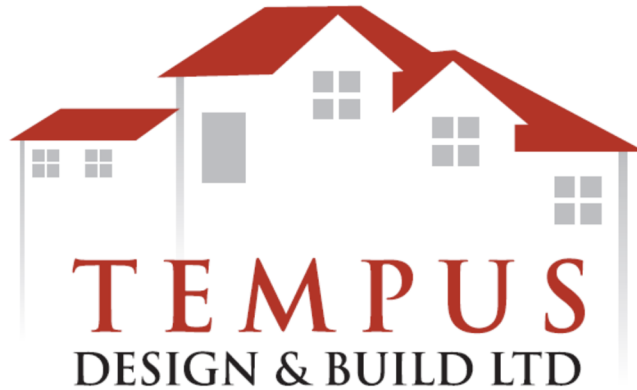




Tempus Design & Build Ltd Limited

Crompton Avenue, Rochdale – 18 Unit Housing Scheme

Construction Method Statement

Project: Tempus Design & Build Ltd, Crompton Avenue, Rochdale

Document Title: TDB 01/002 REV B

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CONTENTS

1	Purpose and structure of the document	4
2	Project details	5
2.1	Project Location	5
2.2	Scope of Works	6
2.3	Construction activities	7
2.4	Schedule	7
2.5	Operating Hours.....	7
2.6	Proposed construction methodology assumptions and construction techniques	7
4	Existing Environment	13
4.1	Site History	13
4.2	Surrounding Land Uses and Restrictions	13
4.3	Ground Conditions	13
4.4	Ground Contamination	13
4.5	Sensitive Habitats.....	13
5	Client / Project specific requirements	14
6	Potential Impacts from works.....	14
8	Construction Environmental Management System.....	17
8.1	Surrounding Environment.....	17
8.2	Communication and Coordination.....	17
8.3	Requirements of Sub/Trade Contractors.....	19
8.4	Construction parking.....	19
8.5	Health & Safety Audits	19
8.6	Environmental Incidents	19
8.7	Emergency Response	19
8.8	Spill Kit location(s).....	20
8.9	Training	20
8.10	Roles and Responsibilities:.....	20
8.11	Environmental Consents	21
9	Measures to reduce and mitigate identified Potential Impacts	22
9.1	Trees and Vegetation	22

9.2	Ornithology	22
9.3	Transport.....	22
9.4	Access and Recreation	23
9.5	Hydrology, Ground and Contamination.....	23
9.6	Flood Risk and Drainage.....	24
9.7	Air Quality	26
9.8	Noise and Vibration	28
9.9	Materials and Waste	29
10	Wheel Cleaning	33
11	APPENDICES	35

TABLE OF FIGURES

Figure 1 – Location Plan

Figure 2 - Planning Layout

Figure 3 - Proposed construction plant and equipment

Figure 4 - Nuisance potential and key mitigation measures

1 Purpose and structure of the document

The Construction Method Statement (CMS), i.e. this document, defines the procedures for how the works will be undertaken during the construction phase of the proposed housing development at Crompton Avenue, Rochdale (the Project) to prevent harm resulting from the scheme by achieving any identified environmental requirements and performance targets.

The CMS provides the framework for which construction-related mitigation measures can be realised and outlines the approach to environmental management throughout the construction phases with the primary aim of reducing any adverse impacts from construction on the environment and surrounding areas.

The CMS will be reviewed and updated as required by Tempus Design & Build Limited prior to commencement of any related works. It will be the responsibility of the Tempus Design & Build Limited to ensure that the CMS takes full account of all relevant statutory and non-statutory environmental requirements and guidelines.

This document is structured in seven main sections.

The first three establish the environmental **context** for the proposed development project, describe the client environmental **requirements**, and summarises the details of the project and environmental **aspects**.

The next section records the potential environmental **impacts** arising from undertaking the proposed project.

The fifth and sixth sections collectively describe how the construction processes, activities and **mitigation** measures could be undertaken to **reduce** the likelihood and/or significance of identified negative impacts.

The final section comprises appendices including a range of supporting drawings and data.

2 Project details

2.1 Project Location

2.1.1 Land off Crompton Avenue, Rochdale

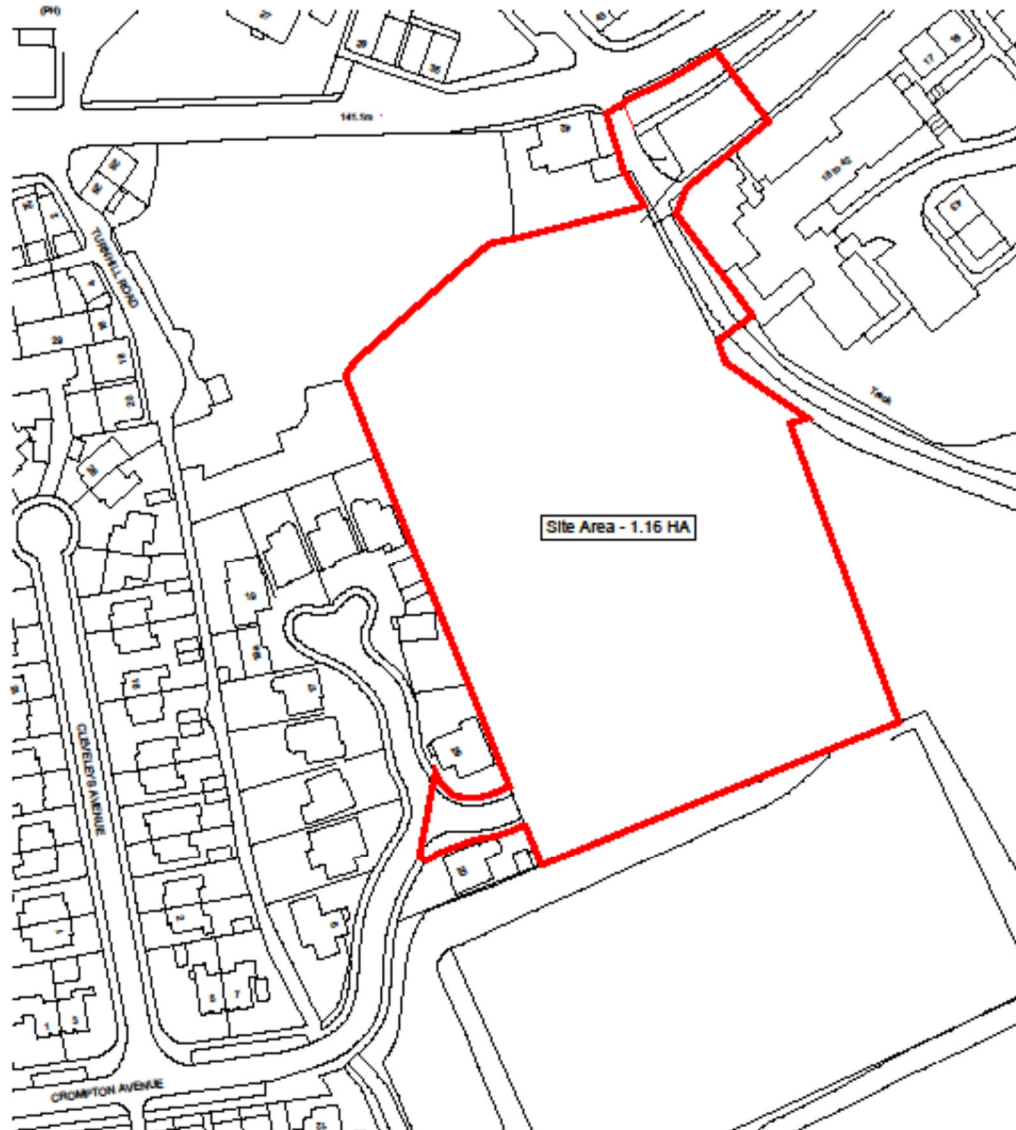


Figure 1 – Location Plan

2.3 Construction activities

2.3.1 Construction activities for the development will include the following;

- Site clearance including vegetation removal and stripping of topsoil;
- Earthworks within the proposed scheme footprint to include on site material processing, minimal off-site disposal of unsuitable excavated material and importation of suitable bulk fill if required;
- Construction of new access routes and drainage works including provision of traditional positive drainage comprising pipe systems, gullies and channels around the proposed roads, drives and buildings, construction of hard surfaces on roads, car parking and footpaths, with discharge into the existing surface water drainage system outfall;
- Construction of new housing units;

2.4 Schedule

2.4.1 The anticipated project construction operations are:

- Site clearance and set-up
- Earthworks
- Road & Sewer Construction to base course
- Foundations and drainage
- Superstructure works
- Complete external works

2.5 Operating Hours

2.5.1 Permitted hours for site work will normally be the following:

- 07:30 - 18:00 hours (Monday to Friday), 08:00 to 13:00 on Saturdays
- No working is permitted on Sundays or Bank Holidays.

2.5.2 Deliveries of materials and removal of Construction Waste will take place within the following hours:

- 09:00 - 17:00 hours - Monday to Friday only
- No delivery of materials or removal of waste shall take place at weekends or on Bank Holidays

2.6 Proposed construction methodology assumptions and construction techniques

- 2.6.1 Consideration has been given to the likely construction methods and techniques to be employed in the delivery of the Project. These considerations and assumptions as set out below have been used to derive indications of construction site layouts, as well as quantities and flows of materials and construction workforce.

Form of Construction

The proposed forms of construction will be traditional brick/block construction with concrete tiled trussed roofs to the superstructure on reinforced strip footing foundations.

Ground slabs to be of cast in-situ concrete construction.

Internal finishes & M&E installations will comply with building regulations and be in keeping with the quality standards set for the development.

Construction of the roads and car parking areas are considered to be of hard surfaces with hard and soft landscape areas designed and specified to be sympathetic with the local environment.

Work Elements

General

- The development to include the following strategic pre-construction and construction stages, some of these will overlap.

Pre-construction Requirements

- Obtain all necessary permits, licences, ecological agreements, third party agreements, etc. required prior to commencement on site
- Secure the site
- Make redundant and disconnect live services as required
- Establish zones for (See Appendix A):
 - The main office and welfare facilities
 - Delineate safe pedestrian access routes
 - Delineate safe vehicle access routes
 - Car Parking
 - Work zones
 - Laydown and storage
- Install temporary services and drainage
- Induct all personnel

Construction Requirements

General

- Carry out bulk excavation and fill operations to the required level

Roads and Sewers

- Excavate and lay pipework and manholes to form the sewer network
- Backfill sewer excavations with suitable materials and construct new roads from formation level

Buildings

- Construct foundations and lay under slab services, or service ducts.
- Construct ground slabs
- Construct walls
- Erection of timber floors
- Install roofing timbers and membrane
- Install glazing and cladding
- Install build services and finishes
- Commissioning & Final Clean for Handover

External

- As work zones external to the buildings (plus laydown and storage areas required for the construction) become free, construction of hard paved areas and hard & soft landscaping will be executed.

Completion & Handover

- Complete all works (including snagging) and obtain sign off
- Complete and handover all record drawings and documents

Construction Methodology

Initial Works

- Bulk earthwork operations (reduced level dig and fill in making up levels) will be carried out in the early stages. Suitable excavated material will be reused for fill in areas to be made up. Unsuitable material will be segregated and quarantined in a designated area before being removed from site to an approved tip. Wheel cleaning facilities will be implemented prior to unsuitable materials being removed from site.

Building Construction

- Building works will generally be carried out in sequence. Localised excavation and fill operations within the footprint of the buildings will also follow the principles used for the bulk earthwork operations.
- Excavation for and the construction of the foundations will commence. The foundations will be protected and then backfilled with suitable and / or imported material. As soon as is practicable the excavation for, installation of pipework/ducts, testing and backfilling of the underground drainage/services will commence. This will then be followed by the construction of the ground slabs. If not practicable to separate arisings into suitable and unsuitable material, then all arisings will be removed from site (this is the current assumption).
- The external wall brick/block, steel frame, timber frame and cladding construction will be carried out from an independent access scaffold progressively erected around the perimeters of each property as the work proceeds incorporating all necessary safety requirements. Fall prevention system will be provided in all situations where there is a risk of injury to operatives or the general public. Cranes and forklifts will be utilised for the roof trussed timber erection and construction of the upper floor joists.
- Material and personnel access to the upper floors will be via strategically placed access points in the scaffolding.
- Glazing will be installed by specialist subcontractors.
- The internal fit out will commence as the buildings become weather tight.
- As sections of the domestic building services are completed the plant and equipment installed will be tested and commissioned.

External Works

- These works will be carried out using earthmoving and surface levelling plant and equipment over the external areas. Following this, the access routes and car parking areas will be created first using specialised asphalt laying plant. Once complete, the hard and soft landscaping activities will be carried out.

Some of the operations and materials may require specialised construction and M&E installation techniques to be used, with the possibility that wide/heavy load deliveries and mobile cranes required. In these circumstances and found to be unavoidable, the traffic management plans will be reviewed to accommodate the necessary changes and this will be communicated to site operatives and neighbours.

Proposed construction plant and equipment is itemised in **Figure 3**.

Proposed Construction Plant				
Plant	Stage			
	Enabling Works	Substructures, Civil & External Works	Superstructure	Fit-Out
Wheel Cleaning Plant	✓	✓	✓*	
Road Sweeper	✓	✓		
Burning/Cutting Equipment		✓		
Pulverisors				
Crushers				
Tracked/Wheel 360 Degree Excavators	✓	✓	✓	
Breakers				
Hand Held Breaker	✓	✓	✓	
Diamond Cutting Tools/Saws	✓	✓	✓	
Wire Cutters		✓		
Wheeled Front Loaders	✓	✓		
Dozers	✓	✓		
Skid Steer Loader				
Spoil Removal Trucks	✓	✓		
Dumpers	✓	✓	✓	
Air Compressors	✓	✓	✓	
Dewatering Equipment	✓	✓		
Mobile Craneage/Tower Cranes		✓	✓	
Plate Compactors	✓	✓		
Compactors				
Scaffold			✓	
Mobile Access Platforms (MEWPS & Cherry Pickers)			✓	✓
Delivery Trucks	✓	✓	✓	✓
Skips and Skip Truck	✓	✓	✓	✓
Forklift Trucks/Telehandlers	✓	✓	✓	✓
Power Tools		✓	✓	✓
Hand/Power Tools		✓	✓	✓
Piling Rigs		✓		
Graders		✓		
Asphalt Paving Plant (Pavers/Rollers Etc)		✓		
Concrete Wagons		✓	✓	
Concrete Pump		✓	✓	
Mortar Mixer		✓	✓	
Material & Passenger Hoists		✓	✓	✓
✓ Indicates plant will be used during that stage of works				
* if required				

Figure 3 - Proposed construction plant and equipment

4 Existing Environment

4.1 Site History

- 4.1.1 The site is basically rectangular in shape and is currently undeveloped rough grass land.
- 4.1.2 The site slopes from the south to the north.

4.2 Surrounding Land Uses and Restrictions

- 4.2.1 To the west is a small housing development, to the southern boundary there is an existing football pitch. Beyond the northern boundary is a wooded area and to the east is open fields and a small sheltered accommodation development.

4.3 Ground Conditions

- 4.3.1 Ground conditions comprise of topsoil overlying sands and gravels. Groundwater was encountered at 1m – 2.2m in the northern area of the site.

4.4 Ground Contamination

- 4.4.1 Chemical testing on soils during the various ground reports have proved that for the residential end use there is low risk of contamination affecting human health and water receptors.

4.5 Sensitive Habitats

- 4.5.1 There are no sensitive habitats identified.

5 Client / Project specific requirements

The measures set out within this CMS show Tempus Design & Build Limited's commitment to addressing multiple sustainability issues during the construction and delivery process including: prevention of pollution, protection of ecologically valuable species and habitats, the selection of materials, and the sustainable management of waste. These include:

- **Waste** • Target 90%+ diversion from landfill rate
- **Materials** • Use only certified sustainably sourced timber and other key materials (e.g. FSC and BES6001)
- **Pollution** • Implement best practice measures
- **Nuisance** • Implement best practice measures
- **Arboricultural** • Implement measures to protect impact to identified areas
- **Traffic & Transport** • Implement a Construction Traffic Management Plan

6 Potential Impacts from works

Surveys and investigations of the site have been undertaken. From these surveys and investigations, a range of factors/receptors are identified in consideration of the construction phase of delivering the Project. These are recorded below with summary descriptions of the potential impacts. **Section 8** of this CMS document describes the environmental mitigation and control measures to be implemented to address the identified potential impacts.

Trees and Vegetation

- The existing site does not contain any trees protected under a Tree Preservation Order as defined by The Town and Country Planning (Tree Preservation)(England) Regulations 2012 .
- The construction phase has potential effects such as physical loss or gain of landscape elements, including trees, vegetation cover and landform.

Transport

- During the construction phase, access is required to the site initially for construction vehicles and then also for general traffic. There will be an increase in traffic including heavy goods vehicles (HGVs) for a period of time in order to develop the site(s). This increase has the potential to generate additional noise, dust, congestion, and has the potential to increase the risk of accidents.
- Further potential impacts include: traffic congestion caused by site traffic and traffic associated with road diversions and deliveries; increased vehicle movements; transfer of mud and material from vehicles onto the public highway and exhaust emissions.

Access and Recreation

- It is possible that construction of the proposed development will lead to disruption along the public highway.
- The PROW crossing the site will be temporarily diverted/stopped up during the construction period.

Hydrology, Ground and Contamination

- Based on the proposed development proposals and the known ground conditions at the site, there are no potential risks associated with contamination.

Flood Risk and Drainage

- The site is not located in an area which may be affected by flooding from surface water.

Air Quality

Potential sources of air pollution include:

- Products of combustion from HGVs, cars and onsite plant and machinery during the construction phase
- Direct emissions from on-site earthworks activities, and some offsite traffic movements.
- Windblown dust from ground surfaces, stockpiles, vehicles, work faces and cutting and grinding of materials.
- Exhaust emissions from lorries and plant delivering and removing materials including dust and particulates.

Noise and vibration

The key environmental effects in relation to noise and vibration are listed below:

- Noise and vibration associated with construction work activities affecting sensitive receivers.
- Movement of mobile plant on the construction site and low frequency noise emissions;
- Increased noise and vibration impacts associated with construction of roads;
- Noise and vibration impacts associated with movements of construction related vehicles on public roads leading to the development site;
- Earthworks and landscaping activities requiring use of mobile plant;
- Noise and Vibration from temporary fixed plant required for construction activity

Socioeconomics

The principal effects of the scheme will be economic. This will include:

- Creation of employment in construction phase;
- Creation of supply chain opportunities in the construction phase; and
- Wider effects on local economy of additional wages and local expenditure

Waste and Materials

During construction phases a significant amount of waste material may be generated including:

- Site clearance materials;
- Stockpiled materials which require offsite disposal;
- Excavated soils;
- Waste construction materials (timber, blockwork debris, plasterboard, aggregate etc.); and waste from construction site welfare facilities. Unmanaged, the waste material may lead to contamination of surface water from waste stockpile runoff; generation of dust from waste stockpiles; odour from poorly contained wastes; increase in traffic associated with transportation of waste from site that is not suitable for reuse or recycling within the site; and
- take up of landfill space.

Other potential impacts for consideration include:

- Accidental spills, discharges to drains/ storm water systems, contamination to ground.

8 Construction Environmental Management System

8.1 Surrounding Environment

The project works have the potential to cause nuisance to neighbours. Local relevant sensitive receptors are identified below:

Neighbour Nuisance Key mitigation measures

Neighbour	Nuisance	Key mitigation measures
Residents • Adjacent Residential properties surrounding the site	• Noise • General disturbance • Access	• Site working hours • Production of works notification and signage • Good neighbour and complaints procedure agreed and in place • Construction route and access strategy
Local Amenity • Sports Pitches	• Noise • General disturbance • Access	• Site working hours • Production of works notification and signage • Good neighbour and complaints procedure agreed and in place • Construction route and access strategy

8.2 Communication and Coordination

Communication

Prior to site work commencing, neighbours will be informed of:

- the start date;
- the duration and nature of the project;
- all significant operations that have potential to cause nuisance
- contact names and numbers of appropriate site personnel.

There shall be at quarterly communication with site neighbours in order to keep them informed about current progress and forthcoming works. Where it is anticipated that scheduled works may have an adverse effect on neighbours, such as works within highways or services, communication shall be made with the appropriate contacts (established prior to works) at the Local Authority.

Any works outside the permitted hours will only be undertaken with the approval of the Local Authority.

Site Neighbours Communications

Keeping neighbours informed of the works is paramount to avoiding any complaints and maintaining a good working relationship. As such the Tempus Design & Build Limited site management will establish early contact and maintain ongoing communications with the adjacent residents.

Complaints

Where a complaint is received, it shall be immediately logged and all relevant details obtained.

All complaints will be closed out within appropriate time frame in order to satisfy the complainant.

Noticeboard

A display board will be erected outside the site keeping local residents and stakeholders informed of key personnel, contact addresses and telephone numbers.

Meetings

Co-ordination within the project will be achieved through regular meetings between the main contractor and their supply chain.

Health & Safety visits and audits will consider the results of inspections and review Key Performance Indicators and or issues arising from complaints. A look ahead shall also be undertaken to plan actions required to prevent or mitigate forthcoming risks and disseminate best practice.

8.3 Requirements of Sub/Trade Contractors

In order for the delivery team to meet all regulatory and client requirements, it is essential that such requirements are communicated to sub / trade contractors. Such requirements will be included within tender pack information sent to all sub / trade contractors, to help ensure the requirements are communicated at the earliest stage and considered by all.

As appropriate, the main contractor shall include contractual requirements for sub / trade contractors in relation to any environmental requirements.

8.4 Construction parking

The approach to providing construction site mobility may include solutions such as the use of temporary local parking provided on land off-site. As the site develops and hardstanding areas are created on site, all construction related vehicles are expected to be parked on site. A Traffic Management Plan will be produced, clearly visible and implemented during the construction phase.

8.5 Health & Safety Audits

The performance of the Project will be internally audited by a suitably qualified person.

Audits will be recorded and the actions will be presented in report format. Evidence will be provided to close out any actions / non-conformances and the auditor will record this information accordingly.

8.6 Environmental Incidents

All environmental incidents and near-misses will be recorded on an appropriate system by the main contractor. Full details must be recorded providing all relevant and required information.

8.7 Emergency Response

Planning for responding to incidents and emergencies is an important part of project environmental management. Emergency response and contingency plans should take account of the location of the local drainage system; requirement to engage with the emergency services, location and contents of spill kits, notification process and emergency contacts list in the event of an incident (including external parties such as the Environment Agency and Emergency Services), etc.

Project Emergency Response Procedures will be developed, completed and included in the site induction and allocated persons should be appropriately trained. The procedure should be drilled on a periodic basis to ensure that it is still effective and personnel know how to respond.

8.8 Spill Kit location(s)

Appropriate spill kits will be present on site and suitable given nature of works, risk and location.

8.9 Training

Toolbox talks will be delivered on a regular basis on relevant environmental issues to raise awareness. When undertaken, attendance records will be kept.

8.10 Roles and Responsibilities:

Tempus Design & Build Limited will develop roles and responsibility strategies to ensure implementation and delivery of the CMS. Likely roles include but are not necessarily limited to:

Project Director/Site Management

The Project Director and Site Management will be responsible for ensuring that the construction programme is carried out with effective and efficient consideration of the environment and are responsible for:

- ensuring that the necessary environmental licenses, permits or exemptions are in place, making sure an appropriate spill kit procedure is in place and is drilled.
- identifying and rating environmental risks
- planning, implementing and reviewing all necessary environmental monitoring,
- monitoring construction activities to ensure compliance with statute and recommending improvements as required
- ensuring all documentation is reviewed regularly
- ensuring all necessary environmental data is recorded and retained
- waste management, water management and other general environmental issues
- ensuring the delivery team are kept up to date with applicable environmental legislation.
- ensuring that all operations activities are carried out with due regard for protection of the environment
- ensuring audits are carried out and non-conformances are reported to the relevant personnel for corrective action

- providing necessary environmental awareness training
- keeping neighbours informed of the works
- maintaining a good working relationship with neighbours
- establishing a residents' liaison protocol
- monitoring communications
- updating neighbours on upcoming project activity
- updating employees on upcoming project activity
- updating relevant SLDC representatives of upcoming project activity as required
- dealing with community complaints
- maintaining site display boards

8.11 Environmental Consents

Tempus Design & Build Limited to establish:

- Electricity & Water Supply Provider
- Temporary Supply Arrangements
- Meter(s) and Meter Location(s)

Consent to discharge effluent / groundwater

- Tempus Design & Build Limited will liaise with United Utilities and Environment Agency and secure any licenses or permits as required.

9 Measures to reduce and mitigate identified Potential Impacts

9.1 Trees and Vegetation

The main contractor throughout the construction phase will:

- Ensure that any trees identified for retention are protected in terms of the trunk, branch spread and root protection zone, and by appropriate fencing in line with BS 5837 : 2012 Trees in relation to Construction.
- Some trees may need to be removed, the extent of any removal programme shall be confirmed by the main contractor with the client and a competent arboriculturalist utilising BS5837:2012 in the decision-making process.
- Tree Protection signage is to be used.

9.2 Ornithology

The main contractor throughout the construction phase will:

- Works to clear vegetation, which cannot be undertaken out of nesting birds season, **unless supervised by suitably qualified ecologist**, will require prior survey to ensure area free of nests.
- If occupied bird nests are discovered on site during construction, works should be stopped until the advice of an ecologist is consulted.

9.3 Transport

The main contractor throughout the construction phase will:

- Develop a 'Traffic Management Plan' (TMP) in advance of any works being undertaken. The TMP is aimed at mitigating the impact of traffic (including HGV) during the construction stages of development. It will outline the routes construction traffic would be required to take to access the site, hours of operation, along with the need for relevant signing. Ensure site logistics are developed and complied with e.g. in relation to demarcated areas, signage, barriers separating traffic movements from pedestrian routes etc.
- Secure the site such that it will only be accessible to construction workers and vehicles.
- Implement appropriate measures to reduce and mitigate impact of dust – refer to Air Quality section.
- Locate all site accommodation and welfare facilities within the site boundary

9.4 Access and Recreation

The main contractor throughout the construction phase will:

- Implement measures to mitigate any disruption along the public highway, more specifically the use of Crompton Avenue, such as consultation with the residents, which could include letter drops to ensure the local residents are aware of the proposed construction programme and warned in advance of periods of potential disruption.

9.5 Hydrology, Ground and Contamination

The main contractor throughout the construction phase will:

Identify and implement mitigation measures to ensure that potential mobilisation of sediment or contamination to surface water is minimised, these could include:

- Minimising exposure of excavated soil and stock piles;
- Limiting run-off of mud built up on site roads;
- Enhanced soil management (such as segregation and capping / sheeting etc.) during excavations
- Re-use of excavated material and topsoil whenever possible.
- Should any material require disposal offsite, appropriately test, classify and undertake appropriate pre-treatment on such materials to determine appropriate route for disposal.
- Prepare method statement identifying procedures for when unsuspected contamination is encountered.
- If contamination is found at any time that was not previously identified it must be reported in writing within 14 days to the Local Planning Authority
- In any areas noted as particularly vulnerable to pollution, ensure operational controls such as bunding, storage location, presence of spill kits and use of drip trays are taken.
- Undertake any additional testing of soil that may be required prior to classification and removal (in line with requirements of EA document WM2, soil samples must be analysed at a lab with the appropriate UKAS mCERTs accreditation). Carry out all testing via conducted by a fully UKAS accredited laboratory.
- If as part of the works the handling (e.g. lifting or moving) of arisings may result in the generation of dust, consider damping down during excavation or using a water bowser and sprayer to minimise dust issues.
- Ensure that Health and Safety Procedures for detecting and dealing with services on, and immediately adjacent to site are comprehensive and are detailed in Health and Safety Plan.

- Store all hazardous materials in a designated area on level hardstanding away from sensitive receptors and are to be locked when not in use. Access to material should be limited to those authorised to use them. Materials stored to be covered, gas bottles to be retained in locked gas cage. COSHH assessments should be available for all materials including an assessment of whether the materials are classed as either non-hazardous or hazardous upon disposal.
- Ensure Material Safety Data Sheets (MSDS) for all hazardous materials are available on site and that subcontractor Method Statements incorporate instruction on the correct handling, storage and disposal of these materials.
- Conduct all refuelling and maintenance of plant and equipment in a designated area on hard standing where available (e.g. away from drainage and on impermeable surface).
- Ensure a suitably sized interceptor drip tray and funnel are available and used when refuelling, spill kit to be available at point of use.
- Ensure all fuel tanks and bowzers comply with the Oil Storage Regulations 2001 including: secondary containment system to be in place which can hold 110% of maximum capacity of the tank (or in the case of IBCs, drums or multiple containers 25% of the aggregate volume or 10% of the largest container whichever is the greatest); drip tray and funnel to be available and used when refuelling, spill kit to be available at point of use; tanks to be locked at all times when not in use, label to be applied to tank / bowser stating contents and maximum capacity, and sited away from drains or controlled waters
- If operating hydraulic powered equipment on site, ensure suitable preventative maintenance and inspection is carried out regularly.
- Ensure spill kits are available and operatives are trained in relevant emergency response.
- Paints should always be stored in a suitable area and be lidded. Any spills should be reported and managed effectively as per the site emergency procedures. Check the materials data sheet and ensure a COSHH assessment is conducted if storing and using paints.

9.6 Flood Risk and Drainage

The main contractor throughout the construction phase will:

Surface water

- Design the construction site and protection measures to keep potential pollution sources (e.g. refuelling areas or spoil heaps) away from surface water features / drains.
- Ensure surface water drains are protected.

Drainage and discharge

- Ensure that under no circumstances must a hazardous substance or contaminant be included in the discharge.
- Scheme of surface water and sewerage disposal with aim for all disposals to be via connecting to permanent rather than temporary systems.
- If discharging anything other than clean surface water run off to the surface or foul sewer water system, apply to the regulator (EA for controlled water discharge consent and local sewerage undertaker for a trade effluent consent).

Pollution Control

- Construction activities will take account of Environment Agency's Working at Construction and Demolition Sites: PPG6.

9.7 Air Quality

The main contractor throughout the construction phase will:

- Choose construction methods which are likely to minimise the generation of dust, with particular attention paid to operations which must unavoidably take place close to the site boundary.
- Bonfires and burning of waste materials will not be permitted
- Consider implementing specific measures associated with avoiding dust generation including:
 - sweeping public roads regularly using a vacuum sweeper;
 - limit vehicle speeds- slower the vehicles, the less dust generation;
 - clean the wheels of vehicles leaving the site; and
 - keep stockpiles to the minimum practicable height and use gentle slopes.
 - damping down during ground works and other dusty activities, using water bowser and sprayer to suppress dust,
 - Increase the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
 - plan the site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable.
 - erect solid screens or barriers around dusty activities or the site boundary at least as high as any stockpiles on site.
 - enclosure of site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
 - measures to control site runoff of water or mud.
 - keep site fencing, barriers and scaffolding clean using wet methods.
 - remove materials that have a potential to produce dust from site as soon as possible.
 - cover, seed or fence stockpiles to prevent wind whipping if storing for extended periods.
 - ensure all vehicles switch off engines when stationary - no idling vehicles.
 - manage the delivery of goods and materials to keep to the minimum with just in time deliveries wherever possible.
 - only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
 - ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.

- minimise drop heights, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate

Additionally:

- ensure equipment is readily available to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
- Record any air quality related complaints received by the site with details of appropriate action taken to resolve any nuisance.
- Consider what options are available to reduce or use cleaner fuels on site reducing the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.

Measures to consider Specific to Earthworks:

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Only remove the cover in small areas during work and not all at once.

Measures to consider Specific to Construction:

- Ensure sand and other aggregates are stored in silos, banded areas or in a controlled and well managed manner.
- Avoid scabbling (roughening of concrete surfaces) if possible.
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust release.

Measures to consider Specific to Site Traffic:

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper use being continually reviewed.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Install hard surfaced haul routes which are regularly damped down and cleaned.
- Install a wheel cleaning system (dislodge accumulated dust and mud prior to leaving the site). See Section 10 for details of proposed wheel cleaning.

Measures to consider specific to Non-Road Mobile Machinery:

- Non-Road Mobile Machinery and plant would be well maintained. If any emissions of dark smoke occur then the relevant machinery should stop immediately and any problem rectified.
- Implementation of energy conservation measures including instructions to throttle down or switch off idle construction equipment; switch off the engines of trucks while they are waiting to access the site and while they are being loaded or unloaded, ensure equipment is properly maintained to ensure efficient energy consumption.

9.8 Noise and Vibration

The main contractor throughout the construction phase will:

General activities

Minimise construction noise by the use of plant, management techniques and acceptable working hours to ensure that site activities and off-site effects are not significant.

Good working practice guidelines/instructions to include, but not be limited to, the following points:

- Avoid un-necessary revving of engines
- Plant used intermittently should be shut-down between operational periods
- Use noise control equipment such as jackets, shrouds, hoods and doors and ensure they are closed
- hoardings or screens as noise barriers are erected before any construction activities
- plant should be located as far as is reasonably practicable away from receptors
- Avoid reversing wherever possible
- Drive carefully and within the site speed limit at all times
- Report any defective equipment/plant as soon as possible so that corrective maintenance can be undertaken
- Handle material in a manner that minimises noise
- Informing residents about the construction works, including the timing and duration of any particularly noisy elements, and providing a contact telephone number to them
- Avoiding operating particularly noisy equipment at the beginning and end of the day
- Keeping potentially noisy deliveries, such as skips and concrete, to the middle or less sensitive times of the day where possible
- Locating noisy static plant, such as diesel generators, away from residential properties
- Using the most modern equipment available and ensuring equipment is properly maintained
- Where possible using silencers/mufflers on equipment.

- Display contact information and contact details at the site entrance in order that complaints can be registered.
- Maintenance of plant will be carried out routinely and in accordance with the manufacturers' guidance. A regular inspection of all plant and equipment will be undertaken as a minimum to ensure that:
 - all plant is in a good state of repair and fully functional;
 - any plant found to be requiring interim maintenance is taken out of use;
 - acoustic enclosures fitted to plant are in a good state of repair;
 - doors and covers remain closed during operation; and
 - any repairs are being undertaken by a fully qualified maintenance engineer.

9.9 Materials and Waste

The main contractor throughout the construction phase will undertake:

Responsible sourcing

- Use only timber from FSC certified sources and/or recycled timber for temporary and permanent works.
- Non FSC timber can only be accepted if main contractor can adequately demonstrate that FSC Certified or recycled timber is either unavailable or that the cost is prohibitive and that the client specification cannot be changed.
- As part of the works, concrete, re-enforced steel, aggregates, brick/block or any other materials which can be responsibly sourced (i.e. to the BES 6001 standard) will be used.

Secondary aggregate and topsoil

- Ensure all materials procured are classed as a secondary aggregate (e.g. 6F2) that is fit for purpose and is certified as clean by the supplier or contractor.
- Request written confirmation and conduct spot check on imported material to ensure this is not contaminated.
- Undertake visual inspections for vegetation, timber or plastic presence indicate contamination, smells (i.e. hydrocarbon) and chemical testing where deemed necessary.

Re-use of material and/or store excavated material onsite

- Arisings/soils are to be excavated and stockpiled on site, even if reuse later is intended.
- The assessment of the chemical test results for the topsoil samples confirms that the topsoil is suitable for re-use on gardens.

Construction Waste

Apply general mitigation measures to the majority of waste that will be created:

- Waste from all stages of the project will be dealt with in accordance with the waste hierarchy.
- Avoid or minimise waste generation through influencing the design approach;
- Adoption of management practices to reduce the potential for cross contamination and promote waste segregation during construction;
- Reusing or recycling waste materials on construction activities;
- Diverting waste to other construction sites or to the other sites for beneficial use, e.g. surplus topsoil;
- Diverting excavated material away from landfill and towards beneficial use as general fill;
- Use of good practice in design of waste storage areas and use of suitable containers;
- Minimising storage periods; and
- Control and treatment of runoff from soil and waste soil stockpiles
- Adhere to waste legislation for storage and handling on-site; and ensure that the relevant regulatory controls have been applied to the reuse, recycling or recovery of waste on-site.
- No waste from the proposed development shall be deposited outside the boundary of the development, unless it is in a site that holds a valid environmental permit.
- Ensure that those who remove waste from site have the appropriate authorisation and those facilities that receive waste from the site hold a valid environmental permit.
- Allocate space on site for storage of waste materials and ensure that storage areas and containers are clearly labelled.
- Hazardous waste must be stored separately from non-hazardous to avoid contamination.
- Ensure that all contractor staff are aware of the appropriate reuse, recycling or disposal routes for each waste.

These measures will promote sustainable waste management practices by maximising waste prevention, re-use and recycling for material destined for offsite waste management.

Waste-specific mitigation measures:

Inert waste:

- Inert materials to be carefully segregated and re-used where possible.

Non-hazardous wastes - Biodegradable waste from vegetation clearance:

- Biodegradable waste generated from clearance of trees, shrubs and plants etc., to be either effectively managed by being retained on-site for use as mulch; or sent for recycling at a local composting facility.

Non-hazardous wastes - Excavated soils

- Topsoil to be retained on site for reinstatement and reuse where practicable, within the development for landscaping. Stockpiles of topsoil will be kept separate and be identifiable from other excavated material to ensure effective reuse.
- Subsoil –A watching brief will be maintained during construction and any excavated material that is suspected of contamination will be stockpiled separately and samples will be taken for analysis. Any material found to be hazardous and assessed to be unsuitable for reuse on site will be sent off-site for treatment and/or disposal as appropriate.
- Effective stockpile management will be implemented to maximise the amount of material that can be reused on site in landscaping, backfill or the construction of bunds. Where excavated material is used elsewhere on-site the appropriate regulatory mechanism must be followed to demonstrate that it is not waste when reused. If it is waste, an environmental permit will be required. The CL: AIRE Definition of Waste: Development Industry Code of Practice (the CoP) is anticipated to provide the regulatory framework for the reuse of the excavated material.

Non-hazardous wastes - Excess construction materials

- Ensure timely procurement to help ensure right amount of material delivered at time needed.
- Ensure perishable materials are stored so that they are protected from the local climate.
- Damaged or off-specification material should be returned back to supplier where possible.

Non-hazardous wastes - Packaging

- Suppliers requested to take back any packaging associated with their products.
- Packaging materials that cannot be returned should be kept for on-site reuse.
- Any residual packing that cannot be used on site should be segregated into distinct dry recyclable waste streams and sent for recycling off-site.

Hazardous wastes

- No contamination is expected at the development however:

Hazardous construction and excavation waste

- All suspected hazardous wastes will be segregated and tested to carry out a rigorous hazardous waste classification assessment. Material that has no potential for re-use will be stored separately from suspected hazardous material that has the potential for reuse.
- Excavated soil that is contaminated can still be reused on-site where it can be demonstrated that it is suitable for use.
- Surplus contaminated excavated material will be sent off-site for disposal.

Miscellaneous Hazardous Wastes

- Empty fuel or oil drums to be retained for reuse on site. Those that cannot be retained should be sent to a drum reconditioning facility to enable the material to be prepared for re-use. Damaged drums should be sent for recycling.
- Implement active maintenance regime on plant and equipment to reduce the potential for machinery to cause leaks. Valves, stopcocks and pipes should be regularly checked for leakages. Fuelling activities should be carried out in bunded areas, or off-site.
- The storage of fuels and liquids should be in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 and the appropriate pollution prevention control guidelines: PPG 2 - Above ground oil storage tanks; PPG 7 - Refuelling facilities: good practice guidelines; PPG 8 - Safe storage and disposal of used oils; PPG 22 - Dealing with spills; and PPG 26 - Drums and intermediate bulk containers
- Ensure that Hazardous materials are stored securely, away from non-hazardous or incompatible materials. Small items of hazardous waste should be prevented from being disposed of in general waste skips to avoid contamination.
- Ensure any stockpiles are either battered or sheeted to minimise potential for silt.

Site Welfare and Food Waste

- Take action to reduce the quantity of waste produced in the first instance.
- Implement effective recycling schemes
- Animal by-products must be collected, identified and disposed of without undue delay, in order to prevent risks arising to public and animal health.
- Frequent collections of waste should be arranged to ensure that quantities on site are within the capacity of one skip and waste is not retained on site for long periods to reduce scavengers and vermin.
- The remaining residual waste should be sent to an off-site materials recycling facility.

10 Wheel Cleaning

Requirements

- Reduce/eliminate debris taken off site by delivery vehicles and construction traffic.
- Prevent mud and contaminated water from draining to the public sewer system.
- Keep work areas free of unsure footing.

Proposals

- Where necessary, use of a dry wheel cleaning system close to the site entrance and require trucks and wagons to pass over the wheel cleaning facility prior to leaving the site.
- Where necessary, a wheel cleaning system to be Eco-ramp Dry Wheel Wash system or similar, as pictured below.
- Debris collected in wheel cleaning system to be removed periodically and disposed off site as required by WAC testing undertaken.



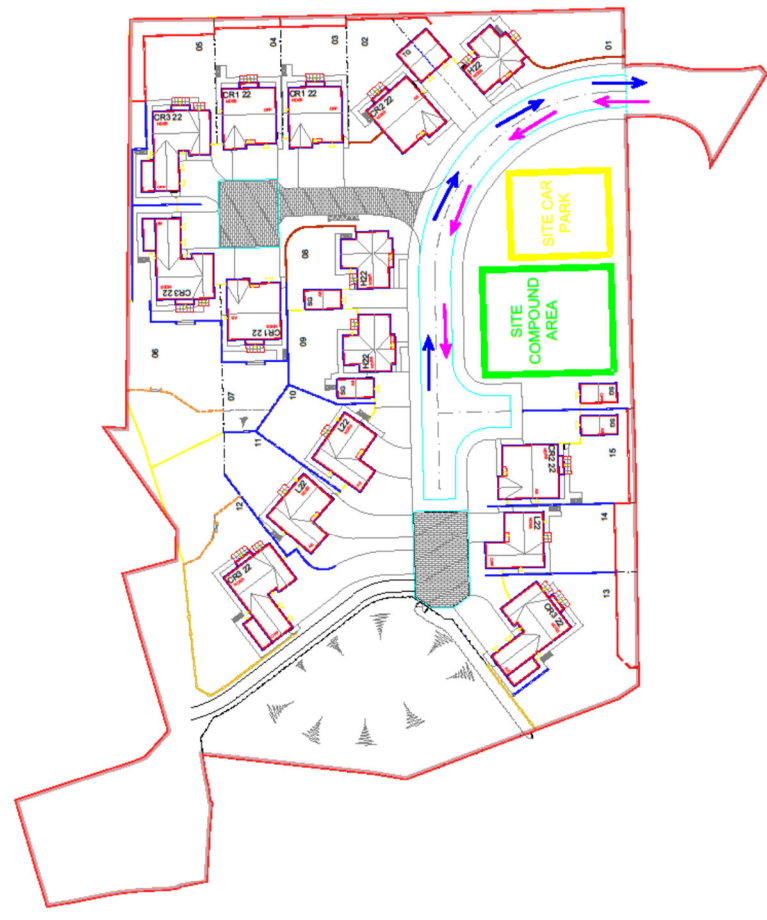
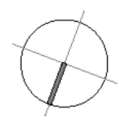
Benefits over wet system

- No requirement for water connection and therefore no wastage of clean water.
- Removal of potentially contaminated debris from site will be in solid format rather than liquid form.
- No freezing or icing of surfaces in winter preventing potentially hazardous site conditions.
- Due to the lack of power requirement there will be no emissions from generators.
- Dry system can be used without supervision.
- Due to lack of moving parts, water injectors and pumps, there are no down time periods due to breakdowns.

11 APPENDICES

APPENDIX A – CONSTRUCTION SITE LAYOUT & ACCESS/EGRESS ROUTE

APPENDIX A



SITE COMPOUND

SITE EGRESS

SITE ACCESS

ALL BOUNDARIES/
CONSTRUCTION
ZONES WILL BE
SECURED WITH
HERAS FENCING AS
REQUIRED

ENTRANCE
SECURED WITH
HERAS FENCING
GATES

B	20-04-23	REV SITE LAYOUT & RED EDGE	
REVISION	DATE	DESCRIPTION	

CLIENT: LANCET HOMES

PROJECT: RESIDENTIAL DEVELOPMENT - CHROMPTON AVE

ADDRESS: CHROMPTON AVE, BLUESHILL, NOTTINGHAM

DRAWING TITLE: CDS PLAN

SCALE: 1:500

DRAWING NO: CDSM_2005_2023

DATE: APR 2023

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