'. Any materials subjected to this processing must first be verified to be free from asbestos (amongst other requirements of the Quality Protocol).

12 INSPECTIONS

12.1 The remediation contractor shall undertake environmental compliance inspections in accordance with the permits and consents for the work and their internal environmental management systems. As a minimum it would be expected that these would include (but not necessarily be limited to):

- Daily general inspections (dust, odour etc.) and weather records.
- Stockpile condition audits (at least weekly).
- Perimeter security fencing inspections.
- Waste compliance audits (physical).
- Waste audits (paperwork).
- Operational inspection of environmental apparatus (e.g. oil water separators, drainage systems etc.).
- Visual inspection of water discharges (noting that all discharged water must first have demonstrated compliance with discharge criteria via laboratory testing).
- Inspection of all contamination containment systems.
- Perimeter inspections for the egress of groundwater and / or contaminated surface run-off leaving the site.
- Periodic inspection of storage vessels (including pumps, gauges, pipework and hoses) and equipment with the potential to leak oils and other liquids (e.g. compressors, transformers).

12.2 In addition to these inspections, various assurance and compliance environmental monitoring requirements have been identified in this CEMP, most notably in relation to dust, contamination and surface water quality. For brevity, these requirements are not repeated here. Once detailed remediation design is complete, the monitoring requirements should be reviewed, refined, added to or removed if / where deemed necessary, and consolidated into a monitoring specification (specifying locations, frequencies, trigger or pass/fail levels and response procedures) for inclusion in the final CEMP, prior to remediation works commencing.

13 INCIDENT RESPONSE

13.1 The remediation contractor will provide an Environmental Incident Response Plan (EIRP) in their final CEMP. It would be expected that the EIRP will include and provide further detail on the following measures:

- 'Stop' procedure to be implemented in the event of an incident, as soon as safe to do so.
- Containment response procedure for emergency containment and clean-up (use of spill kits etc.) and the procedure for notification of the site Environmental Manager and Project Manager.
- Procedure for identifying follow-up containment / clean-up e.g. investigation of the extent of contaminated ground resulting from an incident, installation of cut-off ditches to collect contamination that may have migrated away from a spill location.
- The procedure for the notification of the emergency services (where necessary), regulatory authorities (where necessary, depending on the nature and scale of the incident) and any other relevant parties (e.g. water authorities), and the person(s) with responsibility for this notification. The Environment Agency should be informed of any incidents that could affect surface water or groundwater, and major emissions to the atmosphere. The Local Authority Environmental Health Department should be informed of any incidents that may present a risk to public health (including off-site soil contamination and significant atmospheric releases of contaminants). The water authorities or sewerage operators informed for any incidents that may affect their assets.
- Contact details of emergency spill response companies, who can be contacted for spills that are too large to be dealt / contained using on site spill kits. An example of such a company is Adler & Allan: emergency telephone number (24 hours) 0800 592 827.
- Incident investigation, documentation and reporting / close-out procedures, and responsibilities for reporting these to the relevant regulatory authorities.

14 COMMUNICATIONS AND REPORTING

14.1 Environmental performance will be internally managed by the use of the following communication procedures:

- Suggestion / observation cards available for any site personnel or visitors to complete.
- Mandatory agenda item during site progress meetings.
- Communication of environmental performance to site personnel through briefings and notice boards, to encourage engagement.

14.2 All records and monitoring data obtained pursuant to the CEMP will be compiled into a monthly environmental compliance report. These reports will assess performance against the CEMP and itemise any non-conformances and actions taken during the reporting period. The reports will be submitted to the Local Planning Authority's Environmental Health department on a monthly basis.

Public Engagement

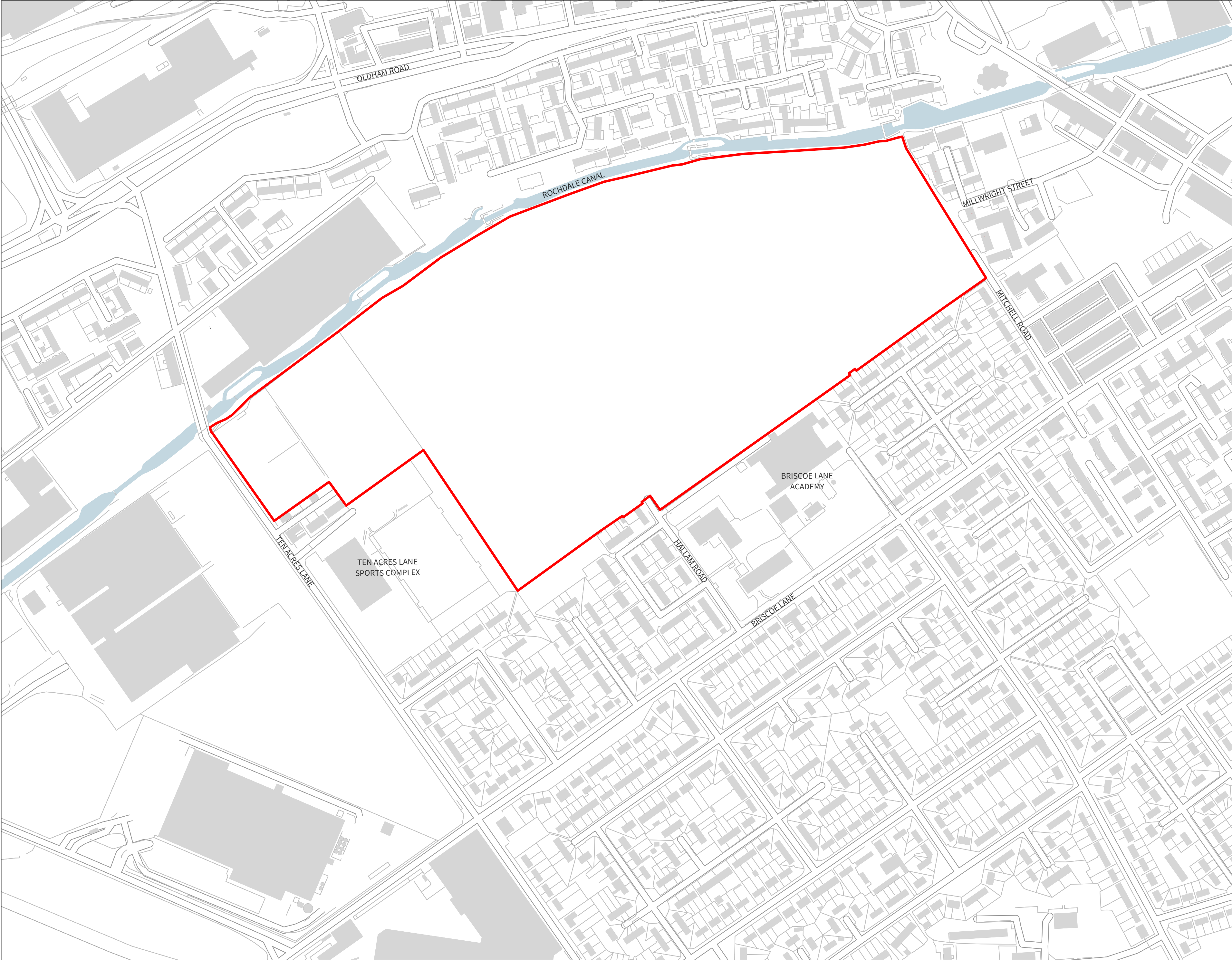
14.3 Environmental matters should be communicated to the nearby community where necessary by means of mail drops or community engagement meetings. The community will be provided with details of lines of communication with the site should they wish to raise any complaints or feedback during the work.

14.4 Should complaints be received during the remediation, then these will be investigated and actioned through the remediation contractor's Community Engagement Manager. Communication from residents may be received via the Local Planning Authority (LPA), in which case the remediation contractor will liaise closely with the LPA in addressing the issue. Should complaints be received directly, then these will be communicated to the LPA (and / or any other relevant regulatory authority depending on the nature of the complaint e.g. the EA) to allow for full engagement on the resolution of the issue. Any complaints (and other community feedback) will be itemised in the monthly report, together with the actions taken to address and close the matter.



A P P E N D I X 1

Site Location Plan



C

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NOTES:

1. Do not scale from this drawing.
2. Always work to noted dimensions.
3. All dimensions are in millimetres unless otherwise stated.
4. All setting out, levels and dimensions to be agreed on site.
5. The dimensions of all materials must be checked on site before being laid out.
6. This drawing must be read with the relevant specification clauses and detail drawings.
7. Order of construction and setting out to be agreed on site.

SCALE BAR @ A2

0m

20m

40m

60m

80m

100m

KEY

Application Site Boundary

S1-P0108-12-20

For Information

HB

LF

Revision

Date

Description

Drawn

Apprvd.

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Your Housing Group

Project

Jacksons Brickworks

Drg Title

Red Line Boundary Plan

Created on

Created by

Approved by

20/11/2020

HB

LF

Scale

Size

Workstage

1:2500

A2

Information

Drg No.

Suitability

Revision

2490-PLA-00-00-DR-U-0010

S2

P01

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A P P E N D I X 2

Excerpt From Environmental Statement (Surface Water Management)

Table 6.11 – Flood Risk summary of likely significant effects and receptors at risk

Likely Significant Effect	Receptor (s)
Construction Phase	
Mud and Debris Blockages	Surface Water (leaching into ground) / Canal to the North
Temporary Increase in Impermeable Area	Surface Water (leaching into ground) / Canal to the North

Mitigation Measures

Mitigation associated with Water Resources (Construction)

- 6.53. A number of key mitigation measures has been suggested in the sections below. It is likely that these will be formalised through the preparation of a Construction Environmental Management Plan (CEMP) and Drainage Strategy which will be required to be secured by planning condition.
- 6.54. In summary, the mitigation below reduces the residual risk to **Negligible** for the canal and surface water receptors, largely through appropriate infiltration drainage measures, reducing surface water runoff into the canal, thereby reducing risk to flows into the receiving watercourse and downstream.

Silt-laden Runoff - Silt Management and Control

- Works that are likely to generate silt-laden runoff (e.g. earthworks and excavations) will be done preferentially during the drier months of the year;
- A buffer of 10m should be adjacent to all surface water receptors;
- Site compounds and stockpiles will be located at least 30m away from surface water receptors;
- A drainage system will be developed to prevent silt-laden runoff from entering surface water drains without treatment (e.g. earth bunds, silt fences, straw bales, or proprietary treatment) and ponds under any circumstances;
- Earth stockpiles will be seeded as soon as possible, covered with geotextile mats or surrounding by a bund;
- Mud will be controlled at entry and exits to the Site using wheel washes and / or road sweepers;
- Tools and plant to be washed out and cleaned in designated areas within Site compound where runoff can be isolated for treatment before discharge to watercourse/ground or sewer under appropriate consent;
- Debris and other material will be prevented from entering surface water receptors;
- Construction SuDS (such as temporary attenuation) to be used during construction if necessary.

- 6.55. Following the implementation of the mitigation measures the residual effect is considered to be **Negligible**.

Spillages and Leaks of Pollutants

- 6.56. To allow chemicals, fuels/oils and other such substances to enter a water body could be in breach of the Water Resources Act 1991. As such measures to control the storage, handling and disposal of these substances will need to be put in place prior to and during construction. The following key mitigation measures relating to the control of spillages and leaks should be included in the CEMP:
- Fuel will be stored and used in accordance with the Control of Substances Hazardous to Health Regulations 2002, and the Control of Pollution (Oil Storage) (England) Regulations 2001;
 - Fuel and other potentially polluting chemicals are to be stored in a secure impermeable and bunded area;
 - Refuelling of plant to take place off Site if possible, or only in a designated area at the Site compound at least 20m from surface water receptors;

- Any plant / machinery / vehicles will be regularly inspected and maintained to ensure they are in good working order and clean for use in a sensitive environment. This maintenance is to take place off Site if possible or only at designated areas in the Site compound;
- All fixed plant used on Site to be self-bunded;
- Mobile plant to be in good working order, kept clean and fitted with drip trays where appropriate;
- An Emergency Response Plan will be prepared and included in the CEMP. Spill kits and oil absorbent material to be carried by mobile plant and located at vulnerable locations on the Site. Construction workers will receive spill response training;
- The Site is to be secure to prevent vandalism that could lead to a pollution incident;
- Construction waste / debris are to be prevented from entering any water body;
- Surface water drains on roads, other watercourse crossings or the core scheme compound area will be identified and where there is a risk that silt laden runoff could enter them they will be protected (e.g. covers or sand bags); and
- Concrete wash water will be adequately contained and removed from Site.

6.57. Following the implementation of the mitigation measures the residual effect is considered to be **Negligible**.

Inappropriate Wastewater Disposal from Welfare Facilities

6.58. No mitigation required. The residual effect is considered to be **Negligible**.

Mitigation associated with Flood Risk (Construction)

Mud and Debris Blockages

6.59. A temporary drainage network will be installed prior to the commencement of construction and a robust maintenance plan, confirmed through a Construction Management Plan, should be maintained throughout the duration of construction works on Site. Following the implementation of mitigation measures the residual effect of mud and debris entering the surface water drainage system is considered **Negligible**.

Temporary Increase in Impermeable Area

6.60. Construction mitigation guidance should be adhered to, for example ensuring that Site impermeability is increased as little as possible during construction. This effect should lessen as the Proposed Development progresses and the overall impermeable area increases with surface water drainage networks installed to deal with this effect. The residual effect, following the implementation of a temporary construction drainage network, is considered to be **Negligible**.

Summary

- 6.61. This Chapter of the ES has assessed the likely significant effects of the regeneration phase with respect to Hydrology, including the methods used to assess the effects; the baseline conditions currently existing at the Site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant negative effects; and the likely residual effects after these measures have been adopted.
- 6.62. The Site is in Flood Zone 1 and therefore has a very low probability of flooding of residential and industrial properties, however there is the potential for significant effects during construction and operation that require potential mitigation.
- 6.63. In summary, the main significant effects at the Site revolve around dealing with surface water risk at the Site and the potential for silt laden runoff, spillages, leaks and pollutants during the construction stage and diffuse pollution contained in urban runoff during the operation phase from a water resource perspective. In addition, from a flood risk perspective, the significant effects include mud and debris blockages and temporary increases in impermeable areas during the construction phase.
- 6.64. Mitigation includes completion of a CEMP which will include details of mitigation measures to prevent adverse impacts occurring to controlled waters and SuDS measures to mitigate the surface water risk which will develop as the

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