Northstowe
Phase 1 Planning Application

Construction Management Strategy
February 2012

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Northstowe

Contents

1 Introduction

1.1 BACKGROUND

1.1.1 WSP has been commissioned by Gallagher to develop a Construction Management Strategy (CMS) for the development of Phase 1 of Northstowe (the 'proposed development').

1.1.2 The CMS outlines a series of strategies, standards, best practice techniques and procedures that will be observed through the construction process in order to ensure compliance with environmental legislation and regulations.

1.2 APPLICATION SITE DESCRIPTION AND THE PROPOSED DEVELOPMENT

Application Site and its Setting

1.2.1 The Application Site is located within South Cambridgeshire District, approximately 10km to the north west of Cambridge, to the east of Longstanton and to the north of Oakington and is bounded by the Cambridgeshire Guided Busway to the east.

The Proposed Development

1.2.2 Outline planning application for Phase 1 of Northstowe comprising up to 1,500 dwellings; a primary school; a mixed-use local centre (including a community building, and provision for non-residential institutions, financial and professional services, shops, cafés and restaurants, drinking establishments, and hot food takeaways); leisure, community, residential institutions, cultural, health, and employment provision (business, general industry and storage & distribution) including a household recycling centre; formal and informal recreational space and landscaped areas; and infrastructure works including site re-profiling and associated drainage works, foul and surface water pumping stations, two flood attenuation ponds on land east of Hatton's Road; and associated works including the demolition of existing buildings and structures.

Schedule of Land Uses

Residential (42ha)

- Up to 1,500 residential dwellings;
- Indicative housing mix - 25% 2 bed, 46% 3 bed, 22% 4 bed, 7% 5+ bed;
- Affordable housing - to a maximum of 35% subject to viability assessment during the application process; and
- Residential care homes for elderly persons (residential institution(s)).

Primary school (3ha)

- 3FE (630 pupils); and
- Community facilities (potentially interim arrangements).

Mixed-use local centre (1.22ha)

- Community building of approx. 900sqm (net floorspace) and associated car park spaces (number not defined);
- Ground floor retail covering approx.1,500sqm (net floorspace) and associated dedicated car park spaces (number not defined);

- Additional on-street parking;
- Other commercial/retail/food & drink/community & other appropriate;
- uses (approx. 450sqm net floorspace); and
- Residential units (included within the 1,500 units).

Employment (5 ha)

- B1, B2 and B8;
- The estimated split of employment (based on uses for the transport modelling) is:
  - B1 offices – approx 1.82ha;
  - B2 general industrial - approx 1.46ha;
  - B8 storage and distribution - approx 0.36ha;
  - Household recycling centre - approx 1.25ha; and
  - Foul water pumping station - approx 0.12ha.

Sports hub (6.17ha)

Public open space / parks / play space excluding water bodies (23ha) (including water bodies = 28.2ha)

Allotments (1.57ha)

Other land within red line boundary (including streets and water bodies) (40.04ha)

Other works include:

- Internal road, cycle and footpath network;
- Improvements to the B1050;
- Safeguarded land for the first length of the CGB Busway;
- Attenuation ponds;
- Earthworks and cut and fill to enable land raising and re-profiling for natural drainage; and
- Other associated works.

TOTAL = 122ha

Phase 1 and its Context to Northstowe

1.2.3 A Development Framework Document (DFD), including a Framework Master Plan has been prepared which refreshes the master plan for Northstowe and provides place making principles and guidance for individual phases of development. The DFD defines the rationale and structure for Northstowe's planning and delivery as a comprehensive development enabling Phase 1 to come forward as part of an integrated whole.

1.2.4 The spatial planning and urban design principles of the framework master plan are founded on the vision, development principles and policies of the Northstowe Area Action Plan (NAAP), which was adopted by South Cambridgeshire District Council in July 2007. Given the passage of time since the NAAP was adopted the DFD has taken into account more recent and emerging changes in national and local planning policy and of the impact of current and likely future economic events to ensure that the master plan is future proofed and remains relevant.

1.2.5 As a consequence, the master plan and development principles for Northstowe have been strengthened and brought up-to-date to ensure a viable scheme for creating a sustainable community. The new town is to be built to high standards of design and layout within a framework of green infrastructure comprising formal and informal open space and wildlife habitat corridors.

Parameter Plans

1.2.6 Parameter Plans illustrating the key elements of the proposed development are provided in Appendix A. The following plans are included:

- Plan 1a - Parameters plan: Core Area - Land use, open space & landscape;
- Plan 1b - Parameters plan: Attenuation ponds - Land use, open space & landscape;
- Plan 2 - Parameters plan: Movement and access;
- Plan 3 - Parameters plan: Building heights plan; and
- Plan 4 - Parameters plan: Density plan.

1.3 CONSTRUCTION WORKS

1.3.1 The construction works comprise the infrastructure works associated with the Phase 1 development.

1.3.2 Construction works associated with the primary development site will include, but are not limited to, the following:

- archaeological and ecological mitigation measures;
- establishment of site offices, welfare facilities and car parking for workers;
- establishment of a secure holding compound adjacent to the northern access junction;
- creation of temporary haul roads;
- service diversions and rights-of-way measures;
- temporary and permanent utility supplies to the site;
- land drainage works;
- site remediation and earthworks;
- construction of permanent development infrastructure;
- building works; and

- laying out and construction of landscaping.

1.3.3 Construction works associated with the Hatton's Road attenuation ponds will include, but are not limited to, the following:

- archaeological and ecological mitigation measures;
- service diversions and rights-of-way measures;
- construction of attenuation ponds; and
- construction of a new northern access off the B1050 - Station Road north of Longstanton.

1.4 CONSTRUCTION PROGRAMME

1.4.1 The illustrative construction stages are shown on Figure 1 (Appendix B).

1.5 SCOPE OF THE REPORT

1.5.1 This Construction Management Strategy has been prepared in response to the following policies:

- Northstowe Area Action Plan (NAAP) - Policy NS/24;
- Cambridgeshire and Peterborough Minerals and Waste Development Plan, Core Strategy (adopted July 2011) – Policy CS28 Waste Minimisation, re-use and Resources Recovery; and
- Cambridgeshire and Peterborough Minerals and Waste Site Specific DPD (due to be adopted Feb 2012) - Proposal W1T.

NORTHSTOWE AREA ACTION PLAN (NAAP)

1.5.2 Policy NS/24 of the NAAP requires a comprehensive construction strategy for all phases of development. With regards to site access and haul roads it states that:

> *"A scheme will be introduced to avoid construction vehicles travelling through villages in the locality and to ensure that any haul roads are located, designed and landscaped in such a way as to minimise any noise, smell, dust, visual or other adverse impacts on existing residents and businesses, and on the new residents and businesses at Northstowe".*

1.5.3 In addition the Policy states that:

> *"Any storage compounds, plant and machinery will be located, designed and used to minimise noise, smell, dust, visual or other adverse impacts on residents and businesses".*

1.5.4 With regard to construction waste it states that:

> *"Development at Northstowe will be required to recycle construction waste within the site during construction and in the long-term".*

1.5.5 It also requires all suitable construction spoil to be accommodated within the development site by generally raising ground levels.

CAMBRIDGESHIRE AND PETERBOROUGH MINERALS AND WASTE DEVELOPMENT PLAN: CORE STRATEGY (ADOPTED JULY 2011)

1.5.6 The Core Strategy sets out the strategic vision and objectives and includes a suite of development control policies to guide waste development in the county.

1.5.7 With regard to the proposed development, the Strategy states that there are opportunities through design for waste facilities to achieve greater assimilation with surrounding uses; minimising the visual impact of development; and maximising sustainability through use of sustainable materials, drainage and energy efficiency.

1.5.8 The following extracts are considered to be of relevance to the proposed development:

Policy CS28 Waste Minimisation, Reuse and Resource Recovery

> *'The Waste Planning Authorities will encourage waste minimisation, reuse and resource recovery by requiring:*
>
> – *temporary waste recycling facilities in strategic development areas including…Northstowe. These should maximise the reuse, recycling and recovery of inert waste streams from construction and demolition operations, and be in place throughout the construction phases of these major development areas*'.

Cambridgeshire and Peterborough Minerals and Waste Site Specific Proposals Development Plan Document (Adoption Version)

1.5.9 The Minerals and Waste Site Specific Proposal Development Plan Document (DPD) identifies allocated sites and the geographical extent of supporting policy boundaries for various uses, including waste management.

1.5.10 The Site Specific Proposals DPD confirms that the Area of Search for the Temporary Inert Waste Recycling facility (Policy SSP W1T) reflects the boundaries of the new settlement of Northstowe. The Policy states that the following will need to be addressed within a planning application:

> *"8.41 Detailed assessment of development impacts and mitigation techniques will be required as part of any individual development proposal through the planning process.*
>
> *8.42 The following will need to be addressed within a planning application:*
>
> - *Location of the site or sites should not be close to sensitive receptors e.g. residential properties*
> - *Rights of Way matters including potential diversion compensation for existing Rights of Way which may be adversely affected*
> - *Consideration of any historic features / environment*
> - *Good access to road network (internal and external)*
> - *Noise and dust mitigation will be required*
> - *The Area of Search overlaps the Longstanton and Westwick Conservation Areas. Care should be taken to avoid any negative*

impact on the character and setting of these conservation areas and a number of listed buildings including highly graded churches

- *Any planning application will need to address the archaeological significance of the site"*

1.6 STRATEGY AIMS

1.6.1 The aim of this CMS is to consider the key issues identified above and to provide a series of strategies, standards, best practice techniques and procedures that will be observed through the construction process in order to ensure compliance with environmental legislation and regulations. This will ensure minimal disruption and nuisance from the construction process to the existing communities in the surrounding area and the new communities to be established within the settlement.

1.6.2 The standards and procedures set out in the CMS will be reviewed and updated as the design and the scheme progresses. For this reason a series of detailed Construction Environmental Management Plans (CEMPs) will be developed and agreed in consultation with South Cambridgeshire District Council (SCDC) for different parts of the site to be brought forward by different contractors or house builders as part of the planning process, although working within the framework set out in this report.

1.7 THE APPROACH TO THE CONSTRUCTION MANAGEMENT STRATEGY

1.7.1 The CMS is structured in six sections which follow the Section 1 Introduction.

Section 2 Access Arrangements

Describes Contractors' 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.

Section 3 Construction Site Layout

Reviews the proposed construction site layout including the siting of land to be provided for parking, turning, loading and unloading of all vehicles visiting the site, the location of the main site compound and other strategic facilities including the provision of a secure holding compound to enable off-peak deliveries of construction materials.

Section 4 Construction Activities

Provides a strategy for ensuring that the adverse effects of construction activity on residential amenity and the environment are minimised and includes proposals for community liaison, reviews the impact of construction traffic and states restrictions to working hours.

Section 5 Construction Methods

Sets out the sustainable approach to construction that will be adopted in the development of Northstowe.

Section 6 Environmental Issues

Describes the best construction practices and methods that will be used in executing the construction works so as to minimise the impact of the works on the environment.

Section 7 Earthworks Strategy

Provides a strategy for achieving a balance between the cut and fill volumes of material generated by the construction works within the overall site boundary.

2 Access Arrangements

2.1 CONSTRUCTION TRAFFIC PERMITTED ROUTES

2.1.1 It is proposed to route construction traffic to and from the site via the A14 Bar Hill Interchange, along Hatton's Road and the Longstanton western bypass to the northern access off the B1050 – Station Road north of Longstanton. The proposed permissible routes are shown on Figure 2 (Appendix B). This approach will minimise the impact of construction traffic on Longstanton and Oakington.

2.1.2 Construction traffic will be segregated from traffic generated by Longstanton, Oakington and the new development as far as possible, to minimise disruption to local road users and to minimise safety risks. This will be achieved by the following measures:

- restricting construction traffic to avoid peak hours congestion;
- Implementing a clear signage strategy to ensure that construction traffic utilises designated routes; and
- providing strategic haul routes through the development to minimise off-site trips until the development is sufficiently advanced to provide an adequate road network.

2.1.3 To mitigate the impact of construction traffic on the A14(T), HGVs will not be permitted to enter and egress the site during the peak periods between 0800-0900 and 1700-1800.

2.1.4 HGV traffic from the aggregate works to the north of Willingham would be subject to agreement with Cambridgeshire County Council (CCC) and SCDC and reflect existing restrictions.

2.2 CONSTRUCTION TRAFFIC ESTIMATES

2.2.1 Construction traffic trip rates were agreed with the Highways Agency for the 2007 Northstowe outline planning application. The trip rates identify the number of HGV movements generated by different construction activities and these rates have been applied to the Phase 1 development proposals using the following estimated build out rates.

Year	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
House Completions	100	175	275	360	350	160	60	20	0

2.2.2 The results of the calculations indicate that the construction phase will generate an average of 19 additional HGV movements per day over the period from 2014 to 2022 rising to a maximum of 39 additional HGV movements per day during the peak of construction activity in 2017/18.

2.2.3 Based on the analysis undertaken in 2007 in relation to the 2007 Northstowe outline planning application, it is estimated that roughly 30% of the additional HGV trips would use the A14 (east) and roughly 70% would use the A14 (west).

2.3 CONSTRUCTION MATERIALS DELIVERIES

2.3.1 In order to manage the supply of materials to the Northstowe site and to avoid the need for deliveries during the restricted peak periods, it is proposed to establish a secure holding compound adjacent to the northern access junction. The location of this compound is shown on Figure 3 (Appendix B).

2.3.2 The size of the compound will be sufficient to accommodate at least 39 HGVs, which is the maximum number estimated to be arriving at the site in any one day.

2.3.3 During the initial construction stages most materials will be ordered in bulk and will be delivered to site as and when required in full HGV loads. During the later stages Modern Methods of Construction will require management of prefabricated components and containerised deliveries. The role of the holding compound will therefore be:

- to facilitate the delivery of materials and plant outside of the peak periods;
- to manage the supply of materials and plant to the work areas during peak periods;
- to hold and marshal delivery vehicles and plant until they are required on site; and
- to provide security checks and delivery directions.

2.3.4 The arrangements for deliveries to and from site will be advised in writing to subcontractors and suppliers.

2.3.5 To ensure efficient management of, and to minimise the number of delivery vehicles movements to and from site, a designated management representative will be appointed to act as the Site Transport Co-ordinator.

2.4 CONSTRUCTION PLANT DELIVERIES

2.4.1 The times of the movement of large items of construction plant to and from the site may be dependent upon constraints placed by the local traffic police, who may be required to escort some abnormal loads. Escort times will normally fall between 1900 and 0700. Upon confirmation of any escorted load being moved all relevant persons likely to be affected will be advised of the potential for possible short-term disruption. All such movements will also be in arrangement with the SCDC and CCC environmental management teams.

2.5 SIGNING, MONITORING AND ENFORCEMENT OF TRAFFIC ROUTES

2.5.1 External signage will direct construction traffic to the northern access and will include signs at the Bar Hill Interchange, on the Longstanton western bypass and at the northern access.

2.5.2 Strict use of the permitted route by all construction traffic will be a condition of all supply orders and subcontracts, and therefore local roads will not be impacted. A log of regular drivers will be maintained including records of agreements with organisations and drivers to demonstrate their understanding of the proposed access routing.

2.5.3 In the event of non-compliance, the subcontractor or supplier would be in breach of contract, allowing disciplinary action against individual drivers.

2.5.4 Construction workers will be similarly advised of the permitted access routes.

2.5.5 The contact details and local liaison proposed as part of this CMS will allow any complaints about vehicle routing to be handled quickly and appropriately.

2.5.6 Regular meetings will be held with the site management team to review access arrangements. The Site Transport Co-ordinator will also be independently monitoring to ensure compliance with the agreed arrangements.

2.6 ACCESS FOR OTHER VEHICLES AND PERSONNEL

2.6.1 All vehicles will be directed to the northern access off the B1050 – Station Road north of Longstanton. Upon entering the site, they will be directed to the main site compound from where they will be directed to their site destination along designated construction traffic routes. The vehicle routes will be subject to a 10mph site speed limit.

2.6.2 All visitors will be required to report to the main site office prior to entering the works area. Provision will be made in the main site compound for site vehicles and visitor parking.

2.6.3 The main site compound area will be fenced off and secured.

2.6.4 The general public will be excluded from the works area using appropriate fencing and signage.

2.6.5 Health and safety signage will be displayed at appropriate locations throughout the works.

2.6.6 A designated banksman will control all on-site plant and vehicle movements particularly where they have a need to reverse. All plant storage areas will be on hard standings.

2.6.7 Prior to leaving the site all vehicles will be inspected by the driver to ensure that the vehicle is clean and safe to leave the site and all waste lorries will be sheeted over.

2.6.8 At all points of entry onto the public highway from the site, suitable wheel washing facilities will be provided. No vehicle that is likely to deposit mud or other material on the road surface will be permitted back onto the public highway

2.6.9 In addition, all adjacent roads will be kept clean by the use of manual and mechanical means if required.

2.6.10 All site traffic movements will be in accordance with local authority requirements and will accord with the agreed phasing plans.

2.7 SITE HAUL ROUTES

2.7.1 In order to minimise dust and other environmental disruption, the haul routes on site will be confined to suitable areas.

2.7.2 Proposed site haul routes are shown on Figure 3 (Appendix B).

2.7.3 All haul routes will be clearly marked and signed and will generally follow the route of the permanent primary or secondary roads. This will enable the routes to be constructed to basecourse in accordance with the CCC Specification for Estate Roads.

2.7.4 The bulk earthworks provide a cut/fill balance within the site boundary of the primary development site and the Hatton's Road attenuation ponds. Earthworks cut/fill operations within the application site boundaries will be via the internal site haul routes. Earthworks cut/fill operations between the primary development site and the Hatton's Road attenuation ponds will be via the B1050 Hatton's Road, the Longstanton western bypass and the proposed northern access.

2.7.5 Access to the new northern access junction will be specifically agreed with CCC as part of the detailed traffic management proposals for the new B1050 road alignment.

2.7.6 To prevent unauthorised access to construction work areas, suitable barriers will be installed around the boundary of the individual work areas with appropriate warning signs applied to the fencing. Areas which are typically prone to unauthorised access will be installed with pedestrian secure fencing. Within the site area, the haul routes may not be fully fenced but will be marked by appropriate means to avoid construction traffic entering unauthorised areas.

3 Construction Site Layout

3.1 CONTRACTORS SITE COMPOUNDS

3.1.1 The main site compound location is shown on Figure 3 (Appendix B).

3.1.2 Additional temporary accommodation on various parts of the site will be required during the development. Individual development parcel contractors will establish their own construction compounds located to suit the needs of their specific contracts. It is not possible at this stage to be prescriptive about where these site compounds will be located as this will depend on the timing, scope and nature of each contract. However, the location of all site compounds, plant and machinery will be located, designed and operated to minimise noise, smell, dust, visual or other adverse impact on existing residents and businesses, and on the new residents and businesses at Northstowe. The location of individual builders' compounds will be agreed with Gallagher and the Principal Contractor as necessary.

3.1.3 All site accommodation and welfare facilities will be located within the application site boundary and regular inspections will be carried out to ensure that good housekeeping measures are maintained at all times.

3.1.4 Foul sewage from contractors' compounds will be disposed of by suitable and approved means.

3.2 STRATEGIC SITE FACILITIES

3.2.1 A number of strategic facilities will be established to serve the needs of the proposed development and to allow materials deliveries to be managed in a co-ordinated way to avoid peak periods. The facilities will include:

- a secure holding compound adjacent to the northern access junction;
- strategic haul routes;
- concrete crushing plant (if required);
- aggregate handling facility;
- waste management facility; and
- stockpiles for surplus material and topsoil.

3.3 SCREENING AND HOARDING

3.3.1 Where necessary to ensure safety, individual locations within the site where hazardous activities are being carried out will be secured with the installation of Heras fence panels. Elsewhere the site perimeter will be delineated and will be provided with warning signs to inform of the dangers of construction sites and advise against unauthorised access.

3.4 WHEEL WASHING

3.4.1 At all points of entry onto the public highway from the site, suitable wheel washing facilities will be provided. No vehicle that is likely to deposit mud or other material on the road surface will be permitted back onto the public highway.

3.4.2 The main contractor will provide and maintain road cleaning equipment, for the purposes of removing any accumulation of dust, dirt, mud or any other material inadvertently dropped from vehicles, tyres or tracks on the public highway and on the new roads constructed to serve the proposed development.

4 Construction Activities

4.1 WORKING HOURS

4.1.1 The intended normal working hours will be from 0730 to 1800 Monday to Friday and from 0800 to 1300 Saturdays and at no time on Sunday or Bank Holidays, unless agreed otherwise with SCDC Environmental Health Department (EHD). Contractors will be required to adhere to these normal working hours as far as is reasonably practicable. However, certain operations are seasonal and weather dependent and in these instances it may be necessary to extend working hours for such operations to take advantage of daylight hours, subject to the prior agreement of SCDC.

4.2 PROCEDURES FOR INTERFERENCE WITH PUBLIC HIGHWAYS

4.2.1 No highway improvement works are planned as part of this application for the A14, which is under the authority of the Highways Agency.

4.2.2 All other public highways and public rights of way are under the Authority of:

Cambridgeshire County Council
Environment / Transport & Streets
Shire Hall
Castle Hill Hall
Cambridge CB3 0AP
Telephone 0345 045 5200

4.2.3 Contractors will be required to take all necessary measures to ensure that public roads are maintained clear from construction debris. Measures will include:

- vehicles carrying loose aggregate and workings to the site to be sheeted at all times;
- vehicles carrying contaminated material to off-site licensed tips to be fully sheeted;
- provision of wheel washing facilities for all construction vehicles;
- regular monitoring and maintenance of the wheel cleaning facilities; and
- inspection of the on and off-site routes daily and employing road sweepers.

4.2.4 A condition survey of the designated construction routes will be carried out prior to construction to enable identification of any subsequent damage to the existing highway due to construction traffic.

4.2.5 Disruption to traffic as a result of off-site works in connection with the development will be minimised through the optimum use of traffic management.

4.2.6 Traffic management will be provided in accordance with Chapter 8 of the Traffic Signs Manual (2006), "Safety at Street Works and Roadworks" a code of practice (2002), and the ‘Guidance for safer temporary traffic management’ (2002).

4.2.7 All lorry movements leaving site will be planned to consider local restrictions such as school opening and closing times.

4.2.8 At no time will lorries be parked in any residential areas, and particularly left with engine ticking over.

4.2.9 The need for lorries to reverse on public highways will not normally be allowed, but if it is required it will be carried out under the strict control of a banksman.

4.2.10 All lorries will be fitted with revolving yellow lights, reversing alarms and wing mirrors.

4.3 PROTECTION MEASURES FOR PEDESTRIANS AND CYCLISTS

4.3.1 The site works include areas where there may be overlap between the works and pedestrians and cyclists. These include works to the B1050 and in the area of the new northern access junction.

4.3.2 At all times safe routes will be maintained for pedestrians and cyclists in accordance with the "Safety at Streetworks and Roadworks" code of practice.

4.3.3 Detailed proposals for temporary protection measures for pedestrian and cyclists will come forward with the traffic management proposals for the individual works areas.

4.4 PUBLIC RIGHTS OF WAY

4.4.1 Figure 4 (Appendix B) illustrates the existing public rights of way through the development site.

4.4.2 All public rights of way will remain open through the works area unless otherwise agreed with CCC and SCDC. Contractors will be required to provide fencing and signage to protect the rights of way commensurate with the construction activity taking place. The fencing and signing provided will also need to be agreed with the local authority. Temporary or permanent diversions will be necessary in some instances and these would be subject to appropriate approvals.

4.4.3 Public rights of way will not be used for access to the works, or for moving materials on or off, or within the site.

4.5 EXISTING ACCESSES

4.5.1 Liaison with adjacent landowners will take place prior to construction to ensure that access is maintained both during and after construction in those areas where access to land is required.

4.6 PUBLIC ACCESS

4.6.1 Construction areas of the site will be made secure from members of the public by fencing, and signage will be agreed with SCDC to prevent unauthorised access.

4.7 PUBLIC LIAISON

4.7.1 Procedures will be implemented to ensure effective liaison with the neighbouring properties, adjacent residents and local community by utilisation of such means as:

- circulated newsletters and newsletters placed in information boxes located outside the site entrances, along with letter drops when construction activities are likely to affect the local residents; and

- information boards mounted at the site entrances which will provide details of the following information:
  - Client's details;
  - Main Contractor's details;
  - Local Authority details;
  - Nature and duration of project;
  - Principal milestones of the project;
  - Site operating times; and
  - Site management names and contact details.

4.8 CONSIDERATE CONSTRUCTORS

4.8.1 Before starting work, the site will be registered to the Considerate Constructor's Scheme to ensure an external audit is carried out at regular intervals. This will enable the construction process to be monitored with the aim of maintaining the highest possible standards of the site within the construction industry.

4.9 COMPLAINTS PROCEDURE

4.9.1 Any site person receiving a concern or complaint from adjacent properties or passing pedestrians shall refer the matter immediately to the site manager who will record the fact and refer the matter to the management team who will then carry out an investigation. The site project manager will oversee all complaint investigations and the end results will be recorded in the site diary and a full incident report will be written out.

5 Environmental Issues

5.1 AIR QUALITY

5.1.1 Contractors will take all reasonable precautions to prevent the spread of airborne dust to any habitable property and/or for premises requiring a very high standard of hygiene and to conform to relevant statutory instruments.

5.1.2 The main sources of dust emissions during construction activities include:

- haulage routes, vehicles and construction traffic;
- materials handling, storage, stockpiling, spillage and disposal;
- site preparation and restoration after completion;
- demolition;
- construction and fabrication processes; and
- internal and external finishing and refurbishment.

5.1.3 Best practice will be employed throughout the construction process to minimise nuisance and health implications. A number of mitigation methods will be implemented during construction. These include;

General Management

- no unauthorised burning of any materials anywhere on site; and
- a procedure for liaising with the local community will be established.

Aggregates

- vehicles carrying loose aggregate to and from the site will be sheeted at all times; and
- on-site aggregate handling and mixing will be carried out in controlled areas to minimise dust.

Equipment and Vehicles

- vehicles carrying contaminated material to off-site licensed tips will be fully sheeted;
- design controls for construction equipment and vehicles and use of appropriately designed vehicles for material handling;
- use of dust-suppressed tools for all operations;
- ensuring that all construction plant and equipment is maintained in good working order and not left running when not in use;
- haul routes will be sited away from any sensitive areas;
- enforcing speed limits for vehicles on unmade surfaces to minimise dust entrainment and dispersion;
- using wheel washers and other appropriate means for vehicles leaving the site where appropriate to minimise the amount of mud and debris deposited on the roads; and
- regular water spraying and sweeping on surfaced and unsurfaced roads to minimise dust and remove mud and debris.

Earthworks and Stockpiles

- completed earthworks will be covered or vegetated as soon as is practicable;
- dampening of exposed soil and material stockpiles, if necessary using sprinklers and hoses, or planting if longer term exposure is envisaged;
- stockpiles of soils and materials will be located as far as possible from sensitive receptors, taking account of prevailing wind directions and seasonal variations in the prevailing wind;
- minimise surface areas of stockpiles (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce area of surfaces exposed to wind pick-up; and
- dusty materials will be stored away from site boundaries to minimise any wind dispersion;

Wind Sensitive Activities

- wind-break netting will be positioned around materials, stockpiles and vehicle loading/unloading areas, as well as exposed excavation and materials handling operations as necessary;
- observation of wind speed and direction prior to conducting particle generating activities to determine the potential for dust nuisance to occur;
- avoidance of particle generating activities during periods when wind direction and/or high wind speeds may carry particles into sensitive areas; and
- on-site cement and concrete batching will be undertaken in enclosed plant, with suitable water dowsing and wind shielding measures applied as appropriate.

Roads

- regular inspection, and if necessary cleaning, of local highways and site boundaries to check for dust/mud deposits (and removal if necessary);
- preparation of permanently surfaced site roads as early as possible during the development period; surfaced and unsurfaced site access roads will be watered as necessary using water bowsers during dry weather conditions;
- permissible routes for construction traffic will be agreed with both SCDC and CCC; and
- liaison with SCDC EHD (and community representative groups where necessary) will be maintained throughout the construction process.

5.2 NOISE CONTROLS

5.2.1 Adherence to the construction working hours will ensure that any noise emanating from the works will be limited to agreed times.

5.2.2 The best practicable means, as described in Section 79 of the Environmental Protection Act 1990, to reduce noise to a minimum will be employed at all times and the following control measures will be implemented for the duration of the project:

- All vehicles and mechanical plant used for the purpose of the works will be "sound reduced" or muffled models fitted with effective exhaust silencers in accordance with the manufacturer's recommendation. Where acoustic covers are fitted or temporary screens used, they will be kept closed whenever the machine is in use. Vehicles and plant will be shut down or throttled down to a minimum in the intervening periods between work.
- Each section of the project will be planned to ensure all noisy working requirements are identified along with the timescales so such information can be advised to all concerned parties.
- All construction plant will be regularly serviced and will be provided with fully operational exhaust systems.
- The shouting out of instructions on site will be strictly forbidden. All site management and supervisors will be issued with site communication radios.
- The playing of radios or other musical devices on site will be strictly forbidden at all times
- The sounding of vehicle hooters on site or in any adjacent street will be strictly forbidden at all times
- No commercial vehicles will be allowed to park in the adjacent streets whilst waiting for access to the site, particularly with engines left ‘ticking over.
- Where possible all site plant will be effectively silenced and located in such areas of the site so as to cause the minimum amount of noise migration to areas beyond the site boundary.
- Maximum noise generation levels will be determined for each major item of plant from such information as supplied by manufacturers or company noise monitoring records. This will enable the potential level of noise generation to be anticipated.
- Concrete crushing (if required) will be undertaken on site using quiet operation crushing plant.
- All plant deliveries, collections and all waste management requirements will be coordinated to ensure the noise impact from all such vehicle’s movements on the community is kept to a minimum and is within agreed times

5.3 DETAILS OF CONCRETE CRUSHER

5.3.1 If a concrete crushing plant is required to process material generated by the works, details of the proposed plant will be submitted to SCDC and CCC environmental health management teams for approval.

5.4 POLLUTION CONTROL

5.4.1 To eliminate the risk of any potential ground, water course or drainage contamination from the various liquids which are used on site and from generated effluents, the following control measures will be implemented on site:

- All diesel fuel for the site plant will be stored on site within double skinned fuel bowsers located at predetermined points on site for easy access by plant but away from any drainage access point. The refuelling lines will be fitted with automatic shut off devices and unattended refuelling will not be allowed at any

time. Lorries and other vehicles normally used on public roads will not be refuelled on site.

- The plant refuelling areas will be on a hard stand area and have a quantity of absorbent materials available in case of any diesel spillage, which will be cleaned up immediately.
- Other items requiring storage on site such as hydraulic oils etc. will be in the appropriate storage drums stored in a provided secure container or bunded areas.
- All site welfare facilities effluent and sewage discharge will be disposed of by suitable and approved means.
- All active drainage points within and adjacent to the site will be clearly identified and where necessary a means of water filtration installed around them.
- At no time will any dust control water sprays be allowed to generate a flow of runoff water. All such water spray operations will be controlled and managed by appointed site personnel in attendance at all times.
- Site damping down water run-off and all other wastewaters will be disposed of in accordance with the requirements of the Environment Agency.
- All on-site drainage systems and those adjacent to the site boundary will be regularly inspected to ensure that they are maintained in an efficient state of repair and remain free of contamination and are not providing a potential means of rodent access.
- A specialist waste contractor will be employed to dispose of any hazardous wastes found on site and disposed of in accordance with those regulations

5.4.2 In accordance with the oil storage regulations any storage tanks proposed to be used on site and containing more than 200 litres of oil etc will:

- be stored within an oil tight constructed bund area capable of retaining the full contents of the tank plus 10% in an emergency;
- have all valves lockable;
- have a working contents gauge on it; and
- have contents name and capacity painted on it.

5.5 TEMPORARY LIGHTING

5.5.1 To ensure the impact of visual intrusion from temporary lighting on adjacent areas is controlled; lighting of the site will be kept at the minimum luminosity necessary for adequate security and safety. In addition the lighting will be located and directed such that it does not cause undue intrusion to adjacent properties.

5.5.2 All working areas and emergency escape routes will be lit to ensure there is adequate lighting sufficient for the site operatives to safely carry out the site activities.

5.5.3 When the site is closed all unnecessary site lighting will be turned off and only adequate security lighting will be maintained.

6 Construction Methods

6.1 SUSTAINABILITY

6.1.1 The proposed development will adhere to sustainable principles which are outlined in the Planning Supporting Statement (incorporating Planning Obligation / Draft Scope for S106 Heads of Terms), which will involve:

- encouraging the sustainable use of materials in construction;
- minimising the use of potable water during construction (refer to the Water Conservation Strategy document for details);
- promoting the use of renewable resources and the creation of sustainable energy; and
- reducing emissions of greenhouse gases.

6.1.2 Measures which will be adopted to encourage sustainable construction will include:

- giving preference to the use of locally-sourced materials;
- use of recycled materials and aggregates, particularly in the construction of roads, footpaths, cycleways and hard landscaping;
- sourcing timber used in construction from sustainable sources, which includes verifiably sustainably managed forests (sources registered with the Forest Stewardship Council, Pan European Forest Certification or the UK Woodland Assurance Scheme);
- use of rainwater from attenuation facilities for irrigation and dust suppression;
- providing environmental awareness training for staff involved in construction; and
- comply and register with the Considerate Constructor's Scheme.

6.2 REDUCTION, RE-USE AND RECYCLING OF CONSTRUCTION WASTE

6.2.1 The disposal of waste, 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.

6.2.2 A Waste Management Strategy (incorporating Waste Design Guide Toolkit and Site Waste Management Plan will be implemented to encourage the principles of the waste hierarchy, which are to reduce waste, reuse waste and recycle waste. Among the measures which will be included are the following:

- ensuring that all contractors are contractually obliged to participate in the waste minimisation scheme;
- reduction of materials wastage through good storage and handling;
- use of Modern Methods of Construction for a significant proportion of the development, allowing significant reductions in waste and facilitating greater recycling;
- entering into agreements with suppliers for recovery and disposal of their products including plasterboard offcuts, insulation offcuts and timber pallets;

- ensuring that all suppliers of materials provide returnable or practicably recyclable packaging;
- providing waste minimisation induction courses for all site personnel;
- regular toolbox talks throughout the construction phase to raise awareness of the importance of minimising, segregating and recycling wastes during the construction process;
- ensuring adequate waste storage facilities are provided for both raw materials and waste streams generated;
- ensuring adequate security measures are in place; and
- agreeing appropriate waste disposal routes with CCC for recyclable waste streams and residual waste streams for disposal to landfill.

6.2.3 Waste management priorities for any demolition operations will focus on reducing, reusing and recycling waste materials to minimise disposal to landfill.

6.2.4 To minimise the demand for primary aggregates it is intended to recycle suitable demolition arisings for use on site in the redevelopment works wherever feasible.

6.2.5 Full details of the proposals for recycling construction waste are provided in the Waste Management Strategy (incorporating Waste Design Guide Toolkit and Site Waste Management Plan).

6.3 FLOOD RISK

6.3.1 During the construction works additional temporary stilling ponds may be required to deal with construction based solids in suspension affecting water quality in completed lakes and off-site watercourses. Contractors will be required to obtain approval from the Environment Agency (EA) to their site specific proposals for surface water protection measures to be adopted during construction.

6.3.2 At no stage during the construction process will surface water run-off from the construction site be permitted to discharge in an uncontrolled manner into any watercourses or the sewer system.

7 Earthworks Strategy

7.1.1 The earthworks strategy is illustrated on Figure 5 (Appendix B).

7.1.2 The principal aim of the earthworks strategy is to raise ground levels above the 1 in 100 year flood level (including an allowance for climate change) to provide flood protection where necessary and to enable the development plots to be drained to the surface water attenuation lakes located on the eastern side of the primary development site. The aim is also to provide this in an economic and sustainable manner.

7.1.3 This has been achieved by providing a cut and fill balance within the application site boundary. This has minimised the movement of material within the development and reduced the amount of material to be imported/exported to the overall development to an absolute minimum by incorporating an allowance for construction arisings generated during the development of the plots.

7.1.4 The strategy will be completed in two stages as follows:

Earthworks Stage 1

- The two attenuation ponds and Greenway A will be excavated and constructed with the excavated material being spread over the area to the north of Greenway A and the western half on the land between Greenways A and B. This will enable development Phases 1-1 and 1-2 (years 2014 and 2015) to be built out. The secondary flood protection bund located on the eastern edge of the site will also be constructed.
- Water collected in the completed attenuation ponds will be reused for dust suppression in subsequent earthworks operations and for irrigation of newly landscaped areas.

Earthworks Stage 2

- The attenuation ponds located off Hatton's Road and Greenway B will be constructed and the excavated material will be spread over the remaining primary development site. This will enable the remaining development Phases 1-3 and 1-4 (years 2016 and 2017) to be completed.

7.1.5 A summary of the cut and fill volumes for each salient part of the earthworks strategy is shown on Figure 6 (Appendix B).

7.1.6 Topsoil will be stripped and stored separately for later reuse within the development and landscaped areas for Phase 1 and later phases.

7.1.7 In general the amount of construction arisings generated per dwelling varies, but from our experience of high housing densities in areas with similar ground conditions, it is likely that the generated material will result in an increase in ground level of approximately 300mm if all material is kept within the plot.

7.1.8 Following completion of construction activities, all disturbed land will be reinstated in accordance with the landscape strategy and to the satisfaction of the planning authority.

Appendices, Figures & Tables

Appendix A Parameter Plans

Key

Planning application boundary

Proposed

- Residential
- Mixed use/Local centre
- Employment (including household recycling centre & foul water pumping station)
- Primary school/ community use
- Formal recreation/ sports pitches
- Informal open space, landscape & habitats
- Equipped areas of play (Neaps and Leaps)
- Allotments/ community gardens (incudes potential retained trees)
- Sports pavilion and associated parking
- CGB route
- Primary street
- Structural planting
- Balancing lakes & ditches/swales
- Surface water pumping station

Existing

- Tree groups to be retained (including canopy extent)
- Water bodies

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Plan 1a
Parameters plan: Core area
Land use, open space & landscape

Final	drawn by SWD
Feb 2012	checked by RB
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Key

- Planning application boundary
- Attenuation ponds
- Species rich grassland
- Marshy grassland
- Structural planting
- Areas of scrub
- Attenuation area
- Emergent vegetation
- Management access
- Mounding
- Overhead cables

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Plan 1b
Parameters plan: Attenuation ponds
Land use, open space & landscape

Final	drawn by SWD
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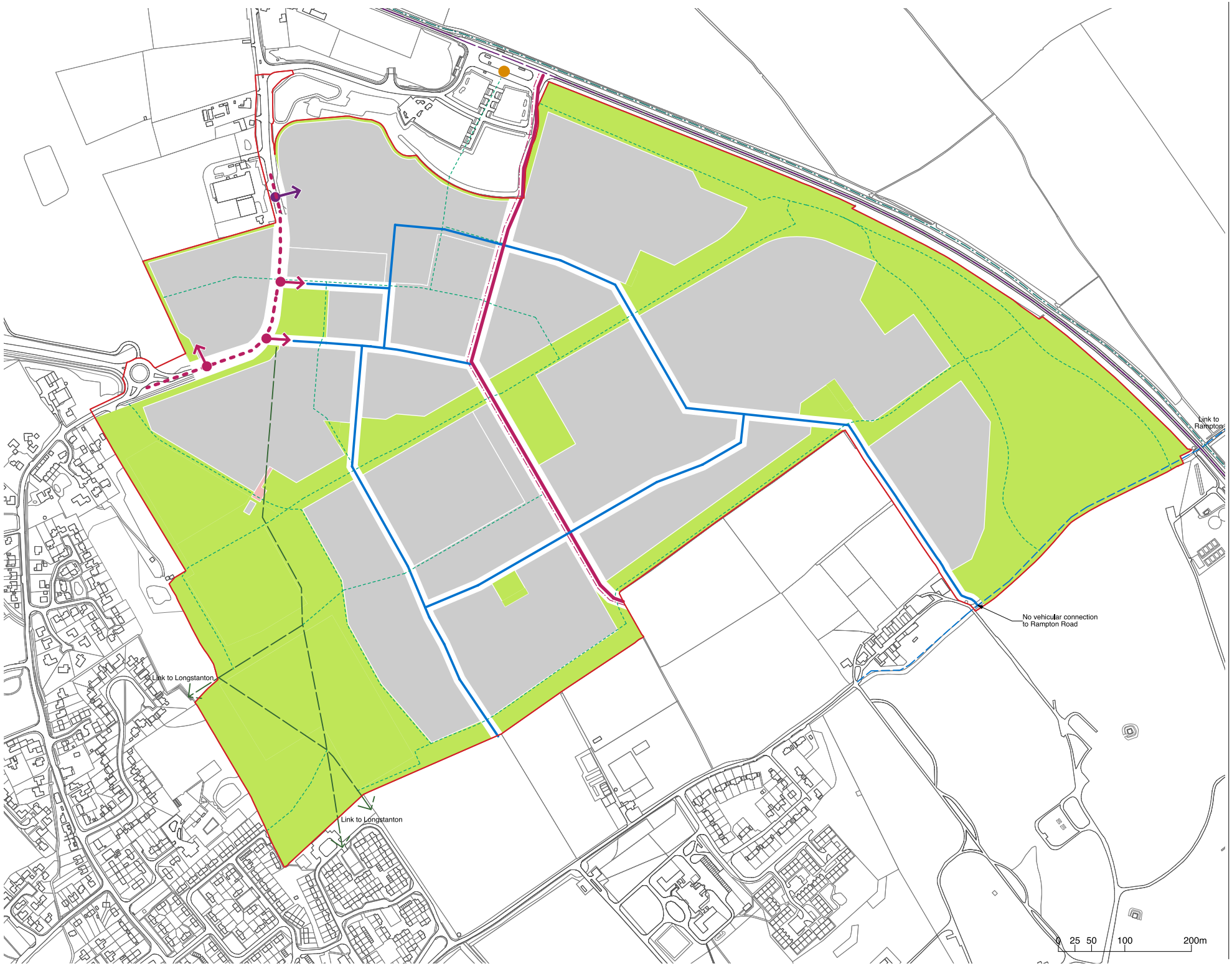

Key

- Planning application boundary
- Development blocks
- Open space
- Proposed road junction
- Proposed realigned section of B1050
- Proposed new dedicated busway
- Proposed primary street
- Proposed principal cycle/pedestrian routes (on and off road)
- Proposed dedicated cycleway along new busway
- Longstanton CGB station & park & ride
- Existing byway open to traff c
- Public rights of way (amended route and subject to diversion)
- Existing off road cycle route
- Existing CGB route
- Dedicated road junction off B1050 serving construction traff c & employment land

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Plan 2
Parameters plan
Movement and access

Final	drawn by SWD
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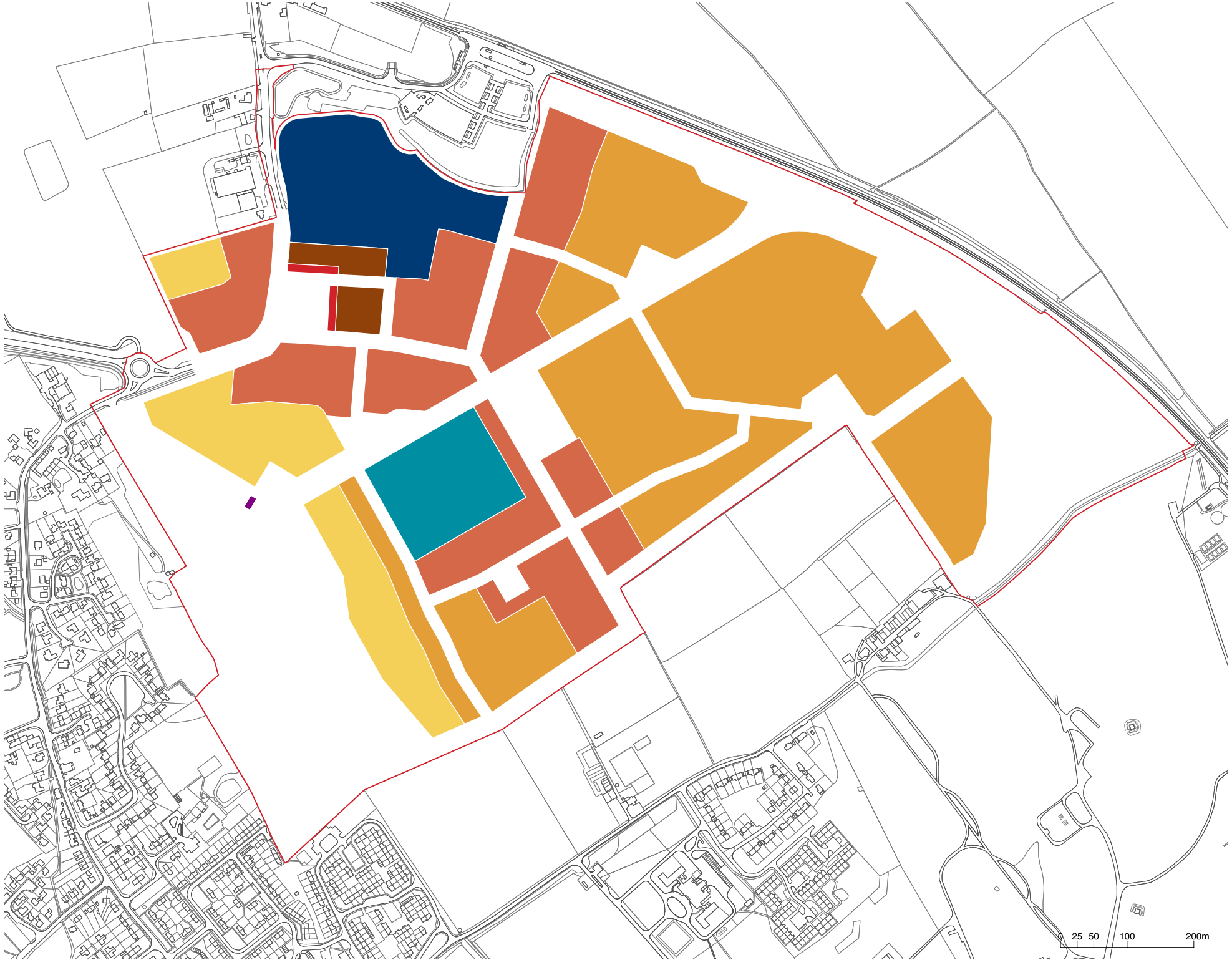

Key

- Planning application boundary
- Potential location for a landmark building or structure (up to 25 m)
- Local centre up to 14.5 m (up to 4 storeys)
- Residential up to 14.5 m (up to 4 storeys)
- Residential up to 11 m (up to 3 storeys)
- School up to 9 m (up to 2 storeys)
- Residential up to 9 m (up to 2 storeys)
- Employment & recycling centre up to 13 m (up to 3 storeys)
- Sports building up to 8 m (up to 2 storey)

Notes:

i) Building heights above proposed ground level.

ii) The minimum storey height is single storey.

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Plan 3
Parameters plan
Building heights plan

Final	drawn by SWD
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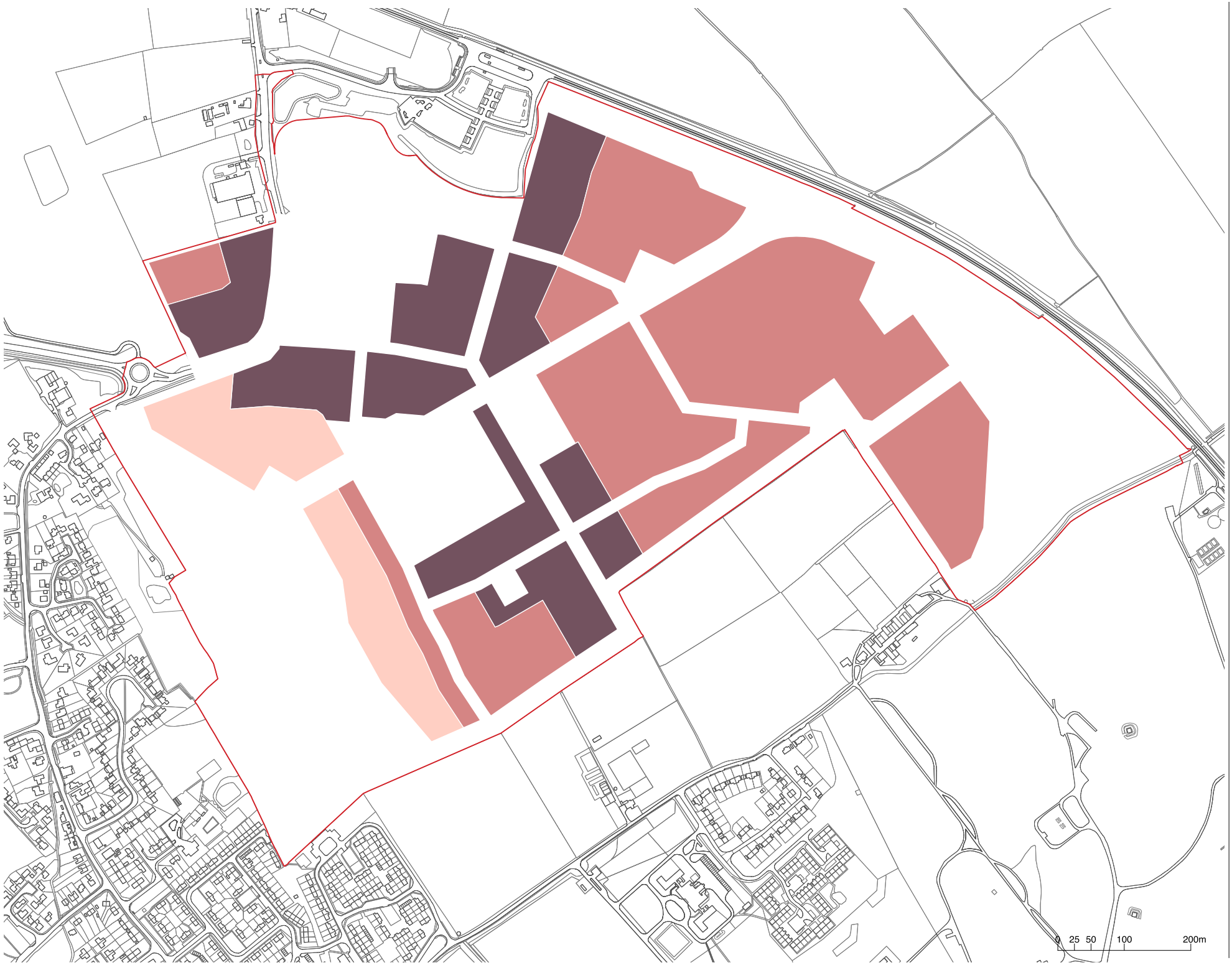

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Plan 4
Parameters plan
Density plan

Final	drawn by SWD
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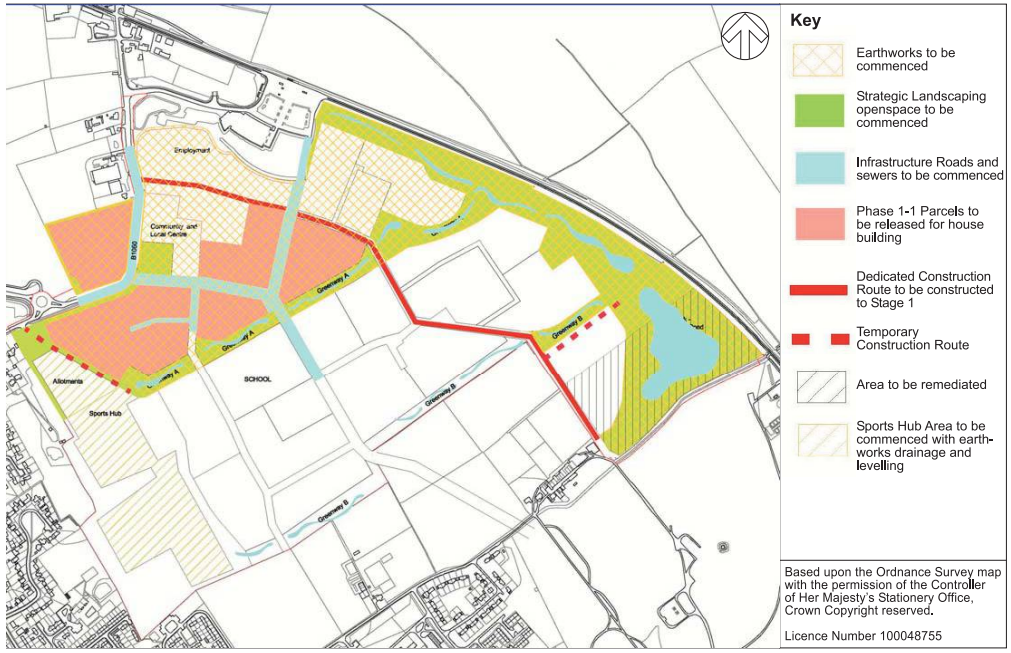
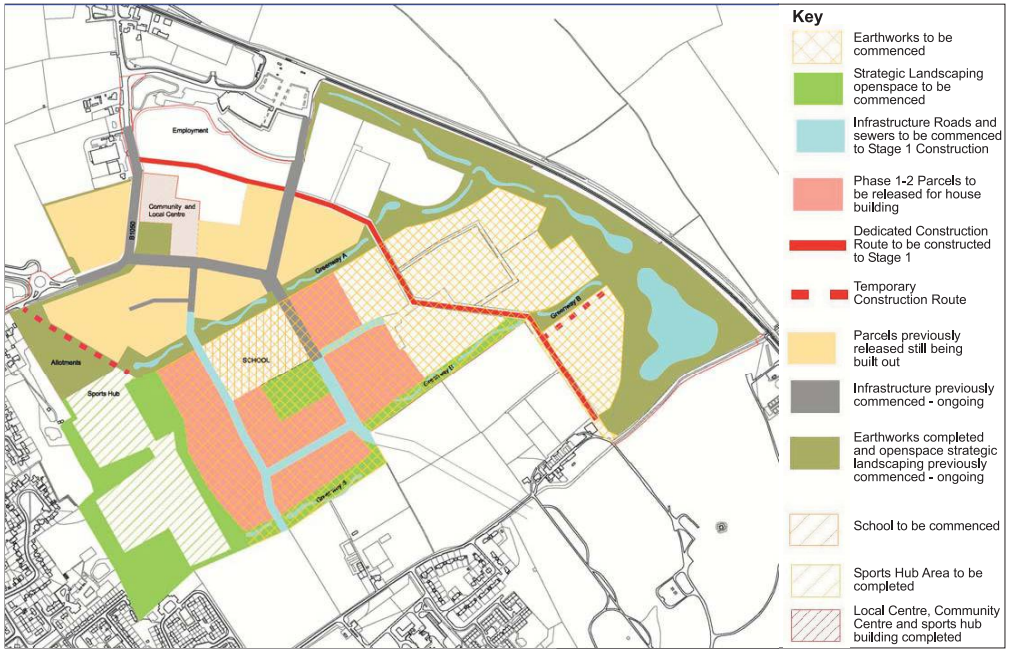
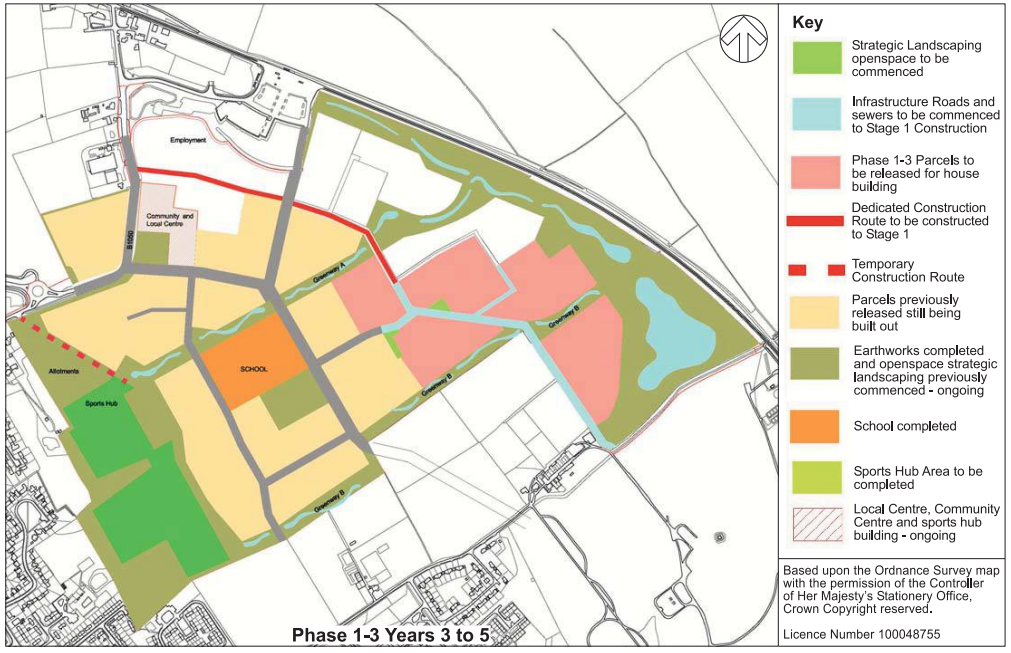
Appendix B Figures







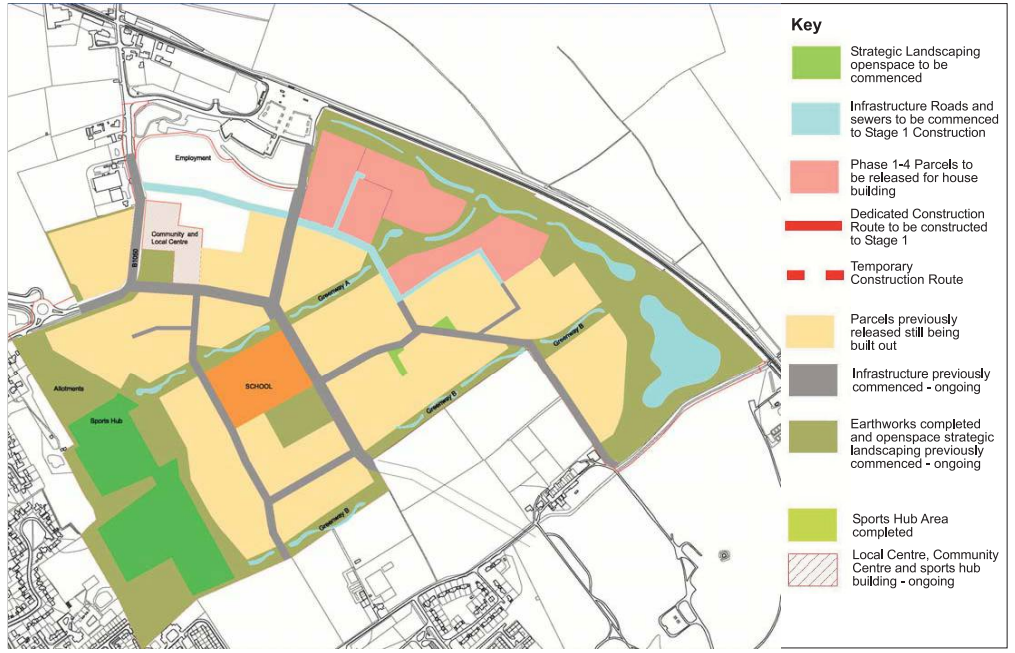


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Figure 1

Illustrative Construction Stages

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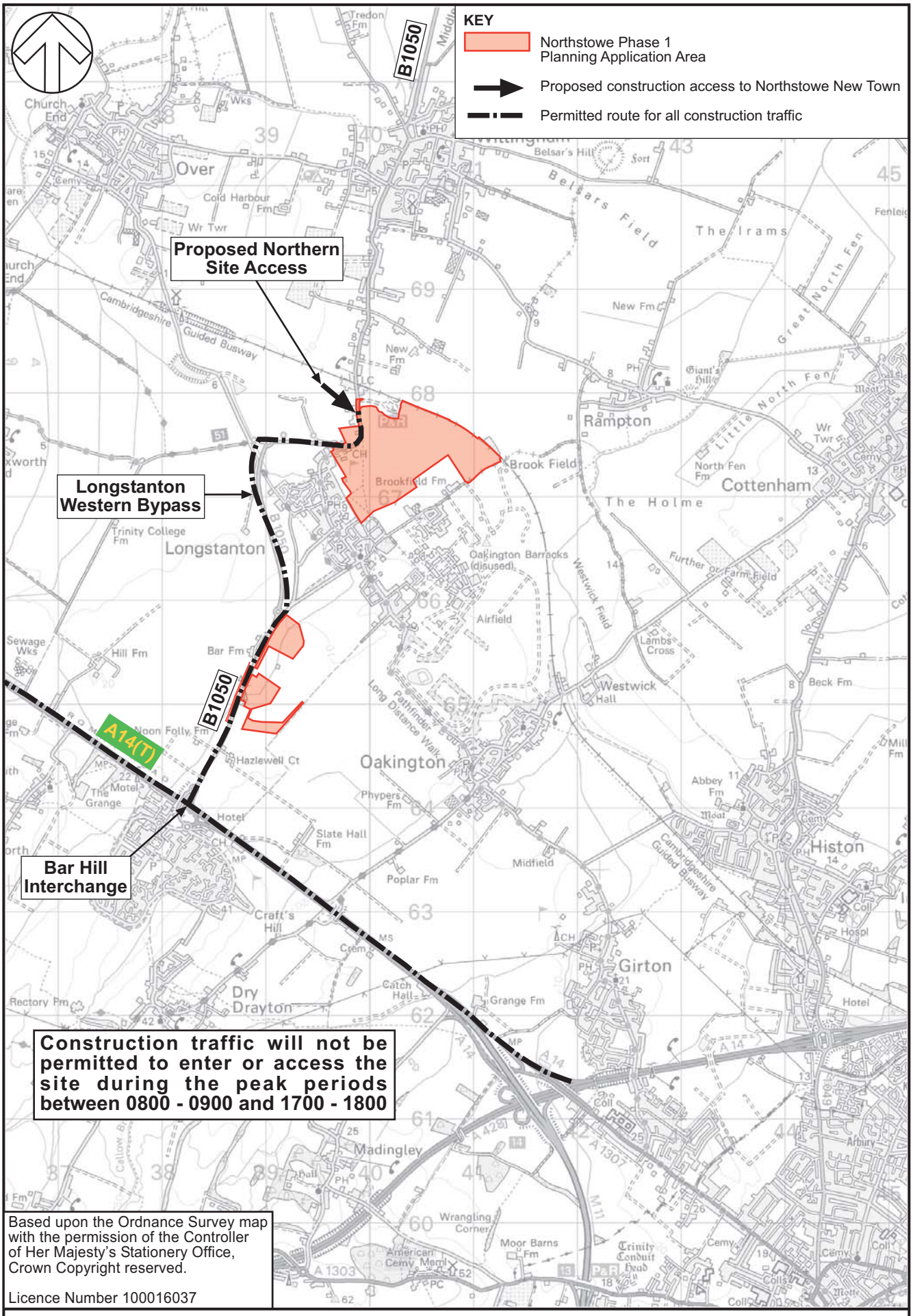

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Figure 2

Construction Traffic Permissible Routes

Scale 1:50,000

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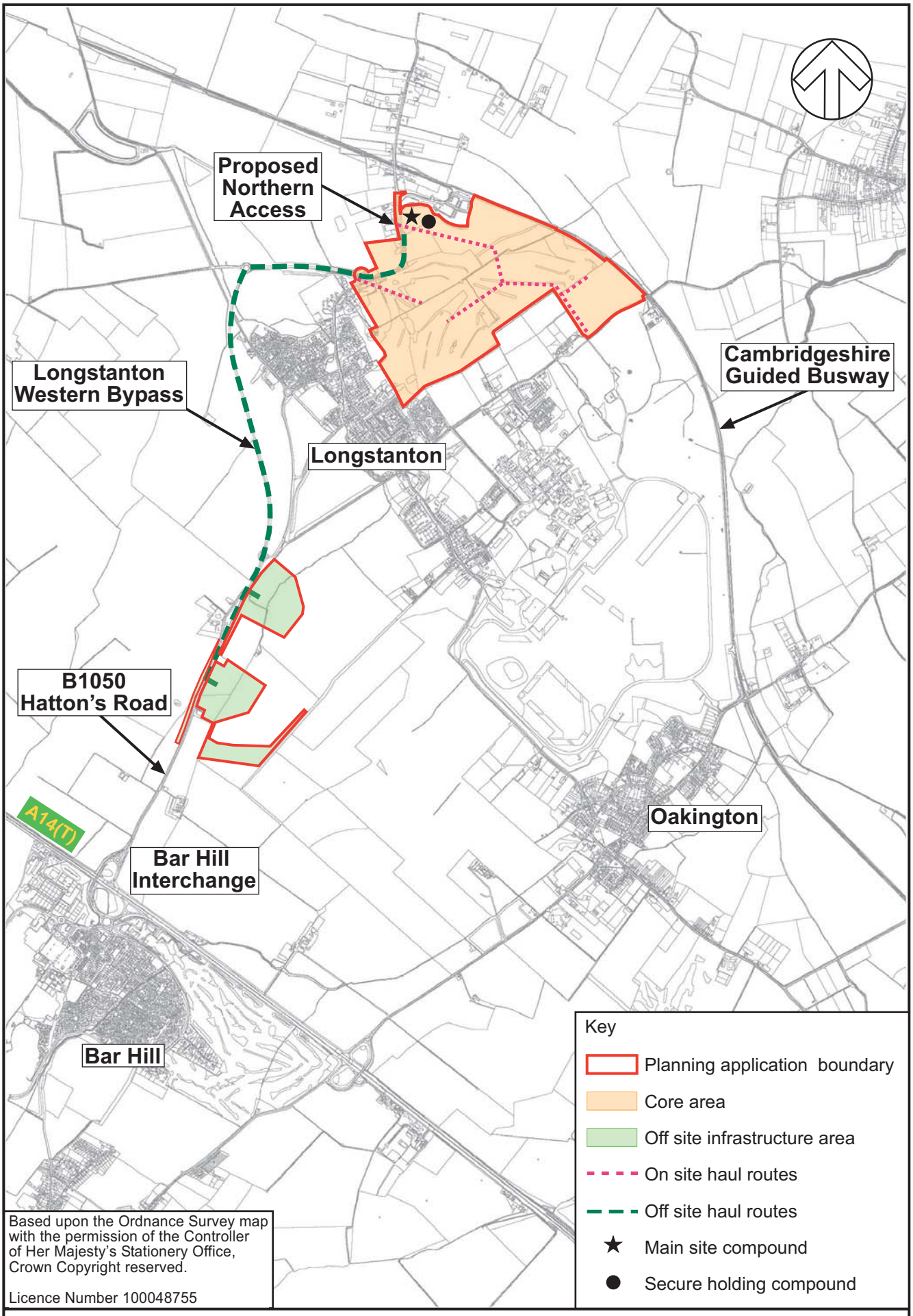

Figure 3

Main Site Compound, Secure Holding Compound and Haul Routes

Not to Scale

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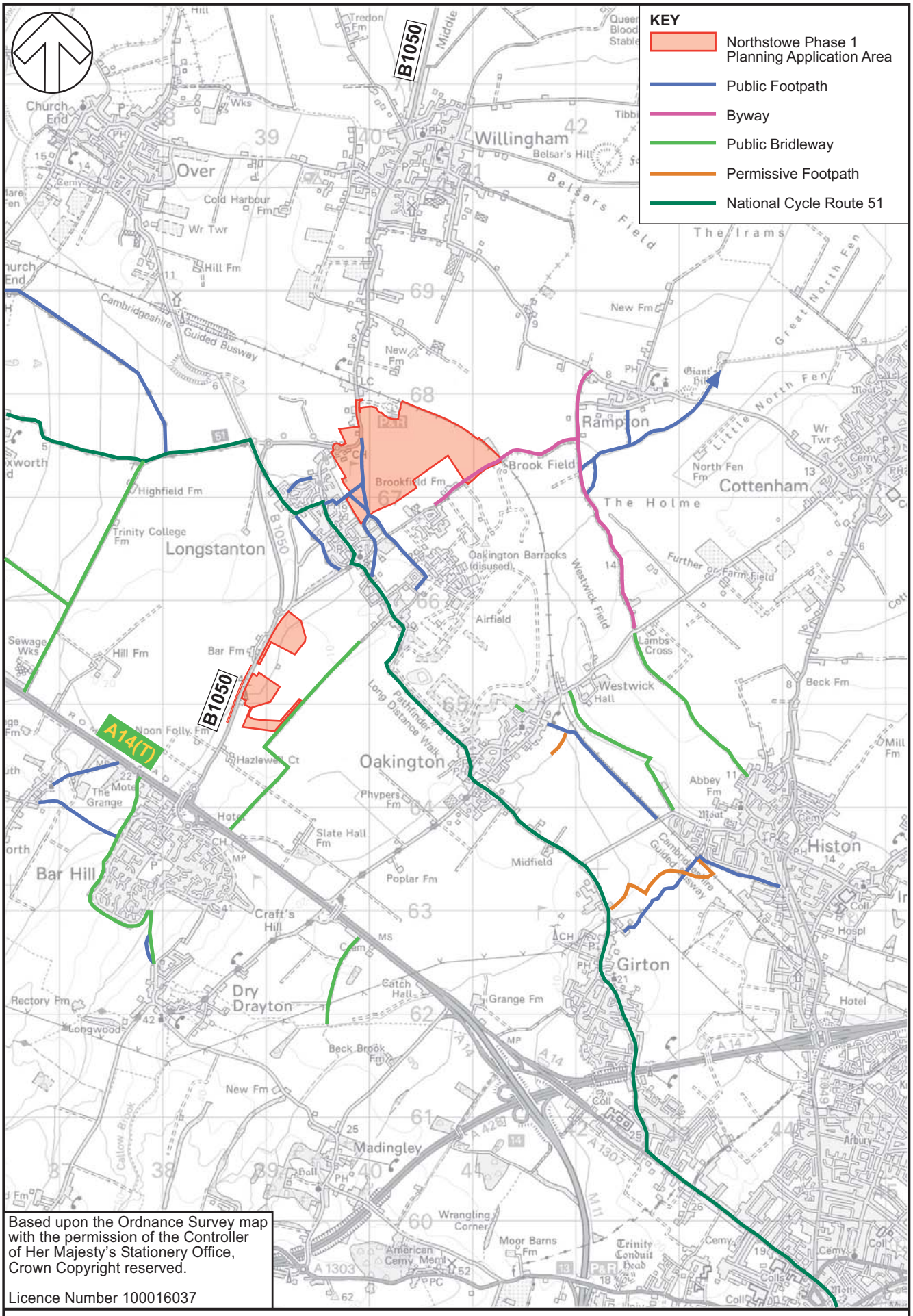

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Figure 4

Public Rights of Way and Permissive Routes

Scale 1:50,000

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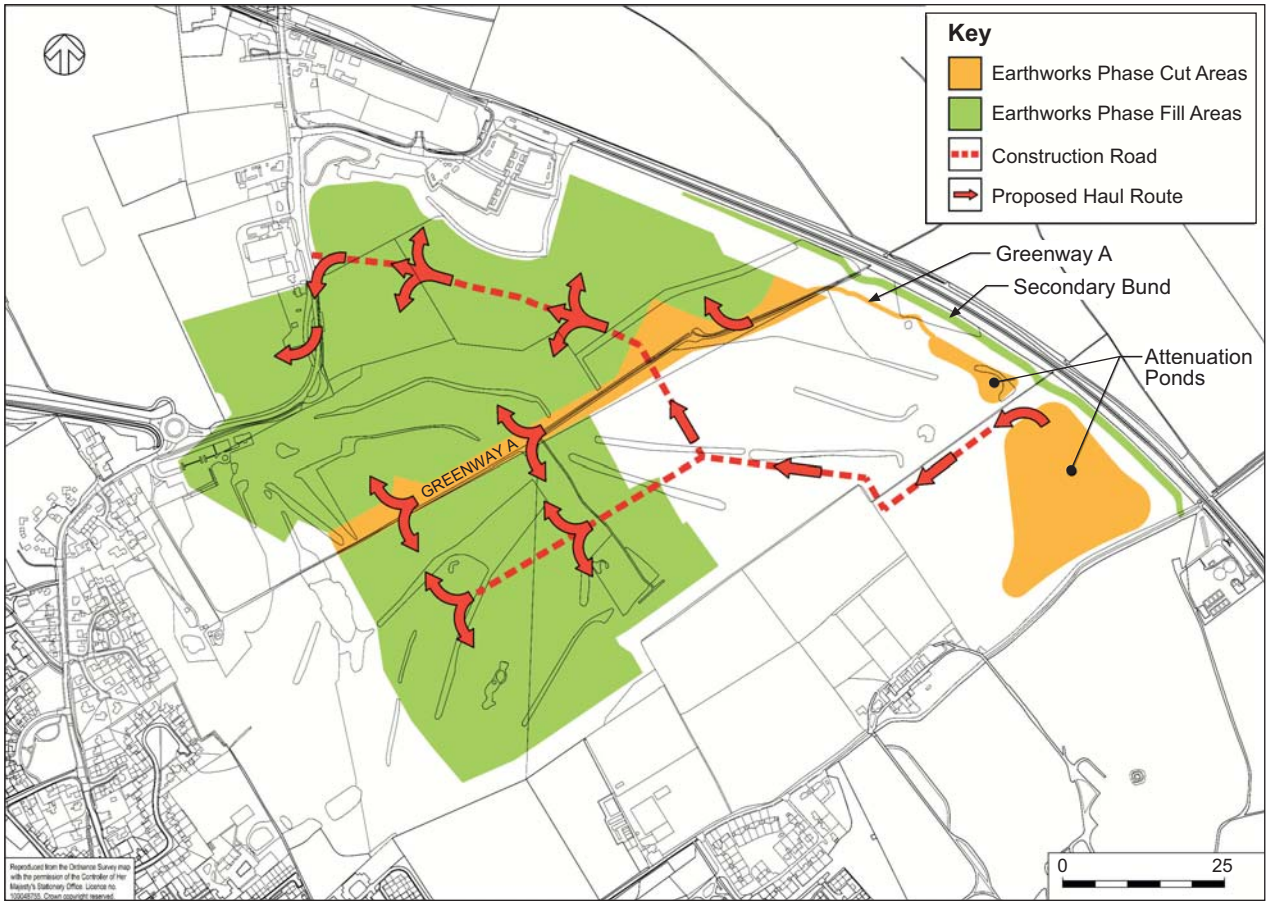
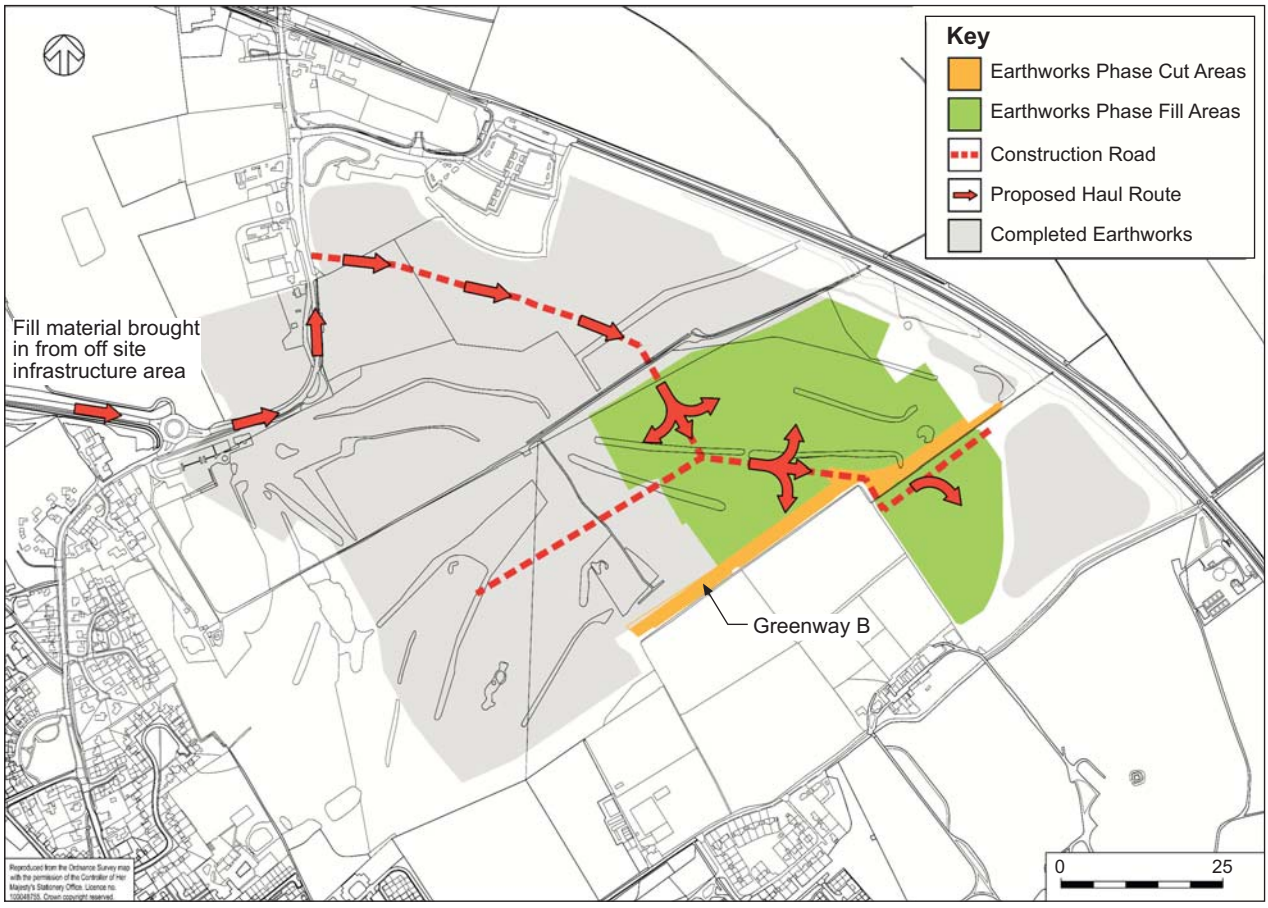


Earthworks Stage 1



Earthworks Stage 2

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Figure 5
Earthworks Strategy
Not to Scale

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EARTHWORKS STAGE 1

		CUT	FILL
EXCAVATE MAIN POND		104,000	
EXCAVATE MINOR POND		6,000	
EXCAVATE GREENWAY A		23,000	4,000
CONSTRUCT SECONDARY BUND			10,000
DEVELOPMENT NORTH OF GREENWAY A		28,000	79,000
WESTERN HALF OF DEVELOPMENT BETWEEN GREENWAYS A & B			56,000
	TOTAL	**161,000**	**149,000**

EARTHWORKS STAGE 2

GREENWAY B		8,000	4,300
EXCAVATE MATERIAL FROM OFF-SITE ATTENUATION PONDS		215,000	
SURPLUS FROM STAGE 1		12,000	
REMAINING DEVELOPMENT BETWEEN GREENWAYS A & B		18,800	186,500
DEVELOPMENT SOUTH OF GREENWAY B			59,300
	TOTAL	**253,800**	**250,100**

NOTES:

1. FIGURES INCLUDE TOPSOIL STRIP AND ALLOWANCE FOR ARISINGS & TOPSOILING
2. TO BE READ IN CONJUNCTION WITH FIGURE 5

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Figure 6

Summary of Earthworks Cut and Fill Volumes