BURO HAPPOLD

Wellcome Trust - Genome Campus Development

Outline Construction Traffic Management Plan

0049941-BHE-XX-XX-RP-TP-1050

0049941

7 February 2022

Revision P04

Revision	Description	Issued by	Date	Checked
P03	For planning	NJH	30/11/21	JW
P04	Minor updates for consultation comments	NJH	07/02/22	JW

Report Disclaimer

This Report was prepared by Buro Happold Limited ("BH") for the sole benefit, use and information of Urban & Civic Developments Ltd for Planning. BH assumes no liability or responsibility for any reliance placed on this Report by any third party for any actions taken by any third party in reliance of the information contained herein. BH's responsibility regarding the contents of the Report shall be limited to the purpose for which the Report was produced and shall be subject to the express contract terms with Urban & Civic Developments Ltd. The Report shall not be construed as investment or financial advice. The findings of this Report are based on the available information as set out in this Report.

author	**Neil Hamill**
date	**07/02/2022**
approved	**John Waiting**
signature	
date	**07/02/2022**

Contents

1 Introduction

1.1 Preamble

1.1.1 BuroHappold has been appointed to provide transportation and highways advice in relation to the Wellcome Trust Genome Campus Development at Hinxton, South Cambridgeshire.

1.1.2 The purpose of the Proposed Development is to expand the Wellcome Genome Campus (the 'Existing Campus') to ensure it accommodates immediate known needs for space and provides sufficient flexibility to respond to the changing scientific, institutional and commercial environment. The Proposed Development would allow space for research as well as for 'start-up' and mature companies to co-locate and contribute to the innovative science practices happening at the Wellcome Genome Campus.

1.1.3 This outline Construction Traffic Management Plan (CTMP) serves to provide an overview of the expected logistics activity and management thereof during the construction project for South Cambridgeshire District Council (SCDC) as local highway authority and National Highways (formerly Highways England) who are the highway authority responsible for the strategic highway network (M11). It is envisaged that detailed CTMPs will be required in for each Reserved Matters Application (RMA); this information may be contained within a detailed Construction Environment Management Plan (CEMP).

1.2 Planning Context

1.2.1 In December 2020, South Cambridgeshire District Council (SCDC) granted Outline Planning Permission for the expansion of the Wellcome Genome Campus at Hinxton (application reference: S/4329/18/OL) including up to 150,000m^2 of flexible employment uses; 1,500 residential dwellings; supporting community uses and social infrastructure including a nursery, associated hotel, retail uses, restaurants, cafes, bars, and leisure uses; landscape and public realm including areas for SuDS and biodiversity; an energy centre, utilities and site access; and car and cycle parking and highways improvements.

A Phased Approach

1.2.2 The Outline Planning Permission has been structured to facilitate a phased approach to implementation. It establishes three individual areas known as 'Development Areas (DAs)'. The development will be brought forward in phases – these phases may constitute whole Development Areas or 'sub-areas'. Before delivery can commence on site, a number of conditions and s106 requirements have to be addressed at both site wide level and for the individual development areas / sub-areas and reserved matters areas.

1.2.3 The outline application site is considered in two distinct components – the Campus land (extension to the existing Campus) and the expansion land. The structure of the outline permission requires a different planning approach for the two components, reflective of their differing contexts.

The Campus Land (DA2)

1.2.4 Whilst the principle behind the outline planning conditions is to ensure a coordinated approach across the whole site, there is recognition that the Campus land benefit from an existing and established design and infrastructure framework.

1.2.5 As early delivery of the first phase (located within DA2) is paramount, the outline permission is structured to facilitate and expedite the submission of reserved matters applications in this part of the site. As part of the 'existing campus' strategic infrastructure is already in place to allow this part of the outline site to be brought forward. There are, however, some site wide requirements that need to be addressed prior to and / or in conjunction with a reserved matters application for this area. As such, the planning process for DA2 is only two tier and the submission of reserved matters applications is facilitated upon the submission of the necessary Site Wide Strategies.

The Expansion Land (DA1 & DA3)

1.2.6 The wider site, known as the Expansion Land, located to the east of the A1303, is subject to a more rigorous set of planning requirements to ensure the coordinated design and delivery of this land. This area has a three tier approvals process. Once the necessary Site Wide Strategies have been approved, but in advance of any reserved matters application for DA1 or DA3, a 'phase-wide' submission is required. The tiered approach is explained more below.

Tier 1: Outline Planning Permission

1.2.7 The Outline Planning Permission establishes a high level, site wide framework for development; the level of detail is that appropriate to ensuring significant impacts are addressed and can be mitigated. These parameters are captured in approved documents: including the Development Specification, the Parameter Plans, and other Site Wide documents formally approved in the outline permission.

1.2.8 The conditions attached to the Outline Planning Permission and the Section 106 Agreement form part of the site wide framework. Together they specify the controls, delivery mechanism and obligations which must be adopted in progressing the development.

1.2.9 Further Site Wide Strategies are required by condition on the outline to further establish the site wide framework for delivery. Not all Site Wide Strategies have the same trigger, as set out below. Condition 5 acknowledges that design details may be expanded or evolved through subsequent documentation submitted in accordance with conditions on the permission.

Tier 2: Phase wide (Development Area or Sub-Area, relates only to DA1 & DA3)

1.2.10 In advance of or concurrent with reserved matters applications for either DA1 or DA3, additional design and technical details are required to be submitted related to that DA or sub-area.

1.2.11 Tier 2 detail establishes the framework for the development of the Phase. This provides a greater level of detail than at Tier 1 level but must accord with the site wide framework. Once approved the Phase Framework (DA or sub-area wide) governs the form and content of reserved matters applications within the Phase (Tier 3).

Tier 3: Reserved Matters

1.2.12 The Outline Planning Permission reserves all Matters (Access, Appearance, Landscaping, Layout and Scale) for future determination.

1.2.13 With the exception of DA2 which does not have a 'phase wide framework'; or other areas that sit outside of Development Areas, Reserved Matters at Tier 3 level will be submitted to comply with the Phase framework detail submitted at Tier 2 level.

Early Delivery on the Campus Land

1.2.14 Urban&Civic (U&C), on behalf of Genome Research Limited, is committed to the early delivery of the first building on DA2. In this context, a programme of pre-submission engagement with SCDC and Cambridgeshire County Council (CCC) officers through a Planning Performance Agreement (PPA) has been undertaken in relation to the Site Wide Strategies which need to be submitted in advance of or concurrent with the first RMA on DA2 and also for this RMA.

1.2.15 This submission of the initial Site Wide Strategies includes this document as set out below.

Tier 1 - Outline

- Prior to or concurrent with first reserved matters:
- Condition 24 - Site Wide Lighting Strategy
- Condition 38 - Site wide Climate Resilience Strategy
- Condition 45 – Strategic Surface Water Drainage Strategy
- Pre-commencement
- **Condition 51 - Outline CEMP / CTMP / CWMP**
- Condition 52 - Details of Community Liaison Group to be approved and group also established
- Condition 63 - Archaeological WSI and Investigations
- Pre-occupation (of any building)
- Site Wide Circular Economy Strategy
- Site Wide Travel Plan
- Prior to or concurrently with the submission of the first development brief
- Condition 64 - Site Wide Car and Cycle Parking Strategy
- Prior to commencement on DA1 or DA3
- Condition 30 - Site Wide Restorative Sustainability and Soil Health Strategy
- Condition 47 – Strategic Foul Water Scheme

Tier 2 – Phase-Wide (Development Area or Sub-Area)

- Condition 17 -Development Brief
- Condition 29 – Development Brief to include proposed topographical plan
- Condition 31 – Development Brief to include LEMP
- Condition 20 – Phasing Plan
- Condition 21 – Design Guide

Tier 3 – Reserved Matters

- Reserved Matters Applications

1.2.16 This outline Construction Traffic Management Plan (CTMP) is submitted to discharge Condition 51 of the Outline Permission:

No development shall Commence, and no Enabling Works or Associated Works shall be undertaken, until the following have been submitted to and approved in writing by the local planning authority in accordance with Annexure J:

- *Outline Construction Environment Management Plan*
- *Outline Construction Transport Management Plan*
- *Outline Construction Waste Management Plan*

Prior to the Commencement of development and prior to any Enabling Works or Associated Works within an area to which a Reserved Matters Application relates the following shall be submitted to and approved in writing by the local planning authority:

- *Detailed Construction Environmental Management Plan;*
- *Dust Management Plan; and*
- *Piling Method Statement (as necessary)*

1.2.17 Annexure J of the Outline Permission sets (refer to Appendix A) out specific requirements in relation to the Construction Environment Management Plan (CEMP), Construction Transport Management Plan (CTMP) and Construction Waste Management Plan (CWMP) for each stage of the development. The requirements of the Annexure are discussed further in Section 8.2.

1.3 Description of Development

1.3.1 The Proposed Development consists of new facilities to extend the current Wellcome Genome Campus together with new homes. Land uses would be comprised primarily of flexible employment uses, including research and development, office and workspace, residential dwellings and supporting community uses and social infrastructure, including a nursery conference facility and associated hotel, and retail uses. The outline planning application is defined by a series of plans called 'Parameter Plans', which set certain parameters for the Proposed Development, including areas and heights of built development, landscape, access and proposed improvements to the A1301.

1.3.2 The Outline Planning Permission, with all matters reserved, was approved on the basis of the following:

'A phased, mixed use development comprised of up to 150,000 square metres of Gross External Area (GEA) of flexible employment uses including research and development, office and workspace and associated uses falling within Use Classes B1 (office, laboratories, light industry), B2 (general industrial) and B8 (Storage) uses; up to 1,500 residential dwellings (Use Class C3); supporting community uses and social infrastructure including a nursery (Use Classes D1); conference facility (Use Class D1) and associated hotel (Use Class C1); retail uses including shops (Use Class A1), restaurants and cafes (Use Class A3) and bars (Use Class A4); leisure uses (Use Class D2); landscape and public realm, including areas for sustainable urban drainage and biodiversity enhancements; energy centre and utilities; site access (vehicular, cyclist and pedestrian), car and cycle parking and highways improvements; early landscape and enabling works; and associated works."

1.3.3 The site of the Development is located adjacent to the existing Campus, south and east of Hinxton village in south Cambridgeshire approximately 13.5km south of Cambridge city centre and 21km north of London Stansted Airport.

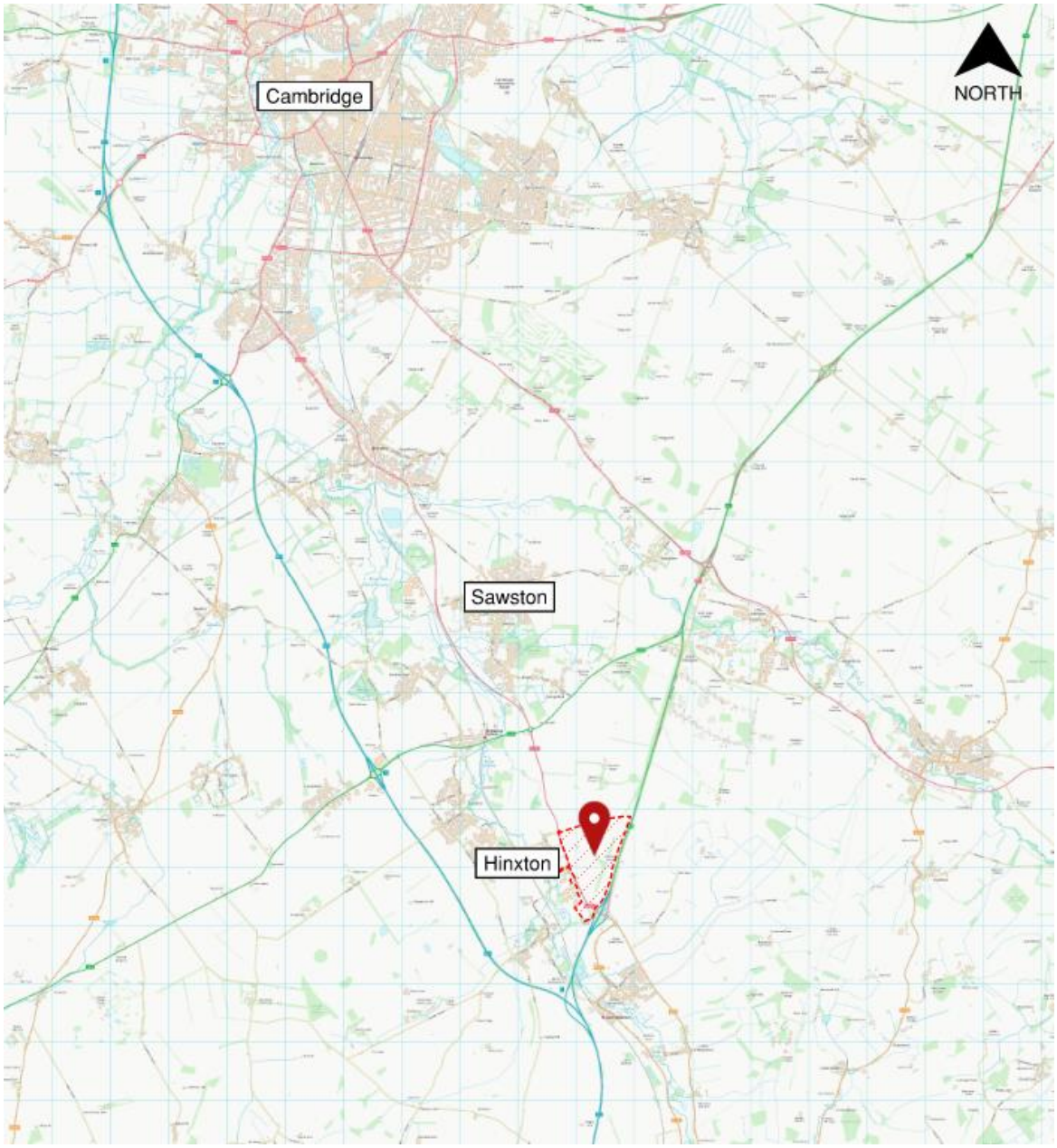


Figure 1.1 Site Location Plan

1.4 CTMP Objectives

1.4.1 The objectives of the CTMP are to reduce:

- Environmental impact of construction activities through lower vehicle emissions and noise levels, and through the efficient use of on-site resources and co-working with other developments in the area (including Capital and Operational carbon reductions);
- Risks to road users, specifically in relation to construction vehicle movements to and from the site;
- Congestion, by reducing the number of vehicle trips, particularly in peak periods; and
- Cost, through efficient working practices and reduced deliveries.
- The CTMP seeks to ensure the protection of local villages, including notably Hinxton, from the impacts of construction.

1.4.2 To support the delivery of these objectives the Applicant will encourage the following measures to be adopted by the project's contractor and associated sub-contractors:

- Encourage construction workers to travel to the site by non-car modes;
- Promote smarter operations that reduce the need for travel or that reduce or eliminate trips in peak periods;
- Encourage the use of sustainable freight modes of travel;
- Encourage the use of greener vehicles (including electric construction plant);
- Manage the on-going development and delivery of the CTMP with contractors and sub-contractors;
- Communicate measures contained within the CTMP to workers and suppliers;
- Engage effectively with affected neighbours including the existing Campus and all its tenants;
- Engage with local residents of local villages represented through the Community Liaison Group and Parish Councils; and
- Encourage environmentally friendly use of construction freight vehicles.

1.5 CTMP Structure

1.5.1 The CTMP has been prepared following the best practice structure established in the CLOCS Construction Logistics Plan Guidance, as follows:

- **Introduction;**
- **Context, considerations and challenges** – includes policy context and the existing transport baseline conditions regarding the pedestrian and cycle networks, public transport facilities (National Rail, buses, etc) and the highway network;
- **Construction programme and methodology** – an overview of the expected phasing, timescales and estimated vehicle movements associated with the works;
- **Vehicle routing and site access** – routes to be used by Heavy Goods Vehicles (HGVs) at regional and local level;

- **Strategies to reduce impacts** – setting out the key methods to manage and mitigate the impact of construction traffic;
- **Preliminary construction vehicle movements;** and
- **Implementing, monitoring and updating** - an overview of how the CTMP will be managed and monitored.

2 Context, Considerations and Challenges

2.1 Policy Context

Department for Transport Strategic Road Network Guidance (DfT Circular 02/2013)

2.1.1 Department for Transport (DfT) Circular 02/2013 'The Strategic Road Network and the Delivery of Sustainable Development sets out the way in which National Highways (formerly Highways England) "will engage with communities and the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the strategic road network." National Highways is responsible for operating, maintaining and improving the Strategic Road Network in England.

2.1.2 DfT Circular 02/2013 is guided by the Government's core objective of providing "safe roads, reliable journeys, informed travellers". It expects initiatives to be put forward to manage the traffic impact of the proposed development and support the promotion of sustainable transport, which would be expected to include a robust travel plan.

2.1.3 DfT Circular 02/2013 also states that all environmental implications associated with the proposed development should be adequately assessed in accordance with prevailing policies and standards. This requirement applies to the environmental impacts arising from the temporary construction works as well as the permanent / operational situation.

Traffic Management Act (2004)

2.1.4 Local authorities have a responsibility to manage traffic networks within their area. This requirement is set out in Part 2 of the Traffic Management Act (TMA). Local authorities have a duty ensure that traffic moves freely and quickly on their roads and the roads of nearby authorities. The TMA gives councils more tools to manage parking policies, coordinate street works and enforce some moving traffic offences.

Cambridgeshire Local Transport Plan 2011-2031

2.1.5 The Third Local Transport Plan (LTP3) is a statutory document which sets out Cambridgeshire's transport objectives, policies and strategy. The document was originally adopted in 2011 and updated in 2014.

2.1.6 It sets out a number of key indicators which underpin the strategies of the Plan, including road safety (including for vulnerable road users), promotion of active travel modes, congestion levels and emissions. These topics are all particularly relevant to the management of construction traffic, much of which is comprised of Heavy Goods Vehicles (HGVs).

2.1.7 Within the context of road safety, it is specifically note that the Council "*will continue to promote accident prevention by looking at road user safety both during the design and after construction for traffic management and engineering schemes, whether they be local authority schemes or works undertaken by private companies or developers.*"

Cambridgeshire County Council Advisory Freight Map (2020)

2.1.8 This map was produced in tandem with the Council's 2015 Heavy Goods Vehicle Policy and illustrates routes suitable (and unsuitable) for HGVs. The latest version includes a number of weight and height restrictions.

2.1.9 The key routes accessing the site (M11, A11 and A505) are classified as Strategic Routes and the A1301 as a Local Route; none are indicated as subject to any relevant restrictions.

Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) – 2014

2.1.10 The Transport Strategy for Cambridge and South Cambridgeshire contains an outline programme to 2031 and details of key major schemes proposed to deliver the Transport Strategy for Cambridge and South Cambridgeshire.

2.1.11 The plan discusses the Saffron Walden to Cambridge corridor where the Existing Campus and Proposed Development lie. The Proposed Development is mentioned in the committed developments section (section 5-17) along with 540 new homes in the nearby village of Sawston.

2.1.12 There are several interventions that have been implemented or will be implemented that are relevant specifically to the Campus. These include (but are not limited to):

- Improved interchange facilities at Shelford, Whittlesford Parkway and Great Chesterford stations;
- Creation of a network connecting employment sites at Babraham Research Campus, Granta Park and Genome Campus; and
- Creation of a network connecting to transport interchanges along corridor.

South Cambridgeshire Local Plan

2.1.13 The South Cambridgeshire Local Plan sets out planning policies across the district until 2031 and was adopted on the 27th September 2018 (the 'Local Plan'). The Local Plan contains polices against which all planning applications will be assessed. The Local Plan replaces various policy documents such as the Core Strategy.

2.1.14 Chapter 10 of the Local Plan is titled 'Promoting and Delivering Sustainable Transport and Infrastructure' and provides the key policies with respect to transport and Infrastructure. Of particular relevance for the development is Policy TI/8: Infrastructure and New Developments:

Planning permission will only be granted for proposals that have made suitable arrangements for the improvement or provision of infrastructure necessary to make the scheme acceptable in planning terms. The nature, scale and phasing of any planning obligations and/or Community Infrastructure Levy (CIL) contributions sought will be related to the form of the development and its potential impact upon the surrounding area.

2.1.15 The approved scheme includes significant infrastructure improvements, especially with respect to enhanced highway access and new pedestrian/cycle access.

2.2 Initiatives and Guidance

Freight Operator Recognition Scheme (FORS)

2.2.1 The Fleet Operator Recognition Scheme (FORS) is a voluntary accreditation scheme, which aims to raise the level of quality within fleet operations, and to demonstrate which operators are achieving exemplary levels of best practice in safety, efficiency, and environmental protection.

2.2.2 FORS is a unique, industry-led, membership (bronze, silver, gold) scheme to help van and lorry operators in London become safer, more efficient and more environmentally friendly. The scheme offers a number of benefits including advice, training and discounted breakdown assistance.

2.2.3 Bronze accreditation confirms that you employ good practice and comply with the requirements laid out by the FORS Standard. This includes demonstrating dedication to driver and vehicle safety, combined with improving operating practices through effective monitoring of fuel and tyre usage.

2.2.4 By achieving FORS Silver accreditation the vehicle fleet will be compliant with the Construction Logistics Community Safety (CLOCS) Standard and with TfL's WRRR (Work Related Road Risk), which is a freight safety initiative aligned with the Mayor's Vision Zero approach to road danger reduction.

2.2.5 FORS Gold accreditation is only awarded to exceptional operators who have met challenging targets. FORS Gold operators will actively promote the FORS Standard to their supply chain and produce a case study documenting their progression through to the top level of accreditation.

CLOCS Construction Logistics Plan Guidance

2.2.6 The Constriction Logistics and Community Safety (CLOCS) organisation published their 'Construction Logistics Plan Guidance' in 2018, the purpose of which is to ensure that high quality CLPs are produced which act to minimise the impact of fright movement on the road network. The guidance focuses on reducing the impact of construction in terms of:

- Environmental impact: lower vehicle emissions and noise levels;
- Road risk: improving the safety of road users;
- Congestion: reduced vehicle trips, particularly in peak periods; and
- Cost: efficient working practices and reduced deliveries.

2.2.7 CLPs provide a framework for understanding and managing construction vehicle activity into and out of a construction site and should detail:

- The amount of construction traffic generated;
- The routes the construction vehicles will use and consideration of local impacts; and
- Any traffic management that will be in place.

2.2.8 The guidance suggests a range of measures and strategies that should be considered to reduce the impact of construction on the local environment.

2.3 Site Location and Access

Site Location

2.3.1 A Strategic Site Location Plan is provided as Figure 2.1 and a more detailed Local Site Location Plan is provided as Figure 2.2. Larger versions are included in Appendix B.

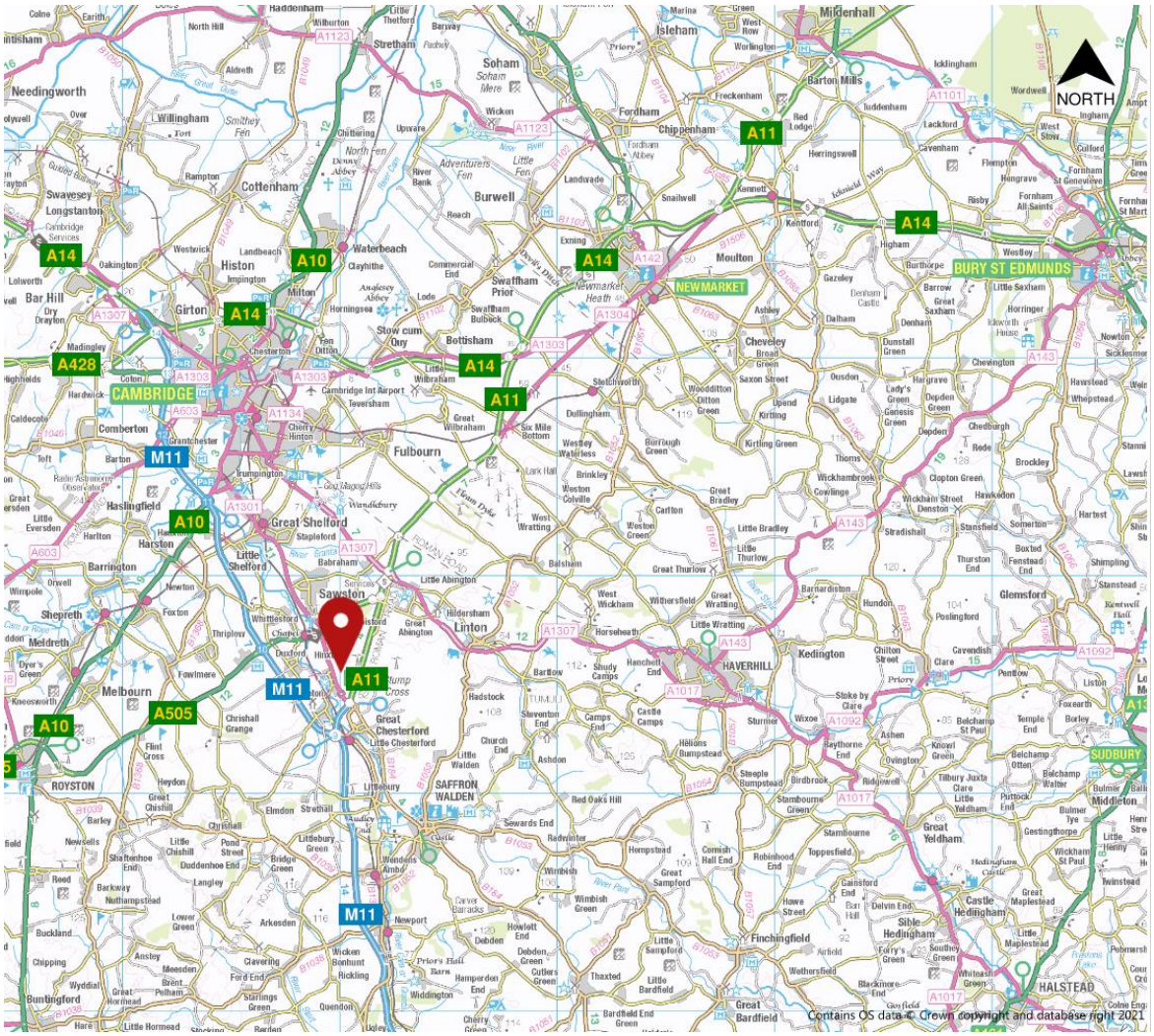


Figure 2.1 Strategic Site Location Plan

2.3.2 The application site (The Site) is bounded to the north by a private access track, beyond which lies arable land and Hinxton Grange (a historic house and garden). The east and south the Site is bounded by the A11 dual carriageway road. At the south of the Site the M11 and A11 meet on an embankment to form a grade separated junction with the A1301 and B184 at Stump Cross. The west of the Site is bounded by the A1301, the existing Wellcome Genome Campus and a Wetlands Nature Reserve which forms part of the Wellcome Genome Campus. A public right of way bounds the south-west of the Site.

2.3.3 The Site is bisected by the A1301, creating two separate parcels of land which are at times referred separately in the application documents as 'Campus Land' and 'Expansion Land'.

- The Expansion Land is 113.05ha hectares and is bounded by the A1301 and the A11 roads along its east and western edges respectively and arable farmland to the north.
- The Campus Land is 10.25 hectares of land within the existing Wellcome Genome Campus currently occupied by carparks and landscape.

2.3.4 The Site includes part of the A1301 for site access works and improvements to the highway and highway improvements to New Road.

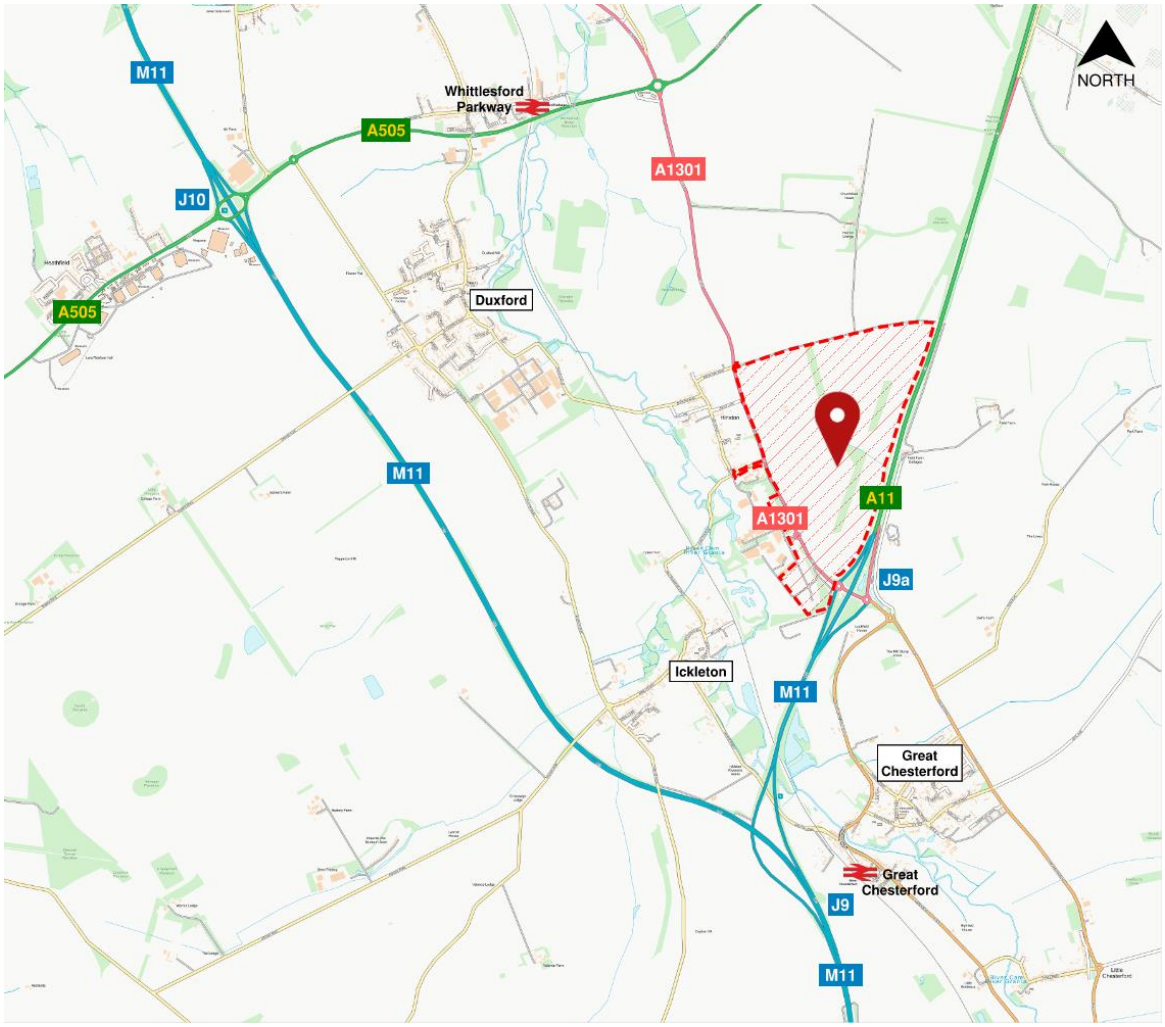


Figure 2.2 Local Site Location Plan

2.3.5 Local settlements in the vicinity of the site include Hinxton (immediately north of the existing Campus) Duxford (2km to the west), Ickleton (1.5km to the southwest) and Great Chesterfield (2km to the south). The Essex town of Saffron Walden is approximately 7.5km south of the site. The boundary of the site borders Essex which begins south of A11.

Highway Access

2.3.6 The existing local highway network is illustrated in Figure 2.3 and described below.

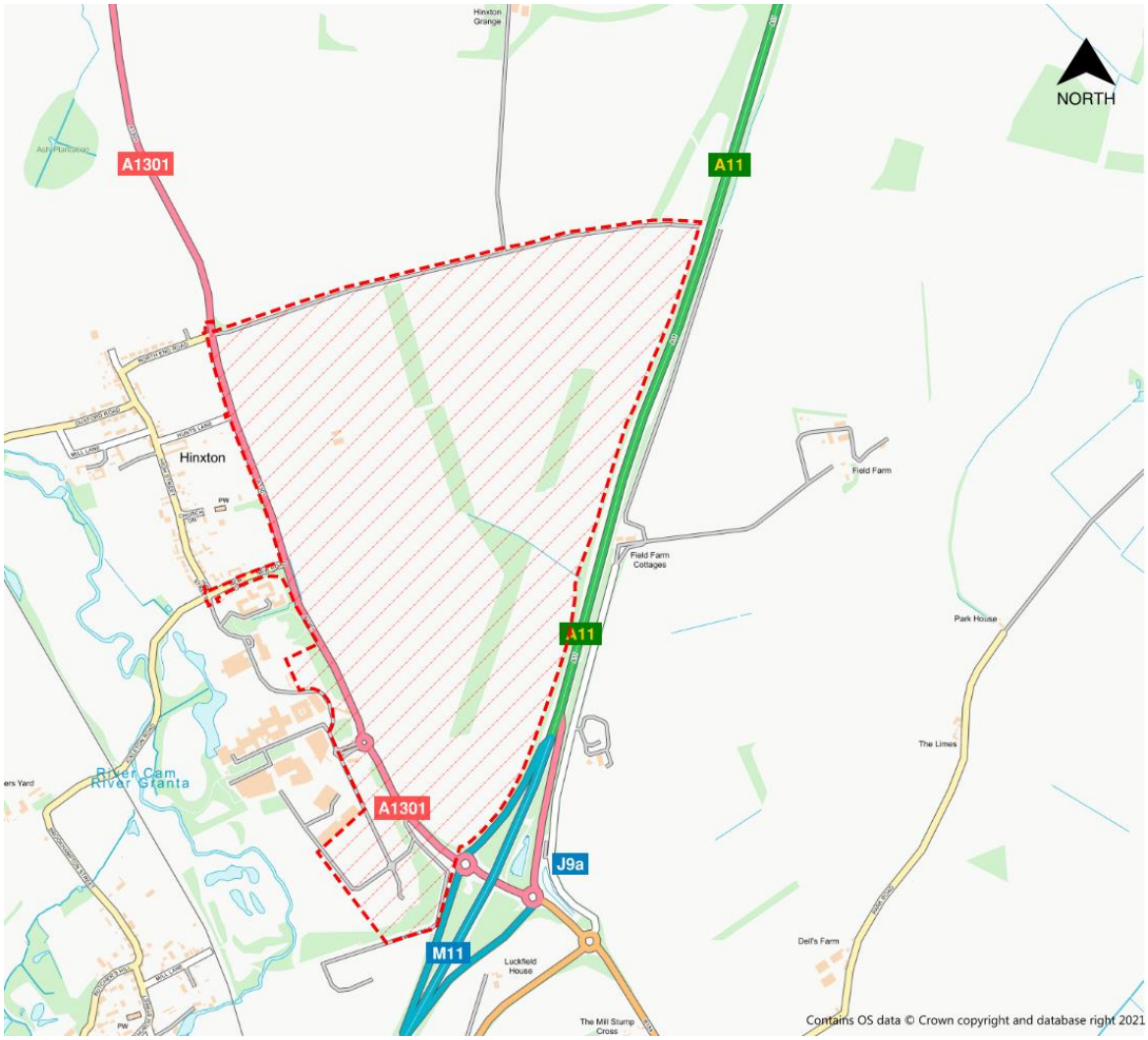


Figure 2.3 Local Highways Access

2.3.7 The Site is located largely to the east of the A1301 which operates with a single carriageway in each direction and is subject to a signed 50mph speed limit. It follows a north-south alignment past the Site. To the south, the A1301 connects to Junction 9a of the M11 at Stumps Cross, a 'dumbbell' interchange. This grade-separated intersection provides entry and exit onto the A11 (north) and the M11 (south) via a pair of linked roundabouts. To the north, the A1301 links to a roundabout with the A505 approximately 2km north of the Site (referred to as the McDonalds Roundabout) and continues past Sawston towards Cambridge.

2.3.8 The A505 operates with a single carriageway in each direction and is subject to a 50mph signed speed limit and follows an east-west alignment. To the east of the junction with the A1301, the A505 links with the A11. To the west, the A505 provides access to the M11 (Junction 10) and provides onward connectivity to Royston and Baldock before joining the A1(M) at Junction 9. The A505 operates with section of Dual carriageway from Royston to the junction with the A1(M).

2.3.9 The M11 is a motorway that links London with Cambridge and provides direct access to London Stansted Airport. To the north east of Cambridge, the M11 merges with the A14, while at its southern end the M11 converges with the North Circular / A1400 in north London. The M11 intersects with the M25 at Junction 6.

2.3.10 The M11 can be joined (southbound only) from the Site via the A1301 and Junction 9a at Stump Cross. To the north of this junction, the M11 becomes the A11, leading north to merge with the A14 Newmarket Bypass approximately 19km north of the Site. To access the M11 in the northbound direction (towards Cambridge and the A14), vehicles need to depart the Site northwards via the A1301 and A505 to join the motorway at Junction 10.

2.3.11 There are a number of local routes between the A1301 and the villages of Duxford, Ickleton and Great Chesterford. Both North End Road and New Road link the A1301 with Hinxton village centre. To the north, Hinxton Road passes through Duxford and joins St Peters Street in the centre of Duxford. Onward connectivity is provided to the A505 via Moorfields Road and via Hunts Road which run essentially parallel to each other.

2.3.12 To the south of Hinxton, Ickleton Road / Brookhampton Street leads to Ickleton village centre. To the south of Ickleton, Frogge Street lead south to join B1383 Newmarket / London Road to the west of Great Chesterford.

2.3.13 The primary access to the existing Campus is by way of a three-arm priority roundabout from the A1301. Barriers currently control access to the Campus with staff able to access directly and visitors reporting to a reception area. A secondary gated 'construction access' is provided near the south-east corner of the campus. Access to the agricultural land on the east of the A1301 is via a series of simple farm access tracks.

2.3.14 The proposed highways works include adjustment of the existing roundabout as well as construction of additional access points and other highways changes including traffic calming to reduce the speed limit adjacent to the site.

Bus Accessibility

2.3.15 A number of publicly operated bus routes are available within the vicinity of the Site as well as an extensive private shuttle bus service, which is operated by Wellcome, for Existing Campus employees.

Public Bus Routes

2.3.16 The nearest public bus route to the Site is route 7a which passes through Hinxton, stopping in three locations; the 7a provides services to Cambridge and Whittlesford. The nearest bus stop to the Site is located on High Street in Hinxton. This provides convenient employee access to the northern gate of the Campus; visitors would need to walk to the main security facility. It is approximately a 250m walk to the A1301 via New Road (less than 3 minutes' walk) to reach the boundary of the Expansion Land, but there is currently no continuous pedestrian footpath linking to the A1301.

2.3.17 Stagecoach operates local bus services in the area which operate between the local villages of Great Chesterford, Ickleton, Duxford and Sawston and Cambridge. Some services also continue south to Saffron Walden. Alternative bus stops are located in Ickleton (Church Street stop) which is an approximate 2km walking route to the Site. It is unlikely that this will be practical for the majority of construction workers.

Campus Bus Routes

2.3.18 The Existing Campus operates a number of employee-only shuttle bus services that connect a range of local villages and Cambridge to the Existing Campus.

2.3.19 On a normal weekday, services to the Existing Campus leave between the times of 08:00 and 09:00, with services departing the campus between 17:20 and 20:30. The main locations served are in Cambridge and the surrounding Cambridgeshire towns and villages including Arbury, Cherry Hinton, Great Shelford and Sawston.

The exception to this is the SW service which serves the Essex town of Saffron Walden and surrounding villages of Littlebury and Great Chesterford.

Rail Accessibility

2.3.20 Whittlesford Parkway railway station is located approximately 3.7km north west of the Site and provides the primary access to the national rail network. Great Chesterford railway station is located slightly closer (approximately 2.8km south of the Site) although the service frequency means that this station is not as attractive as Whittlesford Parkway.

2.3.21 Both Whittlesford Parkway and Great Chesterford lie on the West Anglia Main Line, which passes near to the Site. The line runs between Cambridge (to the north) and London Liverpool Street (south) whilst also branching off to serve London Stansted Airport.

2.3.22 Whittlesford Parkway is served by services operated by Greater Anglia, which operate between London Liverpool Street and Cambridge; there are also occasional direct services to Cambridge North, Ely and Kings Lynn (via Cambridge). During a typical weekday, four services arrive at Whittlesford Parkway between 08:00 and 09:00 from Cambridge and two services arrive from London Liverpool Street. Further details of train services are provided in the TA submitted with the outline planning application.

2.3.23 The operator of train services at Whittlesford Parkway railway station currently restricts the ability for passengers to take cycles on to trains outside of peak travel periods. Foldable bikes are permitted.

Whittlesford Parkway Rural Travel Hub

2.3.24 Whittlesford Parkway station is the subject of a masterplanning exercise being coordinated and funded by the Greater Cambridge Partnership (GCP). The GCP is the local delivery body for a City Deal with central Government. It comprises local councils, business and academia and focuses on bringing about vital improvements in infrastructure within Greater Cambridge.

2.3.25 A strategic masterplan has been developed to set out a strategy for opportunities to develop the station, to support improvements to the existing station and surrounding transport infrastructure. The focus is improving the multimodal accessibility to the station.

2.3.26 A Stage 1 Baseline report has been prepared highlighting the current situation and identifying a long list of potential improvement options. The Stage 2 report has prioritised the schemes and sets out the implementation process.

Cambridge South Station Proposals

2.3.27 There are proposals for a new railway station to be located on the railway between Great Shelford and Cambridge known as 'Cambridge South'. The station would be located close to Addenbrookes Hospital and the Cambridge Biomedical Campus.

2.3.28 Following two rounds of public consultation in 2020, a Transport and Works Act order (TWAO) application and a request for deemed planning permission to build the new station has been submitted to the Secretary of State for Transport on 18 June 2021. The TWAO would also allow the acquisition of the necessary land required to build and operate the new station. Subject to gaining the necessary consents, work could start on the station in 2022 with a funder target of station opening in 2025.

Walking and Cycling

2.3.29 The existing walking facilities within the vicinity of the Expansion Land are limited and do not provide continuous connection between that area and any of the closest public transport facilities. Connections between the Hinxton bus stops and the existing Campus are provided, as described above.

2.3.30 There is a network of cycle routes in the area, including National Cycle Network (NCN) Route 11 and an off-carriageway cycle path alongside the A1301 between the junction with North End Road and the junction to London Road (to the north of the A505 roundabout). This route connects to NCN 11 via a short section of local cycle route along North End Road.

2.3.31 The A505 includes an off-carriageway pedestrian / cycle route between Station Road East (used to access Whittlesford Parkway) and the A11 junction to the east. To connect between the A505 and the A1301, cyclists are able to cross the A505 at the roundabout with crossing points provided which includes drop kerbs and tactile paving.

2.3.32 Sustrans' NCN 11 provides a mixture of traffic-free and on-road sections that are suitable for cycling. Route 11 passes through Cambridge to the north and routes past Stansted Airport to the south. In the vicinity of the Site, NCN 11 follows Brookhampton Street, High Street (through Hinxton) and the Hinxton Road towards Duxford. To the north of Duxford, it follows Moorfield Road where the route transfers from carriageway running to an off-carriageway route. It crosses the A505 via a series of refuge islands which include route signing, guard rail and drop kerbs and tactile paving.

2.3.33 To the north of the A505, NCR 11 provides a convenient connection towards the main village of Whittlesford and Whittlesford Parkway station, following Station Road West which provides direct access to the western side of the station and areas of cycle parking.

2.3.34 For further details of the existing pedestrian and cycle infrastructure, refer to the TA submitted with the outline application.

2.4 Considerations and Challenges

2.4.1 The Site is located close to strategic highway routes, as described above; these routes are generally well suited to accommodating HGV construction traffic.

2.4.2 The main challenges/considerations identified at this stage are as follows:

- Restricted junction on the M11 – as Junction 9 of the M11 is restricted, allowing only access to/from the south, traffic approaching from or departing to the north requires a less direct connection to the motorway network via the A1301, A505 and Junction 10 of the M11. These routes may be less desirable for construction traffic, especially at certain times of day.
- Temporary traffic management: measures are likely to be required at several locations, particularly during construction of the planned highways improvements on the A1301. It will be important to minimise disruption to access for neighbouring properties and will involve production of detailed phasing plans which will require approval with relevant stakeholders. It is likely that pedestrian routes may need to be temporarily diverted as part of the traffic management measures.

- The rural location means public transport options are somewhat limited for construction workers (and walking/cycling are not a realistic proposition for most). Workforce travel will require consideration and may require the use of shuttle buses or equivalent to local stations.

3 Construction Programme and Methodology

3.1 Introduction

3.1.1 Full details of the construction programme and methods are not available at this stage of the project and these would come forward as part of the detailed design stage once contractors have been appointed.

3.1.2 During the reserved matters applications for the Proposed Development, a construction contractor would be appointed, and specific details of the construction logistics and phasing would be developed with the Applicant and submitted to SCDC for approval.

3.1.3 This Section provides an overview of preliminary assumptions made as to the potential phasing of works and methodology but is subject to ongoing development as the detailed design progresses and will be refined once contractors have been appointed.

3.2 Programme and Phasing

3.2.1 A preliminary indicative phasing strategy has been developed as set out below. This divides the site into three 'Development Areas' as illustrated in Figure 3.1.

- Development Area 1 – the southern half of the main expansion site, east of the A1301, for a variety of land-uses.
- Development Area 2 – an area at the southern end of the existing campus on the western side of the A1301,designated primarily for research uses; and
- Development Area 3 – the northern section of land on the expansion site, predominantly for residential uses.

3.2.2 A preliminary indicative phasing strategy has been developed as summarised below; this phasing is provisional and is subject to obtaining the necessary planning and technical approvals. It has been developed solely to help inform an understanding of the likely volumes of construction traffic. The sequence below may not be chronological and may be subject to significant adjustment as the RMAs come forward.

Phase 0A: Pre-planting

- Transplant viable trees;
- Provide earthworks preparation and enabling to future landscaping areas alongside A11;
- Establish edge landscape planting along the western edge of the development and north and south corners of the site, next to theA11;
- Enhance existing hedgerows along the A1301;
- Remove necessary trees along the A1301 to accommodate for the realignment and improvements of the road;
- Prepare initial area for delivery in Development Area 2; and
- Translational Office Space Project (TOSP) Building starts on site –Development Area 2.

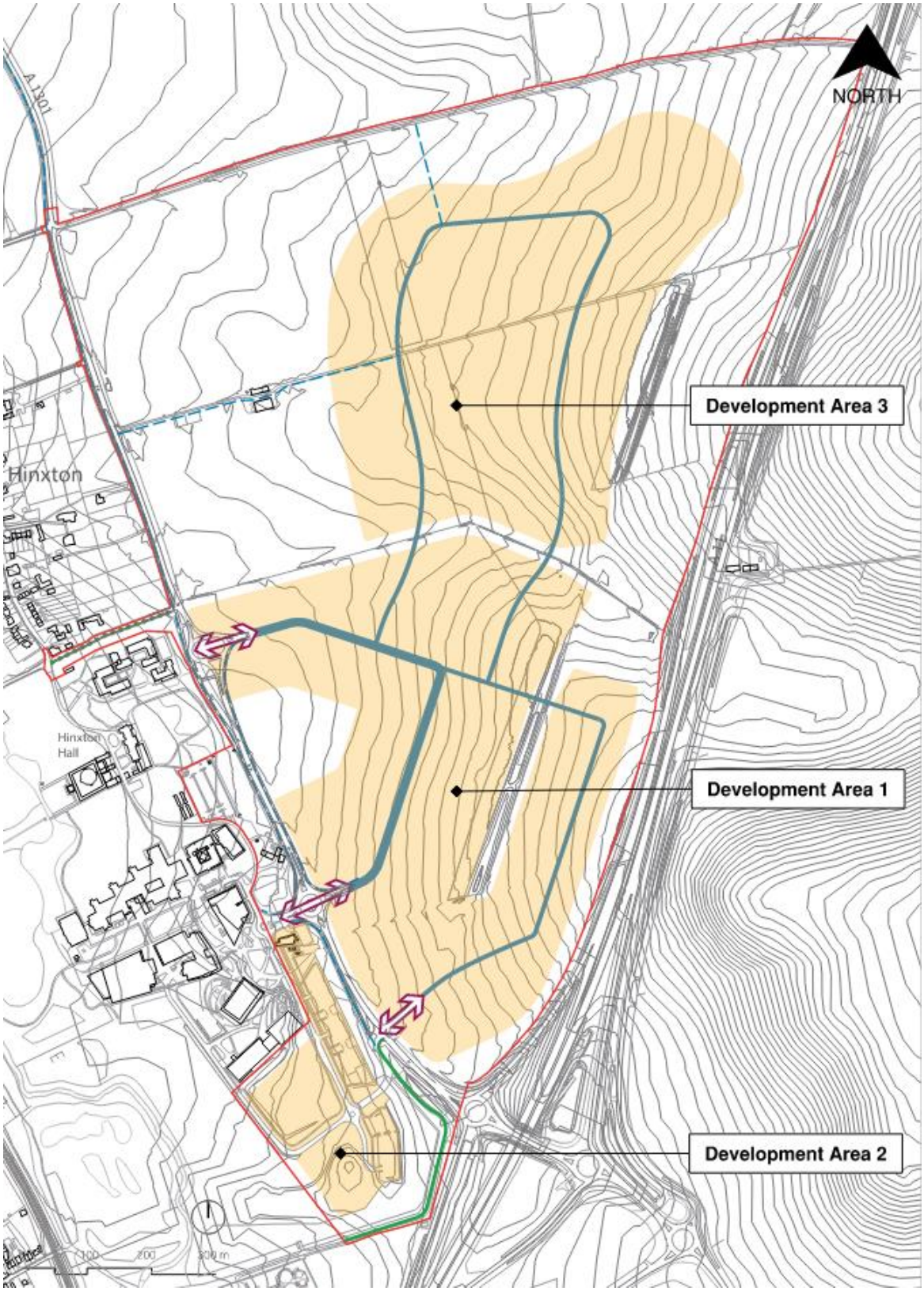


Figure 3.1 Development Areas (overlaid on Primary Vehicular Movement Network Parameter Plan)

Phase 0B: Off-Site Enabling Works

- A1301 and New Road upgrades: southern access roundabout, western part of the northern roundabout and traffic calming measures;
- Third access formed for future construction access;
- Complete the Common –a green reception area to east of A1301;
- Complete planting to first section of A11 bund;
- TOSP Building completed;
- Clean water booster station completed;
- Connection to foul water recycling centre; and
- Off-site electricity cabling installed.

Phase 1A: Infrastructure, Gateway Building, Housing Delivery

- Expansion Campus main road (circulatory);
- Establish edge landscape planting along the East West Valley, the Old Railway Woodland and the Eastern Woodland Buffer;
- Begin to establish presence on A1301with Gateway Building;
- Continue to establish bund adjacent to A11;
- Commence initial housing delivery;
- Potential to develop initial plots for Research & Translation to deliver primary school early; and
- Initial phase primary infrastructure utilities: energy centre, primary electricity substation and foul water pumping station.

Phase 1B: Establish and Consolidate

- Form remaining bund / acoustic buffer alongside A11 for Phases 2 and 3•Complete planting to Phase 1;
- Complete internal primary street network Phase 1;
- Extend primary infrastructure network;
- Consolidate development around the Common with all placemaking components;
- Deliver the linkage across into the existing campus heart;
- Establish edge landscape planting along the Community Corridor;
- Increase presence along A1301;
- Deliver 750 homes by end 2027 (c.200 per annum);
- Deliver initial multi-storey car parks and surface parking;
- Deliver Primary School; and
- Develop initial plots for Research & Translation.

Phase 2: Community Development

- Complete the bund / acoustic buffer to the A11 in the north east corner;
- Complete landscaping to eastern perimeter of Phase 2 and 3;
- Extend primary street to northern extent of Phase 2 and 3;
- Deliver homes to Phase 2 (c.200 per annum);
- Deliver additional plots for Research & Translation development to the east;
- Complete edge landscape planting along the Community Corridor;
- Increase presence along A1301;
- Construct second multi-storey car park and surface parking;
- Extend primary infrastructure utilities; and
- Final building delivery west of A1301.

Phase 3: Remainder or Development

- Complete all planting to Phase 3 and bund / acoustic buffer to A11;
- Complete remaining residential delivery;
- Complete remaining building development in Development Area 1;
- Fully functional multi-storey car park management, integrated with the energy centre, data centre and primary substation, waste compound and servicing yard; and
- Complete existing campus site car parking, primary infrastructure (waste compound, chemical & storage area and grounds compound) and landscaping.

3.3 Methodology

Enabling Works

3.3.1 Construction of the Proposed Development would not involve significant demolition as the few existing buildings within the Site would be retained. Earthworks would be needed to create suitable levels for the new buildings and associated uses.

3.3.2 Where possible, materials from excavation and groundworks would be reused on-site. Initial calculations show that it would be possible to achieve a cut and fill balance which means there would be no need to import or export significant volumes of topsoil or subsoil during construction.

3.3.3 The Applicant has committed to undertaking early landscape planting works in the Development Specification. The intention of the early landscape works is to help reduce the landscape and visual impacts of the Proposed Development. To facilitate the early landscape planting, trees identified on the same drawing would be translocated.

3.3.4 The following works could be undertaken as 'enabling works' prior to the commencement of building structures:

- Ground / drainage / further archaeological investigations;
- Erection of hoarding or safety fencing around the boundary of construction areas, with fencing to protect sensitive features (e.g. vegetation and buildings to be retained, and pedestrian routes);
- Enabling utilities works involving capping-off or removal of redundant utilities and boreholes, new supplies, diversions and connections, as agreed with the statutory authorities;
- Removal of topsoil and vegetation, followed by groundwork activities including excavation, grading, compaction and preparation of surfaces, and the placement / compaction of fill material to achieve desired ground levels (to be confirmed by detailed design phase and through Development Briefs);
- Remediation of soil/ground (in the event that contamination is identified during intrusive ground investigations, although this is considered unlikely);
- Breaking up of hardstanding (e.g. concrete/asphalt parking areas, concrete floor slabs and foundations) within the construction area;
- Reuse and compacting of aggregate material (e.g. arising from hardstanding removal or re-grading of land) where suitable for use as sub-base for construction of roads, foundations and to create suitable 'platforms' for development;
- Installation of infrastructure and services required, including but not limited to electrical, telecommunications, potable water, foul water and surface water drainage infrastructure; and
- Early indicative advanced landscape planting would be undertaken.

Highways Works

3.3.5 As part of the Proposed Development, it will be necessary to deliver highways improvements, such as a new access junction on the A1301, modification of existing junctions and a new cycle path. General arrangements for these improvements have been submitted as part of the planning application (PP5: A1301 Highway Improvements Parameter Plan, see Appendix C). The final design of these works would be agreed with the local planning authority, in consultation with Cambridgeshire County Council.

3.3.6 In addition, the existing gated 'construction access' to the Campus land (c. 200m south of the main entrance) will be re-opened; this will be predominantly used for construction access to DA2 but may also be used temporarily by staff during alterations to the existing main entrance roundabout.

3.3.7 In addition to the works described above, the A1301 highway improvements are expected to include the following:

- New shared-use footways / cycleways along sections of the A1301, including a link on the western side to the existing footway/cycleway that links to the A505;
- Pedestrian and cycle crossing points including a traffic signal-controlled crossing;
- Environmental improvements to the A1301 including landscaping, surface materials, a median strip and carriageway narrowing;
- Gateway and speed reduction features; and
- A reduction in speed limit on the A1301.

3.3.8 Improvements to New Road have also been identified, principally in relation to the installation of a pedestrian footpath between the village of Hinxton and the Site.

3.3.9 These works are expected to take place early in the programme as they will benefit construction access.

3.3.10 It is unlikely that all the areas of highways work will be progressed simultaneously, so that disruptions to access can be minimised. With appropriate sequencing, it is potentially feasible to limit lane closures, the need for traffic management and associated disruption and delay for both through-traffic and access to the existing campus.

3.3.11 The phasing of the highways works has yet to be developed in detail and will be determined once a contractor has been appointed. The sequence of works will be planned in detail and discussed with SCDC. Sequencing plans for each major area of works will be developed for discussion and approval. An example of roundabout construction sequencing from a highways scheme in Leeds is included in Appendix D to illustrate the typical phasing of such works, as follows:

- Stage 1: Form temporary access (including protection to Statutory Undertakers utilities);
- Stage 2: Offline works including earthworks of roundabout outside alignment of existing carriageway (some traffic management required);
- Stage 3: Utilities diversions through the new offline areas, followed by offline carriageway/footpath construction;
- Stage 4: Complete offline footpaths and strip/remove services from online carriageway once diversions completed
- Stage 5: Tie-in works – switch traffic onto new roundabout carriageway on each side in turn whilst removing original carriageway alignment and services
- Stage 6: Traffic islands
- Stages 7-8: Final surfacing to one side of roundabout at a time; and
- Stage 9: Final surfacing and line-marking of tie-ins (usually involving short-term overnight closures and traffic diversion).

3.3.12 It is noted that the development also proposes areas of off-site highways works as part of the mitigation package of works, including improvements to the A505 / A1301 'McDonalds' Roundabout and Junction 10 of the M11. These are not specifically identified in the above outline phasing and it is anticipated that these will be subject to separate consultation/approval process.

Access Roads within the Site

3.3.13 Access roads and routes within and through the site are reserved for subsequent determination through Reserved Matters. The layout and design of these routes is indicated on the Movement Parameter Plan and relevant considerations have been set out within the Development Principles. Future Reserved Matters applications would need to demonstrate compliance with the Movement Parameter Plan and Development Principles.

Building Construction

3.3.14 Construction would commence on building structures following the commencement of enabling works and appropriate access improvements.

3.3.15 The method of construction is dependent on the nature of the buildings and detailed design and therefore has not been fixed at this outline planning stage.

3.3.16 The main stages of standard construction activities are outlined below:

- **Foundations** – It is assumed the buildings are likely to require a mix of piled foundations and slab foundations. Foundation design would be determined following ground investigation and at the detailed design stage. A piling mat would be prepared for piling rigs, following which piled foundations to support each building would be installed;
- **Structures** - Construction would commence once the foundations are in place. Construction methods are likely to vary depending on the detailed design of the buildings. It is anticipated that a mix of steel and concrete frame construction would be used. These buildings would be erected from the foundations using tower cranes or mobile platforms as appropriate;
- **Facade and Fit out** – Once the building structure is sufficiently progressed, the building façade would be installed. Interior fit out and installation of mechanical, electrical and plumbing systems would then commence; and
- **External Works and Landscaping** – Areas of landscaping and open space would be prepared using large and small excavators. Necessary drainage works and internal roads would be built as part of each phase to relevant design standards.

4 Vehicle Routes and Access

4.1 Routing of HGV Construction Traffic

4.1.1 Construction traffic routing would be confined to major highways, avoiding residential villages such as Ickleton and Hinxton. It is anticipated that most construction materials would arrive directly via the M11 and A11. Vehicles to/from the north would access the Site via M11 Junction 10, whilst vehicles to/from the south would access via Junction 9a. A small proportion of construction traffic is expected via the A11 to/from the north-east. Routing restrictions (see Section 5.4) would ensure that HGVs avoid inappropriate routes through villages or along narrow lanes which do not have the capacity to accommodate them.

4.1.2 The proposed strategic level routing is shown in Figure 4.1; an enlarged version is included within Appendix E.

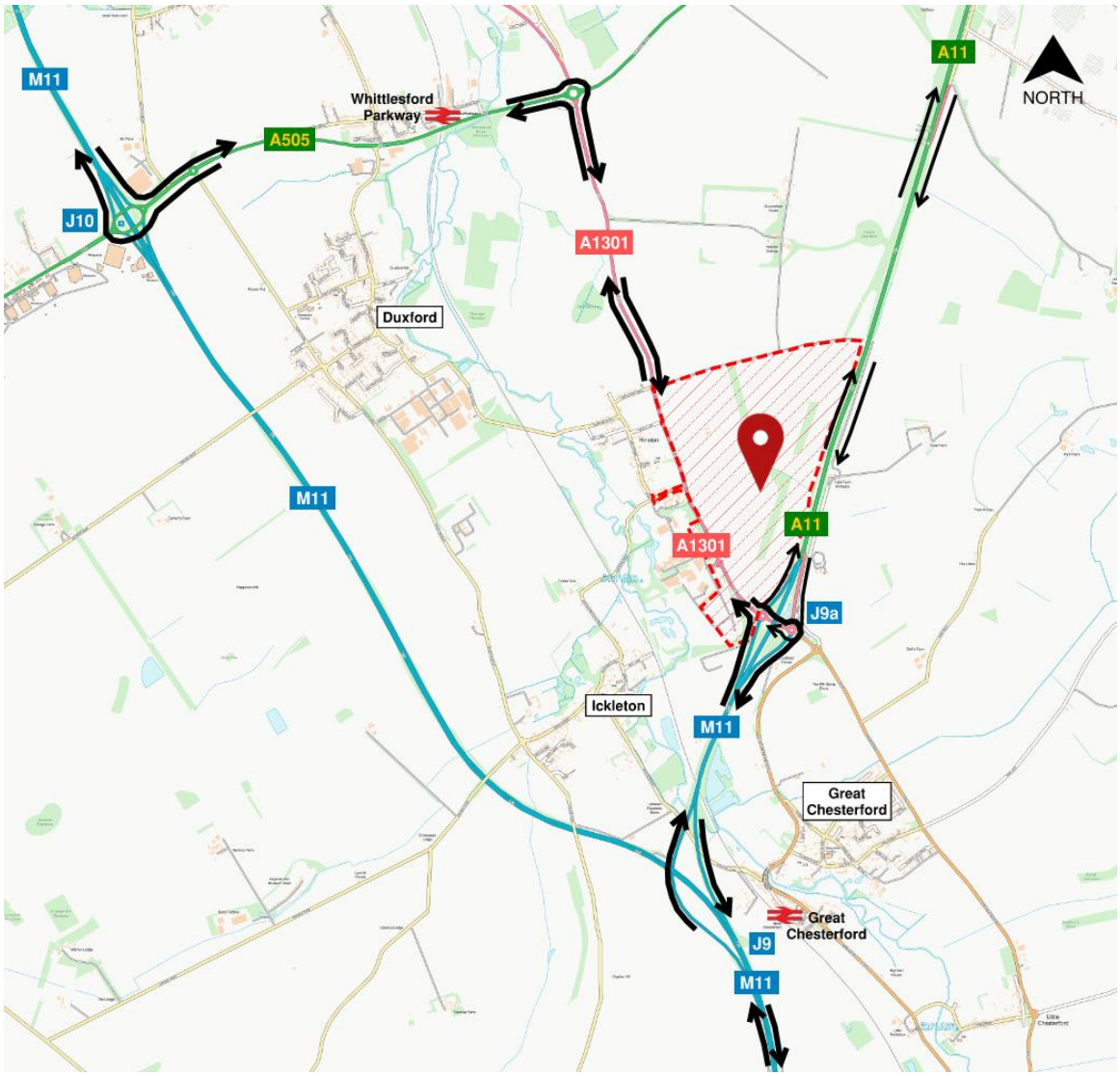


Figure 4.1 Proposed Construction Access from Strategic Highway Network

4.1.3 All construction traffic would enter and exit the Site via the A1301. No turning of HGVs would be allowed outside of designated turning areas. Ingress and egress points for construction traffic would be carefully located to minimise disruption on the local highway and local road users and would be managed.

4.1.4 Access points for construction vehicles may vary according to the particular stage of construction. It is assumed that a new southern site access junction would be constructed as the primary location for construction access to the Expansion land (DA1 and DA3), east of the A1301; for the Campus land (DA2), the existing 'construction access' located c.200m south of the main entrance will be utilised for construction traffic. For the Campus land, construction traffic will not be permitted through the existing main entrance.

4.1.5 It is anticipated that construction access might be restricted to left-in, left-out operation for HGVs to avoid potential queuing caused by right-turning traffic. This can be facilitated by using the existing (and proposed) roundabouts to the north and south to facilitate U-turn movements, as illustrated in Figure 4.2 (an enlarged version is included in Appendix E).

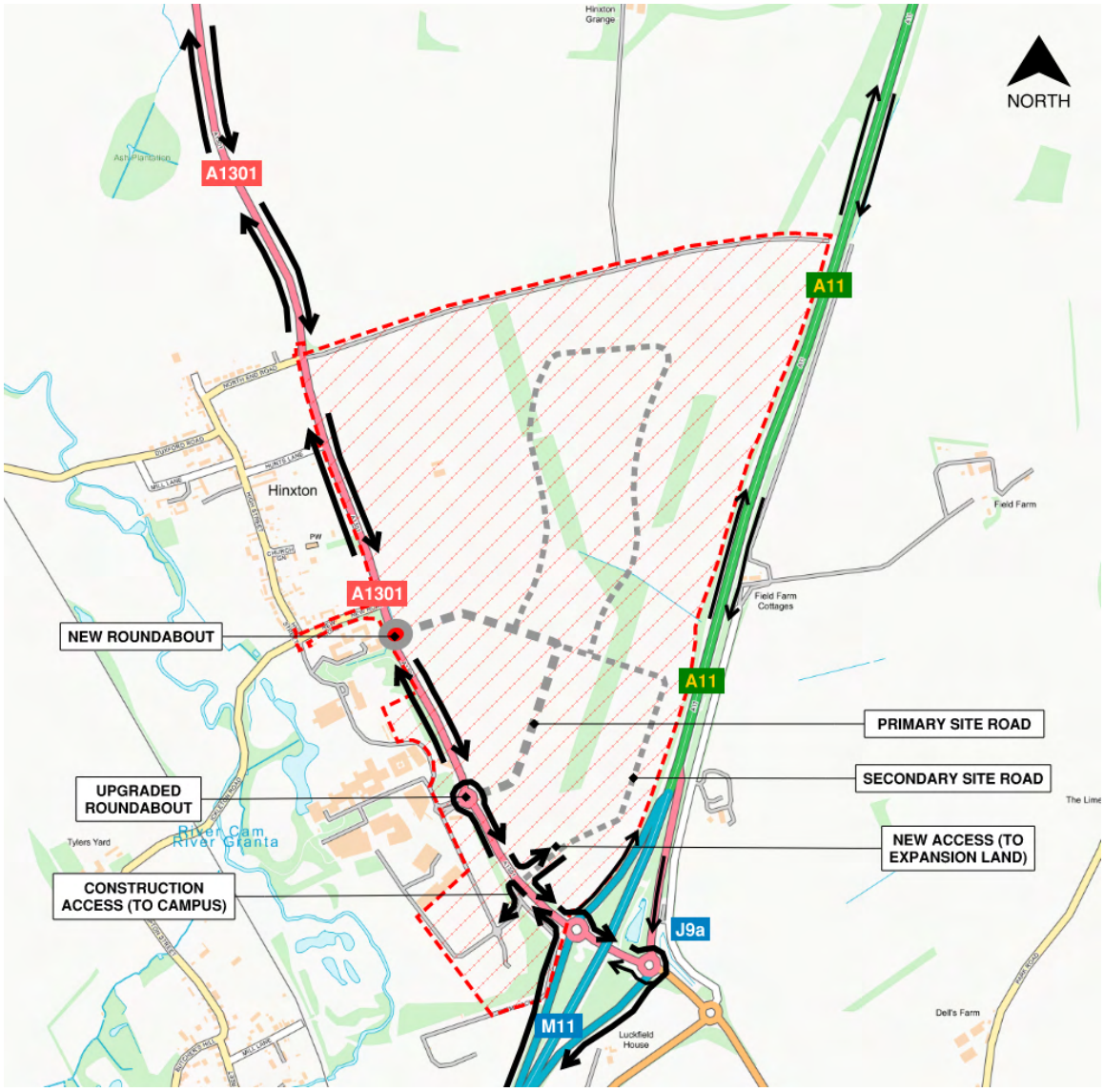


Figure 4.2 Proposed Construction Site Access

Route Management

4.1.6 As discussed further in Section 5.4, adherence to the strategic routes above will be vital to restrict the use of unsuitable routes through local villages. Measures will include the use of signage and the provision of maps to contractors / builders. It is assumed that directional signage will only be required from the slip-roads of the major intersections and onwards (e.g. J10 of the M11).

4.1.7 Preliminary strategy plans for directional signage are included in Appendix F; an extract showing the proposed signage from the M11 / A505 is shown in Figure 4.3.

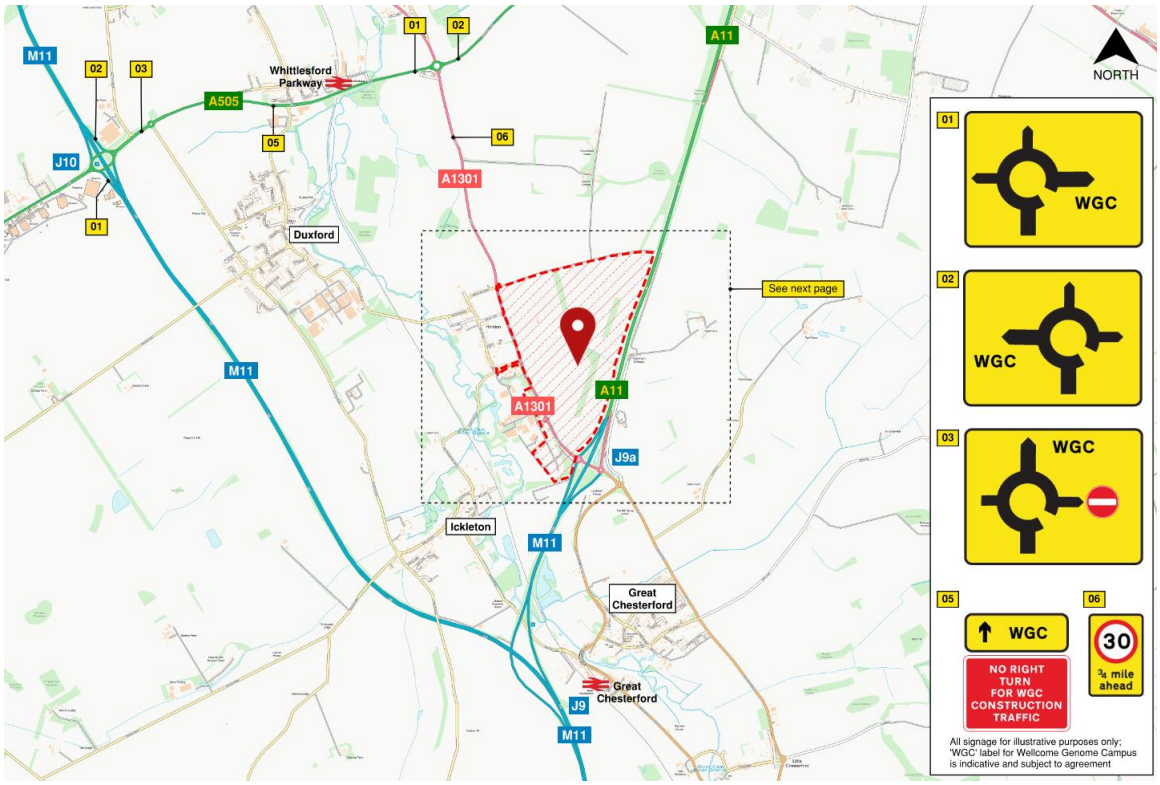


Figure 4.3 Preliminary Signage Strategy Extract

4.1.8 As well as key directional signage, signs will be provided to indicate that the use of New Road and the roads through Duxford, Ickleton and Hinxton will be banned for construction traffic.

4.1.9 Site access signage will vary according to the phase of works and is likely to change as the programme progresses. This will be detailed within the CTMP/CEMP for each RMA. The preliminary signage plans show illustratively how right-turn restrictions for the site accesses might be signposted, using roundabouts to the north and south to U-turn, as described above.

4.2 On-Site Traffic Management

4.2.1 It is anticipated that U&C will manage construction traffic on and off the Site. The detailed layout of the Site during works, including layout of the main temporary contractor's compound, welfare facilities, contractor parking etc have not been determined at this stage and will be developed once a contractor has been appointed. Each access point will have security, checkpoint, barriers/gates as appropriate.

Site Access

4.2.2 All construction traffic would enter the Site through the checkpoints at the designated construction entrances. For security purposes, members of staff would record the vehicle details and direct deliveries to report to the reception office where appropriate personnel would direct the driver to deliver the material in a specific area of the Site. A segregation barrier would provide a pedestrian walkway into and off the Site and where possible, pedestrian routes would be created to separate vehicles from personnel.

4.2.3 Personnel would be asked to provide identification papers and show proof of a site induction. Those who have not had a site induction would be guided to the offices to undergo one. This would allow for identification of all personnel on-site and would be important during emergency procedures.

4.2.4 The layout of the Site will enable all vehicles to enter and exit in forwards gear – reversing of vehicles onto the highway will not be permitted.

4.2.5 Vehicles and loads not accepted would be rejected from the compound or works area. They would be directed to turn within the Site and leave in a forward gear. They would not be inspected within the Public Highway.

4.2.6 Facilities such as wheel-washing/vehicle wash-down will be provided, as outlined in Section 5.2.

Signage

4.2.7 Appropriate signage would be required on the lead up and entrance to the Site to safely guide deliveries and new personnel to the Site. All internal construction routes inside the Site would have appropriate signage along them to warn dangers of potential hazards, speed limits (5-15mph), directional signs and passing points. Signage for the routes to the site is referenced above (Section 4.1); signage within a site/works area will be the responsibility of the main contractor for each RMA.

Site Roads

4.2.8 During the enabling works, temporary access roads would be formed within the Site to transport material between various locations. Ongoing work would be put in place to repair potholes and keep the Site in a suitable condition. Temporary drainage systems would be put in place to make sure roads are kept dry and to prevent the generation of silt.

Vehicle Holding Zone

4.2.9 Delivery vehicles will be directed to the relevant area for loading / unloading; if the loading bay is not available, they would be directed to a Vehicle Holding Zone (VHZ), or if they are not correctly booked, they would be banked away from Site and asked to rebook. The VHZs will be provided to ensure that vehicles are accommodated within the curtilage of the Site, to avoid any overspill onto the adjacent highways. I

4.2.10 An off-site construction vehicle holding area has not been identified at this stage but will be considered if necessary, in addition to the on-site facilities.

Safety

4.2.11 A significant proportion of serious accidents on construction sites involve moving machinery or vehicles; best practice guidance (such as 'the safe use of vehicles on construction sites' by the Health and Safety Executive) should be used by the main contractor(s) to inform site layout and operations at all stages of the work.

4.2.12 Planning needs to account for pedestrian and vehicle separation, loading and storage areas, vehicle selection, inspection and maintenance, safe driving practices (e.g. reducing risk by reducing need to reverse) and ensuring safe practices are followed.

4.2.13 The main contractor(s) should maintain training/certification records for all drivers/plant operators and ensure that all applicable operatives have the necessary training/licences required.

Loading Bay Marshals

4.2.14 Traffic marshals will be stationed at each building unloading zone in order to safely facilitate the manoeuvring of vehicles within the unloading zone. Traffic marshals will be presented at the daily briefing with a tablet (or equivalent) device, on which will be the delivery schedule for the day; this schedule will also be issued to site security. Deliveries will be released from the VHZ by the delivery coordinator once confirmation is given by the relevant unloading marshal that they are ready to proceed. All traffic marshals must have the relevant competency for banking vehicles.

Loading Bay Slingers

4.2.15 Each loading bay will have a designated Crane Signaller ('Slinger') who will monitor and manage the safe unloading of materials. The Slinger will also assist with the banking of crawler cranes around the building perimeter and monitor safe exclusion zones for crane working areas. Subcontractors will be responsible for the checking of materials and unloading at the floor plate level.

On-Site Parking

4.2.16 On-site parking for construction workers would be restricted to an absolute minimum. This would only be made available to those personnel who need to carry heavy equipment or materials to the Site. Unapproved parking on public roads would not be allowed and the labour force would be encouraged to use public transport or a car sharing scheme. Local traffic management measures for Site access would be agreed with SCDC prior to construction commencing as part of a detailed CTMP.

4.2.17 Traffic marshals will direct authorised construction employees to a designated parking area as required. The location of contractor parking will be adjusted to suit each phase of works as necessary. Construction employees will be encouraged to make use of sustainable travel options where possible.

Construction Compounds and Materials Storage

4.2.18 The location/s of the construction compound and material storage areas would be confirmed upon appointment of the Principal Contractor. Compound locations would be sensitive to the setting of heritage assets, proximity to residential properties and other sensitive receptors.

4.2.19 In order to minimise damage to construction materials and also loss and waste, secure facilities will be provided. The use of fencing/hoarding around the Site will restrict unauthorised access. A manned checkpoint will be in place to monitor delivery and construction vehicles.

Welfare Facilities

4.2.20 The Principal Contractor would provide welfare facilities for all employees.

4.3 Public Rights of Way Considerations

4.3.1 The final alignment of the permanent highways works and utilities infrastructure may affect Public Rights of Way (PRoW) on a temporary basis.

4.3.2 The following principles have been established:

- No permanent closure of a PRoW is proposed as part the proposals;
- No temporary closure of any PRoW in its entirety is proposed; where localised temporary closures are required, it is expected that a temporary diversion will be sought and will be achievable;
- Where PRoWs are affected or diverted, the width any temporary alternatives or diversions will be no less than the existing access provision available where practicable. Where this is not possible, the following minimum widths should apply: Public Footpaths: 2m, Public Bridleways 3m, Restricted Byways 3m;
- An appropriate path surface should be provided along the alternative or diversion route. The specification of the path surface would be included in the Detailed CTMP and agreed with the SCDC; and
- The contractor will proceed on the basis of seeking to provide 'no less preferable access', e.g. that they do not introduce steps where drop kerbs or ramps were present previously and that widths do not reduce where the PRoW is currently wider than the target minima set out above.

4.3.3 A set of plans will be prepared to identify temporary works required will be prepared for review with SCDC once the Principal Contractor and relevant sub-contractors have been appointed. These plans will subsequently be updated for the Detailed CTMP(s).

4.4 Temporary Traffic Management and Traffic Regulation Orders

4.4.1 The temporary closures of footways, footpaths, cycle paths and traffic lanes along with road closures, suspensions of access restrictions and on street parking would be determined prior to the Detailed CTMP(s) being prepared. Any permits and licences, deemed necessary, would be identified in the Detailed CTMP(s) and progressed in accordance with the processes to be set out in the finalised CEMP.

4.4.2 The need for licences for the use of two way and multiphase temporary signals would be determined through the detailed programming of the highways and utilities works. Temporary traffic controls would be managed so as to minimise delays to local bus services. This could include manual intervention during busy traffic periods to balance waiting times.

4.4.3 Statutory undertaker connections to the temporary contractors' compounds would be undertaken by approved statutory undertaker contractors. This would include electrical, communications, water and sewer connections to the construction sites and compounds. Those contractors' works would be co-ordinated in accordance with standard New Roads and Street Works Act 1991 systems.

4.4.4 Temporary closure of roads may be required for abnormal loads. Meetings would be arranged with residents and emergency services prior to the road closure application to help identify needs or concerns and to try and address these in the traffic management arrangements.

4.4.5 Signs would be erected to provide warning of any closures, proposed diversion routes and the planned duration. Regular updates would be provided; community meetings would be put in place to advise how works are progressing and if there are any issues which may affect the programme.

5 Strategies to Reduce Impacts

5.1 Introduction

5.1.1 A range of measures are proposed to reduce the potential impacts of demolition, infill and construction traffic on the local highway network and community. The measures can be categorised as follows:

- Committed – Measures that will be implemented as part of the CTMP;
- Proposed – Measures that are feasible and likely to be implemented. Once a contractor is appointed these measures will be studied further and confirmed within the Detailed CTMP(s); and
- Considered – Measures that have been considered unlikely to be implemented or feasible but could be investigated or become relevant in the future.

5.1.2 In accordance with CLOCS CLP guidance, the following measures have been identified as committed, proposed or considered as indicated:

Table 5.1 Planned Measures to Reduce Construction Impact

Planned Measures	Committed	Proposed	Considered
Measures influencing construction vehicles and deliveries			
Safety and environmental standards and programmes	✓		
Adherence to designated routes	✓		
Delivery scheduling	✓		
Re-timing for out of peak deliveries		✓	
Re-timing for out of hours deliveries		✓	
Use of holding areas and vehicle call off areas		✓	
Use of logistics and consolidation centres			✓
Measures to encourage sustainable freight			
Freight by water			✓
Freight by rail			✓
Material procurement measures			
Design for manufacture and assembly and off-site manufacture			✓
Re-use of material on site		✓	
Smart procurement		✓	
Other measures			
Collaboration with other sites in the area			✓
Implement construction workforce travel plan	✓		

5.2 General Measures

Site Working Hours

5.2.1 Prescribed hours of work would be agreed with SCDC. It is anticipated that the core working hours for the Proposed Development would be as follows:

- 07:00 – 18.00 hours Monday – Friday (excluding Bank Holidays);
- 08:00 – 13:00 hours Saturday; and
- No working on Sundays, Bank or Public Holidays unless with specific agreement of SCDC

5.2.2 The following activities shall be permitted to take place within the period before and after normal working hours as outlined above:

- Arrival and departure of workforce on Site;
- Check and examinations of plant and machinery (including test running) and the carrying out of essential repairs / maintenance to plant and machinery;
- Site inspections and safety checks; and
- Site clean-up.

5.2.3 No continuous 24-hour activities are envisaged for works and any working on Sundays or bank Holidays would be subject to reasonable notice. Any change to working hours would be agreed in advance with SCDC.

5.2.4 During working hours, delivery/collection construction vehicles would only access the Site between 10:00 and 16:00 (unless otherwise agreed in writing by the local planning authority), to avoid peak traffic times in the area.

5.2.5 These hours would be strictly adhered to unless or in the event of:

- An emergency demands continuation of works on the grounds of safety;
- Minor internal works are being carried out within the confines of the building envelope; and
- Completion of an operation that would otherwise cause greater interference with the environment /general public if left unfinished.

5.2.6 Any work outside of these hours will be subject to prior agreement with SCDC and relevant stakeholders with a sufficient notice period given to consider the application. Certain specific construction activities (including highway works) may require extended working hours for reasons of engineering practicability and safety such as slip form working, surveys and lifting/fitting of infrastructure and abnormal deliveries.

5.2.7 Whilst work outside of the above-mentioned hours would not normally be permitted, it is conceivable that certain works may have to be undertaken during these periods. If necessary, the hours of operation for such works would be subject to prior agreement and reasonable notice with SCDC.

Local Residents and Businesses – Community Considerations

5.2.8 The CLOCS CLP guidance adopts the umbrella term 'Community Considerations' to address the main concerns caused by construction logistics activities, particularly at the local level. Such activity can have a significant impact on the surrounding community especially when residential areas and/or facilities like schools, hospitals, health centres, community centres, sports facilities, transport hubs, etc are located near the work site.

5.2.9 There are residential areas and associated amenities to the north (Hinxton) and south-west (Ickleton) that might be somewhat affected by the construction activities. It is likely that works could have some impact on residents and local businesses, including construction noise, workforce use of local public transport, temporary traffic management etc.

5.2.10 A community liaison manager will be appointed prior to commencement, who would be focused on engaging with the community/stakeholders to provide appropriate information and to resolve issues of concern. Appropriate meetings would be held with local residents (or their representatives), the Existing Campus and other affected parties to keep them informed about the works, and to provide a forum for them to express their views. SCDC would be also be invited to participate.

5.2.11 An email or telephone helpline service would be maintained by the Contractor during any construction periods to handle enquiries and concerns from the general public. It would also act as a first point of contact for information in the case of any emergency.

5.2.12 Construction site boards outlining information on the project and forthcoming works would be displayed at the entrance to any construction sites. Site contact numbers would be displayed as appropriate, along with the complaint's procedure.

Waste Management

5.2.13 The disposal of waste generated during construction, including any surplus spoil, will be managed to maximise the environmental and development benefits from the use of surplus material and to reduce any adverse effects of disposal. In general, the principles of the waste management hierarchy, which favours waste minimisation, re-use of materials and recycling over disposal to landfill will be favoured.

5.2.14 Methods for waste reduction will form a basic strategy for construction waste management from the start. These materials will generally be inert or environmentally benign and may have alternative uses elsewhere on the Site. Opportunities will be investigated to maximise the recycling potential of construction materials.

5.2.15 Some contaminated materials may be found during the Development. Any contaminated materials that may be generated shall be stored and disposed of in accordance with relevant best practise guidance and legislation.

5.2.16 Licensed carriers will remove other residual waste, i.e. general office waste, etc. from site to suitable licensed disposal sites. Where possible, segregation and recycling of materials, such as office paper, food waste will be undertaken.

Noise, Dust and Dirt

5.2.17 All equipment, pollution control measures and methods of work will be in place in line with current standards. Engines are not to be left running when the vehicle is not in operation.

5.2.18 The following measures are to be considered:

- Mud and debris - The Site will be equipped with appropriate wheel cleaning equipment, along with the provision of a road sweeper as required to prevent the build-up of mud on the site roads and the adjacent highway.
- Dust - A mobile water bowser will be available on-site and will be used to suppress dust arisings from any operations during the Works, but particularly during periods of dry weather. All vehicles delivering soils or hard-core to the Site for use in the works or removing excess hard-core on completion of the works will be fully sheeted to prevent spillage and windblown dust.
- Noise - 55dB is considered by the World Health Organisation to be the daytime noise level above which 'community annoyance' sets in. No filling or construction operations will be undertaken outside of the permitted hours.
- Surface water - During construction works the Contractor will install and maintain surface water control features (e.g. temporary earth mounds, ditches, swales and settlement ponds etc.) in accordance with industry best practice and guidance, in order to prevent the accumulation or the uncontrolled runoff of surface water.
- Pollution prevention - No oils or potentially harmful chemicals will be stored outside the contractor's compound. Maintenance and repairs of plant and machinery will be in accordance with manufacturers recommendations and will be undertaken by mobile 'fitters' in a site Compound area. Plant and machinery will be stored in this area during non-operational periods. Fuel will be stored in and delivered from a self-bunded, double skinned mobile fuel bowser.

5.2.19 All contractors will be expected to comply with the policy and British Standards requirements in relation to construction noise.

5.3 Safety and Environmental Standards and Programmes

CLOCS – Construction Logistics and Community Safety

5.3.1 The CLOCS Standard (The Standard for construction logistics: Managing work related road risk) draws together emerging practice from a number of individual standards, policies and codes of practice to form a single road risk standard. This standard will be implemented by the Principal Contractor (as well as suppliers and sub-contractors) and will be adhered to in a consistent way by fleet operators.

FORS - Fleet Operator Recognition Scheme

5.3.2 FORS is a voluntary national fleet accreditation scheme designed to help improve fleet operator performance in key areas such as environmental performance, safety and operational efficiency. Its purpose is to raise the level of quality within fleet operations and to recognise those operators that are achieving the environmental, safety and efficiency requirements of the FORS standard.

5.3.3 All construction vehicle operators will be required to be accredited in line with FORS, unless a specific exception is agreed with SCDC prior to that haulier or supplier visiting site.

Considerate Constructors Scheme

5.3.4 The project, and all contractors, will be registered with the Considerate Constructor's Scheme.

5.3.5 The most up to date CCS 'Code of Considerate Practice' will be explained to operatives and employees during the site induction and reinforced with periodic toolbox talks.

Construction Environmental Management

5.3.6 The Applicant has committed to implementing a Construction Environmental Management Plan ('CEMP') during enabling and construction activities. Implementation of a CEMP is an established method of minimising and managing environmental impacts resulting from construction works.

5.3.7 The Outline CEMP describes measures that have been informed by environmental specialists carrying out the EIA. The Outline CEMP provides a framework which will be developed into a detailed CEMP or CEMPs which are likely to come forward once a principal contractor/s has been appointed for construction works.

5.3.8 Due to the scale of the Proposed Development and the differing land uses, it is possible that construction works would be delivered by more than one Principal Contractor. It is envisaged that detailed CEMPs will be developed by each Principal Contractor which would be aligned to the construction contracts and/or development plots or phases. The measures included in the Outline CEMP and CEMPs (subsequently referred to as the 'CEMP') would be periodically reviewed to ensure that the remain aligned to current regulatory requirements, changes in construction methods, and emerging best practice.

5.3.9 The Outline CEMP has been prepared with reference to industry standards, good practice and guidance, such as the Considerate Constructors Scheme1 and Environment Agency Pollution Prevention Guidance ('PPG') notes (i.e. PPG13: Vehicle Washing and Cleaning; and PPG22: Dealing with Spills). The PPG notes have been withdrawn by the Environment Agency; however these documents still provide useful guidance.

5.3.10 The CEMP would encompass a wide range of topics including (but not limited to): construction methods, responsibilities and management structure, training and site rules. Community engagement, environmental mitigation measures, noise and vibration, air quality and dust, water resources, biodiversity, waste management, lighting and construction traffic (including Construction Traffic Management Plan).

5.3.11 Once appointed, the Principal Contractor(s) will produce a phase-specific Construction Environmental Management Plan (CEMP), in-line with principles set out within the Outline CEMP, and specific to the works and processes that are to be employed during development activities. The phase-specific CEMP will describe environmental obligations pertaining to that part of the Site and phase of the Proposed Development. The CEMPs will be subject to approval by SCDC and it is anticipated their preparation and implementation could be secured through an appropriate planning condition.

5.3.12 A full assessment of potential construction related effects has been undertaken and mitigation measures identified within technical chapters of the submitted ES. The mitigation measures within the technical chapters have been included within the Outline CEMP, where applicable, and will be reviewed at the detailed construction planning stage to ensure that they are sufficient to meet the commitments made throughout the assessments.

5.4 Adherence to Designated Routes

5.4.1 As noted in Section 4.1, construction vehicles will be required to adhere to the designated construction routes identified. A clear signage strategy will be implemented to ensure construction traffic follows designated routes and avoids banned routes such as New Road and roads through Duxford, Hinxton and Ickleton.

5.4.2 The designated routes will form an integral part of the supplier sub-contracts. Maps of the approved routes will be issued to contractors and housebuilders, which they will be required to sign off. These can then be included in their own procurement and contracts with their suppliers. Penalties may be considered for non-compliance; to enforce adherence, the site management team will undertake spot-checks on a monthly basis.

5.4.3 Routes for AILs would be determined by the haulier in collaboration with the affected Police and local highways authorities. These would be determined by the configuration of the load, depending on its height, width, weight and length. The need for escort vehicles would be determined through that process.

5.5 Delivery Scheduling and Retiming

5.5.1 The following measures will be implemented:

- A controlled entry system to manage access to the Site at all times;
- Implementation of a Delivery Management System (DMS);
- Deliveries will require pre-booked slots to allow for off-loading in a systematic and controlled manner; and
- No unauthorised delivery vehicles will be accepted.

5.5.2 The DMS will ensure deliveries are effectively managed to maintain a steady flow of traffic in accordance with long range, weekly and daily plans. This managed logistic approach aims to streamline deliveries using pre-booked slots, allowing unloading of deliveries in a systemic/co-ordinated approach at their designated location.

5.5.3 Retiming of deliveries outside peak traffic times may improve the operational efficiency of the construction site, as well as lessening the impact of vehicle activity on the neighbouring area. In the case of deliveries (and collections) by water, these are anticipated to occur at varying times over a 24-hour period, as they would be governed by the tidal state of the River Trent.

5.5.4 As with many long-haul deliveries, due to tachograph restrictions, an area within the Site or within the contactor's welfare area will need to be made available for drivers to rest.

5.5.5 It will be important that the content of the delivery schedule is cascaded down to traffic marshals tasked with implementation. Daily on-site meetings will be held to ensure that the traffic management team is briefed on the work tasks to be performed each day.

5.5.6 Sub-contractors will be reminded about their obligations to ensure that the number of deliveries to the Site are minimised. Waste such as packaging, crates and pallets must be returned with the delivery or later deliveries.

5.6 Use of Holding Areas and Consolidation Centres

5.6.1 The use of a holding area for construction vehicles approaching Site has been considered but the location of the development and amount of available space within the 'red-line' does not lead to this type of facility being required for the construction works.

5.6.2 The decision to use a consolidation centre would be made once the Principal Contractor has been appointed and its need and viability investigated in greater detail. The conclusions and result of the appraisal, and the approach to be adopted would be set out in the Detailed CTMP(s).

5.7 Measures to Encourage Sustainable Freight

5.7.1 At this juncture, the use of rail freight or river transport for construction materials has not been considered. Once the main contractor has been appointed and the likely supply chain has been investigated further, it may be possible to consider the use of sustainable freight options to reduce the number of vehicles needing to travel to/from the site during construction, but it is provisionally assumed that this is unlikely.

5.8 Material Procurement Measures

Consolidation and/or Collaboration and off-site Fabrication

5.8.1 An online system will be used to provide accurate design information and drawings for the project team. This will enable development teams to specify materials needed which will reduce over-ordering, off-cut waste and reworking through the supply chain. In addition, the design will seek to incorporate various pre-manufactured items, reducing the number of deliveries and waste collections from the Site.

5.8.2 The potential to use prefabricated assemblies and techniques would be considered as an approach to reduce the number of construction vehicle movements, once a Principal Contractor has been appointed. A decision as to how prefabrication might be integrated into the construction process would be included in the Detailed CTMP(s).

Reuse of Material on Site

5.8.3 Materials arising from site clearance and ground preparations could potentially be reused as part of the site levelling and the provision of a building platform and piling mat for the construction works. The material would be stored within the site area until required. This would be determined during the detailed design development and reflected in the Detailed CTMP(s).

5.8.4 Consideration would also be given to the reuse of excavated material for filling, depending on its suitability - e.g. potential contamination. Where possible, the project could seek to maximise the reuse of suitable soils for landscaping, to minimise waste disposal.

5.8.5 As the locations of buildings are not defined at the outline planning stage, it is not possible to accurately define proposed ground levels or assess the requirements for soil usage. However, illustrative proposed ground levels have been developed and initial calculations made to evaluate whether the Proposed Development is likely to achieve a balance of soil cut and fill, i.e. whether the Proposed Development could achieve no requirement for large scale soil import or export.

5.8.6 It has been assumed that there would be limited need for excavation on the Campus Land due to the nature of the existing uses. Significant volumes of topsoil would be generated by the necessary soil strip across the development areas on the Expansion Land, significant volumes of which would be reused to create an acoustic bund along the eastern boundary of the Site, road corridors and residential plots. Topsoil in areas which would remain in agricultural use would be not be subject to topsoil strip. The Campus has no topsoil, so there will be a need to 'export' surplus topsoil from the Expansion Land to the Campus Land.

5.8.7 Based on initial calculations it is considered that it would be possible to achieve a cut and fill balance within the Site in terms of the use of topsoil and sub-soil which means there would be no need to import or export significant volumes of this material. The cut and fill balance is expected to allow for contractor and house builder arisings and requirements later in the programme.

Smart Procurement/Local Suppliers

5.8.8 In line with the procurement strategy, local suppliers for construction materials will be sought as far as practicable, in order to reduce the impact of the development on the surrounding highway network, as well as promoting a more sustainable development. Reductions in delivery costs, fuel usage and pollution along with congestion may be achieved. The promotion of local suppliers also benefits the local community with investments into local employers and services.

5.9 Collaboration with Other Sites in the Area

5.9.1 The Applicant would consider working with other construction site contractors in the vicinity and would ascertain the feasibility of a shared consolidation or holding area for construction vehicles and/or materials. If a suitable forum were to be established, the Principal Contractor could attend working group meetings to discuss opportunities to collaborate with other sites and suppliers, to minimise any disruption during the construction stages.

5.10 Implement a Workforce Travel Plan

5.10.1 Annexure J of the Outline Permission requires the CTMP for each stage of the Development to include a Travel Plan for the construction workforce. This should set out measures to encourage Site operatives and visitors to travel to and from the Site using sustainable means of transport, including measures to minimise the number of private car trips to and from the Site (both workforce and visitors) and identifying control mechanisms for car use and parking.

5.10.2 A Draft Site-Wide Travel Plan (SWTP) has been provided for the operational development but this does not directly extend to cover the construction works. It is anticipated that measures planned to support the operational development may not all be implemented until construction works are substantially complete.

5.10.3 Each stage of work will be subject to a reserved matters application, with supporting CEMP. The Detailed CTMP for that stage (or appropriate section within the detailed CEMP) should include details of travel planning initiatives and measures to encourage more sustainable modes of travel for construction employees engaged on the project, appropriately tailored to the works planned and location of key suppliers, sub-contractors and workforce. In this way, the main contractor for each RMA will have their own workforce Travel Plan.

5.10.4 Each RMA main contractor will maintain the role of a Travel Plan Coordinator (TPC) who will champion initiatives to reduce the environmental impacts of work force travel and to minimise the impacts of commuting on the local road network.

5.10.5 The TPC would:

- Implement and actively promote Travel Plan measures to maximise the use of non-car modes of travel to and from work, such as providing information on public transport services in the area;
- Ensure the requirements for workforce inductions, briefings and communications include information and guidance on the importance of environmentally friendly commuting;
- Act as a focal point for workforce commuting issues;
- Manage the monitoring, assessment and review of workforce travel patterns; and

- Engage with subcontractors to encourage their workers to commute sustainably where practical.

5.10.6 The RMA main contractors would consider the use of crew buses to limit the number of individual car journeys. These could be established to provide a link between the Site and Whittlesford Parkway station or alternative 'park-and-ride' locations.

5.10.7 The need for workers to drive to the Site is recognised and on-site parking for cars and vans is proposed to address this, but this should be kept to the minimum possible and monitored regularly. Off-site parking on neighbouring streets will not be permitted.

6 Preliminary Construction Vehicle Movements

6.1 Vehicle Forecasts

Introduction

6.1.1 The Proposed Development is anticipated to be constructed over a period of at least 10 years, during which time levels of construction traffic would vary and there would be a mix of construction and development generated traffic arising from the Site.

6.1.2 Construction traffic would include the movement of workers and construction vehicles associated with the construction of individual plots, as well as construction of the associated infrastructure.

6.1.3 During the construction period there will be a mix of construction traffic and traffic from associated with Completed Development phase. The estimates provided here are in relation to construction activity only.

Vehicle Movements

6.1.4 The construction process would require a range of skills from general labourers and skilled operatives through to professionals and management. It is envisaged that workers will originate from a variety of sources, with the core coming from within Cambridgeshire and the surrounding areas with others, particularly those with specialist skills originating from a wider catchment.

6.1.5 It is anticipated that workers would arrive on-Site during the morning, from around 06:00 through to 10:00 and would leave between 14:00 and 18:00 at the end of their shift.

6.1.6 The quantum of workers on-Site at any one time would primarily depend on factors such as the timing of the primary infrastructure along with the demand for housing and commercial premises. The provision of infrastructure will include the construction of internal streets and the access and environmental improvements to the A1301. Similarly, the volume of construction HGVs would also depend on the construction programme and phasing of development, which at this stage is not fixed.

6.1.7 As described in Section 2.3, the Site is located close to the A11 and M11, which provide strategic links to the north, south and to the east. The A505 provides a connection to the A1 in the west.

6.1.8 Contractors will be required to adhere to routing agreements along with measures included within the detailed CTMP. Therefore, HGVs will only affect the main road network and the final connection into the Site.

6.1.9 As a result of the construction phase of the Proposed Development, there would be increased volumes of traffic on the local highway network, associated with workers travelling to and from the Site, and from the movement of material using HGVs.

6.1.10 A peak construction demand for 1,050 construction workers each day and 3,700 monthly (185 daily average) deliveries has been identified by quantity surveyors acting on behalf of the Applicant (ES chapter 12). The estimates are based upon the 'Delivery Management Vehicle' system used as part of the North West Cambridge development. In practice, there is likely to be considerable variation in these figures across the duration of the programme, depending on the phasing and nature of works undertaken in each phase. Some phases of work, e.g. bulk earthworks, will see much higher levels of automation with minimal workforce, whilst others (such as fit-out) are likely to require high volumes of specialist trades personnel.

6.1.11 Worker movements to and from the Site will be coordinated as part of the workforce Travel Plan (see Section 5.10), with measures put in place to restrict the number of people arriving by car or light vehicle (vans). It is usual for workers to travel in groups using a single vehicle (i.e. car / van share, minibus). As such, the total number of vehicle movements is typically much less than the total number of workers. For the purposes of this assessment an assumption of an average of three workers per vehicle has been made.

6.1.12 This would result in around 350 light vehicle movements in the morning peak period and 350 in the evening peak period generated by workers at the Site at peak periods. This would be spread across the morning and evening peak periods.

6.1.13 Deliveries (of materials, plant and equipment, etc) would be restricted in terms of delivery times. so that peak hours are avoided. On this basis, the ES assumed that an average of 21 arrivals and 21 departures per hour would be expected, with a total of 370 two-way trips per day (i.e. 185 vehicles per day). This figure of 370 two-way trips per day represents a peak of construction activity and is predicted to be split between 241 two-way movements on the A1301 south of the Existing Campus and 130 on the A1301 north of the Existing Campus (i.e. 65%/35% split).

6.1.14 The Proposed Development would also involve the construction of new access roads and junctions on the A1301 which would require temporary traffic lights and traffic management for a period of time. Where possible, any traffic management would be restricted to off-peak periods and the duration minimised as far as possible.

6.2 Construction Vehicle Types

6.2.1 The construction vehicle types visiting the Site will change over the course of the works and type of activity. An indication of the types of vehicles expected at the Site is provided below in Table 6.1. LGVs would be present at all stages of the works programme, but in greater numbers during the fit-out stages when tradespeople are on-site.

Table 6.1 Indicative Construction Vehicle Types for each Stage of the Works

Works Programme	Construction Vehicle Types
Demolition	7.5 to 26t rigid lorries, 26t to 32t skip lorry
Enabling (Infill)	Articulated tipper lorry (44t)
Foundations and slab	Articulated lorry, 7.5 to 26t rigid lorries, 26t to 32t skip lorry
Substructure	Articulated lorry, 7.5 to 26t rigid lorries, concrete wagons
Superstructure (core and frame)	Articulated lorry, 7.5 to 26t rigid lorries, concrete wagons
Cladding / Envelope	Articulated lorry, 7.5 to 26t rigid lorries, LGVs
MEP, services and finishes	Articulated lorry, 7.5 to 26t rigid lorries, LGVs
Landscaping	Articulated lorry, 7.5 to 26t rigid lorries, LGVs

6.2.2 It is anticipated that a number of Abnormal Indivisible Loads (AILs) are likely to be required during construction. Such loads could include cranes and other large plant, including earth-moving machinery and piling rigs, as well as the MEP equipment associated with the energy centre and potential laboratory equipment. A detailed assessment of the plant requirements and requirements for AILs has not been undertaken at this stage.

6.2.3 Any AILs that are required by road during the construction period would be pre-planned and the route and timing of the journey agreed with SCDC and the relevant authorities such as National Highways and the Police as appropriate. Any AIL routing would be timed to minimise disruption to other road users, particularly on the strategic road network.

6.2.4 If practical, the use of river / rail freight transport for AILs will be considered for as much of the journey as practical but, at this stage, there is insufficient detail on the nature of the AILs and where they would originate from to assess this possibility.

7 Implementing, Monitoring and Updating

7.1 Management

7.1.1 Each main package of works will be subject to a reserved matters application (RMA). It is envisaged that the main contractors will produce a Detailed CTMP (or a dedicated section within a detailed CEMP) for each phases/packages of work for submission and approval by SCDC prior to commencement of works. The Detailed CTMPs/CEMPs will be prepared based on the general contents of this framework CTMP and accompanying outline CEMP but will include specific requirements in relation to the access to and management of each worksite .

7.1.2 The Detailed CTMPs/CEMPs will be managed by the relevant main contractors. A nominated employee will be appointed as 'Logistics Manager' and will be responsible for the day-to-day organisation and monitoring of construction logistics for the Site, for the duration of the construction phase.

7.2 Monitoring and Review

7.2.1 A key role of the Logistics Manager will be to undertake on-going monitoring. Data to be collected will include:

- Number of vehicle movements to the Site:
    - Total;
    - By vehicle type/size;
    - Time spent on-site;
    - Origin and destination of vehicles arriving at or leaving the Site; and
    - Delivery/collection accuracy compared to schedule.
- Breaches and complaints i.e. with regards to:
    - Community concerns about construction activities;
    - Vehicle routing;
    - Unacceptable queuing;
    - Unacceptable parking;
    - Compliance with safety and environmental standards and programmes; and
    - Anti-idling.
- Safety
    - Logistics-related incidents;
    - Record of associated fatalities and serious injuries;
    - Methods by which employees are travelling to the Site; and
    - Vehicles and operators not meeting safety requirements.

7.2.2 For those suppliers and hauliers that continually fail to follow advice to avoid delivering during peak periods or conform to other instructions such as not stopping on-street or fitting vehicles with cyclist protection equipment, the site manager will liaise with these operators to ensure their level of compliance improves.

7.2.3 An incident / complaints register will be created into which incidents / complaints can be recorded. Once entered, the incident / complaint will be dealt with using the normal procedures that the main contractor has in place for its development site construction works.

7.2.4 As well as planning and co-ordinating the day-to-day site deliveries, on-site arrangements to accommodate delivery vehicles and the arrangements for special deliveries, the Logistics Manager will liaise with nominated representatives of the Applicant other on-going construction projects to agree, where practical to do so, consolidation of vehicle activity and other measures to support the running of the Detailed CTMPs/CEMPs. The Logistics Manager will also liaise regularly with key personnel at the local authority, local residents and groups.

7.2.5 The Detailed CTMPs/CEMPs will be 'live' documents and will be regularly reviewed with key stakeholders and updated throughout the project's construction. The Detailed CTMPs/CEMPs will be reviewed no less than annually.

8 Conclusions

8.1 Summary

8.1.1 This outline Construction Traffic Management Plan (CTMP) has been provided in relation to condition 51 of the Outline Permission for expansion of the Wellcome Genome Campus at Hinxton (application reference: S/4329/18/OL) and is to be read alongside the Outline Construction Environmental Management Plan (CEMP) and Outline Construction Waste Management Plan (CWMP).

8.1.2 These documents set a framework for subsequent reserved matters applications (RMAs), for which additional submissions will be made.

8.1.3 At this stage, specifics of construction phasing and site logistics cannot be confirmed but this document sets out the broad strategy and key principles that will apply in the development of plot specific strategies, including preferred construction traffic routing.

8.2 Annexure J

8.2.1 As noted in Section 1.2, Annexure J of the Outline Permission sets out requirements in relation to the outline CTMP and for the CTMPs associated with each stage of the development. For clarity, Table 8.1 below sets out which of these requirements are addressed at this outline level and which will be addressed by detailed CTMPs (or encompassed within CEMPs issued for each RMA).

Table 8.1 Annexure J requirements

Annexure J text	Notes
The CTMP for the relevant stage of the development shall include the following objectives:	
a) Contractor's access arrangements for vehicles, plant and personnel including the location of construction traffic routes to and from the Site, details of their signing, monitoring and enforcement measures;	To be addressed for relevant stage within CEMP/CTMP for each RMA.
b) minimise the impact of road-based construction traffic by identifying clear controls on routes for large goods vehicles, vehicle types, vehicle quality and hours of Site operation;	Strategies for routes, vehicle types and hours of operation set out in this outline CTMP (principally Section 5). All CTMPs/CEMPs for RMAs to correspond to strategies set out herein.
c) identify any highway works required to accommodate construction traffic;	To be addressed for relevant stage within CEMP/CTMP for each RMA as applicable. Anticipate that main highways works will be undertaken early within programme and thus addressed in an early RMA.
A Travel Plan setting out measures to encourage Site operatives and visitors to travel to and from the Site using sustainable means of transport, including measures to:	
d) minimise the number of private car trips to and from the Site (both workforce and visitors) and identifying control mechanisms for car use and parking; and	Workforce Travel Plan to be produced by main contractor for each RMA (see Section 5.10) .
e) assess the need for improvements to the public transport network to accommodate the additional number of trips associated with construction site activity.	Workforce Travel Plan to be produced by main contractor for each RMA (see Section 5.10).

The CTMP shall include as a minimum the following information:	
a) delivery/collection construction vehicles would only access the site between 10:00 and 16:00, unless otherwise agreed in writing by the local planning authority;	This requirement is set out in this outline CTMP (Section 5.2).
b) the arrangements for liaison with the relevant highway authorities and emergency services;	Highways works will eb subject approval through the standard RMA process, which will include engagement with all relevant stakeholders.
c) the method for applying for approvals for Off Site highway works;	To be detailed in the CTMP/CEMP(s) for the relevant RMA(s).
d) road closures implementation and management;	To be detailed in the CTMP/CEMP(s) for the relevant RMA(s). Street works and temporary traffic management etc generally to be agreed with Cambridgeshire County Council.
e) direction signing to worksites;	'Strategic' directional signage is set out in Section 4.1. Relevant signage for each individual worksite to be set out in relevant CTMP/CEMP for each RMA.
f) workforce distribution, mode share and assignment to include proposals for transport provision for movement of construction workforce;	To be addressed for relevant stage within CEMP/CTMP for each RMA.
g) rail station servicing to support workforce travel arrangements by rail;	To be addressed for relevant stage within CEMP/CTMP for each RMA.
h) Off Site parking issues;	The proposed Site has adequate space to accommodate any temporary parking required during construction; off-site parking will not be permitted. Use of private vehicles to be discouraged to minimise parking demand. Parking strategy described in Sections 4.2 and 5.10.
i) parking provision and control for construction workers' motor cars and vans used to travel to the Site;	Parking strategy described in Sections 4.2 and 5.10. To be addressed for relevant stage within CEMP/CTMP for each RMA.
j) provision for walking and cycling;	To be addressed for relevant stage within CEMP/CTMP for each RMA.
k) lorry holding areas;	To be addressed for relevant stage within CEMP/CTMP for each RMA.
l) driver standards and enforcement within the construction sites and on the highway;	Driver/safety standards referenced in Sections 4.2 and 5.3.
m) monitoring.	This requirement set out in this outline CTMP (Section 7). All CTMPs/CEMPs for RMAs to correspond to strategies set out herein.

Appendix A Outline Permission Annexure J

Annexure J, Construction and Environmental Management

Construction Environmental Management Plan (CEMP)

A CEMP shall be prepared for each area to which a Reserved Matters Application relates and shall have regard to the Outline Construction Environmental Management Plan provided at appendix 6.1 of the Environmental Statement and include:

a) Details of the proposed earthworks including method statement for the stripping of topsoil for reuse, the raising of land levels (if required) and arrangements for the temporary topsoil storage to BS3882:2007.
b) Archaeological protection and mitigation measures to be implemented during the construction process
c) Measures to ensure that any soils brought to the Site are free of the seeds / root / stem of any invasive plant covered under the Wildlife and Countryside Act 1981.
d) Details of haul routes within the relevant parts of the Site
e) A plan specifying the area and siting of land to be provided for parking, turning, loading and unloading of all vehicles visiting the relevant parts of the Site and siting of the contractor's compound during the construction period to be agreed on a phased basis
f) Noise and vibration (including piling) impact / prediction assessment, monitoring and recording protocols / statements and consideration of mitigation measures in accordance with the provisions of BS5228 (2009): Code of practice for noise and vibration control on construction and open site – Part 1 and 2 (or as superseded)
g) Where relevant, results of a noise assessment of the potential impact of construction noise on any significantly affected residential properties and details of suitable mitigation measures as appropriate (in accordance with relevant standards and best practice)
h) Maximum noise levels and required mitigation for construction equipment, plant and vehicles
i) Details of best practice measures to be applied to prevent contamination of the water environment during construction; including a scheme to treat and remove suspended solids from surface water run-off during construction
j) Measures for soil handling and materials handling
k) Details of concrete crusher if required or alternative procedure
l) Site lighting for the relevant part of the Site, including for cranes and consultation with the Imperial War Museum.
m) Screening, hoarding and security fence details
n) Access and protection arrangements around the Site for pedestrians, cyclists and other road users
o) Procedures for interference with public highways
p) External safety and information signing notices
q) Community liaison strategy, including:
    a. Liaison, consultation and publicity arrangements, including dedicated points of contact
    b. Complaints procedures, including complaints response procedures
r) Membership of the considerate contractors' scheme.
s) The provision of safe walking and cycling routes through the construction site linking to the Wellcome Campus and Hinxton Village.
t) Piling method statement detailing mitigation measures, where piling is proposed.
u) Measures to safeguard the groundwater from pollution
v) the location of all concrete batching plant;
w) loading and unloading points;
x) waste sorting and despatch facilities; and
y) contractor parking areas for plant and vehicles

Construction Transport Management Plan (CTMP)

The CTMP for the relevant stage of the development shall include the following objectives:

a) Contractor's access arrangements for vehicles, plant and personnel including the location of construction traffic routes to and from the Site, details of their signing, monitoring and enforcement measures;
b) minimise the impact of road-based construction traffic by identifying clear controls on routes for large goods vehicles, vehicle types, vehicle quality and hours of Site operation;
c) identify any highway works required to accommodate construction traffic;

A Travel Plan setting out measures to encourage Site operatives and visitors to travel to and from the Site using sustainable means of transport, including measures to:

d) minimise the number of private car trips to and from the Site (both workforce and visitors) and identifying control mechanisms for car use and parking; and

e) assess the need for improvements to the public transport network to accommodate the additional number of trips associated with construction site activity.

The CTMP shall include as a minimum the following information:

a) delivery/collection construction vehicles would only access the site between 10:00 and 16:00, unless otherwise agreed in writing by the local planning authority;
b) the arrangements for liaison with the relevant highway authorities and emergency services;
c) the method for applying for approvals for Off Site highway works;
d) road closures implementation and management
e) direction signing to worksites;
f) workforce distribution, mode share and assignment to include proposals for transport provision for movement of construction workforce;
g) rail station servicing to support workforce travel arrangements by rail;
h) Off Site parking issues;
i) parking provision and control for construction workers' motor cars and vans used to travel to the Site
j) provision for walking and cycling;
k) lorry holding areas;
l) driver standards and enforcement within the construction sites and on the highway;
m) monitoring.

Construction Waste Management Plan (CWMP)

The objectives of the CWMP shall be to ensure all waste arising from the construction works are managed in a sustainable manner, maximising the opportunities to reduce, reuse and recycle waste materials. The CWMP shall also detail the compliance and assurance requirements to be maintained on the Site during all phases of construction. The CWMP shall include as a minimum the following information:

a) classification of all waste including hazardous waste according to current legislative provisions;
b) performance measurement and target setting against estimated waste forecasts;
c) reporting of project performance on quantities and options utilised;
d) measures to minimise waste generation;
e) opportunities for re-use or recycling (targets);
f) provision for the segregation of waste streams on the Site that are clearly labelled;
g) licensing requirements for disposal sites;
h) an appropriate audit trail encompassing waste disposal activities and waste consignment notes;
i) measures to avoid fly tipping by others on lands being used for construction.
j) returns policies for unwanted materials;
k) measures to provide adequate training and awareness through toolbox talks; and

Dust Management Plan

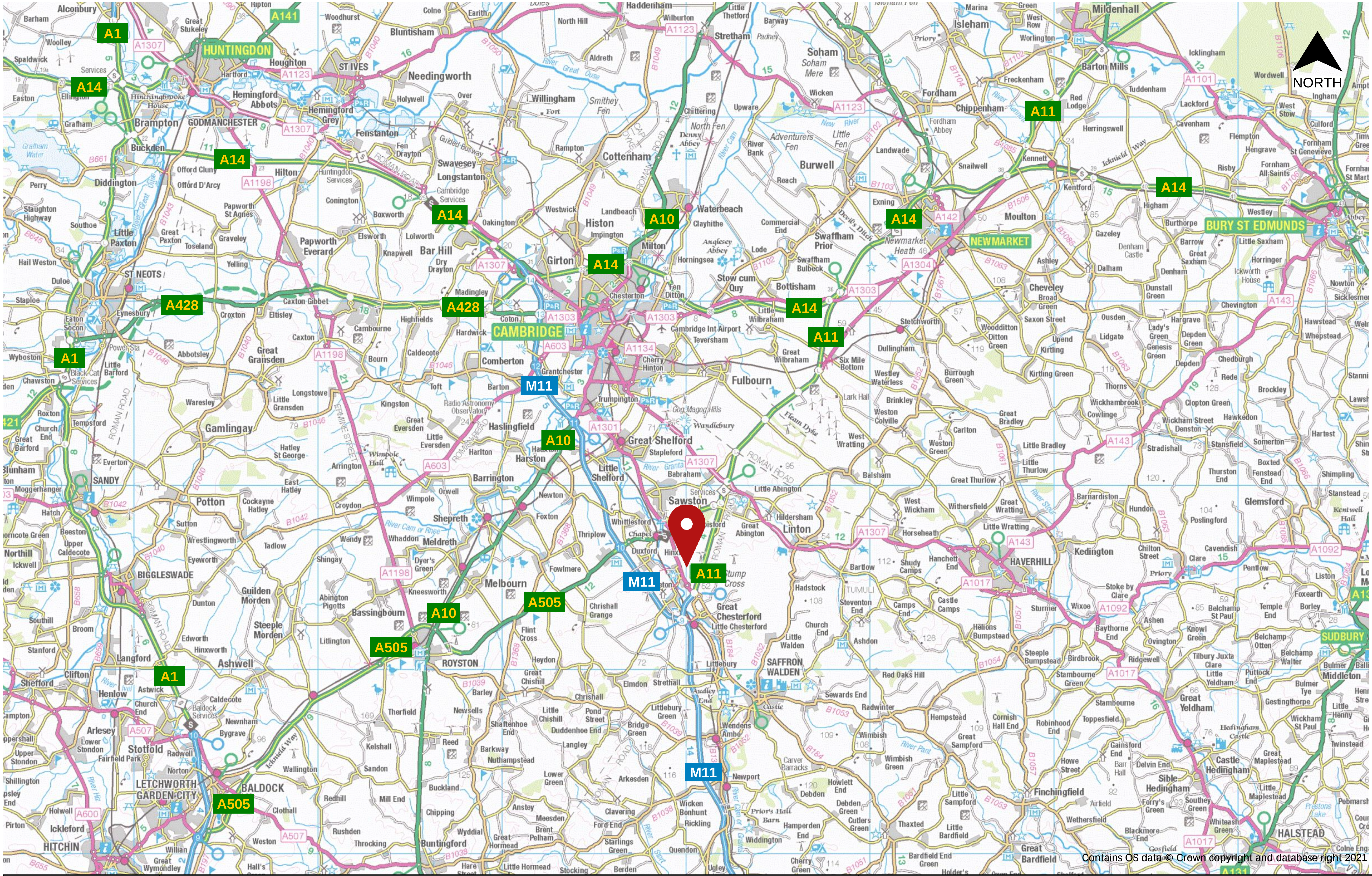
A scheme for dust monitoring, including:

a) The identification of dust sensitive premises to be used as the location for dust monitoring, including any arrangements proposed for amending the selected locations if new dust sensitive premises are introduced;
b) The frequency and other arrangements for dust monitoring; and
c) The arrangements for reporting the results of dust monitoring and the implementation of mitigation measures to the local planning authority.

Piling Method Statement

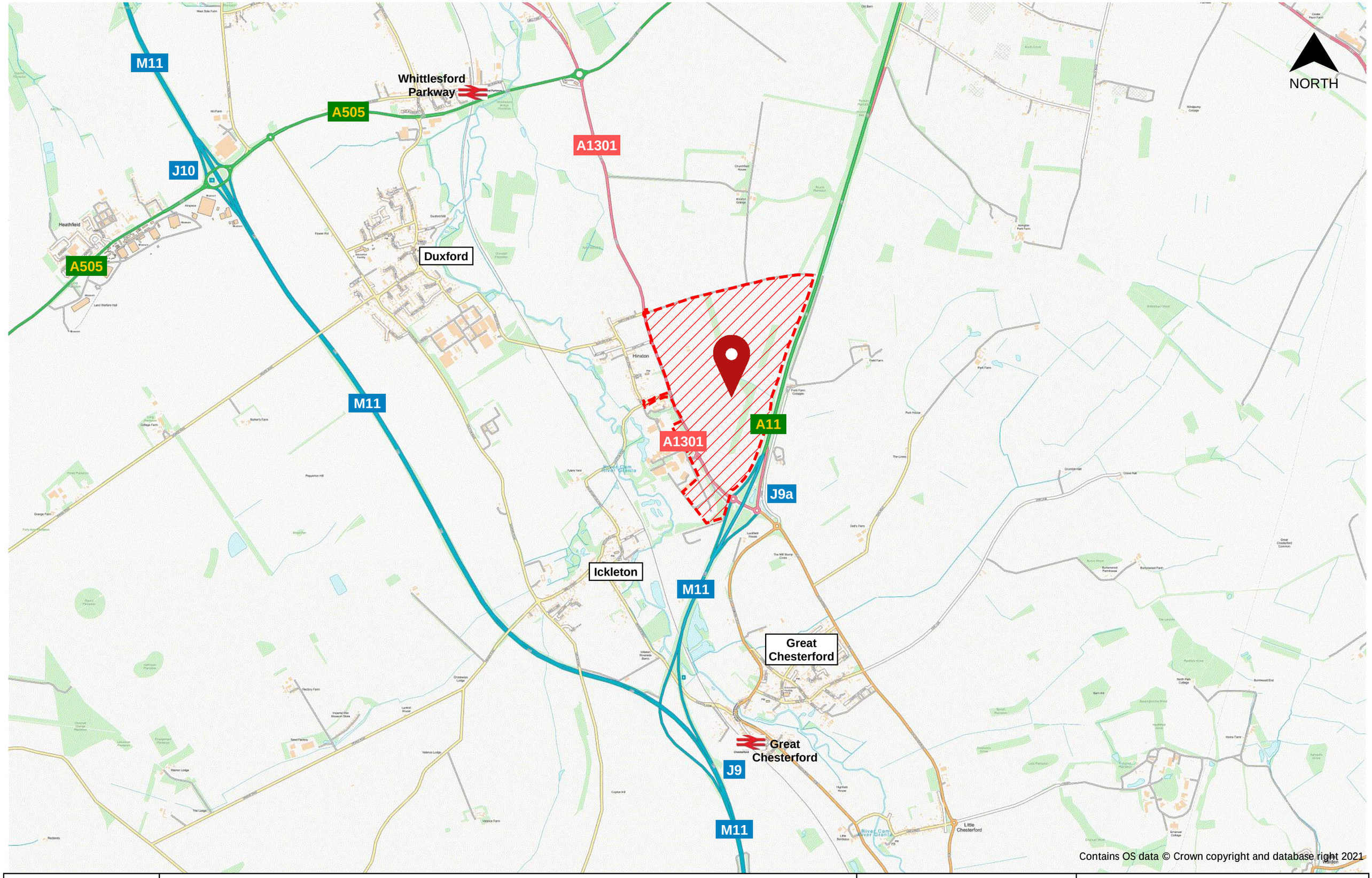
Piling, including impact piling, or any other foundation designs and investigation boreholes using penetrative methods shall not be permitted other than with the express written consent of the local planning authority, which may be given for those parts of the Site where it has been demonstrated via a piling risk assessment that there is no resultant unacceptable risk to groundwater and where it has been demonstrated that impact piling would not give rise to unacceptable amenity impacts. The development shall be carried out in accordance with the approved details.

Appendix B Context Maps

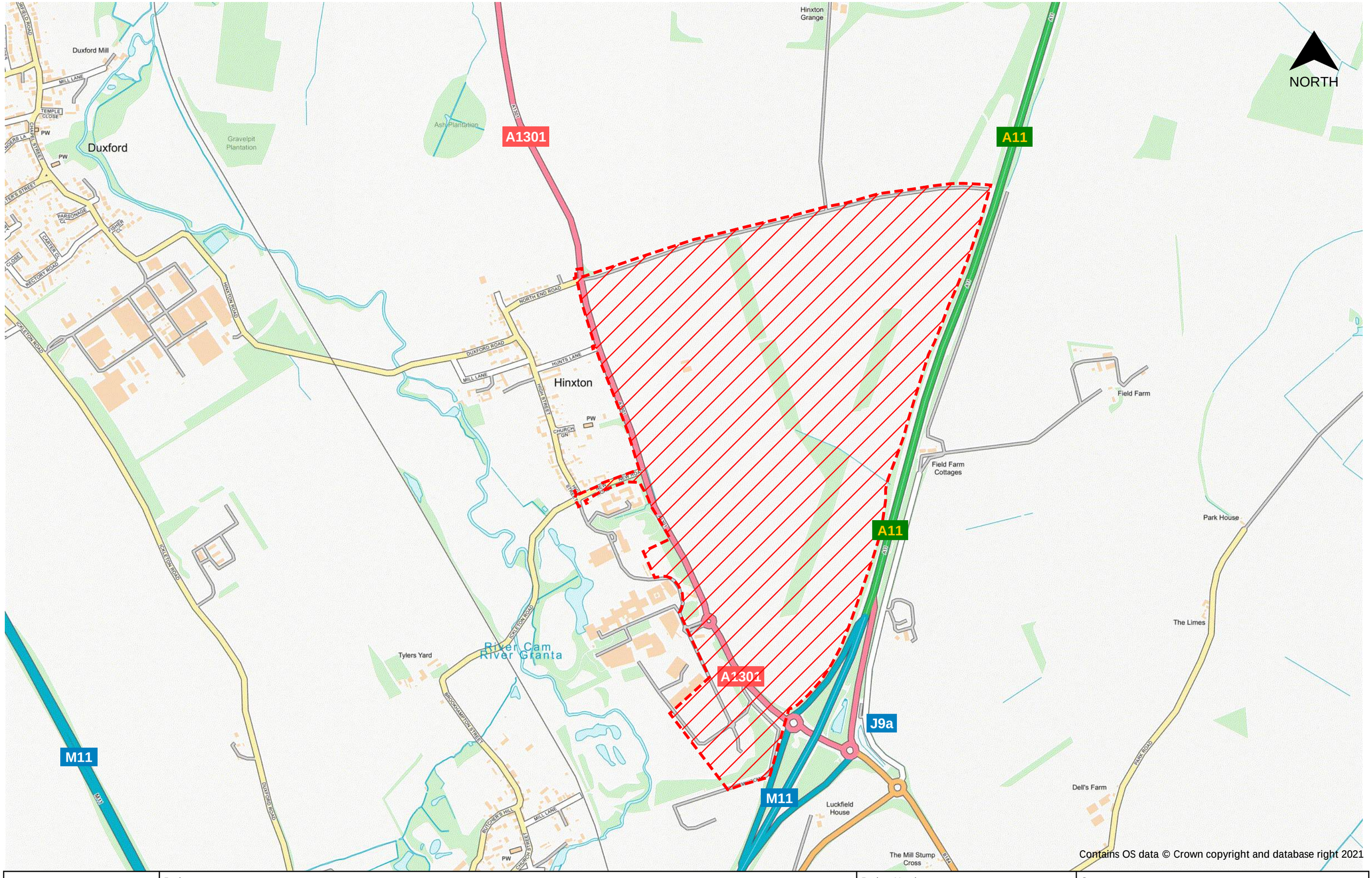


BURO HAPPOLD

Project: Wellcome Trust - Genome Campus Development		Project Number: 0049941	Status: For information		
Sketch Title: Context - strategic highways connections (not to scale)		Sketch Number: 0049941-2318-CLP-SK0010	Date: 22/10/21	Initials: NJH	Revision: P01

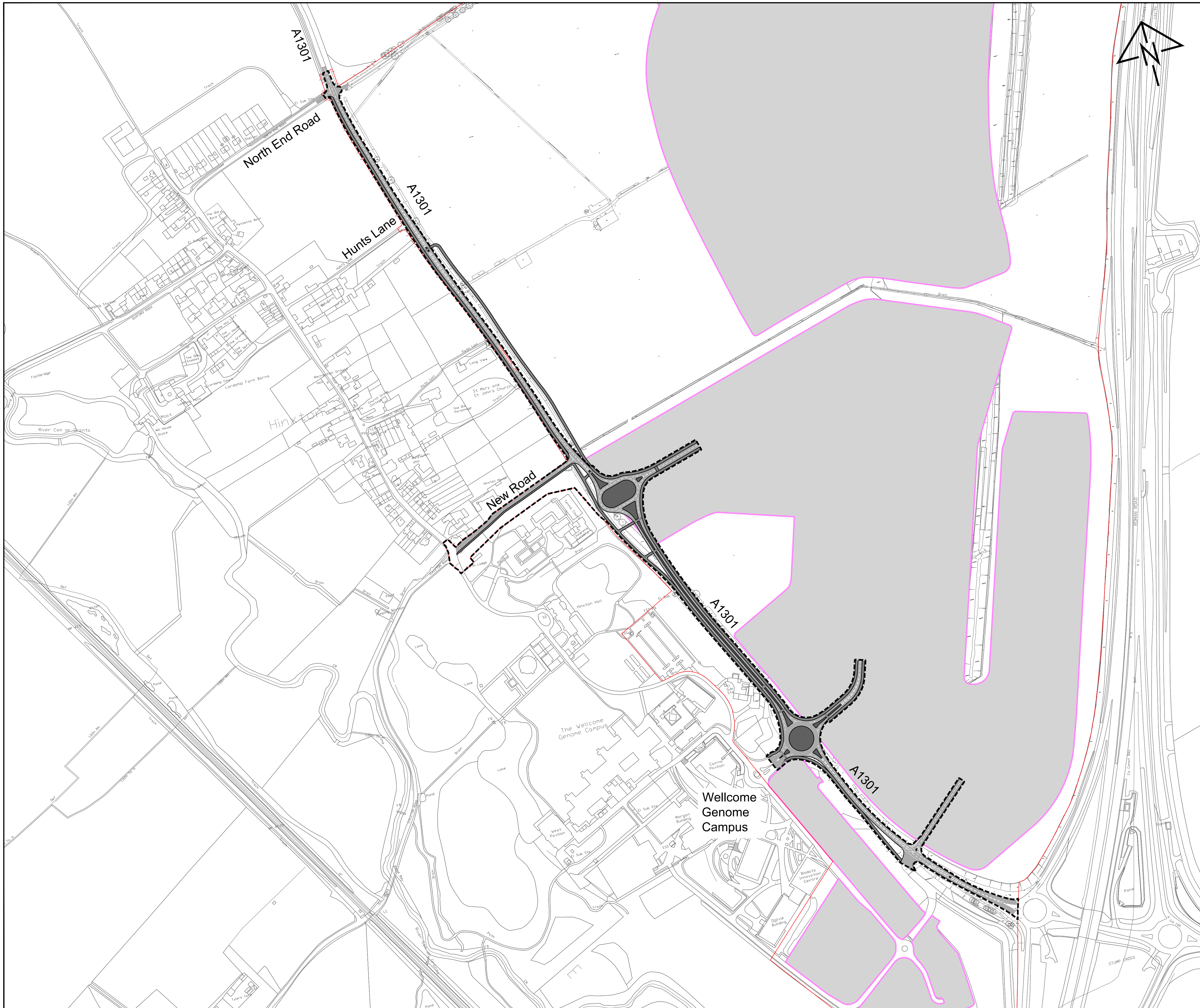


BURO HAPPOLD	Project: Wellcome Trust - Genome Campus Development	Project Number: 0049941	Status: For information		
	Sketch Title: Context - existing regional highways connections (not to scale)	Sketch Number: 0049941-2318-CLP-SK0020	Date: 22/10/21	Initials: NJH	Revision: P01



BURO HAPPOLD	Project: Wellcome Trust - Genome Campus Development	Project Number: 0049941	Status: For information		
	Sketch Title: Context - existing local highways connections (not to scale)	Sketch Number: 0049941-2318-CLP-SK0030	Date: 22/10/21	Initials: NJH	Revision: P01

Appendix C Highways Improvements Parameter Plan



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

Key

- Limit of Deviation
- Development Area
- Redline Boundary

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Wellcome

PROJECT:

Wellcome Genome Campus Development

DRAWING TITLE:

Highways Improvements Parameter Plan (PP5)

SCALES:

1:2500 at A1 / 1:5000 at A3

STATUS:

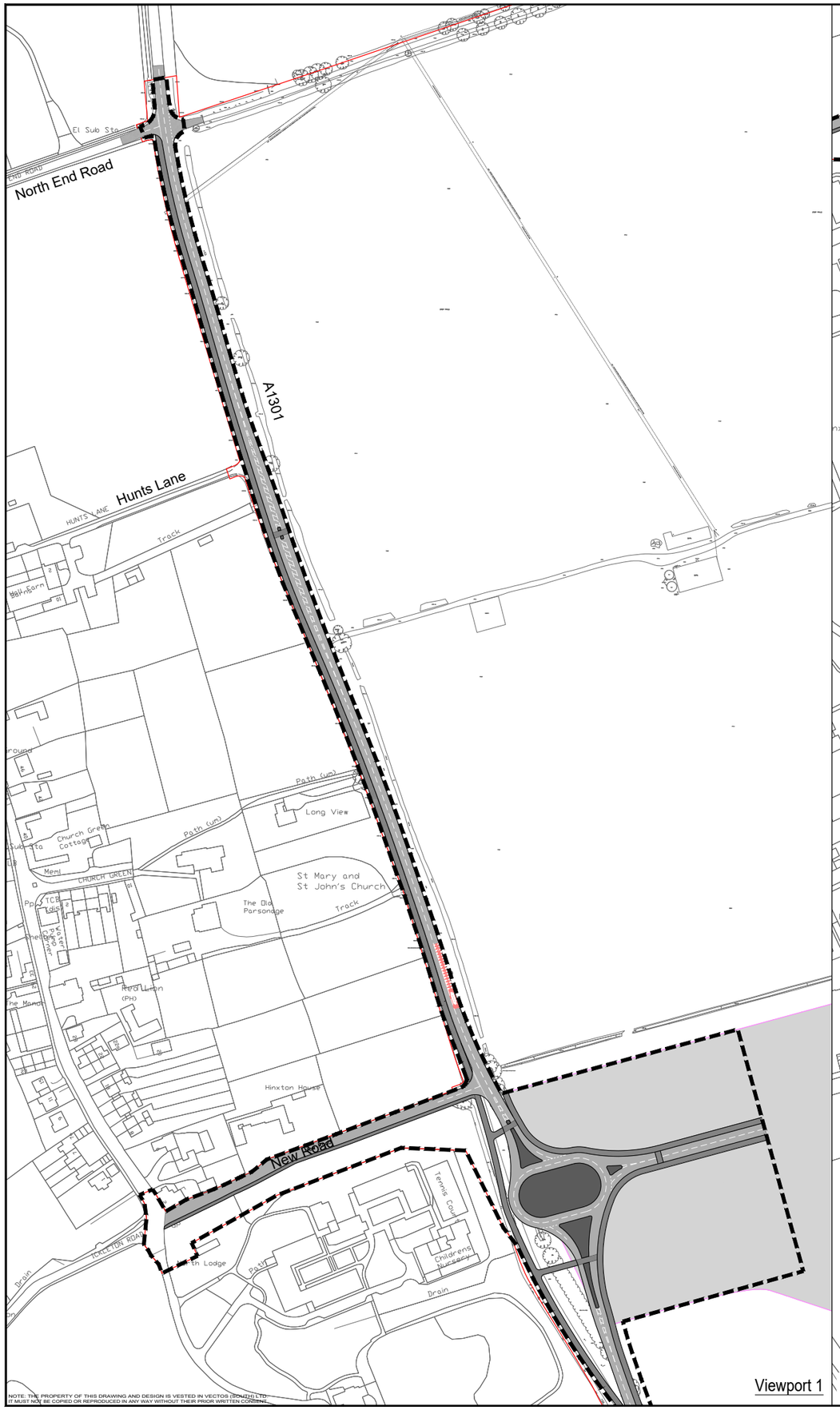
FOR APPROVAL

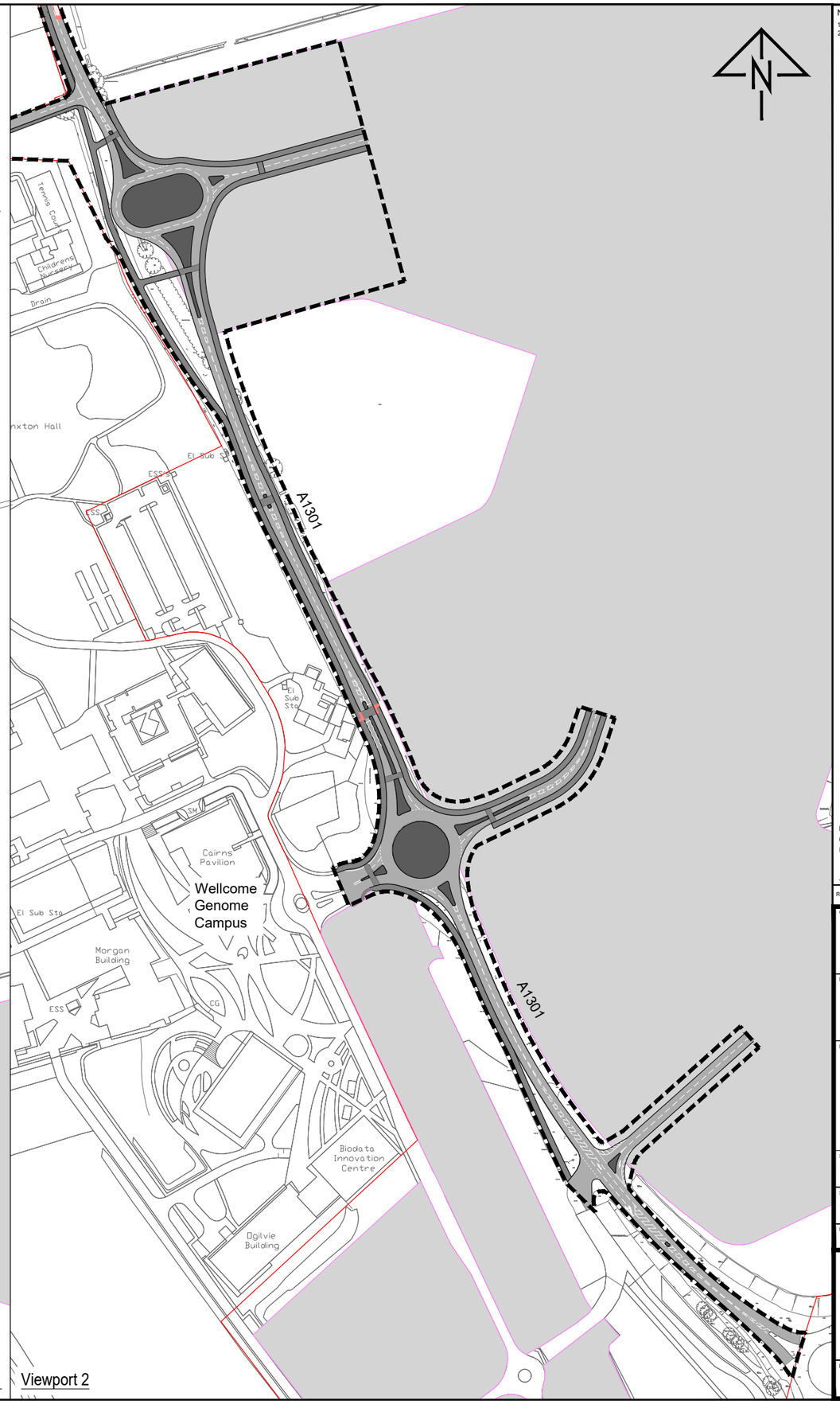
DRAWN:	CHECKED:	DATE:
JM	SM	05/12/2018

vectos
transport planning specialists

Network Building, 97 Tottenham Court Road, London W1T 4TP
t: 020 7580 7373 e: enquiries@vectos.co.uk

DRAWING NUMBER:	REVISION:
WGC-VEC-XX-XX-DR-AX-7 (173279/A/100)	-





Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

Key

- Limit of Deviation
- Development Area
- Redline Boundary

REV.	DETAILS	DRAWN	CHECKED	DATE
D	Zone shown on eastern side of northern roundabout.	JM	SM	10.04.2019
C	Footway on eastern side to north of northern roundabout removed.	JM	EW	02.04.2019
B	Limit of Deviation increased to 5m on eastern side. Southern access junction modified.	JM	EW	22.03.2019
A	Central median strip removed between southern & northern roundabouts. Central crossing moved south.	JM	EW	06.03.2019

CLIENT: Wellcome

PROJECT: Wellcome Genome Campus Development

DRAWING TITLE: Split Viewport of Highways Improvements Parameter Plan (PP5)

SCALES: 1:1500 at A1 / 1:3000 at A3

STATUS: FOR INFORMATION

DRAWN:	CHECKED:	DATE:
JM	SM	05/12/2018

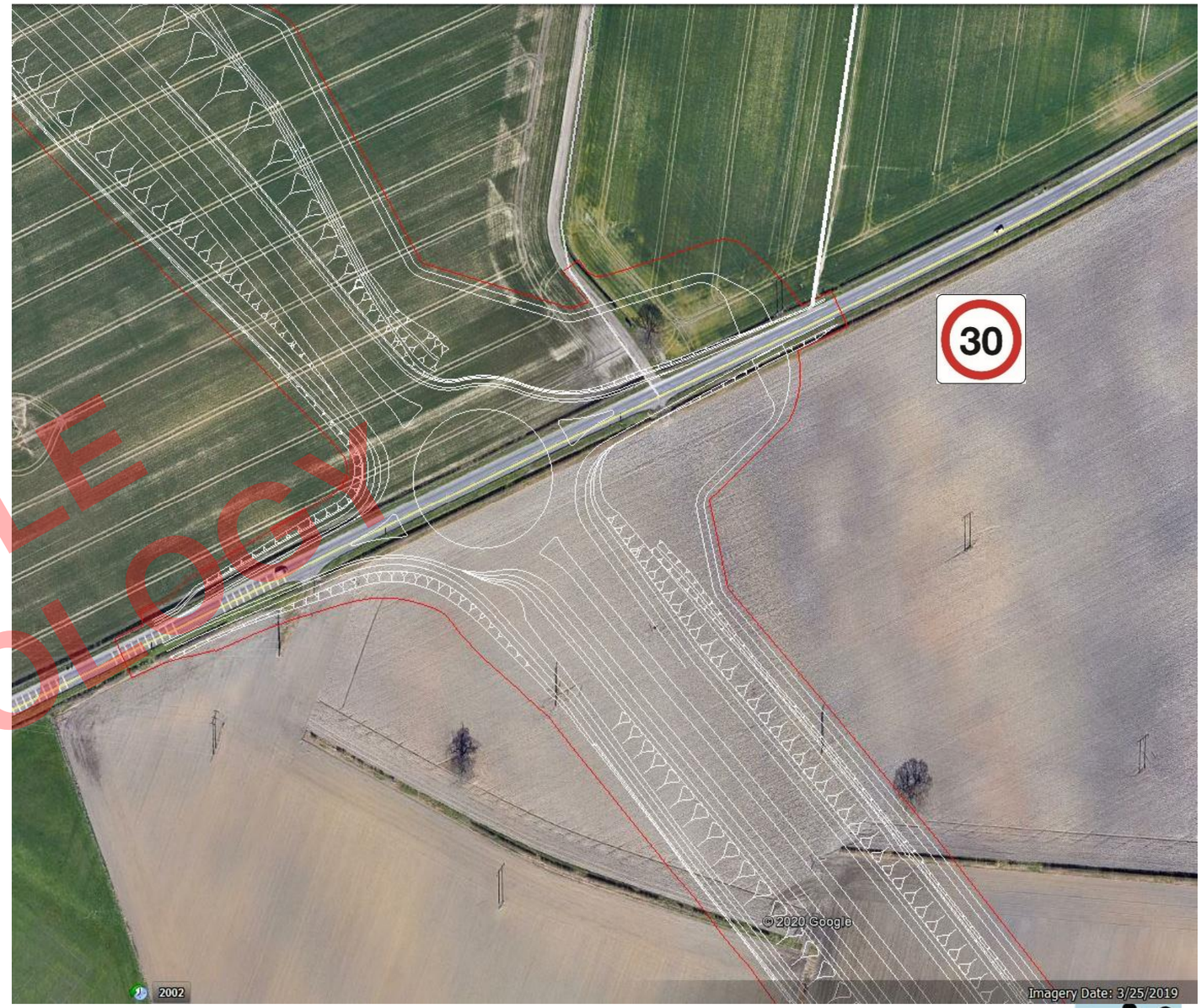
vectos transport planning specialists
Network Building, 97 Tottenham Court Road, London W1T 4TP
t: 020 7580 7373 e: enquiries@vectos.co.uk

DRAWING NUMBER: WGC-VEC-XX-XX-DR-AX-7 (173279/A/100.1) REVISION: D

Appendix D Example Roundabout Construction Phasing

Ch.5040-5160
Barwick Rd R/abt

- Road crossing for construction traffic due to earthworks material movements
- Offline construction for extensive SU service utilities diversion works
- Road speed limit reduced to 30mph
- 2 Way traffic signals for tie-ins to existing carriageway works
- Divert traffic onto south side of new roundabout for online works
- Minimum closures – final surfacing
- Pedestrian access maintained through the works via local diversions to suit phasing of the works.
- Access for Wood Lane footbridge structure



Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

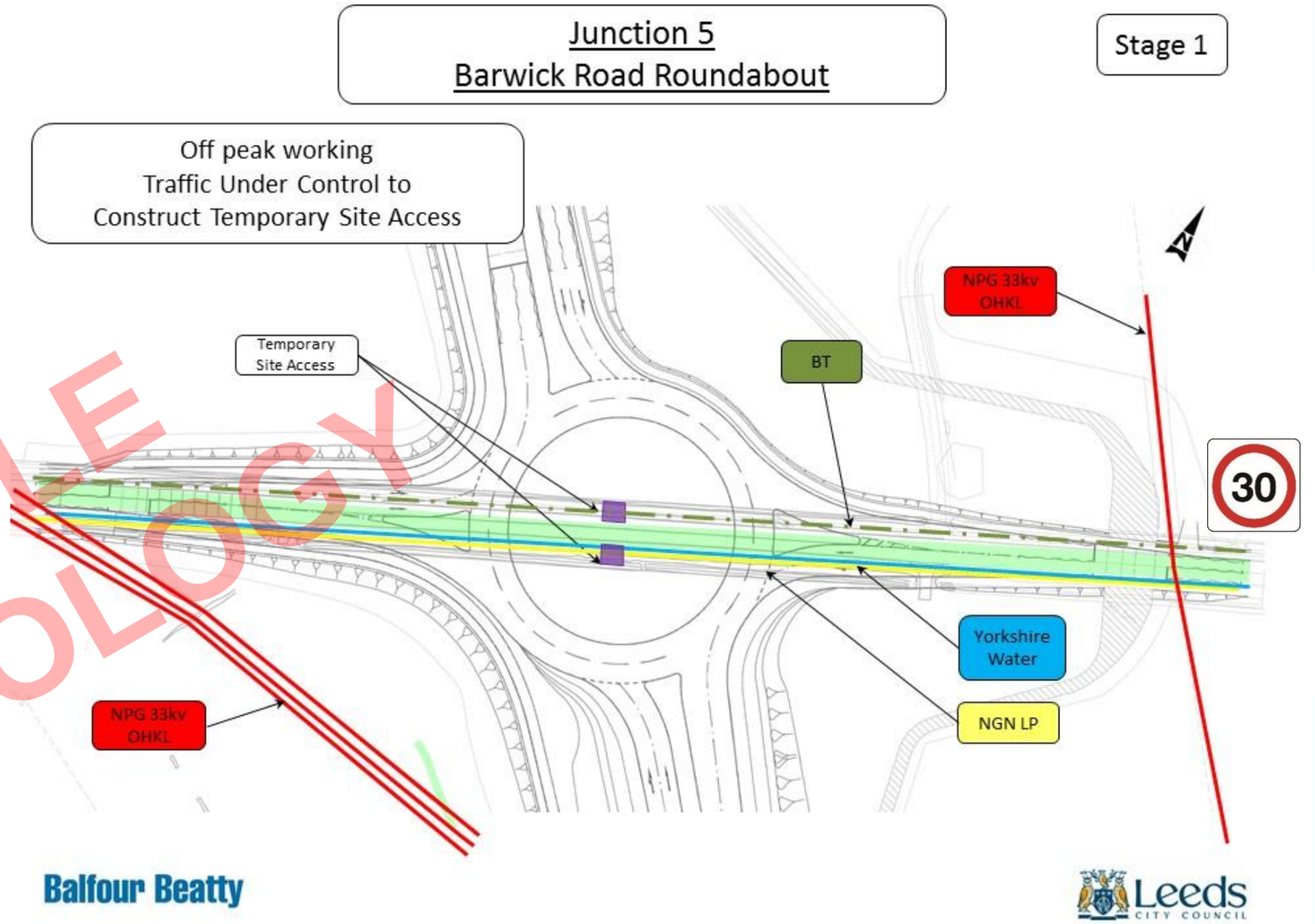
Stage 1 – Temp Site Access

- Temporary access points - protection for existing SU service utilities.

- Temporary access/road crossing points – Earthworks movements from other sections of the new works

- Traffic to remain on current alignment.

- Pedestrians remain on north side.



Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

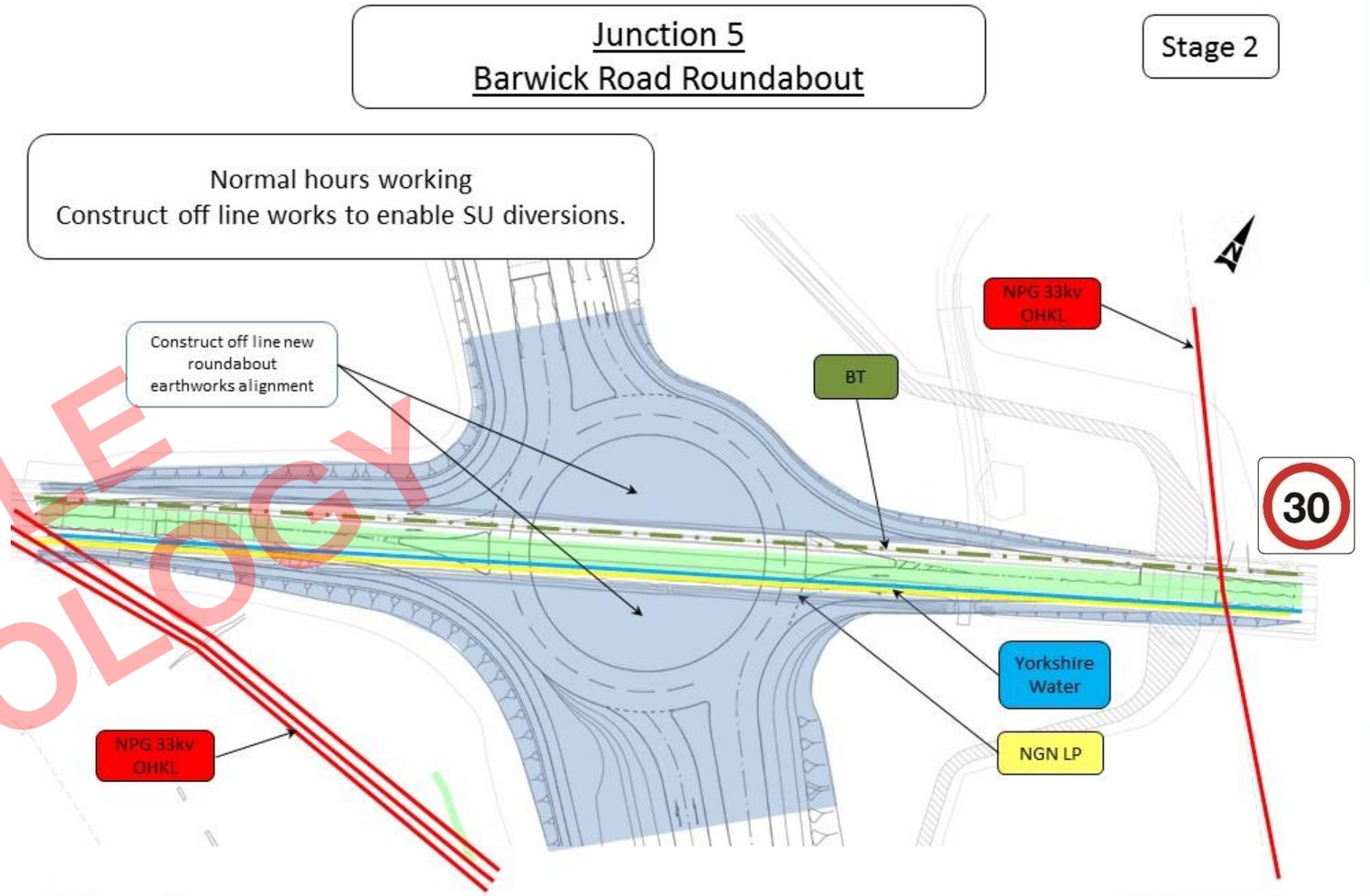
Stage 2 – Offline Works

- Construct offline new roundabout earthworks to enable SU service utilities diversion works

- Traffic maintained on existing alignment.

- 2 way traffic signals for tie-in works adjacent to existing carriageway.

- Pedestrians remain on north side.



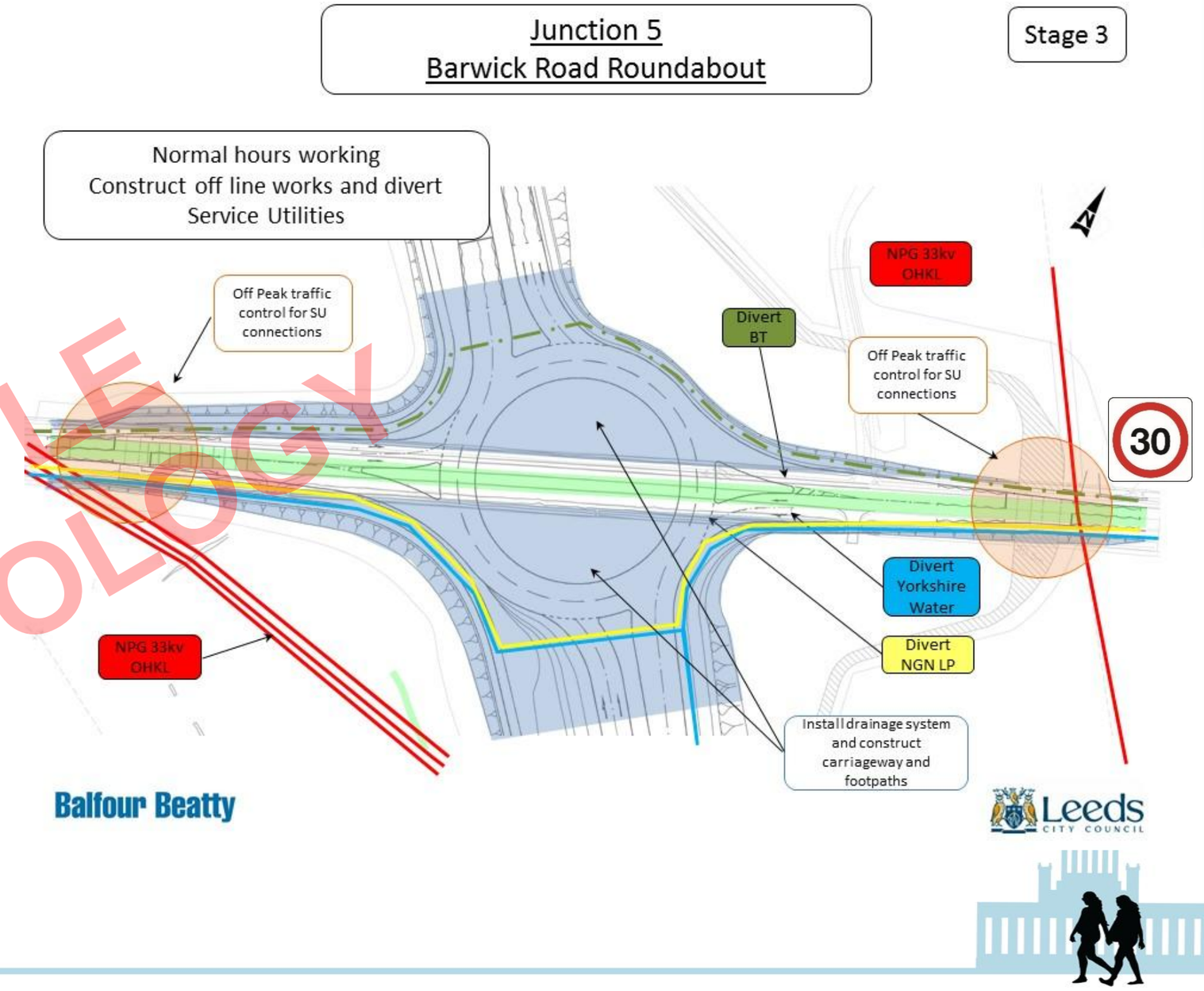
Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

Stage 3 –
SU Diversion Works

- Complete SU service utilities diversion works offline and online service connections.

- 2 way traffic signals for SU service utilities connection works.

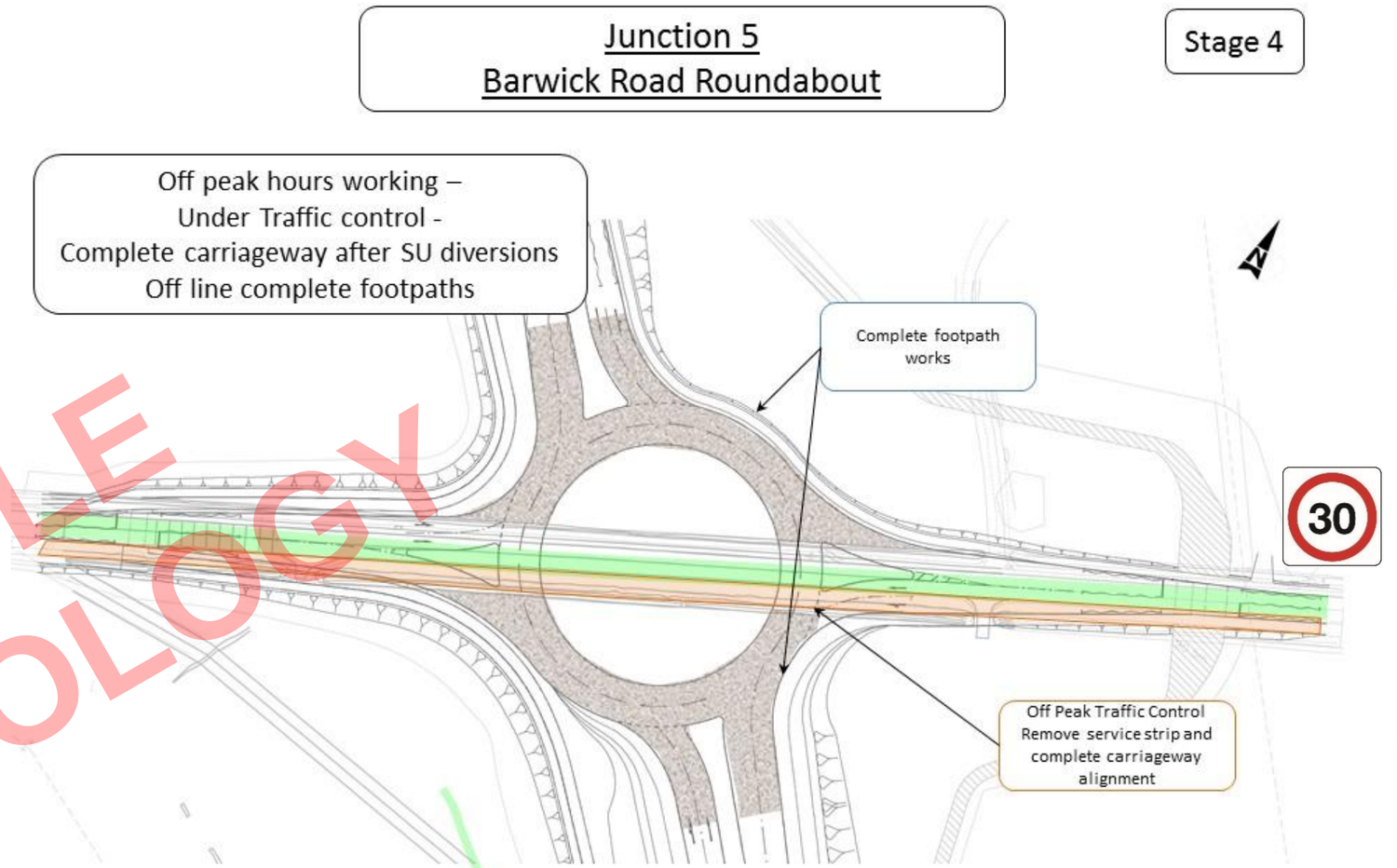
- Construct carriageway and footpath works offline



Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

Stage 4 – Online Service Strip

- Complete offline footpath works.
- 2 way traffic signals to complete online service strip once SU service utilities have been diverted



Balfour Beatty

Leeds CITY COUNCIL

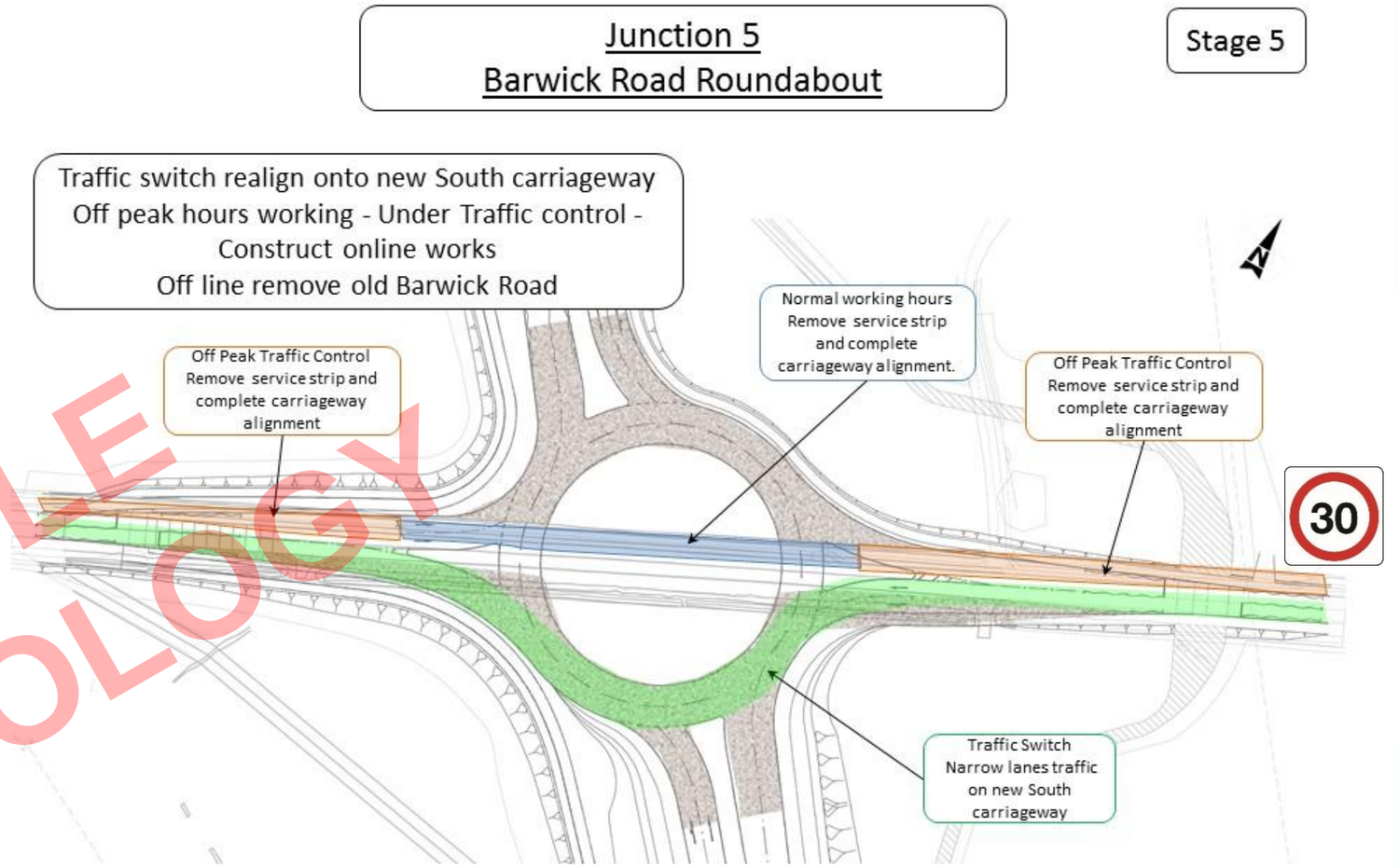
Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

Stage 5 – Tie-in Works

- Switch 2 way traffic onto new carriageway using narrow lanes on south side of roundabout.

- Remove service strip to centre of roundabout and complete carriageway construction.

- 2 way traffic signals to complete tie-in works.



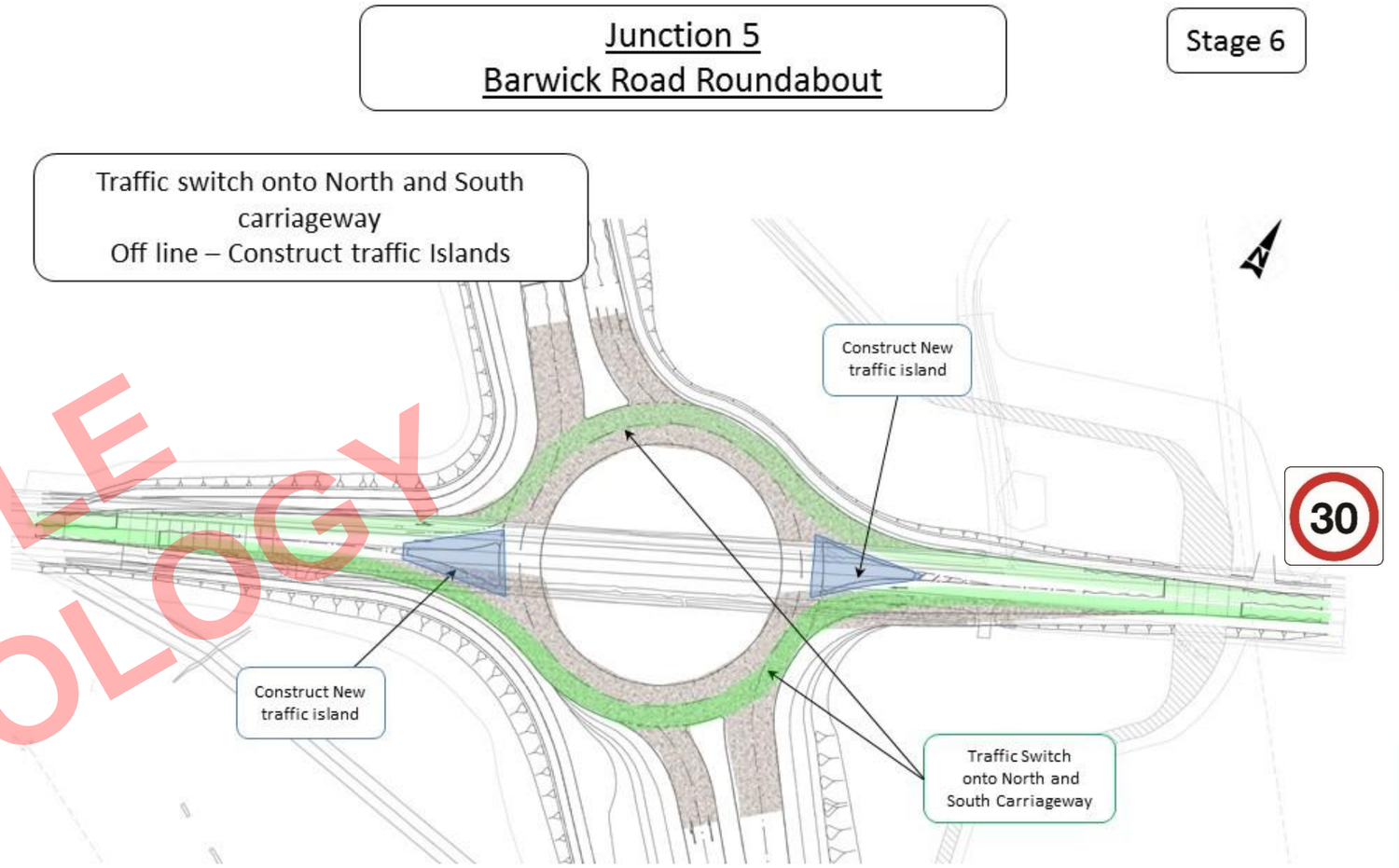
Balfour Beatty

Leeds CITY COUNCIL

Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

Stage 6 – Traffic Islands

- Reduce roundabout to single lane to each side of roundabout for through traffic only to construct traffic islands



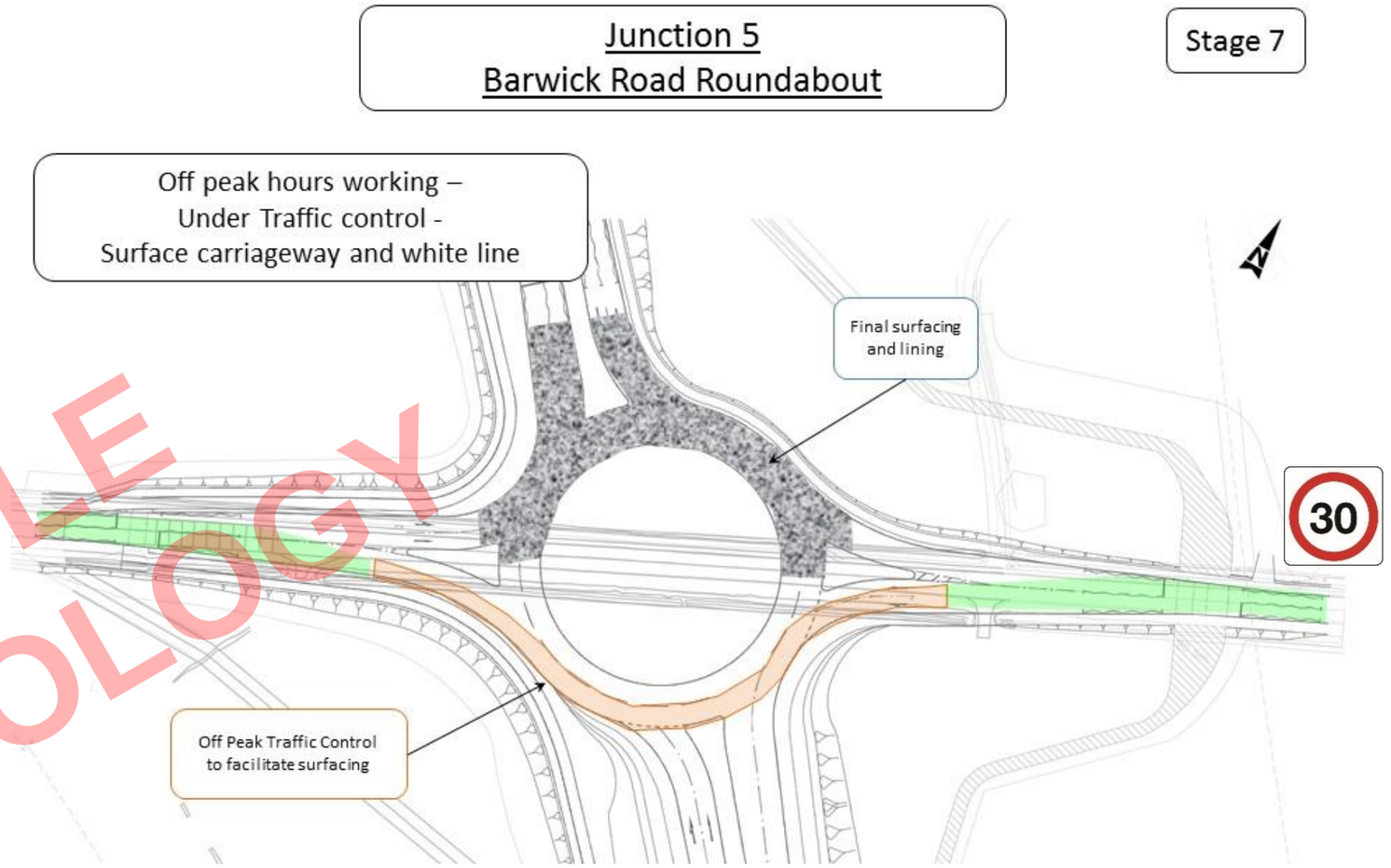
Balfour Beatty

Leeds CITY COUNCIL

Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

Stage 7 – Final Surfacing

- Off peak traffic control
- Live traffic to south side of new roundabout
- Maximise working area to the north for final surfacing works



Balfour Beatty

Leeds CITY COUNCIL

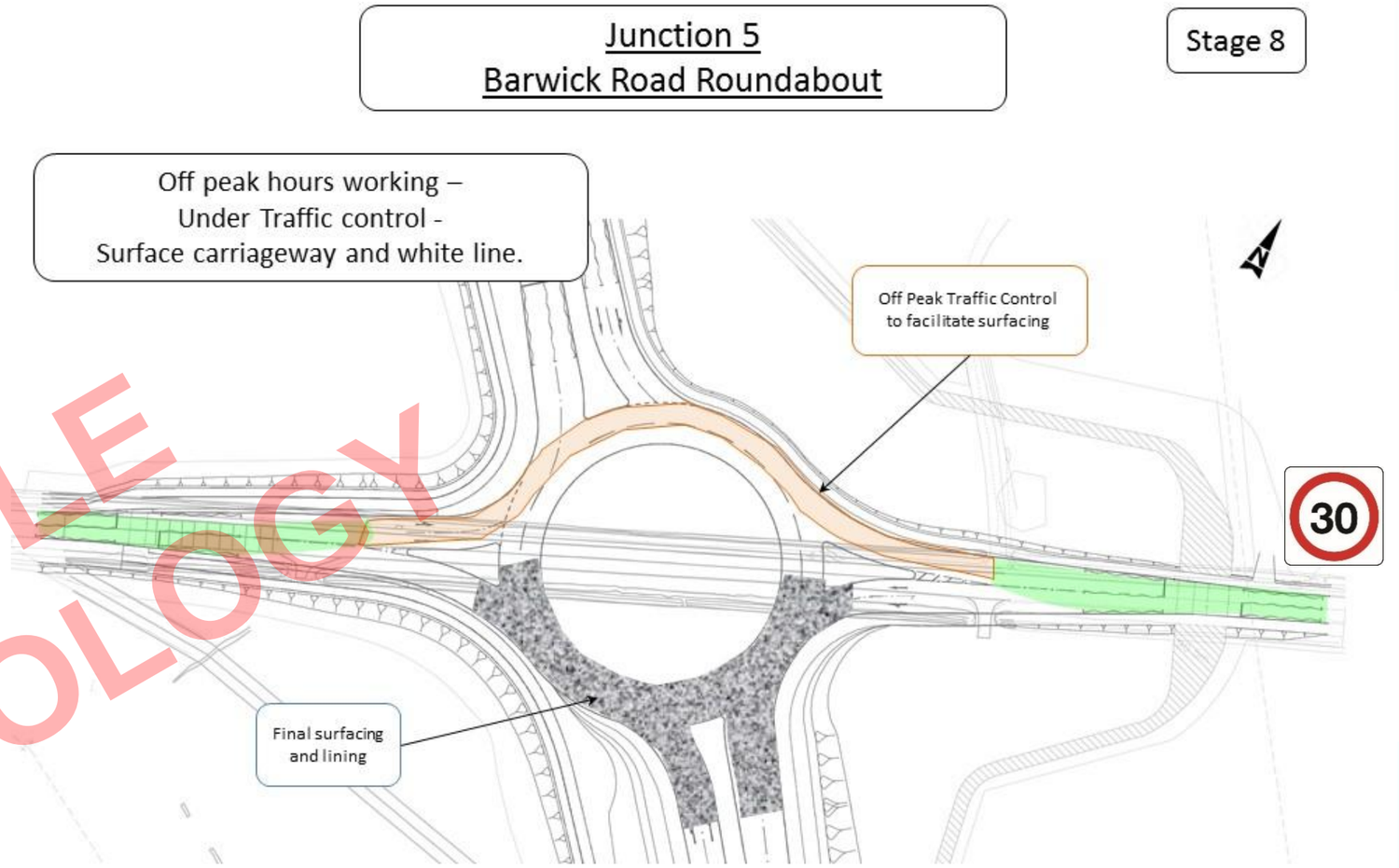
Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

Stage 8 – Final Surfacing

- Traffic management switch to maximise working area to the south for final surfacing works

- Off peak traffic control

- Live traffic to north side of new roundabout



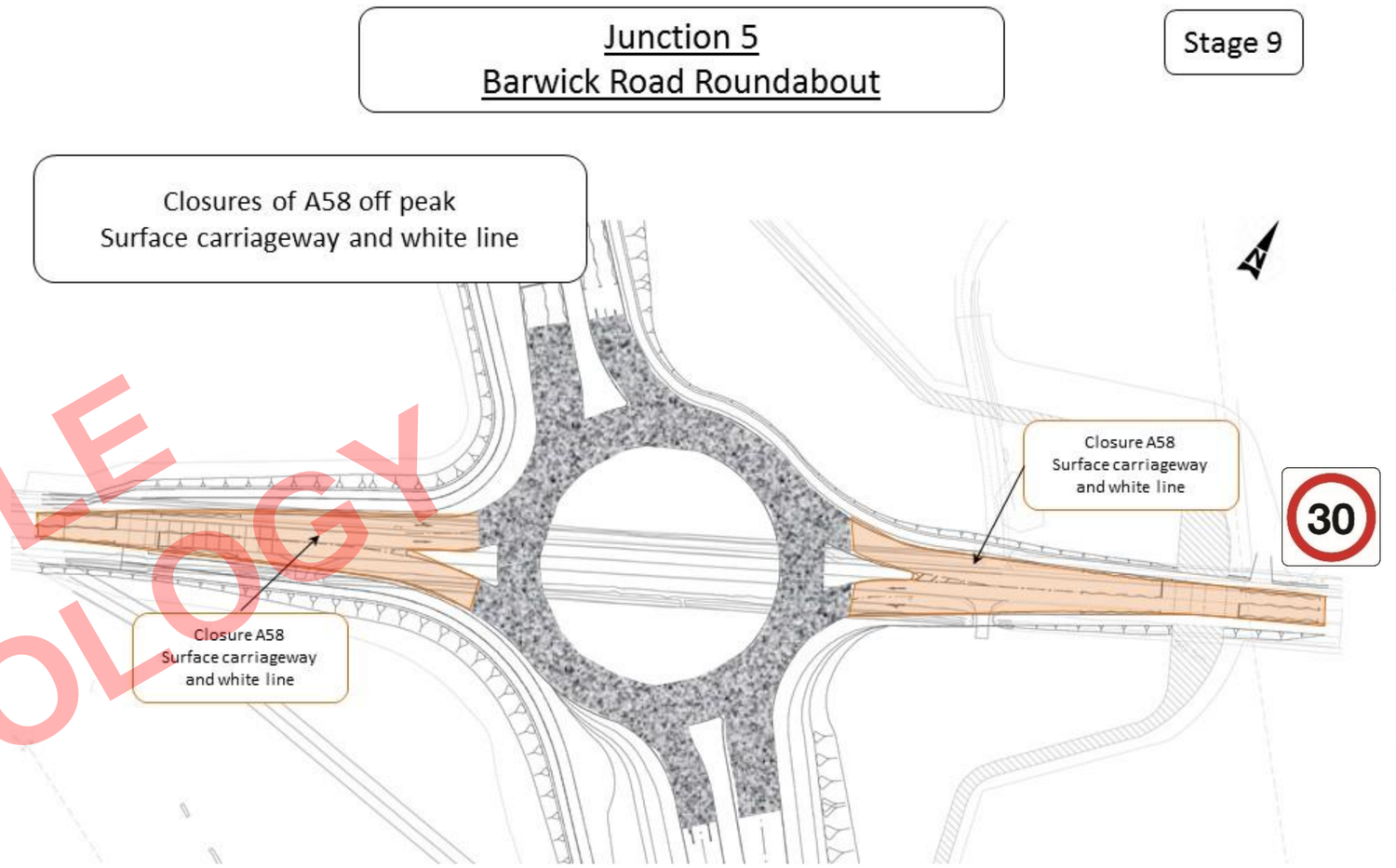
Balfour Beatty

Leeds CITY COUNCIL

Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

Stage 9 – Final Surfacing

- Short term closure to complete final surfacing to tie-in with Barwick Road

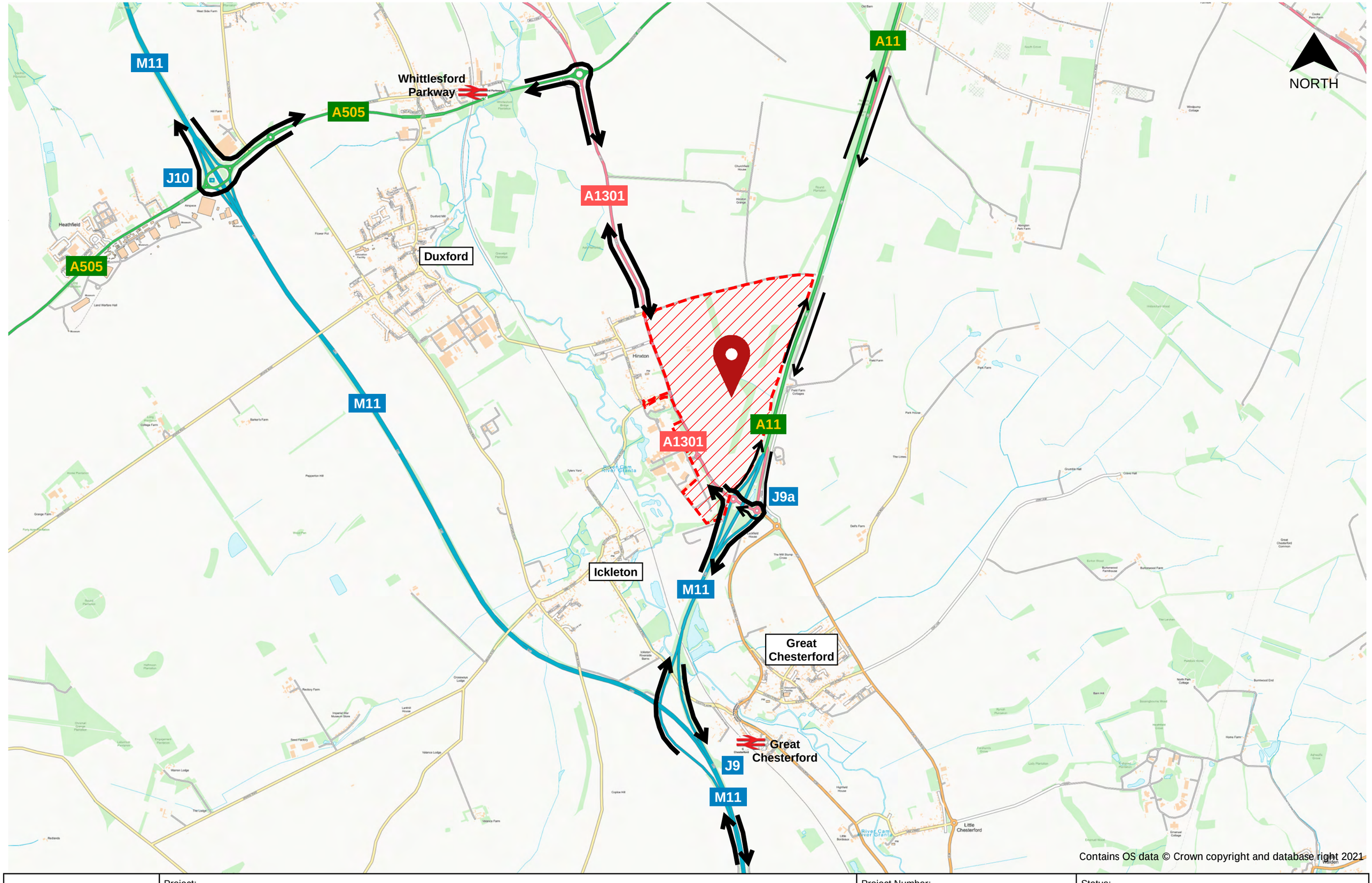


Balfour Beatty

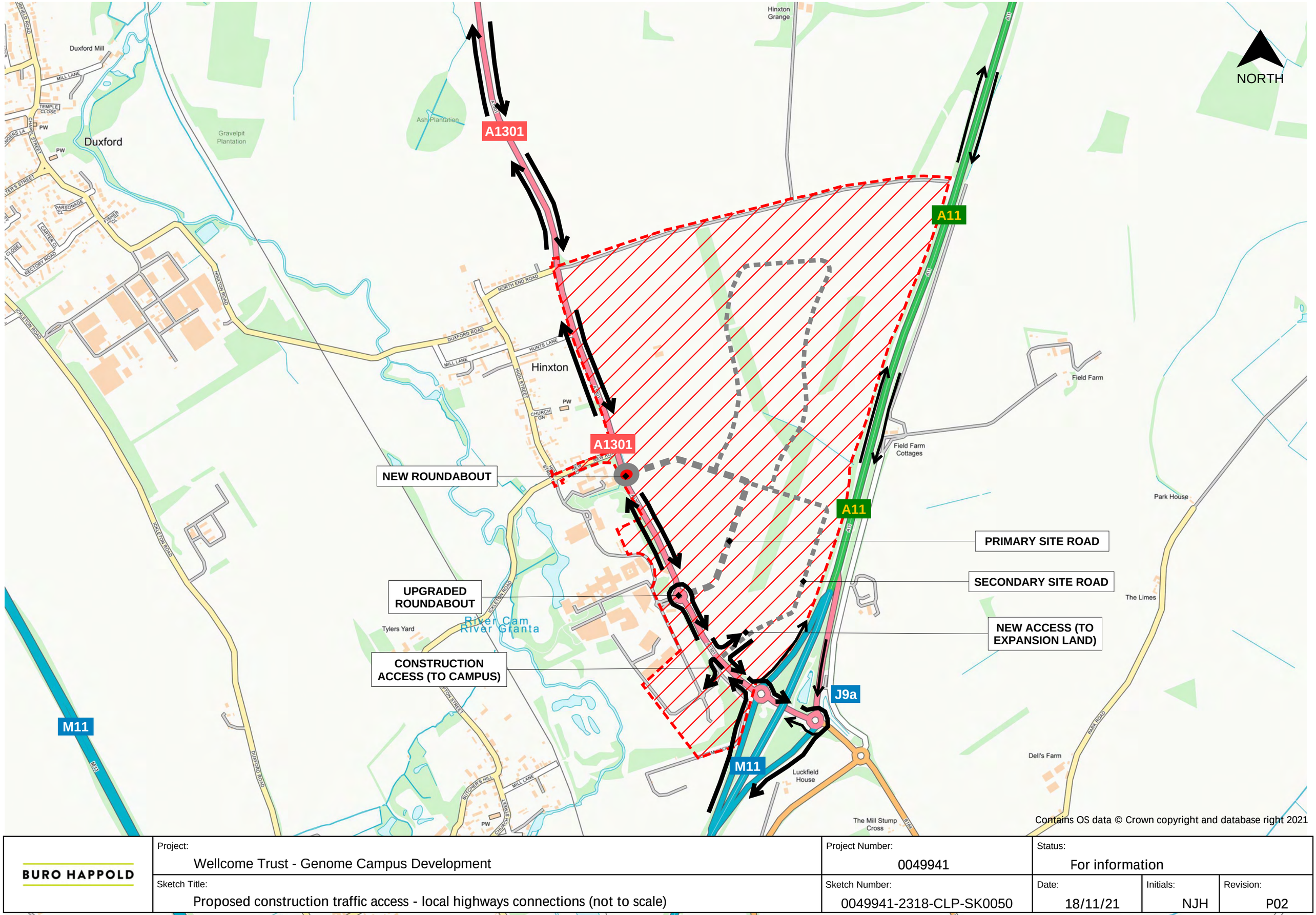
Leeds CITY COUNCIL

Extracted from 'East Leeds Orbital Route (ELOR) Phase 3' phasing document for Leeds City Council and West Yorkshire Combined Authority by Balfour Beatty

Appendix E Construction Traffic Route Maps

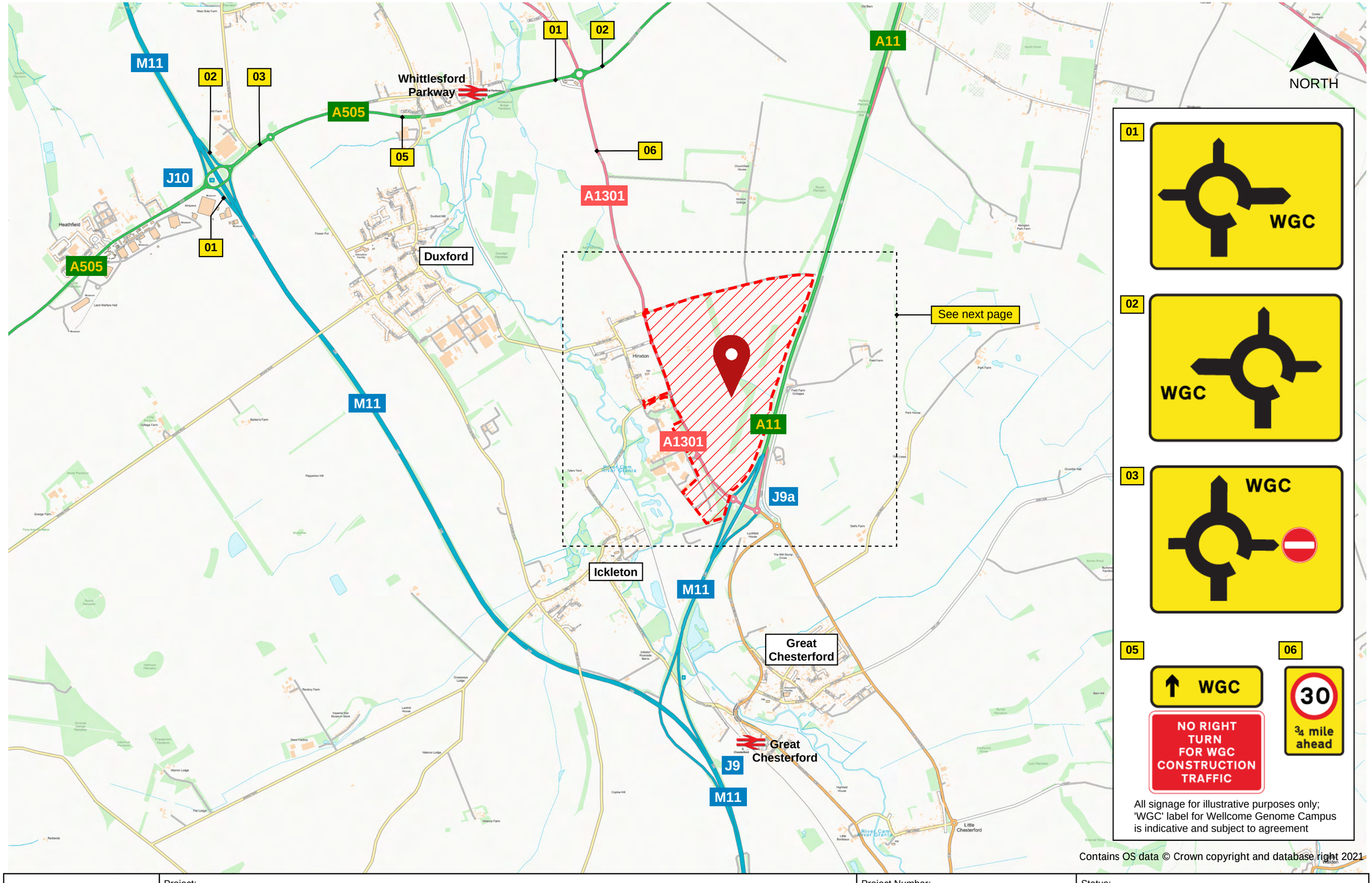


BURO HAPPOLD	Project: Wellcome Trust - Genome Campus Development		Project Number: 0049941	Status: For information	
	Sketch Title: Proposed construction access - regional highways connections (not to scale)		Sketch Number: 0049941-2318-CLP-SK0040	Date: 22/10/21	Initials: NJH	Revision: P01



BURO HAPPOLD	Project: Wellcome Trust - Genome Campus Development	Project Number: 0049941	Status: For information		
	Sketch Title: Proposed construction traffic access - local highways connections (not to scale)	Sketch Number: 0049941-2318-CLP-SK0050	Date: 18/11/21	Initials: NJH	Revision: P02

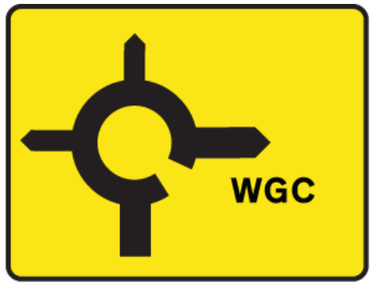
Appendix F Preliminary Signage Strategy Maps



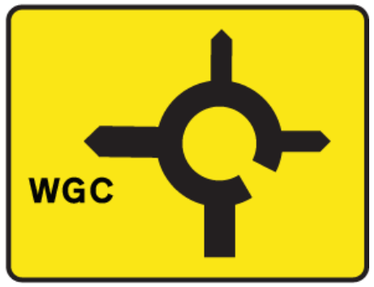
BURO HAPPOLD

Project:	Project Number:	Status:		
Wellcome Trust - Genome Campus Development	0049941	For information		
Sketch Title:	Sketch Number:	Date:	Initials:	Revision:
Proposed construction directional signage - regional highways connections (not to scale)	0049941-2318-CLP-SK0060	01/02/22	NJH	P02

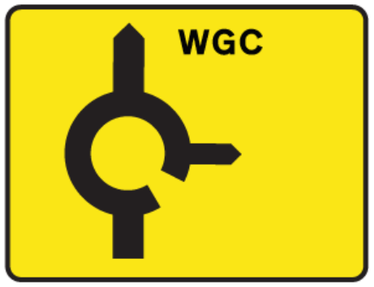
01



02



04



05

07

All signage for illustrative purposes only; 'WGC' label for Wellcome Genome Campus is indicative and subject to agreement

08

for southbound traffic

09

for northbound traffic

10

for northbound traffic

11

for southbound traffic

Signs for site access to be adjusted to suit phasing / worksites

BURO HAPPOLD	Project: Wellcome Trust - Genome Campus Development	Project Number: 0049941	Status: For information	
	Sketch Title: Proposed construction directional signage - local highways connections (not to scale)	Sketch Number: 0049941-2318-CLP-SK0070	Date: 23/11/21	Initials: NJH / Revision: P02

THIS PAGE IS INTENTIONALLY LEFT BLANK

Buro Happold Limited
17 Newman Street
London
W1T 1PD
UK

T: +44 (0)207 927 9700