

3.6 Sphere Plan

The site is triangular. There is an optimum location for the sphere within the site.

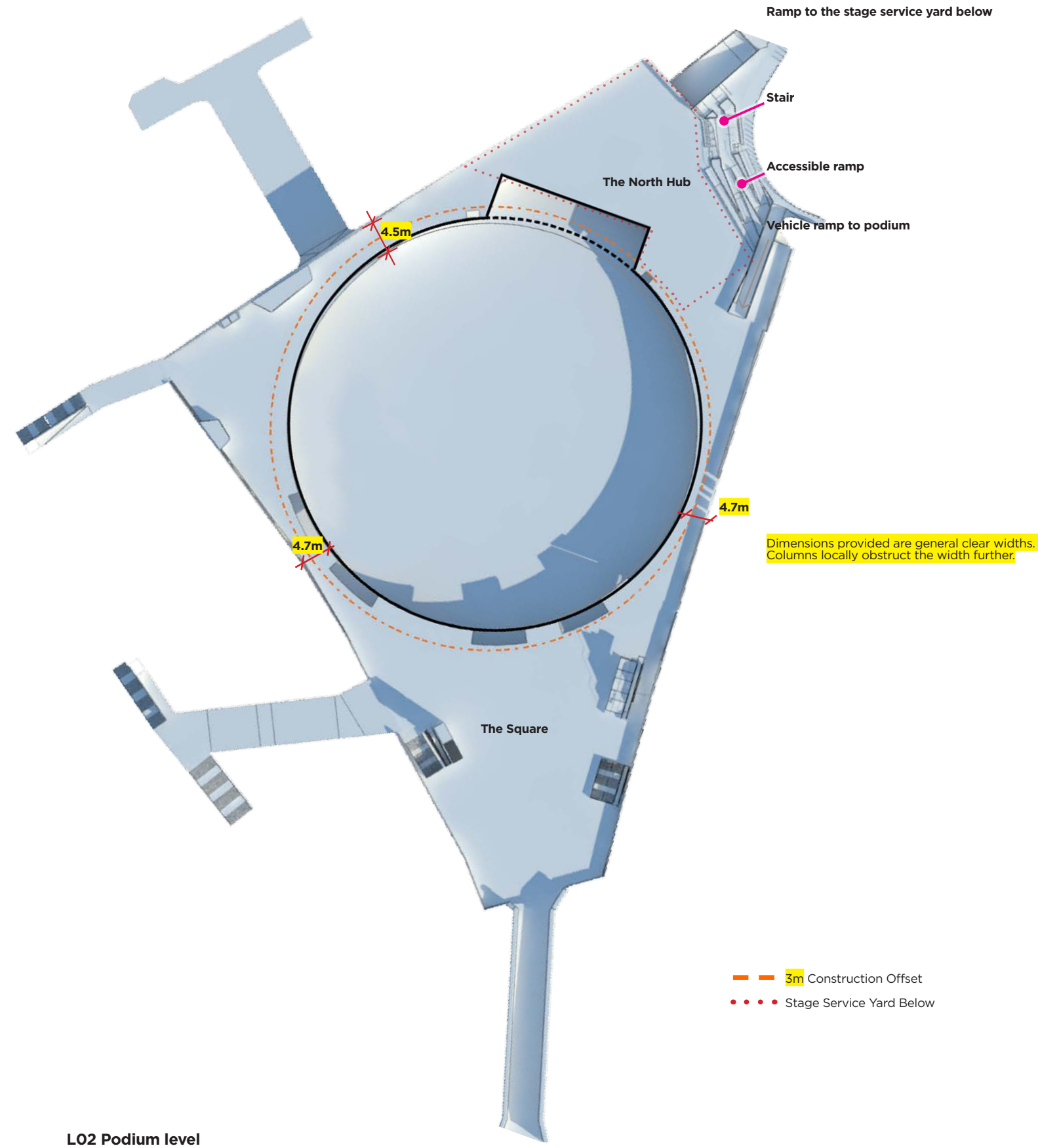
If the sphere intersected with the podium at its equator, where it is widest, it would form the largest circular plan possible.

The plan size of the sphere reduces the more it is raised above the podium from its equator. The smaller the plan size the more circulation space is available on the podium. However, the higher the sphere is raised above the site the more impact it has on views to and from the site, with an increased reliance on vertical transportation.

We have determined the optimum relationship between plan size of the sphere at podium level and its vertical massing. At the equator of the sphere the distance to the site boundary is 3m which gives us adequate space for the construction plant and access equipment required to construct the sphere without oversailing the adjacent railway platforms. This 3m zone also allows for maintenance of the sphere in the future. The equator has been positioned at Level 06.

The sphere creates narrow parts of the podium. The width of these parts has been tested using crowd modelling to ensure that they are wide enough. To ensure the podium feels comfortable at these points the lighting design has been carefully considered. Additionally the podium balustrades are glazed in these locations to increase the feeling of openness.

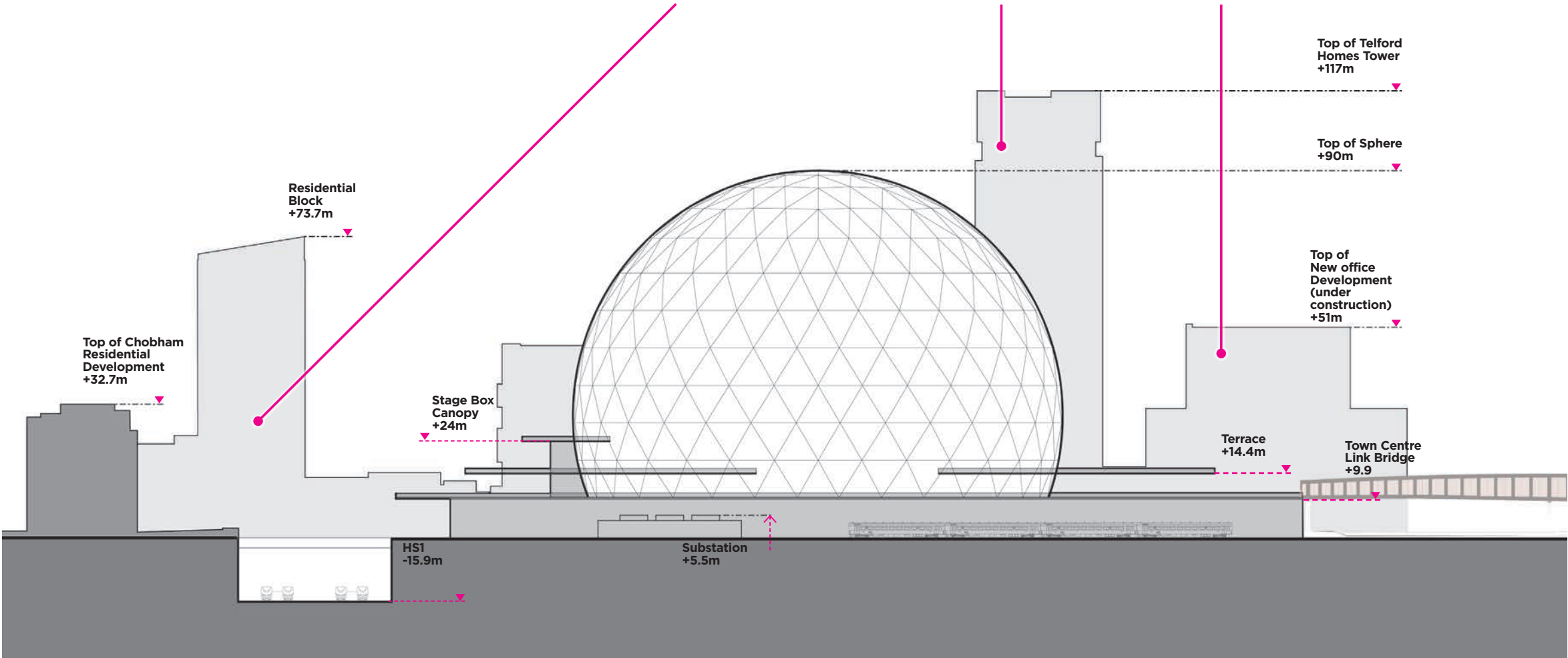
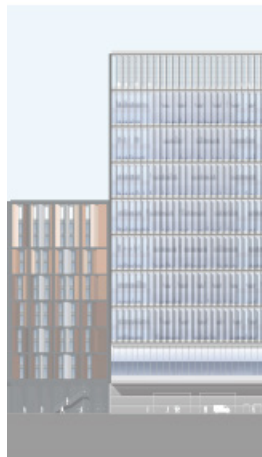
The sphere location on the podium creates two large distinct spaces around it. These spaces are called The Square and The North Hub. The form of the sphere does not have an obvious entrance so the design of The Square signifies that this is the entrance to MSG Sphere. The North Hub is a quieter space at the rear of the building and its landscape design contains amenities for use by the local community. These spaces are explored in more detail later in this report.



3.7 The Sphere in its Site Context

The site benefits from having railway lines alongside it in respect that surrounding buildings are set back. Allowing the sphere to fill the site as explained in section 3.4. MSG Sphere sits comfortably within the locality surrounded by the tall buildings that overlook the railway line. MSG Sphere is not the tallest building in the area as it sits below the Telford Homes tower which is approximately 27m taller. MSG Sphere is not the biggest mass in the area either. The Westfield City Shopping Centre has a larger footprint.

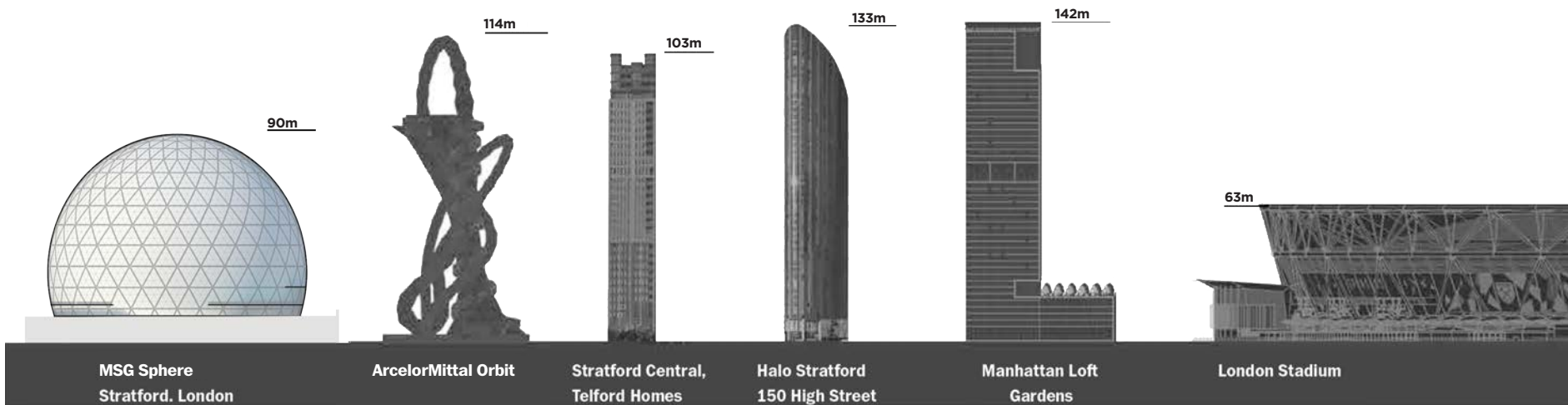
The podium height is driven by the requirement to create a level connection with the Town Centre Link Bridge. The podium height is 9.9m above ground and sets a visual datum that is in context with the surrounding streetscapes



3.8 The Sphere in a Wider Site Context

MSG Sphere will become another landmark within Stratford. The diagram below shows its scale in comparison with other important local Stratford landmarks.

In terms of its height MSG Sphere will be lower than the Arcelor Mittal Orbit by 24m. In massing terms only the Populous designed London Stadium is comparable. However the stadium is lower by 27m but occupies a much larger footprint.

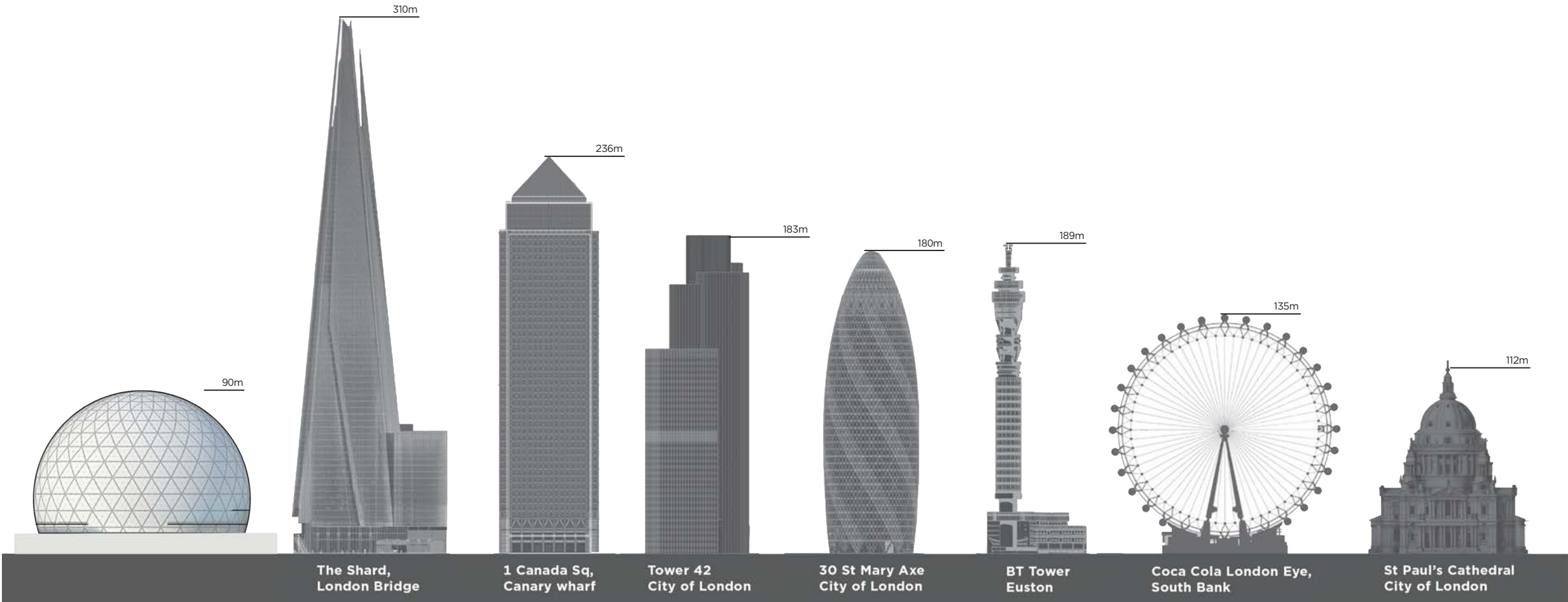


MSG Sphere height and mass comparison with other Stratford landmarks

3.8 The Sphere in a Wider Site Context (Continued)

MSG Sphere is classified as a 'tall building' in planning terms but compared to London's landmark tall buildings it is not substantial in height.

In terms of mass and scale MSG Sphere is very similar to St. Paul's Cathedral. As a recognisable form and a pure shape MSG Sphere is most similar to the Coca Cola London Eye.



MSG Sphere comparison with London Landmarks

3.9 Podium Design Evolution

The design strategy to fill the site with a multi level podium in order to maximise the space available for people to gather and to form landscaping has been a key principle throughout the design development process. The podium will be accessible to the public during operational hours and therefore significantly increases the connectivity of the area (see Diagram 1).

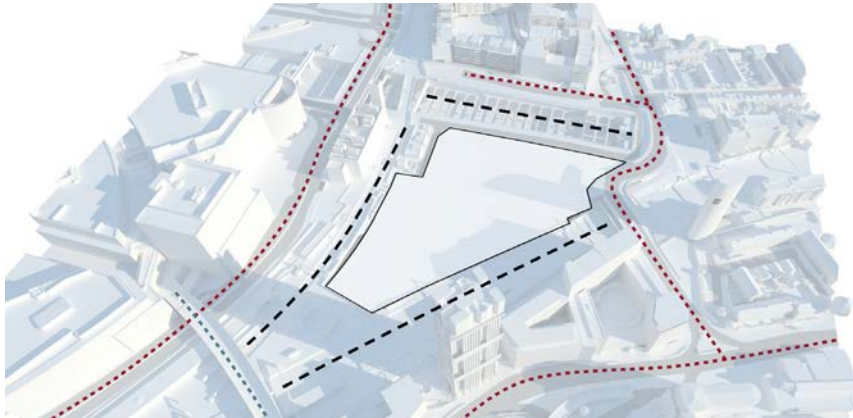
To connect both sides of Stratford and to allow patrons to use the Town Centre Link Bridge to connect to the site during operational hours, we raised the podium level up 9.9m above grade. This allows the Town Centre Link Bridge to connect into the site via a new bridge without changing level. An additional two bridges are proposed from Montfichet Road. Each of these bridges are fully accessible and are described in more detail later in this report (see Diagram 2 and 3).

The size and shape of the terraces has evolved as the design has developed. The key evolution being the decision to split them into two terraces (north and south). This decision was taken to maximise the visibility of the sphere and to create two spaces with different characteristics. The terraces will also help organise visitors to enter the venue at the correct level. This will reduce strain on the internal vertical circulation system within the venue (see Diagram 4).

The developing design was tested in a wind tunnel to help determine the optimum shape for the upper podium levels and to determine which type of planting should be placed where. The shape of the landscaped spaces has been modified as a result of the wind tunnel testing to ensure that the open spaces around the sphere are sheltered and safe (see Diagram 5).

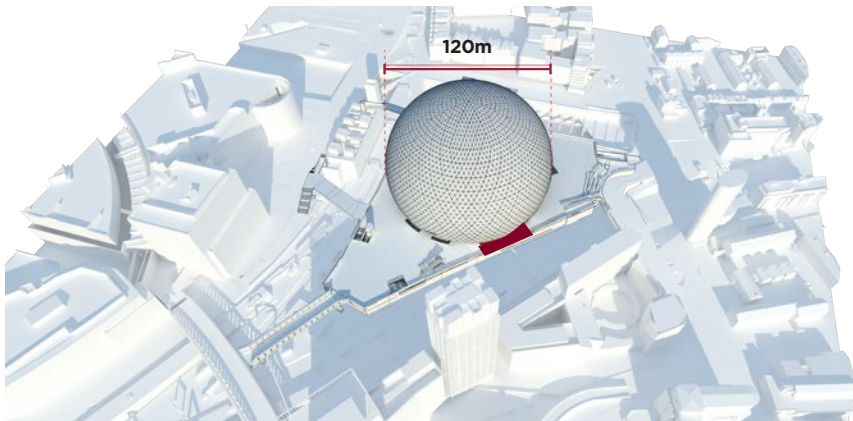
During the pre-application process it was highlighted that the size of the terraces, particularly in the south, might have a negative impact on how light and airy the podium space below might feel. We have responded to this by pulling in the sides of the south terrace by 1.2m and significantly reducing the extent of the terrace to the south. This design change in response to pre-application advice will ensure that the podium space is a pleasant well lit naturally ventilated space (see Diagram 6).

1. Fill the Site with Podium

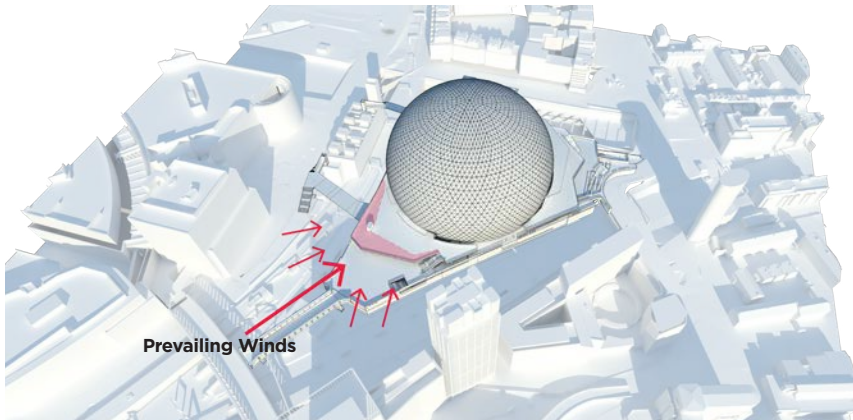


— — Railway Lines — — Road Access — — Site Boundary
— — Pedestrian Access

3. Add Sphere

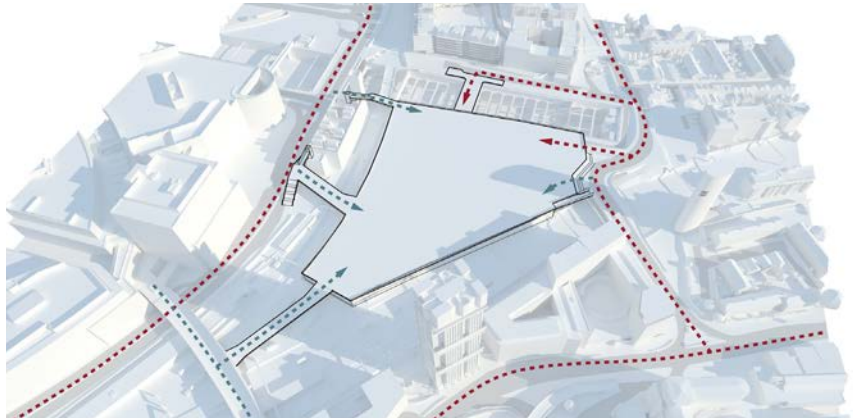


5. Wind Mitigation - Add Landscape



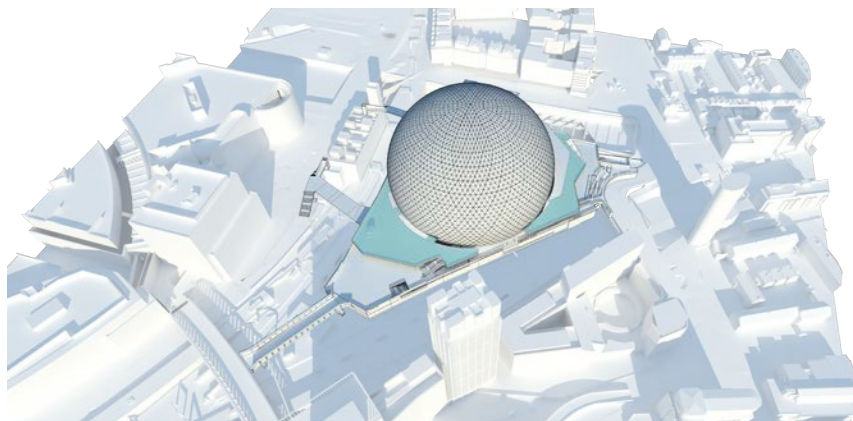
Diagrams showing the design development of the podium.

2. Add Connections

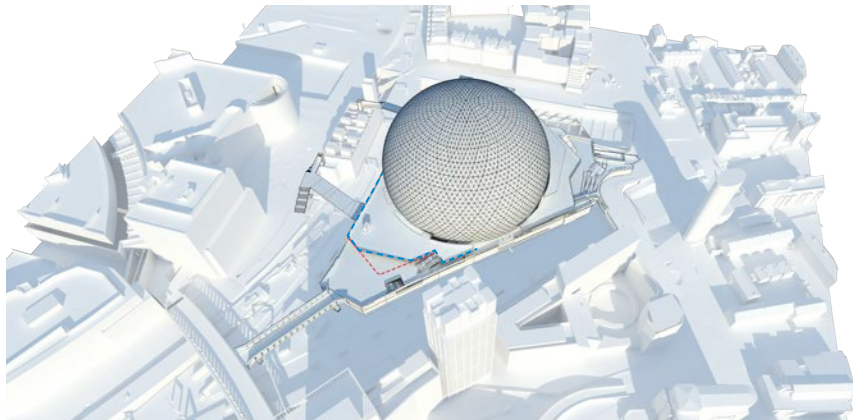


— — Service Yard Access — — Pedestrian Access

4. Circulation & Access - Add Terraces



6. Terrace Area Refinement



— — Initial concept South Terrace extent
— — Reduced extent of South Terrace

3.10 The Podium Form

The podium fills the site and is extruded upwards from grade to Level 02 (16.400m AOD) so that it is coincident with the Town Centre Link Bridge.

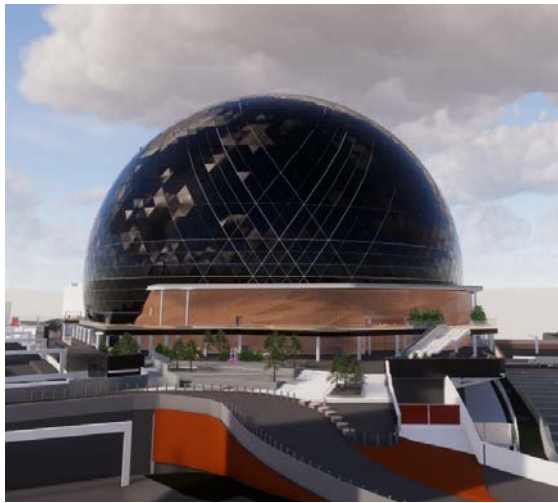
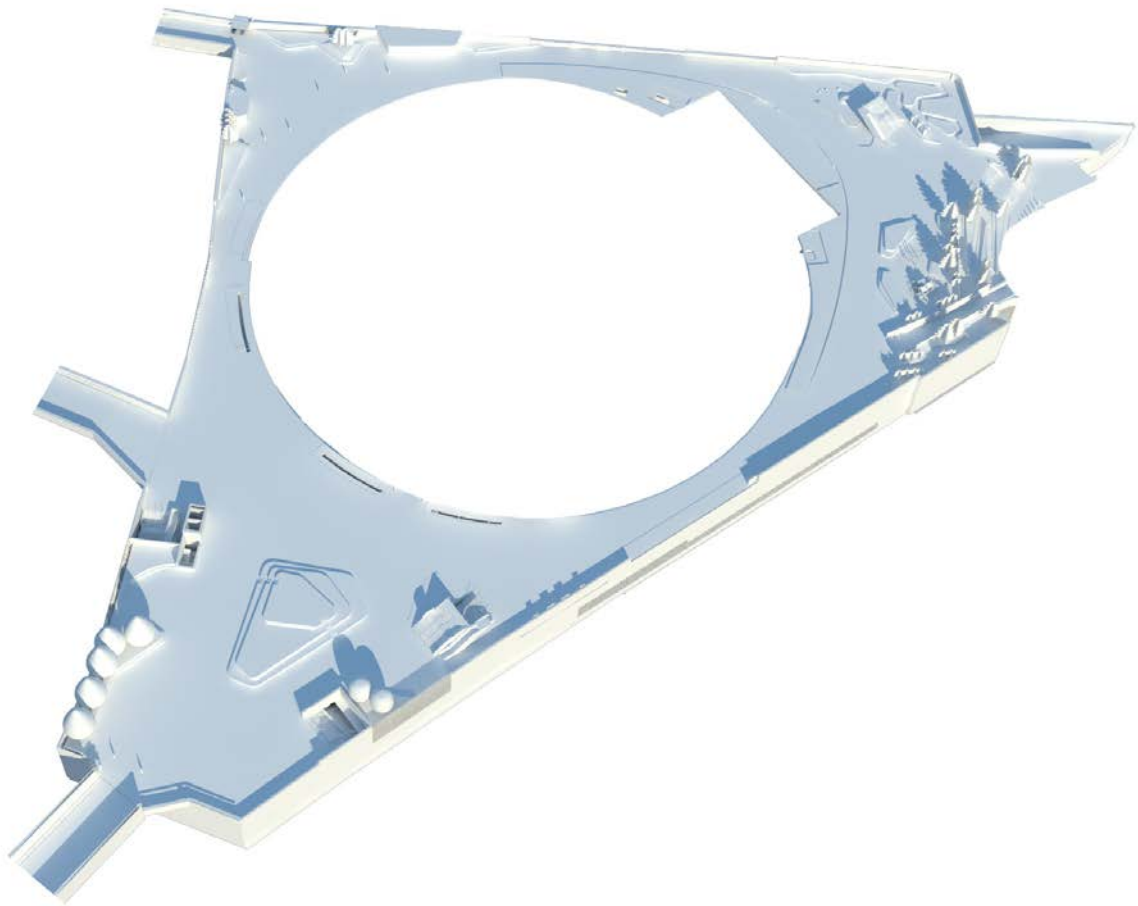
The podium forms the site boundary to the surrounding railway platform replacing the existing brick wall. The podium façade will provide a robust maintenance free boundary to the public railway platforms.

The podium forms a base for the sphere to sit on. The podium form provides a strong visual contrast to the sphere, the surface of which is high-tech and illuminated, in contrast the podium will be industrial and rough in character.

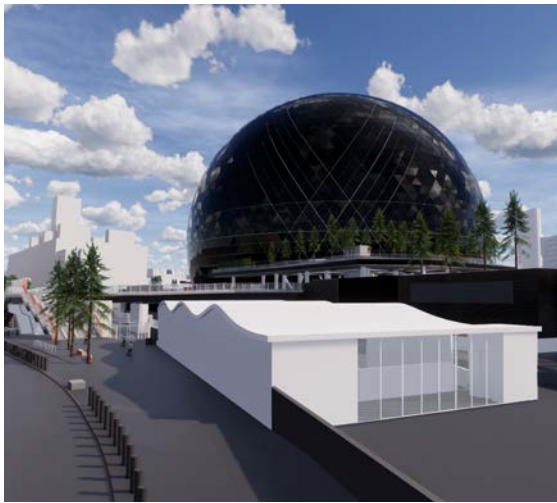
The podium form will be visible from Montfichet Road, Meridan Square, the Town Centre Link Bridge and the lower levels of the buildings that surround our site. The podium form sits behind the Engie building.

The podium spans over an existing electricity substation located on the site. The substation was built as part of the HS1 development. The proposed podium façade extends past the unattractive substation so that it is no longer visible from the railway platform or from Montfichet Road.

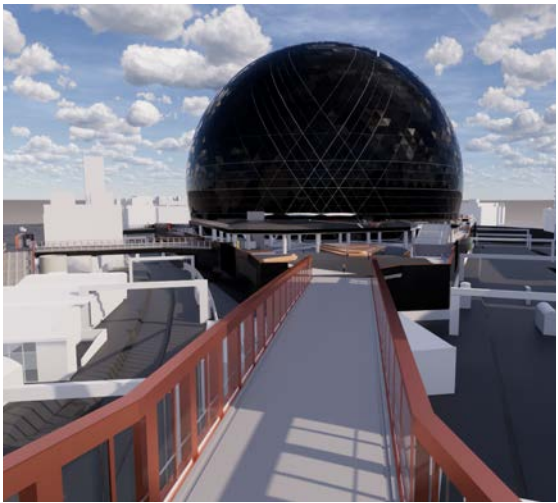
The parapets around the podium are 1.5m high on the east, west and south. On the north they are 1.8m high due to the proximity of the podium to the subterranean HS1 rail line. Where raised landscaped surfaces, service intakes and exhausts and other structures abut the podium balustrades, these parapet wall heights are maintained so the overall height of the podium parapet varies.



View of podium from Angel Lane



View of podium from Montfichet Road



View of podium from Bridge 3

3.11 The Podium - Arrival

All visitors arrive onto the site at podium Level 02. From podium level visitors are distributed to other parts of the venue. The key circulation routes from the L02 podium (16.400m AOD) are up to the L03 terraces (22.400m AOD) and down to the L01 plaza and onto the auditorium floor (11.900m AOD). Stairs, lifts and escalators are provided to ensure all routes are accessible.

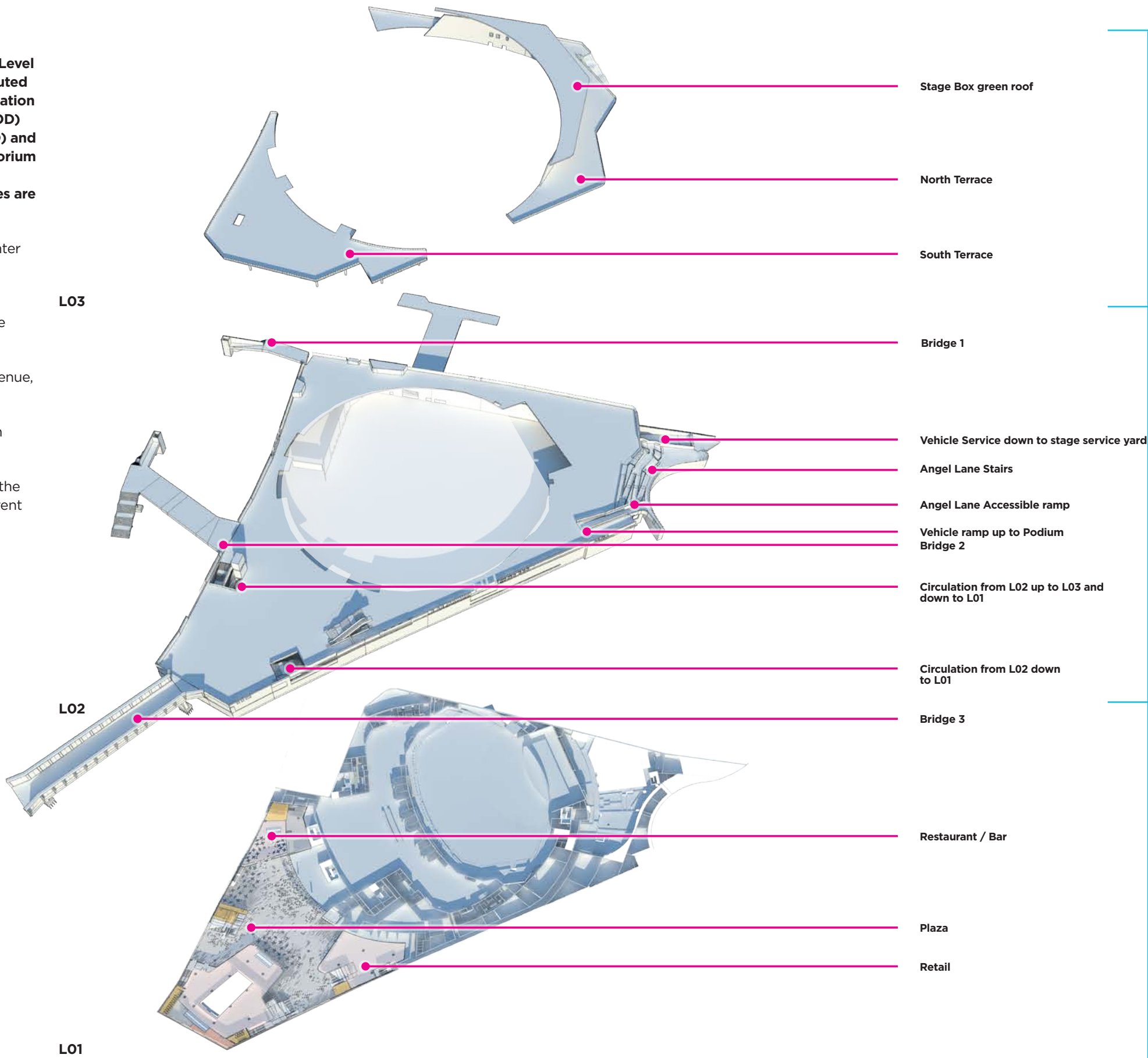
From the L03 South Terrace visitors can enter the venue and the Restaurant / Members Lounge / Night Club

From the L02 podium visitors can enter the venue and the music club.

From the L01 plaza visitors can enter the venue, the Restaurant / Bar and the retail unit.

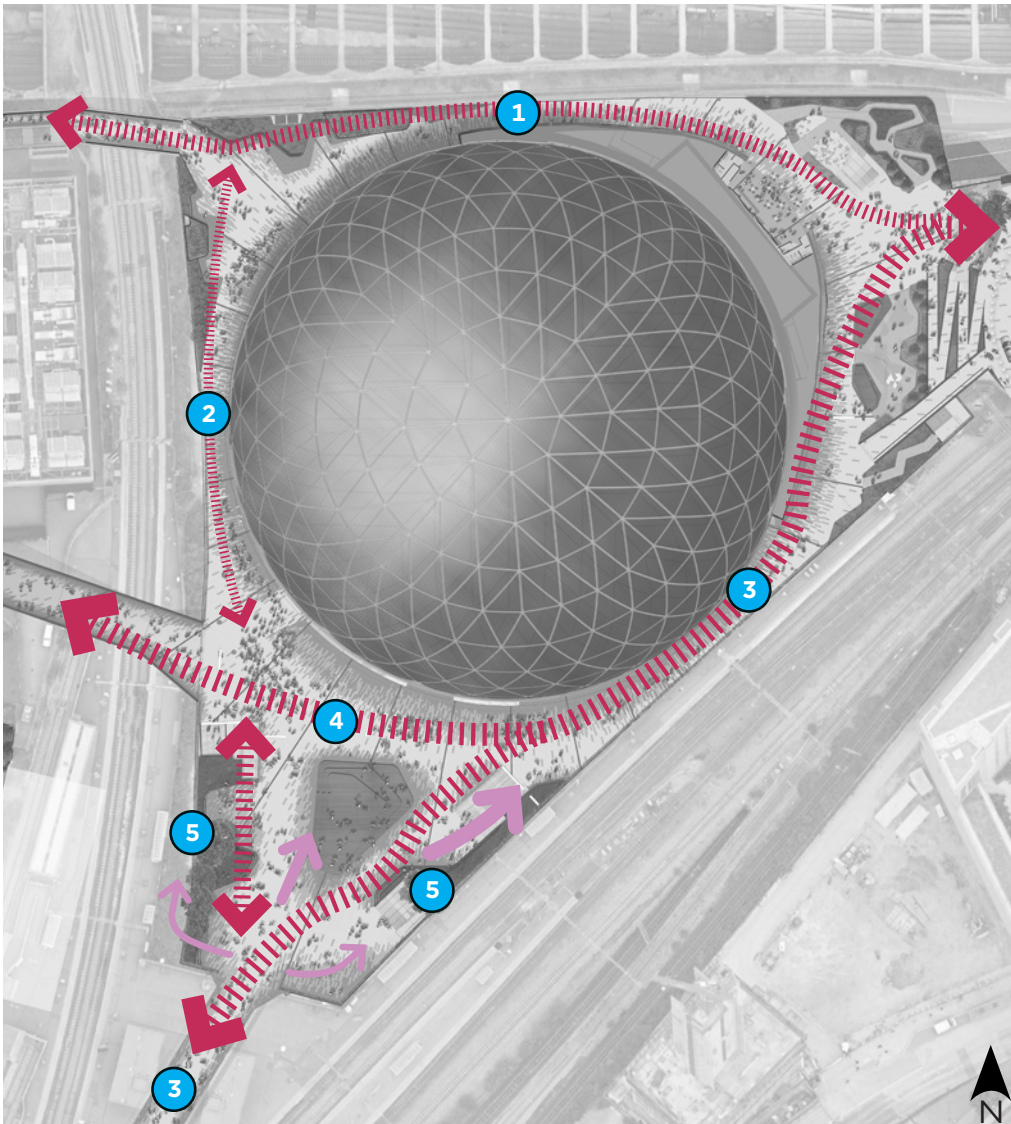
The design of L01 and L03 are described in more detail later in this report.

The podium acts as a reservoir controlling the flow of people onto the bridges after an event or in the event of an emergency.



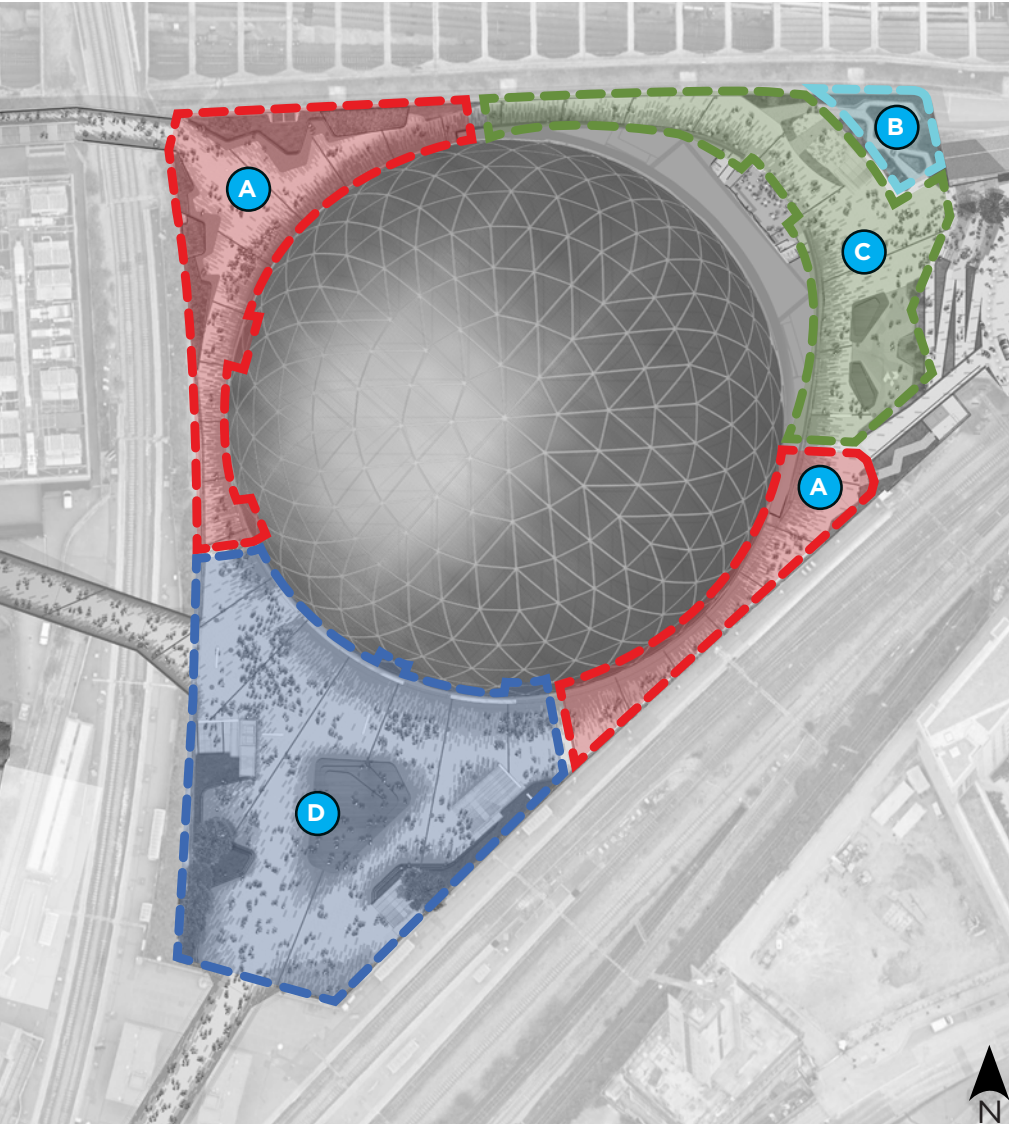
3.12 The Podium - Routes and Spaces

Analysis of routes across podium



- 1 East-west link. Low numbers on non-event day.
- 2 Very low foot traffic.
- 3 Primary link connecting west Stratford to east Stratford.
- 4 Secondary link connecting west Stratford from Montfichet Road to east Stratford.
- 5 Entrances to sphere and terraces from podium.

Analysis of space around sphere



- A **Transitional space:** This space links the premium occupiable spaces. It is a point of arrival from Bridge 1.
- B **Garden / Quiet space:** This space is linked to the community space. It supplies a small area of garden space on the podium.
- C **Community space:** This space links the site into the wider Stratford area providing a space for the nearby community.
- D **Hospitality / Event / Main Entrance / Welcome space:** This space is a welcoming arrival square for the public and for visitors to MSG Sphere.



COMING SOON, MSG IMMERSIVE EXPERIENCE

Designed and Accessed with Microsoft 3D

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4.1 Uses Within the Development

This section of the Design and Access Statement describes the different uses within the MSG Sphere development and explains how those spaces are used.

The primary event space is the main auditorium which contains the immersive surface and the stage. Within the venue, on Levels 00 to 10 there are a mixture of concourse and VIP spaces that serve the auditorium.

Embedded within the form of the sphere is a four storey Restaurant / Members Lounge / Night Club arranged over floors 3, 4, 6 and 7.

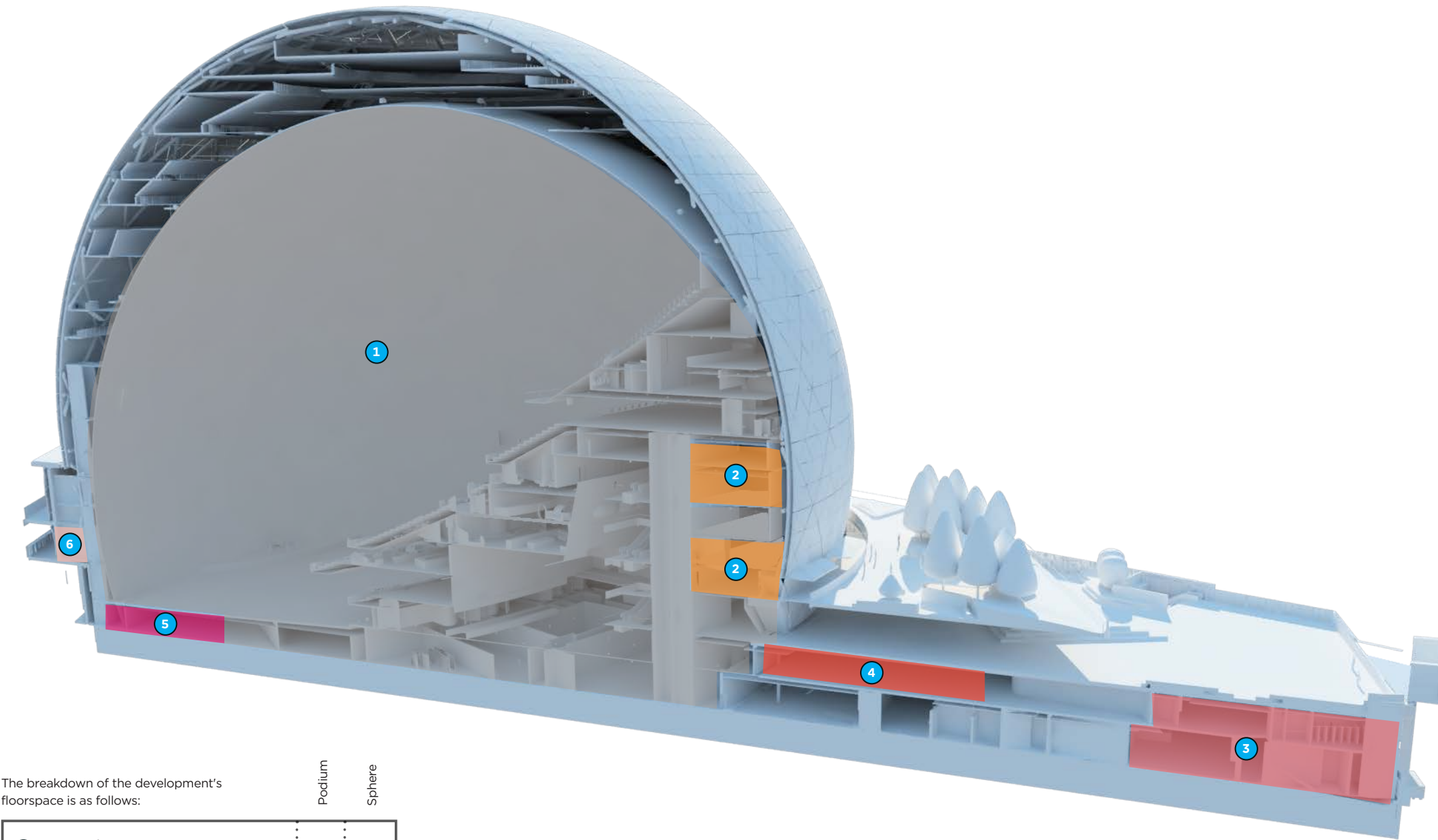
The open spaces around the sphere are supported by a number of uses. The North Hub on the podium is serviced by a café embedded within the stage box façade. In the south the external spaces on the South Terrace and the podium will be supported by semi permanent 'pop up' facilities, these will be electric carts or vehicles from which goods can be vended.

Below the podium the Level 01 plaza contains retail space and a Restaurant / Bar. The music club is arranged over Levels 01 and 00. This is a standalone venue that operates in conjunction with the main venue.

The overall site capacity is 25,000 people, which includes the maximum capacity of the main venue 21,500 (standing), 17,566 (seated). Approximately 1,000 members of staff will be required for full capacity events.

When the main venue is operating at full capacity, the capacity of the ancillary commercial spaces will be limited to 2,500 people. This includes staff and members of public. Only in rare circumstances will the site be at capacity. Notwithstanding this, the ancillary commercial spaces have been designed to accommodate the following capacities:

- Music Club - 1,500
- Restaurant / Members Lounge / Night Club
450 (seated layout) 1,000 (standing layout)
- Restaurant / Bar - 400



The breakdown of the development's floorspace is as follows:

	Podium	Sphere
1 74,654m ² Main Venue		●
2 2,406m ² Restaurant / Members Lounge/ Night Club		●
3 2,200m ² Music Club	●	
4 1,099m ² Plaza Commercial	●	
5 3,234m ² Back of House (part of main venue)		●
6 385m ² Cafés (including pop-ups)	●	

NB. All figures GIA. Total GIA is 80744m²

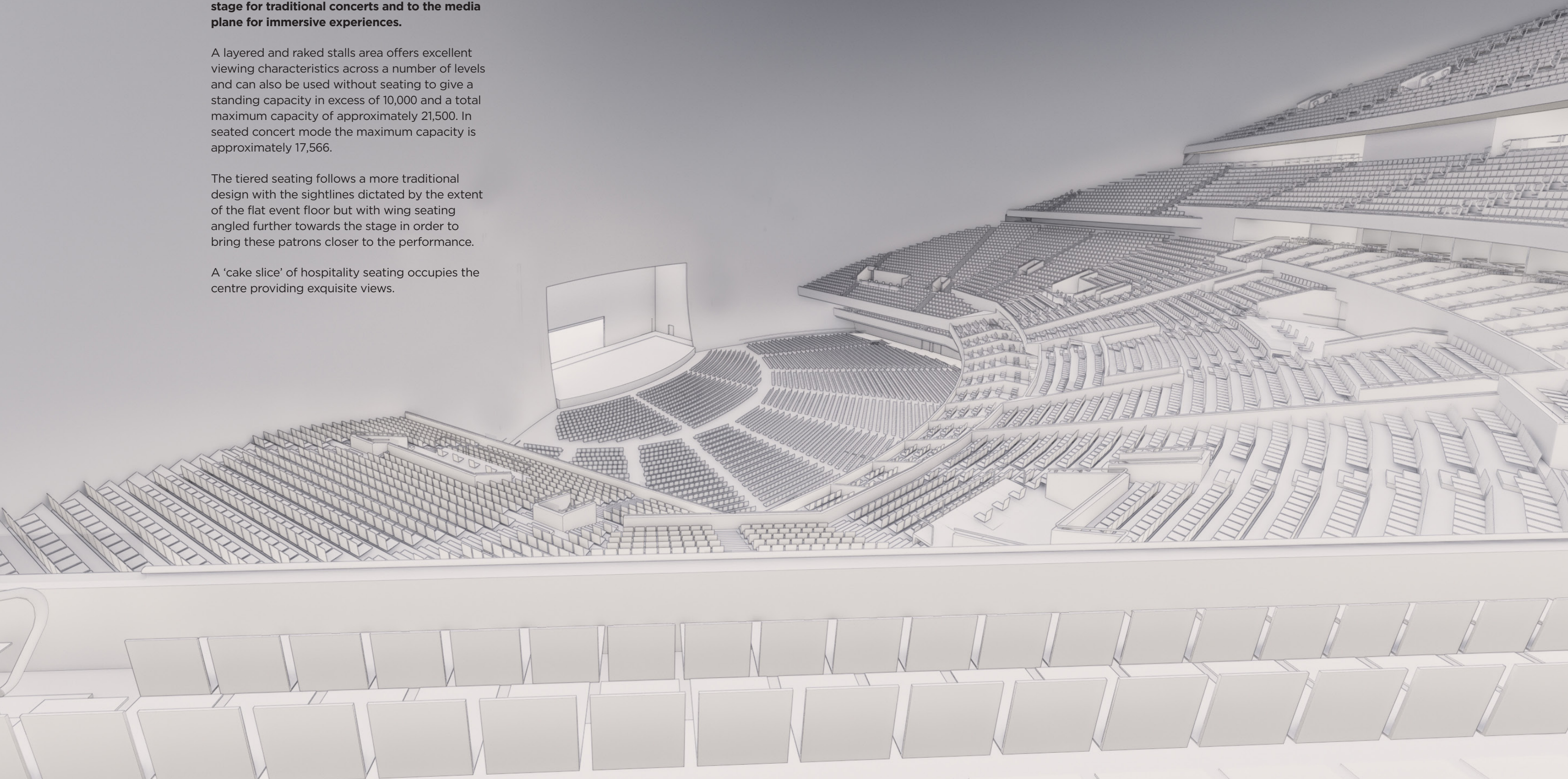
4.2 Auditorium Introduction

The auditorium's design delivers MSG's vision of a completely new concept in entertainment. Mixing traditional small and large scale music venue design with the aesthetic of theatres and vineyard style concert halls. The design has evolved in response to the physical constraints of the site, the required flexibility of content and also the need to provide excellent viewing conditions. The viewing focus is towards the stage for traditional concerts and to the media plane for immersive experiences.

A layered and raked stalls area offers excellent viewing characteristics across a number of levels and can also be used without seating to give a standing capacity in excess of 10,000 and a total maximum capacity of approximately 21,500. In seated concert mode the maximum capacity is approximately 17,566.

The tiered seating follows a more traditional design with the sightlines dictated by the extent of the flat event floor but with wing seating angled further towards the stage in order to bring these patrons closer to the performance.

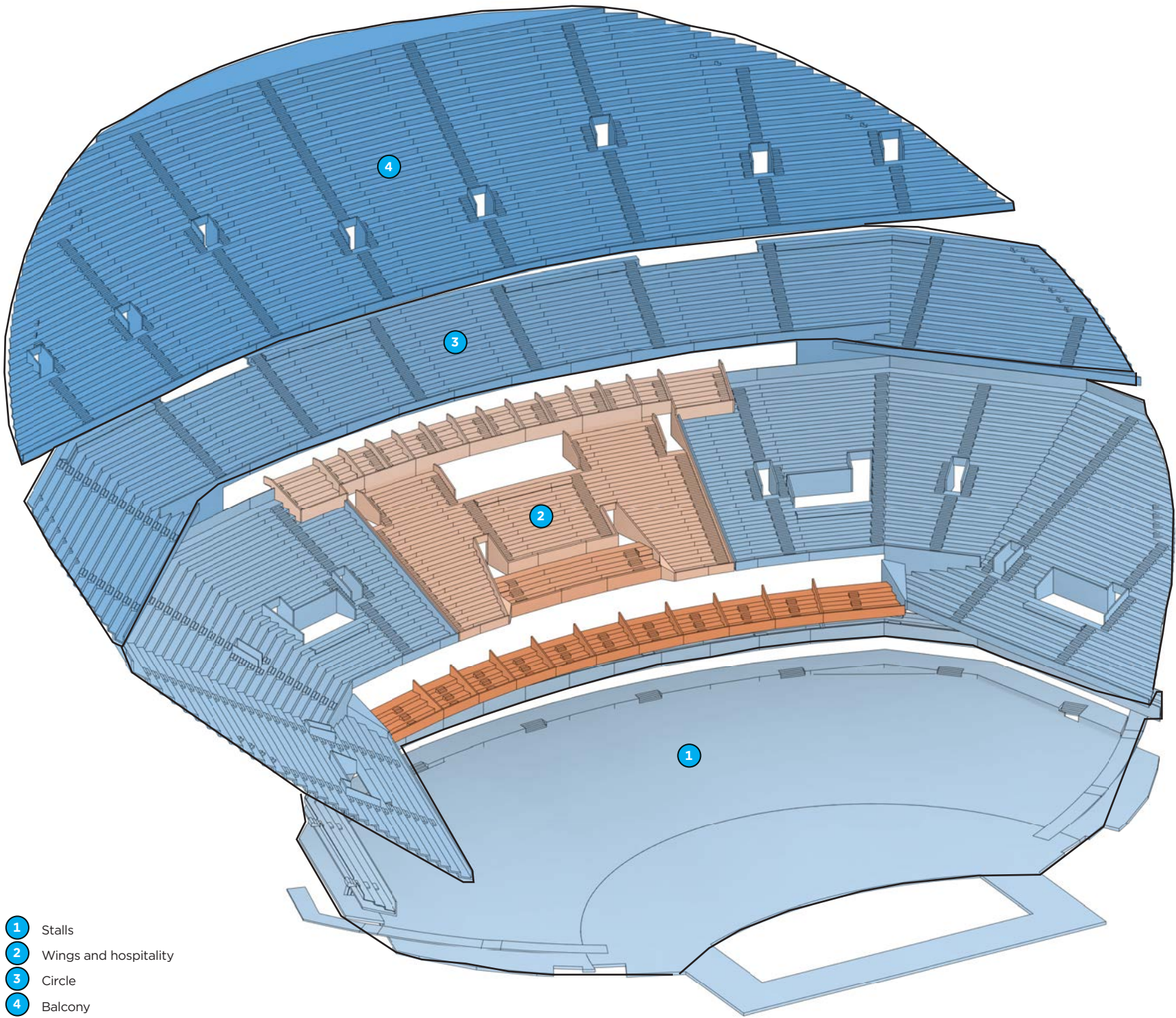
A 'cake slice' of hospitality seating occupies the centre providing exquisite views.



4.3 Auditorium Capacities

MSG Sphere has flexibility within its design to hold a varying array of different events. The table below shows the expected maximum saleable capacity for a seated concert with a theatrical stage and for a maximum capacity standing concert.

	Seated	Standing
Seating Area	Gross Capacity	Gross Capacity
Stalls	6,134	10,068
Wings & Hospitality	5,255	5,255
Circle	2,515	2,515
Balcony	3,662	3,662
Totals	17,566	21,500



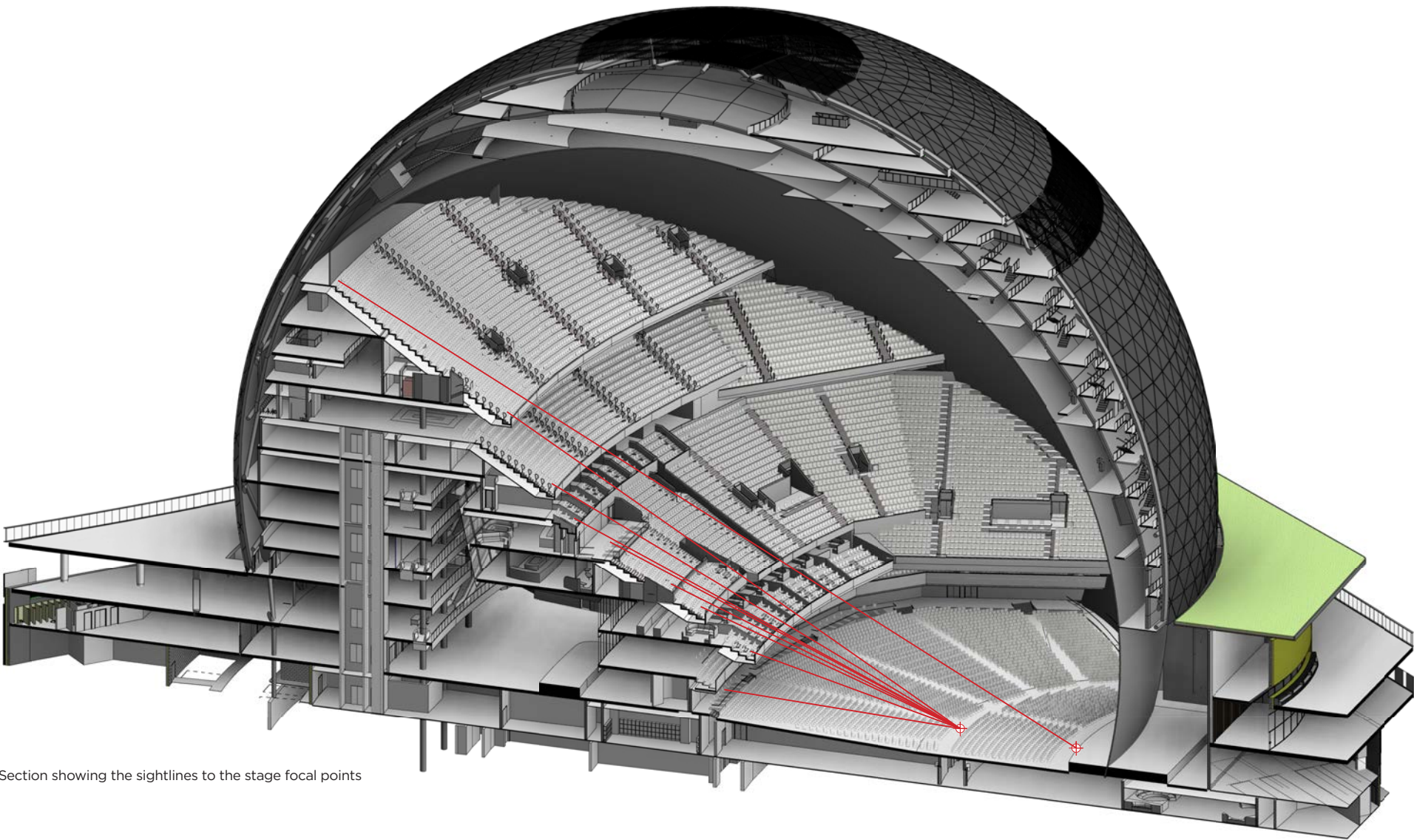
4.4 Viewing Criteria

MSG Sphere has been designed as a flexible venue. The viewing criteria has been determined to allow for a large number of different event types. Computational modelling has been used to assess the viewing quality of each seat in the venue.

The sightline focal point for the design of the tiers has been placed at the extent of the flat event floor. This allows for stage sets that have extended stages that project out into the audience. The majority of concerts will use a stage further back on the event floor. The further back from the focal point the stage is the better the sightlines will be.

Additionally, the view quality has been assessed on a number of other factors using computational modelling. An iterative design process has been used to maximise the overall view quality, by optimising the auditorium bowl geometry and developing the ideal immersive surface geometry. The view quality analysis is broken down into two separate equations:

- Immersive. This assesses the view quality of each seat towards the content shown on the immersive media surface.
- Proximity. This assesses the view quality towards a more traditional stage based show.



Section showing the sightlines to the stage focal points

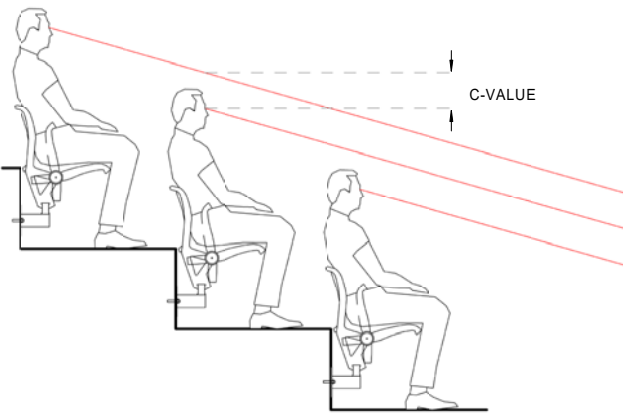
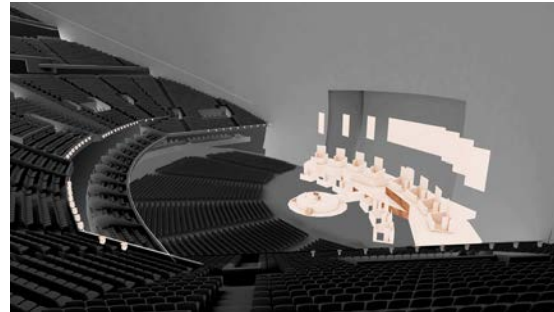
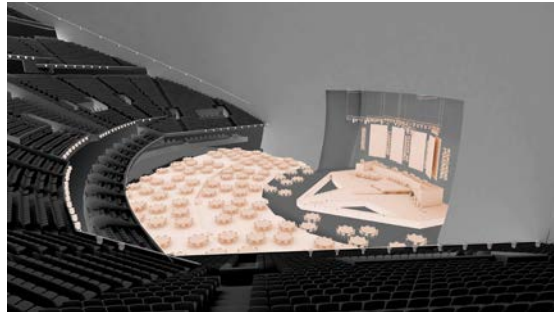
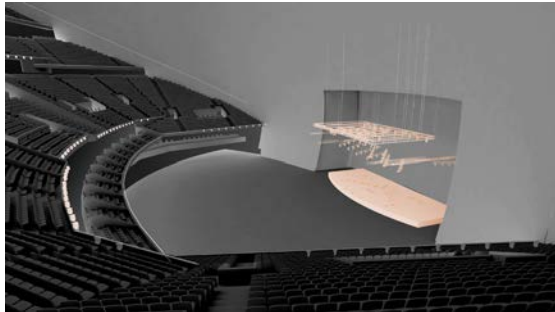
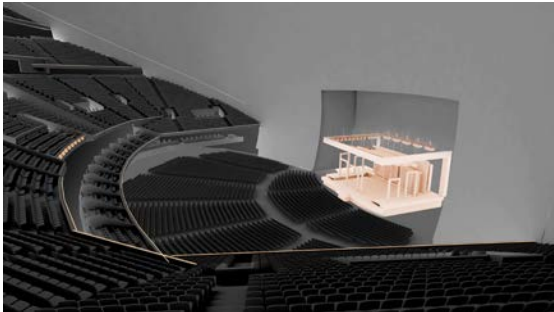
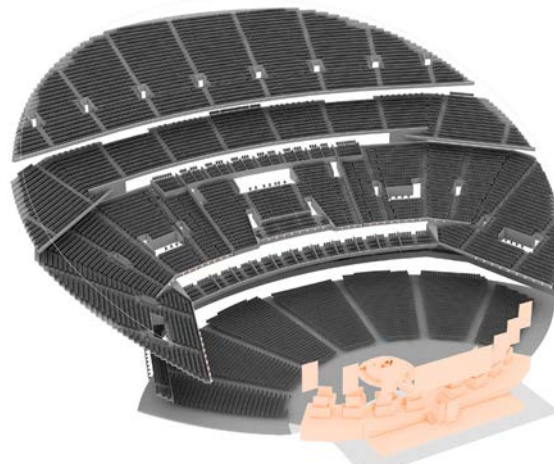
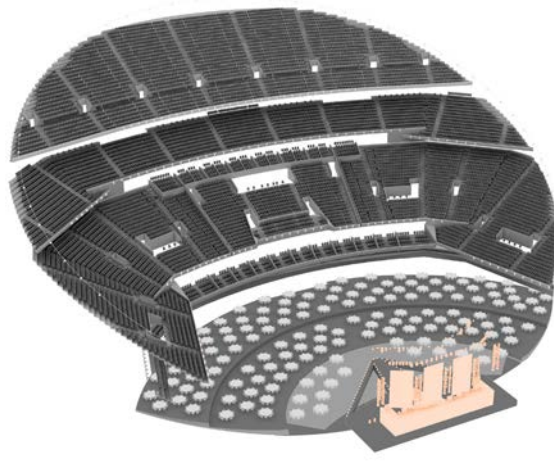
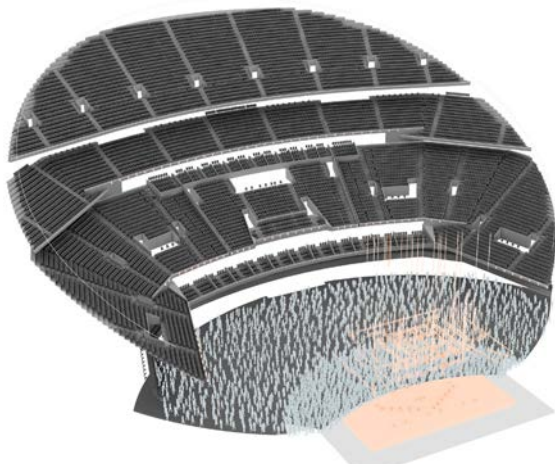
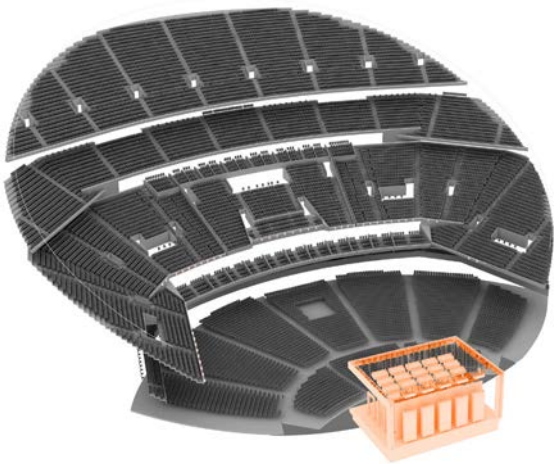


Diagram explaining how sightline c-values are measured

4.5 Auditorium Event Types

MSG Sphere has been designed as a flexible venue and can cater for a number of different event types. These are explained below.



1. Concert Seated

The maximum capacity seated mode has a touring concert stage positioned within the stage box offering an excellent viewing experience for all patrons both to the stage and to the media plane. Flexibility within the design and the viewing criteria allows for stages to be pushed further into the audience seating. This mode offers a total additional seating capacity of approximately 17,566 seats.

2. Concert Standing

The theoretical maximum venue capacity is based around a touring concert stage positioned within the stage box and with the stalls floor converted to standing. This mode allows for a standing capacity of just over 10,000 offering a festival like atmosphere. Added to the tiered auditorium seating within the tiers the total overall capacity is approximately 21,500.

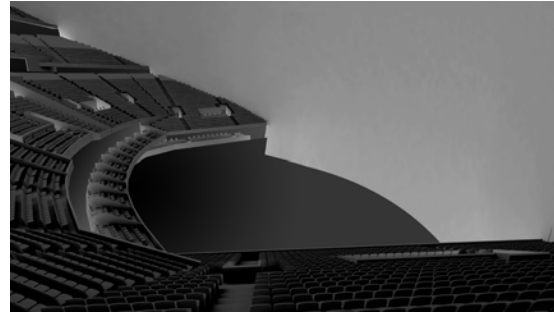
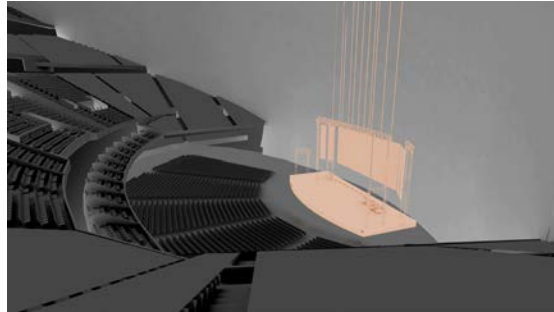
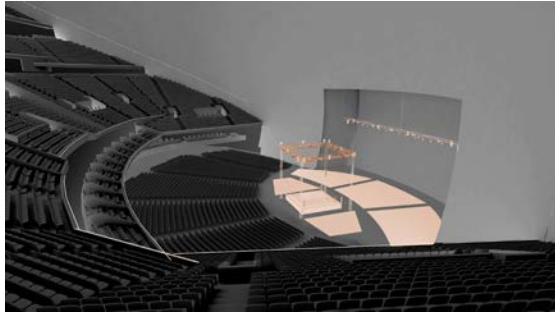
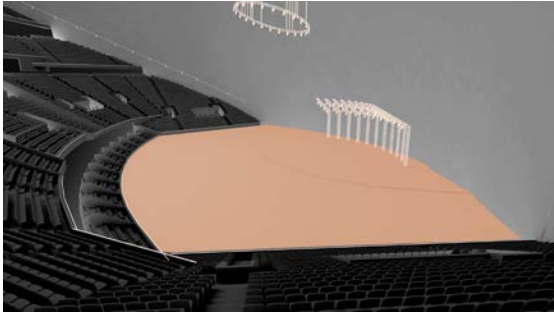
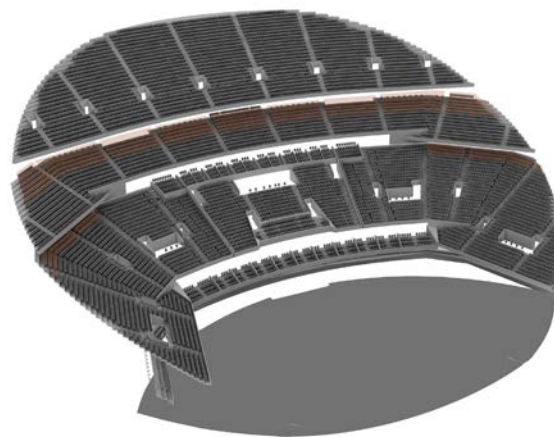
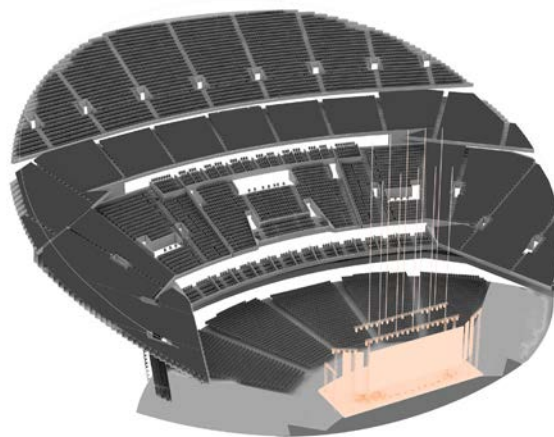
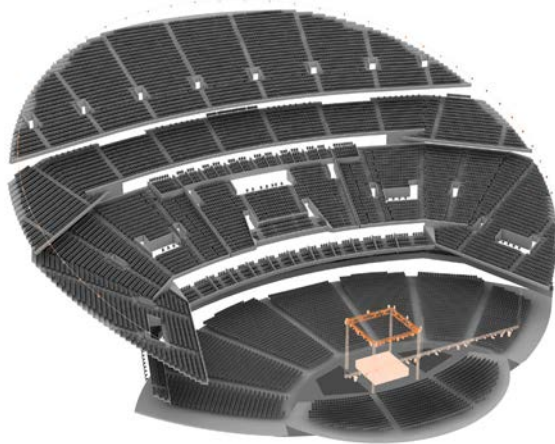
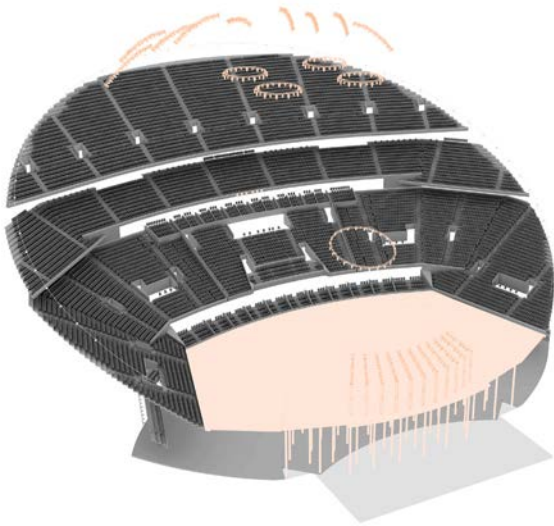
3. Awards Show

The stalls floor seating can be removed and converted to tiered decking to allow for large scale awards shows to be held within the venue. With up to 3,000 people seated at dining tables, 11,500 in the tiered auditorium seating, the immersive media plane as a back drop and world class house audio this will make the venue one of the premier venues for award shows in the world.

4. E-gaming

E-gaming is becoming ever more popular as a spectator sport bringing a whole new generation of patrons to major venues. The technologies built into the venue and the immersive media plane will make for a truly spectacular viewing experience allowing for upwards of 17,000 people to watch their favourite E-gamers.

4.5 Auditorium Event Types (Continued)



5. Circus Spectacular

Using the unique design of the auditorium combined with the immersive media plane as a backdrop the venue lends itself to holding circus and acrobatic spectacles. The images above show a raised event floor providing a huge event space that is larger than any other venue of its type in Europe. This will allow designers and artists to push the boundaries of show design far beyond what is currently possible.

6. Ring Sports

While the venue is primarily designed as a music and entertainment venue that has not had to have the viewing experience compromised to incorporate rink or court sports the nature of the auditorium design lends itself to certain sports, including sporting events such as boxing, mixed martial arts and darts. Utilising the immersive media plane for these sports will add greatly to the viewing experience.

7. Conference

The scaleable and flexible nature of the auditorium allows for various reduced capacity non-music events to be held such as technology product launches and political or trade union conferences. The extensive front of house concourse space and back of house areas allow for easy overlay and product display. Capacities can range between 3,000 and 17,566.

8. Cinematic

The cinematic mode utilises the entire spherical media plane to create a mass immersive experience with next generation steerable surround sound audio for a truly immersive experience. A capacity of 10,000 ensures that all patrons are positioned ideally within the auditorium to view the media plane and have the optimum viewing experience of the specially curated content.