5.0 CONSTRUCTION METHODOLOGY & PHASING

Introduction

5.1 This chapter describes the anticipated construction methodology and phasing of the Development. Consideration of likely significant effects on the environment that may arise during the construction phase, and any necessary mitigation measures, are provided within the respective technical chapters of this ES.

5.2 Planning for construction is necessarily broad at this stage and may be subject to modification. This chapter is based on reasonable assumptions and experience and allows assessment of the realistic "worst case" construction phase effects.

Anticipated Programme

5.3 The construction phase of the Development is anticipated to commence in early 2022 subject to gaining planning permission, and span approximately five years.

Construction Methodology

Construction Machinery

5.4 Consideration has been given to the types of plant that are likely to be used during the construction works. The plant and equipment likely to be used during the construction process comprise:

- Tracked/ wheeled 360 degree excavators;
- Mobile cranes;
- Hand held tools including breakers (pneumatic and hydraulic);
- Power tools including percussion drills, cutting disks and pipe-threaders;
- Wheel washing plant;
- Scaffold;
- Mobile access platforms;
- Delivery trucks;
- Skips/ Skip trucks;
- Forklift trucks;
- Ready mix concrete wagons;
- Concrete placing booms and pumps; and

- Road sweepers.

Site Preparation and Enabling Works

5.5 Site preparation will involve the establishment of on-site parking provision and any construction worker facilities (including site compound area with offices and welfare facilities for management and construction workers). Enabling works would comprise:

- Preparation of Health and Safety Plans and Construction Tender Documents;
- Arboricultural works – including the protection of trees to be retained and removal of trees where applicable;
- Ground modelling works;
- Removal of underground obstructions;
- Installation of site hoarding and further security fencing; and
- Installation of temporary surface water management measures.

Excavation and Sub-structure Works

5.6 This will involve foundation excavation, the installation of below ground services and construction of new foundations. Substructure works will include installation of foundations. Foundations will be piled for all blocks and houses.

Infrastructure and Drainage works

5.7 Appropriate infrastructure to serve the Development will be installed and the sustainable drainage systems (SuDS) will be constructed. All site works will be undertaken in accordance with CIRIA (2001) Control of Water Pollution from Construction Sites[i] which promotes environmental good practice for control of water pollution arising from construction activities.

5.8 Construction vehicles will be properly maintained to reduce the risk of hydrocarbon contamination and will only be active when required. Construction materials will be stored, handled and managed with due regard to the sensitivity of the local water environment and thus the risk of accidental spillage or release will be minimised.

5.9 In accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001[ii], any tanks storing more than 200 litres of oil will have secondary bunding. Bunding will be specified having a minimum capacity of "not less than 110% of the container's storage capacity or, if there is more than one container within the system, of not less than 110% of the largest

container's storage capacity or 25% of their aggregate storage capacity, whichever is the greater." Any above ground storage tanks will be located on a designated area of hardstanding. No underground storage tanks will be used during the construction period. Storage of liquids such as degreasers, solvents, lubricants and paints will be in segregated, bunded enclosures.

5.10 The construction drainage system will be designed and managed to comply with BS6031 "*The British Standard Code of Practice for Earthworks*"[iii], which details methods that should be considered for the general control of drainage on construction sites.

Construction of Superstructure

5.11 This stage will involve the construction of the main building envelope of residential dwellings.

Fit Out

5.12 Fit out of the Development will involve the installation of drylined party walls, internal walls, domestic mechanical and electrical installations with fitted kitchens and bathrooms.

Landscaping

5.13 Landscaping works will involve some ground modelling works and the establishment of green spaces within the Site tree and vegetation planting, seeding, construction of footpaths/cycle routes.

Construction Phase Vehicle Movements

5.14 Construction vehicle movements will be managed via a Construction Traffic Management Plan (CTMP), which will form part of the CEMP, to minimise the impact on the local road network. It is anticipated that construction traffic will access the western parcel of the Site via the B4100 and Braeburn Avenue whereas access to the eastern parcel will be directly from the B4100. Table 5.1 provides an indicative level of construction traffic trip generation. Construction traffic estimates have been calculated based on information provided from previous experience of construction projects. A detailed construction programme has not been produced at this stage, however robust estimates of the likely number of vehicles generated by the construction of on-site infrastructure and buildings, together with potential staff movements have been made.

Table 5.1: Estimated Daily Construction Traffic

Vehicle Type	Average Trips Per Day
Heavy Goods Vehicles (HGVs)	150 two-way (75 In and 75 Out)
Cars and Light Goods Vehicles	200 two-way (100 In and 100 Out)

5.15 The HGV movements would be dispersed across the working day outside of the AM and PM peak periods. The arrival and departure of light vehicles would have some impact during the morning and evening periods; however it is likely that a significant majority of construction workers would travel outside the network peak periods due to an early daily start on-Site.

5.16 During the initial stages, vehicular movements will solely be associated with construction traffic. As the development plots are completed, there will be a mix of development and construction traffic.

Construction Traffic Access and Management

5.17 If abnormal or oversized loads are required to deliver materials to the Site, notice will be given to CDC, depending on the routing, and also the Police, the Fire Brigade, and other emergency services, sufficiently in advance of the required closure or diversion dates. Should any hazardous materials arise during the course of the works, these materials will be transported to a licensed disposal site using permitted routes as identified in a CTMP, which will form part of the CEMP.

5.18 All vehicle unloading will take place within the Site and will not affect public highways or adjacent occupiers.

5.19 All management of construction traffic and access will be carried out in accordance with a CTMP as set out below:

- Planning and managing both vehicle and pedestrian routes;
- The elimination of reversing, where possible;
- Safe driving and working practices;
- Protection to the public;
- Adequate visibility splays and sight lines;
- Provision of signs and barriers; and
- Adequate parking for off-loading storage areas.

Construction Traffic Vehicle Routing

5.20 The construction vehicle routes to the site are identified as being consistent with the permitted Exemplar development and are as follows:

- From the North, North West and Midlands (Junction 10 of M40, A43, B4100);
- From the North East (Junction 13 of M1, A421, A43, B4100);
- From the East (A41, A4421, A4095, B4100); and
- From the South/South West (Junction 9 of M40, A41, A4421, A4095, B4100).

Controls to Protect the Environment

5.21 The environmental controls (or mitigation measures) to eliminate, reduce or offset likely significant adverse effects on the environment during the construction phase are identified below. It is anticipated that these controls will be secured by appropriately worded planning conditions or obligations:

- Preparation of a CEMP, including the CTMP, which clearly sets out the methods of managing environmental issues for all involved with the construction works, including supply chain management;
- Requirement to comply with the CEMP included as part of the contract conditions for each element of the work. All contractors tendering for work will be required to demonstrate that their proposals can comply with the content of the CEMP and any conditions or obligations secured through the planning permission;
- In respect of necessary departures from the above, procedures for prior notification to CDC, as appropriate, and affected parties will be established;
- Establishing a dedicated point of contact and assigning responsibility to deal with construction related issues if they arise. This will be a named representative from the construction team;
- Regular dialogue with CDC and the local community; and
- Compliance with these controls will be monitored regularly.

5.22 The preparation of a CEMP is an established method of managing environmental effects resulting from construction works.

5.23 The CEMP will be submitted to CDC (and other statutory authorities) prior to the commencement of the works. Compliance with the CEMP will be to be secured by planning condition. The structure of the CEMP will include the following:

- A table showing the objectives, activities (mitigation/optimisation measures), and

responsibilities for the implementation of those activities;

- The broad plan of the work programme including working hours and delivery times;
- Details of prohibited or restricted operations (location, hours etc.);
- Institutional arrangements for its implementation and for environmental monitoring: responsibilities, role of the environmental authorities, participation of stakeholders;
- Contact during normal working hours and emergency details outside working hours;
- Provision for reporting, public liaison, and prior notification of particular construction related activities;
- The mechanism for the public to register complaints and the procedures for responding to such complaints; and
- The details of proposed routes for HGVs travelling to and from the Site.

Hours of Work

5.24 Working hours on the Site will be agreed with CDC through the CEMP and it is likely that the standard hours of work will be:

- Monday to Friday, 08:00 to 18:00;
- Saturday, 08:00 to 13:00; and
- Sunday and Bank Holidays, no noisy working.

5.25 If still relevant at the start of the construction phase, it is likely that the Applicant will seek permission to extend construction hours in accordance with the ministerial statement issued on 13th May 2020[1], to ensure compliance with all social distancing measures, as necessary.

5.26 All noisy works outside the standard hours (including if construction hours are extended in line with the ministerial statement as above) will be subject to prior agreement of, and/or reasonable notice to CDC as appropriate. Night-time working will be restricted to exceptional circumstances and work internally with buildings. By arrangement, there may be some out of hours construction deliveries made to the Site.

Management of Construction Works

5.27 All contractors will be required to complete a method statement and risk assessment and obtain a works permit from the Applicant prior to commencement on Site.

Response to Complaints

[1] Gov.UK website, accessed online: https://www.gov.uk/guidance/coronavirus-covid-19-construction-update-qa [published 13th May 2020]

5.28 Any complaints will be logged on-site and, where necessary, reported to the relevant individual within CDC, as appropriate, (and vice versa) as soon as practicable.

Prior Notice

5.29 In the event of unusual activities or events relating to the construction phase, these will be notified to CDC, as appropriate, and relevant property owners or occupiers in advance. The relevant activities will be agreed with CDC, as appropriate, once the detailed programme of construction is defined. This will include:

- Necessary night-time, weekend or evening working (outside core areas) of a type which may affect properties; and
- Road or footpath closures/diversions and movements of wide loads (unlikely to be required).

5.30 The community will be kept informed during the construction phase as appropriate, for example via letter drops, telephone messages or a newsletter.

REFERENCES

[i] CIRIA C532 (2001) Control of Water Pollution from Construction Sites Guidance for consultants and contractors
[ii] The Control of Pollution (Oil Storage) (England) Regulations 2001, Statutory Instrument 2001 No. 2954, available at The Control of Pollution (Oil Storage) (England) Regulations 2001 (legislation.gov.uk)
[iii] British Standards Institution (December 2009) BS6031:2009 Code of Practice for Earthworks, available at BS 6031:2009 (bsigroup.com)