



CONSTRUCTION LOGISTICS PLAN

Bowen plc Site Office,
29-30 Dingwall Road,
Croydon,
Surrey
CRO 2NB
www.bowengroup.com

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

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Note: This is a live document and will be updated as required during the life of the project.

TABLE OF CONTENTS

Project Description and Scope of the Plan	5
Site Location	6
Description of Development	9
Site Working Hours.....	10
Health & Safety.....	10
BREEAM	11
Project Waste Strategy	11
Materials.....	12
Storage.....	12
Construction type and method.....	12
Communication and managing change	12
Re-use.....	13
Noise, Dust and Smoke Control.....	13
Plant and equipment	13
Supply Chain Management	13
Local suppliers	14
Freight Operator Recognition Schemes (FORS).....	14
Travel Plan & Car Parking	15
Preferred Access routes: North, South, East & West approaches:.....	19
Local Highways Authority	21
Existing Site Access	22
Neighbours.....	24
Programme.....	25
Key Dates	26
Safe Loading/Unloading Areas/ Tower Crane	26
Chapter 8 requirements	26
Gate Proposals – Management of Access	27
Traffic Management	28
Pedestrians.....	28
Estimate of Total and Average Vehicle Movements	28

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

Abnormal / Special Loads	28
Load Booking and Management Scheme.....	28
Consolidation of Loads	29
Avoiding Peak Hour Deliveries	29
Considerate Constructors Scheme.....	30
Information Boards	30
Targets and Monitoring	30
Monitoring.....	30
Risk Assessment.....	30
Appendix 1 – Vehicle estimates	31
Appendix 2 – Relevant extracts from Chapter 8	32
Appendix 3 - Risk Assessment.....	37

Project Description and Scope of the Plan

This document describes how Bowen PLC (Bowen), based at Twickenham, Middlesex, intends to manage the Construction Logistics Plan for the new Hampton by Hilton Hotel; currently under construction at:

**No. 29-30 Dingwall Road,
Croydon,
Surrey
CRO 2NB.**

Bowen PLC was commissioned by Croydon Hotels Ltd in 2010 to act as Principal Contractor to carry out all construction works (excluding demolition and removal off site of existing buildings) for the above project within a single phase. The construction phase has commenced and is due for completion in September 2011. The demolition of existing buildings was carried out by Metro under a separate contract with the Client (Croydon Hotels Ltd).

This plan therefore relates specifically to construction of the new hotel by Bowen. This plan will remain a live document and will be reviewed by Bowen Project Manager on a bi-monthly basis throughout the life of the project.

The main aim of the report is to show that as a result of construction works; construction traffic should not have a detrimental effect on the highways or the local community in Croydon. The project in itself is of medium size and the site has a small footprint, approximately 30m x 30m. The anticipated volume of construction traffic delivering and collecting is not high and thus reflects the scale of the project. One of the main disadvantages of the site is that vehicle entry onto the site is not permitted due to the fact that the building footprint effectively becomes the site area. Therefore materials must be loaded and off-loaded mainly by tower crane with the truck / lorry sitting on Dingwall Road and parked parallel to the front hoarding of the site; but off the footpath. Queuing of trucks or lorries is not an option for this site and the plan takes this into consideration.

In this report, a vehicle routing strategy is considered, arterial routes to site highlighted and the methodology of managing and enforcing the construction logistics plan is outlined. The delivery and collection of abnormal loads is considered and the location of the single offloading and loading "pick point" is highlighted and given special treatment. Bowen has a tower crane on site and this report will focus on its capacity and safety requirements when in use. The Bowen senior site staff will manage the plan during the life of the project. Any issues arising from mishaps or nuisance will be dealt promptly by Bowen senior staff. Bowen senior site staff is always available for impromptu meetings to discuss any aspect of the plan.

Bowen Project Manager will carry out bi-monthly review of this document and any further revisions to this document will be carried out by the Bowen Project Manager and issued to Croydon Council for their information.

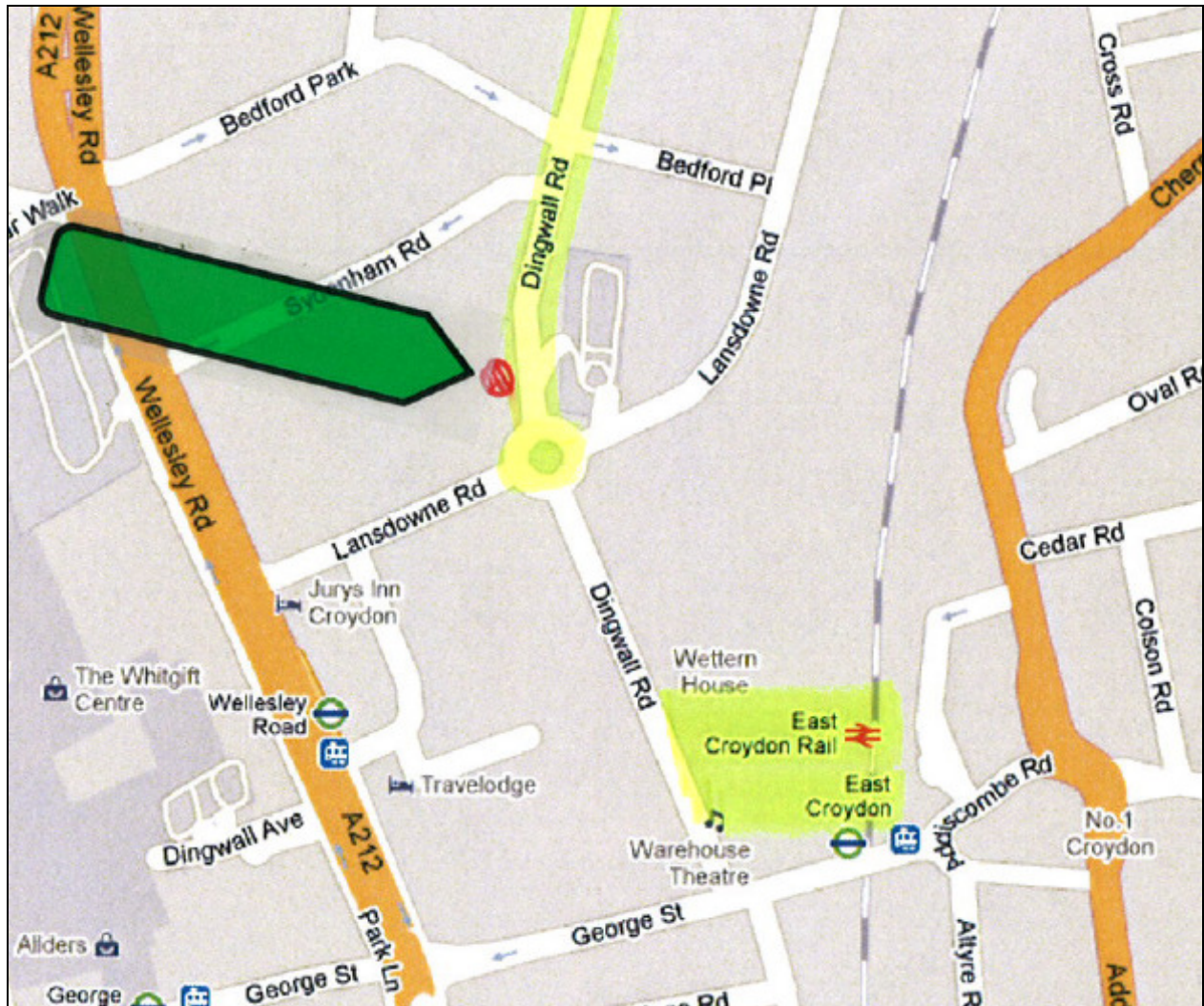
Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CR0 2NB

Site Location

The site is located at 29-30 Dingwall Road, Croydon, Surrey, CR0 2NB.

The site is bordered on the east boundary by the public footpath and Dingwall Road. There are existing buildings adjacent to the North, South and West boundaries. It is a confined site.

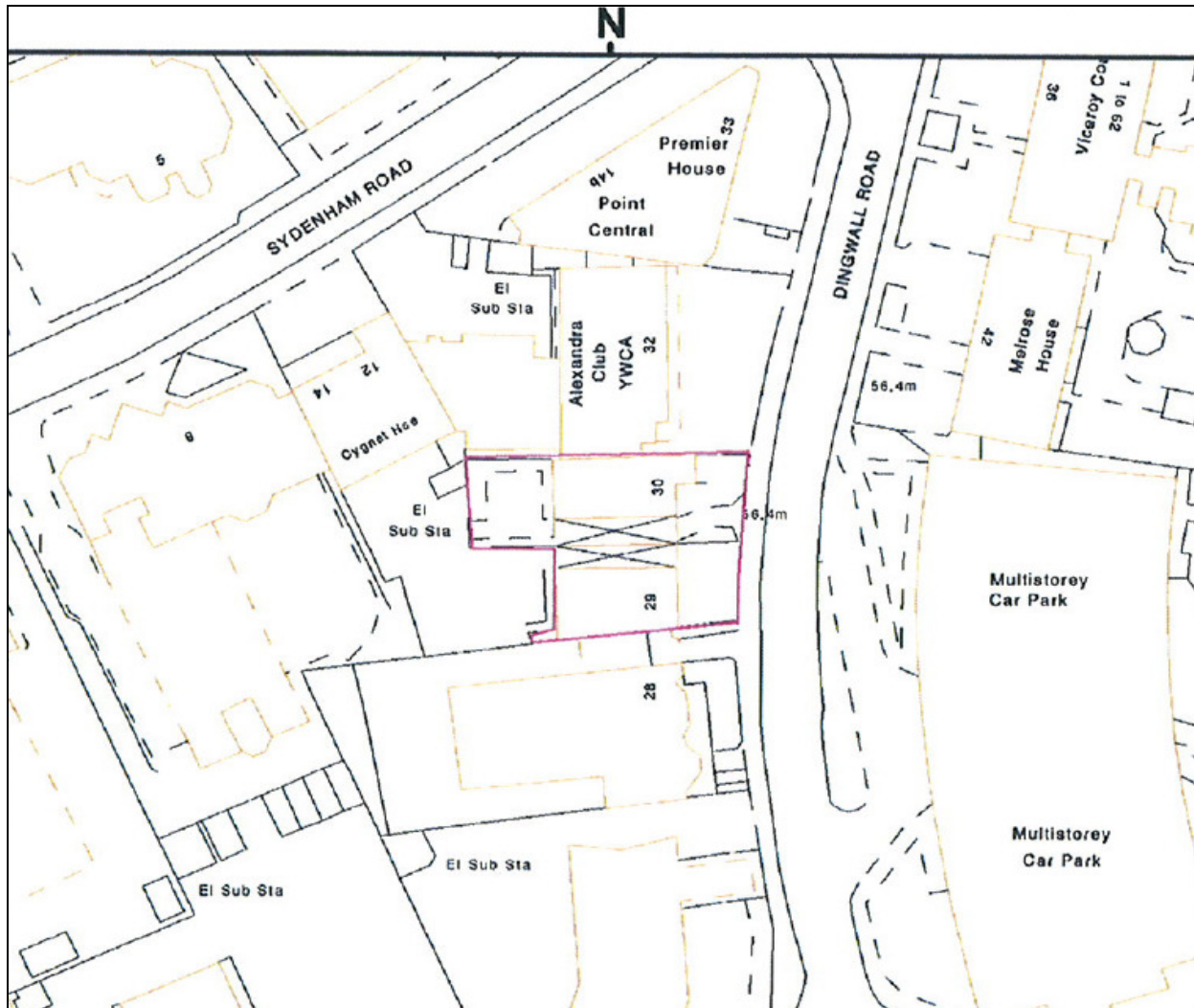
- Refer to the green arrow on the following map extract for site location.
- The site Grid Reference is E532600, N166020.



The site is located approximately 300m north of East Croydon Train Station offering. A local tram service also operates along George Street and Croydon has ample bus route corridors. West Croydon Train Station is located approximately 350m from the site.

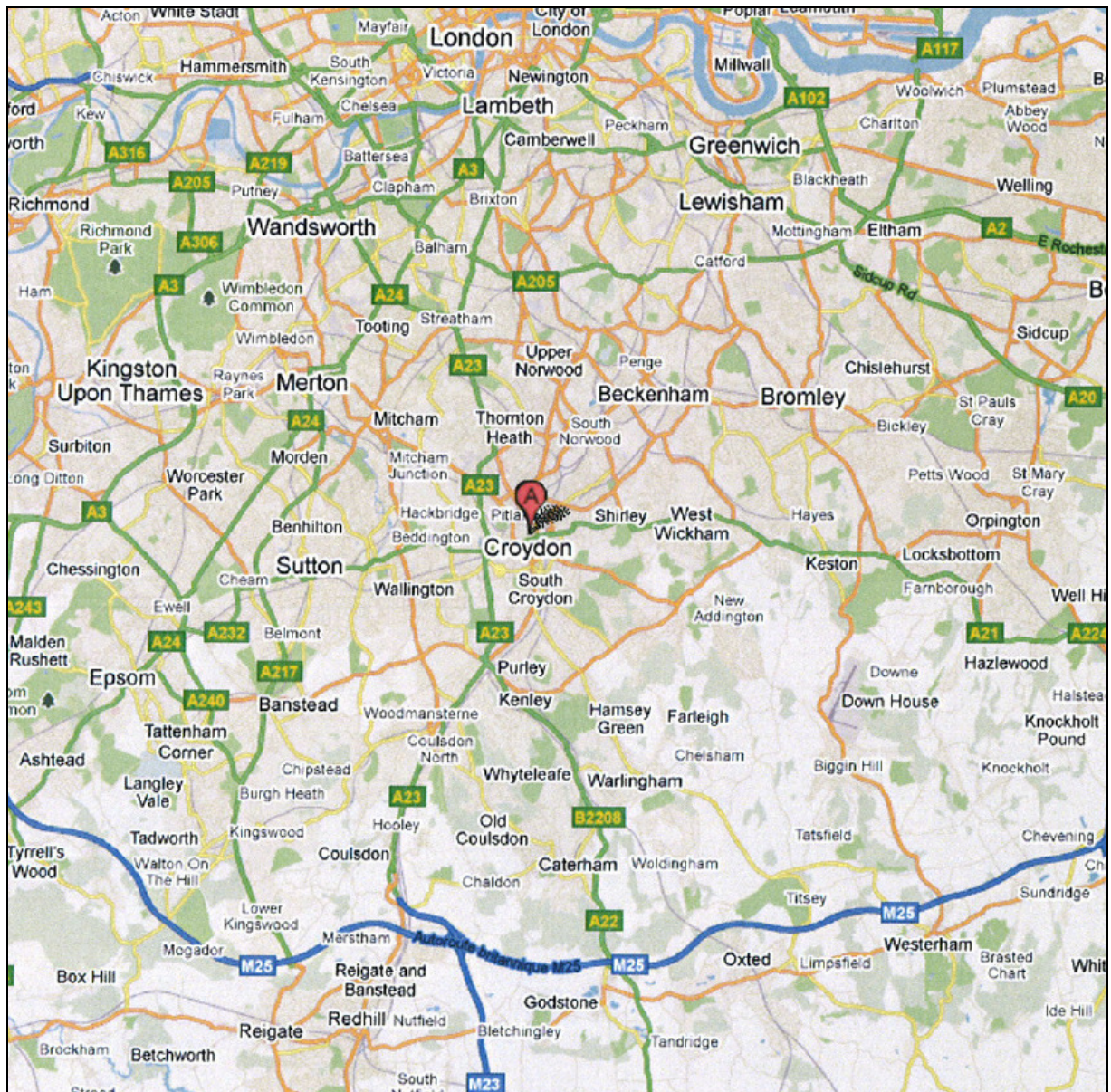
Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

The site layout is outlined in red on the following map. Confinement of the site is clearly obvious and the proximity of the site to Dingwall Road is evident. The site has very limited area for storage of materials and cannot accept nor accommodate vehicles of any sort. A tower crane is placed in the south west corner of the site.



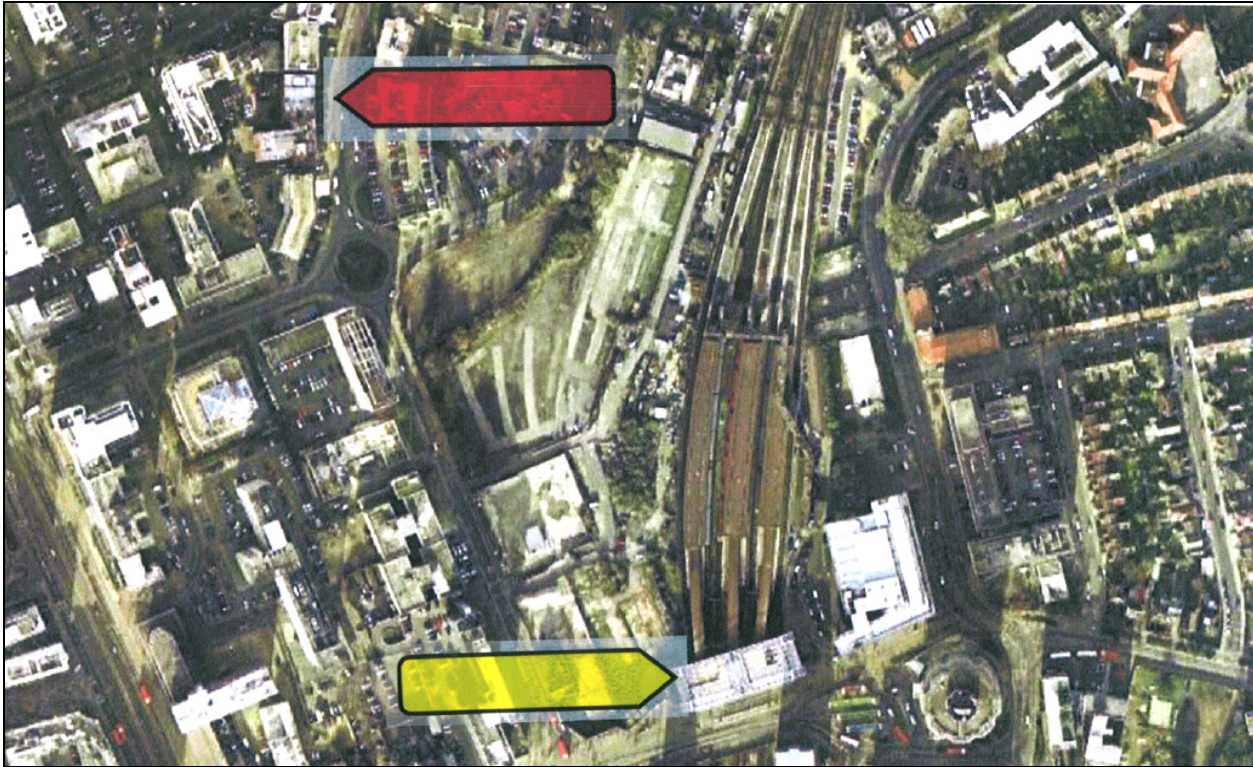
Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

The following map shows the Croydon area relative to the rest of South London zone:



Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

The red arrow shows the location of the site along Ding wall Road and the yellow arrow shows the location of East Croydon Train Station.



Description of Development

The Hampton by Hilton development consists of an 11 storey hotel. The hotel has 120 bedrooms located on the 3rd to 10th floors inclusive. The building foot-print takes up the greater majority of the site area. There is minimal landscaping area proposed at the front of the building, disabled car parking at the front of the building and a small car holding area at the rear of the building. A covered roadway passes under / though the building at ground floor level to allow vehicles gain access to the rear of the hotel directly from Ding wall Road. The development is located in close proximity to East Croydon train Station in the London Borough of Croydon.

The hotel floors will be laid out as follows:

- Ground floor – main entrance, public areas, WC, kitchen, breakfast area, reception, and lift lobbies.
- First floor – kitchen, banqueting, lift lobbies and WC.
- Second floor – Offices, lift lobbies and WC.
- Third floor – 15no bedrooms and single lift lobby.
- Fourth floor – 15no bedrooms and single lift lobby.
- Fifth floor – 15no bedrooms and single lift lobby.
- Sixth floor – 15no bedrooms and single lift lobby.
- Seventh floor – 15no bedrooms and single lift lobby.
- Eighth floor – 15no bedrooms and single lift lobby.
- Ninth floor – 15no bedrooms and single lift lobby.

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

- Tenth floor – 15no bedrooms and single lift lobby.
- Eleventh floor – open and closed plant rooms, wind break screen, roofing.

Site Working Hours

Site working hours are restricted to between 8am and 6pm Monday to Friday and 8am to 1pm Saturday.

Health & Safety

This Construction Logistics Plan integrates with all other documentation pertaining to Bowen's overall Construction Execution and Planning for this project. In accordance with Construction (Design & Management) Regulations 2007, a detailed strategy for managing Health & Safety has been developed by Bowen. This document is referred to as "**Site Health, Safety, Welfare and Environmental Plan**", dated September 2010 and is always available for review on site. A copy has already been issued to Croydon Council for their information. Bowens has a qualified first aider on site at all times, fire extinguishers are stored on site and a first aid kit is always available and kept in date.

Bowen operates under an integrated management system combining the following company policies:

- Environmental policy statement.
- Health & Safety Policy Statement.
- Equal Opportunities Policy Statement.
- Quality Management Policy Statement.
- Resource Management Policy Statement.
- Training and Development
- Policy Statement.
- Customer Service Policy Statement.
- Sustainability Policy Statement.

The Site, Health, Welfare and Environmental Plan sets out the management structure for the project identifying key personnel and their responsibilities for managing this project.

Included in the plan is the following:

- Health, safety and environmental standards.
- Co-ordination and consultation.
- Risk assessment.
- Site rules.
- Welfare.
- Training.
- Monitoring standards.
- Reporting and investigating.
- Security.
- Accident reporting.
- Site Staff organ gram.
- General site safety rules

The Bowen approach to environmental standards applicable to all of our developments is outlined in our Environmental Manual; copy retained on site. The Manual is broken down into the following parts:

- Amendment History.
- Section 1 – Environmental Policy.

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

- Section 2 – Environmental Manual.
- Section 3 – Register of Aspects and Impacts.
- Section 4 – Environmental Procedures.
- Section 5 – Environmental Objectives and Targets
- Section 6 – Legislation and Regulatory Requirement.
- Appendix – EMS Forms and Templates.

BREEAM

The development is expected to achieve a BREEAM rating of “VERY GOOD” and design and construction works are in hand to achieve this rating. Bowen has employed Esoteric Ltd as an independent assessor. Predictive work has commenced and collation of all design is ongoing with a view to preparing a preliminary main design review document. The main categories to be assessed are as follows:

- Management
- Health and well-being
- Energy and transport
- Water
- Materials and Waste
- Land use and ecology
- Pollution

Project Waste Strategy

Bowen tackle waste in a pro-active way; implementing the “Reduce-Reuse-Recycle” Strategies currently employed on our other sites to minimise the volume of waste produced. Waste segregation strategies are developed and implemented in line with the overall logistics plan for the site.

Bowen has commissioned Maguire Skip Ltd of

Unit 8,
Mill Lane Trading Estate,
Mill Lane,
Croydon
CR0 4AA

To deliver and service waste skips from site. Maguire Skips Ltd has a Certificate of Registration under the Control of Pollution (Amendment) Act 1989 – Registration Number – EAN/939512. Waste material from the site is taken to Seta Waste Handling Ltd for recycling at:

Benedict Wharf,
Benedict Road,
Off Hallow field Road,
Mitch am,
Surrey
CR4 3BQ

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

The Mitcham site permit number is EPR/QP3093EV. It is proposed that up to 90% of waste materials taken off site will be recycled. Non-recyclables will be taken to Albury Landfill Site at:

Sita UK Ltd,
Shere Road,
Albury,
North Guildford,
Surrey
GU5 9BW

Who operate under Variation Notice Number AP3336LZ, Permit Number BV1020IS.

Materials

The building will be constructed using a range of construction materials, concrete, steel, cladding, internal finishes, timber; all the usual materials normally associated with a building of this classification. Accurate design information, material specifications and drawings in electronic format are produced for all the building components, building layouts and elevations. This enables our purchasing department to specify precisely what materials are needed on site. This exercise reduces over-ordering, off-cut wastage and re-working. The detailed drawings prepared by our design team are provided to our sub-contractors to allow them to order materials in the same way. In a similar fashion, our sub-contractor provides detailed vendor drawings for building components they intend to supply.

Storage

Materials are stored on site in a way to prevent the likelihood of damage which would otherwise become waste. Due to very limited storage space on site, our sub-contractors are encouraged to deliver materials on a “just in time” basis, this limits the amount of materials stored on site. The Bowen Construction Manager is responsible for site tidiness and toll-box talks are held regularly with all of the sub-contractors to promote the effective use of the limited space available. Sub-contractors not adhering to the Bowen site policy for tidy site are reprimanded at site progress meetings and monies may be deducted from their contract should they fail to discharge their duties.

Construction type and method

The building is formed of structural steel frame to third floor and precast concrete floors and cross-walls from 3rd floor to 11th floor. The plant room will be constructed of lightweight but inherently strong materials. The lift cores, two in number, will be constructed in reinforced concrete to third floor and precast concrete to 11th floor. The building foundations are of reinforced concrete. The end of life potential of the building has been considered. The design is adaptable for a variety of purposes that inevitably increase the life span of the building. There is repetition of design that reduces waste by reducing the number of variables.

Communication and managing change

Design freeze is employed at each hold point in the project to ensure that previous decisions are not revisited. Site meeting for both design and construction are held regularly on site. The Client has provided a very detailed design brief to the architect and his design team and major changes are now unlikely because the Hilton Brand is used as the key driver in the design. The Bowen Project Manager is responsible for ensuring that any design changes are properly communicated to the relevant members of the project team.

Re-use

Construction materials are re-used on site as follows:

- Material excavated during ground works is crushed and used as back-fill around foundations.
- Timber is reused on site until it reaches the end of its life.

Noise, Dust and Smoke Control

The groundwork phases of this project are likely to create some noise and dust, although given the work scope, it is not considered to be significant. Provision for the control and reduction of noise and dust will be made within specific method statements and risk assessments. In particular damping down during ground works will form an integral part of our dust management strategy. Noise will be managed in conjunction with the local authority & neighbours.

Plant and equipment

The key item and largest item of plant on site is the tower crane. The tower crane sits on a concrete foundation in the south west corner of the site. Its lifting gib length is 40m and over-sailing agreements are in place. The height of the tower crane above ground level is 47.2m and the proposed building will top out approximately 6m underneath the tower crane cab. The tower crane is a fully certified luffing type crane. The crane has been designed to operate successfully and safely at a total radius of 40m ensuring it can pick loads from a truck parked on Dingwall Road parallel to the front boundary of the site. At 40m extremity, the tower crane can lift 8 tonnes of material, making it ideal to lift the precast concrete units among other items of heavy materials. A site specific lifting plan has been prepared and is available on site. The tower crane is managed by the Bowen Construction Manager acting together with a dedicated and certified lifting supervisor. A certified slinger / banksman is also employed to ensure that all loads are safety tied and lifted. It is anticipated that the tower crane will be dismantled and removed off site in June 2011.

Other key items of construction plant are as follows:

- Concrete truck.
- Mechanical Concrete pumping device.
- MEWPs. of various capacity.
- Task lighting, tower light.
- Compressor.
- Generator.

Plant and equipment is delivered to site to suit the task in hand. For this project only minor quantities of plant are required on a weekly basis.

Supply Chain Management

We recognise the impact this development can have on the local community and the environment so we encourage & challenge our supply chain to provide a better service. There are a number of key initiatives that we will promote with our supply chain. Existing & potential suppliers will be made aware of these initiatives and their importance to the project will be detailed. Many of the suppliers, Bowen will have dealt with on other projects, however we will be appointing sub-contractors and suppliers who are new to Bowen and effective communication will be required in this case.

Local suppliers

As part of our Corporate Social Responsibility Agenda, we aim to promote local employment and stimulate the local economy. Where feasible we will source services, materials and equipment locally. This improves local health by reducing freight impacts such as fossil fuel usage, congestion, pollution, and road construction and road casualties. We have already met with the Croydon “Meet the Suppliers Scheme” and we have already hired two companies to date from the Croydon area. We continue to seek out local companies.

Freight Operator Recognition Schemes (FORS)

FORS is a free membership scheme that is helping van and lorry operators in London to be safer, more efficient and more environmentally friendly. All suppliers and haulage companies will be encouraged to register with the Freight Operator Recognition Scheme administered by Transport for London.

**Freight Operator
Recognition Scheme**



Bowen recognizes that FORS:

- Creates safer drivers – with significantly reduces collisions.
- Will encourage suppliers to improve in fuel economy associated with our project.
- Provides a system to identify 'at risk' drivers, allowing Bowen and our suppliers to target training and incentives effectively.
- More certainly with deliveries and collections.
- Promote less journeys to and from site.

We will include this requirement in our pre-qualification process. We will state that FORS members will be considered favourably in addition to those who commit to up-take within a set deadline.

Travel Plan & Car Parking

The site does not have provision for car parking for site staff, sub-contractors and visitors, in fact parking of any vehicles on site is not an option for this project. We estimate that the number of personnel working on the site will peak at about 55 persons between May and July 2011. All personnel are inducted prior to commencing work on the site. The site induction is the primary means of communicating the project travel plan and supporting info. The site induction is carried out by the Construction Manager or the Site Engineer. Presently, there are approximately 10 persons working on the site and in general the majority travel to work by public transport, it is hoped that this trend will continue during the project.

During the site induction, Bowen site representative will advise personnel of the following:

Parking:

Parking on local streets is prohibited and the local Multi Storey Car Park directly across from the site should be used. This car park never appears full to capacity and is an ideal parking facility close to our site. The car park is located directly across Dingwall Road from the site, a walking distance of 30m. The Bowen site team is vigilant in ensuring that site personnel or visitors do not park illegally on Dingwall Road. Should any sub-contractor decide to continue to park illegally, Bowen will not hesitate to remove that contractor from site.

Public Transport:

Alternatives to private car use have been considered by Bowen site staff and efforts are made to communicate the advantages of public transport to all site personnel. Site personnel are always encouraged to use public transport.

Site meetings are arranged with a view to ensuring that attendees can use the public transport system to arrive and disperse from the meetings. Details of the local bus and rail networks – identifying key routes to the project will be posted on site notice boards and will be covered in the site induction to promote the use of public transport. The Bowen site team is encouraged to become familiar with the local transport systems and operating times and to pass this information onto all personnel on site.

The site is located approximately 300m from East Croydon Train Station and West Croydon Train Station is less than a ten minute walk from the site. Good bus service is also available within a short radius of the site. A local tram service also operates through the Croydon area and passes approximately 300m from the site.

Bicycles:

Bike stands will be provided to encourage the use of public transport. Bowen will provide parking for everyone who already cycles to work plus another 50 per cent. When the cycling facility reaches 70% capacity, it will be increased by 20%. This will be revised periodically.

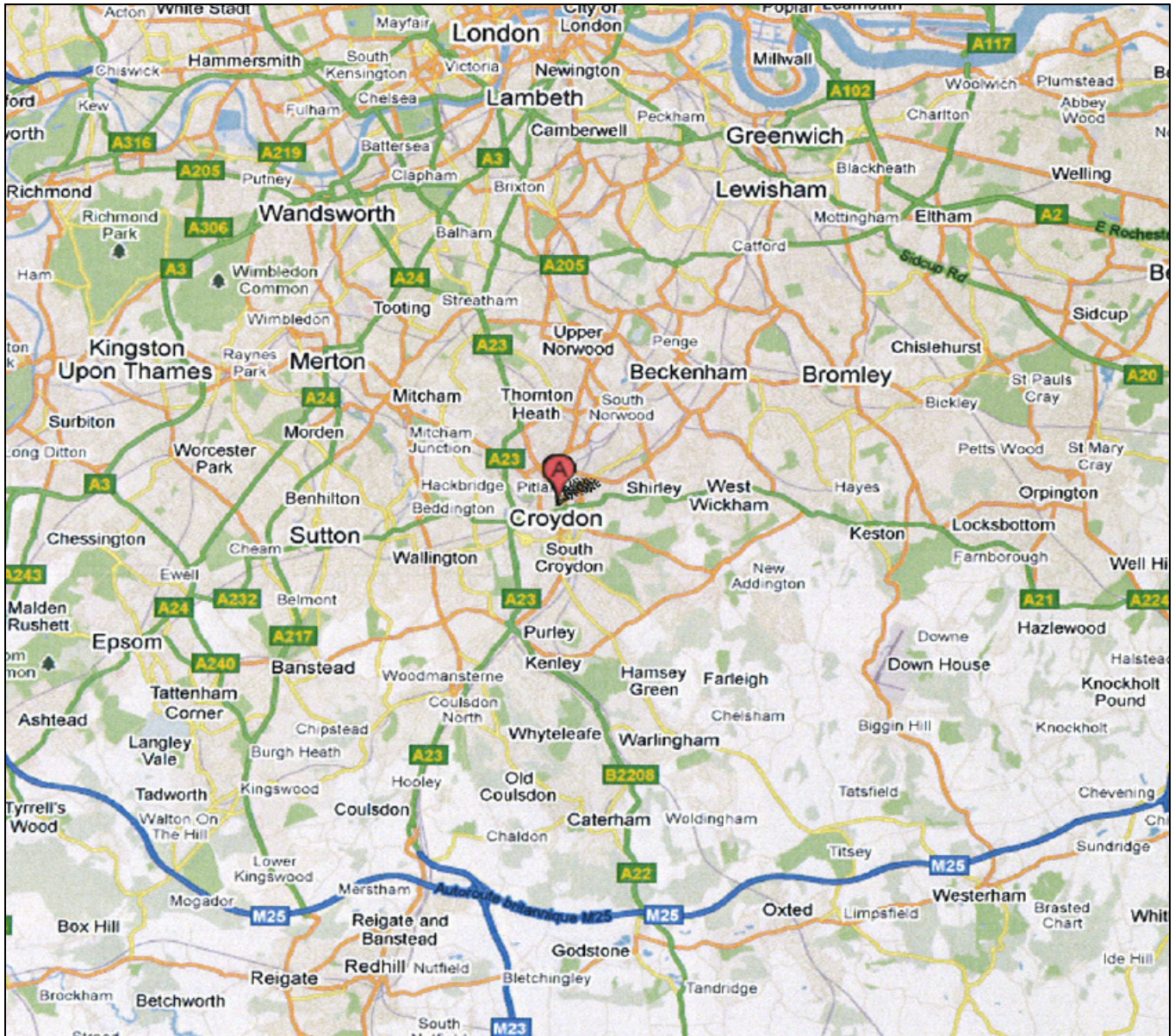
Construction Logistics Plan

Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

Site Location

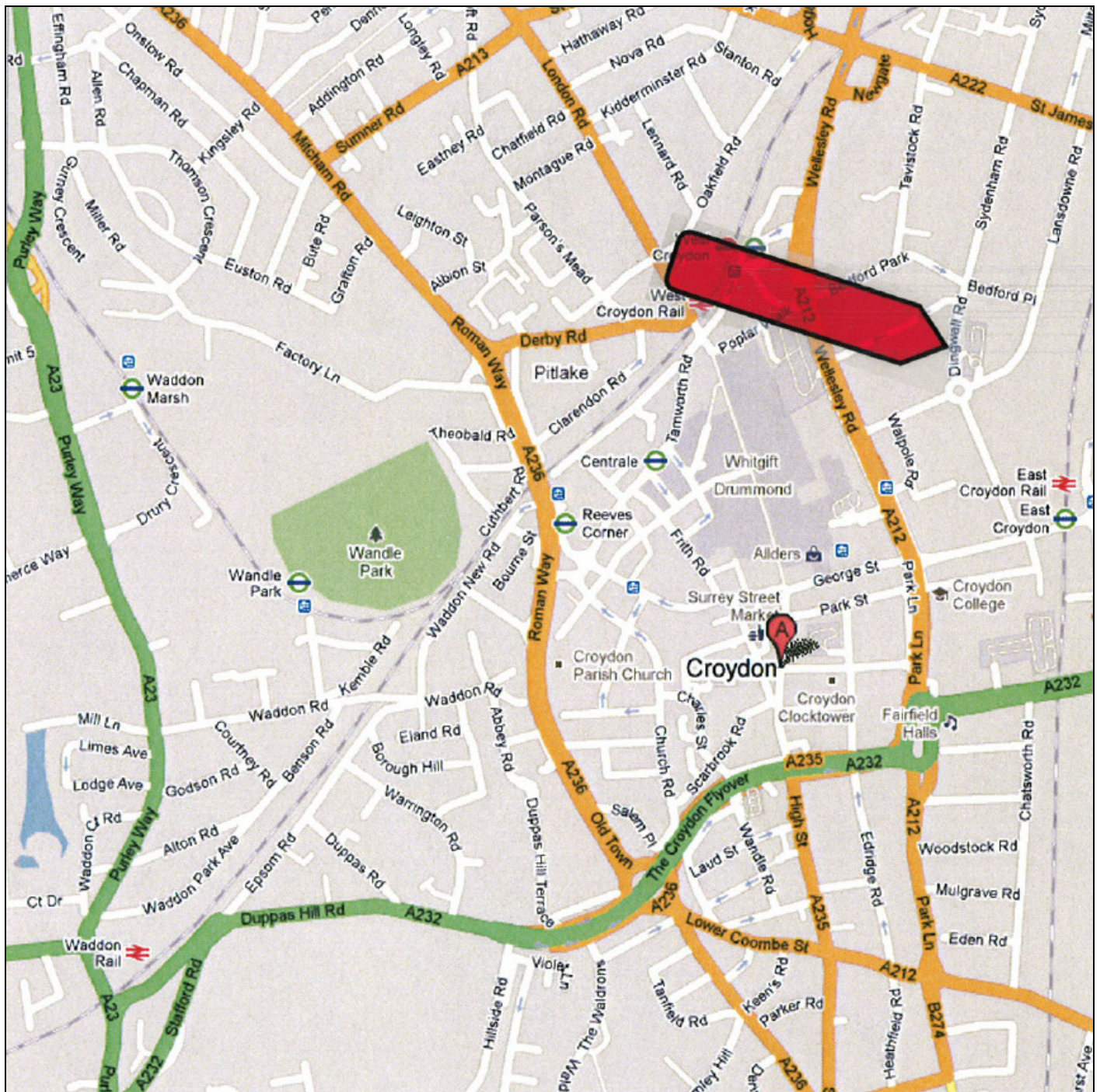
Major Highways:

The site is located close to the centre of Croydon in Surrey, near the North Eastern corner of the junction of Wellesley Road and Lansdowne Road, approximately 300m North of East Croydon Train Station. The map below shows the approximate location of the site in relation to local major highways and the M25.



Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

The site location is highlighted by the red arrow on the following map. This map shows the location of the site relative to key arterial routes which will carry the majority of site traffic from the North, South, East and West. These routes are the responsibility of Transport for London. The site lies within the London Borough of Croydon. Bowen will work in partnership with TFL, Croydon Council and our supply chain to reduce and in some cases eliminate the nuisance of fumes, noise and dust within the community.



Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

The site is well served by a number of arterial Red Routes that will carry the majority of site traffic from the North, South, East & West. The following guidance on the most appropriate routes for our primary materials will be developed with Croydon Council and sets out the preferred access routes to site.

This information will be distributed through our supply chain mainly to the following key sub-contractors and suppliers:

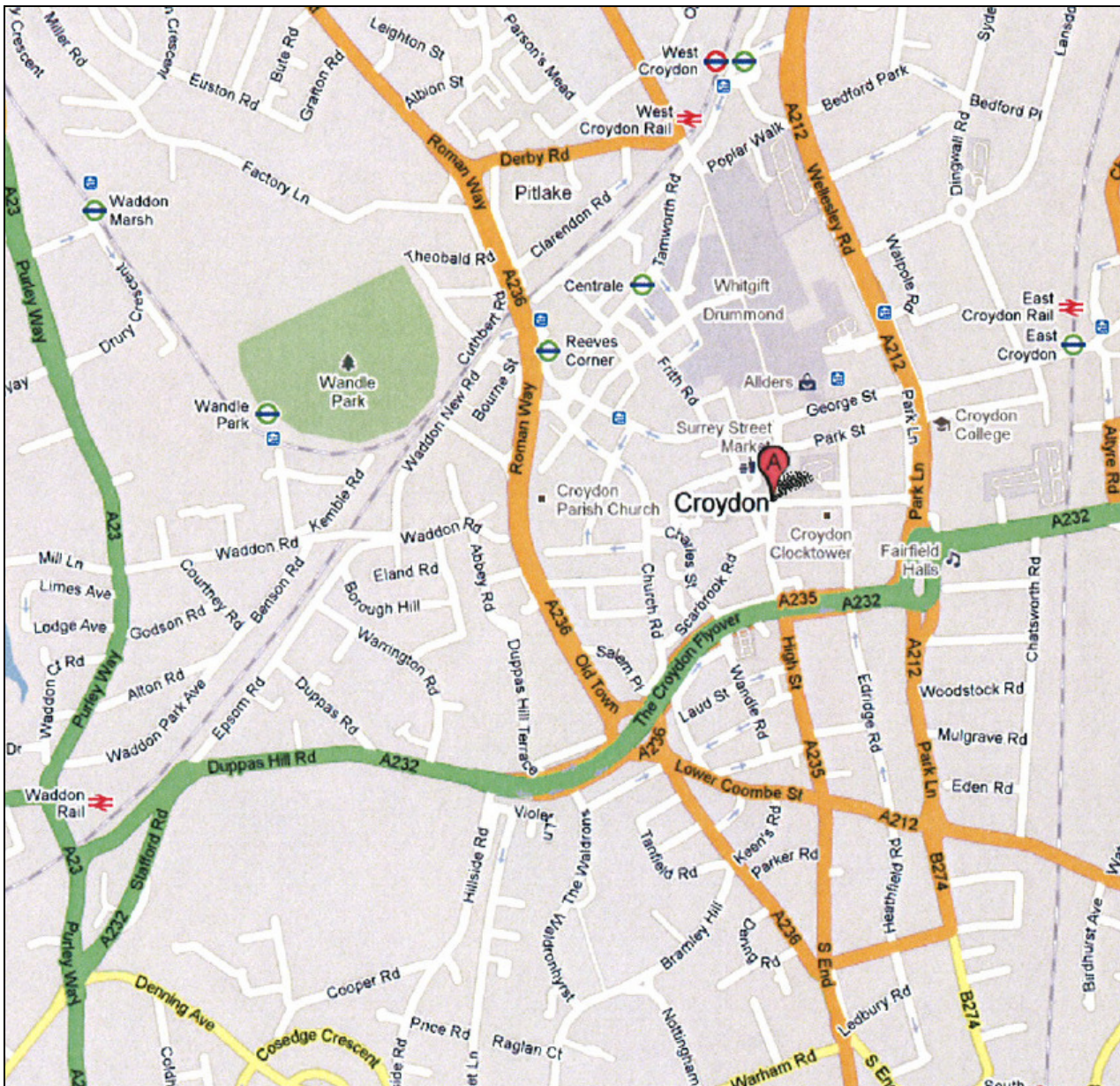
- Muck away
- Buried services
- Structural Steel and metal decking.
- Scaffolding
- Precast concrete deliveries.
- Bathroom PODs
- Reinforcing steel
- Pumped Concrete
- Blockwork
- Stud Partition
- Cladding and light gauge steel.
- Insulation
- Mechanical and electrical plant.
- Roofing suppliers.
- Tower crane
- Doors, windows and curtain wall suppliers.
- Case-good items, finishes, carpets, and furniture.
- Landscaping

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

Preferred Access routes: North, South, East & West approaches:

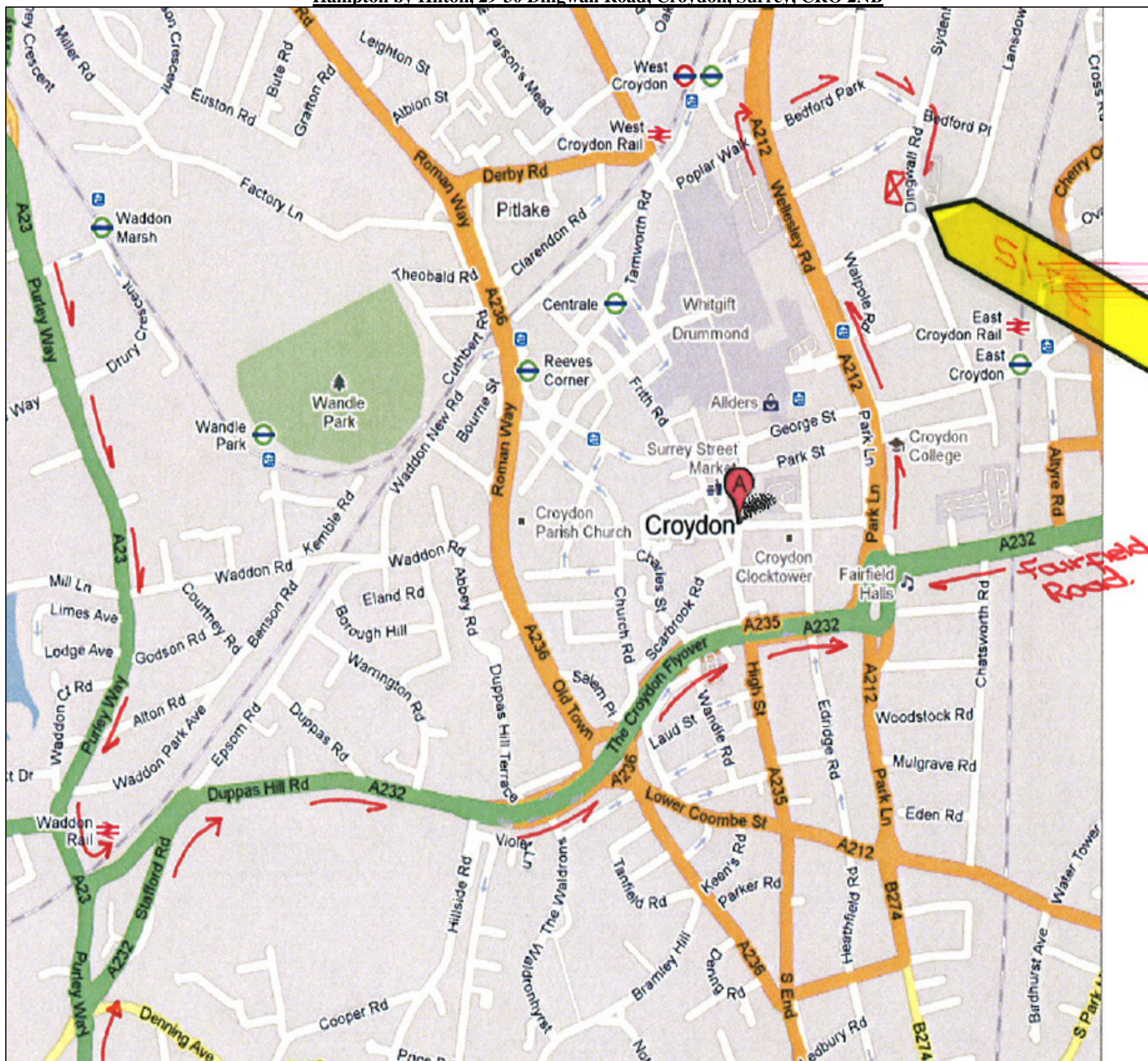
The preferred route available for all delivery vehicles from the North, South and West is via A23 – Purley Way, to A232 Duppas Hill Road to the Croydon Flyover to A212 Park Lane to A212 Wellesley Road to Bedford Park to Dingwall Road.

Traffic from the East can approach Croydon from the A232 Fairfield Road to A212 Park Lane to A212 Wellesley Road to Bedford Park to Dingwall Road.



Construction Logistics Plan

Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB



Local Highways Authority

London Borough of Croydon is responsible for all roads not classified as red routes.

Their responsibilities includes:

- highway maintenance
- drainage maintenance
- gully cleansing
- winter gritting
- filling salt bins
- repairing faulty street furniture
- making potential hazards safe in an emergency
- clearing up after road traffic accidents
- road and pavement markings
- street lighting and illuminated signs
- registration, co-ordination and inspection of roadworks

The Highways Department of the London Borough of Croydon can be contacted as detailed below.

Contact name: Purley Oaks Depot

Telephone	020 8726 7100
Fax	020 8763 1649
SMS	Text "ENV" to 60660
Email	highwaysmaintenance@croydon.gov.uk

Address: Purley Oaks Depot, 1a Riddlesdown Road, South Croydon CR8 1DG

Existing Site Access

There are two means of entering the site. There is a single pedestrian gateway within the site hoarding at the front of the site which is available for site personnel and visitors to access the site safely from the footpath. The second entrance consists of a 6m wide double gate, within the line of the timber hoarding; although this is of limited use because the site has no space to accommodate vehicles; instead this access is used to off-load light deliveries from the road into the site. All gates swing into the site and not onto the road. Contact with the Croydon Council has confirmed that use of these gates is acceptable provided that we comply with the existing traffic regulations, control vehicle movements and keep debris off the road.

The following photo is a view looking South along Dingwall Road and the Bowen blue hoarding (RHS of photo) delineates the front of the site (east side). The 6m wide gate and single pedestrian gate can be seen in the photo. It is clear that the public footpath passes along our eastern site boundary. Bowen continues to be vigilant to ensure that our works causes no disruption to pedestrians or places pedestrians in any danger. This is managed by the Project Manager, the Construction Manager and Site Engineer – all of whom are Bowen site staff.



Photo shows view south along Dingwall Road- Site on RHS of photo.



Photo shows single pedestrian access gate, which is locked during the night.



Photo shows 6m wide double access swing gate – **gates swing into site.**

Neighbours

The boundaries of the site are formed as follows:

- To the east by Dingwall Road
- To the south by an existing office building, Number 28 Dingwall Road.
- To the north by existing YMCA building and Cygnet House.
- To the West by Mott MacDonald Consulting Engineers office.

We have established contact with the various landowners, residents, businesses and other local representatives. We have had two meetings with the local supplies scheme and attended two conferences. We have raised awareness of our project by endeavouring to hire local companies where we can, for example printing and cleaning services. We have informed all of the emergency services of our project and consulted especially with The Airports Authority, Croydon Fire Brigade and Police. Our Construction Manager is especially adept at forming lasting relationships with our neighbours and in general the feedback is very good. We promote a safe and a welcoming site, fairly but firmly managed by a flexible site team.

The site Construction Manager deals with any queries and provides immediate response to any issues raised. It is proposed to hold periodic meetings on site to explain the works anticipated during the next few months and how these will impact upon our neighbours. Special consideration will be given to accommodate where possible any special requirements arising from activities within the local area.

In particular we would propose to make presentations to the staff and pupils at the local school to describe what is going on and highlight the dangers associated with the works. This close liaison has been found to discourage schoolchildren from trespassing onto the site.

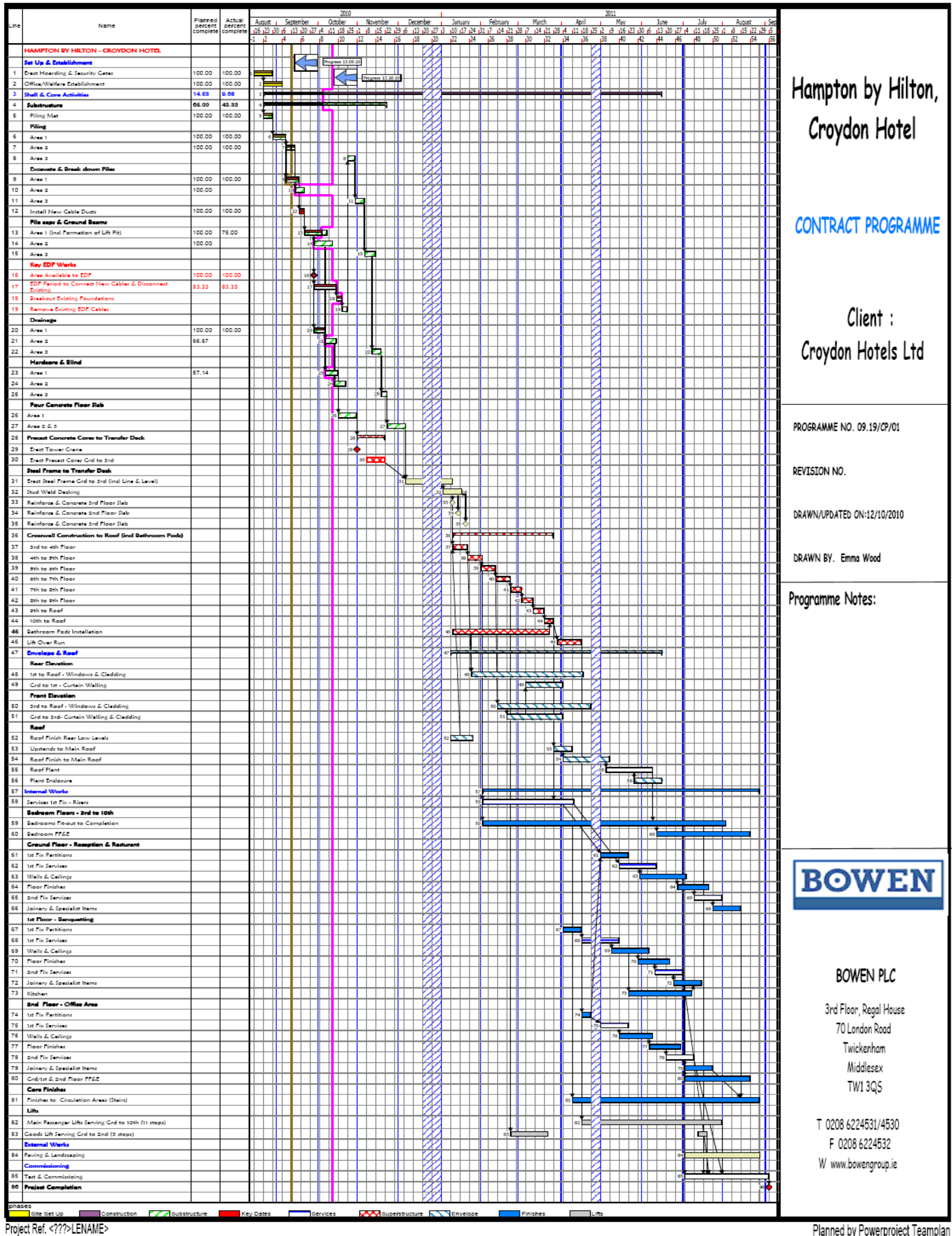
The site is screened by a 2m height timber hoarding all around the front boundary overlooking Dingwall Road, other boundaries of the site are existing boundaries, high walls in particular. The hoarding will be maintained to a high standard throughout the progress of the progress. As the building grows above the hoardings, measures will be introduced to control work at heights by task specific method statements and proprietary barriers to protect adjacent properties from the risks of falling materials.

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

Programme

Enabling works commenced in August 2010 and the works will be completed in September 2011.

A preliminary project programme is provided below for information and is subject to change to suit site progress and conditions:



Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

Key Dates

The following list provides anticipated dates for major construction activities:

- Commence Contract August 2010 – enabling works.
- Earthworks – Complete in February / March 2011.
- Concrete Substructures – Complete in February 2011.
- Concrete Superstructure – February to April 2011.
- Cladding and envelope – March to July 2011.
- Internal fit out – March 2011 to August 2011.
- Commissioning and hand-over - August & September 2011.

Safe Loading/Unloading Areas/ Tower Crane

The site is serviced by a single 47m high luffing type tower crane installed and operated by Falcon Crane Hire of Norfolk. The Falcon crane driver is fully certified to operate the crane, The tower crane is fully certified and commissioned and its lifting gear is also fully certified to lift loads up to 11.2 tonne weight.

The tower crane is sited in the south west corner of the site and with a gib length of 40m has the ability to lift up to 8tonne of load off a truck bed parked at the front of the site, parallel to the footpath on Dingwall Road. All vehicles will be loaded and un-loaded from outside the site hoarding using the tower crane; unless the material is capable of being lifted manually into the site.

Delivery vehicles will load and off-load from within the single designated “Pick Point” on Dingwall Road (see map overleaf). The pick point will be controlled by vehicle marshallers and supervised by senior Bowen site staff. The vehicles will be unloaded by qualified slinger-signallers, supervised by a dedicated lift supervisor. These operations will be tightly controlled by Bowen senior site staff and job specific method statements will be prepared and distributed to the operatives.

Chapter 8 requirements

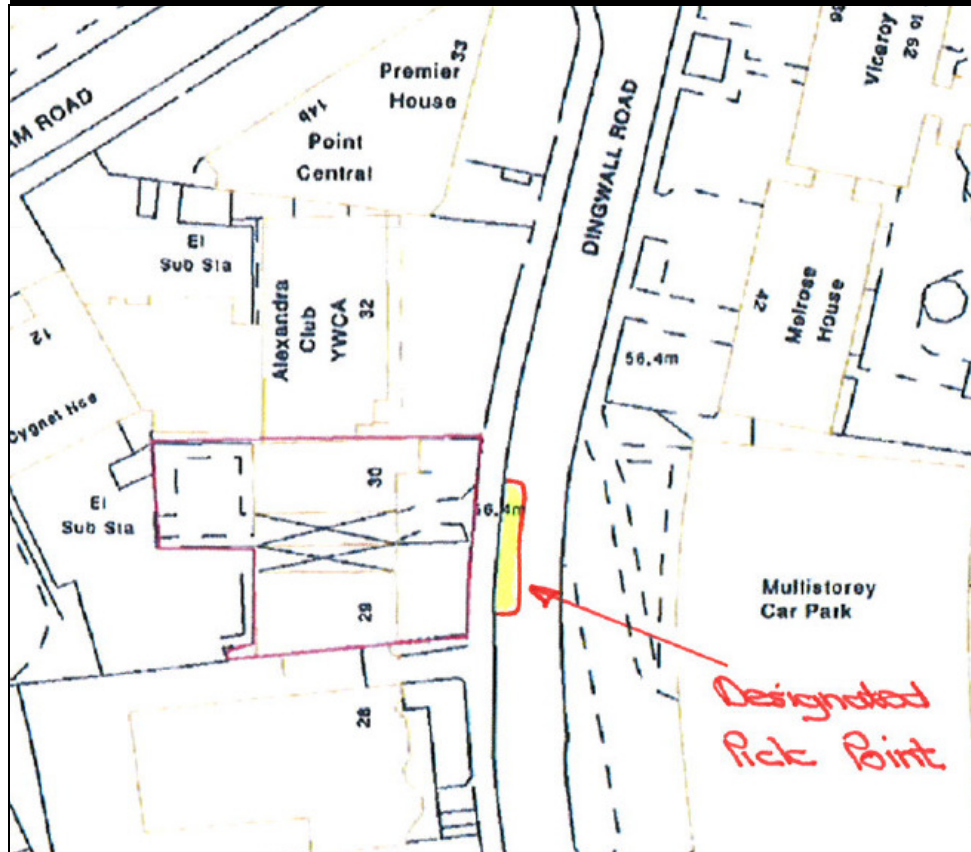
The designated pick point on Dingwall Road is shown on the following site plan. Trucks delivering from this location will have standard loads.

The recommendations contained within Chapter 8 of The Traffic Signs Manual 2009 will be used to govern the temporary traffic management relating to the designated pick point.

Relevant extracts of the Traffic Signs Manual are provided in Appendix 2.

The temporary measures will include traffic marshallers, footpath / pedestrian marshallers, cones and barriers and advance warning signage located at both ends of the pick point – all in accordance with the requirements of Chapter 8.

**Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB**



Gate Proposals – Management of Access

The two site gates will be controlled during working hours by a gateman and there will be operatives on duty throughout the day with breaks covered. It will be the responsibility of the gateman to ensure that the gates remain closed, when not in use, and are opened as soon as vehicles approach. It will be the responsibility of vehicle marshallers to ensure that relevant paperwork is checked at the entrance and the vehicles parked correctly within the pick point zone.

The gates are locked every evening by Bowen senior staff and the locking mechanism on both gates is chain wrap with padlock.

Traffic Management

Bowen's policy is to use best practice as detailed within our Health, Safety, Welfare and Environmental Plan and Policies, copies of which are available on site. Traffic Management is controlled directly by Bowen senior site staff; Project Manager, Construction Manager and the Site Engineer. Together they monitor this activity on a daily basis, sharing information and holding meetings with suppliers and sub-contractors as required. The traffic management practice on site is reviewed weekly by the visiting Bowen Safety Officer. If necessary, safety officers working with the various sub-contractors are invited to site for meetings and site reviews.

Pedestrians

Bowen is fully aware of the risks associated with having a public footpath along Dingwall Road close to the site hoarding at the front of the site. Bowen intends to ensure that the footpath is maintained during the project and pedestrians are not hindered from walking safely along this footpath. Bowen will ensure that deliveries which need to be manually handled across the footpath are carried-out during off-peak hours. Proper marshalling of the footpath will be promoted by Bowen senior site staff

Estimate of Total and Average Vehicle Movements

Appendix 1 provides a table of estimated number of deliveries and collections envisaged during the project. The average vehicle movements have been calculated on a weekly basis.

Abnormal / Special Loads

The dismantling of the tower crane by Falcon Crane Hire will require a road closure to be put in place and Falcon Crane Hire will coordinate this activity with the Police, Croydon Council and any other authorities. It is anticipated that the tower crane will be (dismantled by a mobile crane) and removed off site (approx 10 articulated truck loads) in June 2011. A road closure and any other special arrangements will have to be pre-booked with the Police and Croydon Council. Advance notice will be required and other deliveries to site will be halted during the removal of the tower crane. The operation will take about two working days and Bowen / Falcon will try to arrange this work to be scheduled over a weekend to minimise the impact on the local community.

There will be no requirement for mobile craneage for the remainder of this project, apart from the need to have a mobile crane to dismantle the tower crane in June 2011.

Apart from when the tower crane is being removed, there will be no other abnormal loads delivered to site nor will there be any collected from the site.

The largest item of mechanical plant for the building is not considered to be an abnormal load.

Load Booking and Management Scheme

Bowen recognise that strict procedures will need to be in place and adhered to, to make the most effective use of the single pick point zone on Dingwall Road at the front of the site. Queuing of vehicles is not an option for this site. Only a single articulated truck can enter the pick point zone at any one time, there is no parking facility for additional vehicles when the pick point is in use. Bowen will coordinate deliveries and collections to optimise the frequency of deliveries, reduce congestion and make more efficient use of delivery vehicles.

The Construction Manager will produce a weekly programme of deliveries. A draft of this programme will be presented and discussed at the weekly progress meeting to ensure that the proposed delivery

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

schedule meets with the programme requirements. Obvious bottlenecks and clashes must be smoothed out at this meeting such that on the Friday of each week a copy of the programme, identifying provisional delivery times and quantities for the next week, will be emailed to each of the relevant suppliers. Suppliers will be allocated specific times to deliver their materials to site.

Should vehicles arrive outside their allotted time then they may be turned away and the delivery organized for another time that is suitable. In this case the Bowen senior representative will make contact with the supplier to agree an alternative slot.

Suppliers and sub-contractors who abuse the system will be reprimanded initially, but if they continue to abuse the system and not work in accordance with the Bowen policy, their contract will be terminated and an alternative company sought.

Bowen will off load one delivery at any given time within the pick point zone. Bowen will not allow the zone to become congested.

Suppliers and subcontractors are encouraged to optimize transport efficiency and minimise transport impacts by adhering to the delivery plan. Bowen maintains a register of approved suppliers that are used on our projects. Their environmental and contractual performance is constantly assessed against our requirements. Suppliers or subcontractors are not permitted to use sub-contractors or other third party organisations to supply products or services to Bowen other than those specified in their tender submission, without our approval. Bowen must ensure that details of the delivery plan is communicated to third parties.

All our deliveries will be sequenced to ensure that our site can accommodate delivery vehicles. No vehicles will arrive at our site outside an agreed time; this will further eliminate unnecessary congestion and nuisance especially for local traffic. Construction will be planned to minimise disruption to road traffic

Consolidation of Loads

In promoting Corporate Social Responsibility, we promote local employment and economy. This is achieved by using local supply where feasible. This improves local health by reducing freight impacts such as fossil fuel usage, congestion, pollution, and road construction and road casualties.

Avoiding Peak Hour Deliveries

As part of the procedure for the allocation of delivery times to suppliers, care will be taken to reduce the amount of vehicle travelling time within peak periods. Where possible deliveries will be taken on site early to allow the vehicles to be offloaded during the peak period and then leave site once the peak period has ended. This allows greater efficiency in predicting delivery times and reduces haulage costs.

Similarly the latest delivery to site will be scheduled to ensure that it can be offloaded by 18:00 and the vehicle leave site as the evening peak is subsiding and the site closed up in accordance with the working hours allowed by the planning consent.

We will endeavour to take deliveries outside of peak hours between the hours of 9.30am and 3.30pm. Deliveries of concrete and rebar will be sequenced so that we don't take both deliveries at the same time. Erection and dismantling of Tower cranes will take place during the weekend.

Where peak deliveries cannot be avoided we will limit activity during this period.

Construction Logistics Plan

Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

Considerate Constructors Scheme

Bowen is not registered with the Considerate Constructors Scheme but this is something our QA department and Senior Management is reviewing.

Information Boards

An information board will be maintained on the external hoarding. The board will contain more project specific information relating to programme and progress. It will also detail any changes to the hoarding layout and accesses.

Targets and Monitoring

The following logistics targets are to be set for this scheme:

- No complaints from Environmental Health regarding the condition of the roads outside the site entrance as a result of our works.
- All suppliers and hauliers registered to FORS.
- Monitoring and recording of CO₂ emissions for deliveries based on miles travelled by delivery vehicles.
- >80% of waste materials recycled via waste transfer station.
- Zero penalty charge notices issued for delivery vehicles in roads adjacent to the site.
- No waiting time charges from suppliers.
- Achieve a BREEAM rating of Very Good.
- Ensure good relationship with the neighbours.

Bowen will record the number of deliveries each day. This will provide data to establish CO₂ quantities.

The following information will be provided:

- Date of vehicle movement
- Company name
- Purpose of vehicle movement
- Vehicle type
- Distance from source.

A Bowen senior staff person will record this data on a daily basis. This data will be made available to interested parties on a pre-arranged basis.

Monitoring

Monitoring and review of the procedures proposed in this plan will be carried out monthly or as required during the Health and Safety inspection carried out by the Health and Safety manager. The inspection report will identify failures to comply with this plan and in consultation with the Project Manager detail actions and responsibilities to ensure ongoing compliance.

Risk Assessment

We have provided a single risk assessment in Appendix 3.

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

Appendix 1 – Vehicle estimates

HAMPTON BY HILTON, CROYDON - TRAFFIC QUANTITIES							
Task Description	Approx Quantity	Units	Approximate Number of deliveries	Approximate Number of Collections	Task Duration	Average Number per week	Vehicle type
Muck away	150	tonne	0	8	Feb-11	4	20T tipper truck
Buried services	6	tonne	3	1	Feb-11	2	Flat bed lorry
Structural Steel	150	tonne	8	1	Jan-11	3	Articulated Lorry
Scaffolding	3,200	m ²	40	5	February 11 - June 11	2	Flat bed lorry
Precast Concrete	400	elements	140	2	February 11 - April 11	18	Articulated Lorry
Bathroom Pods	120	Pods	24	1	February 11 - April 11	3	Articulated Lorry
Reinforcing steel	20	tonne	2	0	Feb-11	1	Articulated Lorry
Pumped Concrete	400	m ³	50	0	Feb-11	17	Concrete truck
Blockwork	60	tonne	6	0	Mar-11	2	Flat bed lorry
Stud Partition	15	tonne	4	1	Mar 11 - May 11	1	Flat bed lorry
Cladding & Light Gauge steel	3,500	m ²	32	2	Mar -11 - June 11	2	Articulated Lorry
Insulation	3,800	m ²	36	3	Mar- 11- June 11	3	Flat bed lorry
Mechanical & Electrical Plant	150	tonne	50	5	Mar- 11 - August 11	2	Articulated Lorry
Roofing	750	m ²	5	1	May-11	2	Flat bed lorry
Tower crane	10	sections	0	10	Jun-11	10	Articulated Lorry
Doors, windows, curtain wall	350	no.	25	2	Jun 11 - July 11	3	Flat bed lorry
Case-good items and finishes	Numerous	no.	60	2	Jun11 - August 11	5	Flat bed lorry
Skip hire	20	no.	20	20	Jan 11 - August 11	1	Lorry
Miscellaneous / sundry	Numerous	no.	120	40	Jan 11 - August 11	5	Transit van
Landscaping	100	m ²	4	1	Aug-11	2	Flat bed lorry

Appendix 2 – Relevant extracts from Chapter 8

Traffic Signs Manual

Chapter 8

Traffic Safety Measures and Signs for Road Works and Temporary Situations

Part 2: Operations

Department for Transport/Highways Agency

Department for Regional Development (Northern Ireland)

Transport Scotland

Welsh Assembly Government

London:TSO

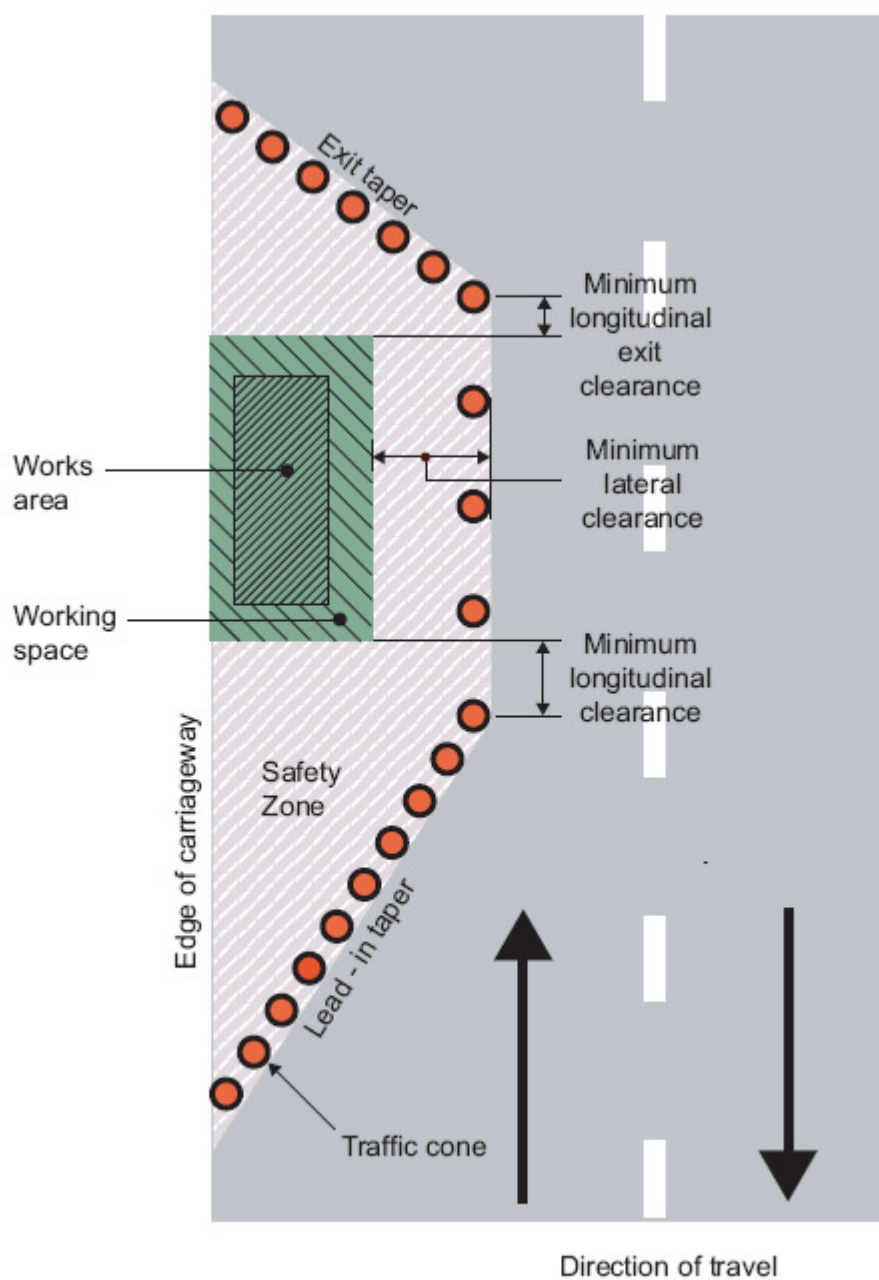


Figure 3.1 Safety zones – typical site layout

Safety clearances for working zone on the public carriageway

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

A1 APPENDIX – TABLES

Table A1.1 Location and number of approach signs

Type of road (permanent speed limit)	Minimum siting distance of first sign in advance of the works metres and miles	Minimum clear visibility distance to first sign metres	Minimum size of warning or regulatory sign (Note 1) mm	Distance from end of works to "End of road works" signs metres
Single carriageway road (30 mph or less)	20 m – 45 m	60	600	10 – 30
Single carriageway road (40 mph)	45 m – 110 m	60	750	30 – 45
Single carriageway road (50 mph or more)	275 m – 450 m	75 at 50 mph 90 at 60 mph	900	30 – 45
Dual carriageway road (40 mph or less)	300 m	60	750	45
Dual carriageway road (50 mph)	Standard: 800 m (1 mile where congestion is likely) Relaxation: 800 m	75	1200	90
Dual carriageway road (60 mph)	Standard: 1 mile (2 miles where congestion is likely) Relaxation: 1 mile	90	1500	90
Dual carriageway road (national speed limit)	Standard: 2 miles (3 miles where congestion is likely) Relaxation: 1 mile	120	1500	90
Dual carriageway road (national speed limit) hard shoulder only closure	800 m	120	1500	90

Table A1.3 Recommended spacing and sizes of traffic cones

Road Type	Single carriageway road (permanent speed limit of 30mph or less)	Single carriageway road (permanent speed limit of 40mph)	Single carriageway road (permanent speed limit of 50mph or more)		Dual carriageway road (permanent speed limit of 40mph or less)	Dual carriageway road (permanent speed limit of 50mph or 60mph)		Dual carriageway road (national speed limit)
				Relaxation			Relaxation	
Rate of taper (see Note 3)	1 in 13	1 in 20	1 in 25		1 in 25	1 in 40		1 in 55
Taper length (m) for hazard of standard carriageway width between 3.6m and 4 m	50	80	100	100	100	150	150	200
Minimum number of cones	8	28	68	35	35	101	51	135
Minimum cone size (mm)	450	450	750	750	450	750	750	1000 (see Note 5)
Maximum cone spacing (m)	3	3	1.5	3	3	1.5	3	1.5
Maximum warning light spacing (m)	9	9	9	9	9	9	9	9
Minimum cone size (mm)	450	450	750	750	450	750	750	750 (see Note 5)
Maximum cone spacing (m)	9	9 (see Note 1)	9	9 (see Note 1)	9 (see Note 1)	9	9 (see Note 1)	9
Maximum warning light spacing (m)	9 (see Note 2)	9 (see Note 2)	18	18	18	18	18	18

Construction Logistics Plan
Hampton by Hilton, 29-30 Dingwall Road, Croydon, Surrey, CRO 2NB

Appendix 3 - Risk Assessment

Operation / Process	Date:	Risk Assessment Number:
Traffic and Pedestrian Management – Hampton by Hilton, Croydon, Surrey, CR0 2NB	October 2010	09-19 – RA - 01

RISKS PRIOR TO CONTROLS			
Hazard identified	Low	Medium	High
Tower crane lifting loads over public footpath along Dingwall Road	Yes		
Manual handling of loads from truck to site across the footpath on Dingwall Road	Yes		
Fall of materials from site onto public road / footpath	Yes		
Parking of long vehicles on public road adjacent to footpath		Yes	

EXPOSED PERSONS	TOTAL NUMBER AFFECTED
Site operatives and passers by / public / visitors	various
FREQUENCY OF EXPOSURE	DURATION OF EXPOSURE
Various	Various
CONTROL MEASURES IN PLACE	EXTENT TO WHICH THEY CONTROL RISK
Tower crane and lifting gear fully certified.	Ensures all equipment in good working order.
Tower crane driver, lift supervisor and slinger fully certified for the work	Ensures safe lifting ability. Limits the person exposed to risk
Safety hoarding at front of site	Ensures construction materials do not fall onto footpath or public road.
First aider on site at all times with first aid kit on site.	First aid readily available.
Bowen senior staff fully aware of all risks	Knowledge is freely available to all site personnel
Chapter 8 measure for temporary traffic control, cones, barriers, signage, tapering lines of cones, etc.	Limits the likelihood of traffic collision, slows down traffic approaching the pick point zone,. Standardisation of control measures promotes a safer working zone
Traffic and pedestrian marshallers	Limits the dangers to motorists and the public.
Method statement, tower crane lifting plan, safety documentation, risk assessments	Promotes knowledge of the dangers and encourages personnel to be aware of their surroundings.
Inform suppliers and sub-contractors of the construction logistics Plan	Limits likelihood of incidents.
Limit on frequency of traffic movements especially during peak hours	Limits likelihood of incident and traffic congestion
Inform personnel of public transport systems locally to the site	Promotes a more effective Travel Plan

STATEMENT ON RESIDUAL RISK
When the detailed control measures are in place the risk should be reduced to an acceptable level.

MONITORING RESULTS
Monitoring is required to ensure that the controls remain effective

REVIEW DATE
As required.

SIGNED
Bowen Project Manager: - R. King
Bowen Construction Manager – R. Nagalingam
Bowen Site Engineer – P. O' Mahony