



3.3 Design principles

Twickenham Stadium - the home of England Rugby, represents the sport throughout the country, UK and the world generally. The design team have worked together with the Rugby Football Union (RFU) to understand the core values of both England Rugby and the RFU generally which has influenced the design approach of this application. These values will be installed throughout the detailed design of the building through all the stages of its design. This includes both the detailed design of the façade through to the fit-out of the proposed hospitality areas and all other spaces proposed, including external spaces being created.

The proposed design comprises:

- Extending L1 lobbies to create new hospitality entrances to serve all levels

Creation of new internal slab areas at level 2 with direct links to the lower tier seating area.

- Extension of the slab from level 03 to level 05 along Rugby Road to create new hospitality space
- Realigning the perimeter fence to rationalise the eastern boundary and align with the proposed refurbishment

This will provide a clarity to the east stand and introduce a clearly defined massing to the streetscape and significantly rationalise and tidy the existing eastern face of the stadium.

The extended slabs are clad in materials

sympathetic to the south stand, utilising a combination of curtain wall glazing, porcelain rain screen cladding with a base of porcelain tiles and aluminium shingle cladding. The façade incorporates strong features to echo the curves used in the south stand. The main roof structure remains expressed with the new massing sitting between levels 03 and 05 allowing a double height undercroft to maintain access for goods vehicles on non-match days and spectators on match days to move freely around the stadium within the ticketed line.

**“Rugbeia
Floreat
Ubique”**

“Let Rugby Flourish Everywhere”

RFU Motto



3.4 Scale and Massing

The proposed new accommodation has been designed to tie in with the existing floor levels and compliment the current stadium arrangement, including the access to the bowl.

From ground floor to the top of the stadium roof structure crown, the stadium rises approximately 40 metres. The overall existing width of the stadium is over 200 metres and the length is approximately 300 metres inclusive of the south stand accommodation.

Refurbishment of the East stand comprises an extension of the existing level 3 and 4 floor plates towards Rugby Road. The extent of the extension captures the overall floor areas to meet the RFU's requirements, and extends in the northern zone up to the RFU boundary on Rugby Road. Whilst the boundary is not parallel with the stadium, the new extension runs parallel to the main stadium building. The final format of the turnstiles and gates along this boundary has resulted from a detailed analysis of people movement flowing through the perimeter fence, street and stadium on a match day.

In order to achieve the additional floor space required, a new Level 4A is also created. To achieve appropriate ceiling heights within the new L4A hospitality space, the level of the new Level 5 concourse/bar area above is accessed from the L5 concourse by steps.

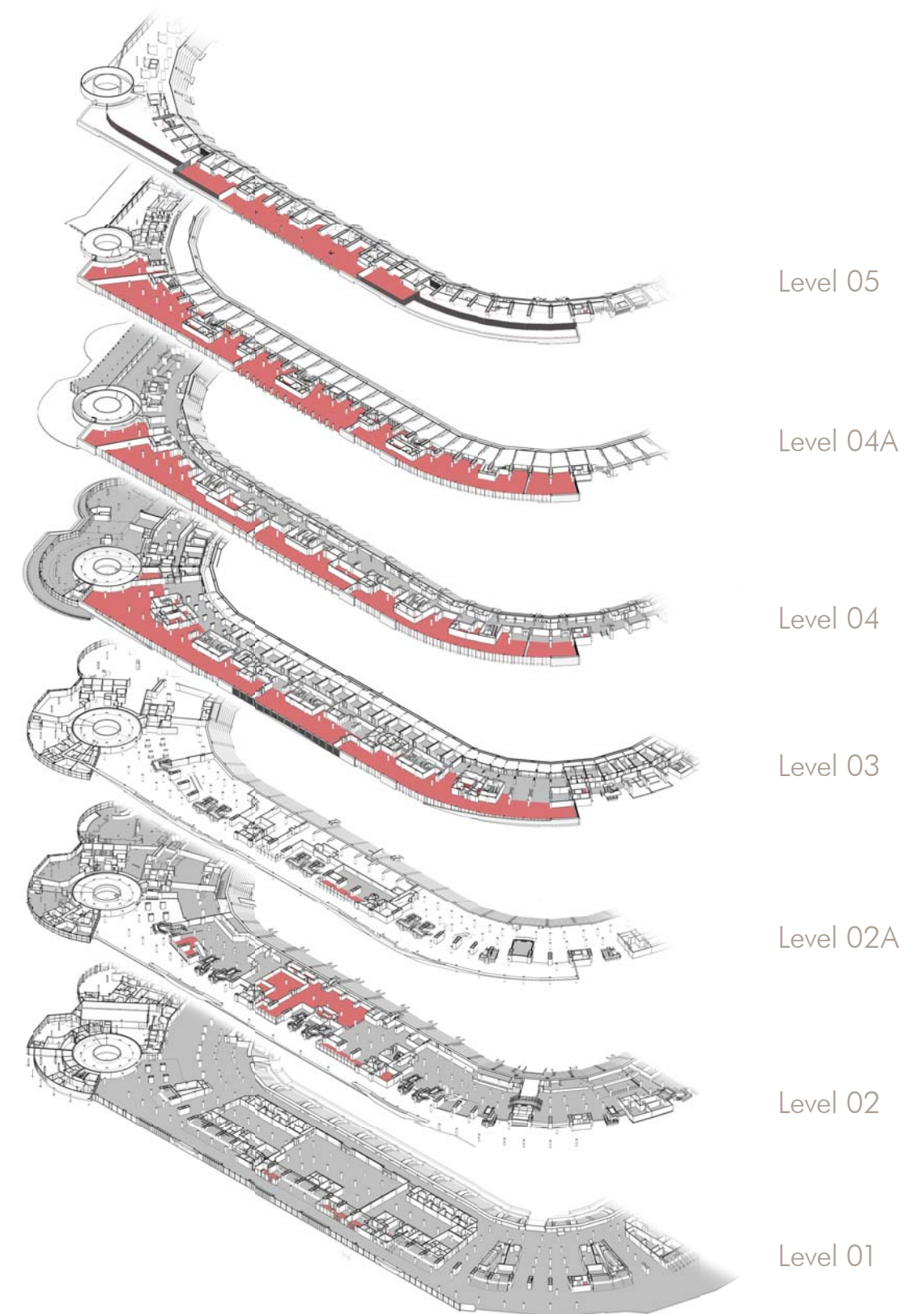
A fundamental part of the sectional design has been to achieve the best relationship

between new space and pitch with associated seating area and natural light from the east. The requirement for natural light and pitch views; not present in the current suite of RFU hospitality and C&E space, has played a major part in the development of the sections and elevations.

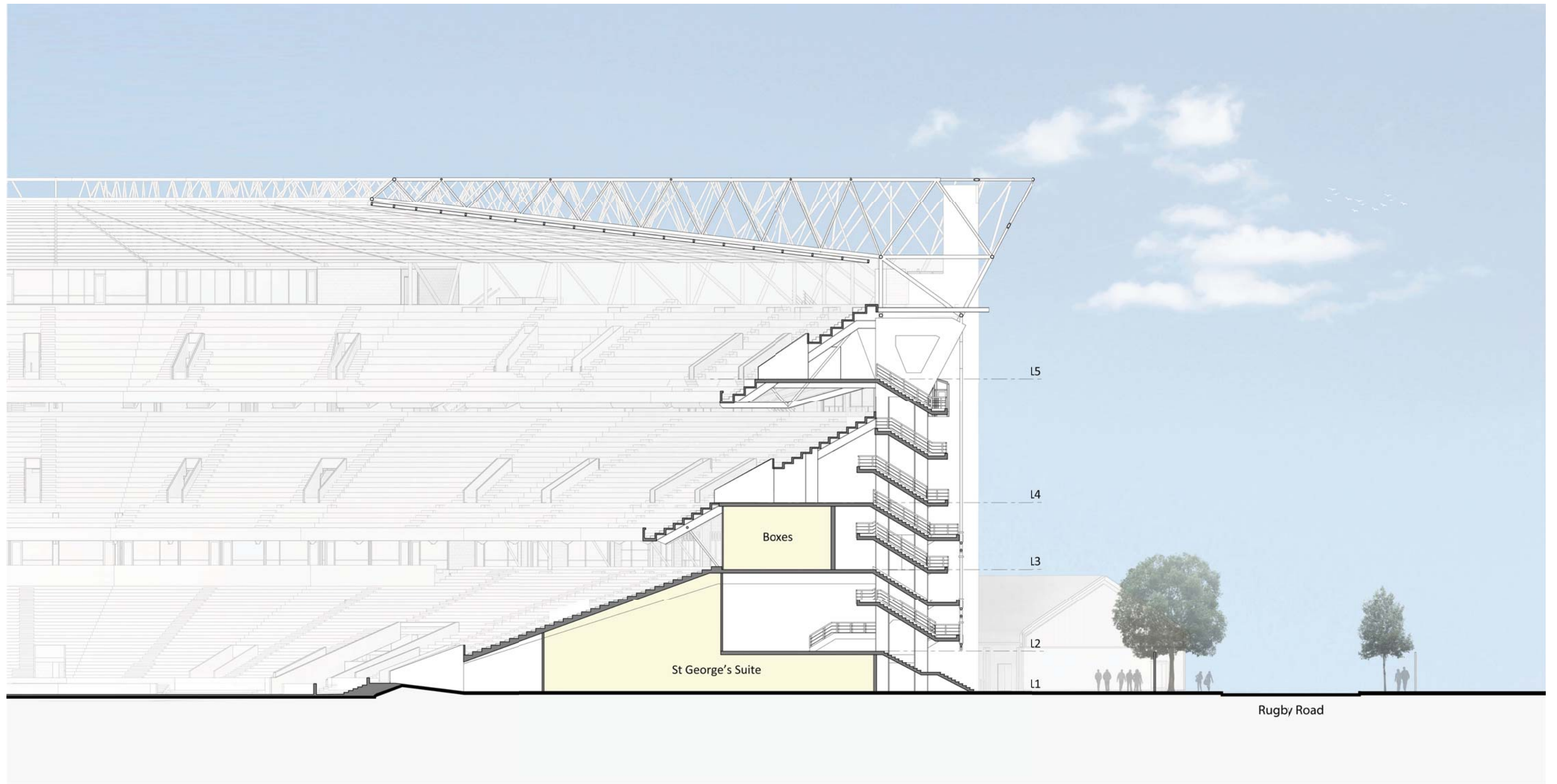
Both levels 03 and 04A provide hospitality space overlooking the pitch. The three upper levels also benefit from extensive natural light coming in from the street along Rugby Road.

In addition, the section creates a new, covered external route concourse which helps to protect all visitors to the stadium using this section of the ground once beyond the turnstiles. The turnstiles are relocated to the line of the outer wall of the new extended floor plates which has a neater street presence and enhanced functionality providing cover for a majority of the east stand concourse area and hospitality entrances. The concourse has two storeys of clearance to allow high vehicles clear access around the stadium. It is wide enough to allow two large vehicles to pass one another. The perimeter fence to Rugby Road will be semi opaque to enhance the appearance and shield any views of vehicles or items that may be behind the fence lines on non-match days.

The scale and massing has also been developed to ensure impacts are minimised.

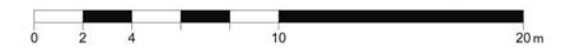


Axonometric of new floor slabs created to produce the stadium extension

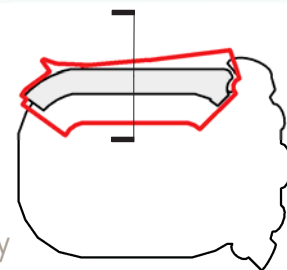
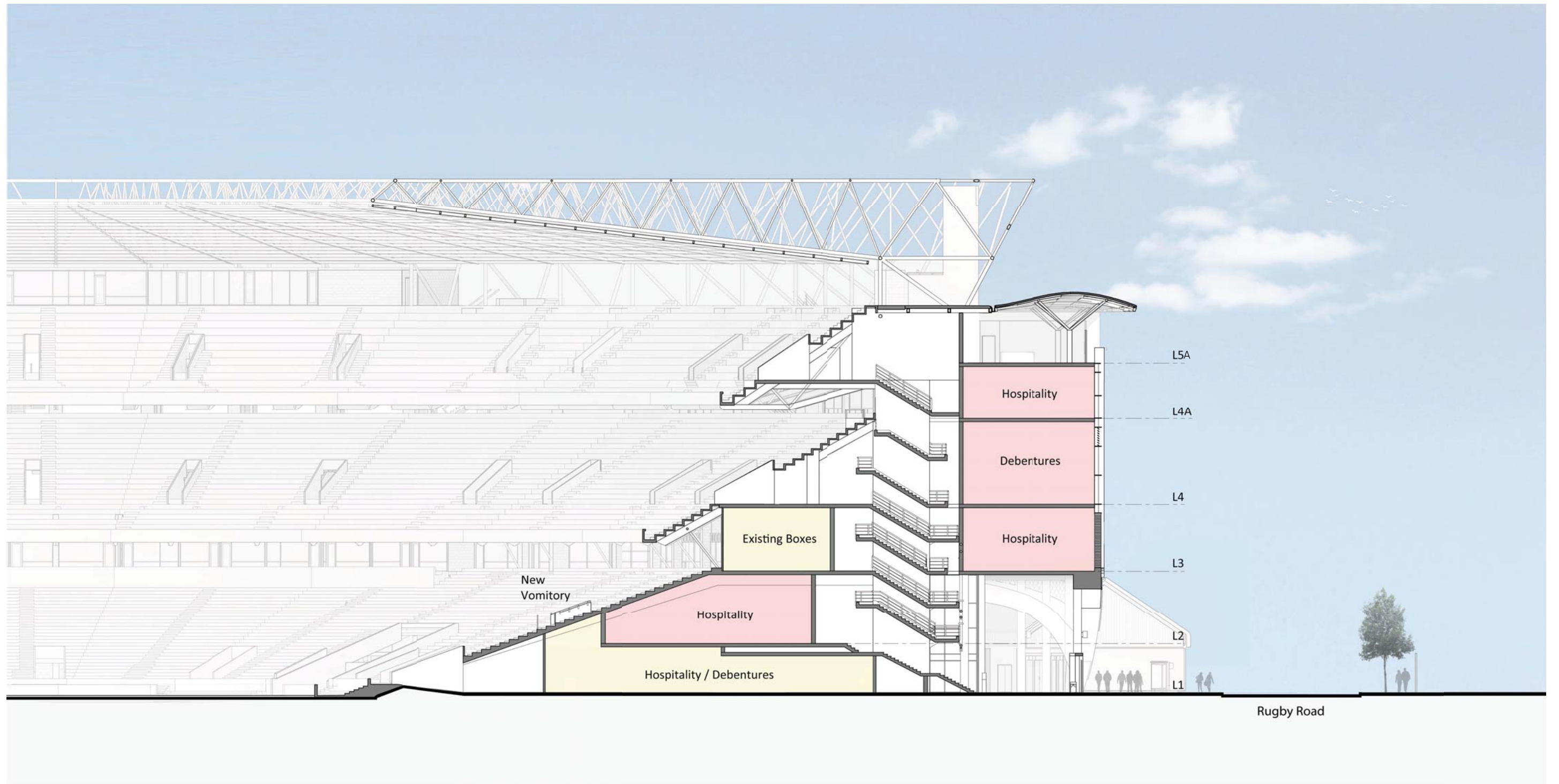


Existing Hospitality Space

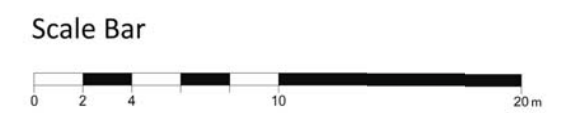
Scale Bar



Existing east stand section through St. George's Suite



- Existing Hospitality Space
- New Hospitality Space



Proposed east stand section

Section reference key



3.5 Technical considerations including movement and CCTV

In developing the proposals for the new east stand project many technical considerations have been taken into account. Constructability, sequence, programme and safety are just some of these factors.

Fire safety

Discussions have taken place between the design team and the London Fire Brigade to agree a fire strategy for the site. This is resolved in as much as an agreement in principle has been agreed to move the design forward. It is based on access via existing stairs to a point below the fire and entering horizontally to a hydrant location securely located so as not to allow smoke leakage into the Brigade control area.

Lighting to the new east stand under croft will be important to get the right level of security without being too imposing. The setback will make the space darker and the east facing orientation will require this. The first two setback storeys would form a strong feature, lit to the right levels and with down lights as opposed to any up light features so as to avoid the chance to block any light in this zone. Currently the south stand under croft is considered too dark.

CCTV

Consideration to CCTV locations is key. This should ideally extend to within each of the hospitality spaces to cover the rooms at times when they are not being used as well. The potential for theft in the empty spaces exists and this could be one way to deter or record any activities that may happen. Access control was recommended for each door to the new suites.



People movement

Movement Strategies (a people movement consultancy and analytics, responsible for making places, events and transport more enjoyable and more efficient) has been engaged on the project to inform the design that has been submitted for planning permission by feeding information on the following areas of design development:

- Assess whether the proposed design offers sufficient capacity to accommodate anticipated flows for ingress, egress, evacuation and half-time;
- Assess if the new arrangement allows for increased dwelling and the uplift in use of new facilities;
- Assess the impact on circulation space on the ground and the surrounding street network (including consideration of security and associated footprint).

In addition Movement Strategies has advised on vertical circulation to relieve concourse waiting times, concourse movements at the upper levels and movements between the proposed new extension and existing seating areas to be able to improve the overall experience and efficiency of the stadium. The feedback received has been implemented in the design of this proposal.





3.6 Public consultation

A number of pre-application meetings have been held with Officers at the London Borough of Richmond upon Thames during the development of the design for the stadium refurbishment. These have helped inform the final design solution included in this application.

We would like to particularly thank the London Borough of Richmond upon Thames planning officers for their input and guidance during the pre-application stages of the design development proposed in this planning application.

On Tuesday 31st May and Saturday 4th June public consultations took place at Twickenham stadium to allow members of the public an opportunity to see and provide comments upon the proposals and discuss them with all the stakeholders involved in delivering the project.

Please refer to PPS Group document:

Statement of Community Involvement, Upgrade of the East Stand Extension, Twickenham Stadium, Rugby Football Union, June 2016 for a summary of the public consultation.



Members of the public attending the public consultation at the stadium



3.7 Evaluation

The evaluation of the site context and character, and planning policies into principles for the design was a collaborative effort by the client, the project sponsor, the design team and stakeholders. Regular meetings between consultants and specialists, many of whom have been working on elements of the site for a considerable time, meant that the design ideas could be robustly assessed, evaluated and developed in the context of the stadium as a whole. KSS has been involved in the design of aspects of the site since 2011. Within the stadium they have been closely assisted by structural engineers, services engineers, civil engineers, interior designers, transport consultants, crowd flow analysts, cost consultants, façade engineers, acoustic engineers, fire engineers, planning consultants, townscape consultants, and environmental and sustainability consultants.

In addition to this collaborative effort, internal design reviews were carried out on the subjects of design, CDM (health and safety) and sustainability. KSS have regular design reviews at regular stages of design developing the proposals put forwards to ensure the best possible solution is reached using the vast amount of design skills and knowledge of the project team.



Design





4.1 Use and internal configuration

The East Stand extension project has been developed with the client and the design team to capture the principles of the project requirements. The areas of floor space established on the plans are in-line with the associated room area occupation densities as required by the RFU and their stakeholders.

The following highlights the scope and configuration of each level captured under the project scope.

Level 01

The scope of the east stand at level 01 incorporates work to the existing St George's Suite, museum and RFU store (and associated back of house accommodation). Within the proposed zones, existing plant is to be retained where required to avoid unnecessary decanting.

- St George's Suite - New restaurant and kitchen

Access is retained at ground floor directly off the outer concourse and has incorporated the current access to the store to provide maximised entry to this new, hospitality suite. The suite has increased in useable hospitality area by incorporating the footprint of the existing RFU store. The kitchen has been rearranged to support the expansion in area. The new arrangement allows the re-planning of a WC zone to support the space.

Whilst the new restaurant can be accessed from

the outer concourse either side of the central external stair, the design also provides access to the inner concourse giving guests the ability to leave the hospitality space and enter the seating area within the bowl directly, improving the match day experience significantly.

- RFU Store and associated back of house facilities - New bar and kitchen

The new bar takes up most of the area previously occupied by the RFU store and back of house areas. Access is via the outer concourse adjacent to the north east lift core. A kitchen compliments the bar area providing support and flexibility to the space for match day events and non-match day activities.

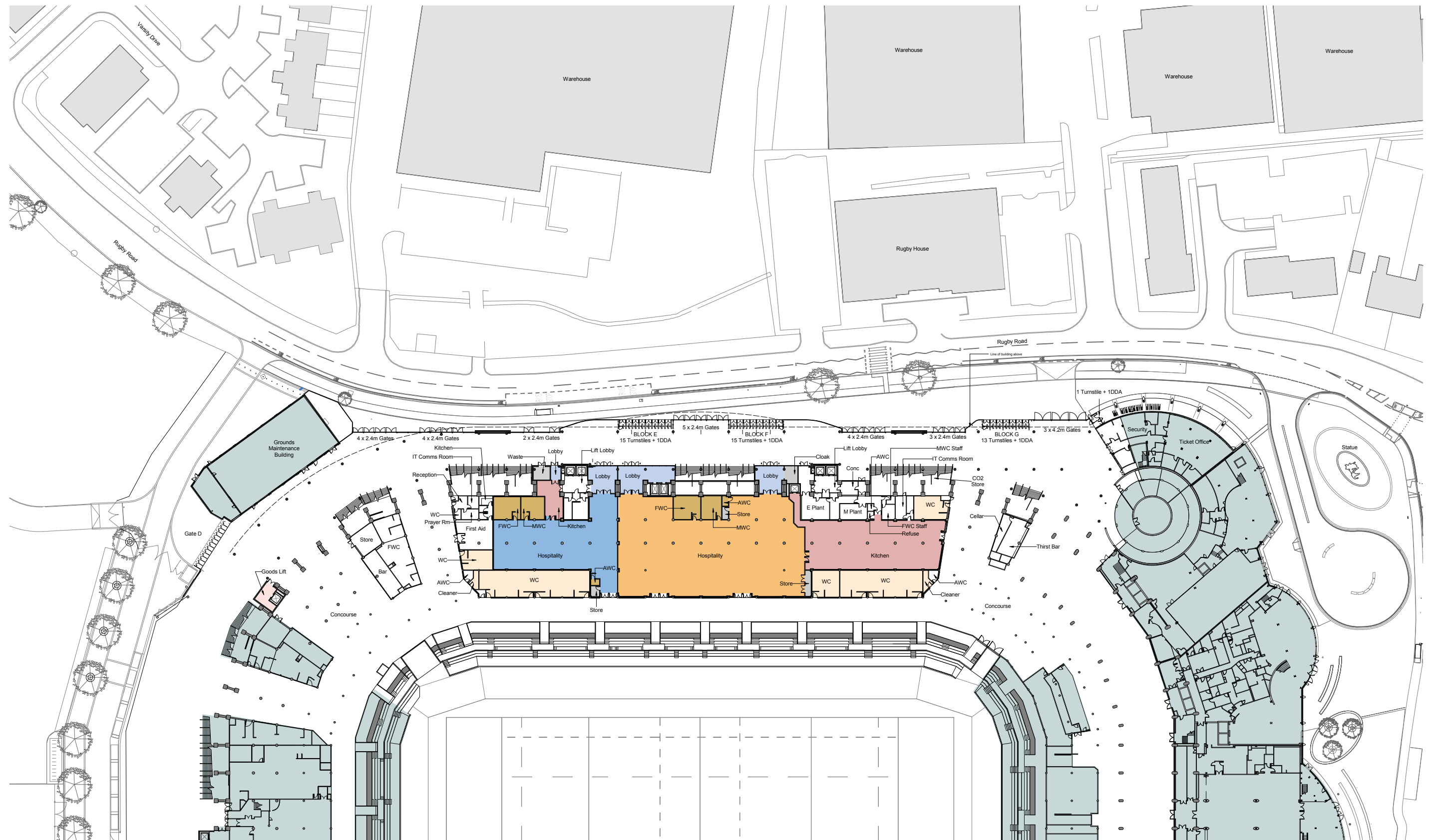
Access to the inner concourse has also been provided bringing guests out and up through the existing vomitories from the inner concourse, reducing the distance of travel experienced by each individual. The access is gained through an existing WC area which has been rationalised in layout to reduce the impact on current provision that may result.

The existing ceiling has a number of services running through it in this area and these services will need to be considered to maximise the ceiling height throughout.

New toilet provision within the space is accessed directly from the bar area.

The turnstiles along Rugby Road have been realigned to follow the line of the new

Refurbishment to the stand creating better street widths to manage crowds coming from the station, filtering into the stadium as they move north along Rugby Road.



Level 01 plan as proposed



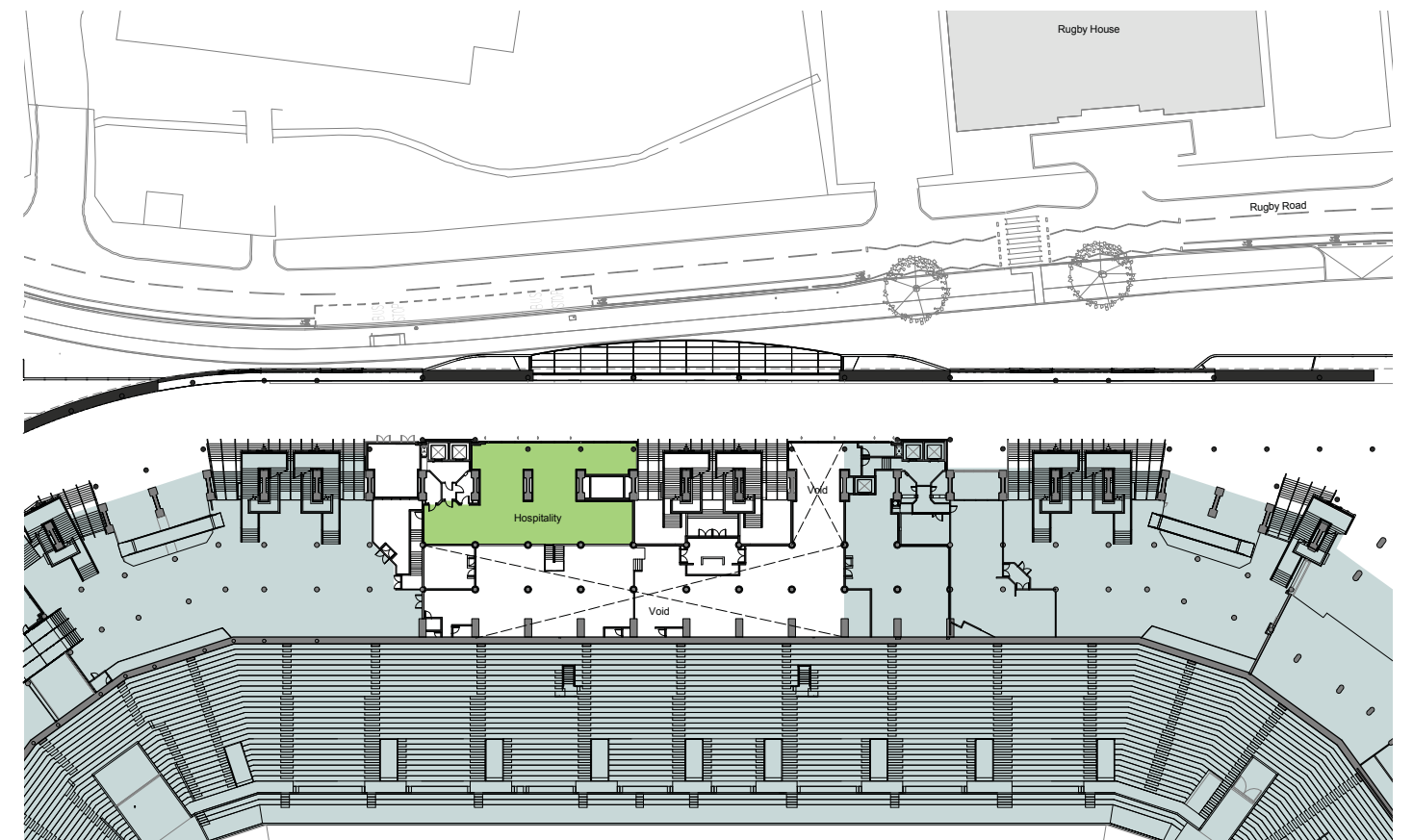
Level 02

The scope of the east stand level 02 incorporates the space directly above the St George's Suite and kitchen (currently a double height volume), as well as the existing museum space.

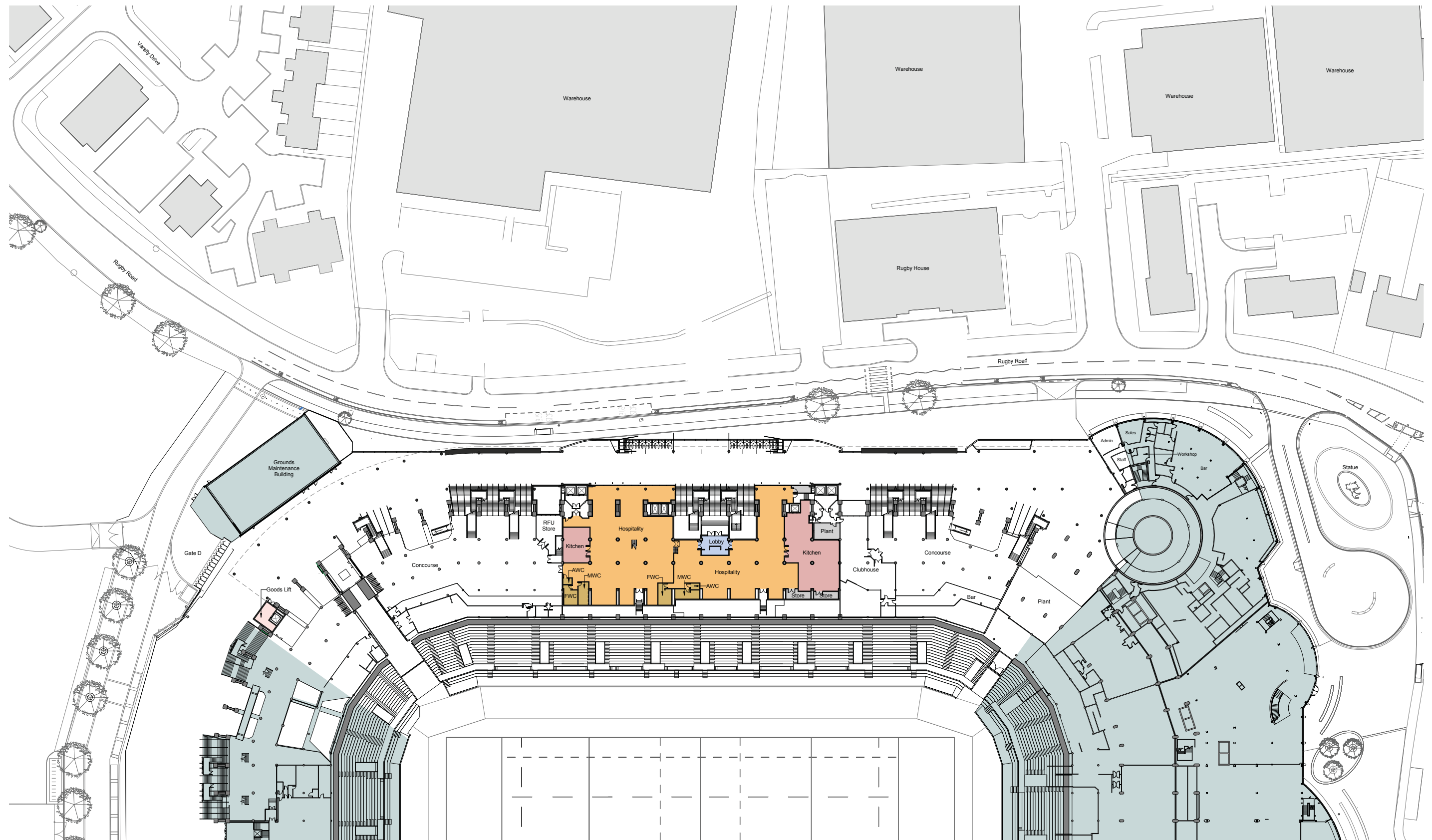
- Access to this suite can be by the existing external steps up one level or by lift 5 existing (north end of the east stand).
- The escalators adjacent to these lifts remain and take people from level 02 up to level 04.
- A kitchen supports the hospitality area.
- The hospitality offer created is similar to level 01, with the space affording natural light from the east facade. A central lobby has been created with associated cloaks store on reception before entering the lounge.
- New WCs support the area and this is located in the inner section of the plan to minimise impact on the external naturally lit facade.
- New vomitory egress points to the seated section of the bowl have been created through the lower tier to provide a direct link with the seating from the hospitality space to compliment the offer.
- Existing main stadium plant has been left in its original position to reduce difficult relocation and the layout has successfully worked around this.

- Deliveries to the kitchen can either be via the external stairs or by lift up through the restaurant spaces.

Between levels 02 and 03 sits a small, mezzanine level, level 02A. This level will be linked to the level 02 hospitality space and lift core 5 with some provision for general accommodation provided. The proposal includes part demolition and part expansion of this deck level.



Level 02A plan as proposed



Level 02 plan as proposed



Level 03

This level is the first level to experience the major slab extension created to provide the increased hospitality space.

Lifts will bring guests up from the ground floor to a central location in the plan from where each can disperse to their respective hospitality lounge.

Four existing lifts further add to the options open to the guest to arrive at this level, being north and south of the half way line. Additional access is gained via existing and new stairs created between floors to reflect the new dispersion of guests around the stand, whilst not increasing capacity at all within the stadium.

The two lounges created consist of two lounges located to the south east and to the north east. One new kitchen supports the new hospitality areas as well as providing support to the retained boxes that line the pitch side facade in the centre of the stand. These recently upgraded boxes have been retained offering a mix of hospitality types on the floor.

Some boxes in the south east section of the ring of boxes, south of Wakefield's, have been relocated to Wakefield's current position which allows an open view from the new south east hospitality area down to the pitch. There is a reconciliation and improvement to the overall hospitality offer across the stand.

- Both hospitality areas created have excellent views over the field of play.

- Access can be gained from this frontage to the seating within the lower tier direct, improving the overall experience on match day. In addition there is frontage to all three spaces along Rugby Road contributing to natural light and views out at this level.

- New WC facilities support the new hospitality areas, being strategically positioned so as not to affect the impact on views out or light coming into the spaces and maximise the frontages available.

Lifts from this level provides access to the proposed new accessible seating platforms at level 4A. Spectators in wheelchairs will no longer have to go down to the pitch side from the upper levels to view the game and will also have designated WC facilities close by.