



Brentwood Borough Council

Crossrail Works –
Supporting Information

Version 2.0
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Brentwood Borough Council **Crossrail Works – Supporting Information**

Introduction

Purpose of this document

Further to questions and concerns raised by Brentwood Borough Council this document has been created to provide a range of information about the Crossrail works at Brentwood and Shenfield Stations, including scope, construction timetable and methods of construction and how Network Rail will limit impacts on the community. Where issues are not yet resolved, or subject to further discussions with stakeholders, it gives the current position on how those issues are being addressed.

It is intended to improve the flow of information between Crossrail, its delivery partners, and key project stakeholders, and ensure that the current position on a range of issues is understood before and after the start of construction.

This document will be updated on a regular basis to ensure that discussions and outcomes are captured.

Any concerns over the contents should be addressed at the earliest opportunity with Crossrail or Network Rail.

For the avoidance of doubt, this document does not supersede or replace information in the Construction Arrangements request for approval submitted to Brentwood Council in September 2014.

About Crossrail

Stretching from Reading and Heathrow in the west, across to Shenfield and Abbey Wood in the east, the new railway will cover over 100km of track including 21km of new twin-bore rail tunnels and ten new stations. From improving journey times across London, to easing congestion and offering better connections, Crossrail will change the way people travel into and around around the capital.

Crossrail will, for the first time, deliver a direct connection between commuter areas east and west of the capital all of London's main employment centres; linking Heathrow with Paddington, the West End, the City and Canary Wharf. The new railway will reduce journey times, ease congestion and improve connections.

Up to 24 trains per hour will operate in the central section between Paddington and Whitechapel during peak periods, with each train able to carry 1,500 passengers. An

estimated 200 million people will travel on Crossrail each year. Many of these people will be making the switch from road transport to an environmentally sustainable railway.

Crossrail will make travelling in London and the South East easier and quicker, and help to reduce crowding on London's transport network.

Transport for London will begin operating the existing stopping service between Shenfield and Liverpool Street from May 2015 and residents in Shenfield will be among the first to benefit from new Crossrail trains when they replace the existing metro trains in 2017.

The full Crossrail service will open in phases from late 2018, with direct services from Shenfield to Central London and beyond scheduled to begin in May 2019. The existing fast services from Shenfield to Liverpool Street will continue to operate alongside Crossrail.

Delivery

Crossrail started construction in 2009 and as of the end of 2014 is around 60% complete overall. It is being delivered on time and within budget with a strong safety record.

Crossrail is delivering social benefits across the UK with thousands of jobs and business opportunities for companies of all sizes.

As Europe's biggest construction project, Crossrail is also creating thousands of jobs and training opportunities as well as business opportunities for companies of all sizes to supply services and materials.

Work is now increasing on the Surface areas of Crossrail, being delivered by Network Rail. Network Rail is a key partner in the Crossrail project and is responsible for the design, development and delivery of the parts of Crossrail that are on the existing rail network, including works at Brentwood and Shenfield.

The Crossrail Act (2008) Schedule 7

The Crossrail Act (2008) gives deemed planning permission for the proposed works, subject to the conditions imposed by Section 10 and Schedule 7 to the Act, which requires plans and specifications for the design and external appearance of permanent above ground structures and construction arrangements for the management of certain aspects of the construction of the works to be approved by relevant local authorities. Further information is contained in Section 6 and Appendix A of this document.

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Note: Significant additions or changes from previous version are indicated with a black margin line.

1.0 Programme of Works

1.1 What improvements are proposed to Shenfield station?

Crossrail will be constructing a new, dedicated, platform at Shenfield station. The platform will be adjacent to Platform 5 and extend further west of the existing platforms to accommodate the new, longer and Crossrail trains. The station will also receive:

- New and improved lighting of the platform areas;
- New telecoms and station management systems (within the station), which includes replacing the customer information screens; and
- Improved station signage.

1.2 What is the New Retaining Wall work site and new platform limits?

The station currently comprises of 1 single facing platform (Platform 5) and two island platforms (Platforms 1 & 2 and Platforms 3 & 4). Tactile pavers have been installed on the platforms. The length (measured between the top of ramps) of each platform is currently as follows:

- Platform 1 is 249m long
- Platform 2 is 249m long
- Platform 3 is 256m long
- Platform 4 is 249m long
- Platform 5 is 259m long

The new bay platform (Platform 6) will extend approximately 33m beyond the end of the existing Platform 5 (refer to drawing Appendix E: NSN1B-EAR-DRG-AKB-400008 A02).

The new retaining wall will be within the existing rail corridor and within the Crossrail Limits of Deviation (LOD) and/or Limits of Land to be Used or acquired (LLAU)) (refer to Appendix F: NSN1B-ECV-DRG-AKB-400001).

1.3 What type and size of plant are being used for chipping and logging? How is the plant being delivered? What are the risks and safe working zone boundaries?

The size of the plant required for the vegetation clearance works will be relatively small as access into the site is limited. Plant will be delivered by wagon outside of peak periods and policed by traffic marshals and Banksmen to ensure safety all times. Vehicles will be managed by a booking process at Chadwell Heath compound (in the London Borough of Barking and Dagenham) so that control of delivery times can be maintained.

1.4 Why have the works been brought forward from the dates advised previously?

To provide a high frequency, high capacity modern train service terminating at Shenfield requires significant works to the railway infrastructure. Consequently the works at Shenfield are amongst the most complex and challenging across the

entire Crossrail Programme, involving the provision of new infrastructure and making extensive modifications to the station, track, signalling, civil engineering and associated electrification. These activities need to be undertaken against the backdrop of keeping the current railway running as much as possible and keeping disruption to a minimum.

Shenfield is where the Southend and Colchester lines diverge, as well as forming the terminus for the suburban services to Liverpool Street. The need to minimise possessions of the railway, the high levels of rail traffic using the area, the limited direct access available to the railway (including a constraint on use of the Network Rail Hunter Avenue car park) and the dense vegetation that line the railway corridor are just some of the constraints that need to be addressed.

Indicative plans have been shared over the course of many years, and in March 2014 Network Rail awarded the works contract to Costain. Since then Costain have been undertaking detailed planning of all the Crossrail works required between Stratford and Shenfield. Following information briefing sessions with the public in July 2014 and subsequent meetings between Crossrail and the Council, the plans for the delivery of these complex works have progressed. This includes the likely timescales, usage of worksites and locations of access points. It was also found that the growth of vegetation in the area was more extensive than initially anticipated.

Vegetation clearance is a critical early work activity that must be completed to allow subsequent works to be commenced. It is recommended that vegetation clearance (scrub removal, tree or hedge cutting) takes place outside the bird nesting season – approximately from 1st March until 31st July. All such works must avoid impact to nesting birds and infringement of the Wildlife and Countryside Act 1981 and breaching the European Habitats Directive 1992/ Nesting Birds Directive.

In summary, having more detailed information on construction methods and how to best use the limited land and access available to undertake all the preparatory vegetation clearance and construction works to achieve good progress throughout 2015, has resulted in an earlier than previously published start date.

The start of works will be subject to the required consents and agreements (property, planning, highways and environmental) being obtained from the necessary authorities.

It should be noted that the commencement of the enabling works is subject to obtaining Schedule 7 Construction Arrangement approval from the Council. The Request for Approval is due to be re-considered by Brentwood BC Planning Committee on 6th January 2015.

1.5 What activities need to be undertaken prior to works starting?



Early pre-construction activities



The following activities are required in order to commence main works:

- **Surveys & Assessments**
 - Ground Investigation works
 - Baseline Noise Assessments (Fixed Plant/Construction Noise)
- **Detailed Design**
 - Design finalisation
 - Detailed construction methods and programme
- **Early Works**
 - Vegetation clearance
 - Utilities diversions
 - Site preparation and set-up
- **Obtaining consents**
 - Planning (Sch 7), Environmental (Section 61, Sch17) & Highways (Sch 2 & 3)
 - Traffic Liaison Group (TLG) meetings
 - Public information events
- **Contractor taking designs forward to final construction and commissioning stages**



Crossrail Act 2008

Brentwood Station improvements summary

Feb - Mar 2015:

- Prep-Works (Site Set-Up in Car Park, Trial Holes, Re-location of OLE Portal and Platform Services (Cabling), Platform Hoardings).

Mar - Jul 2015:

- Platform Extensions (breaking out existing ramps and building new platform extensions and all related drainage works).

Aug 2015:

- Removal of Site Cabins and Re-instatement of Car Park Area

Aug 2015 - Feb 2016:

- Station Works (CCTV, PA, M&E, Telecoms, Signage, Gate Line Power, etc.)

Shenfield Station improvements summary

Feb - Mar 2015:

- Prep Works (De-Veg Works, Site Set-Up in Car Parks, Trial Holes, Platform Hoardings)

Mar - Jul 2015:

- Civils Works (Culvert Protection Works, Platform Trenching, CRE Room Works, Retaining Wall, Rugeli Wall and Embankment Works, Piling)
- OLE Works (Erection of Structures)
- Track Works (Installation of UTX, Drainage, Troughing Routes)
- Platform Lighting

Aug - Dec 2015:

- Build Up and Installation of New Platform
- Installation of Track for New Platform



Shenfield Infrastructure Works

June 2015 – Oct 2015:

- Enabling & Prep Works (De-Veg Works, Site Set-Up, Surveys, OLE Rationalisation Works, Partial Removal of Hack Sidings, Installation of Track to New Platform)

Oct 2015 – Dec 2016:

- Drainage Works
- Removal of Chelmsford Loop, Sidings, and Points (Country End)
- Installation of New Sidings, New Points, New Track (Country End)
- Removal of Existing and Installation of New Points (London End)

Dec 2016 – March 2017:

- Removal of Existing and Installation of New Track Layout (London End)
- Christmas Blockade works – 9 days starting evening of Christmas Eve and running through until 3rd Jan 2017 in order to carry out OLE and Track Layout Upgrades (no trains will be running from Shenfield station, but a stopping service will be available from Brentwood station).
- Possession of Electrics lines only (Tracks Routes Through Platforms 4, 5, and 6) From Jan 2017 through to Mid Feb 2017 in order to carry out remaining OLE and Track upgrades as well as essential Signalling and Testing prior to commissioning (main line fast services will still be available from Shenfield station).

2.0 Logistics and Traffic Management

2.1 What is the Traffic Liaison Group (TLG) and how will it work?

The Traffic Liaison Group (TLG) has been established and meetings have now commenced to cover all Crossrail works within the Brentwood Borough Council area. The TLG will meet as frequently as is necessary or required (currently every 4 weeks).

Purpose and Functions

1. To act as a focus for Crossrail consultation with highways authorities and other stakeholders on highways and traffic matters related to the construction of Crossrail;
2. To improve and maintain communication between Crossrail and other stakeholders in relation to highways and traffic matters;
3. To plan and review the traffic management arrangements for Crossrail works;
4. To achieve concurrence on plans in a timely manner, in accordance with the overall Crossrail Programme;
5. To facilitate the identification and processing of any consents, notifications and approvals necessary for the Crossrail works; and
6. To minimise, as far as reasonably practicable, the highways and traffic impacts of Crossrail.

Attendance

1. Crossrail, Network Rail, Costain and sub-contractors;
2. Essex County Council;
3. Brentwood Borough Council;
4. Police and other emergency services representation;
5. Bus and Taxi representation (as appropriate).

Where available, updated information on lorry movements on the proposed routes will be presented to the TLG, as work programmes are developed further.

It is the Project's intention to share information relating to lorry routes with Brentwood Borough and Essex County Councils discuss the choice of routes with both Councils.

2.2 Where are the construction sites?

Brentwood Station

At Brentwood Station the worksite to facilitate the platform extension works will be located in the station car park (Brentwood Station Worksite) and will occupy 21 parking spaces at the eastern (country) end of the car park. This is shown for information on the Brentwood Station Construction Site Plan (Drawing No. NBW1B-CNS-DRG-AKB-400001). Please see Appendix B.

Shenfield Station

Small worksites will be established in the rail corridor at the northern ends of platforms 3, 4 and 5 to facilitate the platform extension works.

A worksite will be established within part of the Friar's Avenue Car Park to facilitate the embankment widening and new platform works immediately adjacent to the Friar's Ave car park. This is shown for information on the Shenfield Station Construction Site Plan (Drawing No. NSE1B-CNS-DRG-AKB-400021 and NSE1B-CNS-DRG-AKB-400022). Please see Appendix C.

In compliance with Commitment 0560, at least 20 car parking spaces will be maintained within the car park Monday to Friday. It should be noted that the layout / location of the retained parking spaces may need to change during the course of the works.

The car parking area to the rear of retail premises on Hutton Road (95-105 Hutton Road) adjacent to the station forecourt will be used to construct the new bay platform, embankment widening and retaining wall structures. A fire escape route will be maintained at all times for the users/occupants of the premises. Please see Section 3.8 for more information on this worksite.

A small worksite area within the rail corridor adjacent to Gordon Road will also be required. The works will be constructed via Friars Avenue carpark worksite. An access gate will be constructed on the Network Rail fence line, this will be within the Chulmleigh Court carpark area, also there will be works to repair the existing surface as agreed with the landowner. This use would result in the temporary loss of some car parking spaces currently used by residents of Chulmleigh Court. We've opened discussions with the residents of Chulmleigh Court over the intention to repair an area of the land to replace the lost spaces.

The required consents to use this piece of land will be obtained as the road is narrow it will not be used for large vehicles or HGVs as it is not suitable for vehicles of this size. Once finalised, details of the vehicular use and traffic management will be discussed with the relevant parties at forthcoming TLG meetings as described in Section 2.1 above.

Other works areas

Works will commence within the rail corridor or in the Line of Route (LoR), these works will be for the overhead lines (OLE), the cable troughing and track works, it is envisaged that the materials and deliveries for these works will be through Friars Avenue carpark, Whitegates site, Mount Avenue carpark and Nags Head Lane, please see Section 2.3 below for the proposed lorry numbers.

The benefits of using the Whitegates site are as follows:

- Reduces the interface with the public.
- Reduce noise levels within the Station area.
- Provide a Road Rail Access Point (RRAP) onto the Southend Loop, reducing the track possession requirements.
- Maintaining the access for future maintenance.

2.3 What are the routes for construction traffic?

We will, as far as possible, service the worksites by using the railway. However, there will be instances where this will not be possible and access will need to be made by road. Where road access is required, where possible, we will always aim to use primary routes or the highest classification of road as the carriageway has been constructed to higher standard with a form of edge protection treatment.

At the TLG, suitable alternative routes to those shown previously (listed below) have been discussed that can provide the necessary access to the required work sites, primarily avoiding using the full length of Hunter Ave / Oliver Road / Alexander Lane. Further discussion on the routes to be taken by lorries will occur in forthcoming TLG meetings.

We are also exploring use of an access point at Whitegates site in order to reduce the number of lorries using Friar's Avenue Car Park. Access through the Whitegates site will also be used for the Shenfield Sidings works.

Although Whitegates is outside of the Limit of Deviation (LoD) the site has been acquired for the Traction Power Project, an application will be made for planning under the Town and Country Planning Act 1990. It is the intention for this project to use the site for access only.

Whilst detailed information on potential lorry movements along a particular route is difficult to predict (as it will depend on the construction methodology and programme finally adopted for each of the works) we estimate that lorry movements largely will be as follows:

- Shenfield devegetation works will be accessed through Friars Avenue carpark, the predicted lorries will be 2 per day.
- Shenfield Station works will be accessed through Friars Avenue carpark, the predicted lorries will be 7 per day.
- Shenfield track works will be accessed through the Whitegates site, the predicted lorries will be 10 per day.
- Shenfield OLE will be accessed through Mount Avenue carpark, the predicted lorries will be 7 per day.
- Brentwood Station works will be accessed via The Parade, the predicted lorries will be 2 per day.
- Brentwood Turn-back will be accessed through London end carpark, the predicted lorries will be 10 per day.
- Line of Route works will be accessed through Nags Head Lane, the predicted lorries will be 2 per day.

There may be periods where various packages of works overlap due to the construction programme which may, in limited instances, result in greater cumulative number of lorries on the highway network in the Shenfield and Brentwood areas, however the disruption will be minimalised through the use of an extensive booking in system and ensuring best use of off-peak deliveries.

In 2008 the Crossrail Environmental Statement (ES) identified potential routes for construction traffic for the works at Brentwood Station, Shenfield Station and Shenfield Sidings. These included the following roads:

Brentwood Station

Kings Road
Warley Hill
The Parade
Rose Valley
King Edwards Road

Shenfield Station and Sidings

Hutton Road
Raleigh Road
Alexander Lane
Friar's Avenue

The routes for Shenfield Station and Sidings works were devised on the assumption that the Hunter Avenue Car Park would be used as the main construction site. However, since the ES identified these routes, a commitment was made to the Council not to use the Network Rail Hunter Avenue commuter Car Park (Commitment No. 560) for the purposes of a worksite. It should also be noted that Hunter Avenue is controlled by a weight restriction and would not be able to be used by HGVs over 7.5 tonnes, as the road design is incompatible.

i.e.



Gresham Road is currently being considered as a lorry route as an alternative to King Edward Road following comments received from Brentwood Borough Council. It is also noted that the Sea Cadets are on King Edward Road and they meet every Tuesday and Friday between 19:15 and 21:45.

It is the intention of the project to undertake a dilapidation survey of the highway of the approved lorry routes. Both Essex Highways and Brentwood Borough Council will be invited to attend the survey should they wish to, a report will be issued for information.

2.4 How / where will the turning circles of lorries be discussed?

The turning circles and general movements of lorries will be discussed at the TLG.

2.5 How will we move materials?

Materials and some plant for the platform and civil works will be delivered and removed by rail. Due to the limitations of available railway possessions, other materials, such as platform fill material, will be delivered by road along with removal of demolition materials.

2.6 Will lorries be running at night?

Where possible, the preparation and construction work will be undertaken during the day. However, where the works affect the railway, works will be undertaken during closures (possessions) of the railway, which include some weekends and nights. It is the intention to avoid where possible peak hours for the highway to ensure minimal disruption. We are liaising/discussing the frequency and timing of lorries with both Essex Highways and Brentwood Borough Council to ensure minimum disruption to the highway network.

2.7 How will we ensure road safety?

Road safety during the construction of all Crossrail works is of utmost importance. Prior to the commencement of works, Traffic Management Plan (TMP) and Lorry Management Plan (LMP) will be produced in consultation with highway and traffic authorities and the emergency services. The TMP for Brentwood Borough Council will also be presented to the TLG and this will include details of the road safety measures to be implemented. These measures will also be in accordance with the Crossrail Construction Code and all necessary consents and licenses will be obtained in advance.

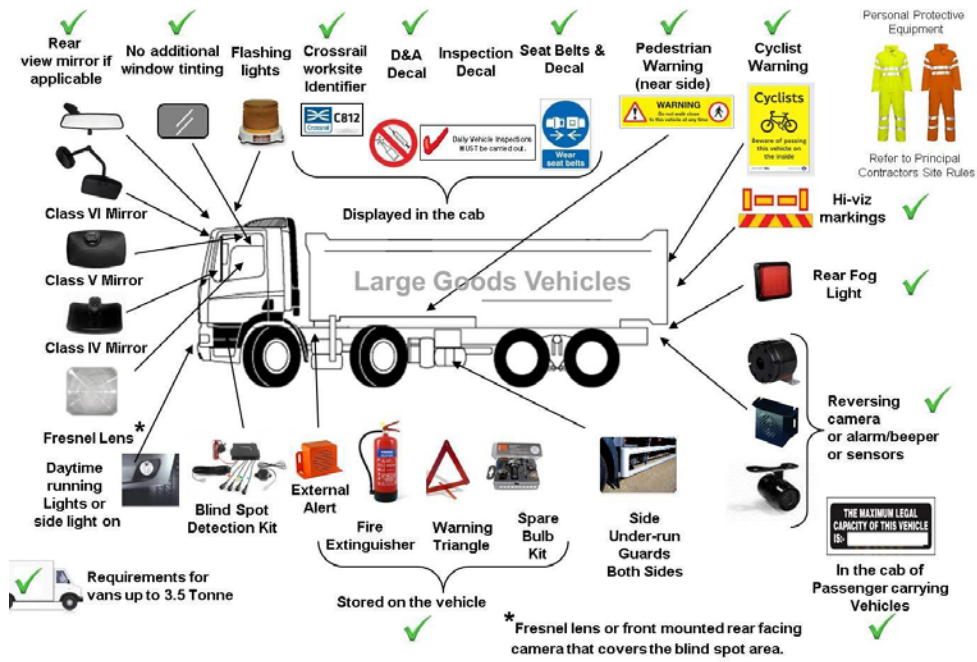
Some example specific measures are: traffic marshalls to co-ordinate all traffic and pedestrian movements; banksmen for the control of site vehicles; and signage for both site and public vehicles and pedestrians.

2.8 How will the routes used by lorries be managed and controlled?

Details of the designated routes to be used by lorries will be given to the driver upon arrival at the Chadwell Heath compound (within the London Borough of Barking and Dagenham), which is the main construction compound for all of the Crossrail Anglia works and from where all construction vehicle operations will begin and be controlled. The designated routes to the worksites will be signed from the A12 prior to the route being used. The signage will be discussed at the TLG meetings prior to any Schedule 3 submissions to the Highways Authority for consent.

2.9 Are lorries to be fully Crossrail compliant?

Yes, all delivery vehicles will be fully checked at the Chadwell Heath compound to make sure that each vehicle is compliant with the mandatory Crossrail requirements; details of the vehicle, driver and the goods will be recorded and verified before relaying onto their respective worksite, if a vehicle is not compliant then it will be turned away from site. Crossrail safety requirements for heavy goods vehicles are extremely strict and are recognised as being class leading. Measures can be summarised by the following figure:



3.0 Car Parking

3.1 Friar's Avenue car park needs to be kept open and there is a Commitment to the Council

The Friar's Avenue car park will be used to facilitate the construction works because of its close proximity to the construction of a new platform required for the more frequent Crossrail trains as well as improvement works to the rail junction. Its use will be in accordance with the terms of Commitment 0560, namely:

- 1) It will be necessary for construction vehicles and private cars to share access the car park. The Project will carefully manage this through supervision and the establishment of an appropriate method of safe operation. Please note that the location of the retained 20 car parking spaces may change during the construction period to facilitate the varying requirements of the works and to maintain a safe operation of the remaining car park.
- 2) Network Rail/Crossrail is to have sole occupancy and use of the car park at weekends and Bank Holidays. At these times the contractor will direct users to the Network Rail Hunter Avenue commuter car park, which is not so heavily used by rail users on those days. Details of the signage arrangement will be discussed at the TLG.
- 3) The nominated undertaker is also required to use "reasonable endeavours" to provide replacement car parking spaces in the Network Rail Hunter Avenue commuter car park for the number of spaces - 30 or less - lost at the Friar's Avenue Pay and Display car park during the week. Network Rail/Crossrail has reviewed the existing provision and layout of car parking in the Network Rail Hunter Avenue Car Park and advise that the existing arrangements already maximise the capacity of the car park area. Crossrail and Network Rail are exploring the possibility of how Mount Avenue Car Park can be used in relation to season pass holders for Friar's Avenue Car Park.

It should also be noted that since this commitment was given, further local car parking has been provided via the second deck in the Mount Pleasant commuter car park. Crossrail and Network Rail are exploring the possibility of how this can be best used in relation to season pass holders for Friar's Avenue Car Park.

- 4) The Network Rail/Costain will manage lorry movements into and out of the Friar's Avenue car park so that any impacts on local businesses / residents will be kept to a minimum by using Banksman, traffic marshals and pedestrian warning signs at all times.

Details of the temporary layout of the Friar's Avenue car park are currently in development and will be made available to Brentwood BC in due course. These arrangements will be discussed and reviewed on an on-going basis as part of wider Crossrail traffic and highways meetings (TLGs) which are planned to take place in the coming months and throughout the works.

3.2 What kind of vehicles and how many are to be used at Friars Avenue?

For the vegetation clearance works it is anticipated that 3.5t vehicles will be used, however larger vehicles will be required to transport machinery and skips that are required for the works.

For the Shenfield Station works it is anticipated that there will be 7 lorries per day commencing March 2015 and finishing September 2016. For the track infrastructure works it is anticipated that there will be 10 lorries per day commencing April 2016 and finishing in February 2017.

It was originally envisaged that the work would be serviced predominately through Friar's Avenue Car Park, however due to the potential acquisition of the Whitegates Site, some of the lorries may use this access to transport the machinery and materials to their respective works area. Further details will be presented at the TLG meetings.

3.3 What are the impacts and effects on the car parks? Where are local cars going to park?

- Friar's Avenue Car Park will be used as a main worksite area
- Car Park 1 (behind the shops near the station) will be used as a main worksite.
- Hunter Avenue will be used as a drop off point for staff and small tools to access the railway work site.
- Mount Ave car park will be used very infrequently at the week-ends and some mid-week nights (as is the case today by the Network Rail maintenance teams) to access the fast line tracks.

Local residents will still be able to park within the car parks at Hunter Avenue, Mount Avenue and Friar's Avenue throughout the duration of the works. (NB except weekends and bank holidays at Friar's Avenue). We are working with the council to develop an alternative arrangement for season ticket holders within Friar's Avenue Car Park.

Network Rail / Crossrail are investigating the possibility of obtaining parking permits for the NCP operated car parks to mitigate for the loss of season ticket holders that currently use Friars Avenue carpark, further details will be presented at the TLG meetings.

Prior to the works commencing in Friars Avenue carpark, notifications will be visible within the carpark and communications will take place with the local businesses to advise of the occupation of the carpark.

3.4 What changes to parking regulations are required?

At present we do not envisage that any changes to the current on-street parking, should we require any changes we will work closely with the council to support any necessary changes to the car parking regulations that are implemented.

3.5 What are the Gordon Road parking proposals and is additional lighting required?

A small worksite area within the rail corridor adjacent to Gordon Road will also be required. The works will be constructed via Friars Avenue carpark worksite. An access gate will be constructed on the Network Rail fence line, this will be within the Chulmleigh Court car park area, also there will be works to repair the existing surface as agreed with the landowner. This use would result in the temporary loss of some car parking spaces currently used by residents of Chulmleigh Court. We've opened discussions with the residents of Chulmleigh Court over the intention to repair an area of the land to replace the lost spaces. From the discussions to date the requirement for additional lighting has not been identified.

3.6 How will the vegetation clearance be carried out with the use of only three car park spaces in Friar's Avenue?

The logistics and operations of the works associated with this activity will be carried out in full compliance of the Commitment (0560). Only 3 car parking spaces will be required which will ensure significantly more than 20 spaces will remain available for public car parking. The necessary safety methods, such as banksmen, signage and warning signs for pedestrians, will also be applied to ensure the safe movement of construction vehicles, pedestrians and cars.

In accordance with the Commitment (0560), sole occupancy of Friars Avenue Car Park will be sought for weekend and bank holiday working, when larger vegetation will be removed, ensuring that a safe working zone is maintained.

3.7 What is the situation regarding ownership of land behind shops on Hutton Road and Friars Avenue car park?

The land behind the retail units on Hutton Road is privately owned, Crossrail exercised the necessary Compulsory Purchase Order powers provided by the Crossrail Act in January 2013 to acquire temporarily the land for the purposes of carrying out Crossrail works at Shenfield Station. Part of the agreement with the owners includes maintaining an emergency escape route.

The owners have been informed that they will no longer have use of this area from 5th January 2015. However, as the property acquisition may not be required until February an update will be given to the owners.

Discussions about the relocation of the cycle racks are occurring at the same time as the temporary taxi office (see Section 5), while recognising that the relocation of the taxi firm is most pressing. Ongoing discussions are being had with Brentwood Borough Council, Essex Highways and Abelio Greater Anglia to find an agreeable and practical alternative rack location in order to avoid its temporary removal.

4.0 Environmental Management

4.1 What are the Crossrail Environmental Minimum Requirements?

Parliamentary procedures required that an assessment of the environmental effects of the project was undertaken in accordance with the EIA regulations; and the Crossrail Bill was accompanied by an Environmental Statement (ES). The ES sets out the likely environmental impacts of the project; identifies measures to mitigate those impacts and predicts the magnitude and likely significance of any residual impacts. It is the intention of the Secretary of State to carry out the project so that its impact is as assessed in the ES.

The Secretary of State has required that in designing and constructing the Crossrail Works any nominated undertaker is contractually bound to adhere to the arrangements provided for in the Crossrail Environmental Minimum Requirements (EMR). The Crossrail Environmental Minimum Requirements comprises:

- General Principles;
- The Construction Code (Annex 1 to the EMR);
- The Planning and Heritage Memorandum (Annex 2 to the EMR);
- The Environmental Memorandum (Annex 3 to the EMR); and
- The Register of Undertakings and Assurances.

The EMR can be accessed via the Crossrail website:

<http://www.crossrail.co.uk/about-us/crossrail-act-2008/environmental-minimum-requirements-including-crossrail-construction-code>

Crossrail Works in Brentwood are being delivered by Network Rail, in its capacity as Crossrail delivery partner. As a result, the controls contained in the EMR have been, and will continue to be applied to the station design and construction planning process to ensure that the proposed works are authorised by the Crossrail Act.

4.2 How will the vegetation and trees be removed?

Costain has appointed an arboricultural contractor to undertake the vegetation and tree clearance work at Shenfield. It is proposed for clearance to be undertaken in the daytime during the week and during weekend possessions, when larger vegetation is cleared. The process is expected to last between 15 and 18 days and therefore will be completed before the bird nesting season starts in March.

The intention is to clear the vegetation behind the existing Platform 5 at the London end of the Station. The clearance will extend to approximately 30m beyond the end of the platform. Vegetation clearance will be kept to an absolute minimum; it is intended to keep in place the strip of vegetation between the properties of Friar's Avenue and the proposed worksite.

After initial discussions with the arboricultural contractor it is believed that the five mature poplar species, all of which are located on adjacent land, can be retained and pollarded where required. In undertaking the works, the contractor is

required to comply with Section 10.4 of the Crossrail Construction Code, undertaking work in accordance with BS 5837: "Guide for trees in relation to construction".

It is proposed to cut vegetation to a height of 15 cm. Any branches or trunks with a diameter less than 9 inches will be cut into chips and left on-site. It is intended to cut anything larger into smaller logs, some of which can be left around the perimeter of the site to provide suitable reptile habitat and thus prevent reptiles from moving onto the site during the construction phase.

It is intended to remove the remaining 15 cm stumps in March to allow for potential hibernating reptiles to migrate prior to any construction work. It is important to note that this is an extremely precautionary measure; the latest ecological surveys concluded that it is unlikely that reptiles would be found in this area. There are no known constraints but the area does have the potential to host ecological features. Therefore it is expected that an ecologist will be on-site for the first 3-5 days of the vegetation clearance to identify any ecological constraints the project team needs to be aware of. In the event of any unanticipated ecological discoveries when the ecologist is not present on site including, but not limited to, nesting birds, protected species and invasive species, works shall cease at the identified site until advice from the ecologist is received.

The stumps will be removed by the civils contractor. Rail is being considered as a method of removing the stumps from the site but at present it is anticipated that the stumps will be removed by road transport.

4.3 What visual impacts will the vegetation clearance have on the residents of Friar's Avenue?

As stated in the Crossrail Environmental Statement (2005), visual amenity impacts on residents of Friars Avenue are predicted to be caused by vegetation clearance, engineering construction activities in the adjacent car park and along the rail embankment.

Vegetation removed during construction will be partially replaced, and restoration plans will be submitted to Brentwood BC under Schedule 7 to the Crossrail Act for agreement. However, the vegetation will be immature on completion of works and impacts will continue into the operational phase. Once the replanting has matured significantly, impacts are expected to remain significant at 1a to 25 Friar's Avenue, but reduce to not significant for the remaining properties on Friar's Avenue.

To mitigate the impact of vegetation that will be removed there is a commitment (062) to offer householders of properties 1a-25 Friars Avenue supplementary planting within their land. It is the current intention to start these discussions in early 2015. This will be subject to acceptance by the householder on a case by case basis. It is proposed to undertake the tree planting, if required, late 2015. Autumn is the best time of year to plant trees; the soil is still warm after the summer but damp with the rain that is typical that time of year. In the meantime, Costain, with specialist input, will produce restoration plans to identify the appropriate species for planting.

4.4 How will dust be controlled?

Dust management plans, which will include controls to limit dust emissions, will be prepared with specialist input and implemented for each worksite. An initial air quality and dust management plan is included as Section 2.7 of the Environmental Management Plan, submitted as an appendix to the Construction Arrangements text for approval.

Three levels of control for dust impacts are planned, with the standard level, Tier 1, as the minimum that will be implemented on any site. A risk-based approach will be used to identify construction sites with a potential to generate significant quantities of dust near sensitive receptors and which require additional levels of control, Tier 2 or 3. As stated in the Construction Arrangements text for approval, Shenfield Station and Sidings have been identified as Tier 2 worksites. All other worksites in the Brentwood Borough have been identified as Tier 1.

The measures to limit dust deposition for each tier are given in Section 6 of the Construction Code and align with the measures given in the Greater London Authority's Supplementary Planning Guidance, The Control of Dust and Emissions from Construction and Demolition – a document produced by air quality experts. The measures are cumulative, meaning that for Tier 3 control, all measures from Tiers 1 to 3 will be required. The measures for Tier 1 and 2 are given in below in Tables 1 and 2 respectively.

Table 1. Tier 1 measures controlling the emissions from dust from worksites.

ensure no burning of waste materials takes place on site;
ensure an adequate water supply on the site;
ensure disposal of run-off water from dust suppression activities, in accordance with the appropriate legal requirements;
maintain all dust control equipment in good condition and record maintenance activities;
keep site fencing, barriers and scaffolding clean using wet methods;
provide easily cleaned hardstanding for vehicles;
ensure regular cleaning of hardstandings using wet sweeping methods;
not allow dry sweeping of large areas;
provide and ensure the use of wheel-wash facilities near the site exit wherever there is a potential for carrying dust or mud off the site;
fit wheel-washes with rumble grids to dislodge accumulated dust and mud prior to leaving the site wherever there is a potential for carrying dust or mud off the site and where reasonably practicable;
ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits;
install hard surfaced long term haul routes, which are regularly damped down with fixed or mobile sprinkler systems and regularly cleaned;
inspect haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;
record all inspections of haul routes and any subsequent action in a site log book which may be in hard or electronic format;
ensure that un-surfaced haul routes and work areas are regularly damped down in dry conditions;
routinely clean public roads and access routes using wet sweeping methods;
ensure vehicles working on site have exhausts positioned such that the risk of re-suspension of ground dust is minimised (exhausts should preferably point upwards), where reasonably practicable;
impose and signpost maximum speed limits of 5 mph on un-surfaced haul routes and work areas and 10 mph on surfaced haul routes and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate);
ensure all vehicles carrying loose or potentially dusty material to or from the site are fully sheeted;
store materials with the potential to produce dust away from site boundaries where reasonably practicable;
minimise the amount of excavated material held on site;
sheet, seal or damp down unavoidable stockpiles of excavated material held on site, where required;
avoid double handling of material wherever reasonably practicable;
ensure water suppression is used during demolition operations;

ensure that any crushing or grinding plant used on the site, which falls within the definition in Section 3.5 Chapter 3 of the Pollution Prevention and Control (England and Wales) Regulations 2000 SI 1973, has an appropriate permit issued and is maintained according to the procedures set out in the Pollution, Prevention and Control Act 1999;
ensure that any plant, identified above, is operated in accordance with the conditions set out in the permit and a copy of the permit is held on site;
use enclosed rubble chutes and conveyors where reasonably practicable or use water to suppress dust emissions from such equipment;
always use enclosed conveyors where crossing roads, other public areas and property which is not in the ownership or control of CRL;
sheet or otherwise enclose loaded bins and skips;
minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate;
only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction;
carry out site inspections regularly to monitor compliance with dust control procedures set out above and record the results of the inspections, including nil returns, in the log book detailed;
increase the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions;
record any exceptional incidents causing dust episodes on or off the site and the action taken to resolve the situation in the log book detailed in above.

Table 2. Tier 2 measures controlling the emissions from dust from worksites.

strip insides of buildings, as far as reasonably practicable, before demolition;
bag and remove biological debris (such as birds nests and droppings) or damp down such material prior to demolition;
wherever reasonably practicable, retain walls and windows while the rest of the building is demolished to provide a screen against dust;
screen buildings, where dust producing activities are taking place, with debris screens or sheeting;
avoid carrying out earthworks during dry weather if reasonably practicable having regard to programme and contracting arrangements for the relevant works or provide and ensure appropriate use of water sprays to control dust;
ensure slopes on stockpiles are no steeper than the natural angle of repose of the material and maintain a smooth profile;
ensure equipment is readily available on site to clean any spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods;
where appropriate use increased hoarding height to protect receptors; and
consider full enclosure of sites or specific operations where there is a high potential for dust production and the site is active for an extensive period.

As stated in the Construction Code, where sites have a low dust risk, no dust monitoring is required to be carried out. However, the contractor will be undertaking weekly site inspections and maintain a dust log to assess the effectiveness of the dust control measures on-site. Where there is a medium risk of dust, such as Shenfield Stations and sidings, it is a requirement for passive monitoring techniques to be adopted at appropriate locations. Again, the contractor is looking to adopt a more conservative approach at Shenfield, by deploying two continuous particulate monitors on the site boundary instead. Results will be filed and will be available for inspection by the Borough Council upon request.

4.5 What wheel washing facilities will there be to avoid mud on highway?

The Construction Arrangements text for approval sets out a range of methods that may be used to prevent mud being carried onto any public highway as a result of the works. The proposed methods are in accordance with Section 4.4 Road Cleanliness of the Crossrail Construction Code. The measures include:

- hardstanding at the access and egress points will be cleaned at appropriate intervals;
- vehicle wash down points to clean vehicle wheels at each exit point onto the highway;
- the correct loading of vehicles and sheeting of loads where necessary to avoid spillage during their journeys;
- appropriate wheel cleaning measures will be employed to prevent the transfer and accumulation of mud and other granular deposits on the public highway;
- the use of mechanical road sweepers combined with water sprays for the suppression of dust to clean hardstandings, roads and footpaths in the vicinity of the site; and
- the flushing of gullies in the vicinity of the site.

After completion of any works affecting a highway, all surplus materials arising from the works will be cleared from the highway, leaving it in a clean and tidy condition in accordance with the reasonable requirements of the highway authority.

4.6 How will noise be controlled?

The nominated undertaker will, as far as reasonably practicable, seek to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities. The nominated undertaker will apply Best Practicable Means (BPM), as defined under Section 72 of the Control of Pollution Act (CoPA) 1974, to all activities.

An initial noise and vibration management plan is provided as Section 2.11 of the Environmental Management Plan, submitted as an appendix to the Construction Arrangements text for approval. This sets out measures to minimise noise and vibration. The contractor will conform to the measures given in the Crossrail Construction Code. This includes complying with BS 5228 “Code of practice for noise and vibration control on construction and open sites”. This information cascades down to those working on site.

It is a requirement of the Crossrail Environmental Minimum Requirements (EMR) that contractors obtain consent from the Local Authority’s Environmental Health Officer (EHO) under Section 61 of the CoPA for the Crossrail works. As such, the Council can control matters for consideration and approval under this piece of legislation. The consent applications are required to demonstrate that BPM, as defined by Section 72 of CoPA, are being used to reduce the impact of noise. Best practicable means can include but are not limited to:

- Whenever possible, noisy plant will be situated away from sensitive receptors;
- Where reasonably practicable, fixed items of construction plant will be electrically powered in preference to diesel or petrol driven;
- As far as reasonably practicable, the noise from reversing alarms will be controlled or limited; and
- The movement of delivery materials outside of normal working hours shall be kept to a minimum and handled in a manner that minimises noise.

Network Rail and Costain met with Brentwood Borough Council’s Environmental Health team in October to talk through the proposed works at Brentwood and Shenfield and Section 61 consent requirements. As a result of these discussions, it was agreed that separate Section 61 consent applications will be submitted for the Shenfield and Brentwood worksites respectively.

4.7 What will noise levels be?

Noise levels will differ between construction activities. The noisiest works are likely to be piling retaining walls, platform construction and ramp removal. Other activities that will cause a lower level of noise include the vegetation clearance and establishing the temporary sites (use of electric tools etc.).

Although these activities have the potential to cause a disturbance, mitigation measures will be implemented to ensure that noise is kept to an absolute minimum and works are undertaken in accordance with the relevant Section 61 consent. All nearby residents will be notified at least 14 days prior to any noisy work. The information sheets will include details of the Crossrail Helpline number which residents can call in the case of a query or complaint relating to noise.

In the unlikely case of work required in response to an emergency, the local authority and local residents will be advised as soon as reasonably practicable that emergency work is taking place.

4.8 Will we offer noise mitigation, and when would this be?

As part of the Crossrail Noise and Vibration Mitigation Scheme, as outlined in Crossrail Information Paper D09 (IP D09), noise and vibration assessments for each worksite will be undertaken to determine whether any properties will be affected by noisy activities on a prolonged basis and would therefore qualify for noise mitigation. These mitigation measures may include secondary glazing or temporary rehousing. The Project is currently being planned so that, as far as possible, the predicted noise levels and frequency will remain under these trigger levels, such that the mitigation measures described above will not be required. The results of the noise assessments can be made available to the Environmental Health team in 2015 and will form the basis of the Section 61 consent applications.

IP D09, which can be downloaded from the Crossrail website, provides answers to a number of frequently asked questions relating to the Crossrail Noise and Vibration Mitigation Scheme.

4.9 Will work be undertaken in proximity to any water courses?

At Shenfield, the works will take place within 8m of a small drainage ditch, where the culvert requires headwall strengthening. Schedule 17 Part 3 to the Crossrail Act requires the nominated undertaker to apply for consent from the Environment Agency to undertake such work. The Schedule 17 application for the works to the culvert must demonstrate appropriate mitigation measures to prevent run-off into the ditch: the proposed measures include:

- Placement of a silt fence at the base of the embankment;
- No refuelling near the water course; and
- Storing materials that fall under the Control of Substances Hazardous to Health (COSHH) regulations away from the water course.

Network Rail and Costain have met with the Environment Agency to discuss the work and intend on submitting the Schedule 17 application for consent early next year. The work on the culvert is not considered significant enough by the Environment Agency to alter flood risk. Nevertheless, checks will be undertaken

against the 100 year rainfall event to understand current and residual flood risk, the results of which will be included as part of the consent application.

4.10 How will Japanese Knotweed be dealt with?

As stated in Section 10.3.1 of the Construction Code, appropriate control measures will be adopted in the event that non-native invasive species are found on site to ensure that they will not be inadvertently spread along the route. Mitigation measures relevant to such species (including Japanese Knotweed) are given in Section 2.9.4 of the Environmental Management Plan, submitted for information to support the Construction Arrangements text for approval.

5.0 Information and Communication with the Community

5.1 Do you have a communications strategy or plan?

Communications and Community Engagement

November 2014 - January 2015

- Engagement with the local authority officers to continue on a regular basis
- Public information events were held in July 2014
- Further public information events on 27th November (Brentwood) & early December 2014 (Shenfield , date tbc), notifications coming – to present these plans to the public
- Publicised via letters, posters and leaflets at station
- Direct engagement with local businesses to discuss issues
- Further briefings for councillors as requested
- Follow up engagement with residents and business following events
- Letter drop / leaflets in January 2015 to mark the start of the works
- **Further community engagement during 2015 - 2017**

5.2 Have we spoken to taxi drivers?

We have visited businesses in Brentwood and will be talking to local businesses in Shenfield over the next few weeks including arranging meetings with the taxi companies in the area of each station. Through the use of Community Relations Managers from Costain (the Principal Contractor) and Network Rail will keep in contact with local businesses in person during the works in order to maintain communication.

5.3 How will the taxi rank in Brentwood operate?

Crossrail and Network Rail have been working with the taxi firms for some time to agree arrangements for the operation of ` during the construction work. The detail of taxi vehicle movements and impact on traffic will be discussed at the relevant TLG meetings.

5.4 What is happening with the Taxi office at Shenfield Station?

Network Rail is working with Abellio Greater Anglia, Crossrail Ltd and Essex Highways on plans to relocate the taxi office. A number of locations have been identified by Network Rail, including siting in front of the station, near to car parks and at locations along Hutton Road. Currently, none of the options have complete agreement from all parties, so plans are being discussed and tweaked

as necessary. The aim is to have an agreed list of options in early 2015 which can then be shared and discussed with Brentwood Borough Council, as it is acknowledged that they will have an input.

5.5 How will residents and businesses be notified of the works?

Resident notification will continue throughout the entirety of the works by a number of forms including letters, emails and posters. There will also be a general letter sent at least 14 days prior to the start of the works informing residents that works are due to begin and providing information, contact details etc.

Public information evenings were held in Brentwood and Shenfield on 27 November 2014 and 9 December 2014 respectively. Further drop in sessions are being considered for early 2015, once the construction timing and other issues are resolved.

Residents and businesses can find out more information by contacting the 24 hour helpline or making contact directly with our community relations staff.

Network Rail and Crossrail will be rolling out a new joint branded design for posters and other presentation material throughout the Crossrail route in early 2015. This will include materials at Brentwood and Shenfield covering information about the project overall and also more detailed information about the works taking place at each station. This will be in addition to regular letters to local residents around the stations providing updates on forthcoming works.

6.0 The Schedule 7 Submission

6.1 *More detail is required in the submission (REF: BRE/2/1/NR) (to normal planning application standard)*

As set out in the Written Statement for Information that accompanied the Construction Arrangements Text for Approval, the Crossrail Act 2008 (the Act) deems planning permission is to be granted for the works authorised by it, subject to the conditions set out in Schedule 7. Schedule 7 includes conditions requiring various matters be subject to the approval of the relevant local authority. This is therefore a different planning regime to that which usually applies in England (i.e. the Town and Country Planning Act) and is different in terms of the nature of submissions and the issues that the local planning authorities (LPAs) can have regards to in determining requests for approval.

There are two types of submission that can be made by the nominated undertaker under Schedule 7 to the Act: Construction Arrangements and Plans and Specifications. The format of these is not set by national planning legislation but has been determined through the Crossrail Planning Forum (which is made up of all qualifying authorities under the Act) through the agreement at the Forum of the Crossrail Planning Forum Notes.

Crossrail Planning Forum Note (PFN) 1 sets out the content of submissions and standard templates to be used for each of the main submissions and therefore the construction arrangement submission (REF: BRE/2/1/NR) has been prepared and submitted in accordance with the agreed standards.

Planning Forum Note 4 (attached as Appendix G) sets out that a construction arrangement submission will be submitted for approval in text form (the exceptions to this maybe screening and construction camps) and the 'text for approval' is based on the Crossrail Construction Code which is part of the Crossrail Environmental Minimum Requirements (EMR).

6.2 *What are the grounds for consideration and reasons for refusal which can be used by the Council in determining the Schedule 7 Construction Arrangements application (Council Application No. 14/01016/CROSS) currently under determination?*

In determining requests for approval, the grounds which qualifying authorities can condition or refuse the submission are set out against each matter in the table in paragraph 16 to Schedule 7.

The ground that 'the arrangements ought to be modified to prevent or reduce prejudicial effects on road safety or on the free flow of traffic in the local area and are reasonable capable of being so modified' can only be used in relation to the matters of storage sites, screening and mud on highway. It should also be noted that the LPA can only impose conditions on construction arrangements with the agreement of the nominated undertaker.

6.3 What other planning consents are required?

Plans and Specifications consent under Schedule 7 to the Crossrail Act is required for the permanent works proposed at Brentwood Station and Shenfield Station and Sidings. Requests for approval will be obtained from the Local Planning Authority prior to the commencement of those works.

Towards the end of the works, Worksite Restoration Schemes under Schedule 7 to the Act will be agreed with the Council. These plans will detail how areas of land used temporarily for the construction of the works will be restored after works have finished ensuring land is reinstated to its condition prior to the works. Separate plans and details of how sites and areas will be restored or reinstated will be prepared and issued to the Council for agreement. The restoration schemes will also include areas of replanting where necessary.

Consent will also be required under Schedule to the Act to bring into use the Scheduled works (works listed in Schedule 1 to the Act). The purpose of these 'Bringing into Use' approvals is to ensure that the nominated undertaker for the work has taken all reasonably practicable permanent measures for the mitigation of the effects of the work. The design of Crossrail will seek to blend the operational infrastructure into the landscape and townscape and to generally reduce the effect on the environment. Some works, such as permanent noise barriers and planting and seeding, will be purely for mitigation. To a large extent, therefore, the mitigation will be an integral part of the design rather than a separate element and have previously been approved by the local authority.

For any works outside of the Crossrail limits of deviation, permission will be obtained under the normal Town and Country Planning Act (1990) procedure.

6.4 Difference in location of hoarding between the Construction Arrangement Plans and images/details in the slides sent to the Council.

The construction site plans sent as part of the Schedule 7 Construction Arrangements submission are for information only and not for approval (Drawing Nos. NNS1B-CNS-DRG-AKB-400003, NBW1B-CNS-DRG-AKB-400001, NSE1B-CNS-DRG-AKB-400021 and NSE1B-CNS-DRG-AKB-400022). The drawings are issued in support of the construction arrangements for approval and to provide an indicative location of temporary worksite areas to be used to construct the works within the Crossrail limits of deviation. This is the horizontal limits of deviation which define the maximum extent of the railway works and ancillary works listed in Schedule 1, and the area to which the deemed planning permission, explained in 6.1 above, is applied to.

It is not practicable to provide detailed information as to how sites will be used during construction, including the location of hoardings, as the site usage will be subject to detailed construction planning by the contractor and is likely to be adjusted throughout the duration of the works.

The details of the hoardings within the slides issued to Council on 14 November 2014 have been provided to show indicatively how the sites can be arranged, including the possible location of the site hoarding.

Arrangements for hoarding will follow the principles set out in the EMP, , paragraph 2.3.3, submitted as supporting information to the Schedule 7 Construction Arrangements application, and the EMR 3.3.4 and the 'text for approval' i.e.:

The type of hoarding or fencing used will vary from location to location but will accord with the following principles:

- (a) the standard hoarding will be 2.4 m minimum height, plywood faced, timber framed hoarding suitably painted;
- (b) the hoarding will be increased in height and possibly altered in form to enhance acoustic performance for specific locations;
- (c) a 1.8 m high chainlink fencing may be used at more remote locations;
- (d) suitable measures will be used for tree protection (see Chapter 10);
- (e) where reasonably practicable existing walls, fences, hedges and earth banks will be retained;
- (f) notices will be displayed on all site boundaries, where appropriate, to warn of hazards on site such as deep excavations, construction access, etc.
- (g) appropriate sight lines/visibility splays will be maintained to ensure safety of both vehicles and pedestrians is preserved; and
- (h) temporary fences may be used in certain areas, such as for short term occupation of sites or at more remote locations.

The approach will be selected to maintain effective security and achieve appropriate noise attenuation and visual screening whilst ensuring appropriate sight lines are maintained.

6.5 *There is a new construction site (area of land behind shops on Hutton Road) detailed in the presentation slides which is not in the Schedule 7 application.*

The area of land behind shops on Hutton Road (Nos. 95-105) is an area which has been required for the project for some time and is subject to a Compulsory Purchase Order Notice served under the Crossrail Act (2008) at the start of 2013. See Appendix D Final Land Acquisition Boundary (FLAB) Plan which indicates the areas required to be acquired (temporarily or permanently) and the necessary notices served against. This area of land is also identified for use as a worksite within the Crossrail Environmental Statement (2005), as part of the Shenfield Station Worksite area.

The land is not indicated on the Shenfield Station Construction Site Plan (Drawing No. NSE1B-CNS-DRG-AKB-400022) ; however the plans submitted are for information only as the location of worksites is not being approved; the construction arrangements relate to how the works will be managed (Crossrail Act Schedule 7 Para 16).and therefore any worksite set up in connection with those works will be subject to the approved construction arrangements, and all the controls set out in the EMR.

7.0 Other Matters

7.1 What will the effect be on passengers using both stations during works?

Effects/impacts on passengers using Brentwood and Shenfield Stations during construction works will be minimised as far as reasonably practicable. At Shenfield Station, a taxi service will continue to operate, although arrangements for a new location for the taxi office are still being discussed. Passengers will notice hoarding outside the station but it will not infringe upon the space in the forecourt. Within the station, there will be hoarding on the platforms whilst alterations and extensions are undertaken, however maximum space will be provided to maintain fire evacuation routes and general circulation space.

In a number of instances during peak work activities, the railway lines through Shenfield station will be required to be fully and temporarily closed for safety and practical reasons and therefore the station will be closed. In some cases, one line or the other (either stopper or fast lines) will be required to be closed and therefore those platforms will be out of service. This will only happen at weekends, with the exception of a number of days over the Christmas period in 2016. For car parking arrangements please see section 3.

At Brentwood, the works will require the temporary use of 21 car parking spaces of the station car park as a worksite and materials storage compound and welfare facilities for staff. Hoarding will be erected at the end of the platforms to carry out the platform extensions safely, however as much space as possible will be maintained for passengers.

The programme for line closures is still being finalised, along with the passenger train operator, Abellio Greater Anglia, however there will be a need for full line closures which will mean that Brentwood station will be closed occasionally during the peak work activities. The current programme indicates that the majority of the full closures will occur towards the end of 2015 through to early 2017, with an extended closure over Christmas 2016. The peak work activities and full line closures will occur less at Brentwood station than at Shenfield.

Where full line closures are required at either station, alternative travel arrangements will be provided, such as bus replacement services.

7.2 Where will the Sidings be and where will the trains be stabled?

The trains will be stabled on the country end of Shenfield Station overnight, there are no plans to stable trains in the London end or in Platforms 5 or 6.

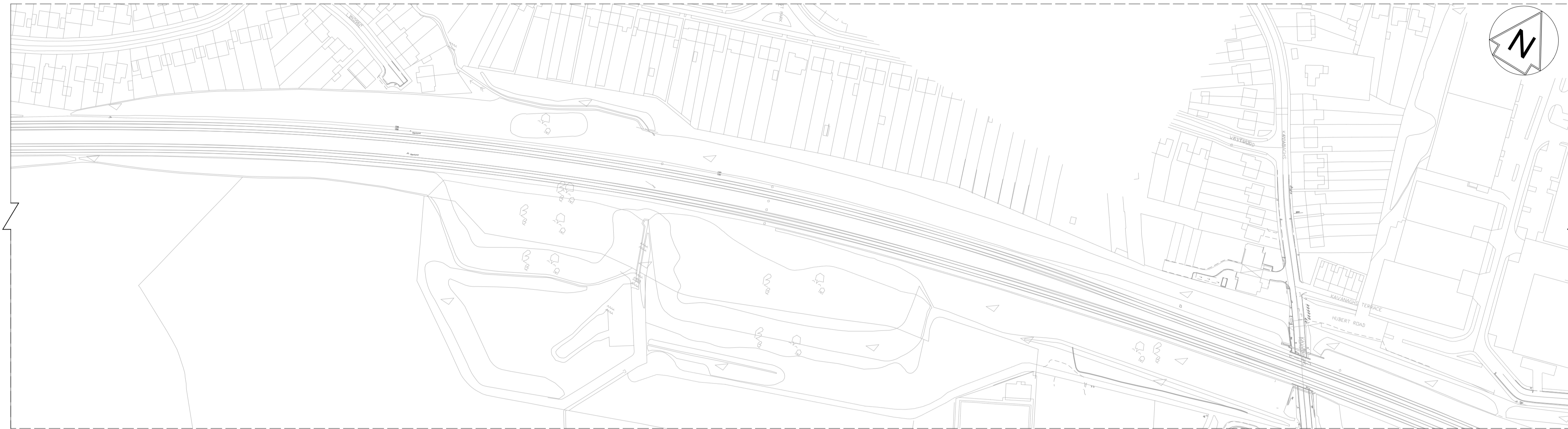
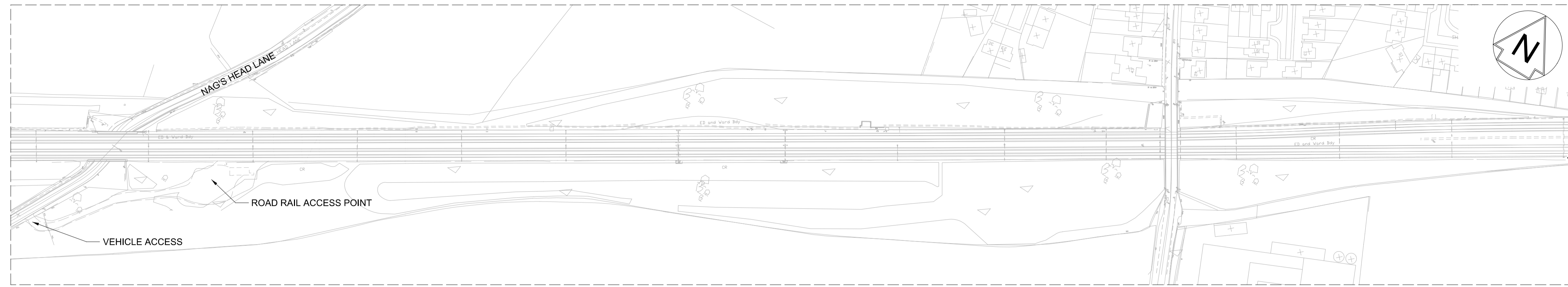
8.0 Appendices

8.1 Appendix A: The Crossrail Act, Deemed Planning Permission and Schedule 7

The Crossrail Act (2008) gives deemed planning permission for the works, subject to the conditions imposed by Schedule 7 to the Act. The Schedule 7 regime is a separate and different planning regime to that which usually applies in England (i.e. The Town & Country Planning Act). The matters requiring further approval from District Authorities under the Act are set out in paragraphs 15 & 16 of Schedule 7. The submissions for approval under Schedule 7 are effectively for 'reserved matters' further to the deemed planning permission that the Act provides. Additionally the grounds for the imposition of conditions and/or the refusal of Schedule 7 submissions are limited in comparison to normal Town and Country Planning (TCPA) legislation, due the requirements within the Act itself and Crossrail's Environmental Minimum Requirements (EMR) including the Planning and Heritage Memorandum, to which all qualifying authorities sign up.

8.2 *Appendix B: Indicative Brentwood Station Construction Site Plan*

Drawing Number
NBW1B-CNS-DRG-AKB-400001



SITE LOCATION PLAN
1:1500



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KEY PLAN
NTS

NOTES:-

1. CONFIRMATION OF ALL SURVEY DATA MUST BE OBTAINED FROM THE NETWORK RAIL SURVEY.
2. COORDINATES TO THE XRAIL 09 GRID ALL LEVELS ORDNANCE DATUM NEWLYN.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

LEGEND

INDICATIVE WORKSITE AREAS

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
A01	15/02/12	ISSUED FOR APPROVAL	KR	ZC	AM
Status			Suitability		

FOR INFORMATION



Contractor(s)

ATKINS

Project

**NBW1B
BRENTWOOD STATION
CONSENTS**

Drawing Title

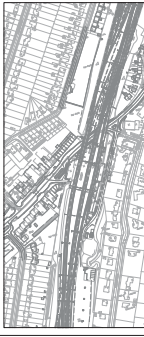
CONSTRUCTION SITE PLAN

Designed	C HARPER	Signed	Date	15/02/12
Drawn	K REVATHI	Signed	Date	15/02/12
Checked	Z CHICK	Signed	Date	15/02/12
Approved	A MCDONALD	Signed	Date	15/02/12
Scale(s)	1:1500	ELR & Mileage	LTN1	18m 16ch
Alternative Reference				Sheet
				1 of 1
Drawing Number				Revision

NBW1B-CNS-DRG-AKB-400001 A02

8.3 *Appendix C: Indicative Shenfield Station Construction Site Plan*

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KEY PLAN
1:5000

NOTES:
1. CONFIRMATION OF ALL SURVEY DATA MUST BE OBTAINED FROM THE APPROPRIATE SURVEYOR.
2. DATUM NEALS TO THE NAIL 00 GRID ALL LEVELS & ORDINANCE DATUM NEALS.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

LEGEND
INDICATIVE WORKSITE AREAS

REV	DATE	DESCRIPTION	BY	CHKD	APP'D
01	20/06/12	ISSUE FOR APPROVAL	SM	SM	SM
02	20/06/12	REVISED	SM	SM	SM
03	20/06/12	REVISED	SM	SM	SM
04	20/06/12	REVISED	SM	SM	SM

FOR APPROVAL

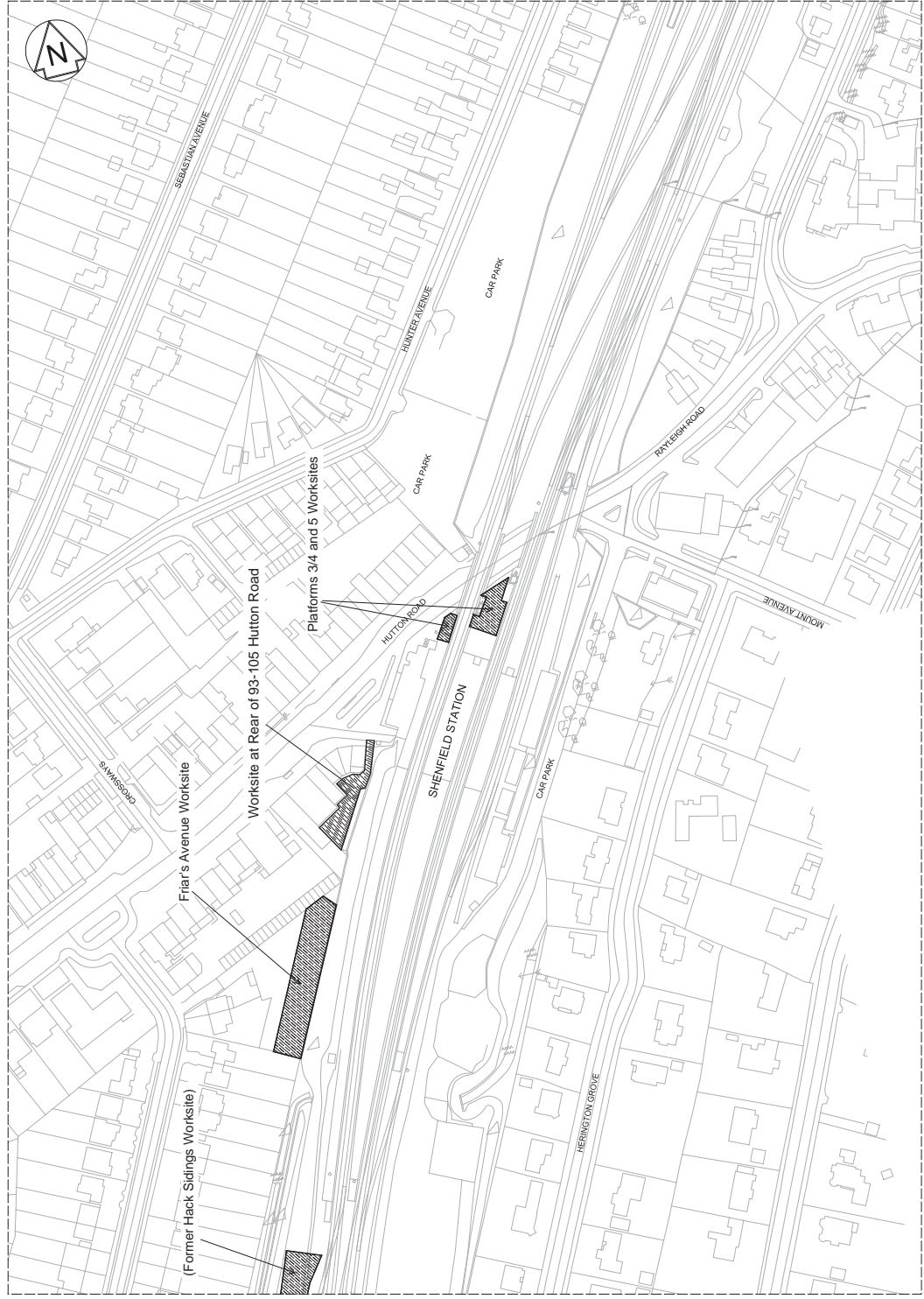


NSE1B
SHENFIELD EAST STATION
CONSENTS

CONSTRUCTION SITE PLAN

FOR INFORMATION ONLY

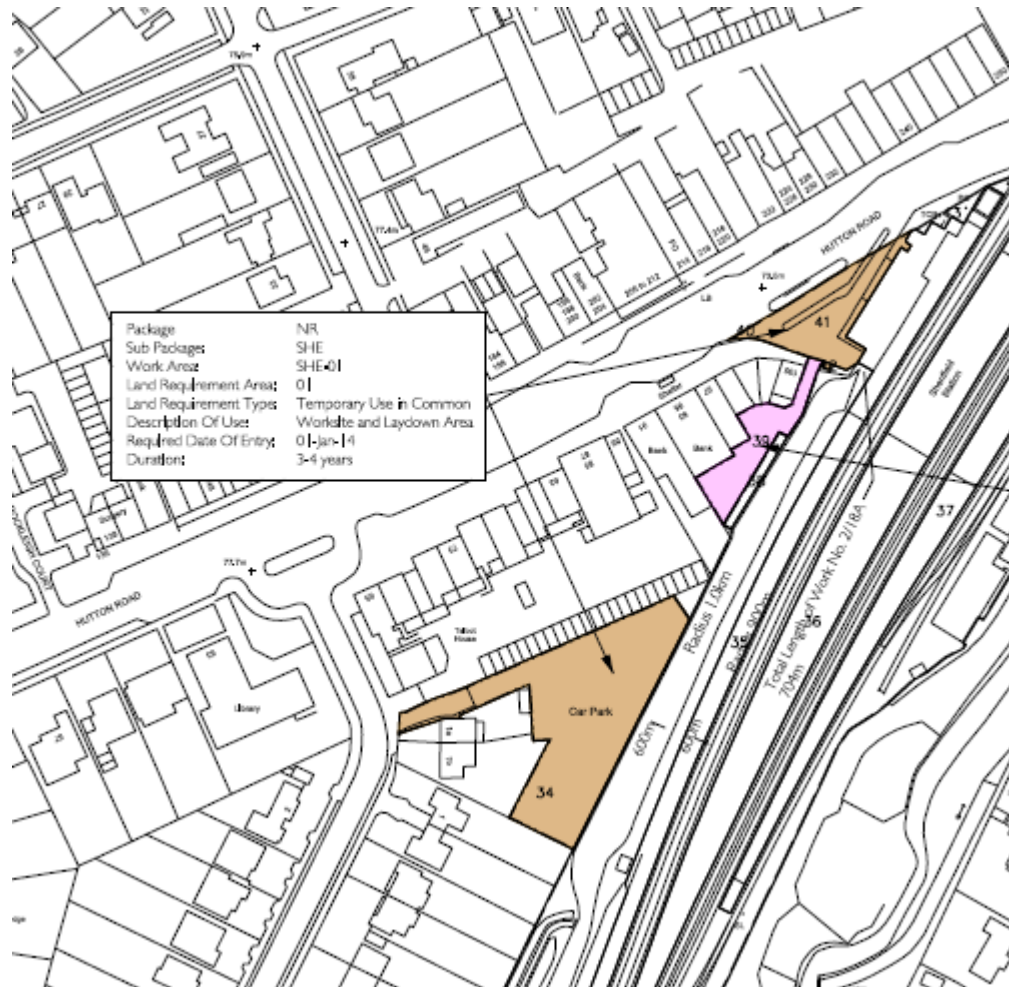
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C. HARPER	[Signature]	20/06/12
S. MANJUNATHA	[Signature]	20/06/12
Z. CHICK	[Signature]	20/06/12
A. McDONALD	[Signature]	20/06/12
Scale	1:1000	18m 16ch
Alternative Reference	LTN1	Sheet



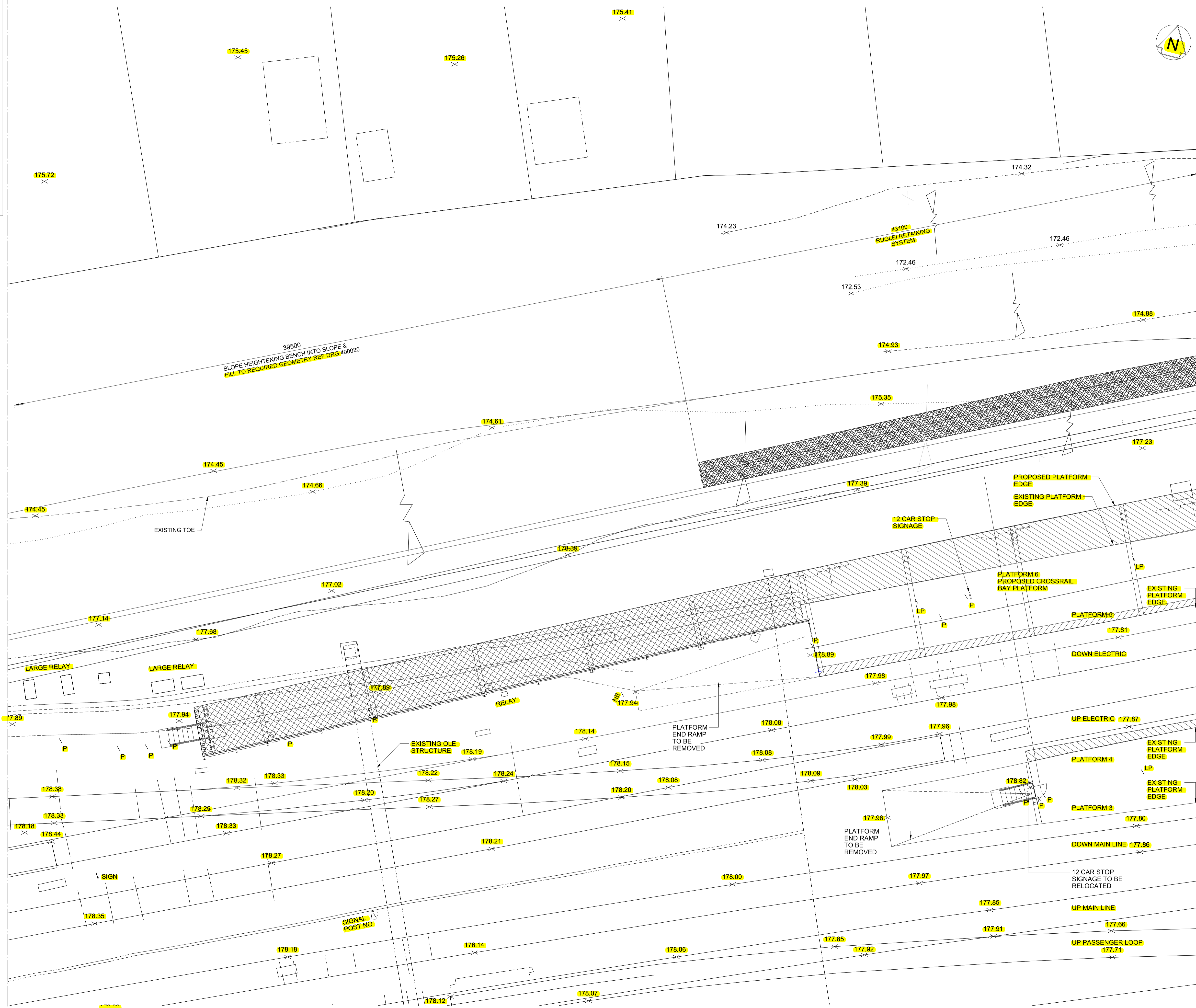
FOR INFORMATION ONLY

SITE LOCATION PLAN
1:1000

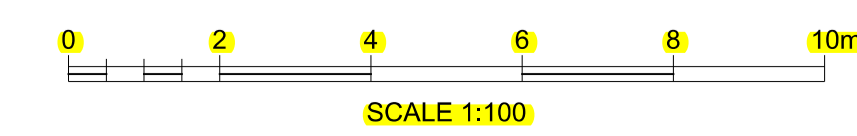
**8.4 Appendix D: Shenfield Station Final Land Acquisition Boundaries
Land Requirement Areas (extract)**



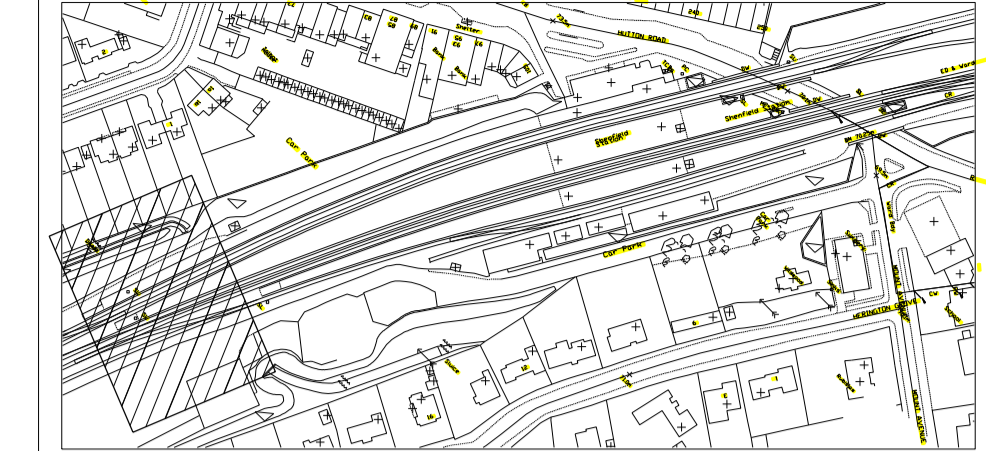
8.5 Appendix E: NSN1B-EAR-DRG-AKB-400008 A02 Proposed Platform Level Plan



PROPOSED PLATFORM LEVEL PLAN
1:100



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KEY PLAN
1:2500

- NOTES:-**
- CONFIRMATION OF ALL SURVEY DATA MUST BE OBTAINED FROM THE NETWORK RAIL SURVEY.
 - COORDINATES TO THE XRAIL 09 GRID ALL LEVELS ORDNANCE DATUM NEWLYN.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - FOR ADDITIONAL SIGNAGE INFORMATION REFER TO CROSSRAIL SIGNAGE / REBRANDING PHOTOGRAPHIC SURVEY DRAWING NSN1B-EAR-DRG-AKB-400014.

- KEY:-**
- EXISTING PLATFORM TO BE WIDENED
 - EXISTING PLATFORM TO BE REDUCED

Safety, Health and Environmental Information
Notes below are additional to hazards/risks normally associated with this type of work:

- Construction
- Ci
- Cii
- Ciii
- Operations
- Oi
- Oii
- Oiii
- Maintenance
- Mi
- Mii
- Miii
- Dismantling/Demolition (Future)
- Di
- Dii
- Diii

These notes are based on the use of experienced and competent contractors carrying out the work using an approved safe method of working.

A02	15/03/13	UPDATED PLATFORM DESIGN	PN	MW	AMCD
A01	16/12/11	GRIP 4 ISSUED FOR APPROVAL	YR	CH	CM
Rev	Date	Description of Revisions	Drawn	Chkd	Appr
Status					Suitability

FOR CONTINUATION SEE DRAWING NO. NSN1B-EAR-DRG-AKB-400009

SHARED - (G4) FORM A AUTH



Contractor(s)



Project
**NSN1B
SHENFIELD STATION
PLATFORMS AND EMBANKMENTS
ENGINEERING - ARCHITECTURE**

Drawing Title
**PROPOSED
PLATFORM LEVEL PLAN**

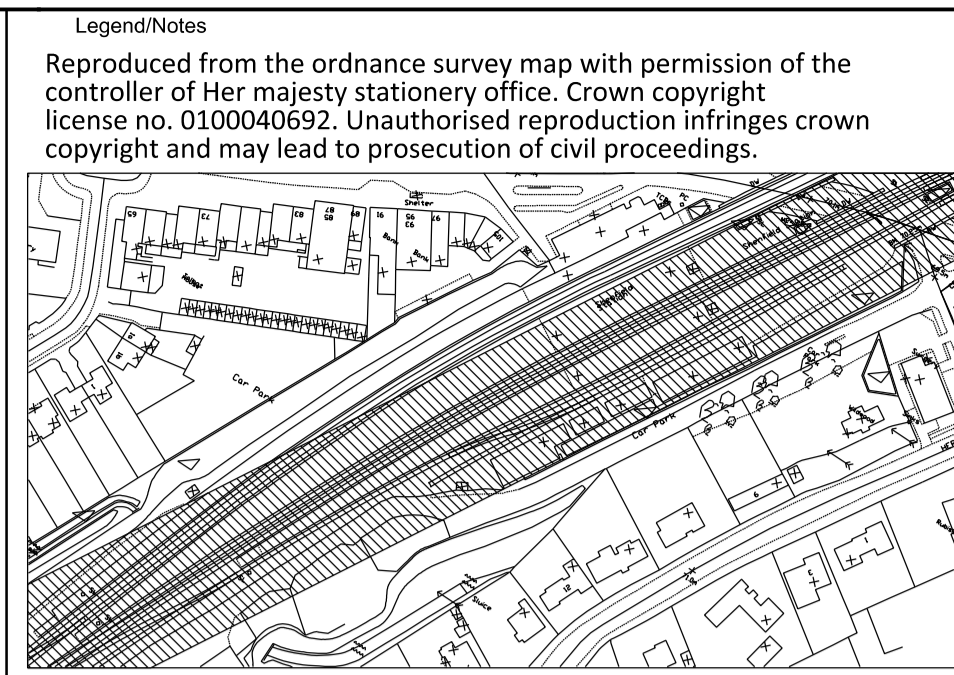
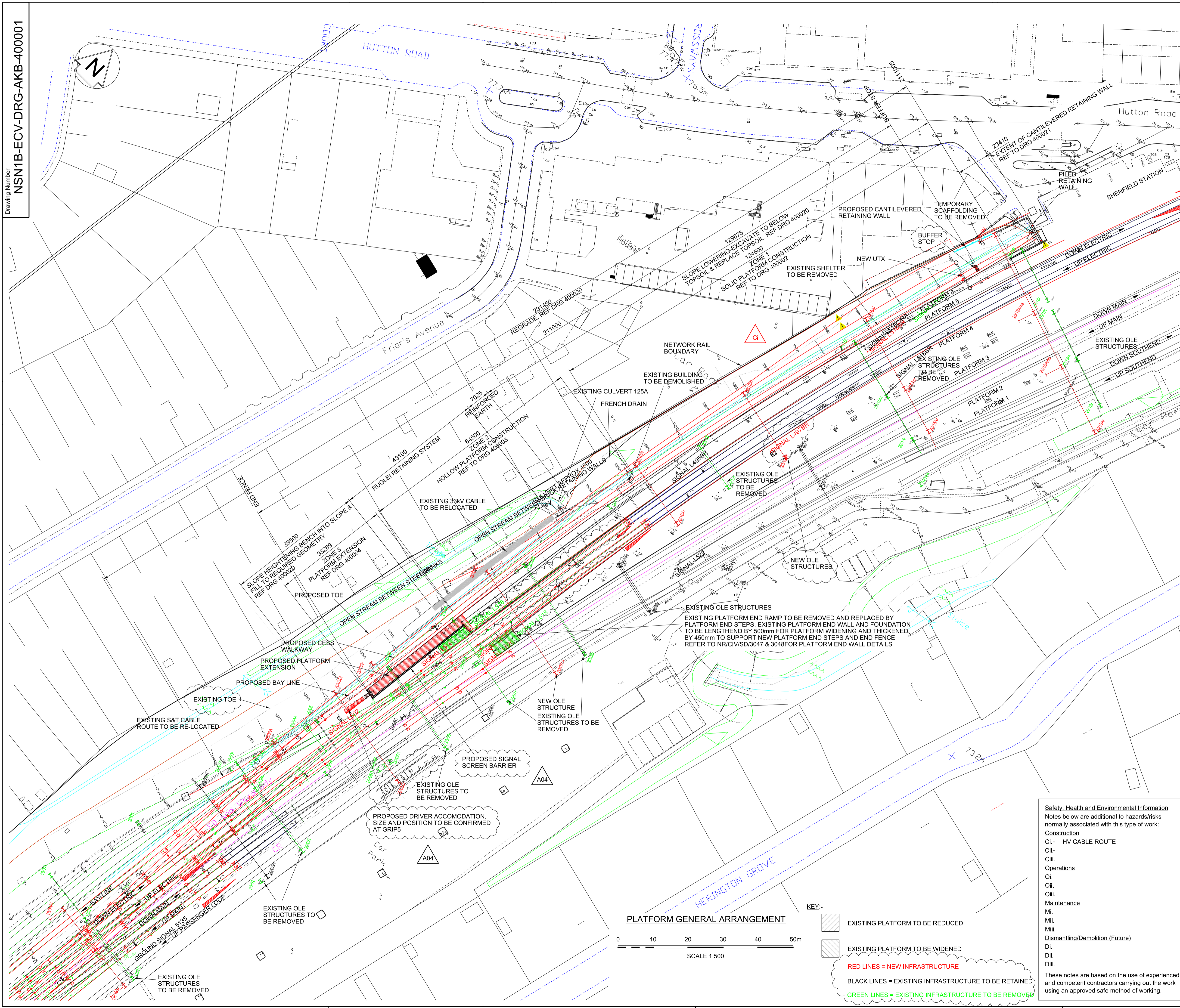
Designed	M WOODCOCK	Signed	Date	16/12/11
Drawn	Y REVELL	Signed	Date	16/12/11
Checked	C HARRIS	Signed	Date	16/12/11
Approved	C MINTIKKIS	Signed	Date	16/12/11
Scale(s)	1:100	ELR & Mileage	LTN1	20m 16ch

Alternative Reference
Drawing Number
NSN1B-EAR-DRG-AKB-400008

Sheet
1 of 6

Revision
A02

8.6 *Appendix F: NSN1B-ECV-DRG-AKB-400001 Proposed Platform
Extension General Arrangement Drawing*



KEY PLAN (OS GRID REFERENCE TQ 613949)
1:2500

- NOTES:-
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - PLATFORM DIMENSIONS ARE MEASURED ALONG PLATFORM EDGE.
 - THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE SHENFIELD PLATFORM EXTENSION AIP DOCUMENT REF: NSN1B-ECV-FOA-AKB-000478 AND SHENFIELD SIDINGS AIP DOCUMENT REF NSN1B-ECV-FOA-AKB-4110771.
 - THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS NSN1B-ECV-DRG-AKB-4000002 NSN1B-ECV-DRG-AKB-4000003 NSN1B-ECV-DRG-AKB-4000004 NSN1B-ECV-DRG-AKB-4000005 NSN1B-ECV-DRG-AKB-4000006 NSN1B-ECV-DRG-AKB-4000020 NSN1B-ECV-DRG-AKB-4000021 NSN1B-ECV-DRG-AKB-4000022 NSN1B-ECV-DRG-AKB-4000023 NSN1B-ECV-DRG-AKB-4000024
 - DRAWINGS TO BE READ IN CONJUNCTION WITH NETWORK RAIL STANDARD SUITE OF DRAWINGS: NRC/CIV/SD/231, 328 & 3010-3034.
 - DRAWINGS TO BE READ IN CONJUNCTION WITH NOTES: G2-G6, G8, G9, E1-E7, N1 2, N1 3, N2 21, N2 3, N3 1, N3 2 2, N4 2, N4 3 N5 1, N5 2, N5 3, N6 1, N7 1, M1 1 ON DRAWING: NSN1B-ECV-DRG-AKB-400103
 - THE TRACK ALIGNMENT IS BASED ON DRAWING: NSN1B-ETR-DRG-AKB-418111.
 - THE SIGNAL DESIGN TO BE CONFIRMED BY AMEY.
 - NEW CABLE ROUTE REQUIREMENTS TO BE CONFIRMED AT GRIP5.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
A04	01.09.14	AMENDED FOR TA11A ALIGNMENT	BH	SK	PS
A03	14.03.13	TRACK LAYOUT AMENDED	PN	AL	PS
A02	05.04.12	FOR APPROVAL	PN	AL	PS
A01	20.12.11	PRELIMINARY	CA	PS	AM

Status: FOR FORM A REVIEW S3



Project: NSN1B SHENFIELD STATION

Drawing Title: PROPOSED PLATFORM EXTENSIONS GENERAL ARRANGEMENT

Designed	Drawn	Checked	Approved	Signed	Date
P BLAMPIED	C APEL	P SAGAR	A MCDONALD		20/12/11

Scale(s): 1:500
Alternative Reference: LTN1 20M 16CH

Sheet 1 of 1
Revision A04

Safety, Health and Environmental Information
Notes below are additional to hazards/risks normally associated with this type of work:

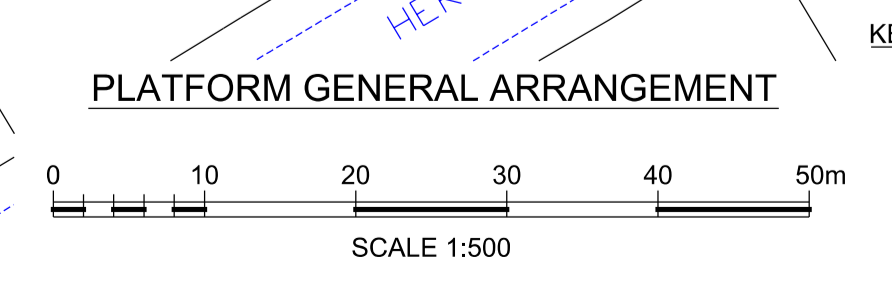
Construction
Ci - HV CABLE ROUTE
Cii -
Ciii -

Operations
Oi -
Oii -
Oiii -

Maintenance
Mi -
Mii -
Miii -

Dismantling/Demolition (Future)
Di -
Dii -
Diii -

These notes are based on the use of experienced and competent contractors carrying out the work using an approved safe method of working.



- KEY:-
- EXISTING PLATFORM TO BE REDUCED
 - EXISTING PLATFORM TO BE WIDENED
 - RED LINES = NEW INFRASTRUCTURE
 - BLACK LINES = EXISTING INFRASTRUCTURE TO BE RETAINED
 - GREEN LINES = EXISTING INFRASTRUCTURE TO BE REMOVED

8.7 Appendix G – Planning Forum Note 4

CROSSRAIL PLANNING FORUM NOTE 4

APPROVAL OF CONSTRUCTION ARRANGEMENTS

Introduction

1. Construction arrangement submissions will be submitted for approval in text form, the exceptions to this are screening and construction camps which will generally be accompanied by plans. The text will describe how the nominated undertaker will manage the specified matters under Schedule 7 (para. 7 column 1) during construction.

Scope and Content

2. The text that will be submitted for approval will be taken from, or reflect, the Crossrail Construction Code; where appropriate text will be tailored to the specific issues at the worksite.
3. The content of construction arrangements submissions (as set out in Crossrail Planning Forum Note 1) will be:
 - Submission Letter
 - Construction Arrangements Proforma
 - Construction Arrangements for approval
 - Supporting Information (for information):
 - Written Statement (site location, description of works, construction method, environmental issues, indicative programme);
 - Supporting Environmental Material (where appropriate); and
 - Construction site plans.