



# Himley Village, Bicester Construction Environmental Management Plan

For Cala Homes (Cotswolds) Ltd

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# Document control sheet

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# 1. Introduction

## 1.1 Terms of Reference

In January 2023, Hydrock Consultants Limited (Hydrock) was commissioned by Cala Homes (Cotswolds) Ltd (the Client) to prepare a Construction Environmental Management Plan (CEMP) for Phase 1 (herein referred to as the site) of the Himley Village development (herein referred to as the wider site) in Bicester. A Site Location Plan (Hydrock Drawing 27141-HYD-PH1-XX-DR-GE-1000) is presented in Appendix A.

The wider site has planning permission (14/02121/OUT) to provide up to 1,700 residential dwellings (Class C3), a retirement village (Class C2), flexible commercial floorspace (Classes A1, A2, A3, A4, A5, B1, C1 and D1), social and community facilities (Class D1), land to accommodate one energy centre and land to accommodate one new primary school (up to 2FE) (Class D1). Such development to include provision of strategic landscape, provision of new vehicular, cycle and pedestrian access routes, infrastructure and other operations (including demolition of farm buildings on Middleton Stoney Road).

The proposed phases of development are shown on Hydrock Drawing 27141-HYD-PH1-XX-DR-GE-1001 presented in Appendix A. Hydrock Drawing 27141-HYD-PH1-XX-DR-GE-1002 presented in Appendix A shows **Phase 1 (the site) relates to infrastructure only**, consisting of two road access points along the south of the wider site, which will connect the wider site to Middleton Stoney Road (B4030).

Although focussed on Phase 1, this CEMP has been prepared to cover the general aspects of the wider site construction and therefore some information will not necessarily be applicable to Phase 1, but will provide an overview of management, monitoring and mitigation measures to be required through the life of the construction programme. A separate CEMP will be prepared for each future phase.

## 1.2 Objectives

The objectives of this CEMP are to set out the standards of construction logistics and practices that will minimise, if not eliminate, the potential impacts of the proposed development on the local environment and local community surrounding the site, as far as reasonably practicable.

The works have been commissioned to assist in the discharge of Condition 30 of planning application number 14/02121/OUT, which states:

*'No development shall take place on any phase, including any works of demolition until a Construction Method Statement for that phase has been submitted to, and approved in writing by the Local Planning Authority.*

*The statement shall provide for at a minimum:*

- » *The parking of vehicles of site operatives and visitors;*
- » *The routeing of HGVs to and from the site;*
- » *A restriction on construction and delivery traffic during the peak traffic periods*
- » *Loading and unloading of plant and materials;*
- » *Storage of plant and materials used in constructing the development;*
- » *The erection and maintenance of security hoarding including decorative displays and facilities for public viewing, where appropriate;*
- » *Wheel washing facilities/road sweeping;*
- » *Measures to control the emission of dust and dirt during construction;*

- » A scheme for recycling/disposing of waste resulting from demolition and construction works;
- » Delivery, demolition and construction working hours;
- » The mitigation measures summarised at Table 5.5 and recommended at paragraphs 6.78, 7.62 – 7.79, 8.130 – 8.133, 9.91, 10.112, 12.78 – 12.80, 13.66 and 14.55 and tables 8.19 and 10.13 of the submitted Environmental Statement (December 2014).

*The approved Construction Method Statement shall be adhered to throughout the construction period for the development.'*

In addition, the CEMP will assist in the discharge of Condition 20, which states:

*'No phase of development shall commence until a report has been submitted to and approved in writing by the Local Planning Authority outlining how carbon emissions from the construction process and embodied carbon within that phase will be minimised. The phase of development shall thereafter be carried out in accordance with the approved report.'*

### 1.3 Scope

The environmental issues relating to the works are considered systematically, and procedures outlined for dealing with issues as they arise during the course of the works.

The CEMP will:

- » Support compliance with all applicable legislation and statutory controls, including planning conditions, Section agreements and landowner/client environmental requirements;
- » Support compliance with the Cala Groups 'Sustainability Strategy', including all associated Cala Group standards and procedures; and
- » Support delivery of best practicable environmental performance, meaning preventing pollution, minimising adverse environmental impacts and securing the potential benefits associated with high standards of environmental performance.

### 1.4 Supporting Documents

The following documents from the Cherwell Valley District Council Planning Portal, associated with outline planning application reference 14/02121/OUT or reserved matters application 21/02339/REM (now withdrawn), have been reviewed by Hydrock for use in the preparation of this report:

- » FPCR Environment and Design Ltd. May 2021. 'Himley Village, Bicester. Ecological Appraisal'. For Countryside Properties Ltd. Reference 9776 Ecoapp Rev C.
- » Hydrock. December 2020. 'Himley Village, Bicester, Desk Study'. For Countryside Properties PLC. Reference 16153-HYD-XX-XX-GE-DS-1001-S2-P01.
- » Hydrock. January 2021. 'Himley Village, Bicester, Ground Investigation Report'. For Countryside Properties PLC. Reference 16153-HYD-XX-XX-GE-RP-1002-P1-S2.
- » Waterman Energy, Environment & Design Limited (Waterman EED). December 2014. 'Himley Village Outline Application. Environmental Statement – Volume 1, Main Text'. Prepared for P3Eco Ltd. Reference EED14995-100-R-1.1.2-JCB.
- » Waterman EED. January 2015. 'Himley Village Outline Application. Tree Survey Report'. Prepared for P3Eco Ltd. Reference EED14995-100-R-7-1-3-TA.

Hydrock acknowledges that the documents not commissioned by the Client are not assigned to the Client, and have been used for information purposes only. No formal reliance has been placed upon their contents.

## 2. Site Overview

### 2.1 Site Referencing

The site is referenced in Table 2.1 and the location is indicated in Figure 2.1.

Table 2.1: Site referencing information

Item	Description
Site name	Himley Village, Bicester
Site address	Off Middleton Stoney Road (B4030), Bicester, Oxfordshire. The nearest postcode is OX26 1RT.
Site location and grid reference	The site is located off the B4030 approximately 500m east of the M40 and 50m west of the A4095 Howes Lane, Bicester Western Bypass. The site is approximately 2km west of Bicester town centre.  The National Grid Reference of the approximate centre of the site is 455855E, 223172N.

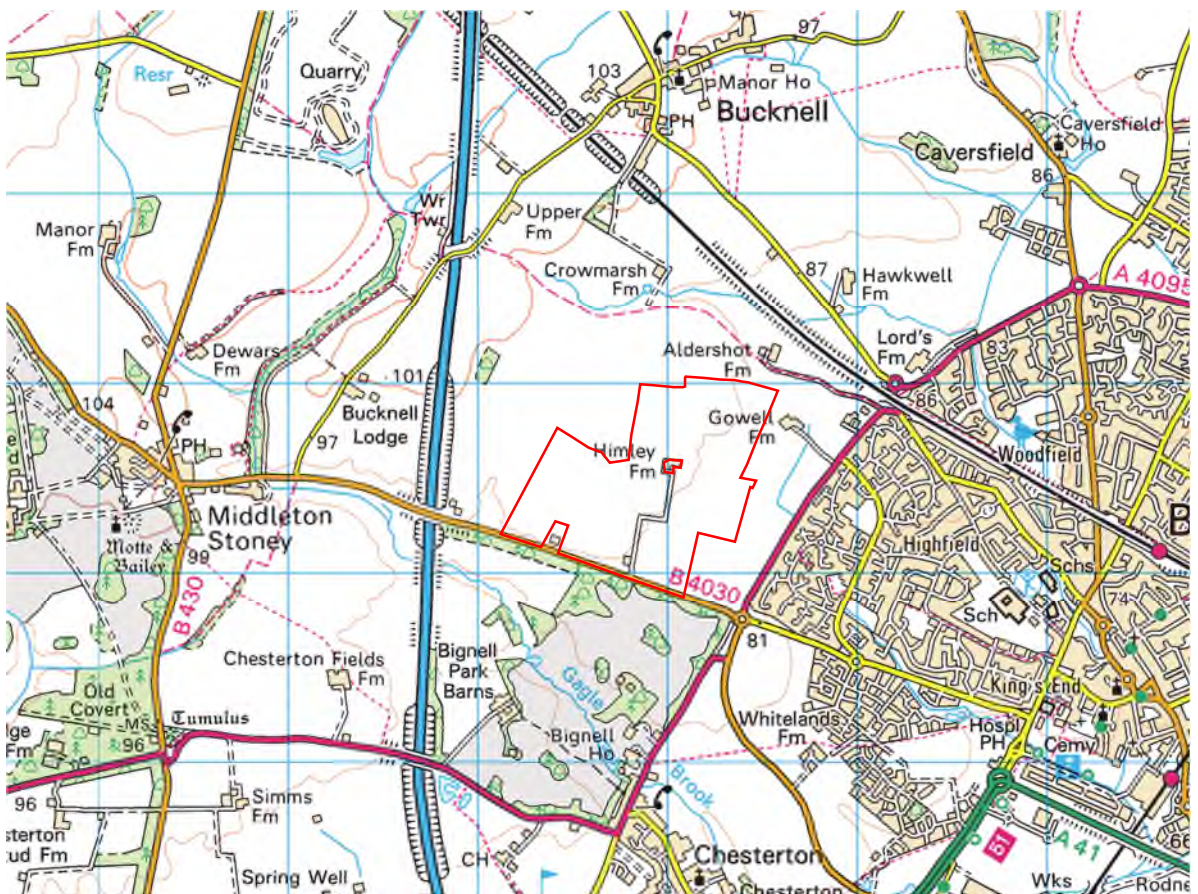


Figure 2.1: Wider site location (OS licence 100023353)

### 2.2 Wider Site Description and History

A basic site description of the wider site and summary of the wider site history is presented in Table 2.2.



Table 2.2: Site description

Item	Brief Description
Area	The wider site is irregular in shape and has an area of approximately 90 ha. The site is also irregular in shape, and consists of two proposed road access bell mouths with a total area of approximately 0.3 ha.
Site Description	<p>The wider site comprises mostly agricultural land bound by hedgerows, with 'Himley Farm' and agricultural buildings located centrally within the wider site (but excluded from the red line boundary) and 'Himley Farm House' located within the south of the wider site. An access lane is present within the Site from 'Himley Farm' to Middleton Stoney Road via 'Himley Farm House' and several other farm tracks are located within the wider site.</p> <p>Two ponds are located on the wider site; a small pond (Spring Pond) to the east of 'Himley Farm' and a larger pond (Big Pond) to the south-east of 'Himley Farm'.</p>
Elevation and topography	<p>The wider site gently slopes from +97m OD in the north-west corner to +84m OD in the south-east. The topography continues to rise to the north-west beyond the wider site.</p> <p>The western part of the site is at circa +90m OD and the eastern part at +88.6m OD.</p>
Site boundaries	<p>The wider site is bound to the south by Middleton Stoney Road (B4030), diverting around 'Lovelynych House' and its grounds, to the west the boundary is undefined, part way across three fields, to the north and east the boundaries generally follow the field boundaries, which are formed of trees and hedgerows.</p> <p>Both areas of the site have undefined boundaries and are based on the proposed construction areas.</p>
Surrounding land use	<p>The surrounding land is mainly farmland, with individual residential properties within the vicinity of the wider site; 'Lovelynych House' adjacent to the south, 'Himley Farm House' in the central south area of the wider site, 'Himley Farm' in the centre of the wider site (outside of boundary). Other residential properties are 'Linkslade' 300m to the west, 'Gowell's Farm' 150m to the east and 'Aldershot Farm' 150m to the north of the wider site.</p> <p>Residential properties within the Highfield area of Bicester are approximately 370m to the east of the site, beyond Howes Lane (A4095).</p> <p>Immediately to the east of the southern part of the wider site are recently constructed commercial properties (Axis J9 Business Park), off Empire Road.</p>
General site sensitivity	The site is within a generally a rural area with residential properties and some commercial development to the east.
Site history	<p>Review of historical Ordnance Survey mapping undertaken as part of the desk study (Hydrock, 2020) indicates very little change in land use from 1876 (the date of earliest mapping) to the present day, with only footpaths and field boundaries changing. Although the desk study covers a smaller area than the current wider site boundary, it does cover 'Phase 1' and 'Phase 2'.</p> <p>By 1981, the residential properties within the Highfield area of Bicester had been constructed, with the commercial properties (Axis J9 Business Park) being constructed from 2019 immediately east of the wider site.</p>



## 2.3 Ground Conditions

The ground conditions encountered as part of the ground investigations across the wider site are summarised in Table 2.3.

Table 2.3: Ground conditions

Stratum	Depth recorded (m bgl)	Thickness (m)		Description	Aquifer Designation
		Min	Max		
Topsoil	Ground level	0.10	0.50	Soft to stiff dark brown and reddish brown variably sandy gravelly clay and stiff light yellowish brown organic slightly sandy slightly gravelly clay.	N/A
Made Ground	0.20	0.10		Only recorded in one location adjacent to the farm track and considered likely to extend along the length of the farm track. Consisted of concrete fragments.	N/A
Head Deposits	0.10 to 0.35	0.10	1.80	Soft to firm (locally stiff) orangish brown, reddish brown variably sandy gravelly clay with a medium cobble and boulder content; orangish brown, reddish brown variably sandy clayey gravel locally with a medium to high cobble and boulder content.	Secondary A aquifer
Cornbrash Formation	0.15 to 1.80	0.40	1.00	Alternating bands of clay (weathered horizons) and intact rock (limestone) deposits of variable spacing and thickness. The clay bands typically comprised firm to stiff orangish brown, grey and reddish brown variably sandy gravelly clay locally with cobbles. The limestone bands comprised very weak to medium strong orangish brown and greyish brown limestone, locally with shell fragments.	Secondary A aquifer
Forest Marble Formation	1.00 to 4.50	Not Proven		Alternating bands of clay (weathered horizons) and intact rock (limestone) deposits. The clay bands typically comprised firm to very stiff grey sandy clay, grey brown, yellowish brown and orangish brown variably sandy gravelly clay, dark grey clay and greenish grey sandy clay. The limestone bands typically comprised weak to medium strong grey, orangish brown limestone interbedded with clay and	Principal aquifer

Stratum	Depth recorded (m bgl)	Thickness (m)		Description	Aquifer Designation
		Min	Max		
				occasional shell fragments; and weak greenish grey mudstone.	

Groundwater was encountered at depths between 0.60 m (in the Head Deposits) and 1.50m bgl (in the Cornbrash Formation and Forest Marble Formation).

Water levels recorded post-fieldwork (December 2020 to January 2021) ranged from 0.34m to 1.32m bgl, or 93.98m +OD and 85.51m +OD.

## 2.4 Sensitive Receptors

Sensitive receptors have been identified in, and within the vicinity of the site, as listed in Table 2.4 and shown on the Sensitive Receptors Plan (Hydrock Drawing 27141-HYD-PH1-XX-DR-GE-1003) presented in Appendix A.

Table 2.4: Sensitive receptors

Receptor	Description and Location
<b>Existing Receptors</b>	
Site users	None. No existing site users.
Neighbours	'Himley Farm' is (located centrally within the wider site but excluded from the red line boundary) and 'Himley Farm House' is located within the south of the wider site. The next nearest occupied dwellings are 'Lovelynych House' adjacent to the south, 'Himley Farm House' in the central south area of the wider site, 'Himley Farm' in the centre of the wider site (outside of boundary). Other residential properties in the vicinity are 'Linkslade' 300m to the west, 'Gowell's Farm' 150m to the east and 'Aldershot Farm' 150m to the north of the wider site. Immediately to the east of the southern part of the wider site are recently constructed commercial properties (Axis J9 Business Park), off Empire Road.
Controlled waters	Two ponds are located on the wider site; a small pond (Spring Pond) to the east of 'Himley Farm' and a larger pond (Big Pond) to the south-east of 'Himley Farm'. To the east of the wider site, a field drain south of 'Gowell's Farm' flows into a culvert under the A4095, discharging a proportion of surface water run-off from the wider site. Most of the wider site naturally drains towards the south and south-east, through a number of drainage ditches into a 840m long swale running parallel with Middleton Stoney Road (B4030). Two outlets from this swale beyond the south of the wider site are likely to discharge to Gagle Brook. Gagle Brook is approximately 280m to the south of the site at its closest point, flowing north-west to south-east. The Hydrock investigation (2021) indicates that no contaminants of potential concern were identified in soils and therefore the risk from the wider site to groundwater is low, but surface water quality could be affected by pollution/contamination during and after development.
Arboriculture	A tree survey was undertaken by Waterman EED on behalf of P3Eco Ltd in December 2014 and indicates trees and hedges on site are either category grade C, 'trees of low quality', or category grade B, 'trees of Moderate Quality'.

Receptor	Description and Location
	<p>The majority of trees and hedges on site are category C. There are category B trees and hedges located across the wider site along the southern boundary, the south-east, the west and north-west. There are also two grade B trees east and north-east of Himley Farm. Grade B trees and hedges should be considered as constraints to development and every attempt should be made to incorporate them into any proposed development design. Grade C trees and hedges will not usually be retained where they would impose a significant constraint to development but should be retained where there is no reason for their removal.</p>
Ecology	<p>The non-technical summary of the 'Environmental Statement' for the wider development states that <i>'the most important habitats are the broadleaved woodland plantations, hedges and ponds, which are of local value. The ponds support a population of great crested newts. Other legally protected species, which occur on [the wider] site, include bats and breeding birds. There are likely to be reptiles on [the wider] site and badgers may visit on occasion'</i>.</p>
Built Heritage	<p>The 'Environmental Statement' describes two barns in Himley Farm as a Grade II listed building which has architectural, archaeological and historical importance. The report outlines mitigation in the form of protective hoardings and monitoring of the barns during demolition/construction works and a level 1-2 historic building record to be provided. Overall, it was concluded the residual effect of the development on the barns is moderate/minor adverse.</p>
<b>Additional Receptors During Construction</b>	
Construction workers	<p>During the construction works for the wider site there will be a significant number of site personnel deployed to the site. All site workers will need to be fully inducted, with an understanding of the health, safety and environmental risks on site, so that they consider the part that they have to play in maintaining good practice throughout the works, under the guidance of the Principal Contractor and its Subcontractors.</p>



### 3. Roles and Responsibilities

#### 3.1 Principal Contractor

The Principal Contractor will be responsible for ensuring that the construction programme is carried out with effective and efficient consideration of the environment and neighbours, and in line with corporate sustainability requirements and this CEMP.

#### 3.2 Project Manager

The Project Manager is responsible for:

- » Securing the resources required to maintain the CEMP.
- » Ensuring the CEMP is established, implemented and maintained.
- » Monitoring the performance of the CEMP.
- » Ensuring all aspects of work on site are carried out with effective and efficient consideration of the environment, in line with this plan and ensuring legal compliance.
- » Liaising with the Operations Team to ensure suitably experienced and qualified personnel are assigned to the project.
- » Ensuring that suitable Project and Trade Contractor resources are applied to environmental protection.
- » Ensuring the review of Trade Contractor Method Statements to ensure adequate measures are taken to limit construction impacts.
- » Ensuring that the necessary environmental licenses, permits or exemptions are in place.
- » Making sure an appropriate spill kit procedure is in place and procedure is drilled.
- » Reporting to the project team regarding nuisance issues.
- » Ensuring all complaints are recorded and appropriately responded to.
- » Liaising with PR department and project team regarding media attention.
- » Liaising with H&S Manager regarding accidents, HSE interfaces and environmental issues.
- » Advising the project team and Subcontractors regarding the contents of this plan.
- » Chairing project meetings.
- » Acting as the point of contact with local stakeholders and attend local resident meetings.
- » Providing input to local resident's newsletter, where appropriate.

#### 3.3 Environmental Manager

- » The Project Environmental Manager is responsible for:
- » Ensuring the Principal Contractor meets the requirements set out in the CEMP.
- » Supervision of waste and water management as well as any other environmental issues.
- » Ensuring environmental targets and requirements set out in the CEMP are up to date with the relevant environmental legislation.
- » Auditing and reporting on the performance of the environmental management system.
- » Provision of environmental training awareness.

#### 3.4 Construction Director

The Construction Director is responsible for:

- » Acting as community liaison officer and primary point of contact.

- » Receiving, recording and closing out any air quality/dust issues.
- » Receiving, recording and closing out any complaints.
- » Liaison with Subcontractors regarding the likely impact of their activities on the project neighbours and dealing with neighbour complaints received.
- » Monitoring compliance with the requirements of this plan and company procedures.
- » Assisting in compilation of local resident's newsletter.

### 3.5 Site Manager

The site manager is responsible for:

- » Liaison with Subcontractors regarding the likely impact of their activities on the project neighbours and dealing with neighbour complaints received.
- » Assisting external bodies such as the Environmental Health Officer, as required.
- » Monitoring compliance with the requirements of this plan and company procedures.
- » Assisting in compilation of communication with local residents.

## 4. Cala Group Sustainability Statement

*Our approach to sustainability at Cala has undergone a dramatic transformation. In 2020 we set out to define Cala's commitment to running the business in a responsible and sustainable way, and to empower our employees to own this as part of our culture.*

*Our new Sustainability Strategy will help us achieve our targets of building homes that are operationally net zero carbon from 2030, and reaching net zero greenhouse gas emissions in line with the Scottish Government's 2045 target and ahead of UK Government's 2050 target.*

*We realise that we are at the beginning of our journey and undoubtedly have a long way to go, but with our Sustainability Strategy now set in place, Cala are looking towards a greener future.*

*AT THE HEART OF SUSTAINABLE DEVELOPMENT IS RESPECT FOR THE ENVIRONMENT, FROM PRESERVING LOCAL ARCHITECTURAL HERITAGE TO MINIMISING THE USE OF NATURAL RESOURCES AND ENVIRONMENTAL IMPACT.*

*The environment sits at the very core of Cala's Sustainability Strategy, as we understand the ever-growing importance of minimising the impact that our operations and developments have on the world around us. Our Site & Office Environmental Teams, Zero Carbon Team, Transport Team, Procurement Team, and Green Teams have been set up to create, drive, and measure our new targets within this area.*

*On a global scale, building construction and operation contributes to a large amount of the world's greenhouse gas emissions. In order to do our bit to mitigate this impact, we have set ambitious but realistic targets for the coming years in relation to reducing our carbon footprint:*

- » *All new homes to meet operational net zero carbon by 2030.*
- » *Cala activities to achieve net zero greenhouse gas emissions in advance of the government's 2050 target.*



## 5. Construction Site Information

### 5.1 Contractor Requirements

All works will be undertaken in accordance with the relevant environmental legislation, agreements, authorisations, commitments (including this CEMP) and best construction practice, to minimise the impact, as far as reasonably practicable, to the environment and neighbours.

All site personnel (Subcontractors, Consultants etc.) must fully understand the obligations of the CEMP. Monitoring the compliance of those on site is the responsibility of the Principal Contractor. To ensure site personnel are given the appropriate knowledge, those attending site will be required to attend a site induction and weekly toolbox talks provided by the Principal Contractor.

Frequent liaison with site personnel, interested parties, neighbours and local authorities will be necessary to enable free communication throughout the duration of the works.

### 5.2 Site Setup

A good housekeeping policy is to be applied at all times as far as reasonably practicable, specifically:

- » all areas are to be kept in a clean and tidy condition;
- » all waste to be collected in a timely manner and stored appropriately; – A site specific Site Waste Management Plan (SWMP) will be prepared in due course. Cala Homes' policy is that over 90% of site is to be recycled.
- » plant, machinery, and equipment to be stored such that as to limit adverse impacts on the environment; and
- » adequate security to prevent unauthorised entry and exit from the site and protect the public.

### 5.3 Site Compound

The location of the construction compound for the works is yet to be confirmed and this document will be updated when this information is received.

The compound will include enough parking for operatives, a storage area and welfare provision (toilets, canteen, meeting room/offices). Typical site compound will be as Drawings in Appendix A.

All operatives will undergo an induction on first arrival to ensure the proper use of the site and compound area. The permanent compound will have fully boarded hoarding around it.

### 5.4 Site Security

CCTV will be put in place for the duration of construction, to monitor the compound areas for safety and security and run 24hr/7days a week.

The principal entrance to the site will be secured with locked gates out of working hours. The remaining perimeter will be secured with suitable fencing which will be regularly checked in accordance with HSE guidelines.

Typically, manned out of hours site security is not provided. An electronic detection, warning and alarm system will be operational in the vicinity of the compound. If there are reports of out of hours disturbance or security breaches, manned patrols will be implemented.

### 5.5 Operating Hours

The hours of operation for the development site, including any construction and demolition activities that are audible at the site boundary (including the use of machinery and/or plant

maintenance) will be 08:00 to 18:00 Mondays to Fridays, and 08:00 to 12:30 Saturdays. No works will take place on Sundays or Bank Holidays or on any statutory holiday.

No construction traffic will enter or leave the site outside of the operating hours above. The site gates will be opened from 07:00 for site operatives to enter site and park up. No works are to be undertaken outside of the above working hours.

All deliveries will fall within the working hours timeframe. No queuing for site opening will be allowed and warnings will be given to anyone who does not adhere to this.

Necessary signage will be installed within the development: giving directions to the compound, and externally: directing deliveries from Middleton Stoney Road.

## 5.6 Construction Lighting

Temporary lighting on site during construction will be limited to the compound and material storage areas, which will require illumination for the safety of workers in darker months as well as for site security purposes. Lighting requirements are agreed with the site team, and will comprise a combination of bulkhead lighting attached to compound hoarding, and higher-level lighting attached back to site cabins. Such lighting (at a level no higher than the cabin) will be angled to shine downwards rather than outwards, illuminating the immediate space below and the internal compound movement area.

Light spillage will be minimised, being localised to the area it serves. Lighting will be linked to the mains power, as with the compound, though initially from generators until the services are laid through to the compound area. Lighting will be turned off at the end of the working day, with CCTV in the area providing security thereafter.

Lighting columns agreed and delivered through the S38 Technical Approvals process will be connected on a phased basis, and not until such time as a section of road is completed or occupied.

## 5.7 Construction Traffic Routes

It is necessary to identify suitable and safe routes that can accommodate the movements associated with construction materials, construction and plant vehicles. The primary considerations for the routing strategy are as follows:

- » To use the shortest route from the access point of the site and the Strategic Road Network.
- » As far as possible use 'A' roads as a first priority followed by 'B' roads, 'C' roads and then 'unclassified' roads.
- » Where possible avoid single carriageway roads unless these provide direct access to the construction site.
- » To avoid settlements and sensitive receptors to minimise impact on villages and towns and sensitive road users.

Construction traffic routes are yet to be confirmed and this document will be updated when this information is received.

Construction traffic routing will be chosen to minimise congestion, avoid conflicts between HGV traffic and more sensitive road users (i.e. pedestrians, cyclists), and to minimise disturbance to local residents and workers, and will consider sensitive periods such as harvesting.

Construction traffic routing will avoid residential areas where possible. Construction traffic will also be restricted from travelling past schools, but where this is not possible, construction vehicle movements will be restricted during start and closing times.

A Construction Traffic Management Plan will be prepared as required by the ES.

## 5.8 Protection of Built Heritage

In order to prevent damage to the Grade II listed barns on the wider site, protective hoardings will be put in place and safe routes established across the wider site for construction vehicles, to avoid contact with the barns.

A condition survey of the barns will be carried out prior to work starting in their vicinity. A historic building record (Level 1 or 2) of the barns and their setting will be undertaken prior to commencement of works in their vicinity.

## 5.9 Loading and Unloading of Plant and Materials

Once on site, there will be clearly defined loading/unloading areas for construction traffic managed by the Site Management Team. Loading/ Unloading will be so not to impact the existing public highway and traffic. Typical Cala compound site compound as per attached typical standard arrangement. In Appendix A Access routes will be suitably protected and clear of construction operations.

Loading and unloading areas will be presented on a plan, and this document will be updated when this information is received.

## 5.10 Materials Storage

Designated materials storage areas will be provided, solely within the secured perimeter of the site where possible. Materials storage areas will be presented on a plan, and this document will be updated when this information is received.

All materials storage will be designed to prevent loss and control dust, as detailed in Section 7.3.4.

## 5.11 Parking of Vehicles

On-site parking will be provided with designated parking areas benefiting from hardstanding to prevent spoiling of the local road network. There will be provision of a maximum of 60 parking spaces that is considered adequate for the size of the site.

Designated parking areas will be presented on a plan, and this document will be updated when this information is received.

## 5.12 Road Cleaning/Wheel Washing

A road sweeping/cleaning vehicle will operate as required during the site operational hours so that adjoining roads will be left in a clean and safe condition, leaving no mud, debris, slime or build-up of dust on the public highways.

Wheel washing facilities will be located at construction site entrances/exits.

## 5.13 Footpath/Road Closures

No footpath or road closures are envisaged, however, traffic management is likely to be required. Any closures will be confirmed by the Contractor and/or highways authority and this CEMP will be updated accordingly, prior to commencement of construction.

## 5.14 Water Efficiency

Water will be required for the welfare and sanitary facilities, and for dust suppression. Where present, some watering of newly planted trees, shrubs and hedges will be required to ensure their establishment. Dust suppression and watering of plants will be carried out manually rather than via sprinkler systems.



## 5.15 Record Keeping

The Site Manager will maintain records of activities on site, which will include, but not be limited to, the following information:

- » Project environmental procedures.
- » Completed environmental forms.
- » All permits, licences and consents obtained.
- » Training records.
- » Weekly inspection reports.
- » Any complaints.
- » Air monitoring reports (if applicable).
- » Records of material movements.
- » Any specialist environmental reports (ecology/landscape etc.).
- » Records of any incidents and actions taken to mitigate impacts.

## 5.16 Site Rules

The following rules will be communicated by the Principal Contractor to Subcontractors and site operatives:

- » All operatives and visitors to the site must wear appropriate PPE (as a minimum: hard hat, high visibility jacket and protective footwear). Other protective equipment will be used as required by individual Method Statements and/or Risk Assessments.
- » All visitors to the site must be inducted in site Health & Safety Procedures.
- » All operatives and visitors must comply with the Health & Safety guidelines and rules in force on the site.
- » All visitors to the site, including prospective purchasers, are to be accompanied at all times by a representative of Cala.
- » All reversing vehicles must be properly supervised by a trained banksman, at all times.
- » All power tools using temporary electrics are to be transformed down to 110 volts.
- » No operative is to misuse or abuse mechanical plant or equipment used by themselves or others.
- » Operatives must not report for work if under the influence of alcohol or drugs and must not consume alcohol or take drugs whilst at work, or during tea or lunch breaks.
- » Individuals must inform the Site Manager of any activities or works, which appear to endanger the health and safety of others.
- » Operatives must work from a safe and secure place. Platforms must have edge protection.
- » Wherever possible or practical, mechanical means of handling should be used rather than manual handling.
- » No unauthorised person is allowed on scaffold or access equipment.
- » No alterations to scaffold are allowed except by authorised personnel and then only after liaison with Site Manager.
- » Any accident or incident on the site that requires medical treatment or time off, must be reported immediately to the Site Manager.
- » Operatives must respect surrounding neighbours and keep noise to a minimum, particularly when entering or leaving the site. Any radios/entertainment devices should only be used at a

level that will not cause disturbance to neighbours, or mean that instructions or warnings between site workers cannot be clearly heard.

### 5.17 Communications

It is recognised that communication and good relations (on both sides) with immediate local residents is important to enable the satisfactory management and delivery of the development. Cala and its appointed contractors will be working in the area for a number of years and want to ensure the disruption to the immediate neighbours is minimised where possible.

Throughout the construction process, Cala's Site Managers will be the first point of contact for all queries or information. The site office phone number will be confirmed as soon as this is connected, as well as the Site Manager's.

### 5.18 Complaints Procedure

All complaints regarding the Principal Contractor, Subcontractors or the state of the site are to be reported to the Site Manager [Tel. No. TBC]. If this is not satisfactory then the Construction Director (Kevin Chapple) should be contacted ([kchapple@cala.co.uk](mailto:kchapple@cala.co.uk)).

All complaints will be responded to courteously and if repeated complaints are received these will be shared with the Environmental Health Officer for discussion and agreement of any proposed mitigation or methodology changes.

## 6. Environmental Obligations

### 6.1 Identification of Requirements

To ensure the objectives of this CEMP are met, it is important that the construction adheres to a number of specified requirements, including:

- » appropriate legal and regulatory requirements;
- » any consents, permits, licences; and
- » any technical reports provided in support of the planning applications and the decisions from the planning Application Approval document.

Additionally, all works must operate in accordance with the Principal Contractor's Environmental Policy. The Policy will be made available to all interested parties on site notice boards.

### 6.2 Legal and Regulatory Requirements

All Contractors will comply with all the legal requirements and best practice regarding environmental protection and undertake the works in accordance with the consented scheme and employers' requirements. The key relevant and regulations environmental legislation for the works are listed below, although other legislation and regulations may also apply.

- » The Environmental Protection Act 1990.
- » The Environment Act 1995.
- » The Environment Act 2021.
- » The Control of Pollution Act 1974.
- » Pollution Prevention and Control Act 1999.
- » The Clean Air Act 1993.
- » The Environmental Protection (Prescribed Processes and Substances) Regulations 1991.
- » The Conservation (Natural Habitats and Species) Regulations 2017.
- » The Control of Pollution (Oil Storage) (England) Regulations 2001.
- » The Control of Noise (Codes of Practice for Construction and Open Sites) (England) Order 2002.
- » The Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001.
- » The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996.
- » The Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972.
- » The Control of Substances Hazardous to Health Regulations 2002 (COSHH).
- » The Control of Asbestos Regulations 2012.
- » The Waste (England and Wales) Regulations 2011.
- » The Controlled Waste (England and Wales) Regulations 2012.
- » The Controlled Waste (Registrations of Carriers and Seizure of Vehicles) Regulations 1991 (as amended).
- » The Environmental Permitting (England and Wales) Regulations 2016 (as amended).
- » Environmental Protection (Duty of Care) Regulations 1991 (as amended).
- » The List of Wastes (England) Regulation 2005 (as amended).
- » The Air Quality Standards Regulations 2010.
- » The Contaminated Land (England) (amendment) Regulations 2012.
- » The Anti-Pollution Works Regulations 1999.

» The Wildlife & Countryside Act 1981.

### 6.3 Consents, Permits and Licences

In addition to the legislation listed above, the Principal Contractor will need to work within certain licenses and consents. Potential consents/permits are listed in Table 6.1. Other consents may also be required and will need to be added to this list.

Table 6.1: Licenses and consents

Consent/Permit	Statutory Authority	Requirements
Planning Act 2008	Local Council	Discharge of all appropriate planning documents
Environmental Permitting for Construction Works	Environment Agency (EA)/DEFRA	To be agreed by the statutory authority
Discharge to sewer Flood Risk Activity Permit	Local Water Company EA	For the contractor to apply for Where works are undertaken in proximity to/on a main river or flood defence
Section 61 of The Control of Pollution Act 1974	Local Council	Construction/demolition related noise and vibration impact on the environment

## 7. Environmental Monitoring

### 7.1 Introduction

It is essential that an appropriate and thorough environmental monitoring plan is agreed and implemented for all stages of the works, in order to understand the baseline environmental conditions and identify any changes to the site conditions during the construction phase. Any changes to baseline conditions can be easily recognised and mitigation/protection measures promptly deployed, if required. As such, a monitoring plan will consist of, where relevant, an assessment of the:

- » water quality;
- » air quality (including odour);
- » dust levels;
- » noise; and
- » vibration levels.

As with any development, surface water (water bodies, drains, ditches and streams) has the potential to be contaminated with a range of sediments, inorganic compounds and organic compounds.

As construction activities have the potential to generate dust, it is necessary to monitor dust levels and air quality, as well as concentrations of vapours/odours. The site management team will monitor dust levels daily during all relevant operations, with records kept in site diaries as necessary.

Noise and vibration will be monitored using appropriate equipment at locations around the working area or on the site boundary depending on the sensitivity of the receptors.

Any trees and hedges on or adjacent to the site may support breeding birds. However, standard mitigation measures (clearance of vegetation outside of the breeding bird season i.e. March to August inclusive, as a guide) are sufficient to avoid impacts on breeding birds during the nesting season. Should the construction works coincide with the breeding season, additional precautionary measures will be required. Measures to protect existing trees and hedges should be undertaken in accordance with the recommendations of BS 5837:2012: 'Trees in relation to design, demolition and construction'.

The environmental monitoring plan developed by the Principal Contractor for the site should be considered a working document that may be updated throughout the life of the development, and is supported with phase-specific environmental monitoring plans and other such documents.

### 7.2 Water Quality

#### 7.2.1 General

The Principal Contractor will use all practical measures to ensure that all areas of the works remain free from standing water throughout the works. This will include management of all surface water that flows into the work area; including overspill and seepage from haul roads and any temporary ditches adjacent to work areas.

However, measures designed to mitigate dust, vapour and odour problems may introduce water to the site. The amount of water used for dust and odour suppression must, therefore, be kept to a minimum.

The excavation, stockpiling and transportation of material can give rise to contaminated surface water and fugitive water at the surface which, if disposed of in an unsatisfactory manner, can cause



pollution. Such pollution may result in the work being suspended until adequate pollution prevention measures are implemented, and potentially the Principal Contractor being prosecuted.

### 7.2.2 *Waste Water and Groundwater Control*

The Principal Contractor will seek to minimise the amount of waste water requiring discharge.

Any waste water or other site discharges will be collected and treated, where required, before discharge. Appropriate treatment may include, but not be limited to, use of separators, sediment traps or settlement lagoons, and these must be regularly inspected and maintained by the Principal Contractor, and detailed records kept.

The Principal Contractor will inform the EA of any earthworks to be undertaken below the water table, including dewatering and piling. If required, an Abstraction Licence will be obtained by the Principal Contractor and works undertaken in accordance with the licence.

#### *Consents and Approvals*

The Principal Contractor is required to obtain the following:

- » Approval from the EA for discharges into Controlled Waters.
- » A Trade Effluent Consent for any discharges to sewer.
- » A consignment note system must be utilised for tanker collections by a licensed waste carrier.

#### *Spills and Leak Protection*

Where an oil derivative is stored within 10m of any watercourse, the watercourse is considered 'at significant risk'. The Principal Contractor will ensure that all hazardous substances are stored as far from any surface watercourses and temporary or permanent drainage channels as is practicable, and in accordance with relevant legislation.

All oils/fuels will be contained according to regulations (in a bunded area or in a double skinned tank, with a capacity of at least of 110% of the stored contents, and protected). Access to the fuel tank will be controlled and it will be locked when not in use, with only authorised personnel having access.

All vehicle and machine refuelling will be carried out in a designated area of hardstanding, well away from any watercourses.

### 7.2.3 *Additional Surface Water Controls*

In addition to the measures listed above, other practices may be employed in order to manage risks posed to surface waters.

- » Water will be prevented from entering excavations using cut-off trenches. Personnel will not disturb accumulated water in order to prevent the suspension of silt in it.
- » Where soils and other materials are stored, where possible, they will be covered or compacted to prevent fine material running off. Where necessary, silt fences will be constructed from a suitable geotextile.
- » All plant will be cleaned well away from any temporary watercourses to prevent contaminated or silty run-off entering them.
- » Road sweeping will be undertaken in accordance with Section 5.12 of this document. Disposal of arisings will be either: via tipping on site in a designated, segregated area, and maintained appropriately as a waste on site, clearly labelled and coded correctly for onward disposal; or direct disposal to a licenced facility.

## 7.3 Dust and Air Quality

### 7.3.1 General

The Principal Contractor will operate under best practice in order to minimise emissions of particulates and other pollutants to the air and avoid causing nuisance to sensitive receptors on and near the site.

### 7.3.2 Policy, Legal and Other Requirements

The following key documents relate to control of air quality and dust:

- » Regulation (EU) 2016/1628 (concerning the emissions of pollutants from internal combustion engines).
- » BRE. 2003. 'Controlling particles, vapour and noise pollution from construction sites. Pollution Control Guide'.
- » Environmental Protection Act 1990 - statutory nuisance provisions.
- » The Clean Air Act 1993.
- » The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. Volumes 1 and 2. 2007.
- » The Air Quality Standards Regulations 2010.
- » Institute of Air Quality Management. 2014. 'Guidance on the assessment of dust from demolition and construction'.
- » East Midlands Air Quality Network. 2019. 'Air Quality and Emissions Mitigation, Guidance for Developers'.
- » The Control of Substances Hazardous to Health Regulations 2002.

### 7.3.3 Sources of Dust Generation

The main activities where significant dust is likely to be generated are:

- » traffic movements on and around the site during dry weather conditions;
- » cutting operations;
- » mixing of products during construction; and
- » excavations and stockpiled material.

### 7.3.4 Dust Control Measures

The following methods will be used by Contractors at the various stages of work, where appropriate, in order to minimise dust. The list is not exhaustive.

- » Site preparation, earthworks and landscaping:
  - » providing hoarding and/or fencing to reduce dust dispersion and restrict public access;
  - » locating plant as far away as possible from sensitive locations;
  - » sheeting vehicles transporting friable (dry) materials to or from site;
  - » the sheeting of skips during transportation;
  - » restricting all drop heights onto lorries, skips etc;
  - » the soil strip will be undertaken in a managed way to keep dust to a minimum.
  - » employing water sprays and avoid dry-sweeping during periods of dry weather;
  - » keeping fencing, barriers, scaffolding and screening clean;

- » enclosing, and dampening as necessary, all chutes and skips, to prevent dust;
- » avoiding the prolonged storage of debris on site;
- » stabilising surfaces of completed earthworks and/or revegetating them as soon as possible; and
- » carrying out earthworks out swiftly and not leaving excavations open.
- » Haulage routes, vehicles and plant:
  - » use of wheel washes where necessary with 'rumble grids' at construction site entrances/exits;
  - » cleaning of internal roads using an approved mechanical road sweeper, as required;
  - » regular cleaning of public roads to Council and/or Highways Agency requirements;
  - » spraying of dusty roads with water during dry conditions (care must be taken not to pollute surface watercourses with silt-laden water);
  - » use of water bowsers or hand hoses, as appropriate, on roads;
  - » limiting vehicle speeds to 10 mph;
  - » use of low emission alternative fuelled plant, where feasible; and
  - » avoiding unnecessary idling of engines.
- » Materials handling, storage, stockpiles, spillage and disposal:
  - » storage of all fine, dry materials within suitable bunded areas with adequate protection from wind;
  - » sealing storage mounds with tarpaulin;
  - » seeding of soils to be stored for extended periods of time;
  - » use of water to dampen down when loading dry materials onto vehicles;
  - » sheeting of skips and vehicles transporting loose aggregate;
  - » sheeting of skips and other waste and material depositories;
  - » reducing, wherever practicable, material drop heights and stockpile heights;
  - » enclosing or compacting material stockpiles;
  - » minimising handling of dust generating materials;
  - » expeditious removal of dust generating wastes from site;
  - » delivery of dry materials such as bulk cement and bentonite by tanker; and
  - » storage of dry materials in silos with particle control technology.
- » Fabrication processes:
  - » fitting equipment for cutting, grinding and crushing etc. with appropriate dust control measures such as water sprays or vacuums and avoiding scabbling;
  - » using particle extraction systems, where appropriate;
  - » using pre-mixed concrete, plasters and masonry compounds;
  - » carrying out concrete mixing, where required, in enclosed areas;
  - » palletising and shrink-wrapping fine dry materials;
  - » keeping foundations moist to prevent the generation of fine particles; and
  - » using larger pours of concrete rather than repeated small pours.

### 7.3.5 Dust Monitoring

The site management will monitor dust levels daily during all relevant operations with records kept in site diaries as necessary. Should elevated dust levels be identified, the source of the dust generation will be investigated and identified, the task will be stopped and the methodology of the task reviewed and changed as necessary.

### 7.3.6 Air Quality Control

The following methods will be used by the Principal Contractor, where appropriate, in order to minimise air pollution. The list is not exhaustive.

- » Recording all dust and air quality complaints, identifying cause(s), taking appropriate measures to reduce emissions in a timely manner, and recording the measures taken.
- » Making the complaints log available to the local authority when asked.
- » Recording 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.
- » Carrying out regular site inspections, record inspection results, and make the inspection log available to the local authority when asked.
- » Increasing the frequency of site inspections by the person accountable for air quality and dust issues on site, when activities with a high potential to produce dust are being carried out, and during prolonged dry or windy conditions.
- » Planning site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- » Erecting solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- » Ensuring all vehicles switch off engines when stationary - no idling vehicles.
- » Avoiding the use of diesel or petrol powered generators and use of mains electricity or battery powered equipment where practicable.
- » Only using cutting, grinding or sawing equipment fitted with, or in conjunction with, suitable dust suppression techniques, such as water sprays or local extraction.
- » Ensuring an adequate water supply on the site for effective dust/particulate matter suppression, using non-potable water where possible and appropriate.
- » Using enclosed chutes and conveyors and covered skips.
- » Minimising drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and using fine water sprays on such equipment wherever appropriate.
- » Avoiding bonfires and burning of waste materials.

## 7.4 Noise and Vibration

### 7.4.1 General

The Contractor will ensure that operations are undertaken in a manner considerate to sensitive receptors. This includes limiting noise and vibration as far as is reasonably practicable.

### 7.4.2 Policy, Legal and Other Requirements

The following key documents relate to control of construction noise and vibration and will be complied with.

- » The Control of Pollution Act 1974.
- » Environmental Protection Act 1990.

- » British Standard BS 5228-1:2009+A1:2014: 'Code of Practice for noise and vibration control on construction and open sites – Noise'.
- » British Standard BS 5228-2:2009 +A1:2014: 'Code of Practice for noise and vibration control on construction and open sites – Vibration'.
- » The Noise Act 1996 (as amended).
- » British Standard BS 6472-1:2008: 'Guide to evaluation of human exposure to vibration in buildings - Vibration sources other than blasting'.

The following key points relate to control of construction noise:

- » The Planning Authority may demand prior permission to undertake works in relation to noise (The Control of Pollution Act 1974).
- » Notice may be served on the works in order to set conditions for work (The Control of Pollution Act 1974).
- » Even with prior approval from the Planning Authority, members of the public may invoke an action in statutory nuisance (Environmental Protection Act 1990).
- » DEFRA and EA Guidance - Pollution Prevention for businesses.

### 7.4.3 *Specific Provisions for Control of Noise and Vibration*

The Principal Contractor will achieve the lowest reasonably practicable noise levels by utilising items of equipment that have been specifically designed and/or modified to reduce the noise of normal operations. All static equipment will be located and installed as to minimise nuisance to persons living or working in the vicinity.

All compressors will be 'noise reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed when the machines are in use. All ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers.

All vehicles and mechanical equipment used for the purpose of the works will be fitted with effective exhaust silencers and will be maintained in good and efficient working order so that extraneous noise is reduced to a minimum. Machines in intermittent use will be shut down in the intervening periods between works, or throttled down to a minimum.

There will be liaison with the occupants of adjacent properties potentially most affected by noise or vibration from site activities. The occupants will be informed of the nature of the works, proposed hours of work and anticipated duration prior to the commencement of activities.

Noise and vibration target levels will be established (a Section 61 agreement under the Control of Pollution Act 1974) to reduce noise and vibration to a minimum in accordance with best practice means, as defined in Section 72 of the Act.

Further measures for mitigation of noise will include:

- » Noise monitoring, where necessary, to enable different working methods to be adopted, as appropriate, to maintain suitable noise levels at sensitive receptors.
- » Use of hoarding to the required height and density appropriate to the noise sensitivity of the site.
- » Use of temporary noise screens or partial enclosures around particularly noisy activities, for example pneumatic breakers used in close proximity to dwellings.
- » Heavy vehicles routed along streets with the fewest homes.
- » All staff and operatives briefed on the requirement to minimise nuisance from site activities.
- » Implementation of the Best Practicable Means during construction works.



- » Switching off equipment and vehicles when it is not in use for long periods of time.
- » No unnecessary revving of vehicle engines.
- » Reversing alarms (audible) will be active during working hours only. If sensitive receptors are likely to be affected, visual alarms will be utilised in preference, along with a trained signaller (banksman).
- » 'Normal' construction activities will be kept to the agreed site working hours for (see Section 5.5).
- » Noisy operations will be combined to occur at the same period (whilst ensuring that the total noise level produced will not be significantly greater than the level produced if the operations were performed separately).
- » Quieter equipment will be preferentially selected. BS 5228-1:2009+A1:2014 gives practical examples of sound reduction methods for various items of equipment also suggesting alternative equipment to use that is generally quieter. However, some alternatives are expensive and more time-consuming.
- » Use of modern, quiet and well maintained machinery such as electric powered plant, where possible, and hoists using the Variable Frequency Converter drive system.
- » Regular equipment maintenance, necessary to keep equipment in good working condition.
- » Planning the site layout in order to minimise noise, e.g. locating site compounds and noisy equipment in areas away from residential housing, if practicable.
- » Lowering materials rather than dropping them, and using chutes where appropriate.

Vibration mitigation measures will comprise:

- » Vibration monitoring, where necessary, to enable different working methods to be adopted, as appropriate, to maintain suitable vibration levels at sensitive receptors.
- » Phasing operations such as earth moving so as not to occur in the same time period (unlike noise, the total vibration level produced could be significantly less when each vibration source operates separately).
- » Avoiding night-time activities (it is not envisaged that there will be night-time activity).
- » Wherever practical avoiding operations involving impacts.

## 8. Environmental Risk Assessment

An Environmental Risk Assessment (ERA) identifying significant aspects and impacts for the construction phase has been produced as an Environmental Risk Register, which will be held in the main construction office. The register will be reviewed and revised monthly, or as required. Any new environmental aspects and their impacts will be updated accordingly.

A risk scoring system has been implemented, which allows the impacts to be prioritised and the most significant risks identified. For each of the aspects, the potential impacts are scored for the situation where no mitigation measures are employed, and again where mitigation measures are employed.

The register considers the likely environmental impacts from activities being carried out with respect to:

- » Site offices.
- » Vehicles and roads.
- » Consents and permissions.
- » Equipment and tools.
- » Materials.
- » Storage.
- » Ecology.
- » Archaeology.
- » Built Heritage.
- » Drainage and Waters.
- » Contamination.
- » Dust/air quality.
- » Noise.
- » Vibration.
- » Lighting.
- » Waste.

The Environmental Risk Register is presented in Appendix B.

## 9. Sustainable Development

### 9.1 Minimising Construction Site Carbon Emissions

In line with UK Government policy trajectory, CALA Homes Zero Carbon commitments and the EcoTown designation, the development will be designed to be net zero carbon in operation. Once operational carbon emissions are reduced to zero, the impact of embodied carbon emissions becomes more apparent.

The construction of the development will result in carbon emissions from various activities, both on and off-site, including the consumption of fossil fuels by construction plant and vehicles, the generation of consumed mains electricity, the manufacture of construction materials, and the transport to/from site of workers, materials and wastes.

The direct carbon emissions from construction site activities will be reduced through:

- » considering and specifying local materials (where feasible) to minimise transport distances and associated emissions;
- » maximising the efficient planning of machinery and consider zero emission construction plant;
- » considering sourcing construction plant and equipment that operates on carbon neutral biofuels or renewable technologies;
- » giving consideration to on-site renewables to power the construction phase, these can be transitioned into the operational phase post construction;
- » promotion of car pooling for construction workforce, or the use of public transport to site where possible to reduce transport emissions;
- » consideration of low carbon transport modes for the transportation of construction materials to and from site; and
- » monitoring of site water use, electricity use and transport of materials and waste, monitoring.

### 9.2 Embodied Carbon Emissions

Historically, there has been little guidance and regulation with regards to embodied carbon, therefore, the level of information detail, accuracy and reliability can vary throughout these stages as the industry is still developing knowledge. For instance, data available for the maintenance (B2) and repair (B3) stages are still under development and may contribute to the performance gap between as built reality and the design estimation.

In order to reduce the embodied carbon emissions of the development, a detailed assessment of embodied carbon will be carried out during the design stage and provided within the site Energy Strategy being produced by Hydrock. This shall include the following:

- » Assessment of site embodied carbon using OneClick LCA software;
- » Comparison of performance against industry standard benchmarks (RIBA, UKGBC, LETI); and
- » Options to reduce the embodied carbon emissions.

## 10. References

BRITISH STANDARDS INSTITUTE. BS 5228-1:2009+A1:2014: Code of Practice for noise and vibration control on construction and open sites - Noise.

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Planning Act 2008. <https://www.legislation.gov.uk/ukpga/2008/29/contents>

Pollution Prevention and Control Act 1999.

<https://www.legislation.gov.uk/ukpga/1999/24/contents>

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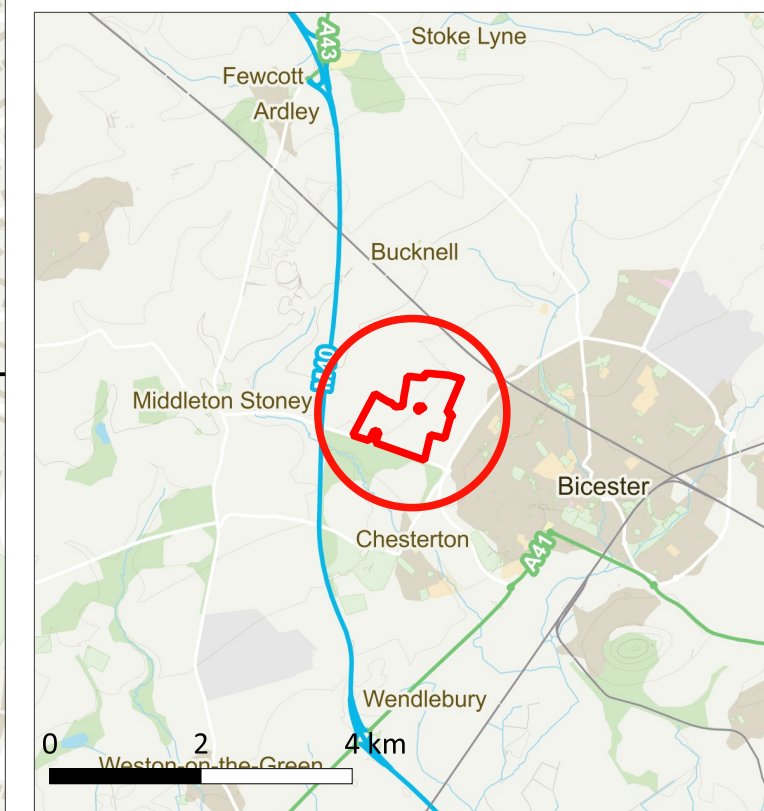
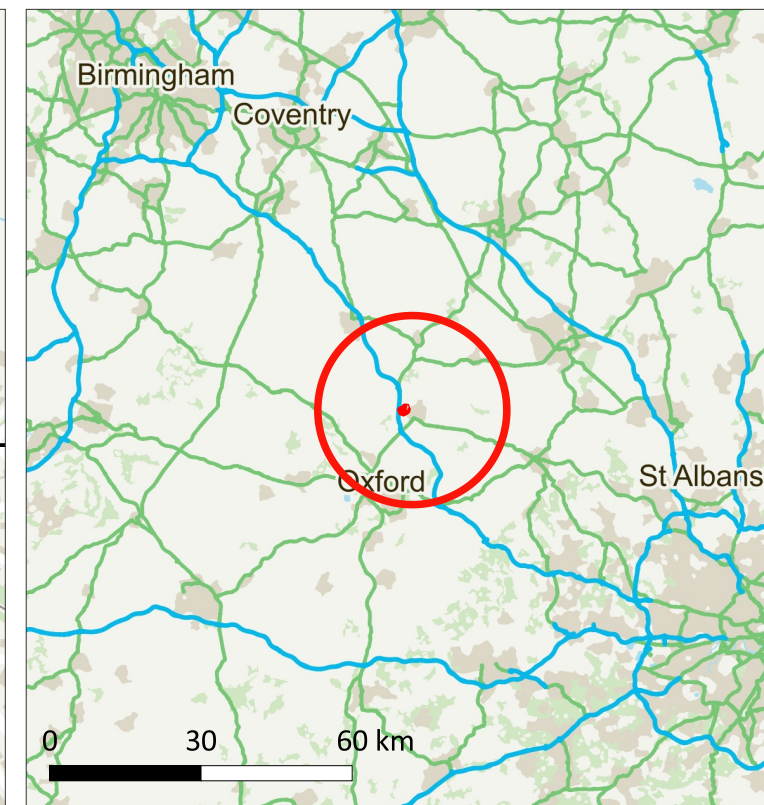
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*Appendix A Drawings*



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KEY PLAN

 Wider Site Boundary

NOTES

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REVISIONS

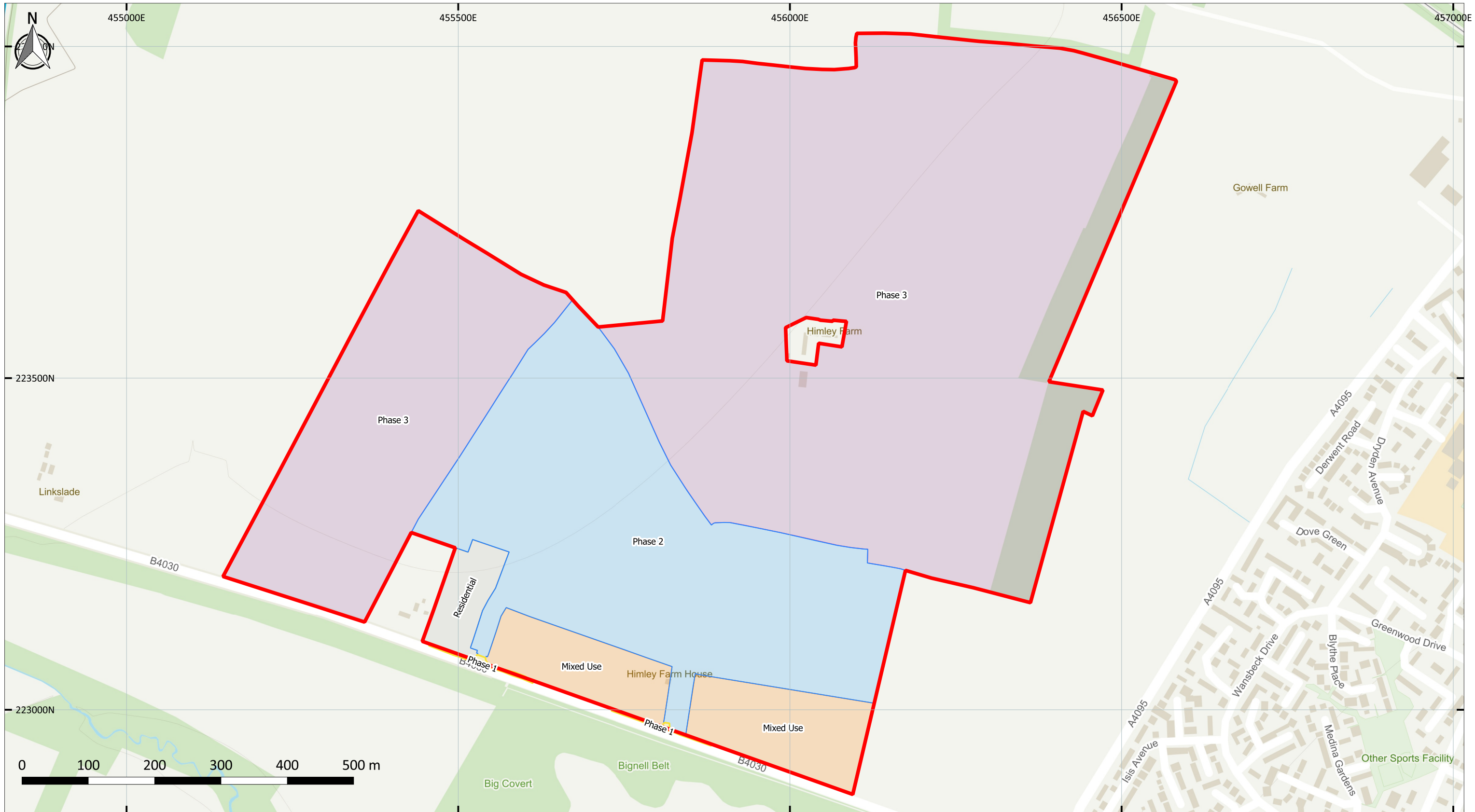
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P01	AA	CD	17/01/23	First issue



CLIENT  
Cala Homes (Cotswolds) Ltd

PROJECT  
Himley Village, Bicester

TITLE SITE LOCATION PLAN	
HYDROCK PROJECT NO. 27141	SCALE @ A3 1:10,000
PURPOSE OF ISSUE SUITABLE FOR INFORMATION	STATUS S2
DRAWING NO. 27141-HYD-PH1-XX-DR-GE-1000	REVISION P01



**KEY PLAN**

- Wider Site Boundary
- Phase 1
- Phase 2
- Phase 3
- Residential
- Mixed Use

**NOTES**

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**REVISIONS**

REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	AA	CD	19/01/23	First issue

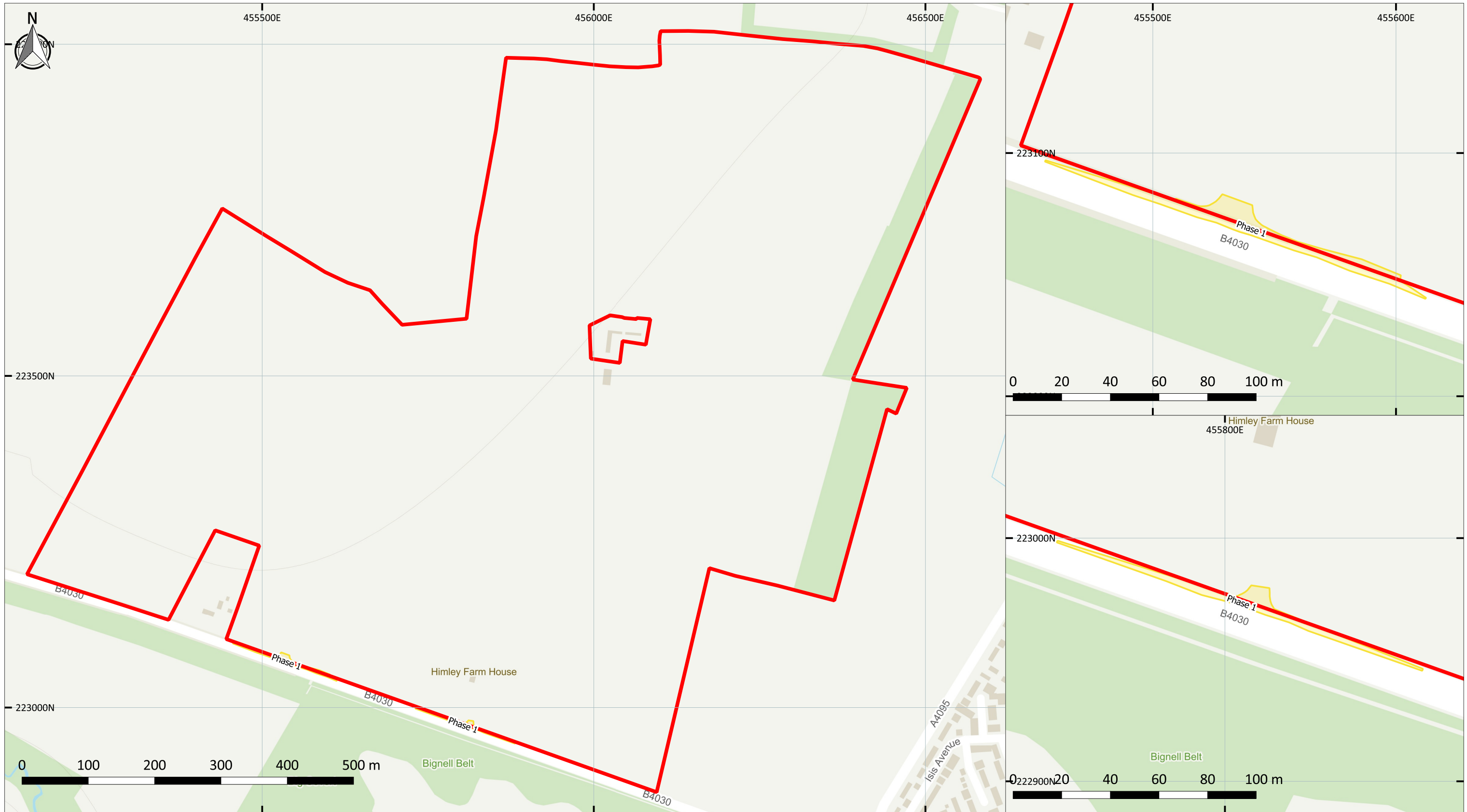


**CLIENT**  
Cala Homes (Cotswolds) Ltd

**PROJECT**  
Himley Village, Bicester

<b>TITLE</b> PHASE PLAN		
<b>HYDROCK PROJECT NO.</b> 27141	<b>SCALE @ A3 (MAIN MAP)</b> 1:5,500	
<b>PURPOSE OF ISSUE</b> SUITABLE FOR INFORMATION	<b>STATUS</b> S2	
<b>DRAWING NO.</b> 27141-HYD-PH1-XX-DR-GE-1001	<b>REVISION</b> P01	





**KEY PLAN**

- Wider Site Boundary
- Phase 1 Boundary

**NOTES**

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**REVISIONS**

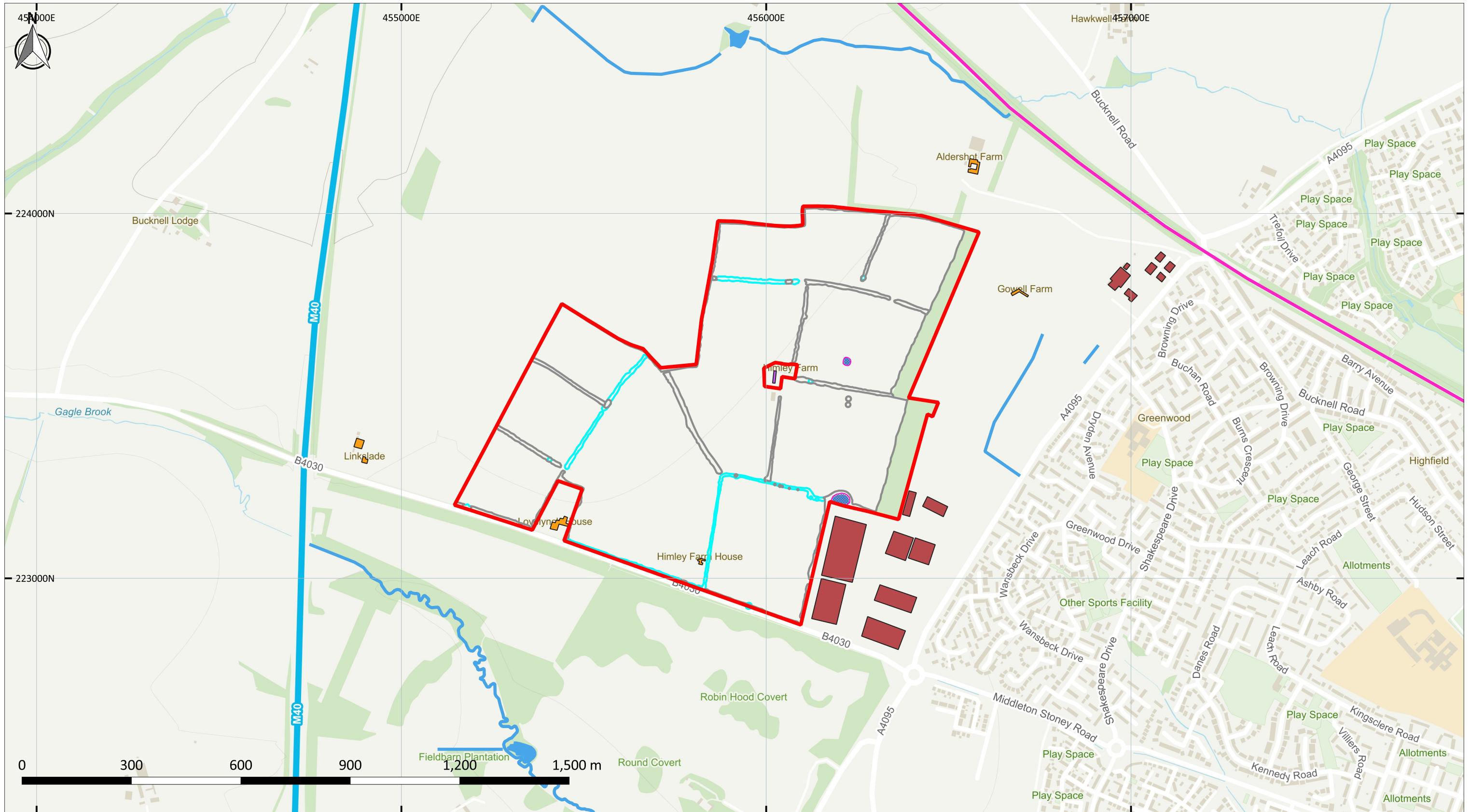
REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	AA	CD	19/01/23	First issue



**CLIENT**  
Cala Homes (Cotswolds) Ltd

**PROJECT**  
Himley Village, Bicester

<b>TITLE</b> PHASE 1 PLAN	
<b>HYDROCK PROJECT NO.</b> 27141	<b>SCALE @ A3 (MAIN MAP)</b> 1:5,500
<b>PURPOSE OF ISSUE</b> SUITABLE FOR INFORMATION	<b>STATUS</b> S2
<b>DRAWING NO.</b> 27141-HYD-PH1-XX-DR-GE-1002	<b>REVISION</b> P01



**KEY PLAN**


Wider Site Boundary	Water bodies
Residential	Surface water feature
Commercial	Railway
Grade II listed barns	Grade B trees & hedges
Great Crested Newts	Grade C trees & hedges

**NOTES**

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**REVISIONS**

REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	AA	CD	19/01/23	First issue

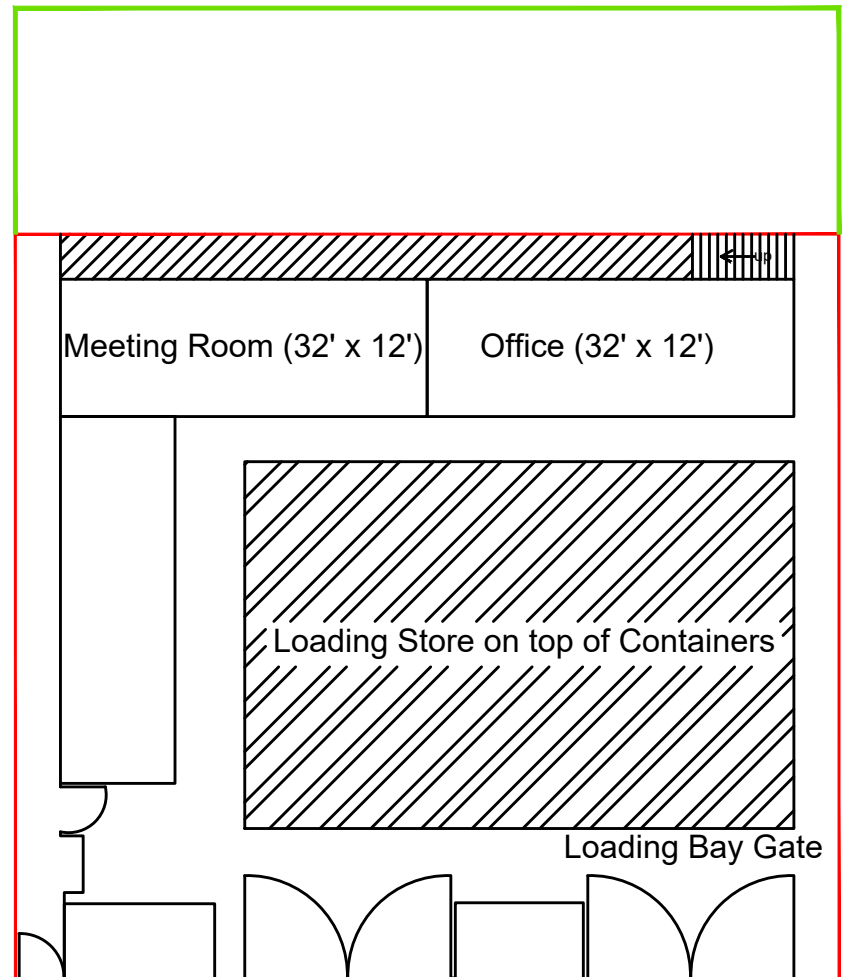
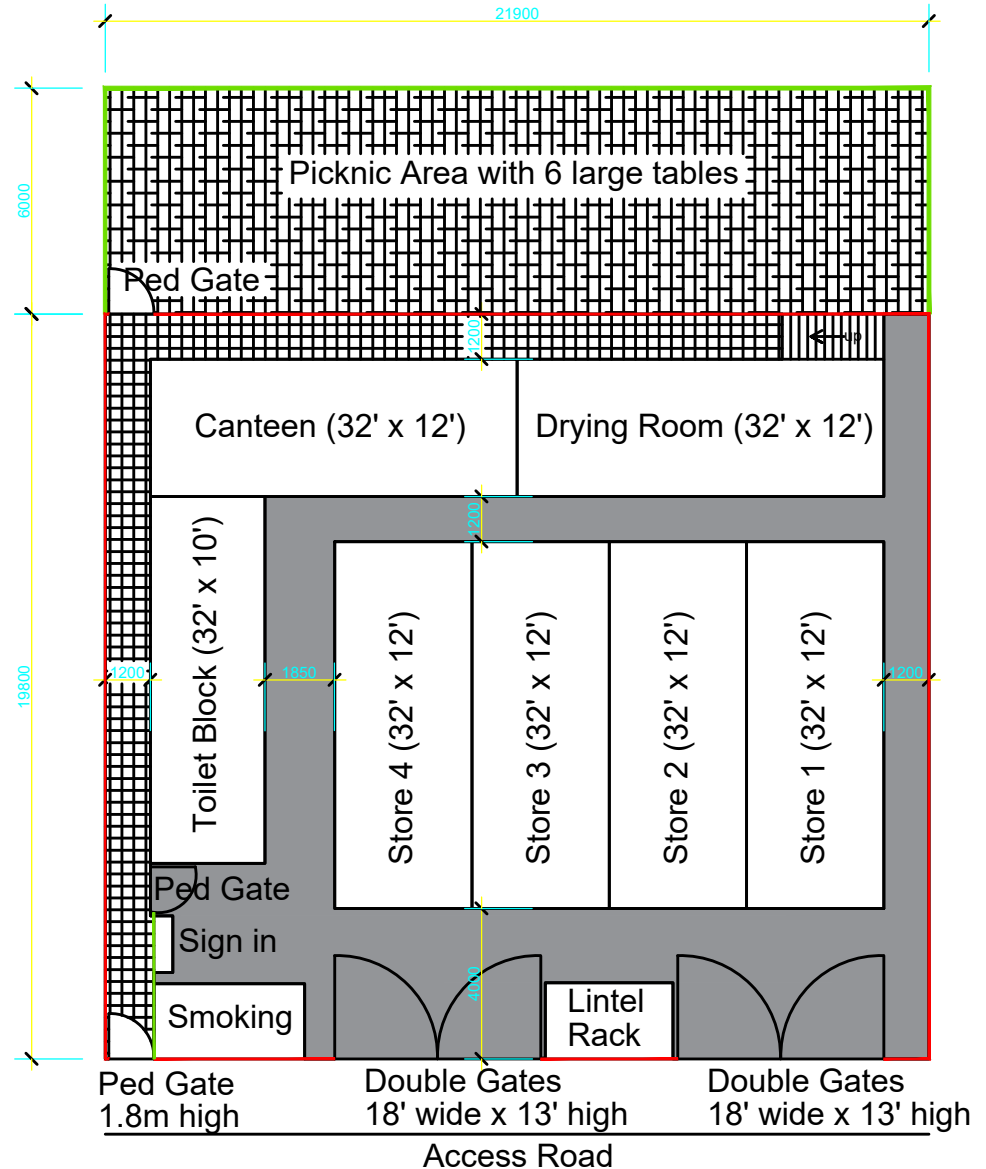








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Cala Homes (Cotswolds) Ltd




**PROJECT**  
Himley Village, Bicester

<b>TITLE</b> SENSITIVE RECEPTOR PLAN	
<b>HYDROCK PROJECT NO.</b> 27141	<b>SCALE @ A3</b> 1:10,000
<b>PURPOSE OF ISSUE</b> SUITABLE FOR INFORMATION	<b>STATUS</b> S2
<b>DRAWING NO.</b> 27141-HYD-PH1-XX-DR-GE-1003	<b>REVISION</b> P01





-  Terram, 200mm crush concrete, 100mm type1, shingle
-  Terram, 200mm crush concrete, 100mm type1, 450x450 smooth concrete patio slabs
-  Terram, 200mm crush concrete, 100mm type1, 80mm tarmac base course
-  Terram, 200mm crush concrete, 100mm type1, concrete pads for cabins
-  Scaffold Walkway
-  Scaffold Loading Store

-  1.8m high hit and miss fencing or 2.0m high hoarding to be used when compound is adjacent to public boundary
-  1.2m high post and rail fencing
-  Pedestrian gate 1.2m high, unless otherwise noted different height

**Notes**

All dimensions to be checked on site prior to the commencement of construction and any discrepancy should be reported to the Site Manager.

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Sub-Contractors MUST ensure that they have the latest issue drawing before they commence work on site.

**This drawing is to be read in conjunction with all relevant Specifications, schedules and Engineers details.**

Rev	Date	Description	Init.
1	18-01-21	Picnic area added	MF



Job title

Drawing title

**GF & FF Compound Layout  
Large Site**

SCALE 1:200	DRAWN PC
DATE Nov 2020	REV. 1
DWG NO. <b>Large Compound</b>	





## *Appendix B      Environmental Risk Register*

## Environmental Risk Register

The probability of occurrence and impact of a hazard should be judged on a qualitative scale as set out in Table B.1. The degree of risk (R) is determined by combining an assessment of the probability (P) of the hazard occurring with an assessment of the impact (I) of the hazard, and associated mitigation it will require if it occurs ( $R = P \times I$ ).

Table B.1: Qualitative assessment of hazards and risks

P = Probability		I = Impact		R = Risk Rating (P x I)	
1	Very unlikely (VU)	1	Very Low	1 – 4	None / negligible
2	Unlikely (U)	2	Low	5 – 9	Minor
3	Plausible (P)	3	Medium	10 – 14	Moderate
4	Likely (Lk)	4	High	15 – 19	Substantial
5	Very Likely (VLk)	5	Very High	20 – 25	Severe

The Environmental Risk Register is set out in Table B.2.

Table B.2: Environmental Risk Register

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
<b>Site Offices</b>								
Procurement of site cabins; connection of water and power supplies	Procurement of energy and water inefficient cabins contributes to increase in resource use and excess noise.	3	2	6	Cabins and welfare units will be connected to mains power, sewage and water supplies where connections are practicable. Where connections are not practicable energy efficient super-silenced generators to be used.	1	2	2
Location of areas for site office and welfare	Poor management/operation of welfare and waste facilities can result in nuisance from vermin and odour, light, visual impact and potential pollution. Pollution of watercourses and possible destruction of water ecosystem from use of detergents classed as 'Dangerous to the environment'.	4	2	8	Location and detailed design of the site office and welfare facilities will be assessed during project planning. Food waste will be placed in the general waste wheelie bins, which are enclosed, in good condition and regularly emptied. Detergents will be used in small quantities for office-based cleaning, and use of harmful products kept to a minimum, with alternatives used where possible. All items used in office cleaning will be included in the COSHH register as appropriate.	2	2	4
<b>Vehicles and Roads</b>								
Mud/dust on highways/shared access routes	Dust and mud create nuisance on local roads. Impact on local receptors (residential and ecological).	5	3	15	A road sweeping/cleaning vehicle will operate during site operational hours so that adjoining roads will be left in a clean and safe condition, leaving no significant mud, debris, slime or build-up of dust on the public highways. Silt fencing or ground profiling may be employed to prevent migration of silt, which may form mud on roads.	2	3	6
Road sweeping/wheel washing	Incorrect management of road sweeping activities leads to environmental harm and a breach of legislation. Poorly executed road sweeping activities cause nuisance with regard to dust and mud on roads.	4	3	12	Road sweeping activities will be conducted by competent Contractors with a clear scope of works. Waste disposal will be either via tipping on site in a designated, segregated area and maintaining appropriately as a waste on site, clearly labelled and coded correctly for onward disposal, or direct disposal to a licenced facility.	1	3	3



Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
					Coordination and consideration of local road-users will be given such as no road sweeping to occur on public roads during rush hours or school collection times, and that specifics applicable to the road and the site are accounted for.			
Traffic disruption	Site access/egress which is mismanaged and/or poorly maintained/signed causes congestion, confusion, nuisance (noise and air quality) and safety issues on the public highways, or on access routes shared with other local land-users.	3	2	6	<p>Construction traffic routing will avoid residential areas where possible. Construction traffic will also be restricted from travelling past schools, but where this is not possible, construction vehicle movements will be restricted during start and closing times.</p> <p>Traffic planning and highway interactions will be managed in conjunction with other stakeholders using the land or access/egress routes.</p> <p>Signage will be employed where necessary.</p> <p>Security and banksmen will be employed where necessary to reduce impacts on local road users.</p> <p>Deliveries will be co-ordinated as part of the site planning and programme.</p> <p>Any complaints received regarding traffic or pedestrian management will be dealt with, any changes required implemented, and site inductions updated as required.</p>	1	2	2
Location of car parks	Surface pollution from vehicles and plant affects land, water and air.	3	2	6	<p>Car parks will be located on existing hardstanding or compacted Type-1 material where the nature of the material makes oil spillages or leaks easily identifiable. Any oil spillages which are spotted are dealt with appropriately (spill kits etc.) and reported to the Site Manager.</p> <p>Car parks will not be located within 10m of a watercourse. Or, where this is impracticable, additional measures will be put in place to prevent run-off, such as sand bags, silt fencing, pollution booms and/or earth bunding.</p>	1	2	2
Location of washout areas	Run-off from vehicle washing (including wheel-wash units, washing concrete wagons or general washing activities) contains pollutants which cause harm to the ground, groundwater and surface water.	3	2	6	<p>No vehicle washout activities will take place on site without prior approval from the Environmental Manager. Washout activities will not be located near watercourses or sensitive receptors.</p> <p>Vehicle wash units will be adequate for the task and minimise usage/recirculate water where possible.</p> <p>Effluent from washout will be collected in a sealed system or container and not be allowed to discharge to ground.</p>	1	2	2

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
					Waste water will only be discharged to foul sewer or the environment with appropriate permission/consent. Where discharge is not possible, waste water will be removed from site by certified waste carriers to approved disposal sites.			
<b>Consents and Permissions</b>								
Consents and permissions from Regulators or Authorities	Failure to adhere to, or be fully aware of, required consents and permissions can lead to environmental harm.	3	4	12	<p>Where it is required to obtain consents and permits this will be communicated to the Site Manager.</p> <p>Environmental consents, permits, planning requirements and any conditions or constraints will be detailed and communicated as part of the induction.</p> <p>A consents list will be held on site, together with a register, which will be updated when necessary.</p> <p>Any changes in scope trigger a reassessment of consents and permits in place for the project.</p>	1	4	4
<b>Equipment and Tools</b>								
Use and containment of fuel in mobile and static generators	<p>Poor storage and maintenance of generators leads to higher potential for leaks and failures.</p> <p>Maintenance tasks and refuelling increases risk of leaks and spills to ground or water.</p>	3	3	9	<p>All generators used on site will be inspected prior to first use by a competent person.</p> <p>Daily and weekly inspections will be carried out and a maintenance regime implemented.</p> <p>Generators will be located on hardstanding, within a bund, or within their own secondary containment such as plant nappies or drip trays.</p> <p>All generators will be located no less than 10m from any watercourse.</p> <p>Any problems identified will be reported and actioned, with the equipment withdrawn from use until remedied.</p> <p>Any maintenance activities will be undertaken off site where practicable, or in controlled areas where potential leaks and spills are contained and controlled.</p> <p>Spill kits will be located next to generators and any on site vehicle refuelling area. Spill kits will be maintained, kept free from debris, dirt and water ingress.</p> <p>Spill response training and regular drills will be undertaken and covered in toolbox talks.</p>	1	3	3

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
Spills and leaks from tools and plant	<p>Poor maintenance of plant/tools leads to higher potential for leaks and failures.</p> <p>Maintenance tasks increases risk of leaks and spills to ground or water.</p> <p>Lack of preparation in spill response causes additional clean-up and potential pollution incidents.</p>	3	3	9	<p>All plant used on site will be inspected prior to first use by a competent person. Daily and weekly inspections will be carried out and a maintenance regime implemented.</p> <p>Any problems identified will be reported and actioned, with the equipment withdrawn from use until remedied.</p> <p>Any maintenance activities will be undertaken off site where practicable, or in controlled areas where potential leaks and spills are contained and controlled.</p> <p>All works areas will have a spill kit and plant will be located near to spill kits at all times. Spill kits will be maintained, kept free from debris, dirt and water ingress.</p> <p>Spill response training and regular drills will be undertaken and covered in toolbox talks.</p>	1	3	3
<b>Materials</b>								
Identification of materials to be reused on site	<p>Improper use of materials on site causes pollution of land and water.</p> <p>Breaches in waste legislation occur through mismanagement or incorrect classification of materials used or held on site for longer than 12 months.</p>	4	3	12	<p>All excavated material will be tested (either by sampling or by reference to existing ground investigation data) for suitability for reuse.</p> <p>A Materials Management Plan (MMP) or appropriate permit/consent is to be in place for any reuse of material on site, or import of material to site.</p> <p>Any waste reused on site is to be assessed for applicable waste exemptions, which will be in place prior to the activity commencing.</p>	1	3	3
Procurement and use of timber	<p>Purchase and use of timber from unsustainable sources causes irreparable damage to habitats, species and local communities.</p>	3	3	9	<p>All timber is to be procured via certified suppliers and checked for a unique certification code/number on delivery notes and invoices.</p>	1	3	3
Concrete use	<p>Concrete and concrete water have high pH which causes pollution of the ground, groundwater and surface water, and harms ecology.</p> <p>Mismanagement of wet concrete has the potential to harm the environment.</p>	3	2	6	<p>Concrete and cement mixing will be carried out on impermeable designated areas where practicable.</p> <p>All activities will take place at least 10m away from watercourses or surface water drains, to reduce the risk of run-off entering the watercourse/drain.</p> <p>Surplus dry concrete, cement and grout will be collected and stored correctly within secure containment.</p>	1	2	2

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
Imported recycled aggregates	Use of recycled aggregates has the potential to pollute the ground, groundwater and surface waters. Failure to demonstrate compliance constitutes a breach of legislation.	3	4	12	Quality and composition of recycled aggregates must be in line with CL:AIRE codes of practice, WRAP protocol and conform to British Standards; be processed in accordance with the relevant WRAP Quality Protocol, or imported under a Waste Exemption or Full Environmental Permit. Information will be obtained from the supplier prior to import of any recycled materials. This will consist of a copy of the waste exemption or permit under which the supplier has processed the material; a quality plan or method statement to prove that they produce material in accordance with the WRAP Quality Protocol and copies of the testing certificates (both grading and chemical tests) to ensure the material meets the required specification and is not contaminated. All material will be assessed for appropriate use by the Site Manager. All deliveries will be visually checked and documented. Any deliveries of material not meeting expectations will be rejected and the supplier suspended from further deliveries until additional checks and assurances are provided. All evidence of compliance with the WRAP Protocol, waste exemptions and environmental permits will be recorded and held on site.	1	4	4
<b>Storage</b>								
Storage of plant and tools	Poor storage of plant or tools leads to higher potential for leaks and spills to ground or water, and affects land, water and air, and causes nuisance.	3	3	9	Plant and tools will be stored securely either in stores or in locked compounds, with appropriate bunding, drip trays/plant nappies employed, and at least 10m away from any watercourses.	1	3	3
Storage and use of oils/fuels	Incorrect storage and use of oils/fuels affects land, water and air by spillage, leakage or evaporation, and causes nuisance.	3	3	9	All oils/fuels will be contained according to regulations (in a bunded area or in a double skinned tank, with a capacity of at least of 110% of the stored contents, and protected). All oils/fuels storage will be sited at a distance greater than 10m from any watercourses. Oil/fuels storage will be located away from drains where practicable; where not practicable drains will be protected.	1	3	3

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
					<p>Access to the fuel tank will be controlled and it will be locked when not in use, with only authorised personnel having access.</p> <p>Inductions will include instruction on refuelling operations.</p> <p>When refuelling takes place on site either via the bowser, tanker deliveries or hand-held fuel cans, the operations will be undertaken within a controlled area, with the use of containment or drip tray/plant nappies.</p> <p>Spill kits will be made available and easily accessible to the relevant parties.</p> <p>Drip trays/plant nappies will be used under all static plant and fuel powered items in the works areas.</p> <p>All hand-held fuel containers will be returned to the stores when not in use.</p>			
Storage and use of COSHH	Incorrect storage and use of COSHH affects land, water and air, by spillages, leakages or evaporation affects land, water, air and causes nuisance.	3	3	9	<p>COSHH storage and COSHH waste storage will be on bunded areas or in secure containers on hardstanding and at least 10m away from any watercourses.</p> <p>Drains will be protected, or COSHH storage located away from drains.</p> <p>All COSHH waste produced as part of the works will be segregated, secured and fully labelled with waste codes and description. Waste COSHH packaging will be segregated and stored securely as hazardous waste.</p> <p>All COSHH items will be accompanied by a REACH compliant Safety Data Sheet (SDS) and a COSHH assessment undertaken by the Site Manager. All SDS and COSHH assessments will be kept on file, and environmental impacts understood, communicated and attached to risk assessments and method statements (RAMS).</p> <p>Secure COSHH storage will be within a designated, secure COSHH store, in a well-ventilated area.</p> <p>COSHH materials which can react with each other, will be kept separately and items which may be affected by water and weather will be sheltered.</p> <p>COSHH materials used on site will be contained or held in a plant nappy, and will be returned to the storage area when not in use.</p>	1	3	3
Storage of topsoil	Incorrect storage of topsoil can degrade the material.	4	2	8	<p>Stockpiles will be profiled to allow sufficient aeration to be maintained and prevent compression during storage.</p>	2	2	4

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
	Material can also be windblown and have the potential to create leachate, or cause silting.				Stockpiles will be no taller than 2m.			
Storage of materials	Run-off (leachate), failure and windborne material from stockpiles and storage of material affects land, water, air and causes nuisance.	4	2	8	<p>Skips and stockpiles will be covered with plastic sheeting to prevent rainwater run-off, where practical and safe to do so.</p> <p>Where practicable, materials will be delivered to site in the quantities required for a particular phase of works.</p> <p>Skips and stockpiles will be located on hard-standing where practicable, at least 10m away from any watercourse, and will be profiled to prevent slumping.</p> <p>Skips and stockpiles will be located away from drains, or drains will be protected.</p>	2	2	4
<b>Landscape and Visuals</b>								
Removal of hedgerows	Loss of hedgerows and trees along Middleton Stoney Road.	5	2	10	<p>Existing vegetation, including at the periphery of the wider site to provide visual screening will be retained where possible.</p> <p>Vegetation to be retained will be protected during construction to prevent damage.</p>	2	2	4
Setting of Himley Farm and residential areas.	Visual intrusion from construction traffic, working machinery and temporary lighting affects the tranquillity of residential areas.	4	3	12	<p>Working hours are limited to 08:00 to 18:00 weekdays, 08:00 to 12:30 Saturdays and no works on Sundays or Bank Holidays.</p> <p>Impacts from vibration and air, light and noise pollution will be minimised as outlined in the relevant sections of this risk register.</p> <p>Lighting of mobile cranes will be limited to working hours.</p>	2	3	6
Loss of views	Visual landscapes will be affected during the construction period, including the presence of mobile cranes and construction works to maximum building parameter heights.	4	3	12	<p>Use of hording around the site and/or work area hording/fencing will be in place to screen noise and provide a suitable external appearance.</p> <p>The site compound and storage areas will be located away from sensitive views, where possible.</p> <p>The site will be kept tidy through management practices to reduce clutter associated with the works.</p>	1	3	3



Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
					Traffic control will be located at entrances to the site/works area to minimise the intrusion on the public highway. Self-erecting mobile cranes which can be dismantled outside of working hours will be uses where possible.			
<b>Ecology</b>								
Protected species and habitats on site (known or discovered)	Impact on natural biodiversity and potential of breach legislation.	3	3	12	All works will be undertaken in accordance with the EA's PPG5 and PPG6. Protective fencing will be required to preserve those hedgerows and trees, which are to be retained. RAMS will be in place for all works and will include information on the presence of, or potential for, any species/habitats within the works areas. Awareness training will be given to the site team on what to do if suspected species/habitats are encountered. Any discovery will immediately be highlighted to the Site Manager. Works area will be checked regularly during works for any signs of animal activity.	1	3	3
Non-native/ invasive species on site (known or discovered)	Impact on natural biodiversity. Spreading of invasive species is illegal and leads to prosecution. Excavated material has potential to spread non-native species off site.	2	4	8	No invasive species have been reported on the site. Awareness training will be given to the site team on what to do if suspected invasive or non-native species are encountered. Any discovery will immediately be highlighted to the Site Manager. Avoidance measures as recommended by the EA and DEFRA will be followed.	1	4	4
Vegetation clearance	Removal of vegetation impacts habitats and species.	3	3	9	Where watching briefs are required these will be carried out by qualified ecologists. Toolbox talks on vegetation, hedgerows, trees, habitats, and the potential for protected species, will be given ahead of vegetation removal works. All protected areas or exclusion zones will be demarcated ahead of works.	1	3	3
Planting - grass, trees, shrubs	Failure to comply with planting or reinstatement requirements can lead to a	3	2	6	Planting and landscaping requirements will be agreed with the Council. The Environmental Manager will communicate planting or reinstatement requirements to the Site Manager.	1	2	2

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
	breach in legislation or planning conditions.				All consequences of planting will be considered; such as future planned works, species selected for diversity, heights of species to be planted, consideration to neighbours and existing ecology.			
Bats	Disturbance of roosting and/or migrating bats.	4	3	12	<p>Any building scheduled for demolition or refurbishment and trees scheduled for removal will be re-assessed for their bat roosting potential including undertaking a bat roost assessment and, where required bat emergency/re-entry surveys prior to any works commencing.</p> <p>Demolition/refurbishment/tree removal will only be undertaken here assessments have determined that bats are absent,</p> <p>Where bats are present, a European Protected Species licence will be sought and works will follow the methodology described in the Bat Mitigation Strategy accompanying the licence application.</p> <p>Works will be supervised by a licensed bat ecologist.</p> <p>Bat boxes or other agreed methods will be installed prior to removal of potential roosting habitat.</p>	2	3	6
Birds	Disturbance of birds.	5	2	10	<p>Demolition, vegetation clearance and hedgerow removal will be undertaken outside of the breeding bird season (March to August inclusive), where possible, and where not possible a suitably qualified and experienced ecologist will first inspect the building/vegetation/ hedgerow to check no birds are breeding and then will agree a working method and supervise the task.</p> <p>Where breeding birds are found clearance works will be postponed and an exclusion buffer created to protect the nest(s) until the ecologist confirms the birds have left the nest.</p>	2	2	4
Great Crested Newts	Loss of habitat and disturbance of Great Crested Newts.	4	3	12	<p>Presence/absence surveys will be undertaken in advance of any works commencing, in order to establish the likely population numbers and locations.</p> <p>Where possible the removal of suitable aquatic and terrestrial habitat (including hedges) within 250m of the breeding ponds and within any other areas with potential to support great crested newts within the site will be avoided. Where this is not possible, disturbance to/removal of habitat will be carried out in accordance with a Great Crested Newt Mitigation Strategy that would be provided to support a Natural England licence application. Works to begin</p>	2	3	6

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
					clearing vegetation within the area will begin following the trapping and translocation of all animals found within the affected area into a secure area protected by newt fencing. Once works are completed, the great crested newts will be allowed to return. To provide alternative aquatic (breeding) habitat whilst the existing ponds are being renovated, and in order to minimise disturbance or injury to great crested newts these works must be undertaken outside of the breeding season (March to June inclusive, typically). Two new ponds will be created within 250m of the existing ponds to provide new breeding habitat. Once the new ponds are established and of suitable quality, the great crested newts would be returned to these areas, according to details to be included in the Great Crested Newt Mitigation Strategy.			
Reptiles and widespread amphibian species	Loss of habitat and disturbance of reptiles and widespread amphibian species.	4	3	12	Prior to vegetation clearance works, further presence/absence reptile surveys will be undertaken in suitable areas of habitat within the site that would be affected by works throughout the active season (from March to October) to establish the species of reptiles present at the Site and their population numbers. Following the survey work, reptiles and widespread amphibian species found within the affected area will be trapped and translocated to safeguarded areas secured using reptile/amphibian fencing. Once the capture rate has decreased significantly, vegetation can be cut down in stages to encourage remaining animals to move into increasingly smaller areas, under the supervision of ecologists. Finally, a fingertip search of remaining vegetation and spoil will be made to remove the remaining animals to the receptor site.	2	3	6
Badgers and other mammals	Injury/death from falling into excavations.	2	2	4	Secure fencing will be erected to prevent animals entering works areas. Deep excavations will be covered to prevent injury. Where possible, ramps or other such features will be placed in excavations to allow escape of animals.	1	2	2
Badgers and other mammals	Loss of access to foraging sites.	2	2	4	For works that take place when dependent young hares could be present (March to September), protective measures will be agreed with a suitably experienced ecologist, who will undertake pre-construction checks.	1	2	2

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
Hedgerows	Disturbance to and/or loss of commuting/breeding/foraging/hibernating habitat and potential injury and death.	4	3	12	New hedges and buffers will be established prior to the removal of existing hedges, where possible.	3	3	6
<b>Archaeology</b>								
Discovery of archaeological finds (including human remains)	Impact on archaeological heritage. It is a legal obligation to report discoveries.	1	2	2	Awareness training will be given to the site team on what to do if suspected archaeological finds are encountered. Any discovery will immediately be highlighted to the Site Manager.	1	2	2
<b>Built Heritage</b>								
Grade II listed barns	Damage to the Grade II listed barns during construction.	2	2	4	Protective hoardings will be put in place and safe routes established across the wider site for construction vehicles, to avoid contact with the barns.	1	2	2
<b>Drainage and Waters</b>								
Identification and protection of drainage	Failure to protect drains from pollutants causes harm to ground and watercourses.				The site is mostly greenfield with limited existing services expected. Where existing site drainage plans are available, these will be used to assist in the design of new drainage schemes.			
	Damage to drains and drainage systems causes flooding, introduces pollution pathways and effects ground and watercourses	2	3	6	Works areas, laydown areas, stockpiles, storage of COSHH, fuelling areas and plant will be assessed in relation to drain locations. Where it is not possible for these to be located away from drains, drain protection will be put in place. Spill kits and drain covers (where applicable) will be made available and easily accessible to the site workers.	1	3	3
Increase in hardstanding/ changes in permeability of surfaces	Drainage system/surface water capacity is overloaded, which could result in localised flooding and subsequent pollution.	2	3	6	Surface drainage, where required, is incorporated in the design. Mitigation measures may include silt fences, settlement lagoons, temporary French drains, etc. as appropriate. All discharges of water will be subject to EA guidelines and permits as required.	1	3	3

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
Identification and protection of surface water and groundwater	Failure to protect surface water and groundwater from pollutants causes harm to groundwater and watercourses.	3	3	9	Any excavations or piling will be risk assessed in line with EA guidance and British Standards and undertaken in accordance with relevant RAMS. To prevent works polluting surface or groundwater e.g. through run-off and spills, a number of pollution prevention measures will be employed on site e.g. fuel and COSHH storage areas will be bunded, all COSHH items will be returned to stores when not in use, refuelling zones will be restricted, and plant nappies/drip trays and spill kits will be provided in the immediate area of fuel and COSHH storage areas.	1	3	3
Pumping and discharging water	Movement of water on-site can carry pollutants and create pathways to receptors. Unmanaged discharges of water can cause flooding and inundation of local surface water and drainage systems.	3	4	12	During the works any water accumulated in excavations or on the surface will be assessed (through visual and olfactory observations) for potential for contamination prior to any movement of water. The assessment will include ensuring there is no change to water colour or transparency, no oily sheen on the surface and no scum or foam building up on the surface of the water. Any water in contact with known or suspected contaminated land will be held on site in suitable containers and tested for contaminants. If any contaminants are identified, the water will be removed as waste, as appropriate. Locations for discharge will be agreed with the EA where applicable. Discharge of water from excavations will be made in line with EA 'Regulatory Position Statement' requirements.	2	4	8
<b>Contamination</b>								
Contaminated land on site (known or discovered)	Mismanagement of contaminated land can potentially damage the surrounding environment (in particular soils and controlled waters). Incorrectly managed contaminated land causes potential pollutant pathways to be introduced.	3	3	9	Ground Investigation has been undertaken at the site and limited contamination was encountered. RAMS will be in place for all excavation works and will include information on the potential for any contamination within the works areas. Awareness training will be given to the site team on what to do if suspected contamination is encountered. Any discovery will immediately be highlighted to the Site Manager and the 'Discovery Strategy/Unexpected Finds Procedure' followed. Any material suspected of being contaminated is to be segregated and stored on plastic sheeting, or within an appropriate impervious container, and clearly	1	3	3

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
					labelled. Where practicable the material will be covered to prevent any leachate run-off or airborne movement of contaminants.			
Asbestos in soils on site (known or discovered)	<p>Asbestos in soils has the potential to become airborne and pose health and environmental risks.</p> <p>Asbestos contaminated soils can only be sent to appropriately licenced facilities, if not, it is a breach of waste legislation.</p>	2	4	16	<p>Asbestos has not been identified on site.</p> <p>Awareness training will be given to the site team on what to do if suspected asbestos materials are encountered. Any discovery will immediately be highlighted to the Site Manager and the 'Discovery Strategy/Unexpected Finds Procedure' followed.</p> <p>Excavated spoil known or suspected to contain asbestos will be segregated from all other material and waste.</p> <p>Damping down of excavations and of material stockpiles which contain, or potentially contain, asbestos will be undertaken to reduce the potential for dust generation.</p> <p>Stockpiles of asbestos contaminated materials will be removed from site as soon as is practical, to a licenced facility.</p> <p>Any material other than soil, suspected to contain asbestos will be left <i>in situ</i> or double bagged and labelled (if safe to do so), a specialist Contractor will be called in if necessary.</p>	1	4	4
Contaminated water on site (known or discovered)	<p>Mismanagement of contaminated water leads to pollution of watercourses and possible destruction of water ecosystems.</p> <p>Contamination includes non-hazardous substances such as silt and substances which suppress oxygen content in water. Impacts are associated with the release of contaminated water to the surrounding surface or groundwater.</p>	4	3	12	<p>No excavation waters, tank waters or accumulations of rainwater/snowmelt will be discharged unless a control plan is in place, a consent has been received, or a licence is granted.</p> <p>RAMS will be in place for all excavation works and will include information on the potential for any contaminated water to be present within the works areas.</p> <p>Awareness training will be given to the site team on what to do if suspected contaminated water is encountered. Any discovery will immediately be highlighted to the Site Manager and the 'Discovery Strategy/Unexpected Finds Procedure' followed.</p> <p>Silt management will be put in place for any movements of water, in the form of silt busters, silt bags and straw bales.</p>	1	3	3



Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
<b>Dust / Air Quality</b>								
Dust/airborne substances/pollutants generated during work activities	Dust and emissions from site activities to air contribute to degradation of local air quality (and also contribute to climate change). Impact on local receptors (residential and ecological).	5	3	15	<p>Sensitive receptors are highlighted Section 2.4. Mitigation measures discussed in Section 7.3 will be implemented. These include but are not limited to:</p> <ul style="list-style-type: none"> <li>» Water sprays being used locally to suppress dust creation during operations.</li> <li>» Stockpiles will be minimised and dampened if found to be generating dust.</li> <li>» The cutting of materials such as concrete curbs, etc. will be carried out within the materials storage area, away from neighbouring properties. (Note, mechanical saws will be water-suppressed). For the most part, materials will be cut off site prior to delivery.</li> <li>» Site mixing will be minimised by the use of pre-mixed concrete and mortar.</li> <li>» If required by weather conditions, waste skips will be covered to prevent dust and materials becoming airborne.</li> <li>» No fires will be permitted on the site.</li> <li>» Deliveries will be controlled on site and will generally be unloaded by forklift and stored within the materials compound.</li> </ul>	1	3	3
<b>Noise</b>								
Noise generated during work activities	Noise emanating from activities on site results in nuisance and/or breaches of conditions of local noise limits. Noise impacts on local and migratory ecology.	5	3	15	<p>Sensitive receptors are highlighted Section 2.4. Mitigation measures discussed in Section 7.4, will be implemented. These include but are not limited to:</p> <ul style="list-style-type: none"> <li>» Use of temporary noise screens or partial enclosures around particularly noisy activities, for example pneumatic breakers used in close proximity to dwellings.</li> <li>» Heavy vehicles routed along streets with the fewest homes.</li> <li>» All staff and operatives briefed on the requirement to minimise nuisance from site activities.</li> <li>» Implementation of the Best Practicable Means during construction works.</li> <li>» Switching off equipment and vehicles when it is not in use for long periods of time.</li> <li>» No unnecessary revving of vehicle engines.</li> <li>» Reversing alarms (audible) will be active during working hours only. If sensitive receptors are likely to be affected, visual alarms will be utilised in preference, along with a trained signaller (banksman).</li> </ul>	2	3	6

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
					<ul style="list-style-type: none"> <li>» 'Normal' construction activities will be kept to the agreed site working hours for (see Section 5.5).</li> <li>» Noisy operations will be combined to occur at the same period (whilst ensuring that the total noise level produced will not be significantly greater than the level produced if the operations were performed separately).</li> <li>» Quieter equipment will be preferentially selected. BS 5228-1:2009+A1:2014 gives practical examples of sound reduction methods for various items of equipment also suggesting alternative equipment to use that is generally quieter. However, some alternatives are expensive and more time-consuming.</li> <li>» Regular equipment maintenance, necessary to keep equipment in good working condition.</li> <li>» Planning the site layout in order to minimise noise, e.g. locating site compounds and noisy equipment in areas away from the residential housing, if practicable.</li> <li>» Lowering materials rather than dropping them, and using chutes where appropriate.</li> <li>» Baseline noise levels may be taken prior to works commencing in order to monitor any increases in levels and the need to mitigate.</li> </ul>			
<b>Vibration</b>								
Vibration generated during work activities	Movement of heavy plant, deliveries, multiple vehicles and excavation activities cause the disturbance of local or migratory ecology and residential receptors due to excessive vibration levels.	4	3	12	<p>Sensitive receptors are highlighted Section 2.4. Mitigation measures discussed in Section 7.4 will be implemented. These include but are not limited to:</p> <ul style="list-style-type: none"> <li>» Phasing operations such as earth moving so as not to occur in the same time period (unlike noise, the total vibration level produced could be significantly less when each vibration source operates separately).</li> <li>» Avoiding night-time activities (it is not envisaged that there will be night-time activity). 'Normal' construction activities will be kept to the agreed site working hours (see Section 5.5).</li> <li>» Wherever practical avoiding operations involving impacts.</li> </ul>	2	3	6

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
<b>Lighting</b>								
Light generated during work activities	Light emanating from activities on site can result in nuisance and/or breaches of conditions of local agreements. Light impacts on local and migratory ecology.	4	3	12	Working hours are limited to 08:00 to 18:00 weekdays, 08:00 to 12:30 Saturdays and no works on Sundays or Bank Holidays. Light will not be generated outside of these hours. Any areas required to be lit during darkness hours will be located away from residential properties wherever practicable and where possible, bat-friendly low-UV lighting will be used. All lighting used will be task-based and diverted from areas of residential activities and confirmed bat roosts and known commuting and foraging routes. All lighting will be positioned so as to not create areas of lit vegetation. No lights will be left on overnight.	2	3	6
<b>Waste</b>								
Storage of waste materials	Run-off (leachate), failure of stockpiles and windborne material from waste stockpiles affects land, water and air, and causes nuisance.	4	2	8	All waste produced as part of the works will be segregated, secured and fully labelled with waste codes and description. General waste skips and wheelie bins will be enclosed. Stockpiles will be covered with plastic sheeting to prevent rainwater run-off where practical and safe to do so. Any contaminated waste will be segregated and placed on plastic sheeting and covered (where practical and safe to do so) to prevent leachate generation/escape.	2	2	4
Sludge waste generated on site	Impacts associated with the release of sludge waste to the surrounding surface or ground water. Inappropriate removal of sludge waste impacts the wider environment.	3	3	9	No silty water is to be discharged to drains, surface water or ground. Collection and disposal of liquid and solid waste will be carried out via an authorised waste management company. Appropriate water discharge permits and consents for the activities being undertaken will be in place and adhered to as required.	1	3	3
Segregation, storage and labelling of waste asbestos	Asbestos and asbestos contaminated material, which is not segregated from other waste streams or materials creates additional hazardous waste.	2	5	10	If materials suspected to contain asbestos works are uncovered, work will cease and further assessment will be made.	1	5	5

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
	This represents a breach of waste regulations.				Asbestos sampling will be carried out to confirm the presence of asbestos in any suspected materials. Additional testing or assessment of the works areas may be required following discovery. Items will be double bagged, labelled, segregated and contained in a secure container, or sent directly as hazardous waste with additional controls in place provided by a competent, licenced Contractor.			
Waste streams generated on site	<p>Failure to follow the Waste Regulations that results in environmental harm constitutes a breach of legislation and could result in prosecution and fines.</p> <p>Waste materials not managed carefully within the Duty of Care chain have the potential to cause short and long-term environmental damage.</p> <p>Mismanagement of waste streams constitutes a breach of legislation and could result in prosecution and fines.</p>	4	4	16	<p>A copy of the carrier's licence, broker's licence (if applicable) disposal site licences, permits or exemptions will be checked for validity on the EA Register. Hard copies will be kept in the site file.</p> <p>Site specific waste segregation and Duty of Care will be part of site inductions and will form part of the regular toolbox talks.</p> <p>The waste streams, volumes and movements will be recorded.</p> <p>Waste will be segregated in line with the Waste Hierarchy and tested where appropriate. Any spoil or material suspected of being contaminated will be quarantined and clearly signed.</p> <p>Classification reports (based on GI data results or lab test results) will be communicated to the carrier/disposal site prior to waste being removed from site.</p> <p>Waste Transfer Notes and Hazardous Waste Consignment Notes (HWCNs) will be checked for completeness. Fully completed HWCNs will be provided by suppliers within 2 months of waste leaving the site (HWCN with Part E fully completed will be filed once received).</p> <p>All disposal site permits will be checked to ensure the facility is licenced/permitted to receive the relevant EWC code assigned to the load.</p> <p>Any waste identified as inert (brick, concrete, etc.) can be managed in the onward waste chain and reused (where appropriate) under waste codes of practice.</p> <p>Hazardous waste will be stored in bunds, or on drip trays as appropriate, in ventilated areas.</p> <p>COSHH waste including any COSHH packaging will be segregated. SDSs will be identified for any COSHH waste to be removed.</p>	1	4	4

Aspect	Potential Risk	Risk Before Mitigation			Actions / Mitigation Required	Risk After Mitigation		
		P	I	R		P	I	R
					Waste will be stored within the site compound in skips/containers in good condition. Skips/containers delivered to site which are in poor condition will be rejected.			