MANOR GARDENS DEVELOPMENT, NORTHCOTE ROAD, LANGHO

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP) revision – 1st issue

OAK TREE DEVELOPMENTS, SUITE 2, No. 1 DERBY STREET, LEIGH, LANCS WN7 4PF

MANOR GARDENS DEVELOPMENT, NORTHCOTE ROAD, LANGHO

INTRODUCTION

Report Title	Construction Environmental Management Plan New Residential Development, Northcote Road, Langho BB6 8BG
Planning Permission Reference	3/2022/0537
Revision Number	1st Issue
Issue Date	28th April 2023
Checked by	[redacted]
Client	Oak Tree (Construction Design & Management) Ltd Suite 2, No. 1 Derby Street, Leigh, WN7 4PF.
Architect	PAB Architects Ltd Renaissance Studio, No. 1 Derby Street, Leigh, WN7 4PF.
Principal Contractor	Oak Tree (Construction Design & Management) Ltd Suite 2, No. 1 Derby Street, Leigh, WN7 4PF.

Regulatory Authority	Environmental Agency Lutra House Dodd Way Off Seedlee Road Walton Summit Centre Bamber Bridge Preston PR5 8BX
Local Authority	Ribble Valley Borough Council Council Offices Church Walk Clitheroe Lancashire BB7 2RA

1.0 INTRODUCTION TO THE CEMP

This Construction Environmental Management Plan (CEMP) incorporates the management system for the project works. It sets out the policies and environmental controls required to ensure that the environmental impacts are minimised. It highlights the key activity specific risks, detail control measures, and makes reference to all associated forms and registers where required. All items specifically required in the CEMP are covered.

The Managing Director, Paul Mosscrop, approves and supports this CEMP as the principal document demonstrating a planned and systematic approach to implementing environmental policy through an effective environmental management system.

The Managing Director is responsible in ensuring the CEMP complies with legal and contractual requirements and to ensure all project personnel are aware of the contents and understand their role in fulfilling the project's obligations.

The Site Manager is responsible for maintaining this document and ensuring it is implemented by all site personnel and sub-contractors during the construction period.

The Project Team including all contractors and supply chain members will comply with the requirements of this plan.

Managing Director - [redacted], email: [redacted]

Site Manager - [redacted] mobile; [redacted] email: [redacted]

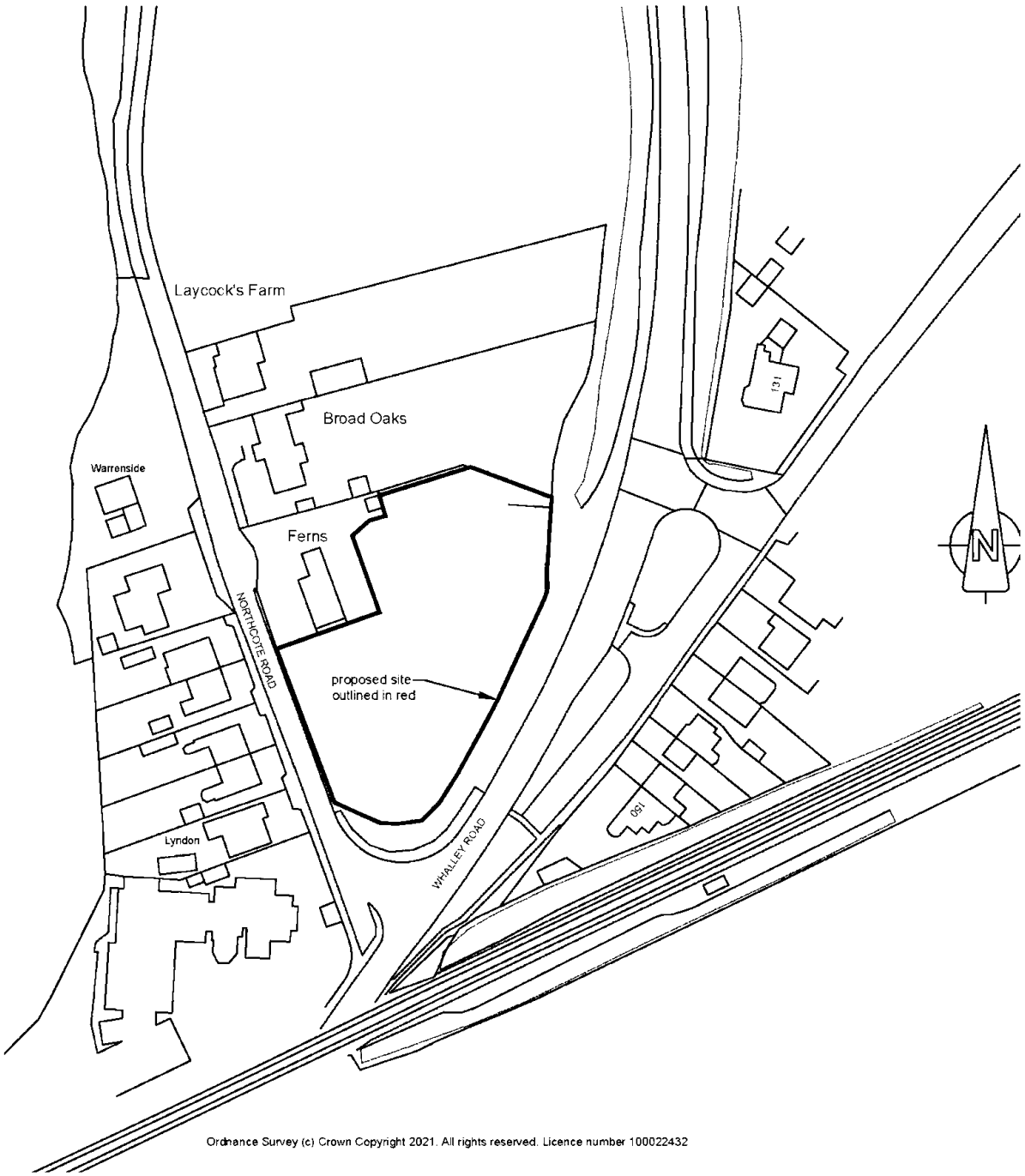
2.0 PROJECT DESCRIPTION

Construction of 8 No detached 4-bedroom homes and associated access roads and infrastructure.

3.0 SITE LOCATION

From the A59, the site is approached via the A666 Whalley Road. After leaving the Northcote Manor roundabout on the A59 the site entrance is off Northcote Road, which is the first turning on the right, and directly opposite St Michael's Lodge on the right-hand side of the road.

From the centre of Langho village the site is accessed via the A666 Whalley Road and turning left immediately after the railway bridge into Northcote Road, the site is directly opposite St Michael's Lodge on the right-hand side of the road.



Site Location Plan

4.0 BACKGROUND

This Construction Environmental Management Plan (CEMP) is prepared to satisfy planning condition 9 of the planning permission ref; 3/2022/0537 dated 28th April 2023 for the development.

5.0 WORKING HOURS

The hours of work for construction will be as follows:

08.00 to 17.30	Monday to Friday
08.30 to 13.00	Saturday

Materials and plant deliveries will be arranged where at all possible between 9.00am and 3.00pm Monday to Friday.

6.0 SITE LOGISTICS, ACCESS ROUTES, PARKING, WELFARE FACILITIES & MATERIALS STORAGE

Please refer to the logistics plans for roads and sewer/ground works construction and house construction on the next pages.

The site will be fully secured at all times, with block and mesh fencing fixed either on timber posts or rubber feet. Access gates will be kept locked, and access managed during working hours.

Any existing fencing will be maintained to all boundary areas and any gaps covered with temporary block and mesh fencing which will be double clipped.

All site security fencing will be continually monitored, and any additional fencing or repairs will be done immediately.

Access on to the site will be via Northcote Road. This is to be the only means of access during all construction phases. Access for the main house building works will only commence when the proposed road and sewer works are complete to stage 1 (base course) and the ground works are complete.

The house construction site compound incorporating the offices and welfare facilities will be located at the end of the newly constructed road at the side of plot number 7. These facilities will be set up following the construction of the roads and sewers. Temporary site office and welfare units in compliance with Schedule 2 of CDM Regs 2015 will be put in place during the initial road and sewer and ground works.

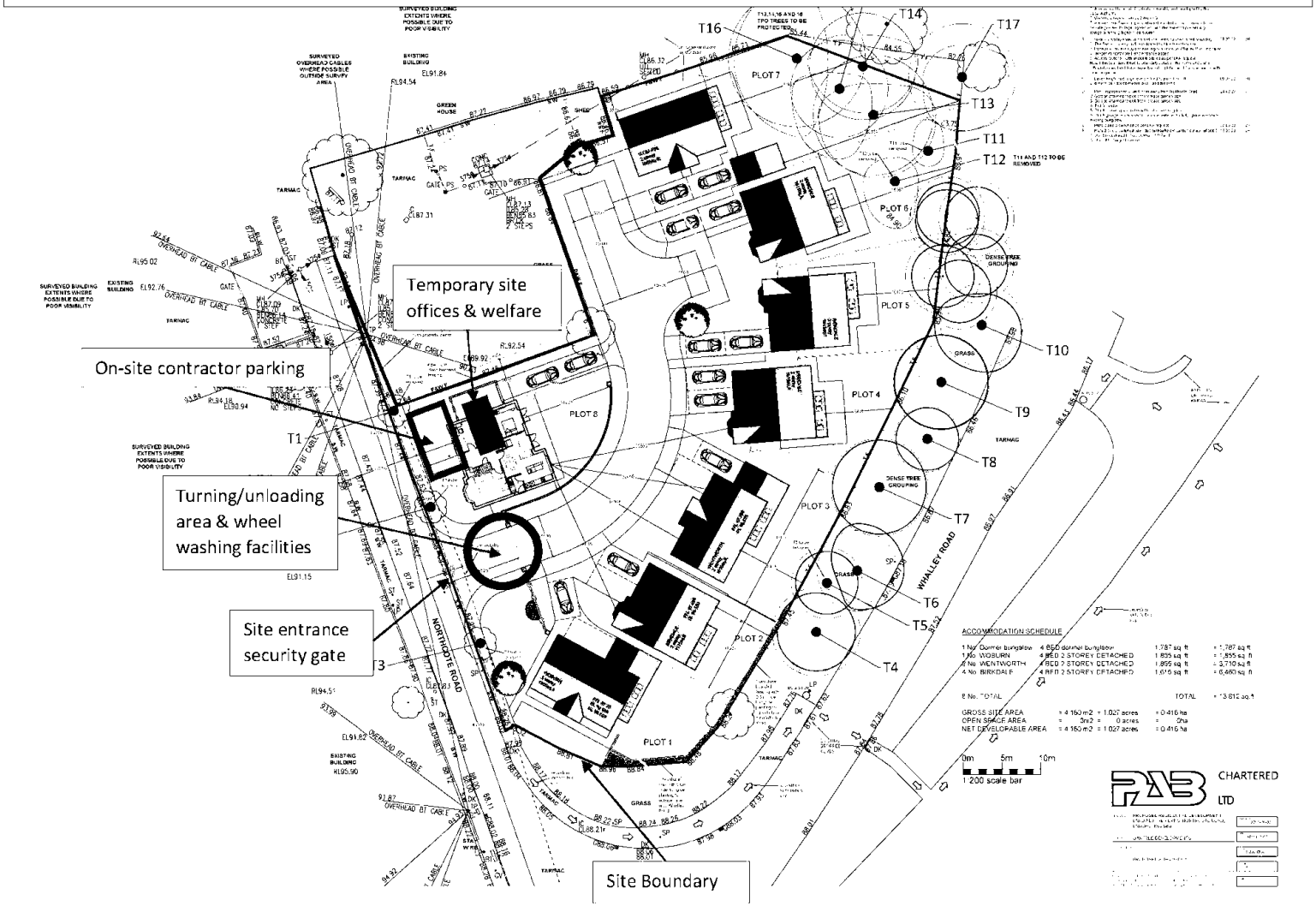
Materials will be stored in the designated areas either in the compound or areas adjacent to the buildings to be constructed.

Oak Tree will encourage vehicle shares wherever possible and may liaise with local facilities/businesses that may have off-site parking availability to keep vehicle numbers on site to a minimum.

Please refer to the logistics plans below for the various phases of construction;

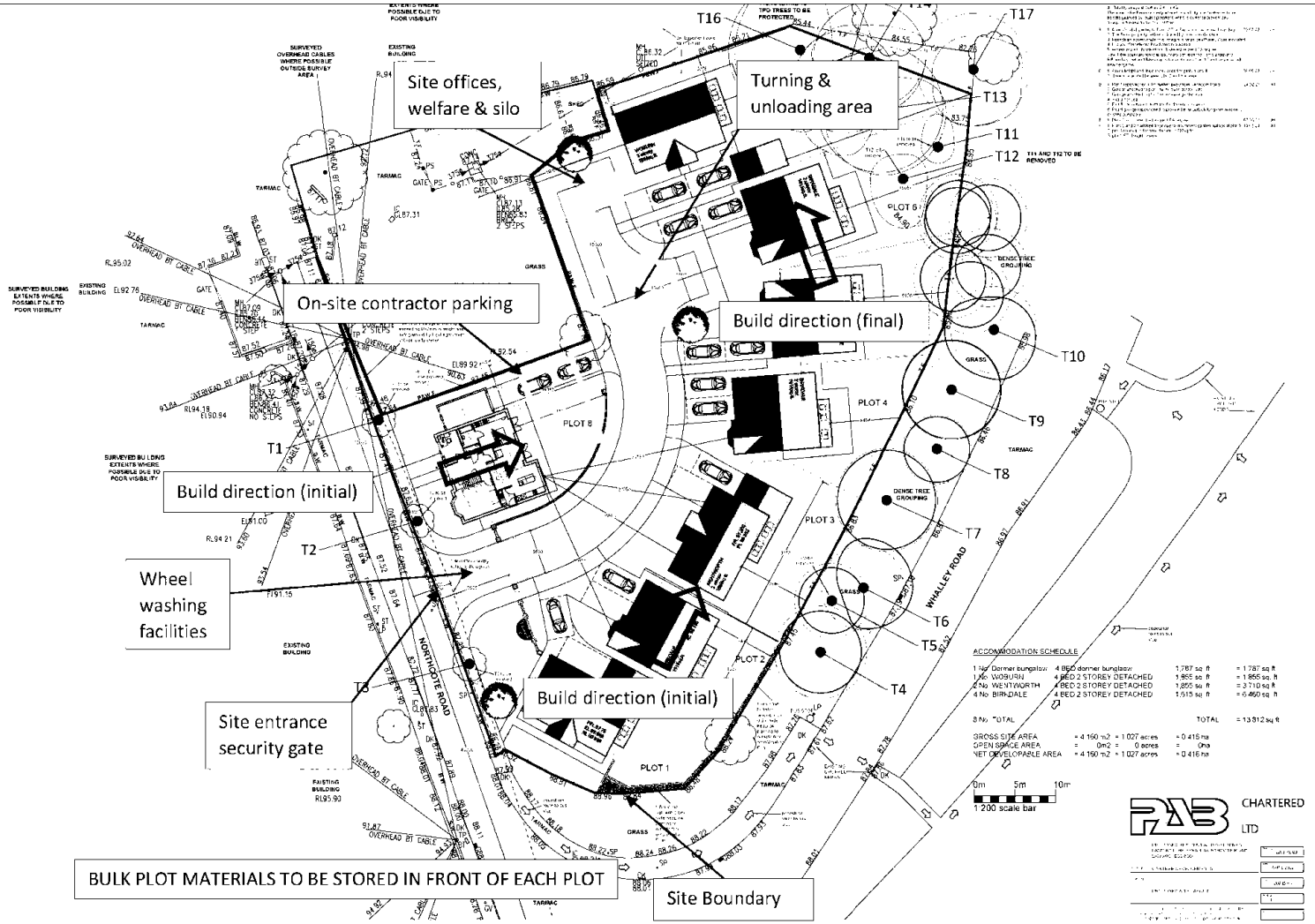
1. Roads and sewer construction phase
2. House construction phase

LOGISTICS PLAN – Road and Sewer & Ground Works Phase



OAK TREE DEVELOPMENTS

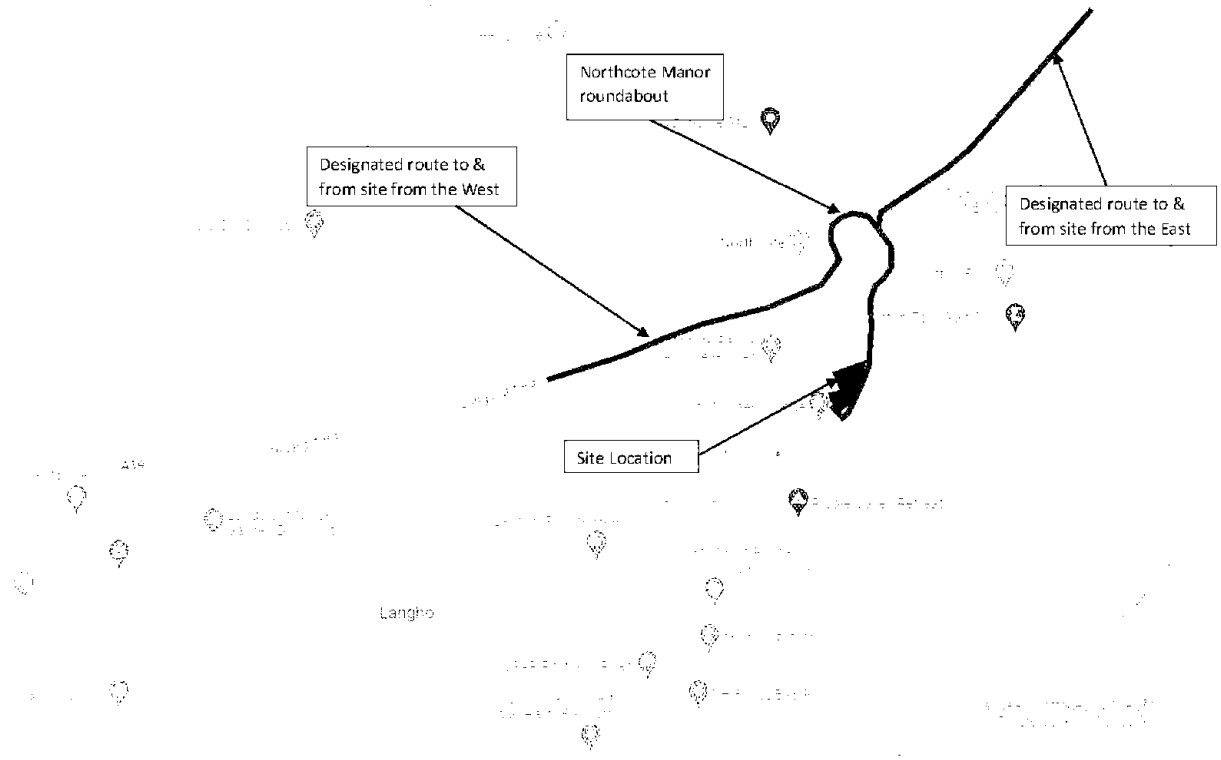
LOGISTICS PLAN – House Construction Phase



OAK TREE DEVELOPMENTS

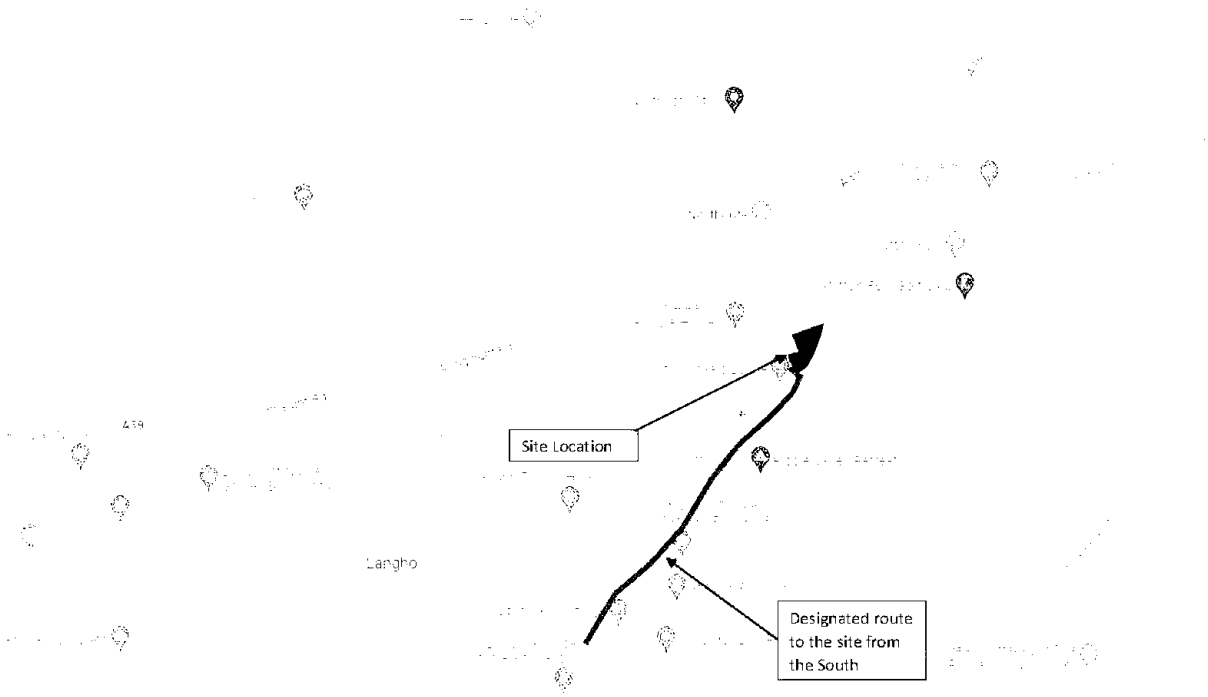
6.1 Routing of Construction Vehicles & Deliveries

From the West and East - From the Northcote Manor roundabout on the A59 turn right (from the West), left (from the East) into the A666 Whalley Road and then take the first right hand turn into Northcote Road. The site is on the right-hand side directly opposite St Michael's Lodge.



Routes to the site from the A59 Longsight Road

From the South - Approaching the site from Langho village on the A666 Whalley Road, turn left immediately after the overhead railway bridge into Northcote Road, the site is on the right-hand side directly opposite St Michaels Lodge.



Route to the site along the A666

Along the access and egress routes indicated we are not aware of any other building developments being undertaken at the current time. Refer to site location delivery route maps above for information.

Where possible during the project, the A59 Longsight Road will be the primary route for collections and deliveries. Such operations will be coordinated to avoid clashes with local schools' vehicles in this area, during the child drop off and collection times.

6.2 Construction Traffic Hours

Deliveries and collections will be restricted to between 9.00am and 3.00pm, Monday to Friday during school term times. All suppliers will be forwarded specific delivery instructions including a map of the site area indicating preferred route. This information will be provided with orders placed for materials; the instructions will form part of the order conditions. Material deliveries will be coordinated with a scheduled agreed delivery time.

With regards to contractors working on site, a series of toolbox talks will be held to outline all site restrictions, including traffic routes/management arrangements for site deliveries, visits to site and similar activities. To further reinforce the traffic routing requirement, all personnel attending the site will be given a specific site induction. During the course of this

induction the traffic management arrangements and preferred routes to and from site will be emphasised aided by route plans outlining restrictions and preferences.

6.3 Protection and Cleanliness of Public Highways

Appropriate measures will be taken to protect the public highway from damage arising from construction related activity and to prevent concrete and other detritus from being washed onto the public highway or into the highway drainage system. In addition, the Council will be informed promptly should any such damage occur to the highway and will be duly reimbursed for the cost of the repairs. The following measures will be implemented.

- A wheel wash facility (high pressure jet in designated and drained area) shall be provided near to the vehicular entrance gates to the development site to ensure that mud/detritus originating from the site is not deposited on the public highway. The wheel wash cleaning area will drain into an underground holding tank which will be pumped out by tanker on a regular basis. This facility will be maintained for the duration of the infrastructure and ground works phases of the construction period.
- Where the deposition of dirt on the highway has not been avoided, any mud/detritus shall be expeditiously cleared using site labour or street cleansing vehicles as appropriate. No development dirt shall be evident on the highway at the end of any working day.
- Road sweeping will be undertaken on a Friday afternoon to ensure total cleanliness of the site and public highway at a weekend.
- Full time road sweeping will be undertaken during any muck shift operations where waste spoil is removed from site.

6.4 Scheduling

Road and Sewer Works

This would involve the construction of roads and drainage and foundations which would be completed over the course of 16 weeks. The estimated number of vehicle movements during this phase would be 2 a day on average with a maximum of 20 per week. These will generally be 8-wheel 20 tonne type vehicles. A maximum standing time of 30 minutes will be implemented.

House Build Construction

The main house build phase of works is anticipated to last for 40 weeks. The estimated number of vehicle movements during this phase would be 2 a day on average with a maximum of 5. Deliveries wagons would be restricted to a maximum of 20 tonnes where possible. Max. stand time 30 Minutes

- All deliveries shall be pre booked and allocated set arrival times.

- Delivery instructions shall be sent to all suppliers and contractors including the maximum dwell times specified above.
- Suppliers shall call the site a minimum of 20mins before their vehicle arrives at site to confirm that the loading area is available.
- If the loading area is unavailable construction vehicles shall not proceed to the site.
- Vehicles shall not wait or stack on any road within the local authority demise.
- The loading/collection area shall be clear of vehicles and materials before the next lorry arrives.
- The engines of contractors' vehicles shall not be kept idling.

6.5 Impact On Other Highway Users

All movements and crossings interfacing with site, where pedestrians and the vulnerable are present will be constantly monitored by the supervision team. Site fencing will be secured at all times with gates locked when not in use. All site gates will open into the site to avoid stopping up pedestrian routes or clashes with same. Clearly defined pedestrian routes will be marked around site. Where footpaths are closed, crossing zones to the opposite footpath will be set out using high visibility signage. At the specific times of the day such as school drop off and collection times the designated banksman will be available and monitoring all pedestrian movements around the site entrance.

6.6 General Management Issues

We will make all reasonable efforts and always when specifically directed by the Council to coordinate the scheduling of construction traffic movement with other nearby developments and those on the construction traffic routes specified above. The site manager and site team will be responsible for constantly monitoring the traffic management requirements for the site and its surrounding area. Any necessary amendments will be notified to the planning department for permissions prior to any changes being made.

7.0 NOISE & VIBRATION CONTROL

Noise and vibration statutory nuisance are controlled under the Environmental Protection Act 1990.

Whilst carrying out the works Oak Tree will ensure that the best practical means to minimise noise and vibration will be undertaken and consideration will be given to BS 5228-1:2009 +A1:2014 - Parts 1 & 2 Code of practice for noise and vibration control on construction and open sites.

The local receptors within 300m of the site are residential properties to the south only (Northcote Road and Whalley Road).

Oak Tree appreciate that noise from construction works can be intrusive or disruptive and for this reason our activities / deliveries will only be undertaken between the working hours noted above.

With regard to the construction works the following measures will be utilised to minimize emissions from site:

7.1 Noise

- A construction noise assessment will be conducted prior to starting on site to ascertain the noise emission potential.
- Noisy operations will be scheduled to occur during normal working hours which we understand are 0800-1730 Monday to Friday and Saturday 0800-1300. The site will not operate on Sundays or bank holidays.
- To mitigate noise emissions from the site boundary screening/acoustic enclosures will be utilized where appropriate.
- Noise monitoring will be always undertaken during piling works and upon request if there is a vibration issue complaint. This will be achieved by establishing monitoring points around the site specifically near to adjoining properties.
- Consideration will be given to specific tasks and possible noise output from the plant and machinery required to complete tasks with regards to the associated noise output. In all instances where electrically operated plant can be used this will be the case, rather than a petrol or diesel equivalent.
- All sound levels will be monitored in accordance with the guidelines set out in BS 5228-1:2009 Annex G
- Petrol/diesel machinery used on site will be fitted with exhaust silencing equipment.
- The Site Manager will be responsible for dealing with elevated levels of noise, investigating and logging action taken.
- Summary reports of exceedances, investigations and the remedial actions taken will be provided to Environmental Health if requested.
- Records of all noise complaints, identifying cause(s), appropriate measures to reduce sound pressure levels and record the measures will be taken.
- Record any exceptional incidents that cause noise, either on or off site, and the action taken to resolve the situation in the logbook.

7.2 Vibration

- With regards to vibration emission on site all levels of vibration will be agreed with the council prior to any construction works being undertaken on site.
- Vibration monitoring will be always undertaken during piling works and upon request if there is a noise issue complaint. This will be achieved by establishing vibration monitoring points around the site specifically near to adjoining properties.
- The vibration monitoring will be assisted if necessary, with the aid of a hand-held detector TPI smart vibration meter

- The monitoring will be set to the agreed level with the environmental officer, the levels will be recorded by the appointed observer from the site management team
  Any vibration alerts will immediately notify the site management team of the issue.
- In the event of a vibration alert being activated on site, works will be suspended immediately. A review of the operation causing excessive vibration will be reviewed and alternative methods will be utilized to accommodate the operation.
- All operations on site will consider the guidelines for vibration set out in BS 7385-2:1993
- Summary reports of exceedances, investigations and the remedial actions taken should be provided to Environmental Health if requested.
- The designated site manager will be responsible for dealing with elevated levels of vibration, investigating and logging action taken.
- Summary reports of exceedances, investigations and the remedial actions taken should be provided to Environmental Health if requested.
- Record all vibration complaints, identifying cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Record any exceptional incidents that cause vibration, either on- or offsite, and the action taken to resolve the situation in the logbook

With regards to mitigation measures we would refer to the matrix at the end of this proposal (copy attached). The mitigation measures will be applied to operational procedures for this entire project. For clarity we have identified the attached table to this proposal as appendix A.

Noisy operations will be eliminated where practicable and use of alternative measures where possible.

Site plant & equipment will not be started prior to the times stated in the Planning Conditions, these being 0800 hours Monday- Friday and 0830 hours on Saturday and all plant & equipment will not be operated after 1730 hours Monday to Friday and 1300 hours Saturday

Site plant for the purpose of the works will be fitted with effective exhaust silencers.

Machines/plant in intermittent use will be shut down in intervening periods between work.

Plant and vehicles will be started up sequentially rather than all together.

Plant will be well maintained and serviced regularly. As far as reasonably practicable, any plant, equipment or items fitted with noise control equipment found to be defective should not be operated until repaired.

Wherever practicable tools of low noise emission will be used.

Materials will be handled with care e.g. material such as scaffolding and steelwork will be placed rather than dropped.

Fixed and semi-fixed ancillary plant such as generators, compressors and pumps liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable, be located away from sensitive receptors

Where reasonably practicable, fixed items of construction plant should be electrically powered in preference to diesel or petrol driven. Please note that the welfare facilities and mortar plant is all electrically powered.

Radios are not permitted on site

We are aware that where there is significant heavy goods traffic present vibration issues can be created, especially where road surfaces are in poor repair. The frequency of heavy goods vehicles entering and leaving the site will not be so excessive to create problems in this regard. Also, there will be plant on site such as excavators, dumpers, telehandlers etc, these will be maintained as detailed above and there will not be a congestion of them working in areas adjacent to the local receptors.

The internal road will need to be broken out towards the end of the project; however, we will inform the local neighbours both by letter drop and by discussion with the Site Manager. These works will

The above measures will be incorporated in the Method statements and risk assessments developed for the works.

8.0 DUST MITIGATION

Using IAQM document "Guidance on the assessment of dust from demolition & construction - 2014" The following criteria has been established

Step 1 - There are receptors within 350m of the site as previously described and consist of residences and public house.

Step 2 - The works that create dust are from construction and track out which for construction is classed as a small site with less than 25000m3 of total construction materials and track out is small with less than 10 HDV outward movements in any one day on a route with a low potential for dust release as the access road into site is concrete and there are wash facilities in place to keep the road clean

Step 3 - Mitigation controls for the site are detailed below

Dust levels will be regularly monitored.

Standard measures will be applied to the construction areas within the Site as agreed with the local authority air quality/pollution control officer or Environmental Health Officer. Staff will be trained in the control of dust and will ensure the site is monitored for levels of surface dust.
Should dust build up this will be damped down with hosepipes.

- Encapsulated scaffolding will be erected, as construction requires, to screen emissions into the surrounding properties

- Any vehicles collecting waste materials will have all loads shrouded on exiting the construction area.
- All vehicles will be inspected, and wheel washed, as necessary, prior to leaving site through trough/roller hoses and brushes.
- Road sweeping will be carried out along Manchester Road adjacent to the site as necessary. This will be organized and monitored and managed by the appointed manager on site responsible for ensuring minimal disruption to the surroundings through dust/traffic in accordance with the considerate contractor's scheme.
- Water damping down will be utilized on all activities such as block/stone cutting, grinding, and loading of skips and wagons.
- Any waste debris produced from the upper levels of the site will be dispatched into bespoke containment via an enclosed chute.
- Welding/brazing activities will be monitored to ensure minimal smoke emission through strict timescales of this activities. This will be implemented in the contractor's method statements.
- No bonfires and burning of waste materials
- Skips will be always covered and be located on hard standing ground.
- Air monitoring will be always undertaken. This will be achieved by using a hand-held air monitoring apparatus on site. This equipment would be capable of PM10 level detection. The air quality detection system will provide constant data that can be logged by the site management team project management and will be carried out every two hours daily. Any unacceptable dust levels detected will result in activities on site being suspended, by the on-site management team, while investigation is conducted, using the data from the detector and physical inspections, to determine the cause of the emission. The alert levels will be established and agreed prior to works commencing on site. The monitors will be available on site prior to any works commencing, this will assist in determining the current background level of air quality, in conjunction with current available data. See figure 1 below for the monitoring locations that ties in with the noise and vibration monitoring.
- The PM10 monitor will be utilised prior to work commencing on site at a location to be agreed with the Environmental Health in advance.
- The monitoring system will be used by the appointed person to provide alerts at a level of 180µg/m^3 as well as an action level of 190µg/m^3 to inform the site's Environmental Manager (or another appropriate person).
- The alert level of 180µg/m^3 should be used to check on site activities and used to ensure that activities will not lead to a breach of the action level.
- If the action level of 190µg/m^3 is reached, works will cease and action taken to rectify immediately.
- The designated site manager will be responsible for dealing with elevated levels of PM10, investigating and logging action taken.

- Summary reports of exceedances, investigations and the remedial actions taken should be provided to Environmental Health if requested.
- Record all dust and air quality complaints, identifying cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
- The access road into and out of the site will be monitored for excessive dust build up. Should surface dust build up the road will be swept by a mechanical road sweeper.

The name and contact details of person(s) accountable for air quality and dust issues will be displayed on the site boundary. This will be the Site Manager.

Site Specific Measures. At present, it is not anticipated that there will be surplus earthworks overburden to be carted off site, however in the event of any materials being taken off site then covered vehicles will be employed to minimise dust liberations. When aggregates are delivered to site, these too will be delivered in covered tipper vehicles and their tipping will be supervised by a banksman. The banksman will ensure that tipping is done in a controlled manner to avoid the creation of dust clouds.

No mechanical cutting of materials will be undertaken without suitable and sufficient measures in place for the control of dust. This will include dust suppression attachments in place and in use for wetting down at the cutting edge or the provision of at tool extraction.

In the case of adverse weather conditions (hot/dry weather) a full wetting down operation will be undertaken utilising towed water dispenser bowsers and vehicles will be restricted to determined routes on site.

Emissions from plant/vehicles will be kept to a minimum by keeping plant properly maintained and regularly serviced and as noted above machines/plant in intermittent use will be shut down in intervening periods between work.

With respect to Air Quality, it will be a site rule that there shall be no burning of ANY materials on site and Oak Tree will ensure that this rule is implemented and complied with.

Where there is localised dust issues regarding health for site operatives such as cutting of cementitious products then dust suppression and PPE will be provided.

Dusts from concrete and mortars has been illuminated as the concrete is supplied by a batching plant off site and mortars are either pre batched off site or batched on site from a silo

The Site Manager will undertake daily inspections to monitor that there is no build-up of excessive dusts and implement any additional control measures such as extra road sweepers, damping down of areas and water suppression as detailed above.

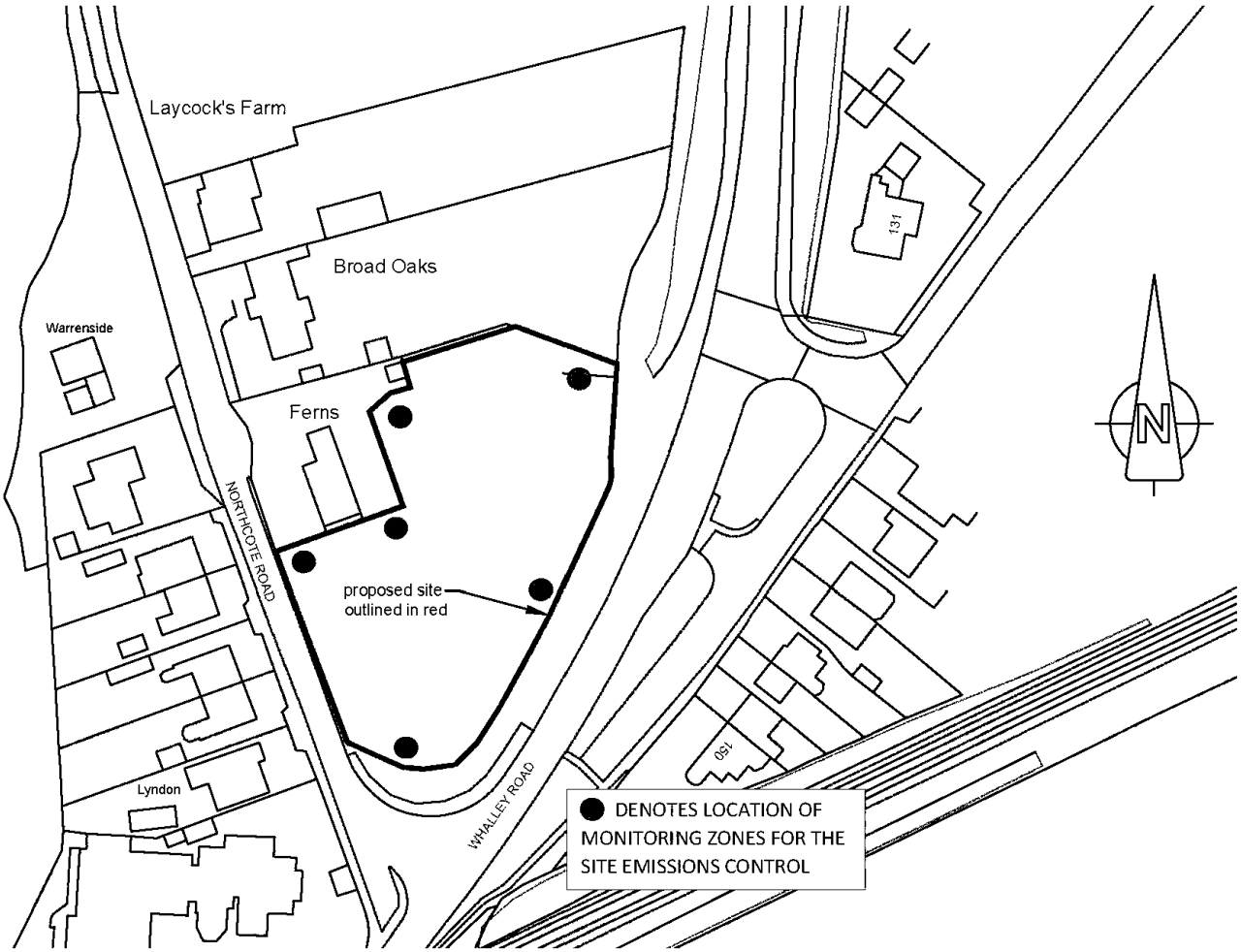
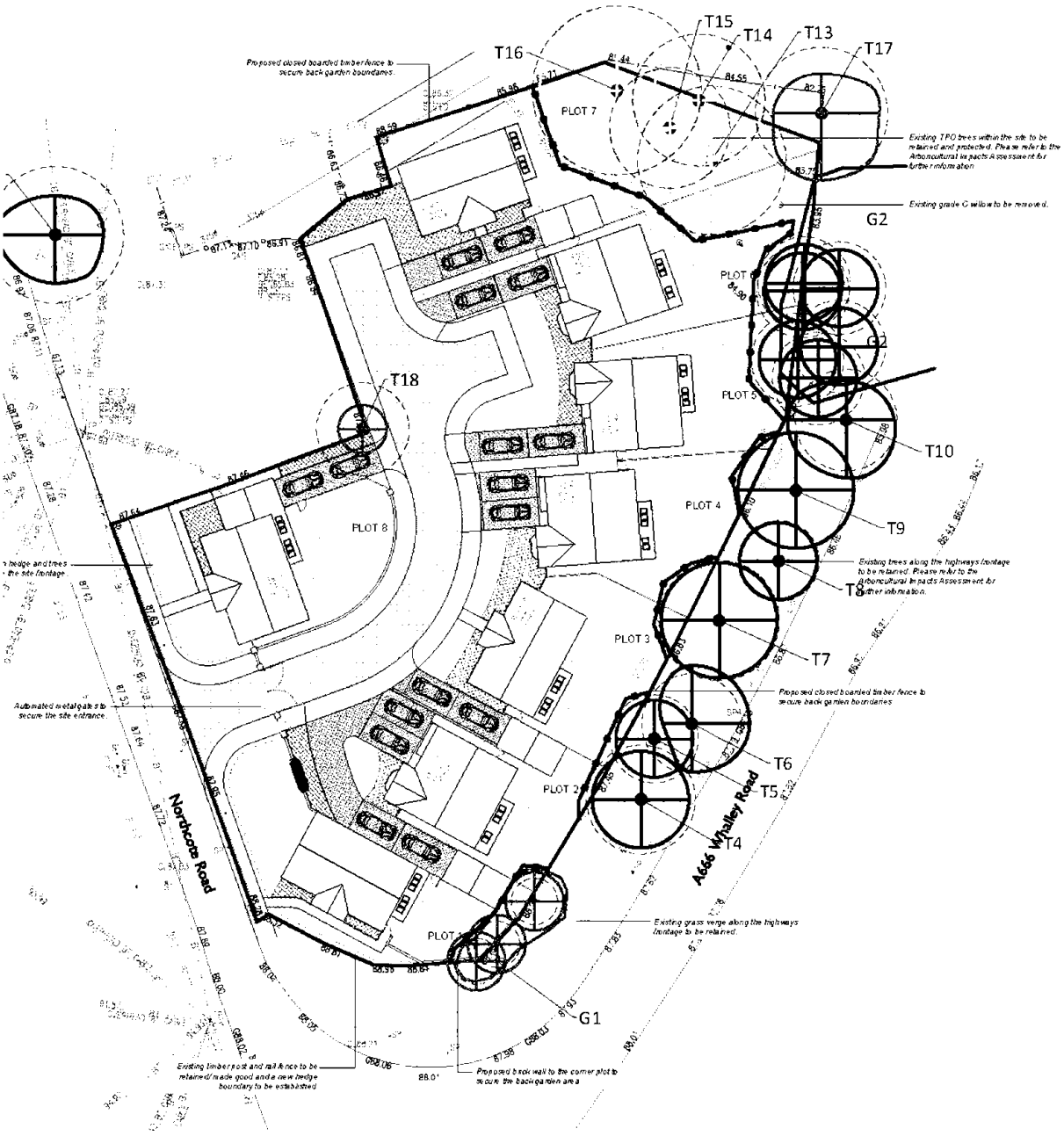


Figure 1

9.0 TREE PROTECTION MEASURES

Protection the existing trees on site will implemented in accordance with the recommendations set out within the Arboricultural Report for LAND AT NORTHCOTE ROAD, LANGHO, BLACKBURN, BB6 8BG dated May 2022 produced by DEP Landscape Architecture Ltd which has was submitted within the reserved matters application documents. This will entail setting up exclusions zones around the trees to be protected, by means of fencing off the areas around each tree or group of trees to form a work prohibition zone. This area will be restricted until such time that construction works are completed. All works in and around the protected tree area will be generally as below.



Tree Protection Locations

With regards to the statutory services entering site such as the Gas, Water, Electrical and telecommunication services. These will be routed from the existing services on Northcote Road or Whalley Road. These routes will avoid the tree protection zones and avoid interaction with tree roots.

TREE PROTECTION FENCE

All trees as shown to be retained on the approved plan should be protected by the tree protection fence before any demolition works commence or any materials or machinery is brought to site. Please refer to the drawing for location of the tree protection fence and Figures 1-3 for the fence specification.

All-weather notices should be attached to the fence with words such as: "TREE PROTECTION AREA - KEEP OUT" Please refer to Figure 4 for an example of suitable signage.

TREE PROTECTION NOTES

Where all activity can be excluded from the Root Protection Area (RPA) the fence should be erected to create a construction exclusion zone unless otherwise stated on the drawing.

The protected area should be regarded as sacrosanct, and, once installed fencing should not be removed or altered without prior approval by the project arboriculturist and, where necessary the Tree Officer at Bolton Council.

Fires on sites should be avoided if possible where there are existing trees. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and the wind direction should be taken into account when determining its location, and it should be attended at all times until safe enough to leave.

Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA.

The fence should be maintained at all times throughout the construction works and ensure that they remain rigid and complete. Any damage should be reported immediately to the site manager and the appropriate action taken.

The site manager must carry out visual and physical inspections of the tree protection fence and exclusion zones to ensure that it remains intact and in the alignment shown. Any damage to the fence should be rectified immediately.

WORKS IN THE TREE PROTECTION AREA

Any works within the RPA's must be supervised by the project Arborist and inline with the Method Statements below:

Method Statement for excavating building foundations on the edge of RPA's

Excavations should be undertaken carefully, using the smallest possible mechanical bucket. These works should be carried out under the supervision of the project Arborist.

The foundations should be excavated working backwards over the area so that the machine is sat within the footprint of the proposed building and is not moving over the exposed roots of the tree(s). Excavations should be kept to the minimum dimensions required and all excavated material should be stored away from the tree(s) outside of the Tree Protection Fence.

If during these works tree roots >50mm are exposed they must be cut in line with the Method Statement to avoid ripped roots. Where appropriate a re-root barrier should be installed along the length of the foundations to prevent any future encroachment of roots into these areas.

10.0 INFORMATION/CONSULTATION/NEIGHBOURS

Oak Tree understands that good relations with people living and working in the vicinity of site operations are of paramount importance. Early establishment and maintenance of these relations throughout the carrying out of site operations will go some way towards allaying concerns. A public information board will be erected on the site frontage of Hadbutt Lane which Oak Tree will keep updated with planned construction activities and public notices. We believe good relations are developed by keeping people informed of progress and by treating complaints fairly and expeditiously.

A proactive approach will be taken to keeping site neighbours informed. Letter drops will be completed for homes and businesses in the immediate vicinity detailing progress and information about the works, these will be updated on a regular basis. Site Contact details will be issued and displayed around the site and the Site Manager will undertake regular discussions with the local neighbours and businesses.

Oak Tree will also keep an official record/logbook on site to record any issues that may arise during site works or from any formal environmental complaints. This will be utilized to investigate, identify causes, and implement remedial measures to deal with the issues in the future.

Regular visits from the regulatory authorities are encouraged so that they may be confident that controls are in place. This will also aid the authorities in responding to any enquiries from the public.

11.0 SIGNAGE

A site safety sign board will be erected at the site entrance for all site personnel also along the site perimeter fencing warning the public of the dangers of construction operations will be posted. Locations of site safety signage will be shown on the traffic management plan on the sign board and within the site RAMS.

Directional signage will also be posted enroute to the site from the A580 and A572.

An "All Vehicles Turn Left" sign will be erected within the site at the egress point.

12.0 VERMIN & PEST CONTROL

Welfare facilities (canteens, mess rooms, drying rooms, toilets, etc.) will be provided by the project as previously described. These will be cleaned daily and kept in a good condition. It is expected that the users behave properly towards the facilities provided. Anyone found to be abusing welfare facilities will be dismissed from the site.

All food and drink is to be consumed within the canteen facilities or off the construction site. Consumption of food outside of the welfare facilities encourages the spread of

vermin causing further potential occupational health risks e.g. leptospirosis (Weil's disease).

All food and drink will be disposed of in a lidded container and emptied daily.
As the site is in a residential area it is not expected that there will be a rodent problem. However, this will be monitored as the works progress. If required, rodent control measures will be put in place.

13.0 PREVENTION, CONTAINMENT/CLEANING UP OF SPILLAGES & POLLUTION PREVENTION TO WATERCOURSE

There are no known watercourses or culverts passing through the development site.

13.1 Liquid Storage

Best practicable means will be employed to prevent polluting materials from entering the hydrological systems.
Pollution of any watercourse is a risk and measures will be taken to ensure that this does not occur.
All oils and fuels will be stored in compliance with the Control of Pollution (oil storage) regulations 2001.

- Fuel shall be stored in dedicated bunded, impervious storage areas, away from drains and watercourses.
- Drums over 200 litres shall be stored on drip trays capable of holding 25% of the drum's maximum capacity.
- Fuel tanks shall be stored within a bund capable of holding 110% of their capacity. All pipes and gauges shall be within the wall of the bund.
- Bowsers shall be double skinned and shall be stored in a bund capable of holding 110% of the volume of the bowser.
- Small mobile plant shall be placed on drip trays
- Spill kits will be available at various points around the site and located next to bowsers and drums.

13.2 Solids

Spillages of dry and dusty materials will be avoided by good housekeeping methods including sorted under cover and on hard standing. Skips will be covered where there is a risk of material becoming airborne.
Wheels of site vehicles will be cleaned before they leave site if required. This will be supplemented by road brush to clean roads as required; this will prevent tracking of mud and debris onto surrounding routes.

13.3 Dealing with spills

Spill kits will be available at various points around the site and located next to bowsers and drums.

Should a spill occur the following will be implemented:

- Work will be stopped immediately
- All possible ignitions will be extinguished if the spillage is flammable
- The spill will be contained using spill kits on land and booms on the stream
- The source will be identified and sealed as practical
- Granules / pads will be used to mop up as much spill as possible
- The project lead will be informed of the spill
- If the spill enters the stream the environment & sustainability manager must be contacted immediately who will contact the Environment Agency & British Waterways.
- The granular material and pads and any containment items will be treated as a hazardous waste and disposed of accordingly.

13.4 Pollution Prevention during Construction Works

During the road and sewer construction works, any surface water run-off will be contained by a temporary trench/bund constructed along the site side boundaries which will cut off the run-off water. This water will be regularly pumped into the holding tank associated with the wheel washing facility for disposal off-site.

On completion of the roads and sewers, the road gullies of the site access road will be filled with straw to prevent any silt contaminated water from entering the public sewer system. Again any surface water on the road surface will discharge into the wheel washing holding tank for disposal off-site.

14.0 FIRE

A full fire management plan will be produced in conjunction with the nominated Responsible Person and relevant parties as appropriate. This will be based on the requirements set out in the 'Code of Practice on Fire Prevention on Construction Sites'. This document will identify duty holders, defines responsibilities, and establishes procedures on fire prevention.
There are basic rules that apply to all our construction sites which aid in the prevention and control of fires.
Site Safety Coordinator will be appointed to ensure adherence to the Site Fire Safety Plan. In addition, they will coordinate the issue below:

- General housekeeping
- Fire extinguishers, fire detection and alarms
- Hot work permit regime
- Fire escapes and communications (evacuation plans and procedures for calling the sire brigade)
- Fire brigade access, facilities, and coordination
- Fire drills and training
- Effective security measures to minimise the risk of arson
- Materials storage and east control regime

An initial fire risk assessment of each area will be undertaken and updated as the risks change. In addition, weekly inspections of all areas will be undertaken and updated as the risks change. In addition, weekly inspection report.
All areas will be kept clean and tidy and sorted materials will be properly coordinated and controlled.

15.0 WASTE MANAGEMENT & STORAGE OF MATERIALS

Material Generation from House Construction Works

Oak Tree operate a mini skip system during the house build works and segregate inert bulk waste, timber, plaster board and general waste. These are emptied daily into larger segregated skips which are consequently removed from site on a regular basis by a locally employed licensed recycling contractor. Oak Tree only employ licensed recycling contractors who can achieve at least 90% waste recycling.

During construction works every plot will be kept free from the build-up of combustible materials. In the unlikely event of a breach, offending contractors will be issued with clean up and obstruction notices.

Material Generation from Road and Sewer and Ground Works

Vegetation/topsoil - We calculate 1,030 cubic metres of topsoil will be stripped from the site of which 300 cubic metres will be reused in garden and soft landscaped area. The surplus will be disposed of or sold on to a topsoil supplier for resale. This surplus equates to approximately 90 vehicle movements.

Roads and sewers - It is anticipated the roads and drainage construction will generate approximately 820 cubic metres of spoil which will be removed from site to a licenced facility. This equates to approximately 100 vehicle movements.

Foundations - It is anticipated the foundation construction will generate approximately 320 cubic metres of excavated materials which will need to be removed from site to a licenced facility. This equates to approximately 40 vehicle movements.

Site Development levels - We calculate a balanced volume of cut and fill (approx. 480 cubic metres of cut and fill) to achieve the approved development levels across the site with no requirement to remove any surplus material from site.

Site Generated Material Disposal

On-site Receptor - There is no scope within the site suitable to accept the surplus spoil generated from the roads and sewer and ground works construction.

Off-site disposal - Therefore the road and sewer and ground works surplus spoil will be taken off site to a licensed disposal facility under the correct Duty of Care protocols.

Should there be any potentially contaminated waste uncovered either known from the site investigations or during the road and sewer or ground works phases, this will be assessed by the Geoenvironmental Consultant and will be dealt with/disposed of in accordance with his recommendations and recorded for validation purposes in accordance with the approved Remediation Strategy.

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GROUND WORKS PHASES - EMISSIONS CONTROL

A temporary fencing will be erected along the site elevations as indicated on the site plan. Road & drainage and foundations construction will be the primary operations during this period. The best practice guide for the control of dust and emissions from construction and demolition. During the initial works the following will be implemented.

- The vehicles collecting materials will have all loads shrouded on exiting the demolition area.
- All vehicles will be inspected and wheel washed as necessary prior to leaving site through trough/roller hoses and brushes.
- Road sweeping will be implemented along Hadbutt Lane adjacent to the site. This will be organized and monitored and managed by the appointed manager on site responsible for ensuring minimal disruption to the surroundings through dust/traffic in accordance with the considerate contractor's scheme.
- Water damping down will be utilized on all activities such as cutting, grinding, breaking scabbling, excavations and loading of skips and wagons.
- Burning and cutting steel will be monitored to ensure minimal smoke emission through strict timescales of this activities. This will be implemented in the contractor's method statements.
- Skips will be covered and at all times be located on hard standing ground.
- A construction noise assessment will be conducted prior to starting on site to ascertain the noise emission potential.
- Noisy operations will be scheduled to occur during normal working hours which we understand are 0800-1830 Monday to Friday and Saturday 0800-1300. The site will not operate on Sundays or bank holidays.
- To mitigate noise emissions from the site boundary screening/acoustic enclosures will be utilized where appropriate.
- Consideration will be given to specific tasks and possible noise output from the plant and machinery required to complete tasks with regards to the associated noise output. In all instances where electrically operated plant can be used this will be the case, rather than a petrol or diesel equivalent.
- All sound levels will be monitored in accordance with the guidelines set out in BS 5228-1:2009 Annex G
- Petrol/diesel machinery used on site will be fitted with exhaust silencing equipment.
- With regards to vibration emission on site all levels of vibration will be agreed with the council prior to any construction works being undertaken on site.
- Vibration monitoring will be undertaken at all times. This can be enhanced by installing vibration sensors around the site preferably fixed to adjoining properties if required.
- The sensors will be set to the agreed level with the local environmental officer, the sensors will record vibration output levels and data logged on line for review by key stake holders.

- Any vibration alerts will immediately notify the site management team of the issue.
- In the event of a vibration alert being activated on site, works will be suspended immediately. A review of the operation causing excessive vibration will be reviewed and alternative methods will be utilised to accommodate the operation.
- All operations on site will consider the guidelines for vibration set out in BS 7385-2:1993 Air monitoring will be undertaken at all times. This will achieved by hand held detector on site. The monitoring equipment would be capable of PM10 level detection. The air quality detection system will provide constant data that can be logged by the site management team project management and agreed with officers where appropriate. The equipment will be set up to provide real time alarm notifications to the site team, enabling an instant response to such occurrences. Should air monitoring alarm be activated. Activities on site will be suspended by the on-site management team, while investigation is conducted, using the data and physical inspections, to determine the cause of the emission. The alert levels will be established and agreed prior to works commencing on site. The monitors will be set up on site prior to any works commencing, this will assist in determining the current back ground level of air quality, in conjunction with current available data.
- The real time PM10 monitor will be installed prior to work commencing on site at a location to be agreed with the Environmental Health in advance.
- The monitoring system will be used to provide alerts at a level of 200µg/m^3 as well as an action level of 250µg/m^3 (as 15min means) to inform the site's Environmental Manager (or other appropriate person) in the form of SMS text when the level has been exceeded.
- The alert level of 200µg/m^3 should be used to check on site activities and used to ensure that activities will not lead to a breach of the action level.
- If the action level of 250µg/m^3 is reached, works will cease, and action taken to rectify immediately.
- The designated site manager will be responsible for dealing with elevated levels of PM10, investigating and logging action taken.
- Summary reports of exceedances, investigations and the remedial actions taken will be provided to Environmental Health if requested.
- With regards to mitigation measures we would refer to the matrix at the end of this proposal (copy attached). The mitigation measures will be applied to operational procedures for this entire project. For clarity we have identified the attached table to this proposal as appendix A.

Should the above methods of prevention be adhered to correctly, then dust and emissions from the site will be minimized as much as possible. Continuous site monitoring throughout the project will be maintained and logged. Where increases in dust levels are recorded we shall implement further dust reduction measures or alternative operational measures to protect the air quality.

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CONSTRUCTION PHASE - EMISSIONS CONTROL

The anticipated duration of construction works during phase will be 30 weeks from start to completion. The dust emissions from the site should be greatly reduced due to the completion of demolition/Ground removal work.

With regard to the construction phase the following measures again will be utilised to minimize emissions from site.

- Any vehicles collecting waste materials will have all loads shrouded on exiting the construction area.
- All vehicles will be inspected and wheel washed, as necessary, prior to leaving site through trough/roller hoses and brushes.
- Road sweeping will continue along adjacent to the site. This will be organized and monitored and managed by the appointed manager on site responsible for ensuring minimal disruption to the surroundings through dust/traffic in accordance with the considerate contractor's scheme.
- Water damping down will be utilised on all activities such as block/stone cutting, grinding and loading of skips and wagons.
- Any waste debris produced from the upper levels of the site will be dispatched into bespoke containment via an enclosed chute.
- Welding activities will be monitored to ensure minimal smoke emission through strict timescales of this activities. This will be implemented in the contractor's method statements.
- Skips will be covered and at all times be located on hard standing ground.
- A construction noise assessment will be conducted prior to starting on site to ascertain the noise emission potential.
- Noisy operations will be scheduled to occur during normal working hours which we understand are 0800-1830 Monday to Friday and Saturday 0800-1300. The site will not operate on Sundays or bank holidays.
- To mitigate noise emissions from the site boundary screening/acoustic enclosures will be utilized where appropriate.
- Consideration will be given to specific tasks and possible noise output from the plant and machinery required to complete tasks with regards to the associated noise output. In all instances where electrically operated plant can be used this will be the case, rather than a petrol or diesel equivalent.
- All sound levels will be monitored in accordance with the guidelines set out in BS 5228-1:2009 Annex G
- Petrol/diesel machinery used on site will be fitted with exhaust silencing equipment.
- With regards to vibration emission on site all levels of vibration will be agreed with the council prior to any construction works being undertaken on site.

- Vibration monitoring will be undertaken at all times. This may achieved by installing vibration sensors around the site preferably fixed to adjoining properties if required.
- The sensors will be set to the agreed level with the local environmental officer, the sensors will record vibration output levels and data logged on line for review by key stake holders.
- Any vibration alerts will immediately notify the site management team of the issue.
- In the event of a vibration alert being activated on site, works will be suspended immediately. A review of the operation causing excessive vibration will be reviewed and alternative methods will be utilized to accommodate the operation.
- All operations on site will consider the guide lines for vibration set out in BS 7385-2:1993
- Air monitoring will be undertaken at all times. This will be achieved by hand held dector on site. The monitoring equipment would be capable of PM10 level detection. The air quality detection system will provide constant data that can be logged by the site management team project management and agreed with officers where appropriate. The equipment will be set up to provide real time alarm notifications to the site team, enabling an instant response to such occurrences. Should air monitoring alarm be activated. Activities on site will be suspended by the on site management team, while investigation is conducted, using the data and physical inspections, to determine the cause of the emission. The alert levels will be established and agreed prior to works commencing on site. The monitors will be set up on site prior to any works commencing, this will assist in determining the current back ground level of air quality, in conjunction with current available data.
- The real time PM10 monitor will be used prior to work commencing on site in the locations indicated as previously advised to be agreed with the Environmental Health in advance.
- The monitoring system will be used to provide alerts at a level of 200µg/m^3 as well as an action level of 250µg/m^3 to inform the site's Environmental Manager (or other appropriate person) when the level has been exceeded.
- The alert level of 200µg/m^3 should be used to check on site activities and used to ensure that activities will not lead to a breach of the action level.
- If the action level of 250µg/m^3 is reached, works will cease and action taken to rectify immediately.
- The designated site manager will be responsible for dealing with elevated levels of PM10, investigating and logging action taken.
- The monitoring system will allow access to the real time data. Summary reports of exceedances, investigations and the remedial actions taken should be provided to Environmental Health if requested. The council will be provided with a password to enable real-time access to PM10 monitoring data.
- With regards to mitigation measures we would refer to the matrix at the end of this proposal (copy attached). The mitigation measures will be applied to operational procedures for this entire project. For clarity we have identified the attached table to this proposal as appendix A.

Should the above methods of prevention be adhered to correctly, then dust and emissions from the site will be minimized as much as possible. Continuous site monitoring throughout the project will be maintained and logged. Where increases in dust levels are recorded we shall implement further dust reduction measures or alternative operational measures to protect the air quality.

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APPENDIX A MITIGATION MEASURES

Table: Dust and Air Emissions Mitigation Measures (Source: IAQM)

Category	**Mitigation Measure / Dust Control Methods**
General Dust and Emissions Management	Implement a Dust Management Plan (DMP) (which may include measures to control other emissions), which should be approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the recommended measures that follow within this table. Additional measures may be required for the site. Ensure all on-road vehicles comply with the requirements of the Bolton Local authority, where applicable, including non-road mobile machinery (NRMM). Ensure all vehicles switch off engines when stationary - no idling vehicles.
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. The complaints log should be readily available to the local authority upon request. Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site, and the action taken to resolve the situation in the log book.

Monitoring	Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results. The log should be available to the local authority upon request. When activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions increase the frequency of inspections.
Site Preparation and Maintenance	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as practicable. Use intelligent screening where possible - e.g. locating site offices between potentially dusty activities and the receptors. Erect solid screens or barriers around the site boundary. Avoid site runoff of water or mud. Keep site fencing, barriers and scaffolding clean. Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
Operating Vehicles / Machinery & Sustainable Travel	Ensure all vehicles switch off engines when stationary - no idling vehicles. Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable. Implement a Travel Plan that supports and encourages sustainable staff travel (public transport, cycling, walking, and car-sharing).

Category	Measure / Dust Control Methods
Operations	Where possible 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. Use enclosed chutes, conveyors and covered skips, where practicable. Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment. Clean up any spillages as soon as reasonably practicable using appropriate cleaning methods.
Waste Management	Only use registered waste carriers to take waste off-site. Avoid bonfires and burning of waste materials.
Demolition Activities	Ensure effective water suppression is used during demolition operations. Avoid explosive blasting, using appropriate manual or mechanical alternatives. Sheet and screen buildings with suitable material and where possible strip inside buildings prior to any demolition. Ensure that a specialist contractor removes any asbestos before demolition.
Earthworks Activities	Temporarily cover earthworks where possible and practicable. Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. Only remove the cover in small areas during work and not all at once.

Construction Activities	Avoid scabbling wherever possible. Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
Trackout Activities	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as soon as practicable any material tracked out of the site. This may require the sweeper being continuously in use. Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. Record all inspections of haul routes and any subsequent action in a site log book. Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as practicable. Implement a wheel washing system at site access points