

TWICKENHAM STATION
PRELIMINARY CONSTRUCTION MANAGEMENT STATEMENT
(NOVEMBER 2010)

1.0 Description of Works

- 1.1 The following provides an overview of the site preparation and construction strategy for the proposed development.

2.0 Site Preparation

- 2.1 The main compound for the works will be set up in the existing car park (adjacent to Station Road) to the south of the station; this will house welfare facilities and general storage areas. The compound will be enclosed by a site hoarding comprising a solid timber hoarding approximately 2.4m high. Whilst every effort will be made to maintain the availability of station car parking during the construction period, there will be periods when the car park will be subject to part or full closures. Advanced notice will be given to users of the car park during these periods together with instructions in respect of the availability of other local car parks
- 2.2 At all times pedestrians will have clearly defined routes protected from the works by hoarding and fencing.
- 2.3 Site preparation activities will also include:
- Utilities diversions;
 - Installation of the temporary footbridge;
 - Removal of the existing footbridge;
 - Diversion of railway systems; and
 - Canopy removal/demolition.

3.0 Foundation Strategy

- 3.1 The construction of the foundations will be preceded by excavation works and the construction of the piling mat.
- 3.2 Works will be carried out in four areas:
- Island Platform
 - Mary's Terrace
 - Station Car Park
 - Existing Station Area

4.0 Piling/Substructure

- 4.1 The foundations are to be piled, using traditional techniques, likely to be augered piles and for the podium works "reduced height" rigs will be used, enabling works to be carried during normal rail operating hours.
- 4.2 Materials will be supplied to site for the podium works during evening/night time periods, using lane closures off London Road. The reinforced concrete foundations will be constructed using traditional techniques behind the site hoardings. The lane closures will be agreed with the Highways Authority and will include the necessary pedestrian management. Full details of this will be included in the Traffic and Pedestrian Management Plan produced in agreement with the Local Highway Authority in due course.

5.0 Superstructure

- 5.1 The pre cast concrete walls and beams to the podium area will be erected in major railway possessions using mobile cranes operating within temporary road closures. The cranes will be located in Mary's Terrace and the existing Station Car Park area. When cranes are located in Mary's Terrace they will be in the vicinity of Regal House and therefore will be sufficiently far away from the buildings such that there could be no impact on the fabric of the Buildings of Townscape Merit
- 5.2 A corridor for emergency vehicles will be retained at most points throughout the project from the Railway Approach end of Marys Terrace. At times when any closures are proposed the temporary widening of Marys Terrace at the Beauchamp Road end will be provided to allow for emergency vehicles to access.
- 5.3 Precast walls and beams will be delivered to the point of lifting by road. A delivery schedule will be agreed prior to each possession, detailing routes and temporary storage areas.
- 5.4 The superstructure to the main works will be constructed during normal working hours utilising mobile cranes where necessary and permanent tower cranes to suit the construction programme.
- 5.5 It should be noted that the cranes will be fixed with restrictors so as to avoid oversailing adjoining properties.

6.0 Pedestrian Access and Egress

- 6.1 Prior to works commencing on site, liaison meetings will be held with the local and Highways authorities and the Train Operating Company to confirm arrangements for pedestrian and traffic management. A Traffic and Pedestrian Management Plan will be produced following these meetings. The Plan will detail each phase of the project, setting out the proposed traffic and pedestrian routes to be used. At all times pedestrians will be provided with clearly defined routes, protected from the works by hoardings and fencing.
- 6.2 A major part of the proposals for ensuring continued pedestrian access to the station is the installation of a pre-fabricated temporary footbridge to the north of the new podium construction. The existing chair lift for the mobility impaired will be relocated on to the temporary gantry so that the facilities will be maintained as existing. This will allow the demolition of the existing footbridge and the construction of the podium and superstructure works and provides safe access until such time as the new station is open.
- 6.3 With respect to events at Twickenham Stadium discussion has taken place with the Train Operating Company, the RFU and the police and an agreed strategy so as to maintain safe access to and egress from the station for attendees at the events has been agreed with the relevant parties which will be implemented during the course of the construction works. The station has been designed in capacity terms to allow for growth on a normal day. Clearly the size of crowds to be handled at the station on match days is dictated by the capacity of the stadium and the attendance at the event, there will not be any increase in footfall from the stadium. The temporary footbridge will provide equal capacity to the existing gantries and a management plan will control the event day crowds.

7.0 Continued Station Operation (Including Operating at Peak Capacity)

- 7.1 The use of the temporary footbridge described above, will ensure that existing pedestrian flows are maintained during the construction period.
- 7.2 Major construction activities to the podium (i.e. PCC wall and beam erection) will be carried out during planned major railway possessions – other activities will take place during short duration closures.

8.0 Emergency Procedures

- 8.1 Emergency procedures for the project will be agreed with the Client, Network Rail, the Train Operating Company, local authority and emergency services prior to works commencing. An Emergency Procedures Plan (EPP) will be drawn up, which will set out the required response to any emergency situation. The requirements of the plan will be briefed out to all personnel as part of the site induction process.

9.0 Construction of New Station

- 9.1 The new station will be constructed in accordance with the Network Rail and Train Operating Company Specification and during this and the rest of the works the Contractor will comply with the Network Rail, Train Operating Company and the Office of Rail Regulation (ORR), Health & Safety and Construction Requirements.

10.0 Demolition of Current Station and Decanting to New Station

- 10.1 Following completion of the podium works and during the erection of the superstructure over a temporary station facility will be constructed along the elevation facing London Road to enable the existing station to be demolished. The temporary station facilities will be agreed with the Train Operating Company and appropriate notice will be given to passengers so that they are aware of the timescale involved for the changeover to take place. Safe pedestrian access will be provided from the temporary ticket office to the temporary gantry and then down on to the platforms.
- 10.2 Following completion of the new station the temporary ticket office will be removed and passengers permitted to utilise the new facilities with a new pedestrian access, including lift access to and from the platforms.

11.0 Build of Residential and Commercial Elements

- 11.1 The residential and commercial elements construction will be a continuous process throughout the programme. These works will be carried out in a phased manner, the intention being to endeavour to hand over completed residential units in sections. This will be developed further as time progresses.

12.0 Fit-Out

- 12.1 The fitting out works to the residential units will be a continual process running in parallel with the superstructure works. This equally applies to the fitting out of the station.
- 12.2 The retail units will be built to a shell standard for fitting out by the eventual tenant/operator of the unit.

13.0 Landscaping

- 13.1 Landscaping and planting will be undertaken towards the end of the project. Hard landscaping being a continuous process towards the latter stages of the project in order to provide safe access and egress to and from the completed units.

14.0 Materials and Resource Use

Site Preparation

- 14.1 During the site preparation stage, excavation arisings will be produced, which will be removed from site.
- 14.2 Wherever possible, materials will be recycled and re-used either onsite, or provided for use or recycling off site.

Construction

14.3 Details of key construction materials:

- Concrete piles
- Steel reinforcement
- Concrete to pile caps
- Precast concrete beams & walls
- Insitu concrete slab
- Concrete frame above
- Façade cladding
- Internal walls, partitions etc
- Fitting out materials including kitchen and bathroom fittings
- Mechanical and electrical plant and materials.

14.4 Off site processes will include manufacture of pre-cast concrete elements and fabrication of steelwork and façade panels/windows. Consideration will also be given to prefabrication of bathroom pods off site.

Plant and Equipment

14.5 Consideration has been given to the types of plant that are likely to be used on-site during the site preparation and construction phases of the proposed development. The plant and equipment associated with each key element of the construction process is set out in the table below.

Phase	Plant
Site Preparation	<ul style="list-style-type: none"> • 360 tracked excavators • Hi-ab Lorries • Temporary Welfare facilities • Fork Lift Truck • 20T Road Wagons • Traffic Management Vehicles • Small dumpers • Various Craneage • Machine mounted hydraulic breakers • Compaction plant • Groundwater pumps • Diesel generators • Compressors and small tools
Construction	<ul style="list-style-type: none"> • Piling rigs (reduced height), • Twin 350t cranes • City Cranes • Fork Lift Truck • Articulated delivery wagons • Traffic Management Vehicles • Road/rail mounted elevated working platforms • Lighting towers • Concrete pump • Concrete Wagons • Compaction Plant • Road/Paving Plant • Compressors and small tools • Diesel generators • Tower cranes • Pedestrian hoist • Dumpers • Scaffolding & scaffold towers

15.0 Hours of Work

15.1 It is anticipated that the core working hours for site preparation and construction will be as set out as follows:

- 08:00 – 18:00 hours Weekdays;
- 08:00 – 13:00 hours Saturday; and
- Working on Sunday will be subject to reasonable notice for works required “out of hours”
- During scheduled possessions operations will be carried out on a 24 hour basis.

15.2 All work outside these hours will be subject to prior agreement, and/or reasonable notice to London Borough of Richmond upon Thames who may impose certain restrictions. Although night-time working will not normally be undertaken, it is expected that material deliveries relating to the podium will take place at night and that certain works, particularly those involving major rail possessions or work to the operational station (to avoid conflict with the travelling public) will have to be undertaken during this period.

16.0 Demolition and Construction Method Statement

16.1 A principal contractor for the demolition phase will be appointed to develop a Demolition and Construction Method Statement (DCMS) that will apply to all contractors, sub-contractors, trade and site management and include a Construction Environmental Management Plan (CEMP) to detail working procedures for the control of emissions and environmental risk.

- 16.2 The DCMS will place obligations on contractors to adopt best environmental practice and reflect the LBRuT Major Projects Guidance Note.
- 16.3 The DCMS will identify all the statutory procedures to be adhered to through demolition and construction. Individual trade contractors will incorporate all relevant environmental control, health and safety regulations, and best practice. This will ensure that all contractors involved with the demolition and construction phases are committed to agreed best practice.
- 16.4 Trade contractors will be required to demonstrate how they will meet the targets of the DCMS.
- 16.5 The DCMS will include the following items:
- Demolition and construction programme;
 - Broad plan of the demolition and construction works, highlighting the various stages and their context within the whole project;
 - Details of the Environmental Management Plan (EMP), including restricted operations, site access and housekeeping procedures;
 - Detailed site layout arrangements (including requirements for temporary works) during the project, including plans for storage, accommodation, vehicular movement, delivery and access;
 - Site working hours;
 - Details of operations likely to result in disturbance, with an indication of the expected duration of each phase with key dates. This should include a procedure for prior notification of the Client and relevant statutory and non-statutory (including neighbours) parties, so that local arrangements can be agreed;
 - A procedure to ensure communication is maintained with the Client and the local community to provide information on any operations likely to cause disturbance (through for example; meetings and newsletters);
 - Provisions for affected parties to register complaints and procedures for responding to complaints; and
 - Provisions for reporting to the Client and the Applicant.

17.0 Construction Environmental Management Plan

- 17.1 Matters concerning site activities during demolition and construction that relate to environmental issues will be discussed and agreed with the London Borough of Richmond Upon Thames in advance of works commencing. Where necessary further assessments can undertaken when a contractor is appointed and detailed method statements and programme information are available. As such, the site will be managed in accordance with best practice. This includes the agreement of the DCMS and the CEMP, which will include:
- A commitment to environmental protection (all Consultants and Trade Contractors will be invited to declare their support for this at the tender stage);
 - Documentation of planning provisions setting out background information and considerations on impact types to help the project team plan both their activities in relation to environmental issues and their control measures. References will also be included on what will be needed to comply with the environmental elements of any planning conditions;
 - Detail on control measures and activities to be undertaken to minimise environmental impact;
 - Monitoring and record-keeping requirements;
 - Establishment of baseline levels for noise, vibration and dust;
 - Details of a dedicated point of contact during both normal working hours and after hours, with responsibility to deal with environmental issues if they arise; and
 - Commitment to a periodic review of the EMP and regular environmental audits of its implementation.

18.0 Considerate Contractors Agreement

- 18.1 In line with best practice Solum Regeneration will require contractors to sign a Considerate Contractors Agreement.

19.0 Protection of Site Workers and Public

- 19.1 During demolition and construction, precautions would be taken to eradicate or at the very least minimise the exposure of workers and the general public to potentially harmful substances. Attention would be paid to restricting possible off Site nuisances, such as those arising from any dust and odour emissions. Such precautions would be included within the CEMP and include:

- Personal hygiene, washing and changing procedures;
- Personal protective equipment, including disposable overalls, gloves and particulate filter masks to be worn;
- Adoption of dust suppression methods, e.g. water spraying, wheel washing facility for vehicles leaving the Site;
- Measures to avoid surface water ponding and positive collection and disposal of all on Site runoff;
- Regular cleaning of all Site roads, access roads and the public highway.

20.0 Service Diversions and Temporary Installations

- 20.1 Details of all required service diversions and temporary installations will be agreed prior to works commencing. Early discussions will be held with Utilities providers to confirm timescales for diversion works.

21.0 Public Relations

- 21.1 Local residents, train users and others will be kept informed of site progress and major activities by means of project notice boards, newsletters and letter drops.

22.0 Management of Trade Contractors

- 22.1 Trade contractors will be appointed and managed on site in accordance with the Principle Contractor's procedures. All contractors will be made aware of site environmental requirements and will be required to demonstrate how they will comply with them.

23.0 Traffic Management

- 23.1 A Construction Logistics Plan (CLP) will identify the duration of the phases and will also identify methods and routes for delivery of construction materials and removal of waste materials. The CLP will be prepared in accordance with the TfL CLP guidance document – 'Building a Better Future for Freight: Construction Logistics Plans'.

24.0 Access and Egress

- 24.1 There will be four delivery points for materials and plant in use throughout the construction phase of the project - these will be:
- The existing car park to the south of the station;
 - The proposed lane closure on the highway bridge, to give access to the island platform;
 - The existing station car park; and
 - Mary's Terrace – use of this route will be kept to a minimum access only from Station Yard end.

- 24.2 During Twickenham events these access points will be suspended in order to enable the Train Operating Company, Police, etc to manage the crowds.
- 24.3 With respect to the interface with the Travelodge development at Regal House we will set up regular meetings with the appointed contractor in order to ensure that any use of Mary's Terrace is co-ordinated to avoid conflict.
- 24.4 With respect to the Platform Extension Works which are being undertaken during the planned possession closures, we will liaise with the appointed contractor (the Solum Regeneration contractor is also tendering for these works) to ensure there is a co-ordinated plan and agreement for logistics, deliveries and working in and around the existing station areas so as to avoid conflict and ensure least disruption in the vicinity of the development.

25.0 Road Closures/Diversions

- 25.1 Night time lane closures will be required on London Road to facilitate the delivery of materials to the island platform for the podium works.
- 25.2 There will be a need for oversized vehicles, i.e. piling rigs and cranes to access the site. These occasions will be pre-arranged with the Highways authority and local police.
- 25.3 All temporary road closures will be agreed with the local authority during detailed construction planning. All required notices regarding any planned closures of roads or footpaths will be made in accordance with the appropriate timescales for their issue.

26.0 Car Parking and Travel to Site

- 26.1 Personnel travelling to site will be encouraged to use public transport. No on site parking will be provided. Any local traffic management measures for site access will be agreed with the relevant authorities.
- 26.2 There will be no public car parking on the station site during the works so as to avoid potential conflict between construction vehicles and users of the station.

27.0 Road Cleanliness

- 27.1 To minimise the effects of construction activities on local roads, arrangements will be made for wheel washing at access points and the use of road brushes on all roads in the vicinity of the site.

28.0 Management of Noise, Vibration and Dust

- 28.1 Assessments of all activities with the potential to generate high levels of noise, vibration and dust will be made prior to works commencing. Best practicable methods of prevention, reduction and minimisation will be adopted in agreement with the local authority. Measures currently planned include:

- Use of hoardings to assist in screening noise and dust from low level sources;
- All plant and equipment to be properly maintained, silenced where appropriate, operated to prevent excessive noise and switched off when not in use;
- Selection of appropriate techniques to mitigate impacts i.e. use of hydraulic plant, rather than percussive;
- Setting of threshold limits and the establishment of monitoring equipment at sensitive locations; and
- Netting/screening to scaffolding to assist in screening dust
- All noise complaints or any exceeding of agreed levels to be investigated.

29.0 Waste Management

- 29.1 The disposal of all waste or other materials will be carried out in accordance with all current legislation.
- 29.2 A Site Waste Management Plan will be produced and agreed prior to any works commencing. This will set out the steps to be taken to avoid waste production, reduce waste removal and to re-cycle waste. Where space on site permits, all waste will be segregated at source.
- 29.3 All sub-contractors and suppliers will be involved in the waste minimisation process.

30.0 Energy and Water Usage

- 30.1 Measures to reduce the usage of energy and water will be investigated and will be employed on site where suitable. The supply chain will be involved in this process. Measures to be adopted may include:
- Monitoring energy consumption on site;
 - Motion sensors on lights in particular areas i.e. welfare units;
 - Use of self closing taps;
 - Use of alternatives to petrol/diesel powered plant; and
 - Reducing paper use on site.

31.0 Cumulative Impacts with Regal House Development

- 31.1 In advance of the works commencing we will arrange meetings with the Regal House Contractor in order to ensure that there is a co-ordinated plan and agreement for logistics, deliveries and working in and around Mary's Terrace so as to avoid conflict and to ensure the least disruption to the users of Mary's Terrace in the vicinity of the developments.
- 31.2 With respect to the Platform Extension Works which are being undertaken during the planned possession closures, we will liaise with the appointed contractor (the Solum contractor is also tendering for these works) to ensure there is a co-ordinated plan and agreement for logistics, deliveries and working in and around the existing station areas so as to avoid conflict and ensure least disruption in the vicinity of the development.
- 31.3 With respect to the Royal Mail site, at this stage we are unaware of any planned development to this site but should during the course of the construction process on the station site, works commence on the Royal Mail site then we would arrange the necessary co-ordination/interface meetings with that Contractor and agree the appropriate interface, logistics and deliveries plans.