

4.2 LANDSCAPE

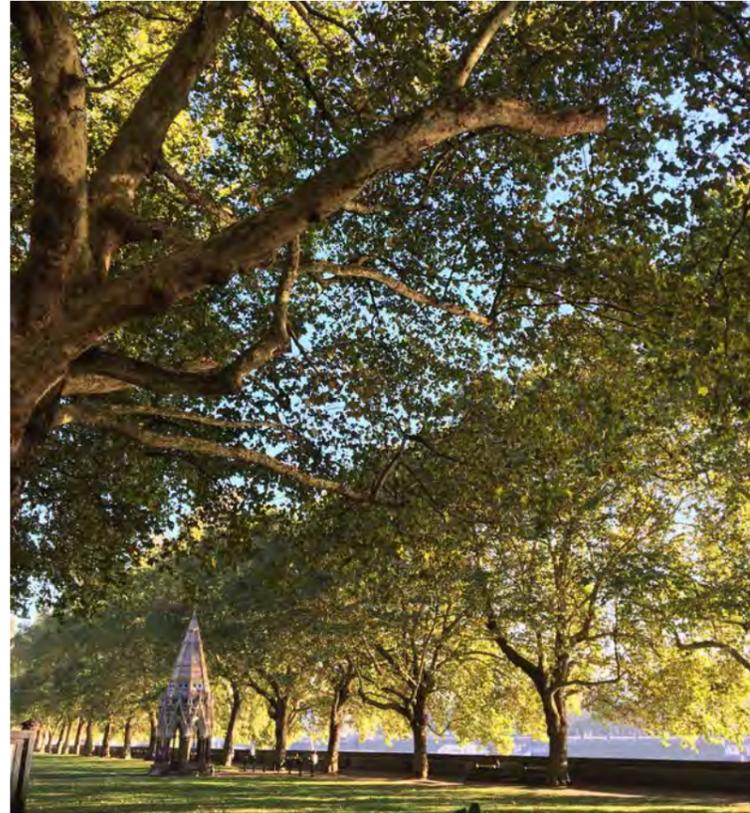
4.2.1 Introduction

The Holocaust Memorial and Learning Centre has been conceived as a single concept, intrinsically linked to the surrounding context of Victoria Tower Gardens. The proposal considers the Memorial and landscape as one element, moving up and over the fins, around and down through the entrance stair. While this landform and entrance landscape modifies the existing gardens, their design gives back a new experience for the visitor.

The form of the landscape responds to character and features of Victoria Tower Gardens, respecting key views in and out of the site, and supporting the current activities of local residents and visitors. The gradient has been modelled to allow a route of gentle incline so that all visitors can experience the journey. The location of the landform and Memorial allows the majority of the open lawn area to remain accessible and usable.

The Entrance Courtyard has been designed as a contemplative space in front of the Memorial. Access through the Entrance Pavilion controls visitor flow, and ensures a comfortable and safe experience. The path is developed as a gentle, meandering sloped route, the minimum distance required to reach the Memorial. A calm and reflective space, the sounds of the surrounding city give way as the visitor descends, while the wider landscape of the gardens envelops the Memorial in this new perspective.

The perimeter edge is conceived as an extension of the gardens, densely planted to the outside edge as a border to the wider perimeter path. Internally a palette of planting has been selected appropriate to the character of the courtyard and with consideration to the experience of the space in January for Holocaust Memorial day.



4.2.2 Victoria Tower Gardens North

Victoria Tower Gardens North is bordered by the River Thames, the Palace of Westminster and Millbank. Located at a point of transition in Westminster, between the central tourist destination, and the more residential streets, it provides a place of calm and relaxation for both visitors and residents.

Developed over 150 years from industrial wharves, to an open green space, the current layout maintains a powerful simplicity. The perimeter path creates a circuit around the open lawn. Currently an inward looking the gardens, the two lines of mature Plane trees, limit the visual connections out of the gardens, and focus the attention north towards the Victoria Tower.

Either end of the gardens is framed by activity, with the Parliamentary Education Centre. to the north and the children's playground to the south.



4.2.3 Landscape Masterplan

The proposal to install a Holocaust Memorial and Learning Center within Victoria Tower Gardens is done with the greatest sensitivity to the existing context and character. The design team have developed a strategy that integrates it into the gardens, creating a new landscape that allows all visitors to come into contact and experience it.

The proposal recognises the predominance of the view from the primary entrance adjacent to Victoria Tower, and the need to maintain this open lawn space. Looking south, the lawn gently rises up towards The Memorial, enveloping them. Accessible soft landscape routes allow the visitor to enjoy the gardens from a new vantage point, in contact with the Memorial fin walls.

While the existing perimeter paths are retained, a new diagonal route brings the visitors on a journey past other memorials in the gardens, and leads them around to the entrance on the south side of the Memorial. The character of the gardens is reinforced on this journey and along other paths. While the Memorial is visible from all approaches, its integration into the gardens landscape minimises the impact. Viewed from the south, the position and scale of the Memorial creates a powerful statement with the Houses of Parliament in the backdrop.



View of the folding landscape looking South



Café Kiosk

Playground

Spicer Memorial

Entrance Pavilion

Courtyard

The Memorial

Buxton Memorial

Learning Centre (underground)

Skylight

Burghers of Calais

Parliament Education Centre

Emmeline Pankhurst Memorial

Proposed Siteplan



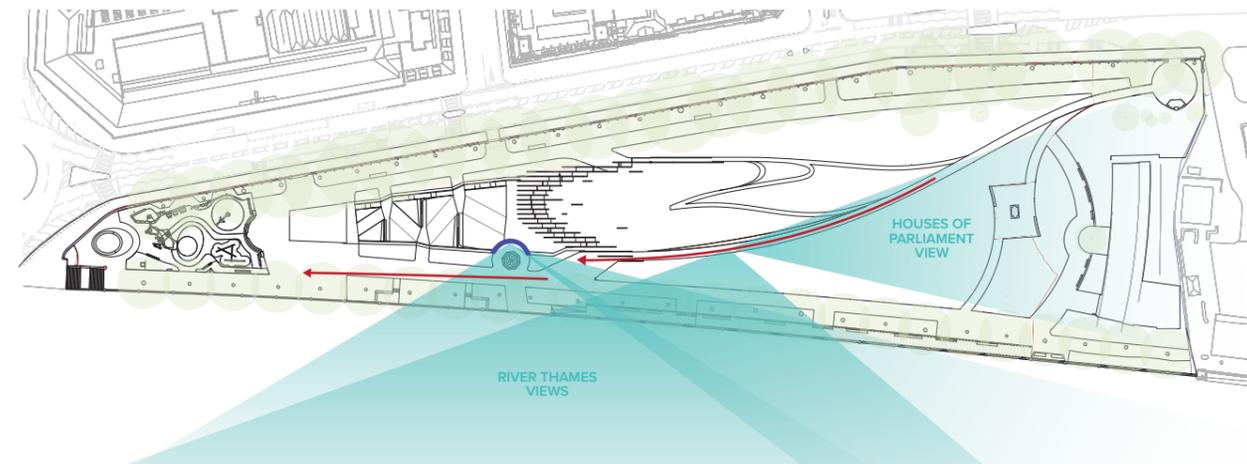
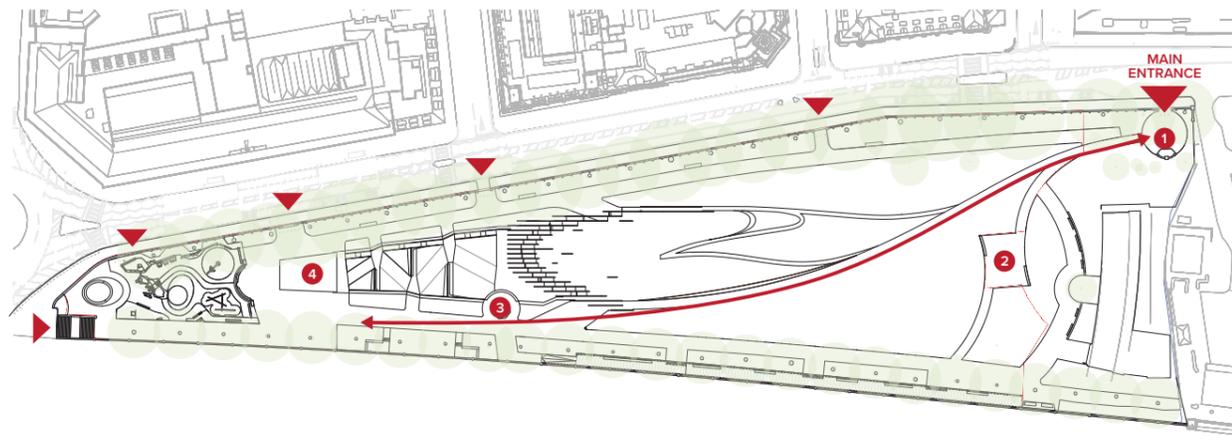
4.2.4 Landscape Masterplan Concept

Made of small stone setts, the diagonal route provides an accessible route through the centre of the gardens. It will curve its sinuous form diagonally through the gardens towards the dramatic perspective formed by two rows of London Plane trees framing the distant landform that hints at the presence of the UK Holocaust Memorial and Learning Centre.

As the path moves through the gardens, its curved form accentuates distance and one detects a subtle shift as the entire grass landform moves up towards the Memorial. Linking all memorials within Victoria Tower Gardens, this journey unifies their different characters and defines a new calm and contemplative landscape.

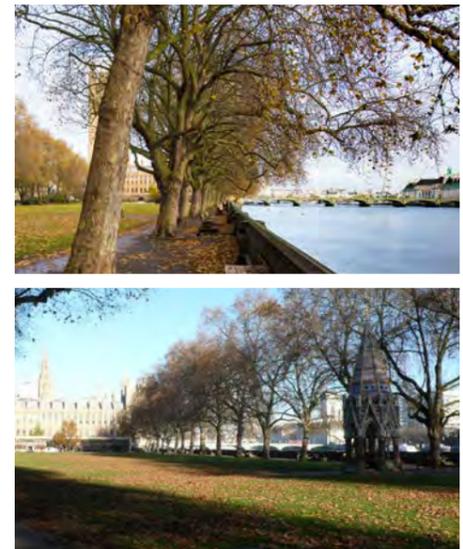
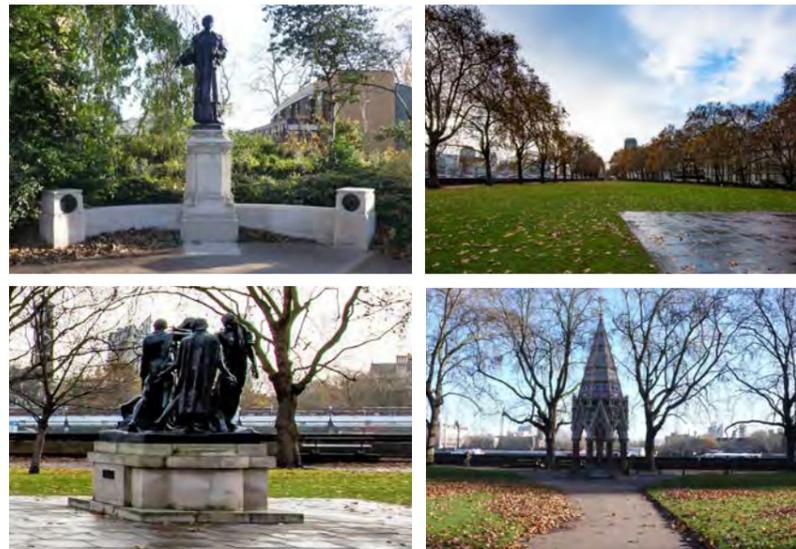
At the path's mid-point one's view is lifted above the embankment wall to views of shimmering light reflected off the waters of the Thames. At this high point, a large stone block provides a bench to the landward side of the path. At the brow of the hill, one is given the choice to walk up the grass slope as it warps and wraps its form around a skylight to the Learning Centre below.

The view south towards the Buxton Memorial encourages the visitor onward. The memorial's colourful spire remains on axis and in view from Dean Stanley Street and St John Smith Square, but has been given spatial significance within the gardens with a generous circular stone bench. A space to gather and contemplate both the Buxton Memorial, and adjacent UK Holocaust Memorial and Learning Centre in tandem.



KEY

- 1 Emmeline Pankhurst Memorial
- 2 Rodin's Burghers of Calais
- 3 Buxton Memorial
- 4 Entrance to the UK Holocaust Memorial and Learning Centre



A grass track continues upwards towards the metal fins of the Holocaust Memorial that protrude out of the ground providing a secure sitting location from which to view the route just taken. During the dry summer months, the grass slope will become a favourite resting point from which to observe the movement of visitors to and from the Memorial, the views of the river and back across

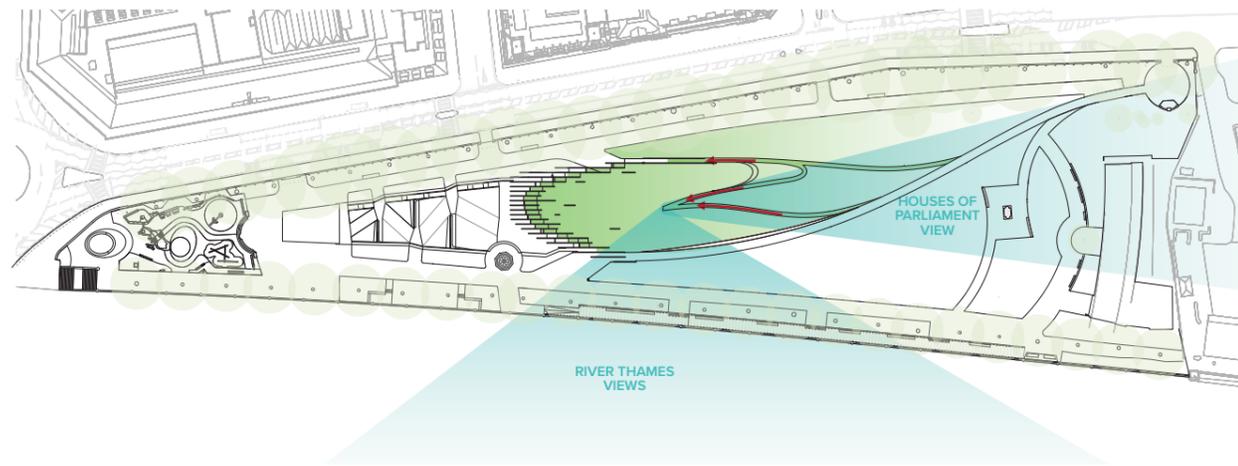
the gardens to the Burghers of Calais and the looming presence of the Victoria Tower and Houses of Parliament. The paths loop back past the skylight to link both sides of the gardens at this location.

Vehicular access for small vans for maintenance of the gardens and delivery and servicing of the Memorial Learning Centre will be maintained along the realigned 4m wide resin bound permeable perimeter paths.

that provides a shortcut up to the top of the Memorial's landform.

The new elevated benches and boardwalk placed alongside the Bazalgette Embankment will have a ramp of less than 5% at either end. Three sets of steps will allow multiple access points along its length.

Reinforced grass paths with similar maximum gradients are provided at the Dean Stanley Street and Great Peter Street entrances. The former has a stair between two metal blades



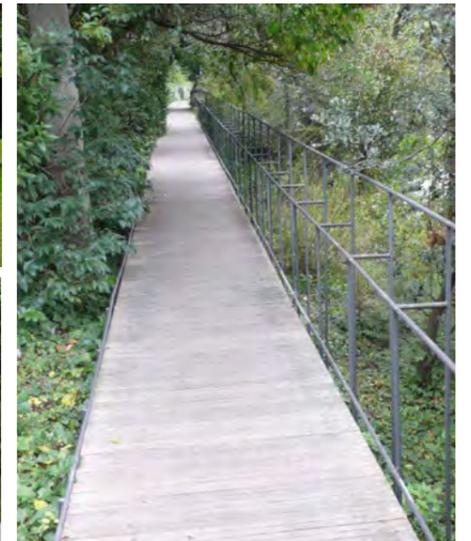
KEY

- Grass Path
- Grass Slope



KEY

- Elevated Boardwalk
- Green Path
- Main Route
- Access points
- Accessible Gardens Path under 5%



4.2.5 Materials

We have chosen a palette of natural materials – natural stone, steel and gravel to reflect the honesty and intensity with which our design has sought to approach this traumatic subject. To curate an organic quality to the design, we have selected surfaces that are informed by, but do not replicate or mimic, historical references and precedents.

We have sought to select materials capable of engaging visitors across all their senses – through colour, tactile experience and all the emotions and associations these provoke. A great part of the UKNHM's exterior materials is simply the continuation of the natural materials of the gardens, ensuring an elegant integration with the landscape.



Detail of UKNHM integration with landscape



Landform



Permeable Perimeter Path



Stone Seating Wall



Stone Sett Path



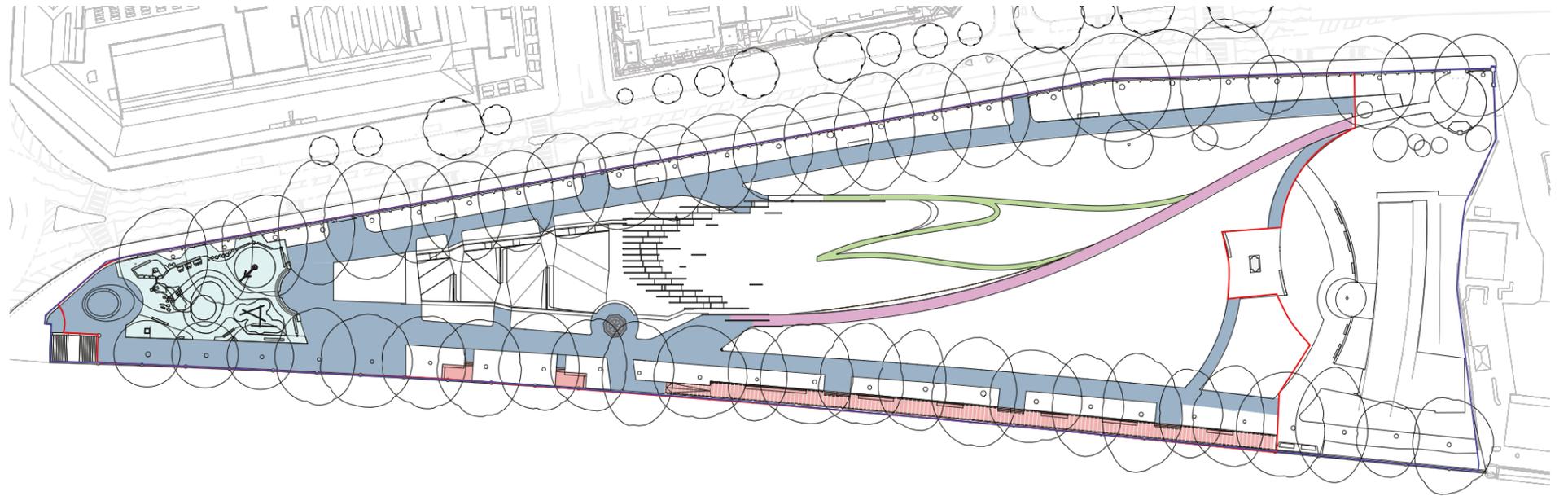
Perimeter Hedge

The landscape design is defined by the form and function of the landform responding to the design of the Memorial and Learning Centre. Set within an existing gardens, it is intended that the landscape proposals integrate seamlessly with interfaces at the edge of the site boundary. While there may be a need to upgrade the surrounding pathways and street furniture as part of a Masterplan initiative, the project is currently focusing on the design and specification of the new elements within the site.

The palette for the project is limited so as to minimise distraction away from the Holocaust Memorial. The primary diagonal path sweeps across the gardens, bringing visitors on a journey past other memorials. Proposed as a permeable natural stone path, laid with small setts, it sits comfortably within the main lawn. Other routes through the landform are proposed as permeable bound gravel, naturalised as much as possible into the grass.

Within the entrance courtyard, the scale and quality of the natural stone paving are enlarged in response to the space. It may be possible to integrate elements of interpretation into this paving, but otherwise, it will remain monochromatic and balanced in the bond.

Through the masterplan, it is proposed that new benches and a boardwalk are introduced to upgrade and improve the visitor experience to the gardens and allow for unobstructed views to the River Thames. If possible, the rest of the existing street furniture would also be upgraded.



Materials Diagram



Railway Ballast



Jewish Tradition



Natural stone



Permeable bound gravel



Reinforced grass

KEY

- Machine cut white cobblestone paving
- Resin Bound gravel paving
- Elevated timber / metal boardwalk
- Reinforced Grass
- Playground finish

4.2.6 Street Furniture

Victoria Tower Gardens currently has a large amount of seating along both sides of the central open space. The traditional gardens' benches of the west side look into the central lawn. Along the east side, benches have been installed onto plinths to allow views out above the embankment walls.

In our review of the provision of seating, it is noted that while it is plentiful, it is not accessible to all. It is currently not possible for people of different age profiles or abilities to enjoy the same experiences through Victoria Tower Gardens. It is proposed to introduce a new boardwalk feature along the east side. Accessed through a ramp at either end, it elevates a person's sight line above the embankment wall whether sitting or walking, towards the River Thames.

Deeply planted to the rear, the boardwalk provides an enhanced experience within the gardens for local residents and visitors. The upgrading of street furniture across the rest of the gardens is proposed, in keeping with the character of the gardens. The final details are to be agreed with Royal Parks. The number of benches and bins will respond to the increased numbers of people moving towards and around the southern end of the site.



Timber boardwalk section



Timber boardwalk view



Metal bench



Elevated boardwalk and light metal frame



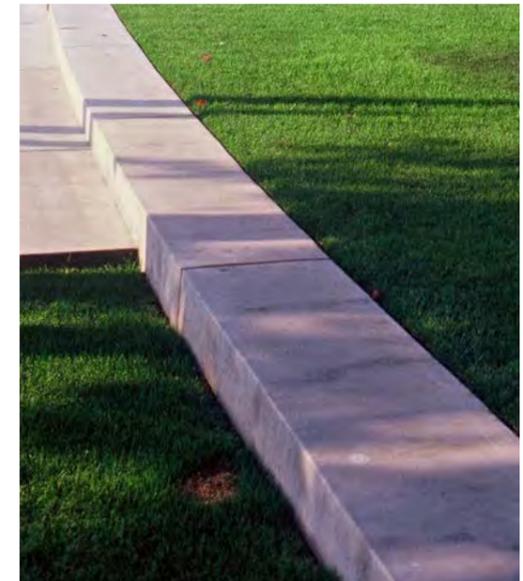
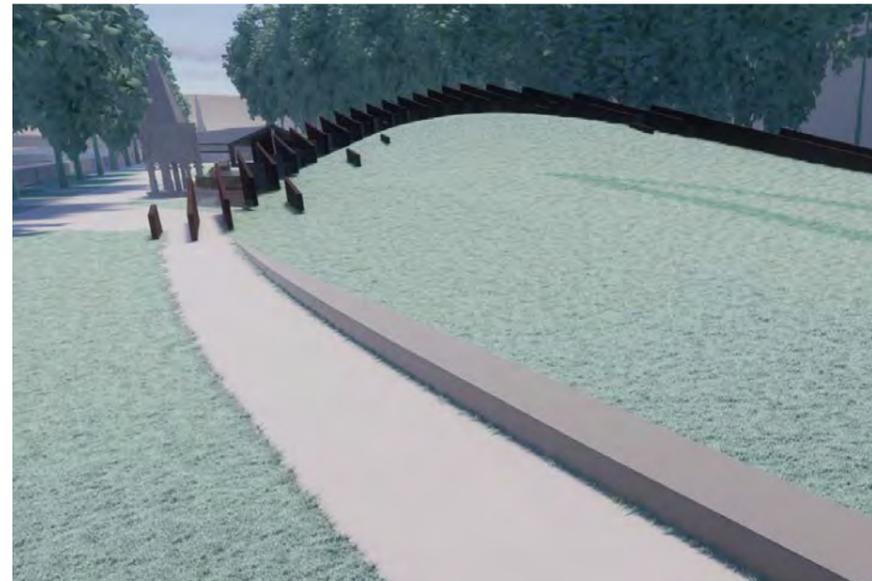
View to the Thames walkway

Visitors who want to relax in the sunnier parts of lawn sit directly on the ground, and this is observed through summer months. Outside of the warmer period, the lawn is rarely traversed or occupied by visitors. The landscape design creates a new accessible route across the lawn. Moving from north to south, towards the Memorial, the path gently rises, opening up views out across the embankment wall towards the River Thames. The landform lifts away from the path, creating an edge that forms a bench. Located a key distance in the journey from gardens edge to the Memorial, it offers a moment of pause and rest.

Seating opportunities are integrated into other locations in the masterplan. A low seating wall is proposed around the Buxton Memorial. This will define its location and provide a gathering and resting point for visitors to experience the juxtaposition of the Buxton Memorial and UK Holocaust Memorial and Learning Centre. This relationship can generate debate and discussion on the subjects each represents.



Stone bench section





View from the west path towards Memorial

4.2.7 Soft Landscape



Full soft landscape plan



Pittosporum Hedge



Hedera Helix Grand



Euphorbia Amygdaloides Var Robbiae



Fagus Sylvatica



Brunnera Macrophylla



KEY

- Existing Shrubs
- New Shrubs
- Proposed high-quality sport turf
- Ground cover plants (Luzula, Hedera Helix Grand, Polystichum Setiferum 'Herrenhausen', Euphorbia Amygdaloides Var Robbiae)
- Low evergreen planting (Sarcococca Hookeriana var. Digyna)
- Potential hedge: Hornbeam / Carpinus Betulus, alternatively European Beech / Fagus Sylvatica

River Edge

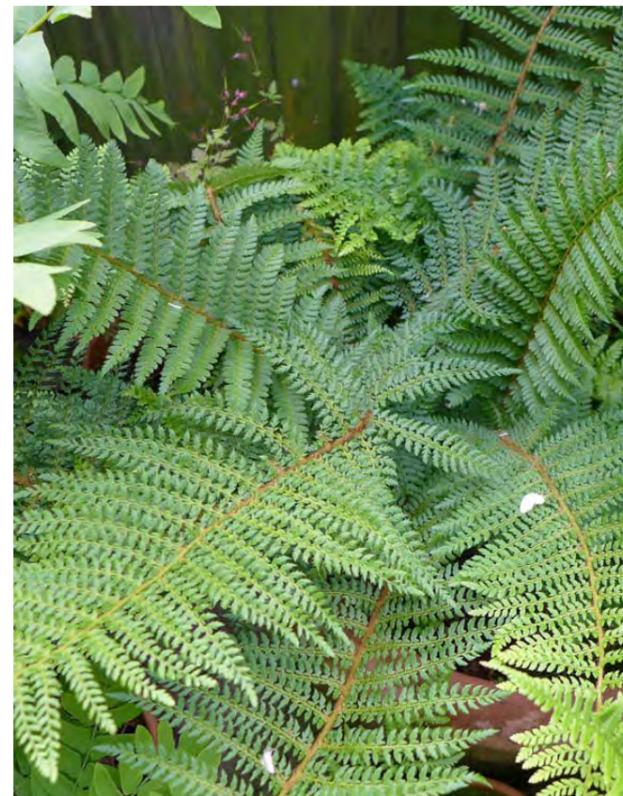
Under the shade of plane trees along the river's edge, planting is soft, fresh, and green. Fern leaves peak out from beneath suspended benches, while garland ivy twines itself around the metal railings. In the spring, a froth of lime-green euphorbia bracts enlivens the space.



Planting North



Luzula Sylvatica



Polystichum Setiferum 'Herrenhausen'



Viburnum



Sarcococca Hookeriana var. *Digyna*

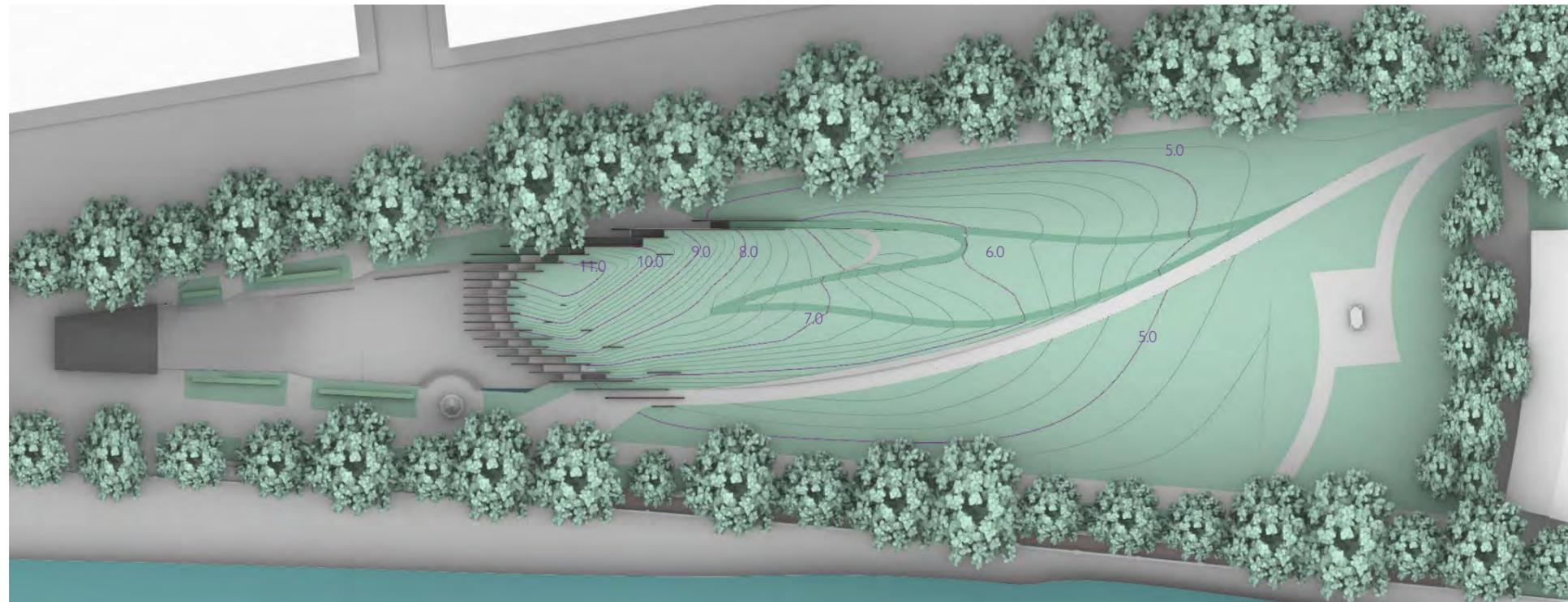
4.2.8 Landform

The landform mediates the garden landscape of Victoria Tower Gardens and the Holocaust Memorial. It rises gently from the perimeter paths, and provides both access in and around the fins, as well as a new landscape in the gardens to experience and relax upon.

The views towards the Memorial and from the higher ground have been considered with respect to the existing gardens character. Gentle gradients have been modelled to minimise potential visual impact, while also allowing the lawn areas to continued to be used.



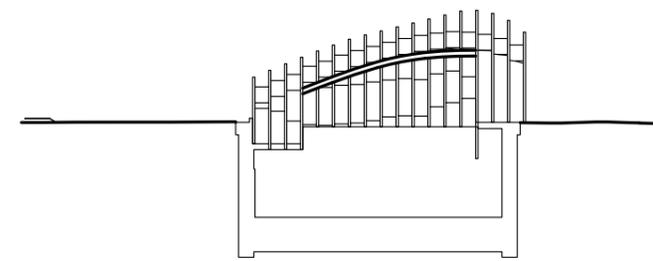
Full soft landscape plan



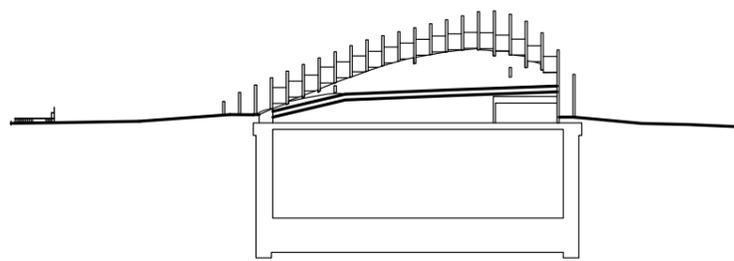
Landform / Contour Plan

KEY

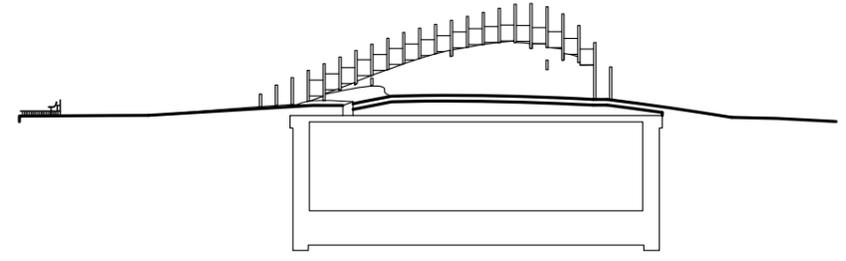
- - - Area Boundary
- Green Area
- Path Area



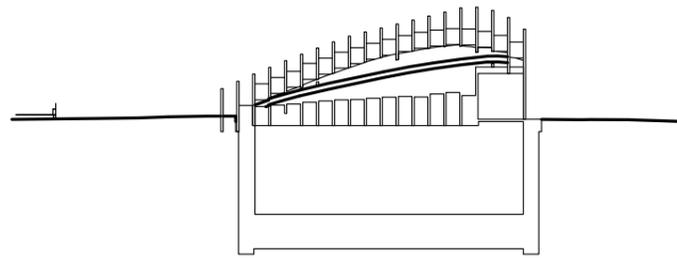
SECTION 01



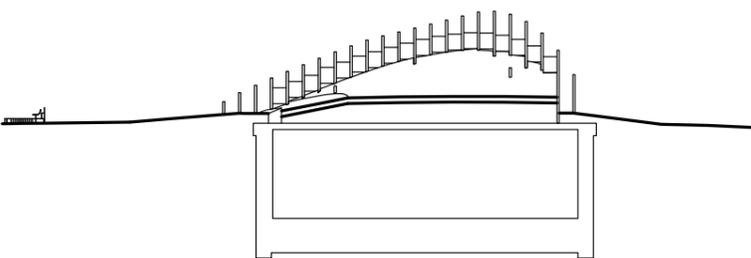
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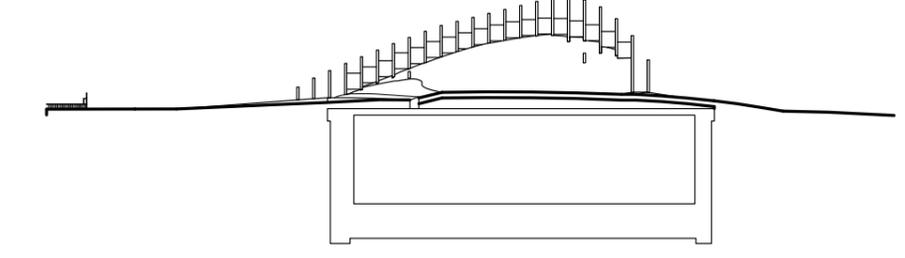
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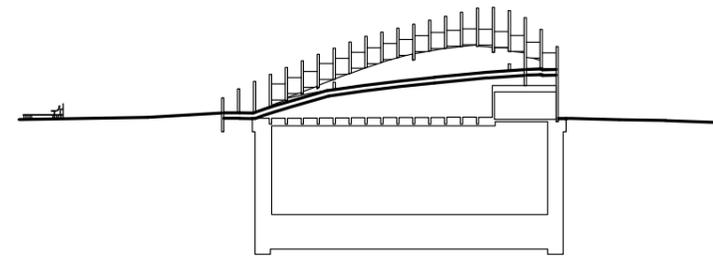
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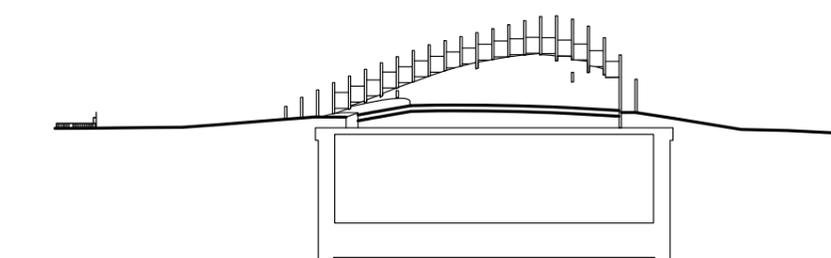
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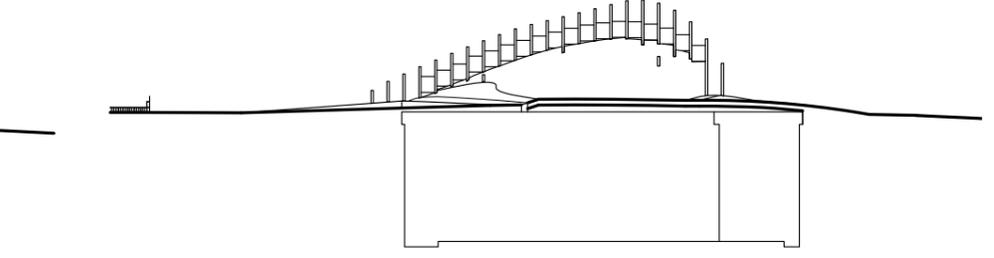
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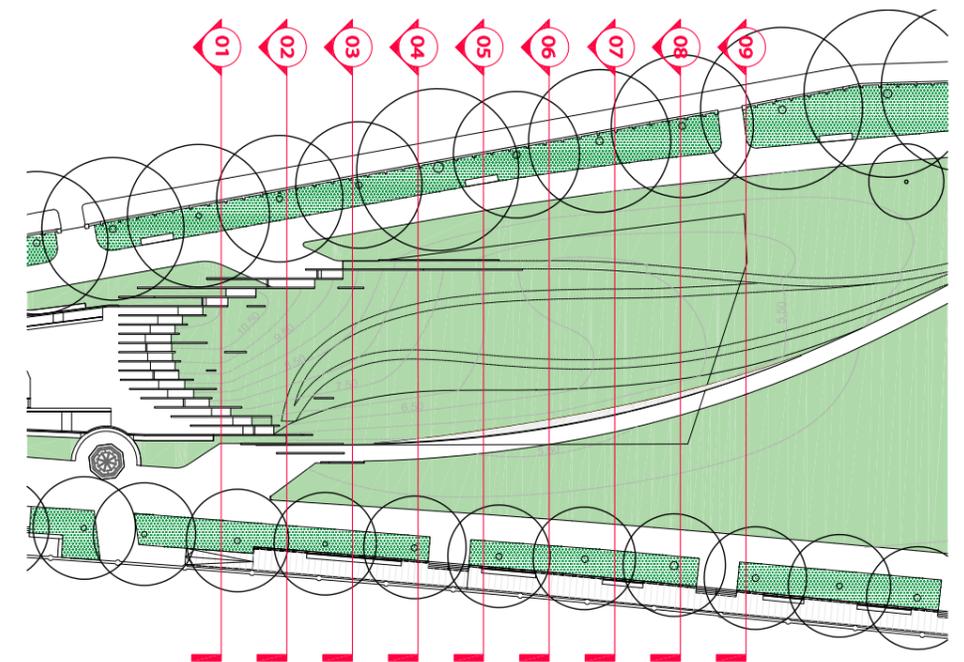
SECTION 03



SECTION 06



SECTION 09

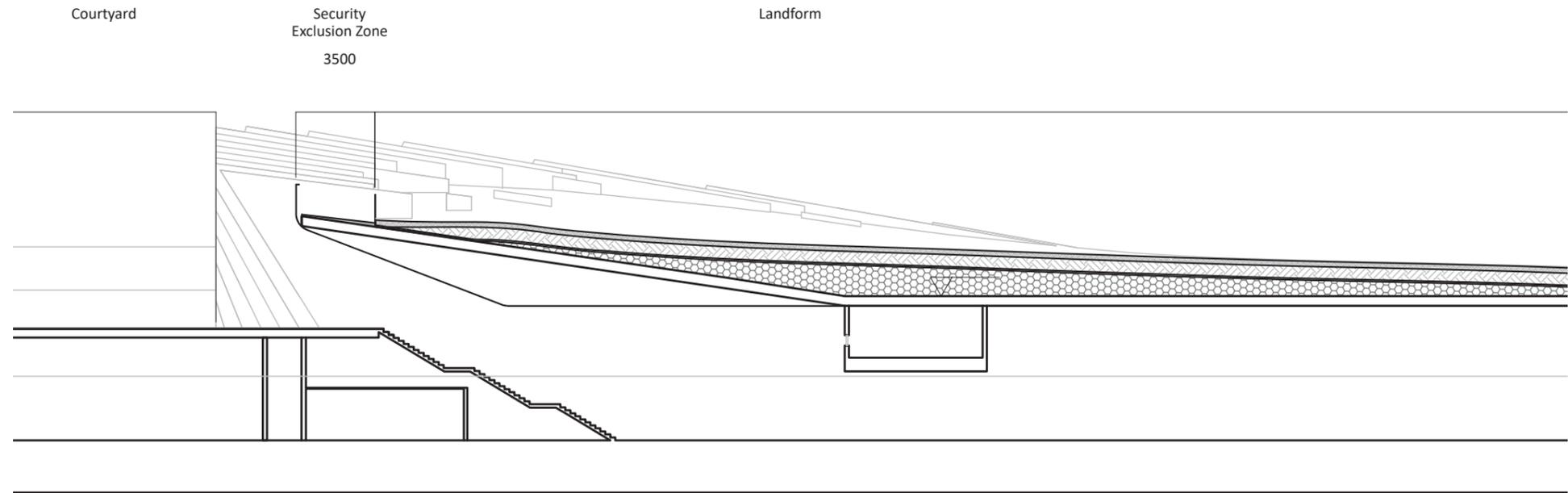


4.2.9 Interfaces / Ha-ha Detail

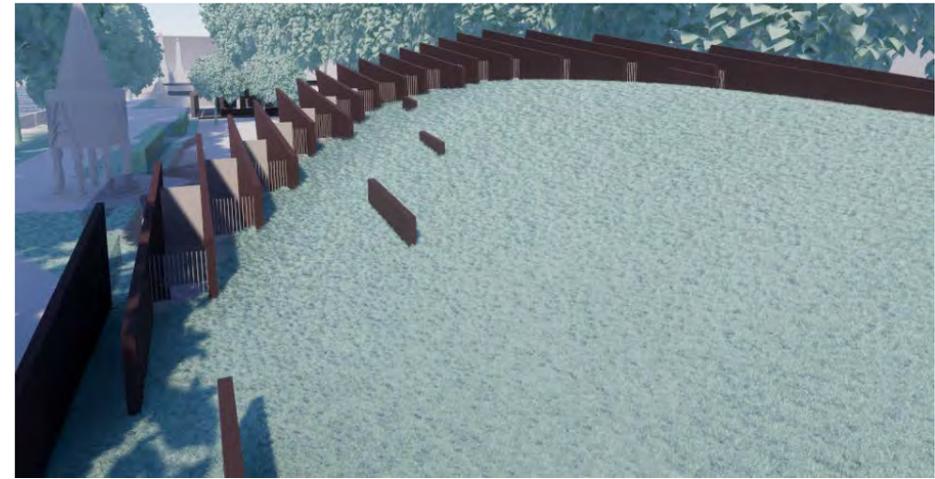
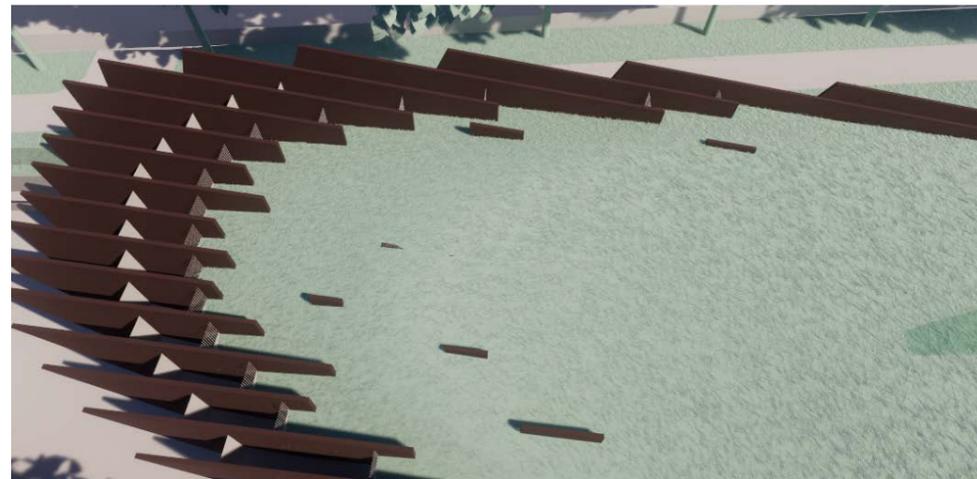
The design for the Holocaust Memorial and Learning Centre requires a seamless integration with the landscape to maintain continuity of access and enjoyment for visitors to Victoria Tower Gardens. To achieve this level of design integration, the team has collaborated in the development of each detailed interface, minimising the appearance of where the gardens and Memorial begin and end.

The Memorial fins protrude through the landform, visible from the northern entrance, and drawing the visitor towards it. Visitors can walk up the landform to touch and interact with the Memorial, or sit and enjoy the higher vantage point. The textured stainless steel of the internal ceiling returns at the edge of the landform to create a balustrade. Visitors are held back from this edge with a neutral railing between the fins, and the zone between this edge and a second railing is kept clear, for maintenance access only.

Paths move through the fins, and the landform moves around them, fully embedding them into the landscape.



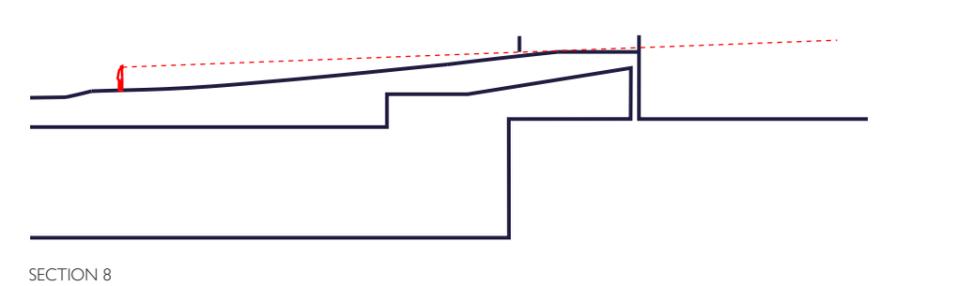
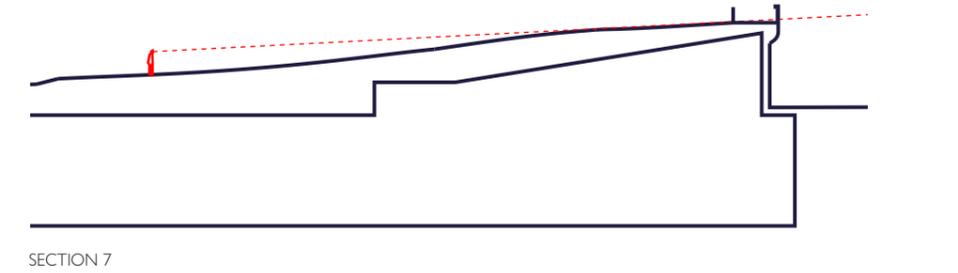
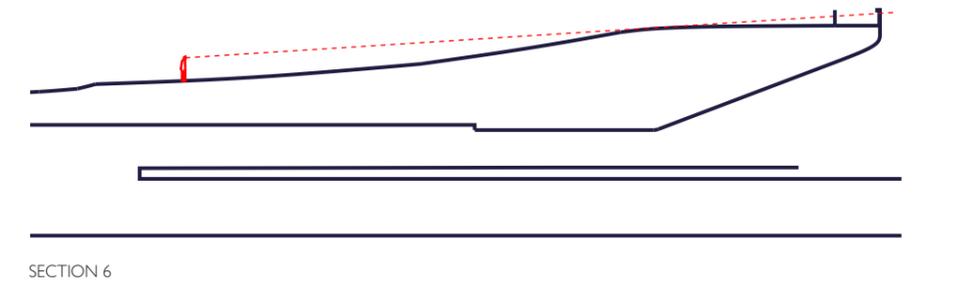
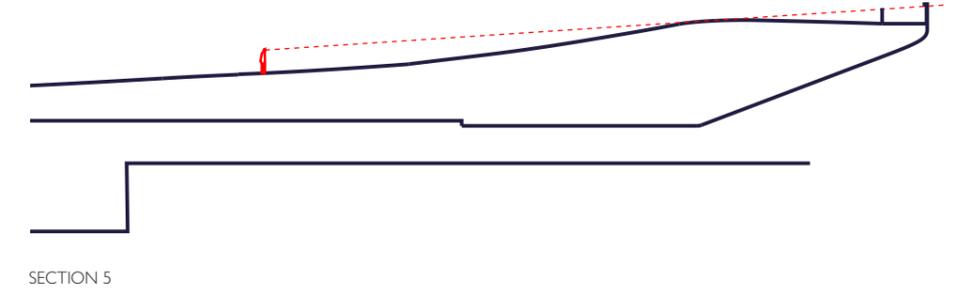
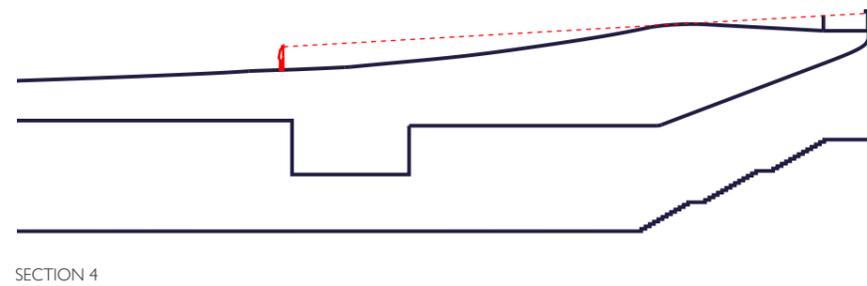
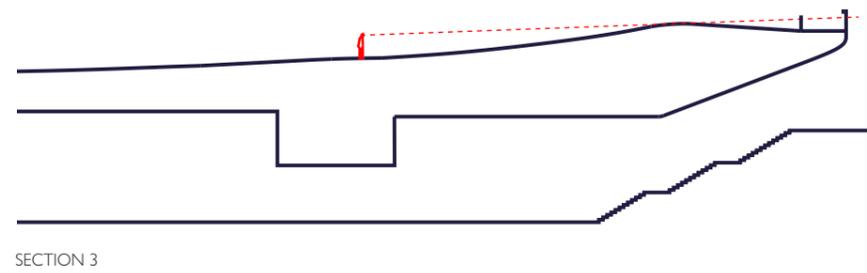
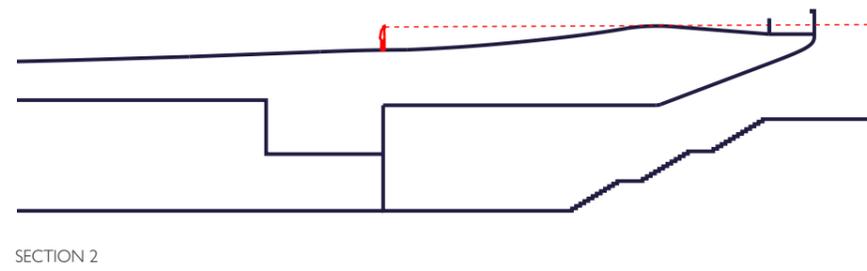
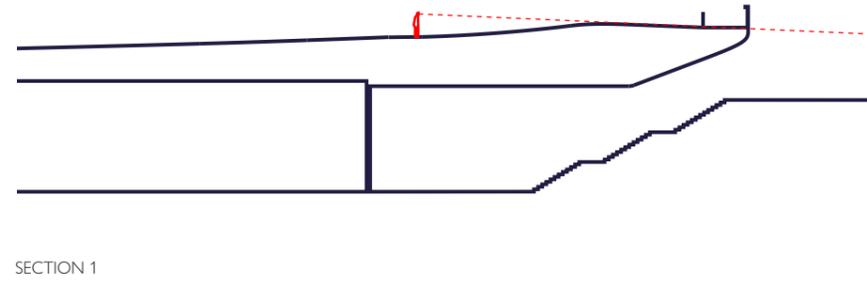
Ha-ha Section



The Learning Centre is located beneath the landform, accessed from the south through the Memorial fins. As a working building, there is a need to accommodate a range of services, together with additional structural protrusions.

Through extensive design collaboration with the team, the outlets for any service requirements have been discreetly integrated into locations of minimum visibility. Strategies for intake and outtake ventilation will be integrated into the hard landscape of the entrance courtyard.

The structure associated with the lift overrun will be visually hidden by the landform. The clerestory skylight has been integrated into the landform as an extruded contour that lifts to bring light into the stairwell below.

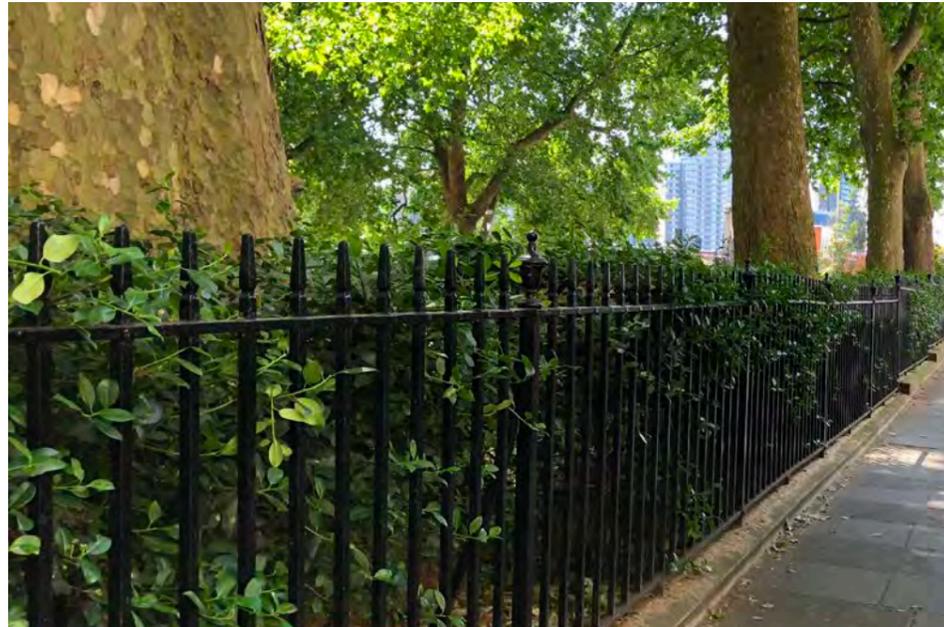


4.2.10 Existing Trees

The two rows of existing mature London Plane trees of Victoria Tower Gardens, define the character of the gardens, and provide a high amenity value for both the immediate and wider context. While the trees appear as a singular avenue on either side, they were planted in phases as Victoria Tower Gardens developed over a number of decades in the 19th and 20th century.

Throughout the design development stage, the team has worked closely with Bartlett Consulting, and other specialists, reviewing the proposals and any potential impact they may have on health of the trees. A number of key changes have been made to the location and extent of the project since competition stage. The design has been developed to minimise and mitigate any potential impact on the trees' canopies and roots, and to ensure their long term health.

Bartlett's have completed an AIA as part of the Application for Planning Permission and Listed Building Consent. In the report they evaluate the potential direct and indirect impacts of the proposed development and site design on the London Plane trees, using the criteria and guidance set out in the British Standard 5837:2012. A tree root radar survey, canopy radar survey and a tree root investigation survey have all been commissioned for the project to inform the final design.



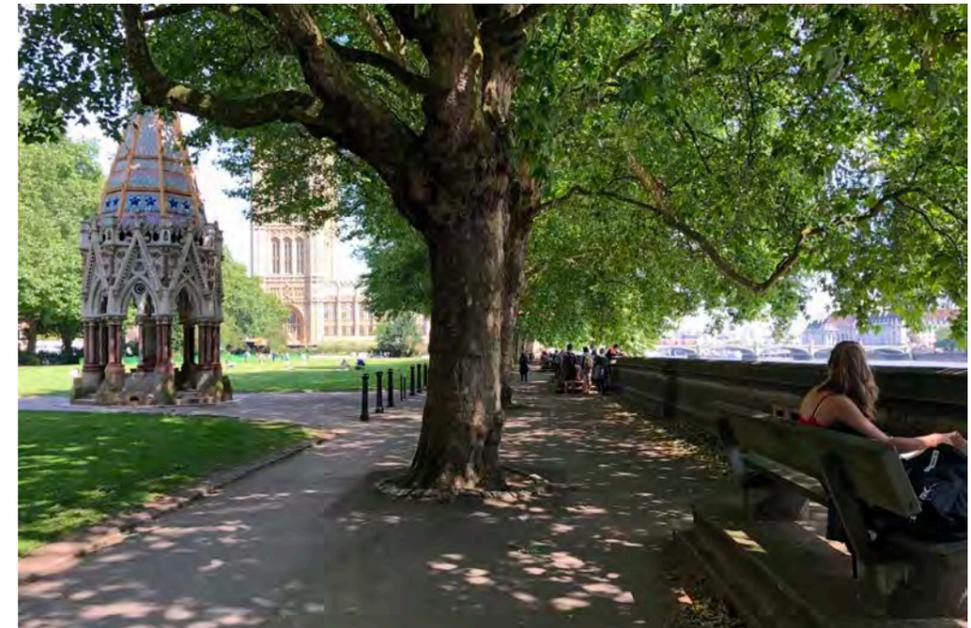
Millbank perimeter railing



Westside looking South



View North at existing Playground

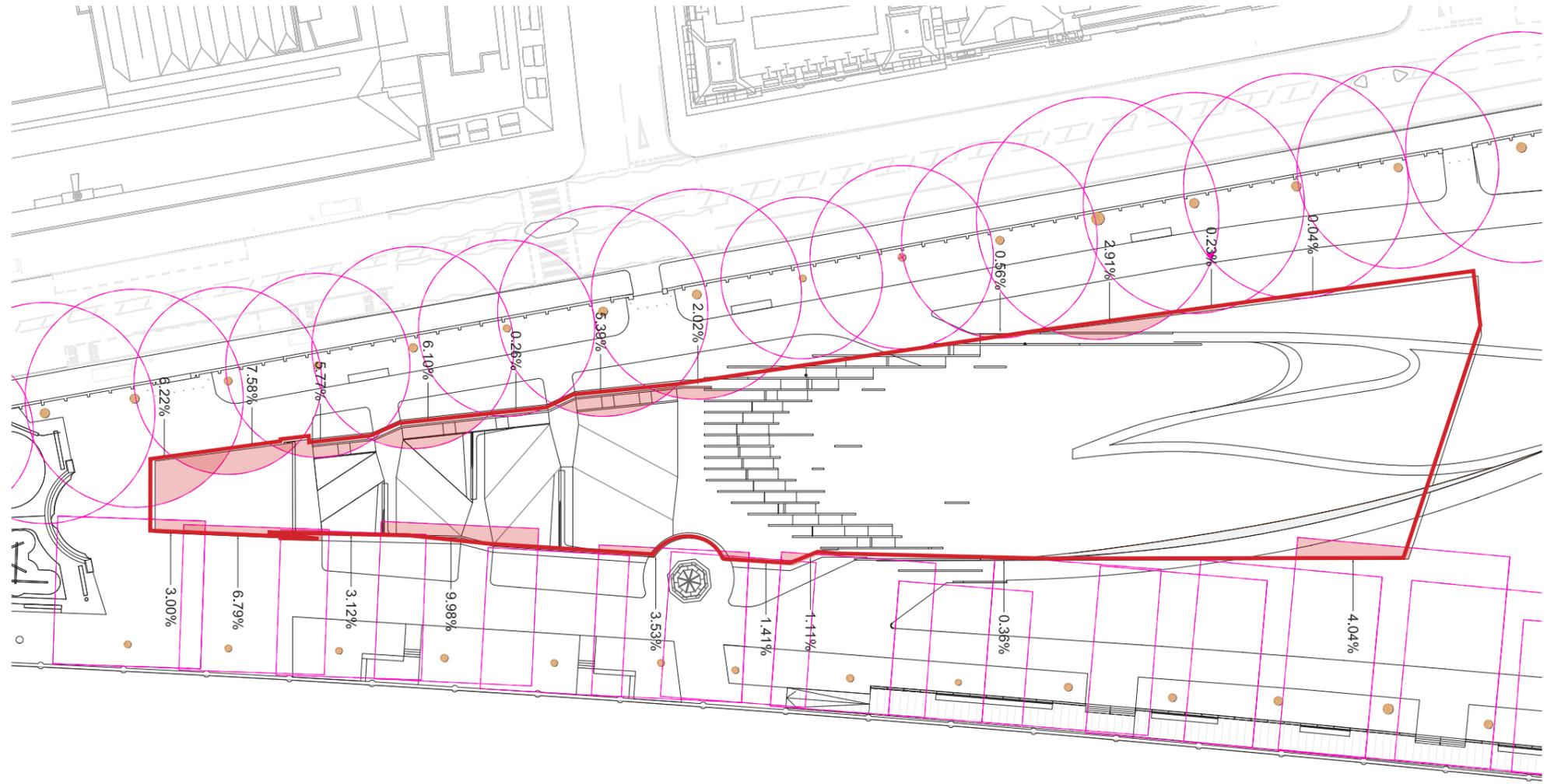


View North at Buxton Memorial

4.2.11 Review of Root Protection Area

Bartlett Consulting have carefully considered the pre-existing site constraints and conditions, the proximity of the London Plane trees to these constraints, and the results of on-site investigations to plot the notional RPA in a manner which reflects these considerations and provides adequate protection for the entire tree root system and surrounding soils.

The different shapes and positions of each notional RPA has also been subject to a desk-top study which compared and modelled the different shapes, and are deemed appropriate as plotted. The location of the RPA has influenced both the location of the proposed development, and the final form of its basement box, and external landscapes. This notional representation of the RPA meets the recommendations of Clause 4.6.2 of British Standard 5837:2012.



Plan of RPA potentially affected by proposed Memorial and Learning Centre

KEY

- Bartlett RPA boundary
- Extent of Proposal

4.2.12 Tree Root Survey

The project commissioned a number of surveys to ascertain the extent and quality of roots alongside the development. An extensive tree root radar survey was undertaken to establish the potential density and depth of existing roots. This informed a physical tree root investigation in key locations to inform the final detail of the interaction.

The current design proposal has relocated the position of the Holocaust Memorial and Learning Centre, as well as reorientating the alignment of the development to minimise infringement on the RPA. The form of the entrance courtyard and foundation detail for the entrance pavilion have been modified in response to the RPA.

Learning Centre (no.'s 1+2)

The level of the proposed building will allow for future tree root growth above the roof. The final alignment of the western wall is aligned to the typical root protection area boundary.

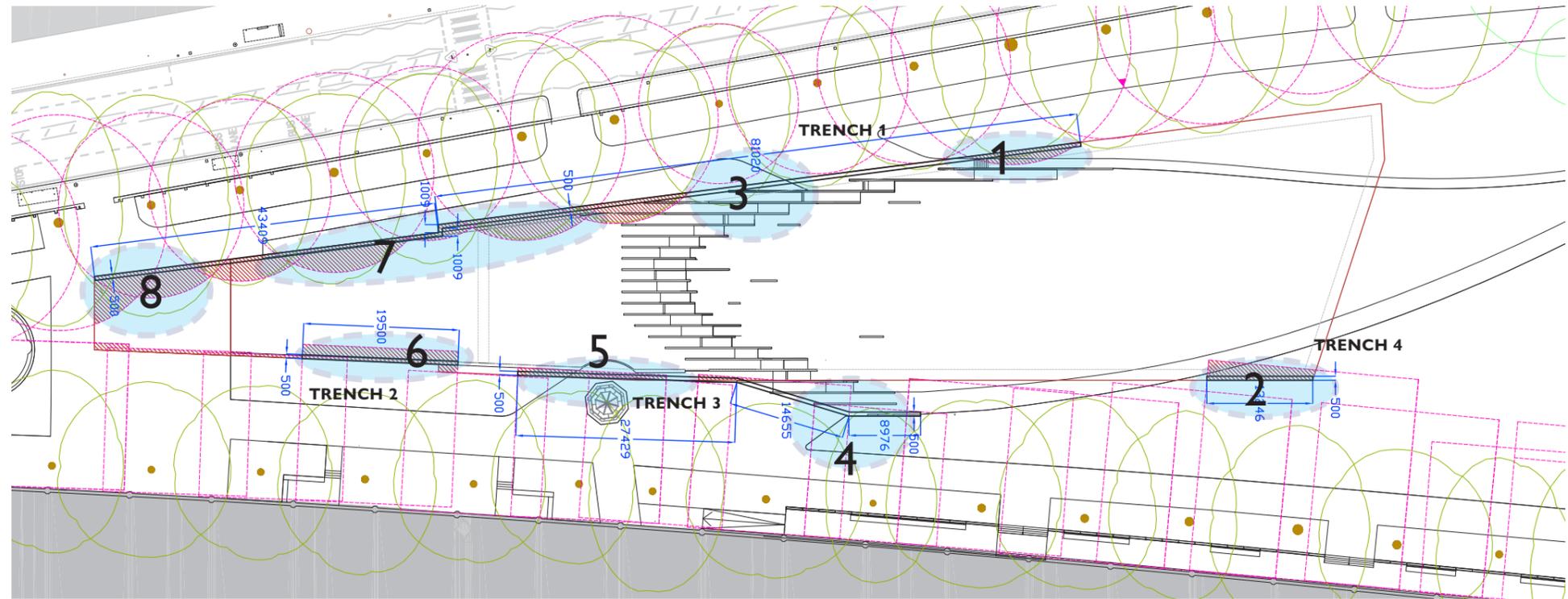
Memorial (no. 3+4)

Where the fins are located within an RPA, it is proposed to structurally support them laterally off adjacent structure, as well as with discrete helical piles. The final locations to be determined by site investigation.

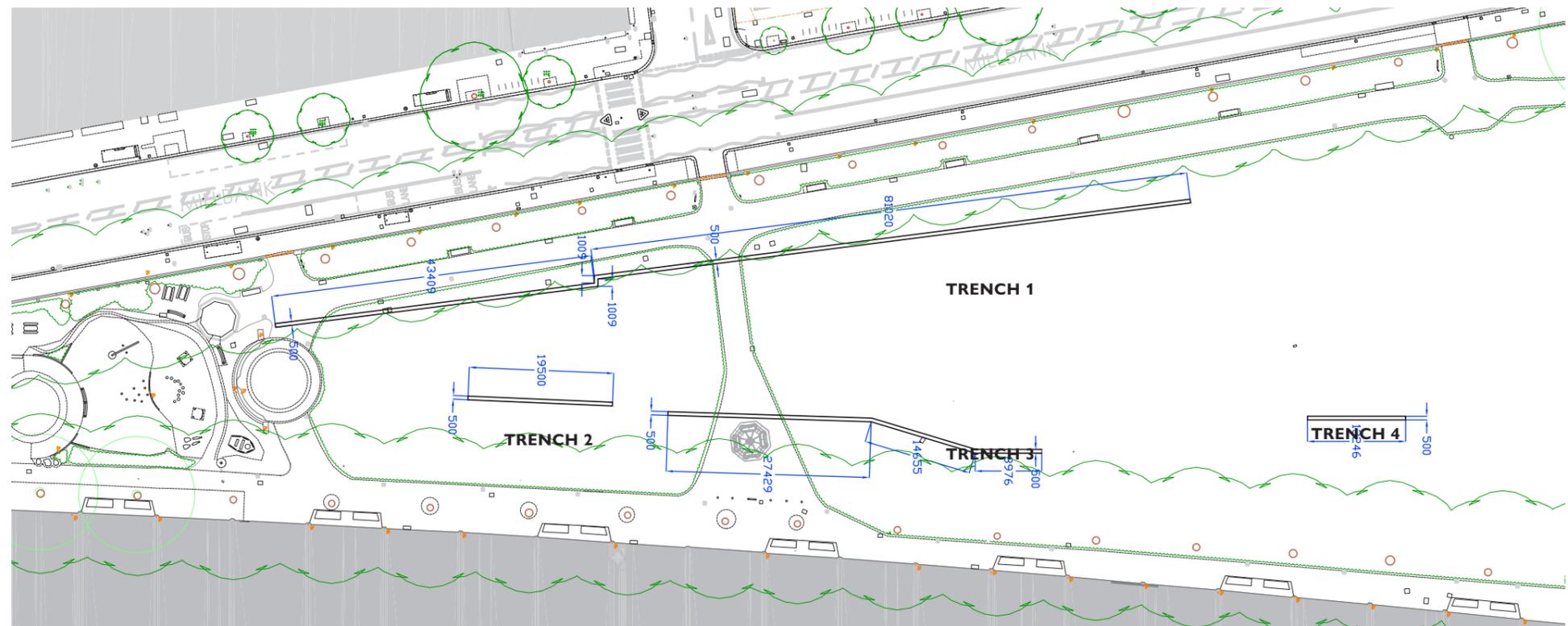
Entrance Landscape (no.'s 5-8)

The alignment of the entrance courtyard has been profiled to minimise the infringement on the RPA while maintaining minimum areas for inclusive access, security and visitor management.

The foundation for the entrance pavilion could be on helical piles. The location of these piles will be determined through analysis of the all surveys and supported by on-site investigation.



Proposed trench location outline for investigation / proposed layout



Proposed trench location outline for investigation / existing layout

- KEY
-  Root Protection Area affected
 -  Trench outline

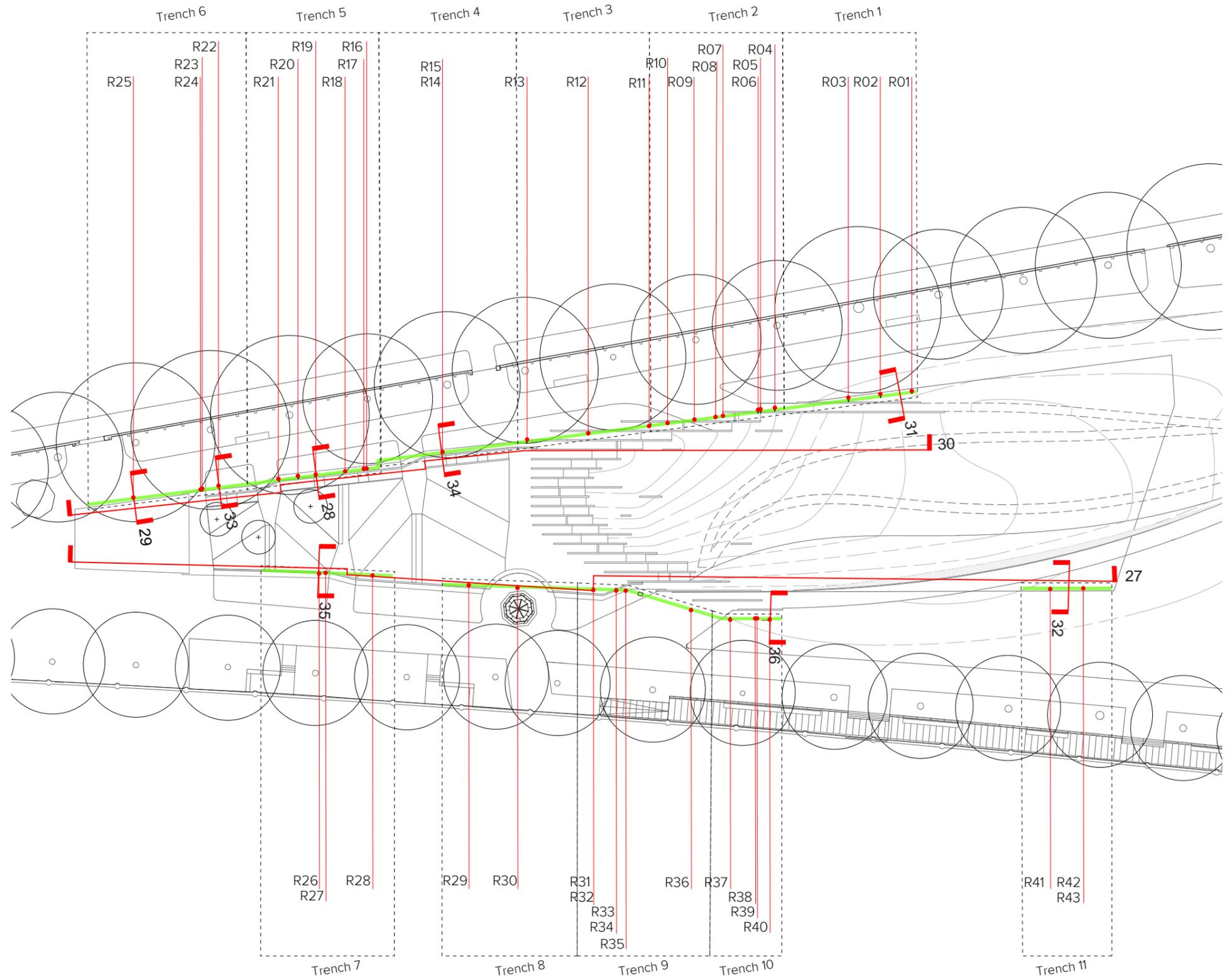
An extensive tree root investigation was undertaken by Canopy Consultancy in September, 2018.

The primary findings of the investigation was a scarcity of roots in the the upper 400 mm of soil, with the majority of roots location in the 600 mm-1000 mm zone.

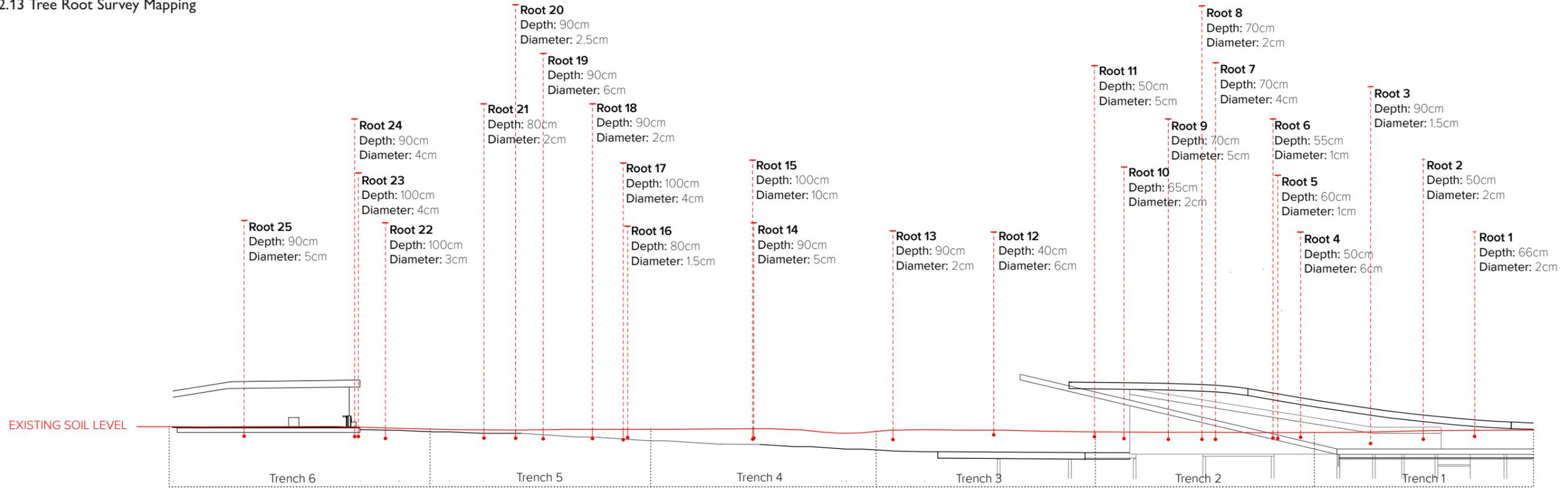
A large proportion of the identified roots were 25 mm or less, and defined as not significant.

The location of each root has been reviewed with respect to the development levels. In the southern end of the site it is identified that shallow foundations should allow the root to be retained.

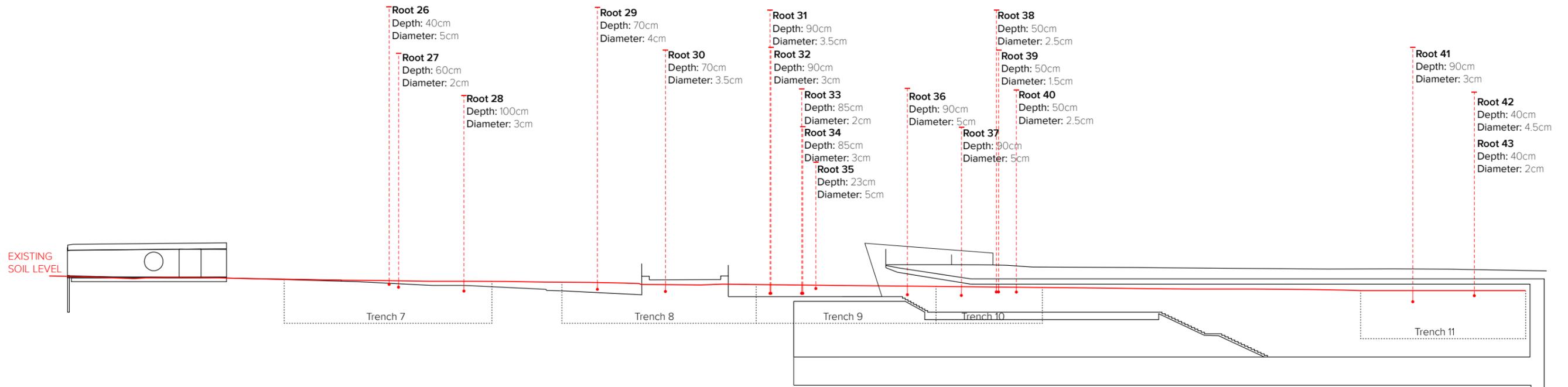
Further north, the deep excavation of the basement box will require the pruning of roots. The measures to be taken to mitigate this action are described in more detail in the AIA.



4.2.13 Tree Root Survey Mapping

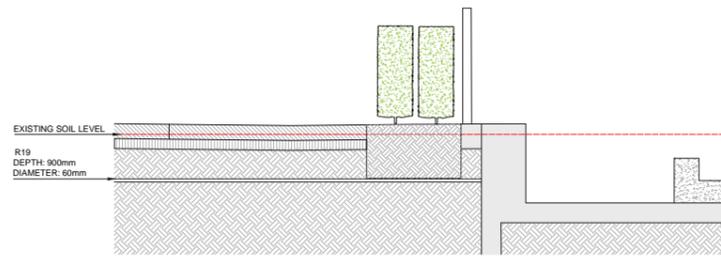


Cross Sectional Elevation of Western side of Courtyard

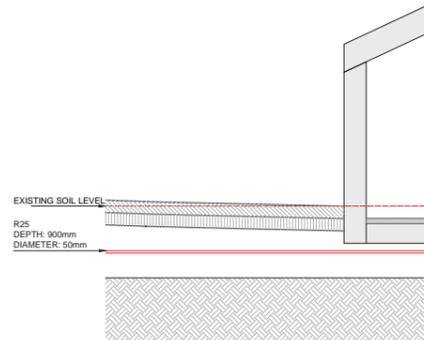


Cross Sectional Elevation of Eastern side of Courtyard

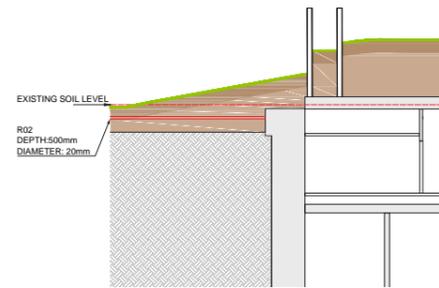
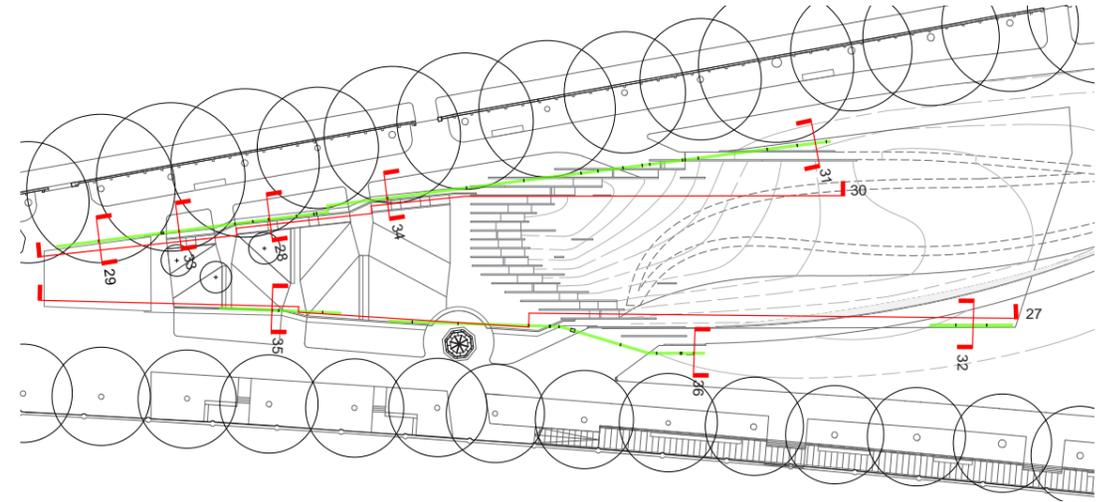
4.2 LANDSCAPE



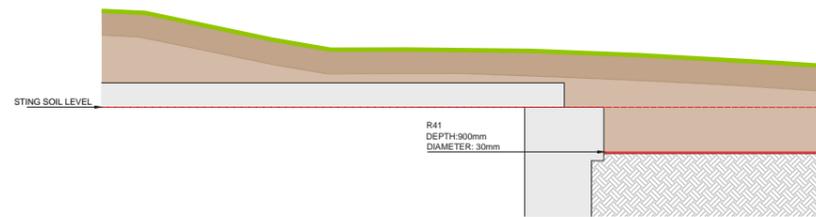
CROSS SECTIONAL DETAIL OF ENTRANCE COURTYARD / SECTION 28



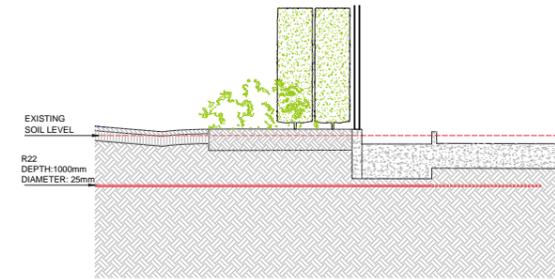
CROSS SECTIONAL DETAIL OF ENTRANCE PAVILION / SECTION 29



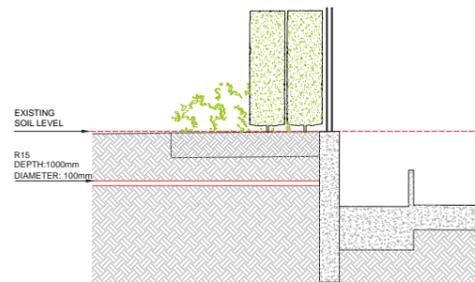
CROSS SECTIONAL DETAIL OF ENTRANCE PAVILION 31



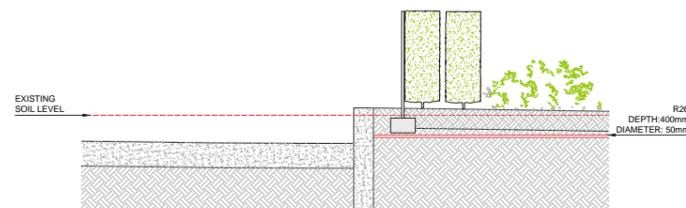
CROSS SECTIONAL DETAIL OF ENTRANCE PAVILION 32



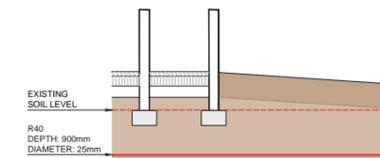
CROSS SECTIONAL DETAIL OF ENTRANCE COURTYARD 33



CROSS SECTIONAL DETAIL OF ENTRANCE COURTYARD / SECTION 34



CROSS SECTIONAL DETAIL OF ENTRANCE COURTYARD 35



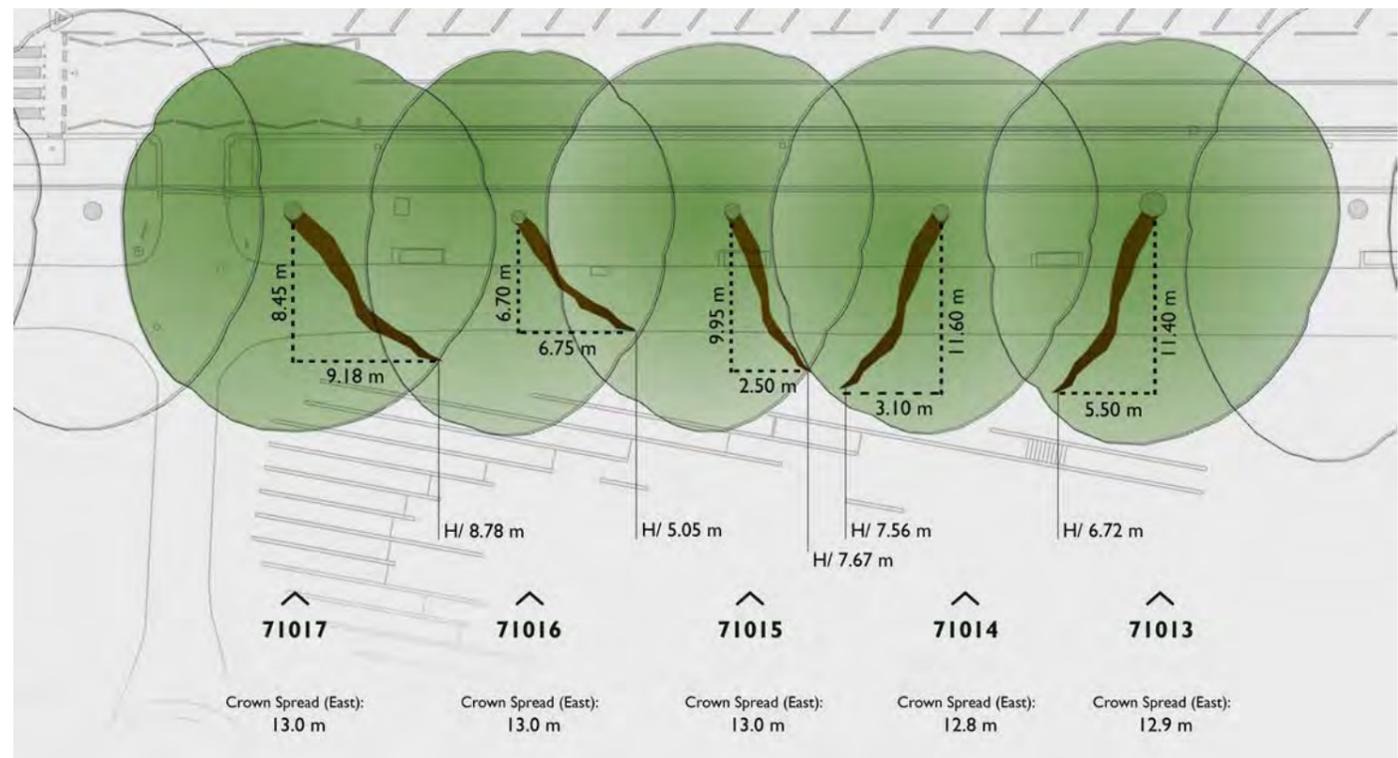
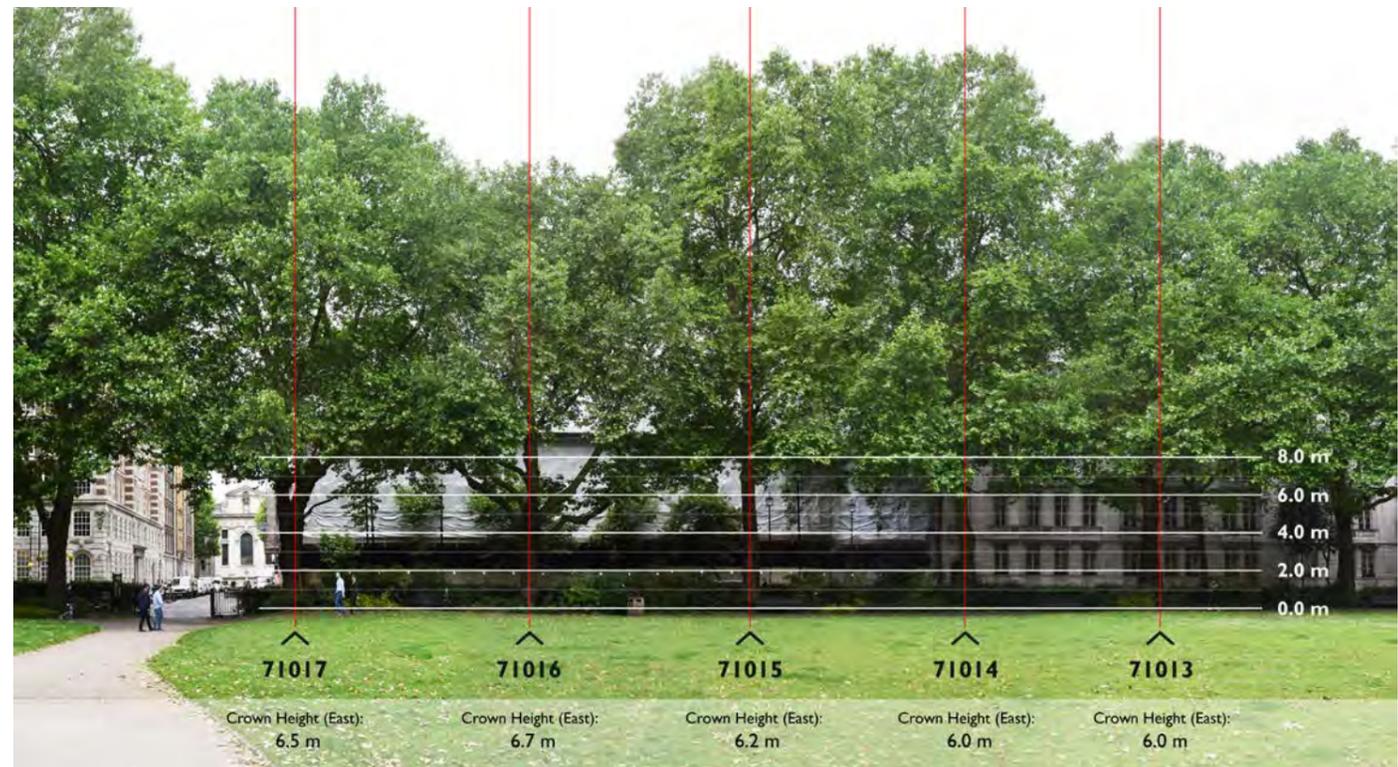
CROSS SECTIONAL DETAIL OF ENTRANCE PAVILION 36

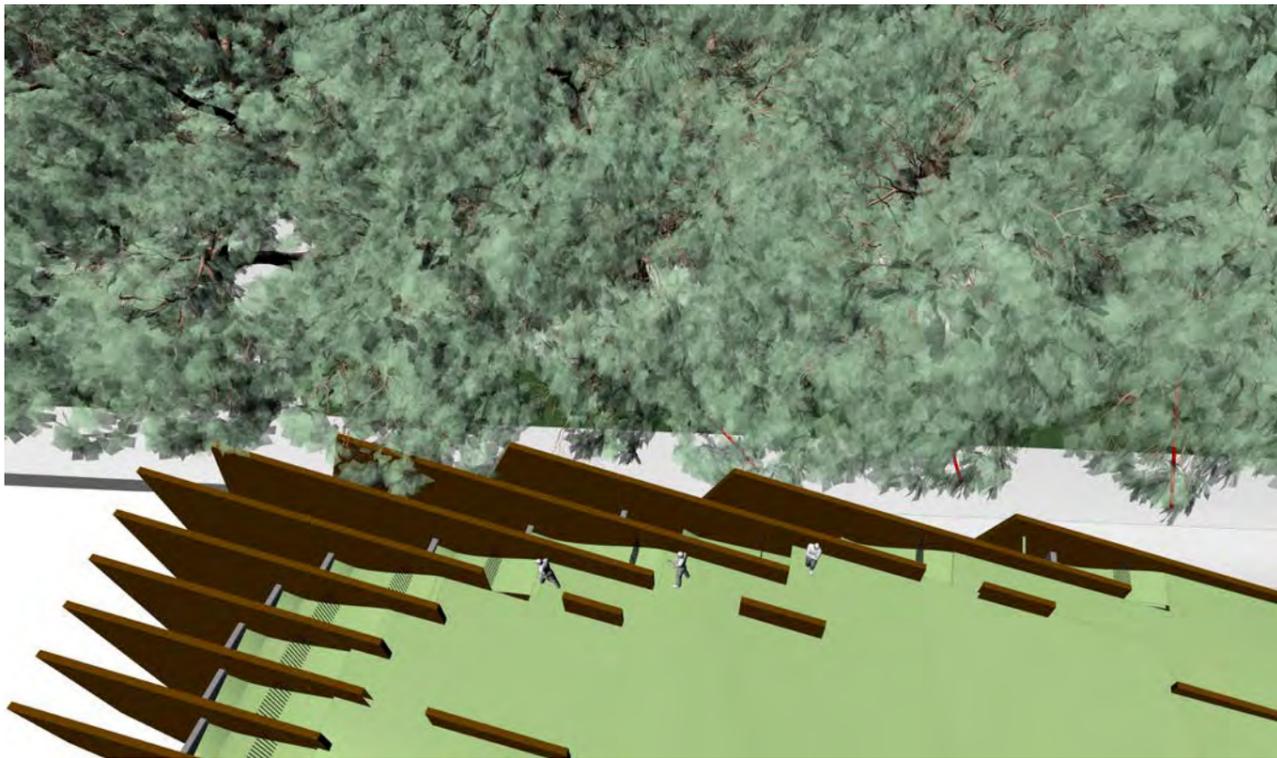
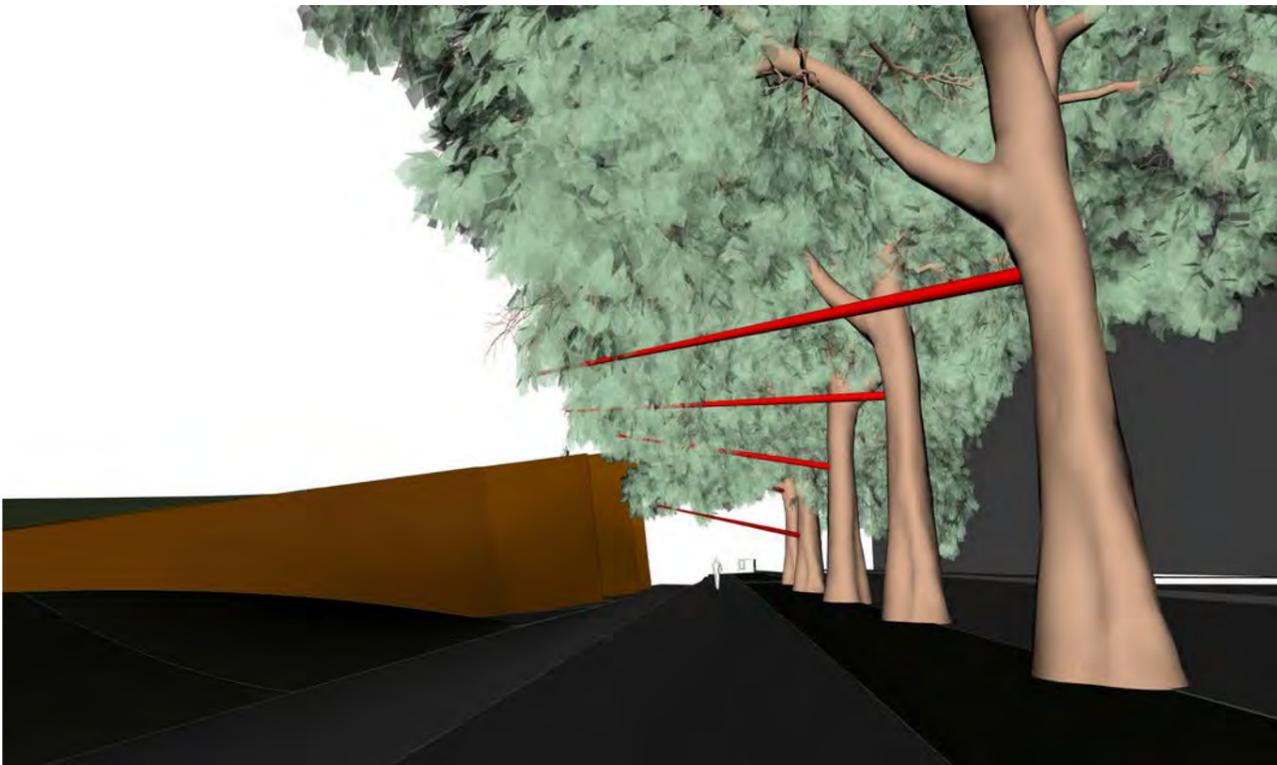
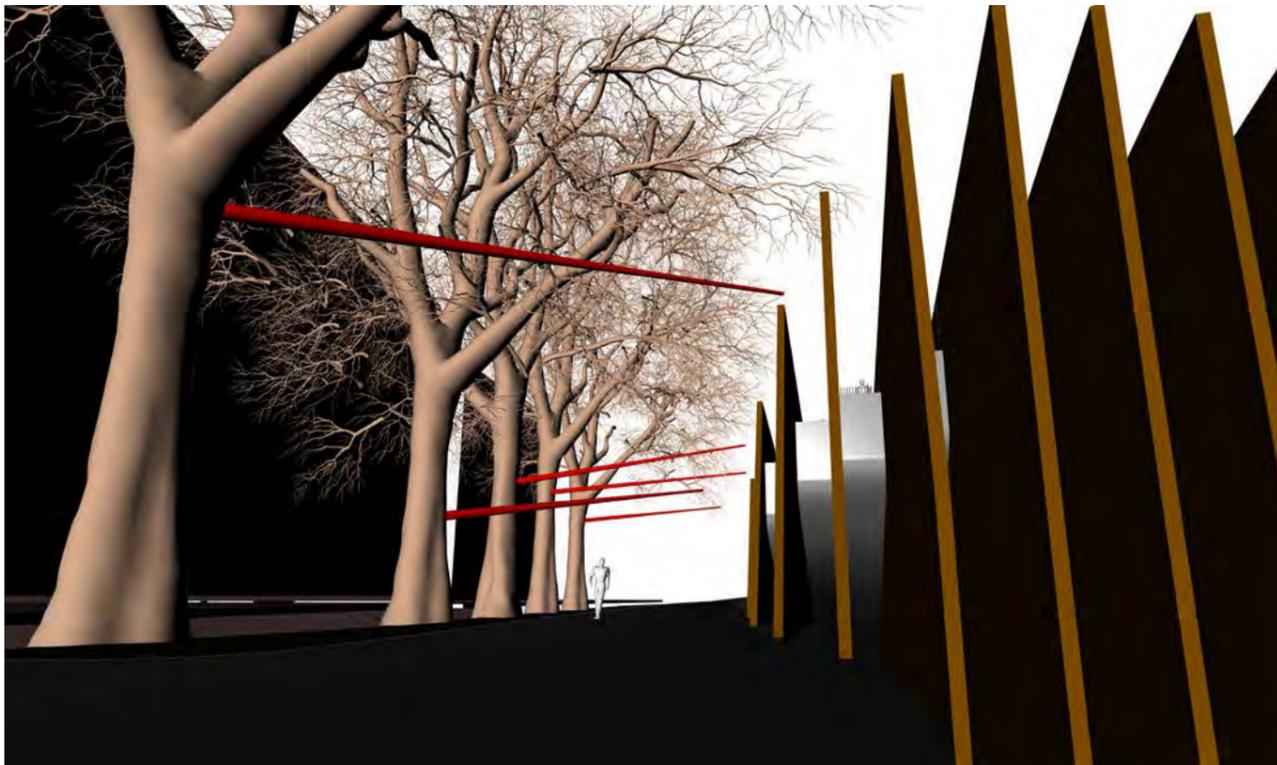
4.2.14 Above Ground Constraints

The above ground constraints for London Plane trees T71017 – T71013, as initially identified by Bartlett Consulting were further informed through the commissioning of a 3D tree crown survey, using a terrestrial laser, point cloud and Revit modelling.

This survey was undertaken by MSA Survey, to model the branching structure and crown shape of these London Plane trees due to their proximity to the proposed memorial fins. This information was then applied by Ron Arad Architects in 2D and 3D models to guide and inform the proximity of the proposed memorial fins with the existing low branching structure.

The current shade and shadow pattern is shown on the Tree Constraints Plan for selective trees so as not to over-clutter the drawing. The plotted shade and shadow pattern as shown includes London Plane trees along both the east and west aspects of the site within influencing distance of the proposed memorial.





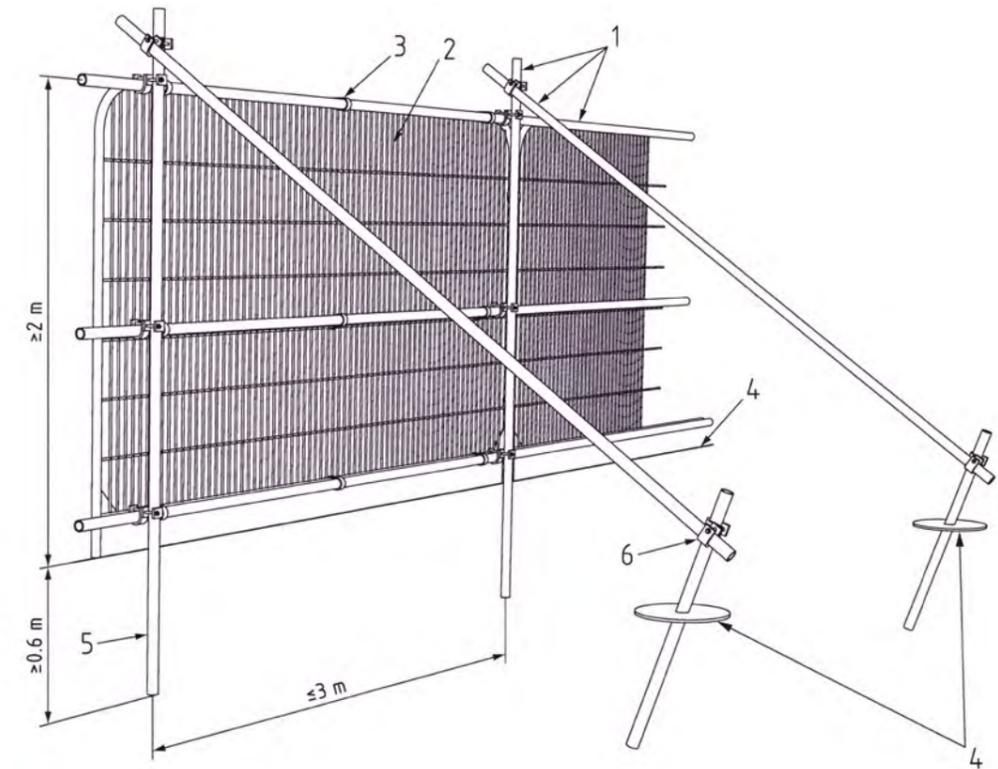
4.2.15 Arboricultural Impact Assessment

Bartlett Consulting have completed an Arboricultural Impact Assessment as part of the Application for Planning Permission and Listed Building Consent. In the report they evaluate the potential direct and indirect impacts of the proposed development and site design on the London Plane trees, using the criteria and guidance set out in the British Standard 5837:2012. A tree root radar survey, canopy radar survey and a tree root investigation survey have all been commissioned as part of the indepth study of the site constraints

The design has used this is extensive amount of information through the design stage to amend and infrom the final proposals. As stated in the report, 'In accordance with Section 4.4.1.2 of BS: 5837 (2012) the initial impact assessments and project consultations during April and May 2018 resulted in several significant design modifications to reduce the level of foreseeable impact, as well as direct tree damage and need for tree pruning.'

Where it is necessary to prune existing roots, the report has set out proposals for compensation and mitigation. Through an improvement of the soil conditions and installation of permeable surfaces, Bartlett Consulting demonstrat that the London Plane trees will remain viable following the root pruning.

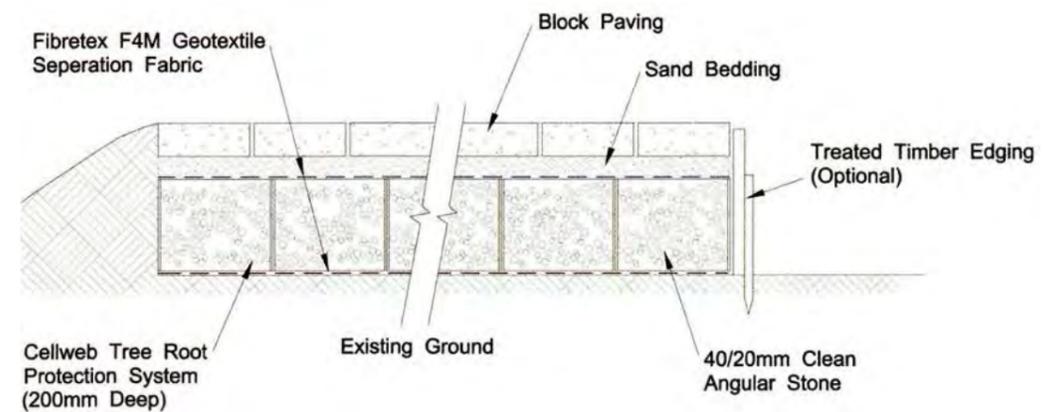
The logistics management of the site during the construction stage takes into consideration the exlcusion zone around the protected trees. Measures will be taken to ensure no undue loading is exerting on the root zones, and the canopies are protected from higher vehicles. Vehicle movement into and around the site will be responded to in the Construction and Arboricultural Method Statement.



Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

Construction tree protection measures



Construction tree root protection measures



View from the east path towards Memorial

4.3 SOUTH END OF SITE

4.3.1 Masterplan for the South End of Site

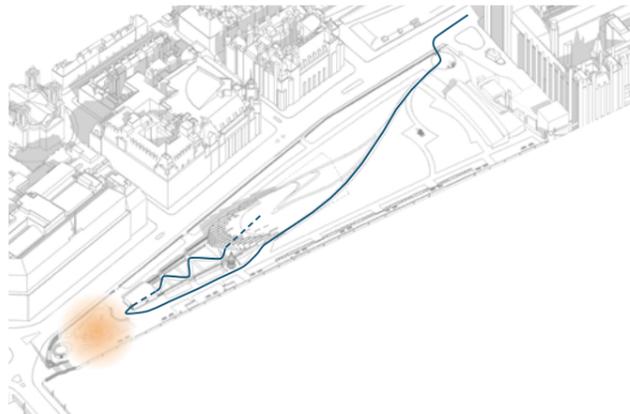
The retention of a play area at the south end of the site, where the current Playground is located, was one of the main considerations throughout the development of the masterplan and has determined, along with the tree roots and existing sewer at the north end of the site, the form and location of the current proposal.

Following the relocation of the Spicer Memorial at a suitable distance from the UK Holocaust Memorial & Learning Centre entrance, the playground will be redesigned; 100% of the current area will be retained, making a more efficient use of the space whilst simultaneously creating a more attractive play environment.

The new design takes inspiration from the existing play equipment and materials, and honours the playground's history, retaining the sandpit as the central element.

A new and improved Kiosk located at the southernmost end of the playground, housing a cafe and mechanical plant, is proposed to replace the existing kiosk. A covered seating area associated with the cafe is included as a break-out space for parents and children, where parents can keep an eye on their children with the Parliament in the background.

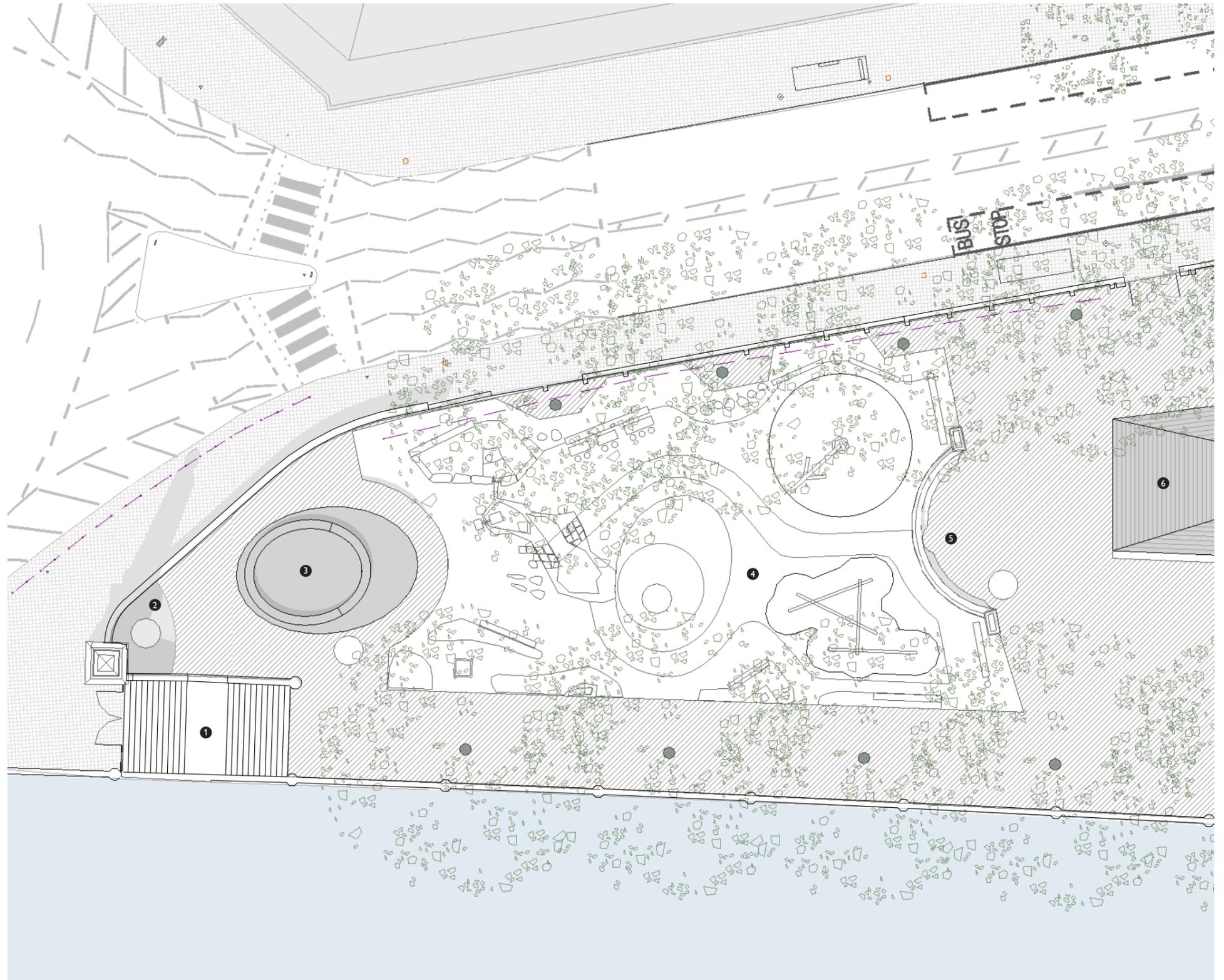
The positioning of the Kiosk, close to the existing retained public toilets and Royal Parks office/storage area, makes a more efficient use of this end of the site whilst the cafe and seating area bestows a more friendly and social atmosphere to this end of the site.



View of the South End of Site from the Listed Stairs



Images of current South End of Site and Playground



Masterplan for the South End of Site

KEY

- 1 Listed Stairs
- 2 Existing Toilets
- 3 Cafe and LC back-up generator Kiosk
- 4 Proposed Playground
- 5 Spicer Memorial
- 6 Entrance Pavilion

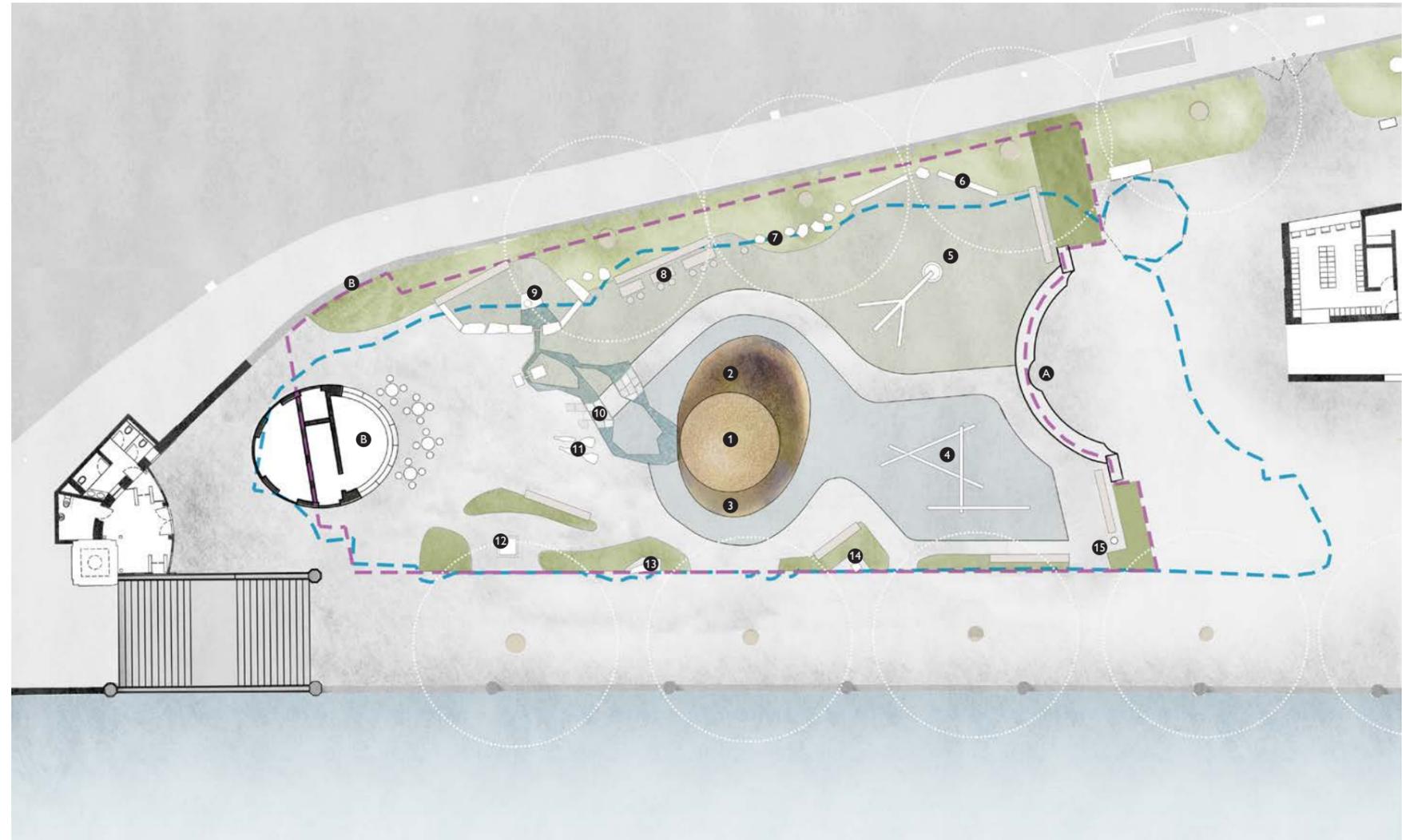
4.3.2 Playground

Henry Spicer's initiative and funding brought to life the original playground, a large sandpit. It is in honour of the site's history that the sandpit is kept as its central feature. The axis between the new café and the relocated Spicer Memorial and Parliament beyond is legible in features and movement: The bowl drops down to allow clear views across, the path moves in and out of the axis.

The boundary towards the Holocaust Memorial is continuous. The eastern playground boundary is permeable, drawing play visitors in along the Thames path. The existing playground is suitable for ages ranging from 2 to 12 years, and the upgraded facilities will also be designed for this age range. The scheme provides sand and waterplay, climbing, swinging, sliding, balancing and sensory and role play. Some of the existing equipment will be retained and new play elements added within an improved layout.

Materially, the scheme is inspired by its context, with an urban edge towards Millbank turning more natural underneath the large lime trees. A beautifully coloured concrete playable bowl surrounds the circular sandpit. Coloured concrete channels guide the water from its source between Portland quarry stones along carved stones (profiles reminiscent of Millbank buildings) to the edge of the bowl. Swing and seesaw are hardwood as are benches and tables.

Text from Erect Architecture, Playground Consultants



Proposed Playground plan

KEY

- Existing Playground Boundary (100%)
- Proposed Playground Boundary (100% retained)
- Bonded gravel
- Wetpour safety surfacing colour 1 (3 colour mix: sand, brown, green)
- Wetpour safety surfacing colour 2 (3 colour mix: sand, grey, blue)
- Timber benches with engraved historic snippets
- Riverine planting
- Woodland underplanting

- 1 Sandpit
- 2 Bowl lip for climbing and sliding; tinted concretes
- 3 Bowl mound for scrambling and sliding; tinted concrete
- 4 Interdependent seesaw; timber
- 5 Tyre swing; timber frame
- 6 Balancing beam; timber
- 7 Play boulders; natural rocks
- 8 Picnic tables and seats; timber
- 9 Waterplay with pump, two sluices and inground water channels; steel, tinted concrete, quarry rocks and carved stones
- 10 Stepping stone crossing
- 11 Horseferry play horses; carved timber
- 12 Dance chimes; metal
- 13 Xylophone; metal
- 14 Stone harp; stone
- 15 Relocated drinking fountain
- A Spicer Memorial, relocated
- B Cafe



Section through the proposed Playground



Materials of the proposed Playground

4.3.3 Cafe Kiosk

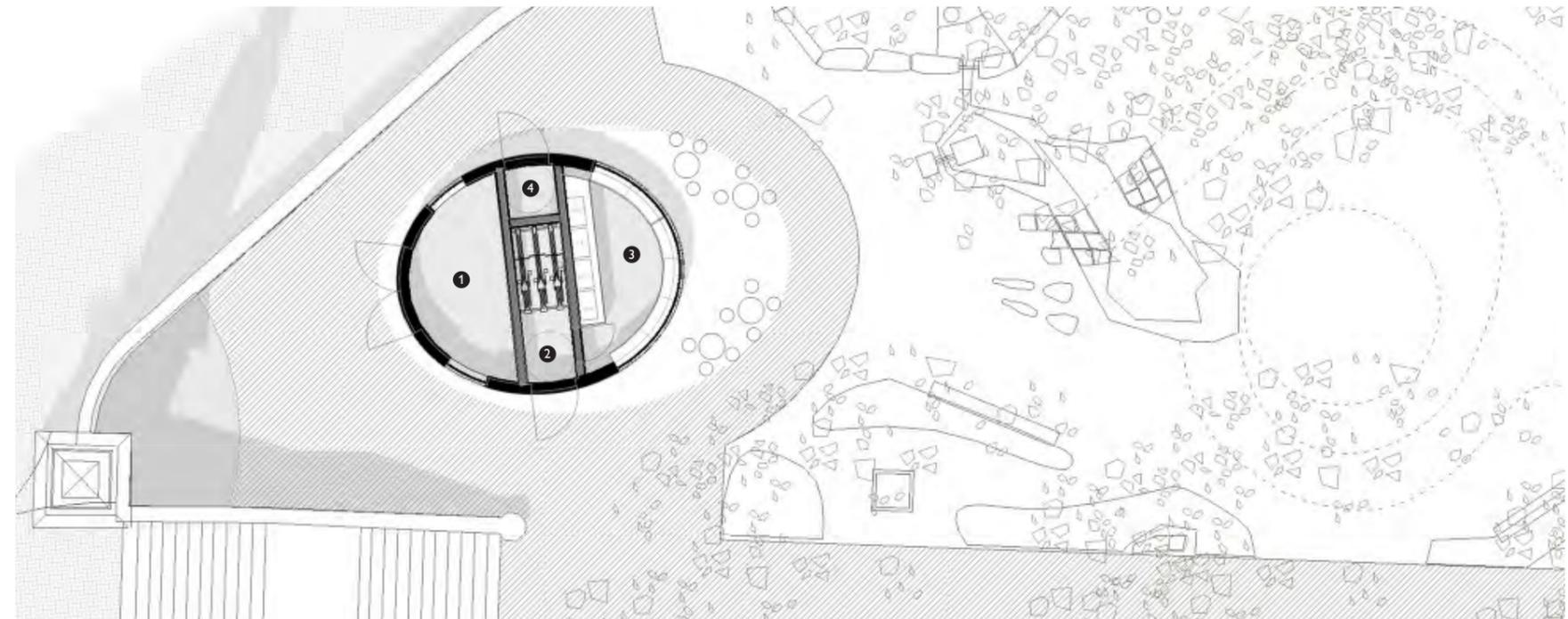
A new and improved Kiosk, housing a cafe and the UK Holocaust Memorial & Learning Centre back-up generator, is proposed to replace the existing kiosk and will be available to gardens' users and Memorial visitors.

The cafe faces the playground and will have similar functions as the existing kiosk, with an additional covered seating area where parents can keep an eye on their children, or enjoy the view to the Gardens with the Parliament in the background.

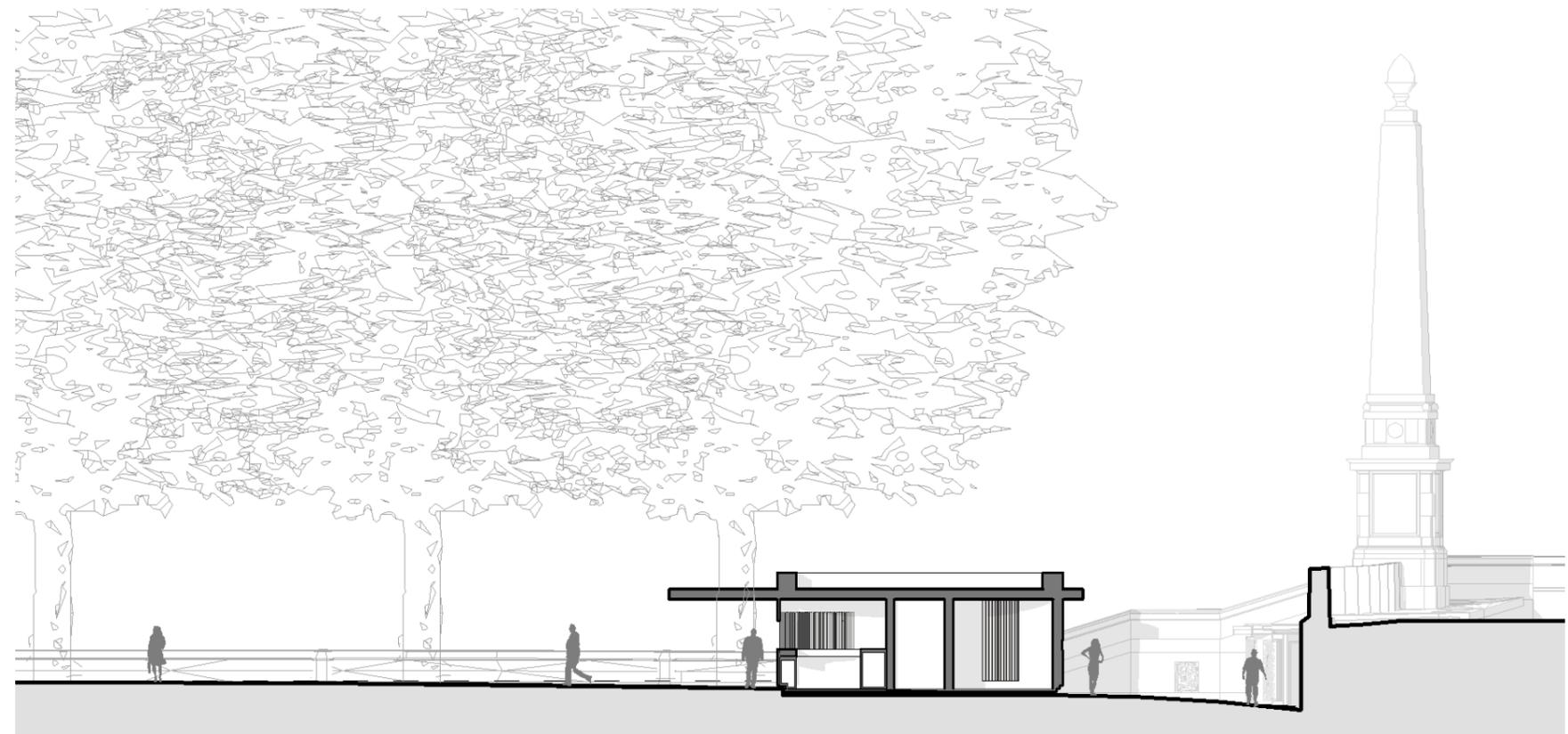
The southern half of the kiosk, facing the existing retained public toilets and Royal Parks office and storage areas, will house the back-up generator. This equipment will only function in case of a power shortage and will therefore not create any noise or environmental pollution.

KEY

- ❶ Back-up Generator room
- ❷ Bike storage for UK Memorial and Learning Centre staff
- ❸ Cafe
- ❹ Cafe bin store



Kiosk Plan



Kiosk Long Section

Precast dark grey concrete



Natural wood



Bronze



Materials of the Cafe



View of new Cafe Kiosk

4.4 ENTRANCE PAVILION

4.4.1 Research on Gateways in Architecture

Approaching the design of the entrance pavilion, we explored the spatial configurations that were restorative - open urban spaces typically use streets, colonnades and passages to engender emotional fulfilment within urban open spaces.

Exploring the history of gateways architecture, exposed the notion that these were fundamental properties of order and a core integration for locational, directional and transitional spatial experiences. Learning from historic precedents the Entrance Pavilion to the UK Holocaust Memorial and Learning Centre will offer the visitor the potential not only to resurrect their connectivity with the place, but also with their emotional state.



1
Certosa di Pavia - Italy
Entrance gateway begins to introduce a wider architectural language. Its robust character clearly denotes a change in atmosphere from outside to within.



2
The Gateway frames the monument beyond with the transitional space, providing a moment to pause and reflect before approaching the monument.



3
The pathway leading to the monument, defined by the planting elements either side, creates a focal point leading to the monument.



1
Taj Mahal - India
The gateway separates the monument from the outside space. The gateway defines a place for pause along the journey from the outside to the monument.



2
The gateway frames the monument, accentuating its geometrical symmetry and creating a point of focus. This engages the visitor emotionally, preparing them for the journey to the main monument.



3
Beyond the threshold the formal gardens define the journey from the threshold to the monument, with the monument as a focal point.



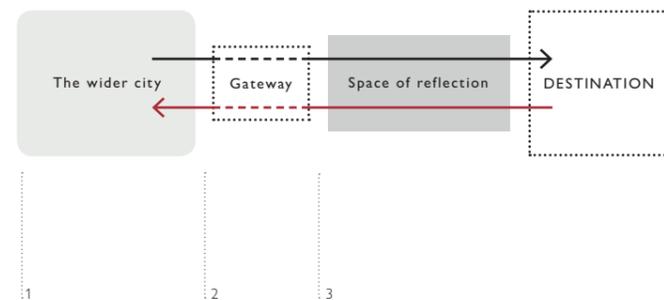
1
UK Holocaust Memorial and Learning Centre
A fortified gateway denotes entrance to a wider landscaped forecourt. Its key defining characteristic is its arch which offers glimpses through to the house beyond.



2
The deep reveal of the entrance acts as a point of enclosure, between two expansive spaces. Its depth exaggerates this differences in atmosphere between inside and outside spaces.



3
Beyond the threshold the enclosed space is surrounded by manicured planting that defines and atmosphere of quiet contemplation for the visitor.



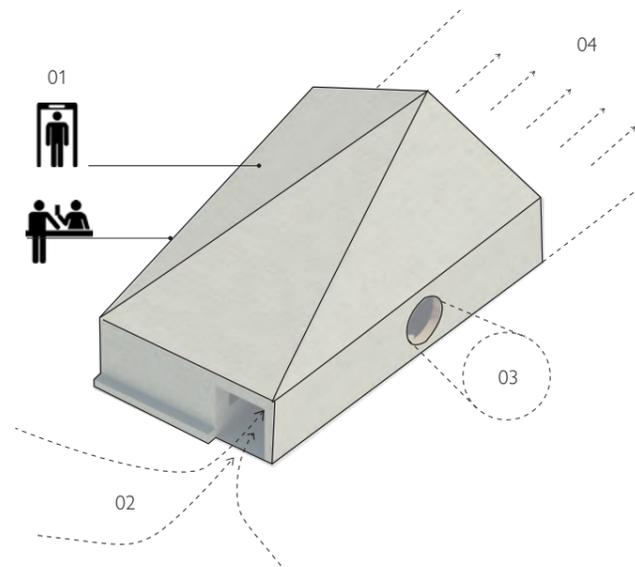
4.4.2 Detailing and references to the context

The Entrance Pavilion design approach draws its fundamental shapes from the monumental architectural creations situated within the surroundings of Victoria Tower Gardens:

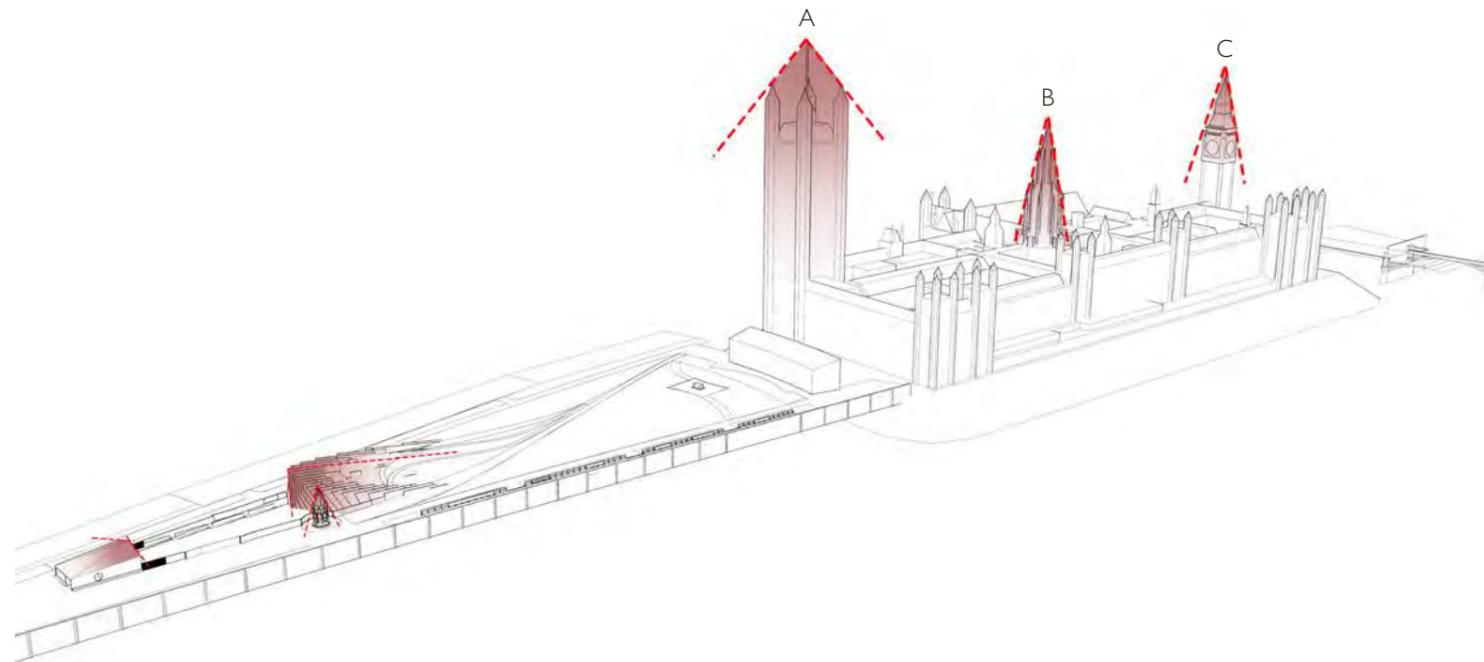
- the pointed Perpendicular Gothic style and symmetrical layout of the Palace of Westminster;
- the clear multitude of complex triangles and circles found in Westminster Abbey;
- the proximity with the Buxton Memorial Fountain and its elaborate neo-Gothic style.

An analysis of the architectural shapes and forms of these case studies presented a clear multitude of complex triangles and circles that found their manifestation in the new Entrance Pavilion design- the shape of the roof and the space it covers, the large round window that offers views to the River Thames, the strategic openings that frame the key views of Victoria Tower Gardens.

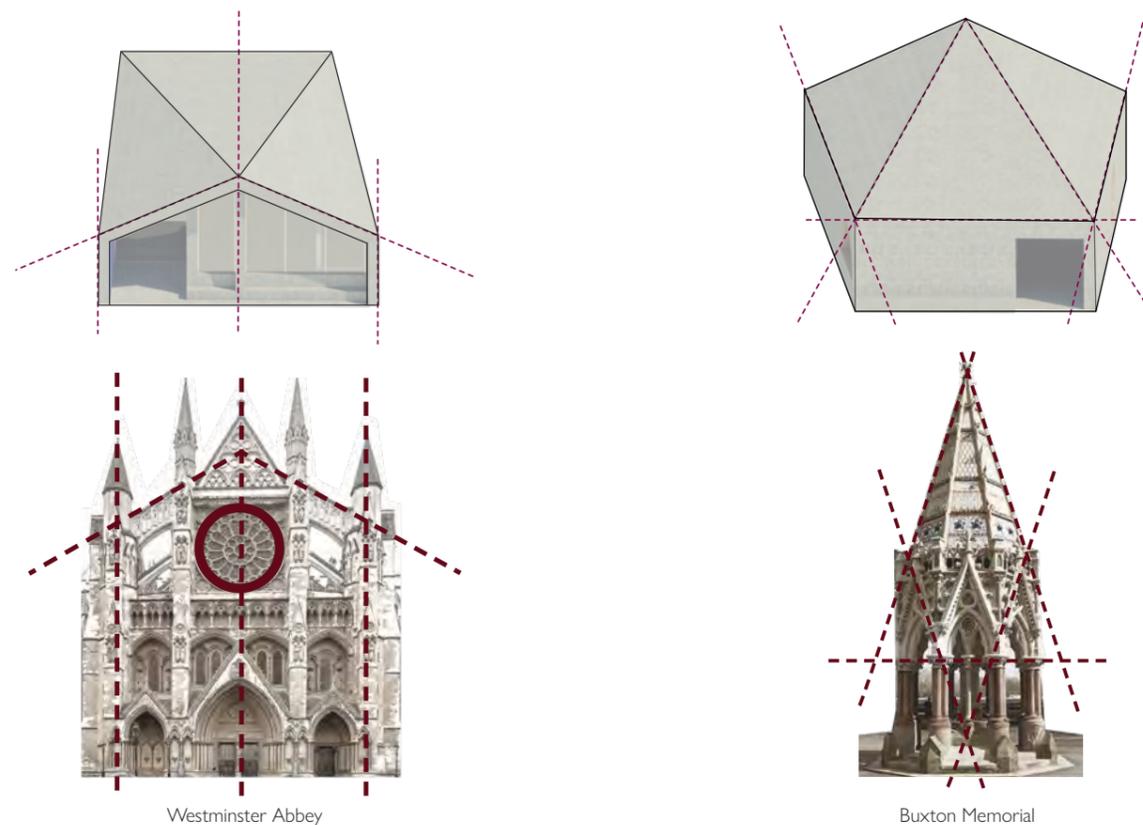
The shape of the pavilion and its roof creates a sense of arrival and direction, initiating the journey towards the memorial bronze fins.



- 01 Ticketing and Security
- 02 A sense of arrival
- 03 Framed views
- 04 A sense of direction



Diagrams showing Proposed Scheme geometrical reference to historic surroundings



Westminster Abbey

Buxton Memorial

Diagrams showing Entrance Pavilion geometric principles reference to historic surroundings



A - Victoria Tower Close-Up



A - Victoria Tower



B - Central Tower



C - Elizabeth Tower

4.4.3 Design approach

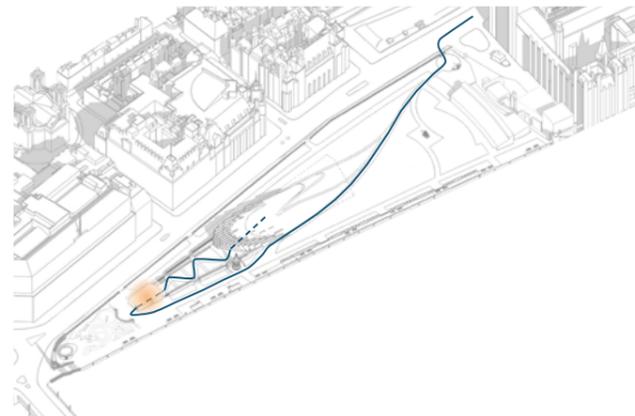
The high security demands within Westminster and indeed the nature of the new space being proposed in Victoria Tower Gardens required the team to rethink and develop the safety and security requirements in great detail. This resulted in a fundamental shift in mindset, as the Memorial and Learning Centre would no longer be freely accessible through Victoria Tower Gardens as visitors (and their bags) must be scanned and checked above ground, and in a location that is separate from the Memorial itself.

This problem, nonetheless, provided an opportunity for the team to seek an alternative, highly sensitive solution through the creation of a 'garden within a garden' with a clear beginning, middle and end and with an Entrance Pavilion, to perform these functions, away from the Memorial.

As one of the most important British Memorials to be built in the 21st Century and also due to the sensitive nature of the Memorial's subject matter, it was decided that it was of the utmost importance that the security process must not be perceived as such to visitors. The visitor entrance must not simply be a 'security kiosk'; visitors must have a seamless arrival and ticket check experience as well as a Memorial and Learning Centre exploration.

A key element of our design approach for the Entrance Pavilion was to explore a spatial configuration that conveys a sense of a pavilion within a garden, which separates the visitor from the outside world and that funnels their focus to thought and reflection - a way to announce and prepare the visitor for the next stage of his or her Memorial experience. A moment of contemplation as they view the dedication text within and gaze out upon the Memorial Courtyard and towards the Memorial fins that will lead them into the Learning Centre below - whilst Parliament reigns omnipresent in their vista as a beacon of tolerance and democracy.

The one-story pavilion has been designed to take into consideration the immediate context - its scale is the smallest possible to enable the required security programme and areas, its materials and shape take their reference from the immediate context.



View to the Entrance Pavilion

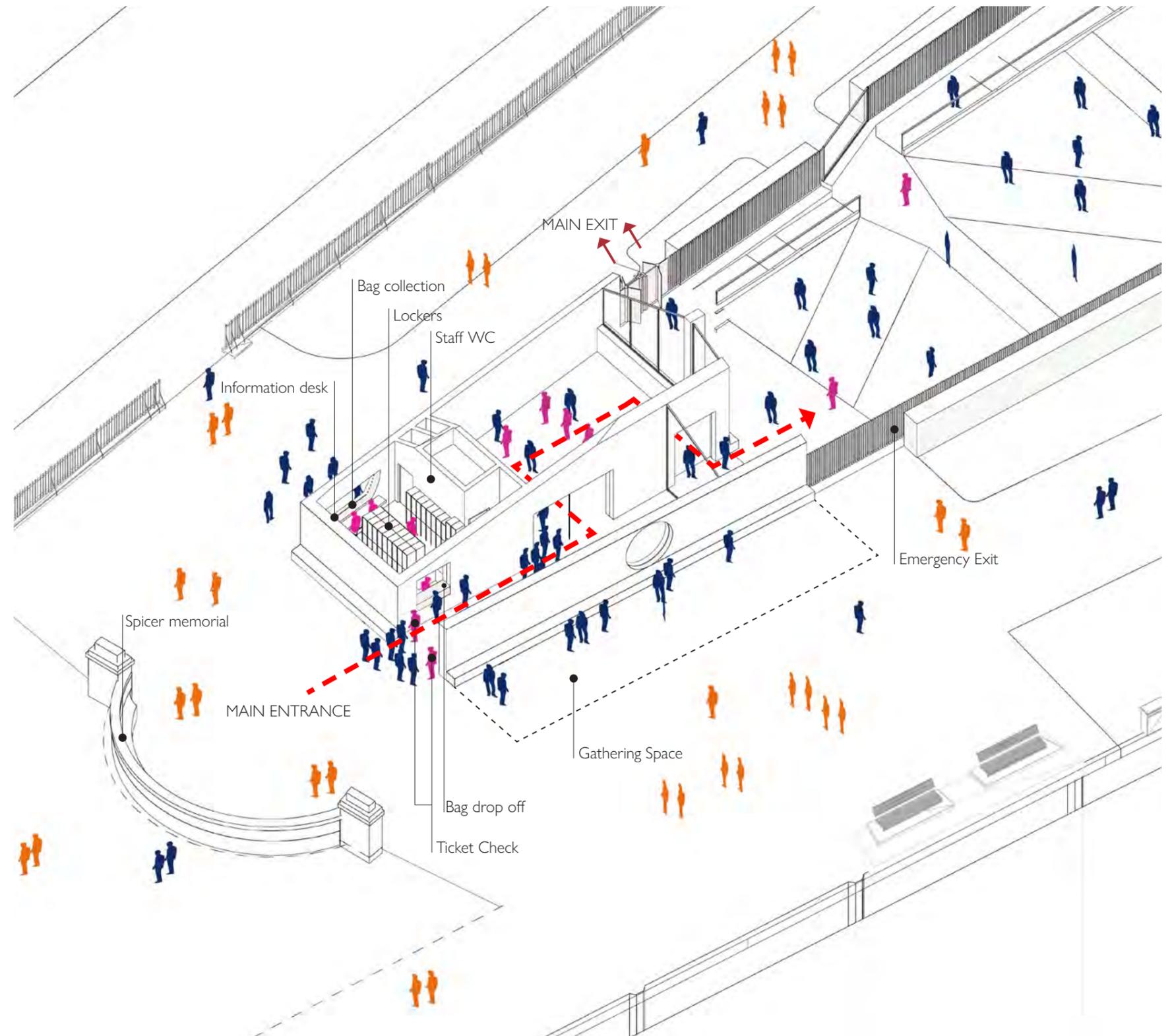
4.4.4 Building Organisation

The Entrance Pavilion, located at the south end of the site, sets back a sufficient distance from the relocated Spicer Memorial to enable an adequate entrance area that would accommodate the Memorial visitors' entrance whilst simultaneously retaining the existing path widths clear for normal gardens users.

The small pavilion incorporates a covered entrance at the east side, where tickets will be checked, that creates a visual link to the Memorial. This space connects directly to the security area where small bags will be checked. The locker area includes two windows, one facing the covered entrance for a bag drop off desk and a second window facing Millbank providing information and bag collection points.

The proposal identifies a dedicated gathering area on the east side of the Entrance Pavilion where a long bench invites NHM visitors to sit or gather without disturbing the normal gardens users' movements.

Please refer to Visitor Management Strategy document included in this Application for Planning Permission and Listed Building Consent for more detailed information on ticketing strategy.



Entrance Pavilion Axo

KEY

- Gardens Users
- Memorial Visitors
- Memorial Staff
- Route inside the Entrance Pavilion

4.4.5 Materials

The material palette used seeks to reinforce the building's relationship with the surrounding area, whilst also taking into consideration technical requirements and the ageing of materials. Therefore, the chosen material is intended to be durable and convey a sense of permanence.

Following these principles and understanding the importance of detail, high-quality materials would be used. Grey stone slabs with expressed joints are proposed for the exterior facade of the Entrance Pavilion - taking as reference the existing dark slate roofing of the buildings in the vicinity and the darkened and weathered look of the surrounding stone buildings. Dark stone will blend with the background and, along with the cast bronze fins, will ensure a toned-down colour scheme as the mood for the proposal, allowing the Parliament in the background to continue to shine as the predominant feature.

Bronze metalwork will be used for the window frames in the polygonal openings, subtly beckoning to the powerful cast bronze of the Memorial Fins.

As the visitors make their way through the Entrance Pavilion, they will be immersed in bright blue colour - in Judaism blue is used to symbolise divinity, because blue is the colour of the sky and sea. It can also represent equilibrium, since its hue suggests a shade midway between white and black, day and night.

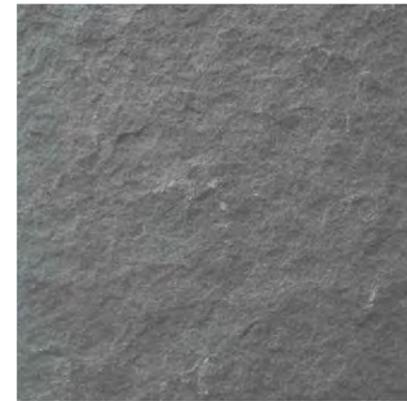
In the Torah the Israelites are commanded to dye one of the threads of their tallit (prayer shawl) with tekhelet (lighter blue); when they look at this dye they will think of the blue sky, and of the God above them in Heaven. Tekhelet corresponds to the colour of the divine revelation. Blue in Judaism has thus had an important significance throughout the history of Jewish culture up to the present.

Visitors will have a moment of contemplation as they view the dedication text within the blue setting of the Entrance Pavilion and gaze out upon the Memorial Courtyard and towards The Memorial that will lead them into the Learning Centre below.

Final choice of materials and colours is yet to be decided, and samples will be submitted.



Detail of existing dark stone roofing in the vicinities



Gray stone



Bronze



Blue



Engraved text



Tallit - prayer shawl



View from the Entrance Pavilion looking at Courtyard and Memorial Fins



View to the Entrance Pavilion and the hedge

4.5 THE MEMORIAL COURTYARD

4.5.1 Enclosed garden; the 'Hortus Conclusus'

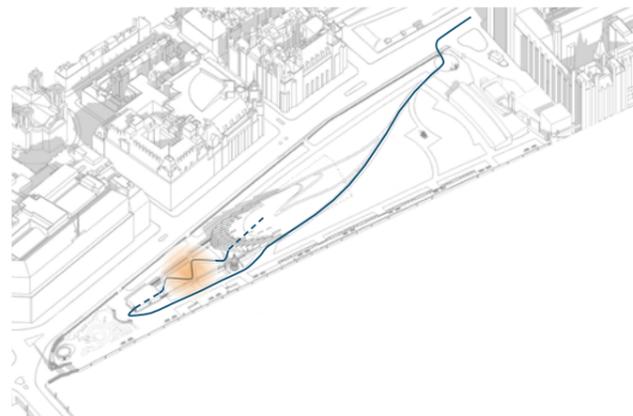
The Latin term Hortus Conclusus, a genre of a garden that was enclosed both symbolically and as a practical concern, is a major theme in the history of gardening - Medieval gardens were enclosed, protecting the private precinct from public intrusion, whether by folk or by stray animals. The origin of the cloister is in the Roman colonnaded peristyle, and the Farnese Gardens ("Gardens of Farnese upon the Palatine") that were created in 1550 on Rome's northern Palatine Hill and through the age of the automobile, the enclosed garden that had never disappeared in Islamic garden traditions, became an emblem of serenity and privacy in the Western world.

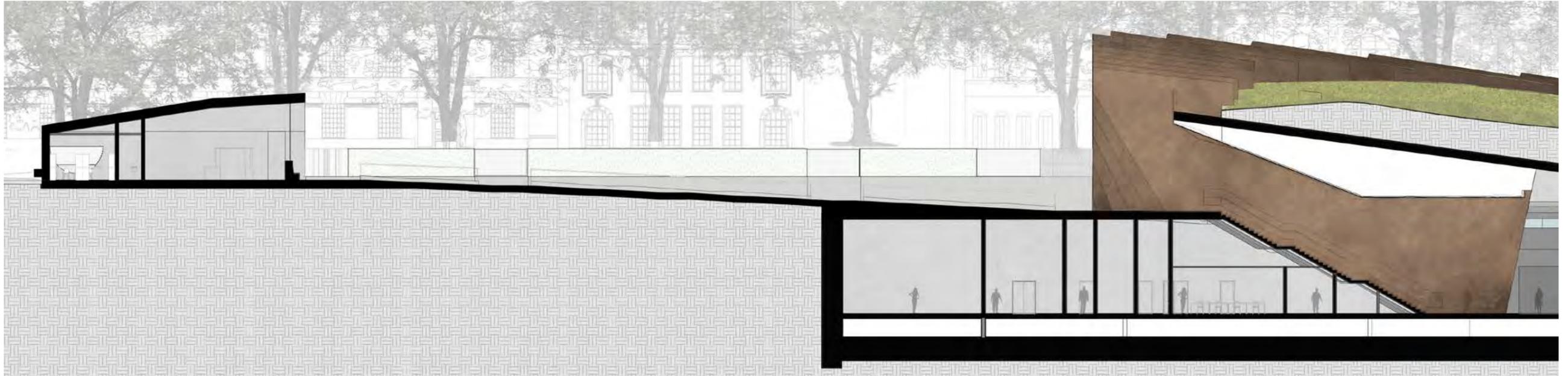
All gardens are by definition enclosed or bounded spaces, but the enclosure may be somewhat open, and consist of columns, low hedges or fences. An actual walled garden, literally surrounded by a wall, is a subset of gardens. The meaning of hortus conclusus suggests a more private style of garden.

This creates a meditative interior space for the Holocaust Memorial and Learning Centre visitors that looks inwards onto a crucial part of the history of the world- the Holocaust. This enclosed garden invites us to experience a place of peace, tranquillity and safety, a place for contemplation, as one enters or concludes.

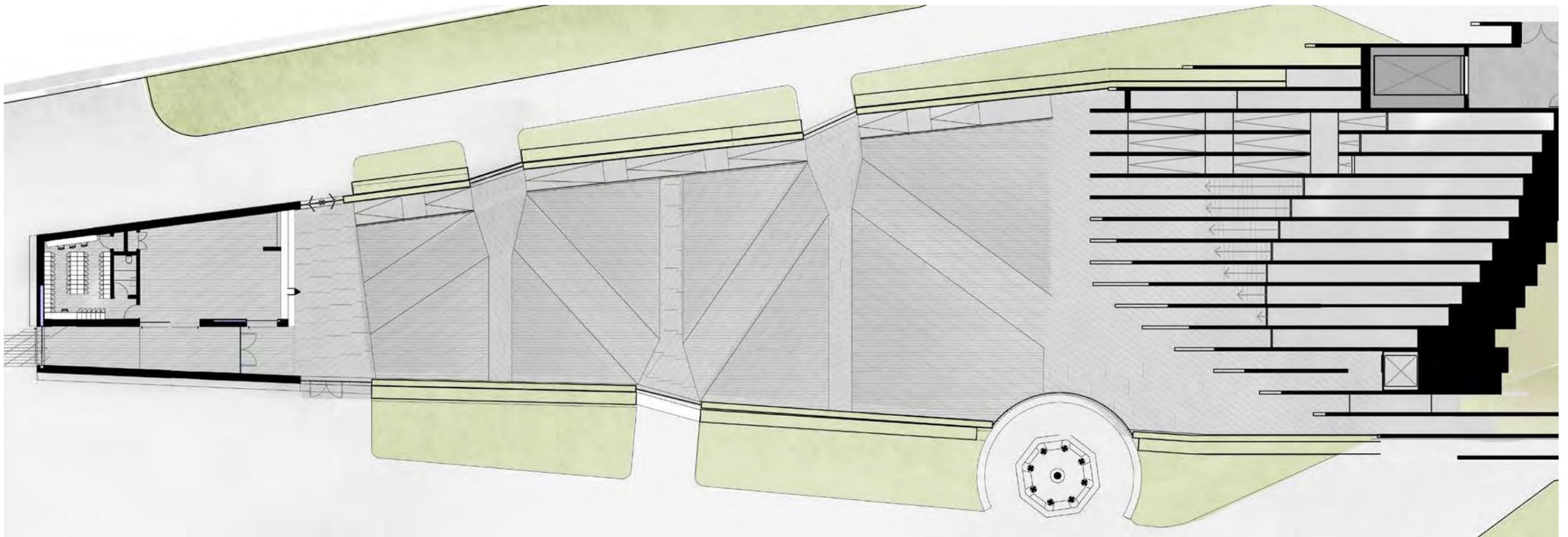


Jardin du Palais Royal, Paris





Learning Centre Section



Learning Centre Floor Plan

4.5.2 Design Overview

The Memorial Courtyard was designed as a unique, contemplative space that defines the relationship between the Entrance Pavilion, the Memorial and Learning Centre - a garden within Victoria Tower Gardens. Its positioning and design create an environment where visitors can linger, with a landscape that offers a place of calm reflection before breaching the looming fins and down into the Learning Centre.

The courtyard provides a flexible outdoor space for formal and informal ceremonies, services and other reverent gatherings.

The view over the Memorial and its bronze fins enables a unique opportunity for a first view of the journey ahead. The Memorial entrance, as shown in these pages, is surrounded by the gardens and, in the background, the monumental Houses of Parliament.



View from the Courtyard looking South at the Entrance Pavilion

4.5.3 The Memorial Courtyard and Movement

The length of the courtyard is minimised through diagonal level paths. This approach is universal in allowing the visitors to choose their route, but they are encouraged to traverse the courtyard. Seating will be provided to support visitors of all age profiles, and encourage pausing, lingering, contemplation.

Accessibility

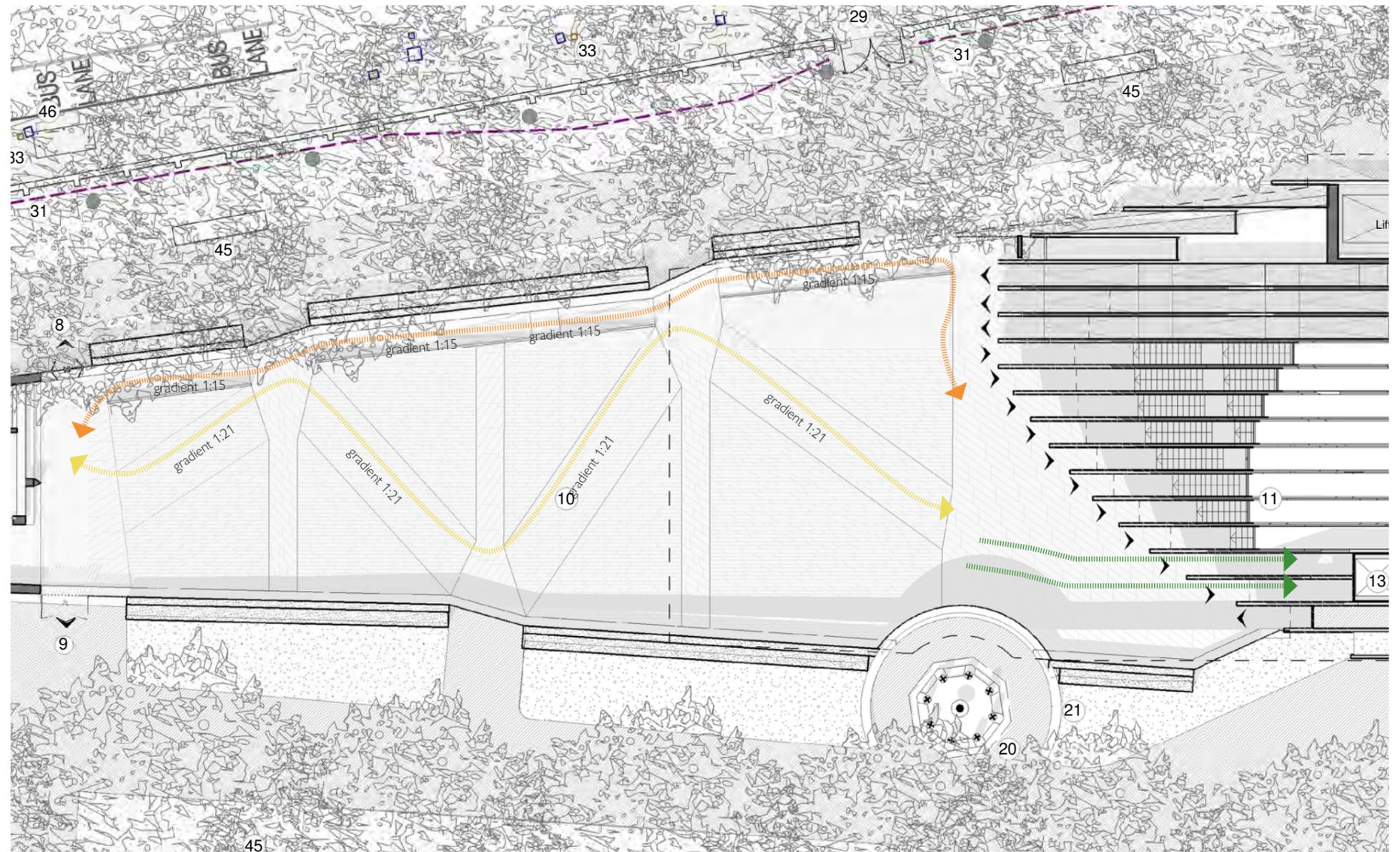
The Memorial Courtyard is designed as a contemplative gently-sloping terrace that addresses the 2m change in level between the Entrance Pavilion and The Memorial.

There are two step-free routes through the courtyard:

- one zig-zag gentle slope of gradient 1:21
- a straight ramp on the west side of the site of gradient 1:15 with flights of maximum 5m going.

This enables visitors to have a choice to either use a ramp with handrails and a shorter route, or a longer gentle slope without handrails.

Due to the different gradients that comprise the courtyard, there will be a tapered step on each landing of the gentle slope. Careful consideration will be made to provide suitable visual warning to prevent people tripping on the step.



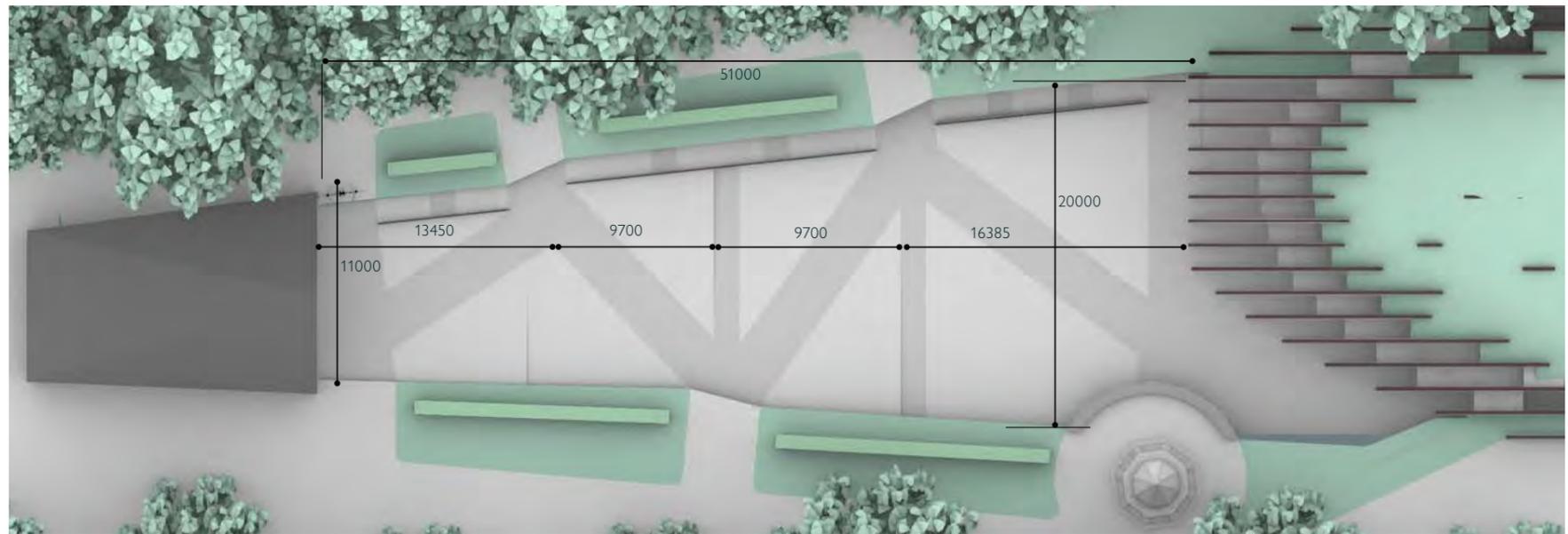
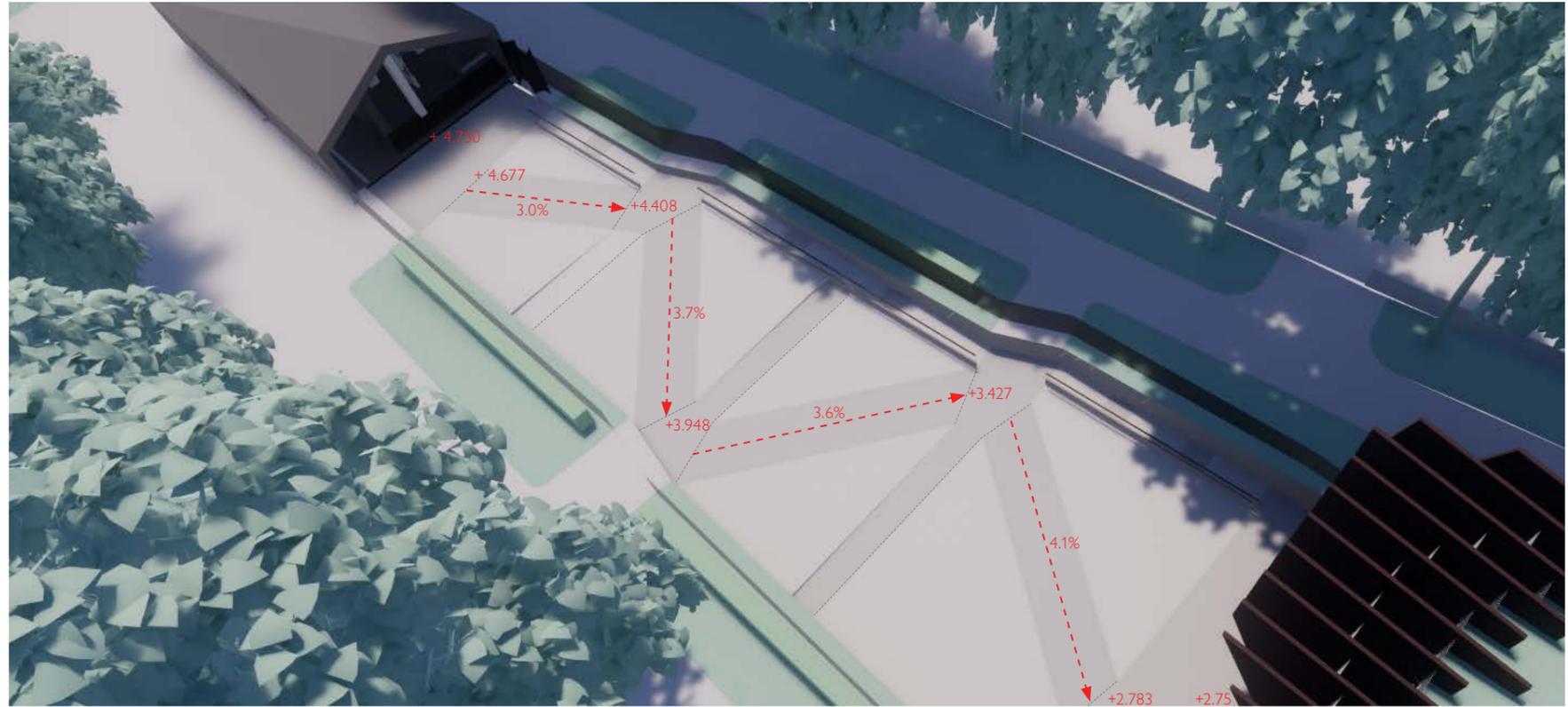
Courtyard plan showing accessible routes

KEY

- - - - - Fast Access Route to Memorial accessible to disabled (1:15)
- - - - - Contemplative Access Route to Memorial accessible to disabled (1:21)
- - - - - Entrance Route

The strategy for managing visitor numbers to the Memorial and Learning Centre requires controlled entrance through an Entrance Pavilion to the south end of Victoria Tower Garden. It is proposed to soften the perimeter between this entrance landscape and the wider park through a series of deeply planted beds between the paths and the perimeter railing. These will enhance the park routes while offering glimpses into the Memorial courtyard.

The journey to the Memorial, which began at the entrance to the park, ends at the entrance courtyard. The space is defined as a series of gently sloping terraces, framed on either side by the perimeter walls, planting and railing. As the visitor descends their focus moves away from the surrounding park, and towards the Memorial. Moving below ground level, the courtyard buffers the sounds of Millbank, and creates a contemplative atmosphere.





View from the Courtyard looking north towards the Memorial

4.5.4 Materials

The Memorial Courtyard is designed to be paved with grey stone, creating a visual continuity from the Entrance Pavilion; the stone will flow seamlessly from the walls of the Pavilion to the courtyard floor and up the retaining walls.

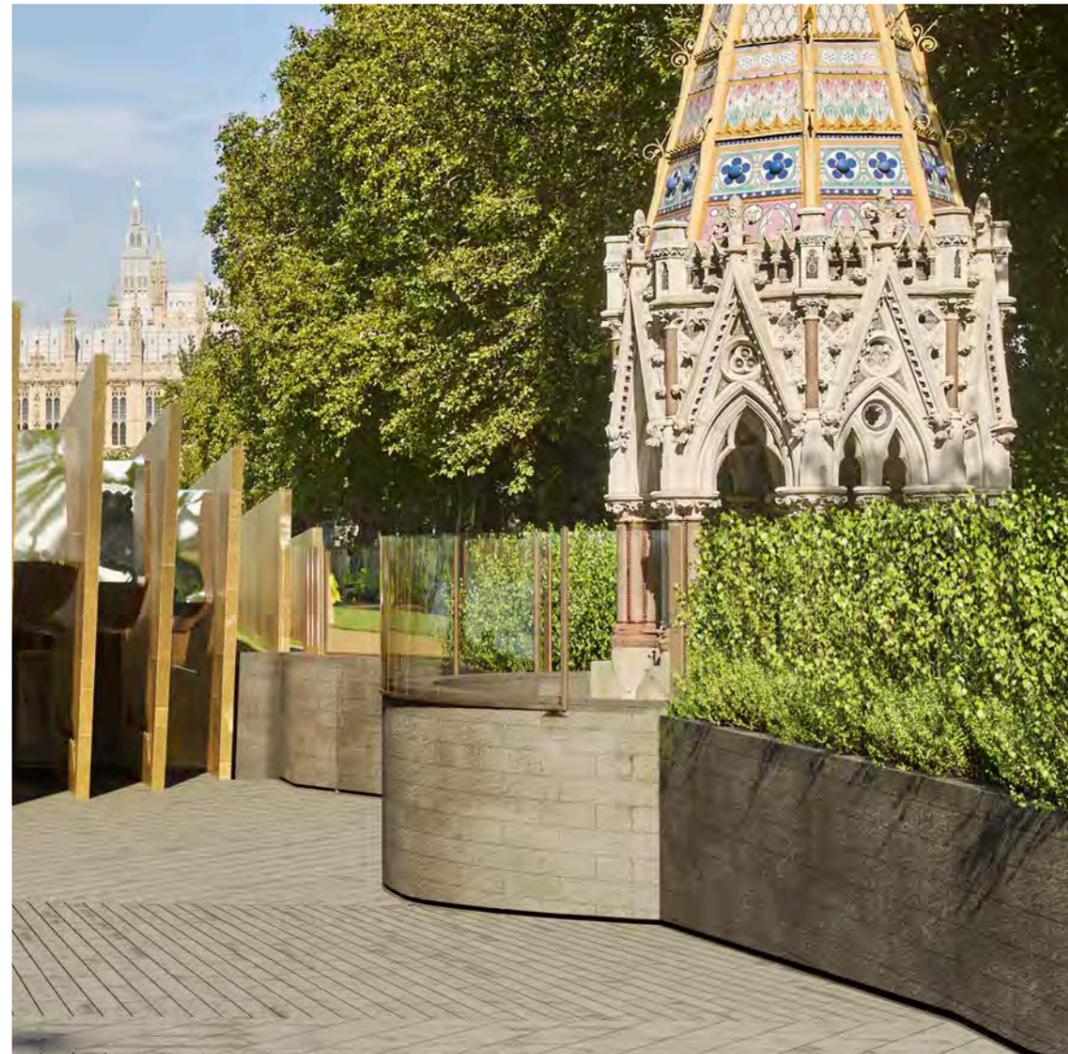
The diagonal route through the courtyard, the most comfortable, shallow approach, will be defined through a different pattern of stone slabs.

The level landings between the terraces will be paved in a lighter stone, providing the sufficient contrast to make visitors aware of the level difference.

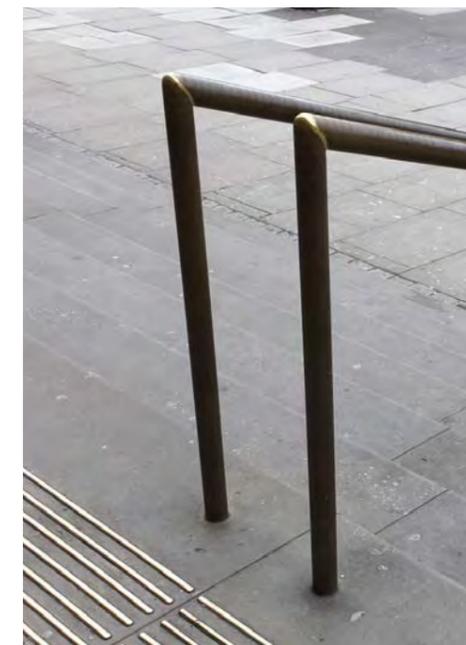
The surface of the ground plane moves unbroken from the courtyard and the fins of the Memorial. This reinforces the character of the fins as external sculptural forms, belonging to the gardens landscape and independent of the Learning Centre below.

Soft landscaping is being developed in the next stage within the courtyard space, in order to achieve a more significant relationship to the gardens and create a deeper sense of a "garden within a garden".

Final choice of materials and colours is yet to be decided, and samples will be submitted.



Detail of Courtyard



Bronze handrail



Perimeter railing



Hedge fencing



Grey stone

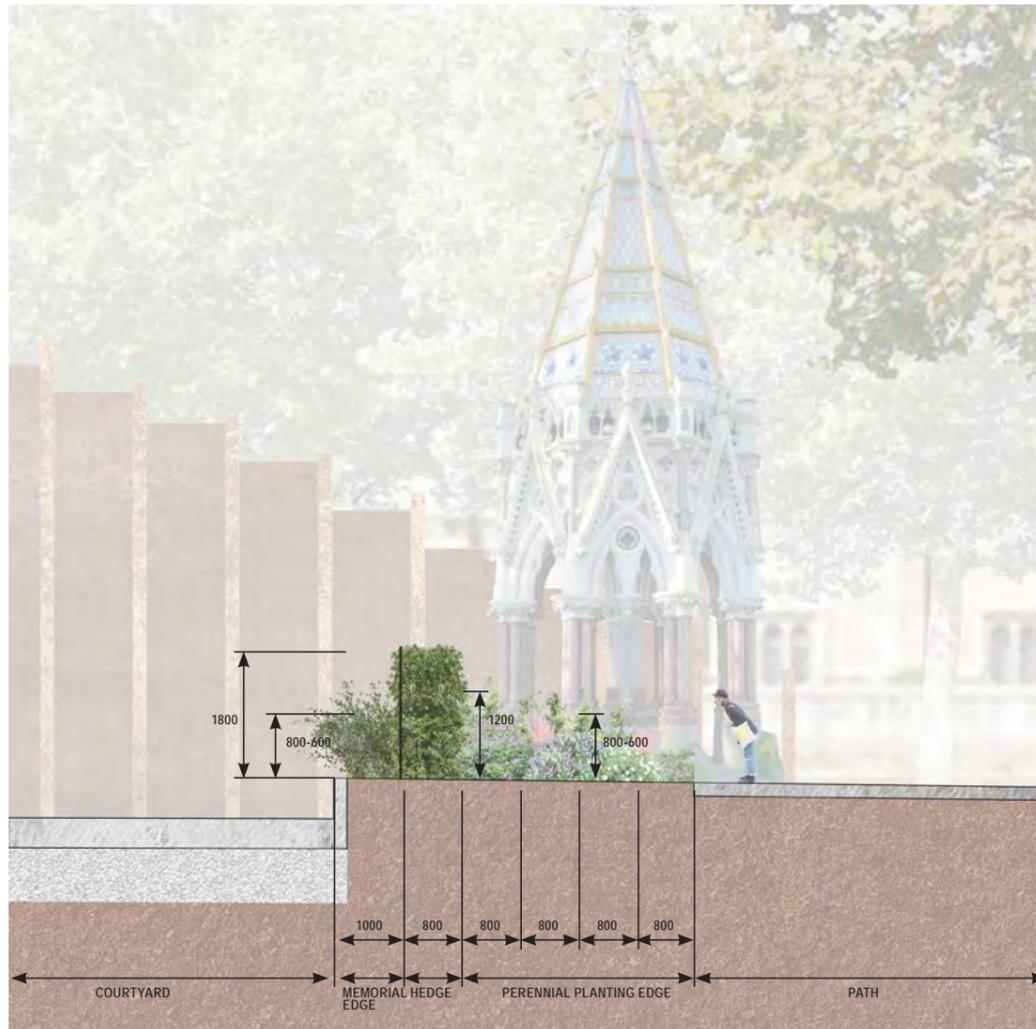


View to the East Courtyard perimeter

4.5.5 Courtyard Edge

The perimeter between the gardens and courtyard is defined primarily as part of Victoria Tower Gardens, with layers of planting and hedges providing interest and character to those passing along the perimeter pathway. The planting height steps up towards the boundary railing, reducing its impact, and creating a natural backdrop when viewed from the courtyard. Internally the planting is more controlled and creates a different landscape character appropriate to the Memorial's context.

The hedge that defines the memorial courtyard simultaneously acts as a security fence as it conceals a barrier within. The edge condition materializes into glass viewpoints at diverse points of the Courtyard Perimeter to allow views in and out, and vertical steel rods at the interfaces with The Memorial and the Entrance Pavilion.



Understorey Planting

The two lines of existing mature plane trees create considerable shade along both sides of the gardens. These two zones are where the majority of planting is currently found. The existing dense shrub planting provides a good buffer both visually and acoustically to Millbank. It is proposed to maintain this structure but introduce additional planting with more character and flowering potential.

This is an unoccupied zone, always at a distance to the gardens visitors. Providing strong, evergreen backdrops frames the paths around the gardens, and ensures year-round interest. The darker foliage will also provide a strong contrast to any flowering plants to the front.



Camellia 'Cornish Snow'



Viburnum opulus



Stewartia pseudocamellia



Viburnum sargentii 'Onodaga'



Sarcococca confusa



Llex aquifolium

Perennial Planting

Along the path edge, it is proposed to introduce a deep band of perennial planting. This would be selected appropriate to the shady site conditions. The continuity of this band reinforces the importance of the path circuit connecting all parts of the gardens. The planting palette is gardens-orientated and for the enjoyment of the visitors to Victoria Tower Gardens.



Spring / Summer



Tiarella cordifolia



Narcissus



Galium odoratum



Camassia caerulea



Stellaria holostea



Leucojum



Anthriscus sylvestris



Anemone nemorosa



Hyacinthoides non-scripta

Courtyard Planting

Within the heart of the Memorial entrance courtyard there will always be an awareness of the Memorial's location, with the backdrop of the Palace of Westminster and Victoria Tower. The strength of this conceptual context requires a simple palette of planting along both sides of the courtyard. The loose perimeter hedge separates the visitor from the gardens-goer in an informal, relaxed manner.

These edges will also soften the boundary railing interface but will also allow a special character to be developed, aligned with the subject of the Memorial itself.

While the courtyard will be quite shady in the summer months, in winter it is expected to be considerably brighter. As Holocaust Memorial day falls in January, it is appropriate to consider a palette of plants which will bring interest and character into the landscape at this time of year.



Perennials



Galanthus nivalis



Helleborus niger



Cyclamen 'White Miracle'

Shrubs



Daphne



Viburnum

Hedge



Pittosporum hedge

4.6 THE MEMORIAL

Introduction

The UK Holocaust Memorial is a planned memorial to the victims of the Holocaust that is intended to be built in the southern part of Victoria Tower Gardens, close to the Houses of Parliament in the centre of London. The Memorial honours victims and survivors of events now reaching the edge of living memory. It evokes shared experiences which defy abstraction or simplification, but must also be inclusive, relevant and resonant with a broader and younger audience.

This section describes the processes and details with which the design for the Memorial has evolved from competition stage and through design development to its current state.

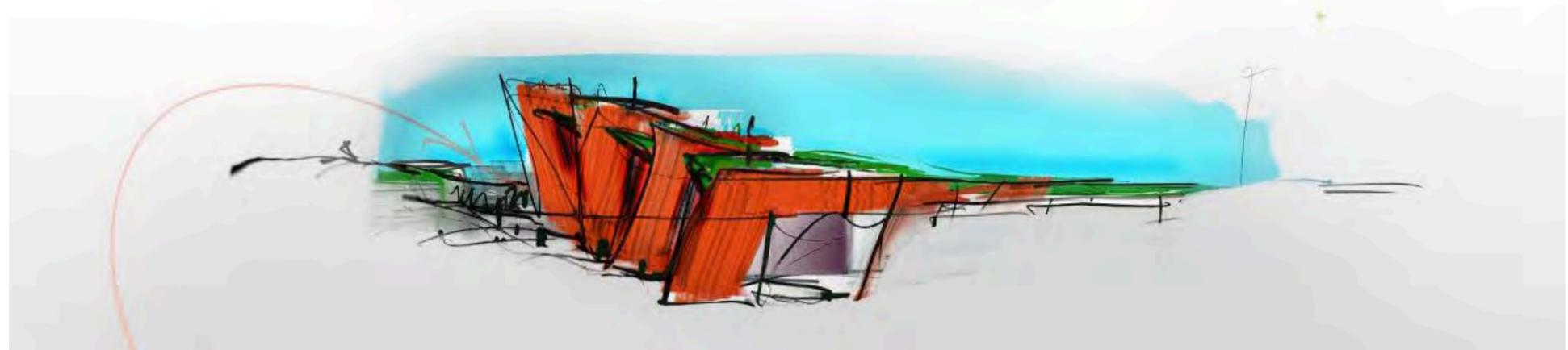
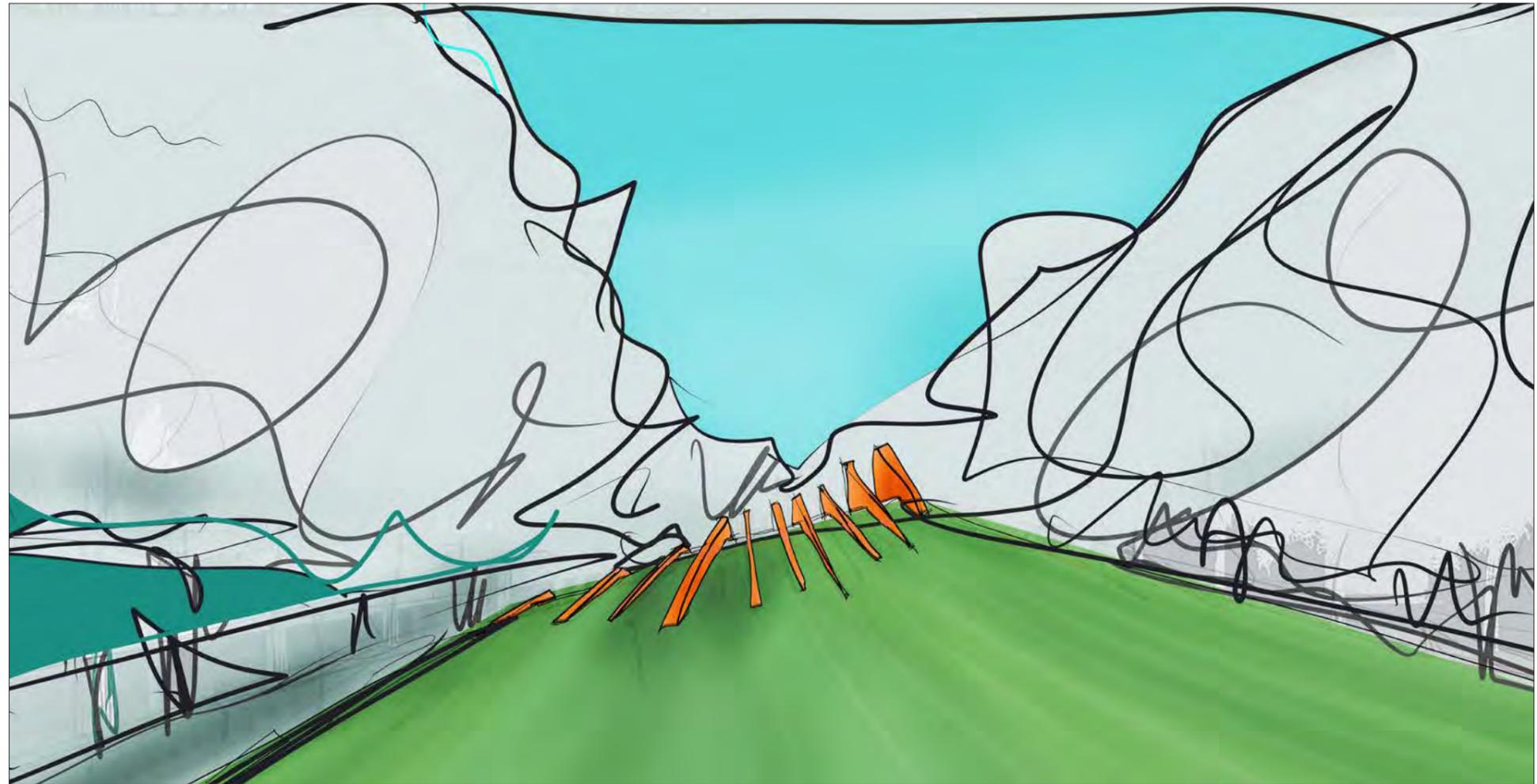


4.6.1 Design Overview

Following on from the competition winning announcement on 24th October 2017, the team has been developing the larger project from its conceptual roots towards a more detailed, refined and mature scheme.

The Memorial, designed by Ron Arad Architects, largely remains visually unchanged from its arrangement during the competition stage but has, however, benefited from in-depth exploration and testing of its materials, and its dimensional, structural, and interface characteristics.

The Memorial comprises 23 patinated bronze walls, which appear to hold aloft a gentle hill, gradually rising from the existing level of the gardens to the north. These inscribe 22 ravine-like pathways representing the number of countries in which Jewish communities were destroyed during the Holocaust. These now frame a more diverse set of uses which respond to the needs of the site at large, and the access to and from the Threshold space and Learning Centre below.



Sketches by Ron Arad - November 2016

The various pathways offer visitors of differing physical abilities the opportunity to experience the Memorial comfortably and safely. Most are retained as staircases, some are allocated to a fully accessible lift route, three are retained for ramped egress from the Learning Centre below, and others for miscellaneous uses including auxiliary circulation within the gardens.

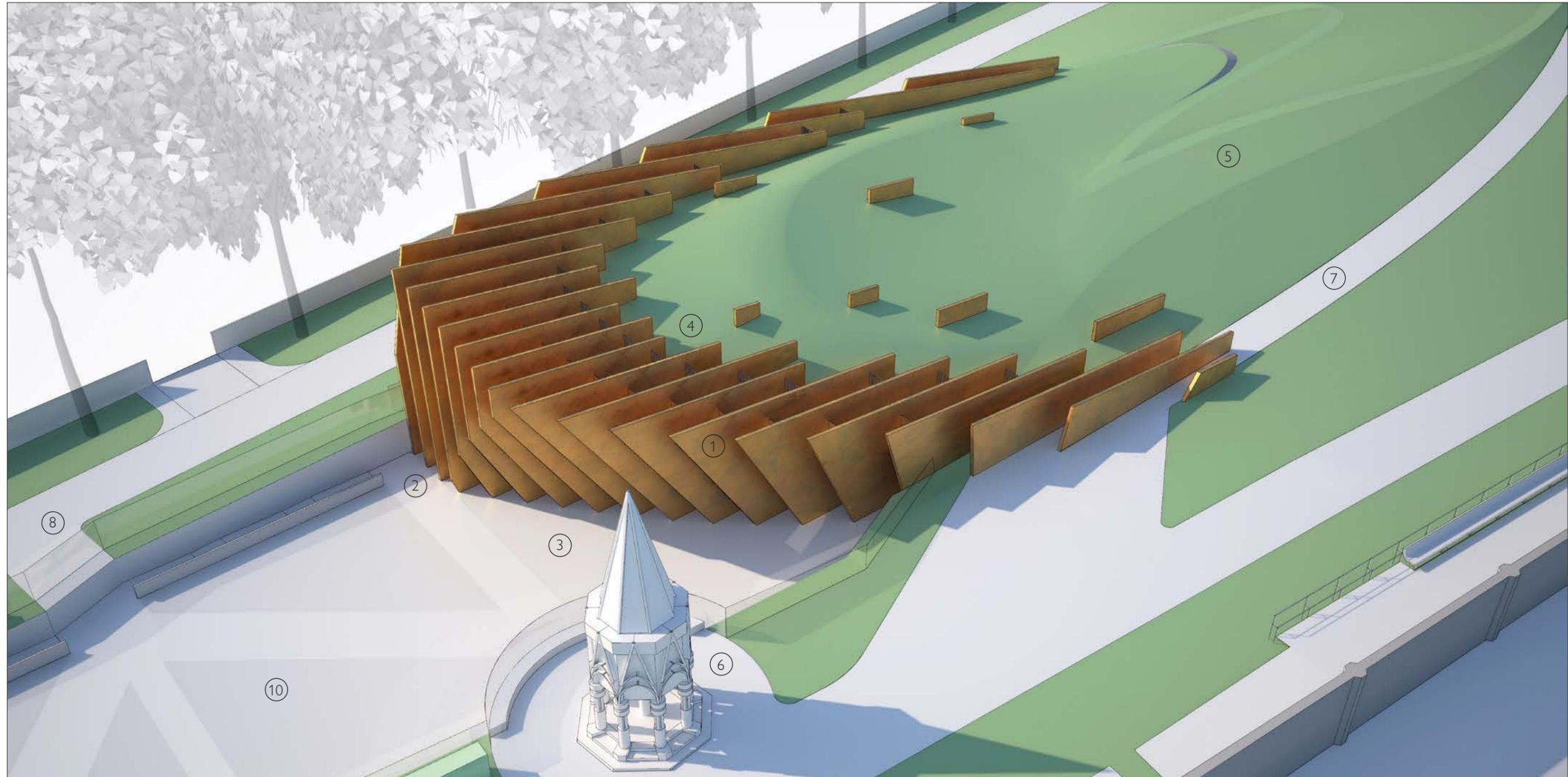
All accessible paths culminate in the Threshold space which serves as a place of contemplation and transition into the Learning Centre, but also a generous hall from which to experience the Memorial from within.

The following pages will expand on the various aspects of the Memorial, as they have been developed by Ron Arad Architects in the course of recent months.

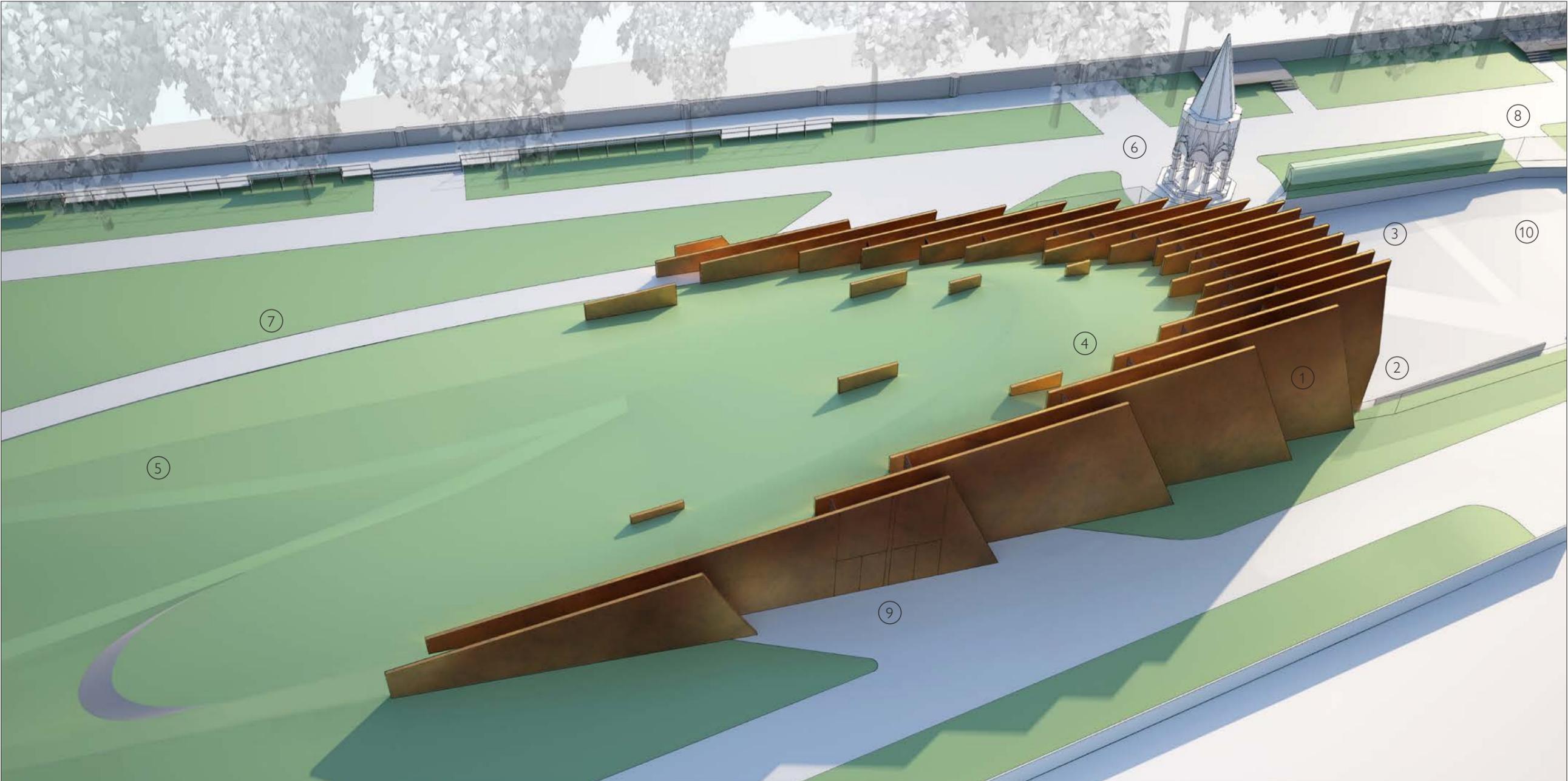


Sketches by Ron Arad - November 2016

4.6.2 External Appearance



- | | | | | |
|-----------------------------|----------------------------------|--------------------------|-------------------------------|--|
| ① 23 No. Memorial Fins | ③ Courtyard - Memorial Entrances | ⑤ Paths up to 'clearing' | ⑦ Memorial Path | ⑨ Concealed services entry & fire exit |
| ② Courtyard - Memorial Exit | ④ Hill-top security barriers | ⑥ The Buxton Memorial | ⑧ Courtyard Perimeter Barrier | ⑩ Sunken courtyard space |



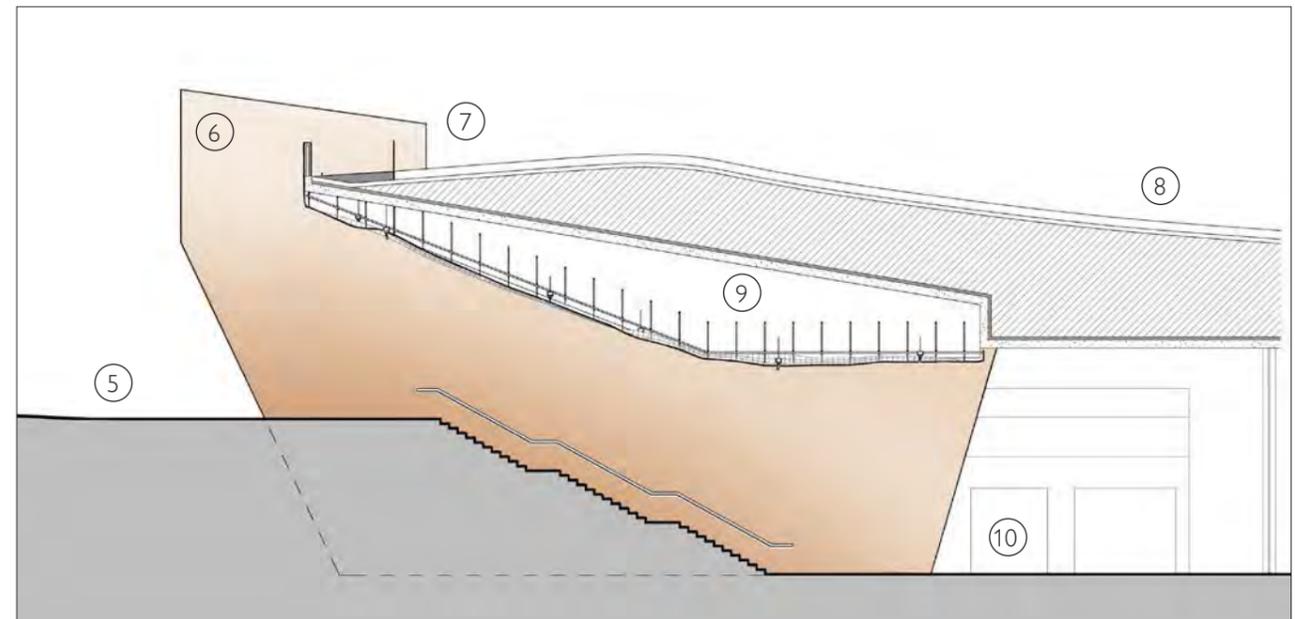
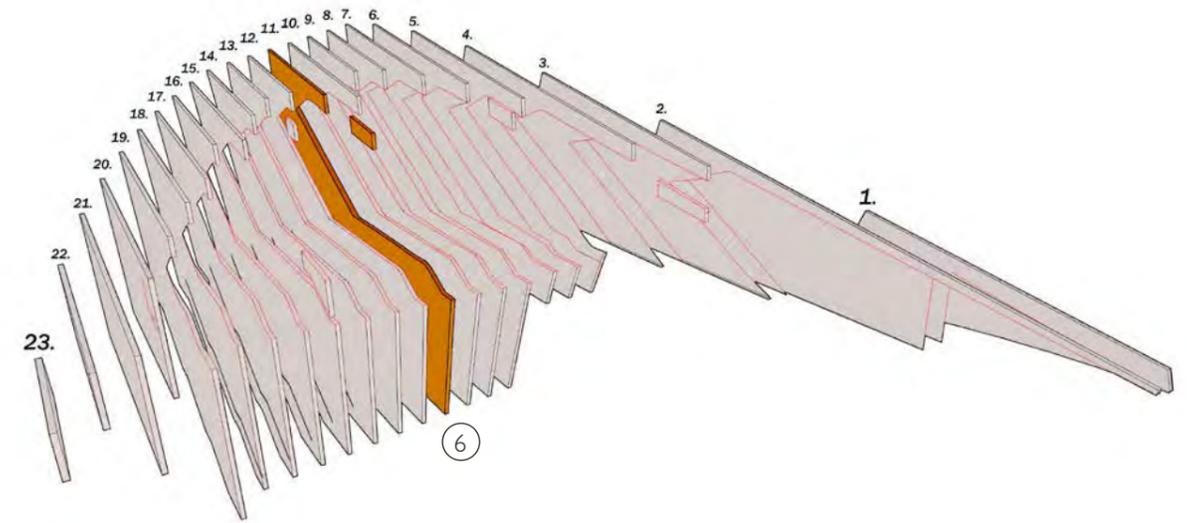
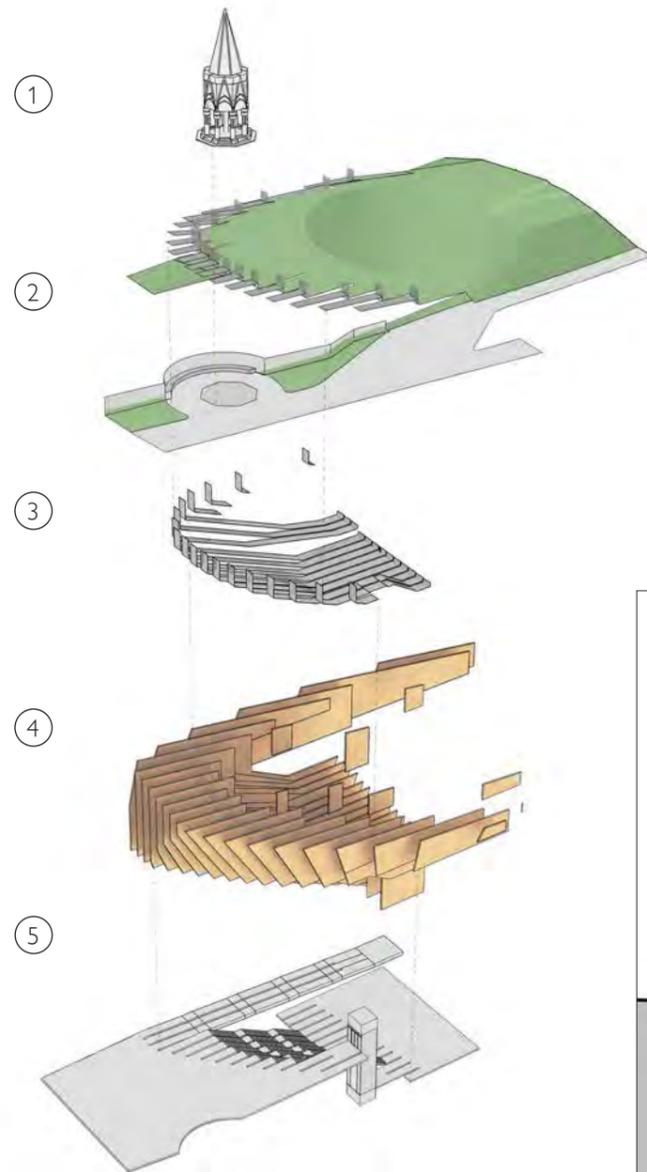
The Memorial tethers together most aspects of the larger site, as it interfaces with a variety of materials, forms and functions - both internal and external.

The fin walls themselves perform a key structural role in supporting the landform above, and the staircases and other access routes below. The upper landform interfaces first with the soffit elements which wrap over the southern landform edge, and then fold below it to follow the pathways all the way to the Threshold space underground.

These stainless steel soffits are bookended by the bronze wall cladding within which handrails are integrated on either side, and which terminate past the stone stairs, giving the visual impression of vertical continuity.

The competition proposal explored the idea of enabling full visitor access along the upper landform all the way to its southern edge, where the change in ground gradient enables a safe standing zone, the required local drainage, and the occlusion of any barriers or balustrades when viewed from below (the Ha-ha detail).

Subsequent to workshops and input from the team's security consultants, it was agreed that visitors should be invited up to a high point along the landform, beyond which a discreet barrier will prevent further public access towards the southern edge. This addresses security concerns, and also allows the stainless steel soffit panels to form a taller reflective edge when seen from below.



- | | | | | |
|-----------------------|-----------------------------|----------------------------|-----------------------------|--------------------------------------|
| ① The Buxton Memorial | ③ Soffits between fins | ⑤ Memorial entrance / exit | ⑦ Hill-top security barrier | ⑨ Structural / MEP / Ground build-up |
| ② Rising landform | ④ Bronze-clad memorial fins | ⑥ Typical Memorial fin | ⑧ Hill-top clearing | ⑩ Basement level Threshold Space |

4.6.3 Materials

The Memorial brings together 3 key materials – bronze, stainless steel, and stone – with which it interfaces with both the sunken courtyard in front of it (to the south), and the organic landform above.

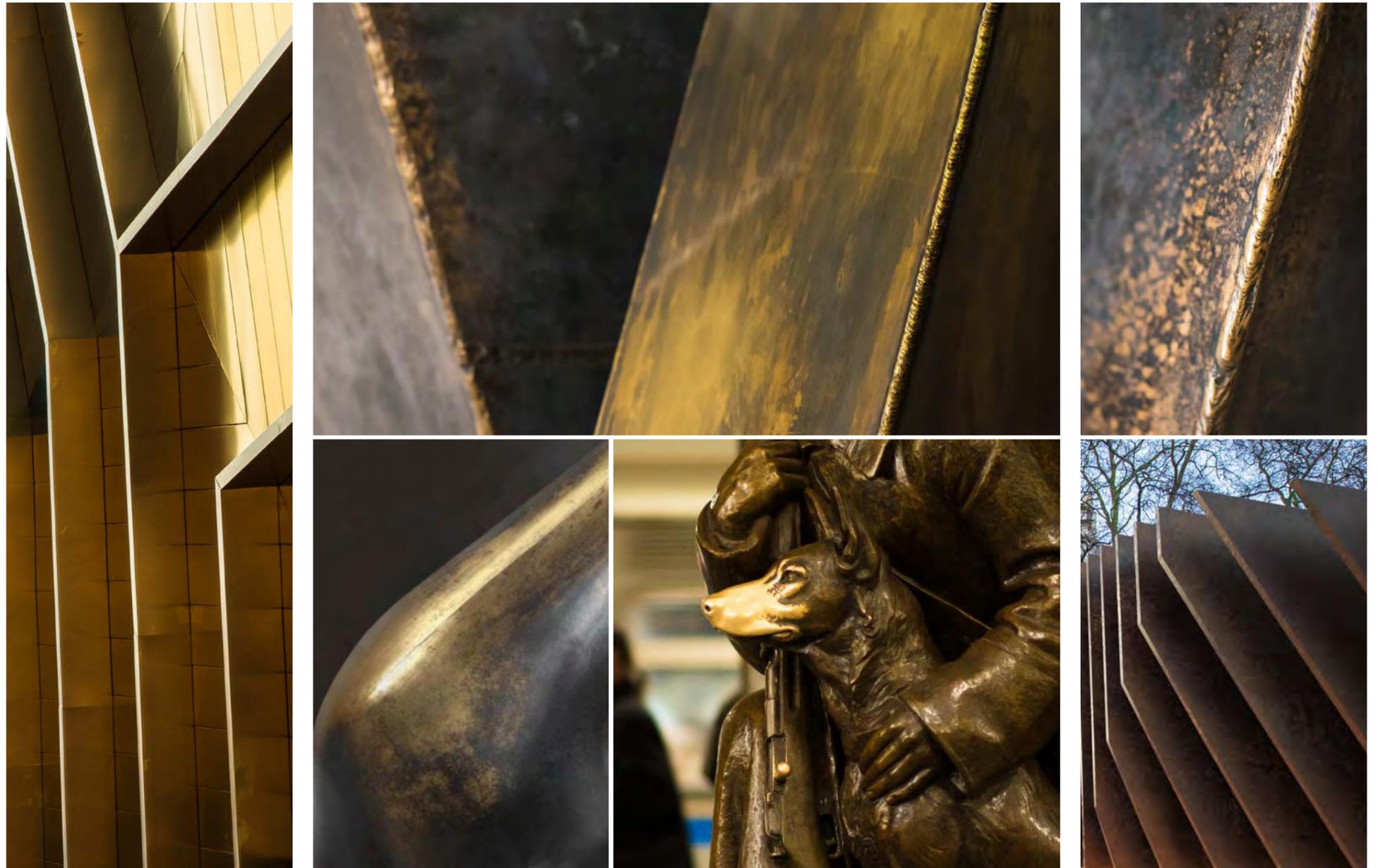
BRONZE

The Memorial's constituent fin walls were originally envisaged by Ron Arad Architects as being thin in proportion to their height, and the structural options explored by the structural engineering team suggest several viable solutions which both enable the walls to remain at or approximately 200 mm in width, and allow for recessed handrails to be successfully integrated within that modest wall thickness.

The Memorial fin walls are to be clad in bronze panels of varying thicknesses, as a primary material. The choice of using a copper alloy for the Memorial was originally led by the wish to employ a living material – one that changes through its lifetime and reacts to its surroundings. The bronze patina weathers well, and is traced by the frequency and intensity with which visitors will interact with its surface. In places, worn through intensive touch, in others darkening to a rich hue. The use of bronze also denotes its man-made history of over 5 millennia, which saw its implementation in wide-ranging applications such as the minting of coins, the fabrication of weapons and the creation of musical instruments and sculptures.

RAA have explored 2 distinct options for the bronze manufacturing techniques: cast bronze, and bronze plate. It is now envisaged that the Memorial will be fabricated predominantly using the latter technique, it is assumed that both techniques will be employed in different sections depending on form and application.

Bronze plates - these are procured in thick sheet form, then rolled or bent, cut and fashioned into final cladding panels.



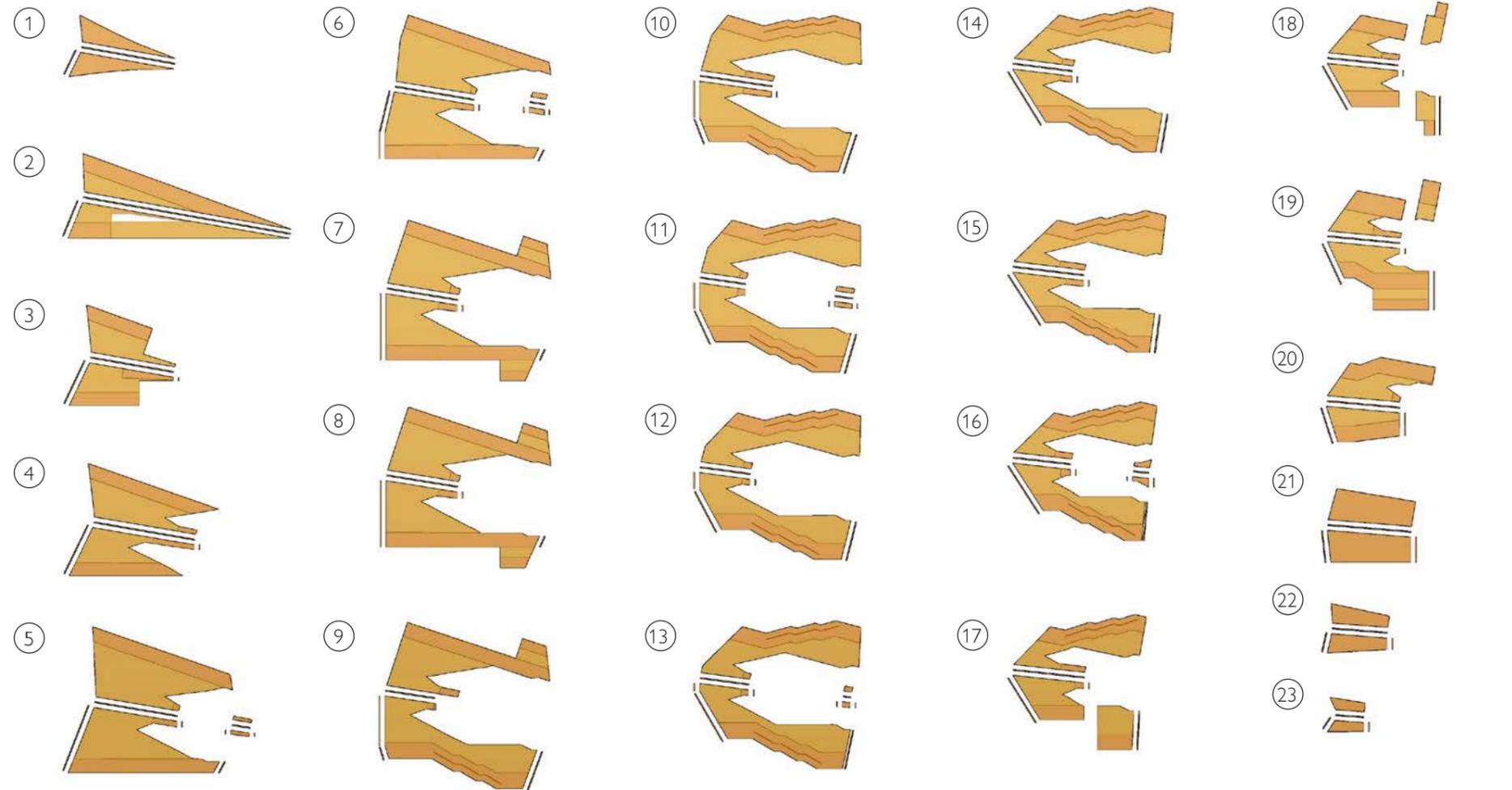
Bronze references, clockwise from left: ToHA development (Ron Arad Architects), fin cladding samples, bronze weld sample, Memorial fins (render), detail of Matvay Manizer's Spy with Dog (1938), detail of Henry Moore's Archer (1964)

The homogeneity of the factory-produced raw material yields a more consistent result, in which most of the variation can be derived from the overall form, and the outer patina of the material. The average likely material thickness will be in the region of 3-4 mm. Additionally, large flat areas of the memorial beyond arm reach (higher up near the ceiling soffits) will require less manual work in manufacturing, will be less prone to incidental damage and can be made in thinner gauge. The average likely sheet thickness for these sections will be in the region of 1.5-2 mm.

Both the above techniques are based on largely the same core material properties, and a cubic metre of bronze alloy weighs in the region of 7,500-8,700 Kg (depending on the make-up of the alloy). The final arrangement of elements of varying material thickness plays an important role in determining the likely relative cost differences between the two techniques due to the alloy's weight.

When developed (geometrically unfolded into dimensional planes comprising entire surface area), the fin walls as currently shown amount to approximately 5,700 m² of surface area, over the entire memorial.

The panelisation or tiling of the bronze panels will be tailored to each fin wall individually, with some degree of repetitive and non-repetitive patterns. Larger areas can be clad using welded sections, the largest size of which will be determined in line with future construction and assembly strategies.



■ 3mm - 4mm thickness
 ■ 1.5mm - 2mm thickness

① 119 m ²	⑥ 337 m ²	⑪ 357 m ²	⑬ 327 m ²	⑯ 200 m ²	⑳ 108 m ²	㉑ 95 m ²
② 250 m ²	⑦ 396 m ²	⑫ 338 m ²	⑭ 309 m ²	⑰ 246 m ²	㉒ 45 m ²	㉓ 17m ²
③ 185 m ²	⑧ 357 m ²	⑬ 327 m ²	⑮ 295 m ²	⑱ 216 m ²		
④ 204 m ²	⑨ 369 m ²	⑭ 309 m ²		㉔ 268 m ²		
⑤ 263 m ²	⑩ 375 m ²	⑮ 295 m ²		㉕ 246 m ²		
				㉖ 268 m ²		
				㉗ 246 m ²		
				㉘ 200 m ²		
				㉙ 216 m ²		
				㉚ 108 m ²		
						㉛ TOTAL AREA 5675 m ²

Cast bronze panels - made using ingots/bars of bronze alloy (this group varies depending on the final properties desired), molten and poured into moulds, then ground/treated, patinated and finished. This variation of controls in this stage lends itself to a more artisanal set of finishes, in which texture, hue and precision vary. Cast panels are thicker and thus heavier. Some sections of the Memorial which require more artisanal interpretation will include cast elements in a thickness of approximately 5-8 mm.

STAINLESS STEEL

The undercroft in-between the bronze-clad fin walls and beneath the landform, is to be clad in elongated panels of polished stainless steel. These are to be gently crumpled to create a distorted continuity of colour and material reflected from the bronze, stone and grass that surrounds them. The desired finish is to be irregular and non-repetitive. This will be described in further detail later in this report.

STONE

The ground plane leading from the Southern edge of Victoria Tower Gardens down into the sunken entrance courtyard in front of the Memorial has at competition stage shared a similar materials with the principal meandering path that runs across the site. The entrance courtyard paving is similarly expressed through a fractal-like pattern of stone sett in 10 x 10 cm, 20 x 20 cm and 40 x 40 cm sized blocks. The scale of the setts will increase as one approaches the first step of the Memorial stairs, where the treads are treated as full-width blocks.

The Memorial stairs and the Threshold floor below are seen as an extension of this larger landscape materials, and the inner reinforced concrete stair structure will be clad with CNC-cut stone blocks to echo the stone sett outside. With access, safety and maintenance considerations in mind, it is anticipated that a metamorphic stone such as silver-grey stone or granite will be used for this purpose. This offers an elegant, monolithic appearance, in a locally-sourced, hard-wearing stone with low absorption characteristics. The final tonal shade of stone will be selected to provide high contrast with the neighbouring bronze panels, for both access safety and legibility.

①



②



③



④



⑤



⑥



⑦



⑧ + ⑨



⑩



⑪



⑫



① Wax artwork (positive)

② Heat resistant plaster mould (negative)

③ Molten bronze alloy

⑤ Cleaning and preparation

⑥ Patination

⑦ Completed artwork

⑧ Stainless steel sheet mechanically deformed

⑨ As above

⑩ Completed artwork

⑪ Silver/grey metamorphic granite or gneiss

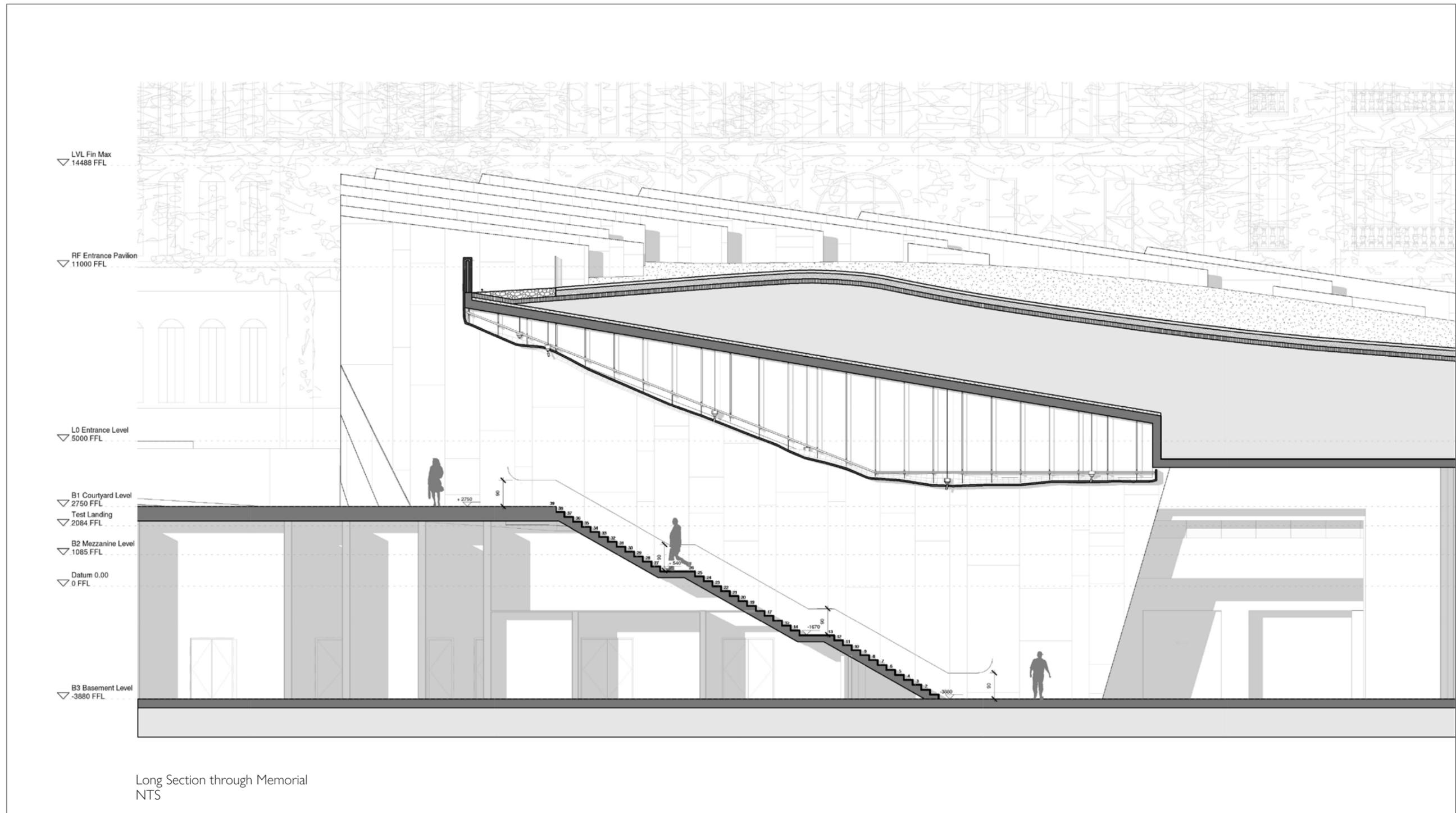
⑫ CNC cut treads and risers

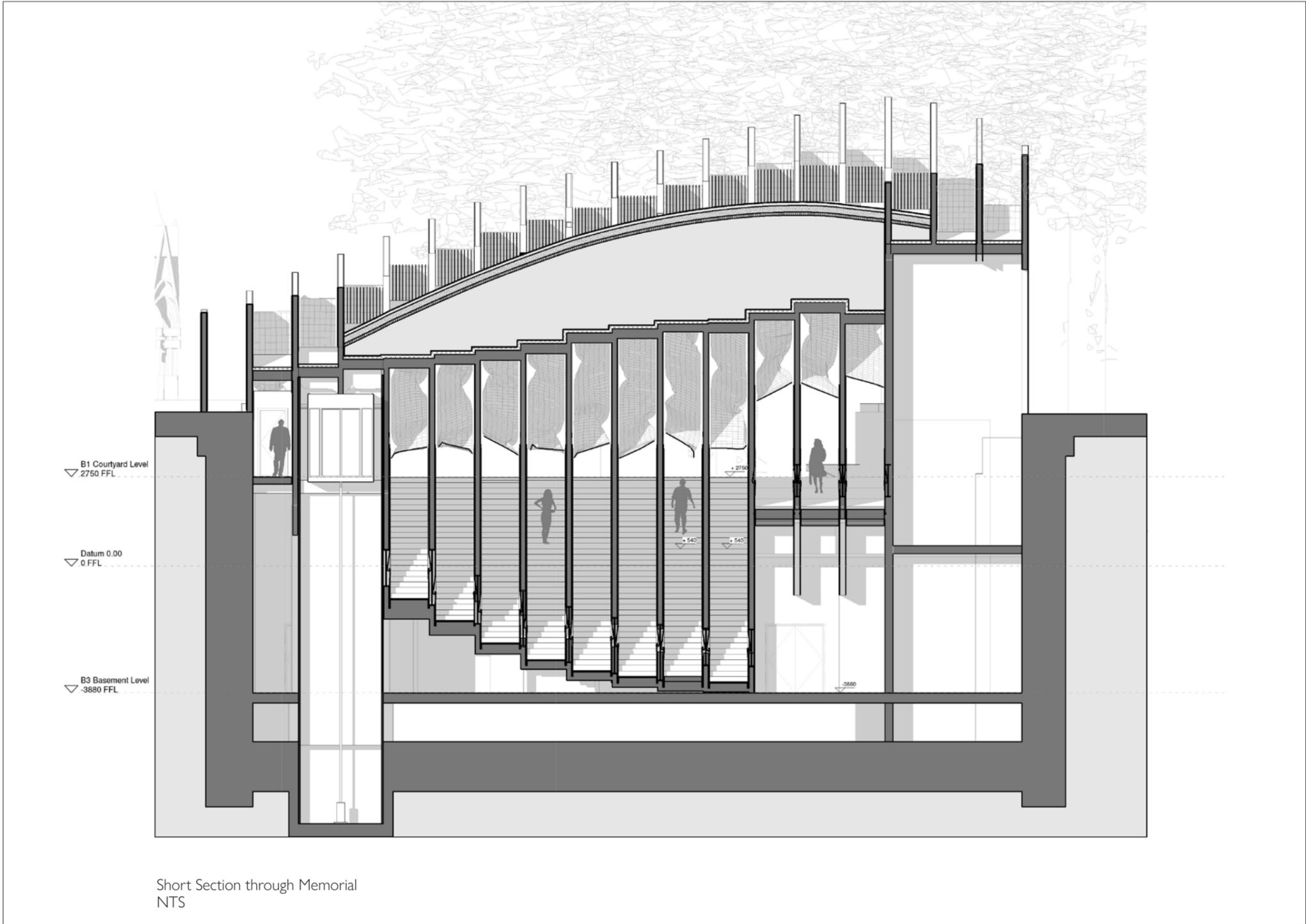
4.6.4 Plans, Sections and Elevations





West-facing view

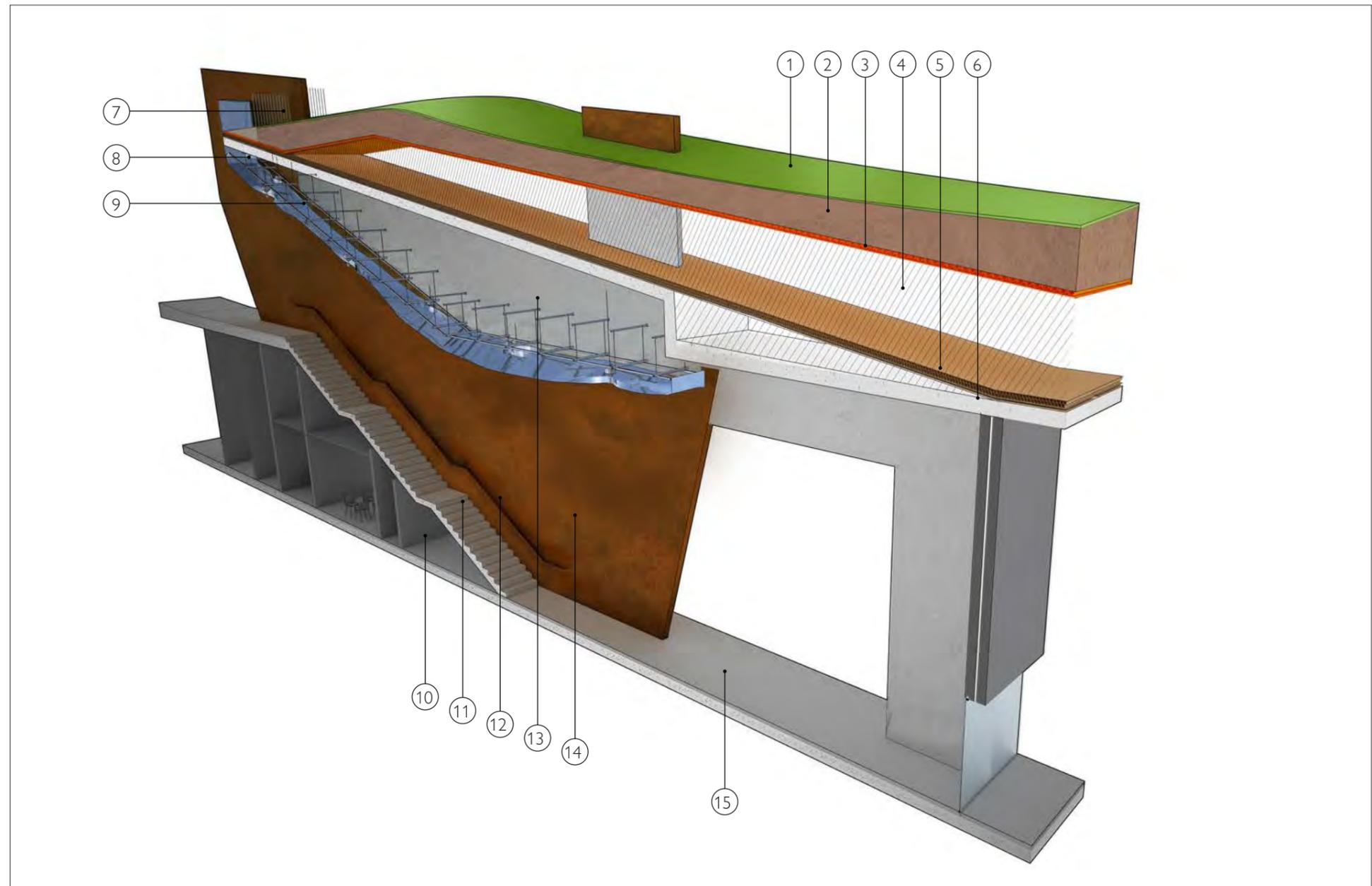




4.6.5 Detailing

The perspectival section illustrates the interdependent relationships between stairs, structure, cladding, ceiling soffit and upper landscape. The indicative voids between landform and inclined structural slab and, in turn, between that and the soffit below, offer sizable routing paths for MEP installations.

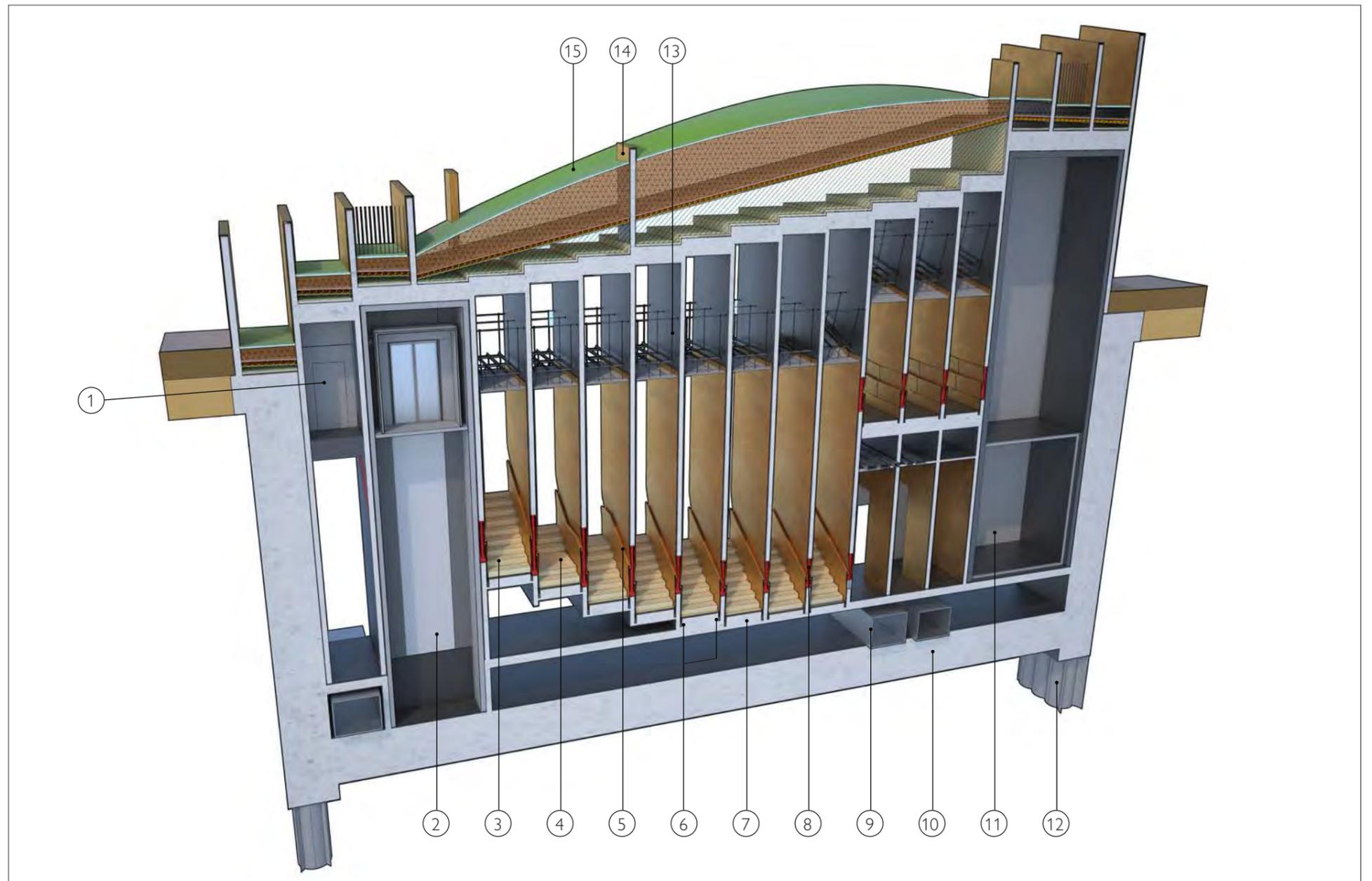
For further information regarding the Ha-ha design and related landscape interfaces, please refer to the Landscape and Public Realm Strategy section.



- | | | | | |
|--------------------------|----------------------------|--------------------------------------|--------------------------|----------------------------------|
| ① Turf | ④ Void former to SE spec | ⑦ Hill-top security barrier | ⑩ B.O.H. accommodation | ⑬ MEP services void |
| ② Topsoil mix | ⑤ Drainage & waterproofing | ⑧ 316L stainless steel soffit panels | ⑪ Staircase between fins | ⑭ Bronze cladding to RC walls |
| ③ Polypipe drainage cell | ⑥ RC structural slab | ⑨ External soffit hanging system | ⑫ Handrail | ⑮ Basement level threshold space |

As this east-west perspectival section shows, the pathways inscribed by the Memorial vary in location, height, and starting point and destination. Some remain at gardens grade within the surrounding gardens, offering a hint of the Memorial experience to gardens visitors who do not wish to enter the Memorial enclosure. Others form stairways or ramps within the Memorial, or provide access to the Memorial lift. This provides a fully accessible route to the Memorial and Learning Centre, while retaining the full experience of the journey between bronze fins, and the transparency of the views through into the Threshold space below.

This variation of uses and locations requires a staggered arrangement of balustrades which has in turn led to the development of transfer structure engineering details (WSP) in order to retain the lean wall build-up throughout, as explained next.

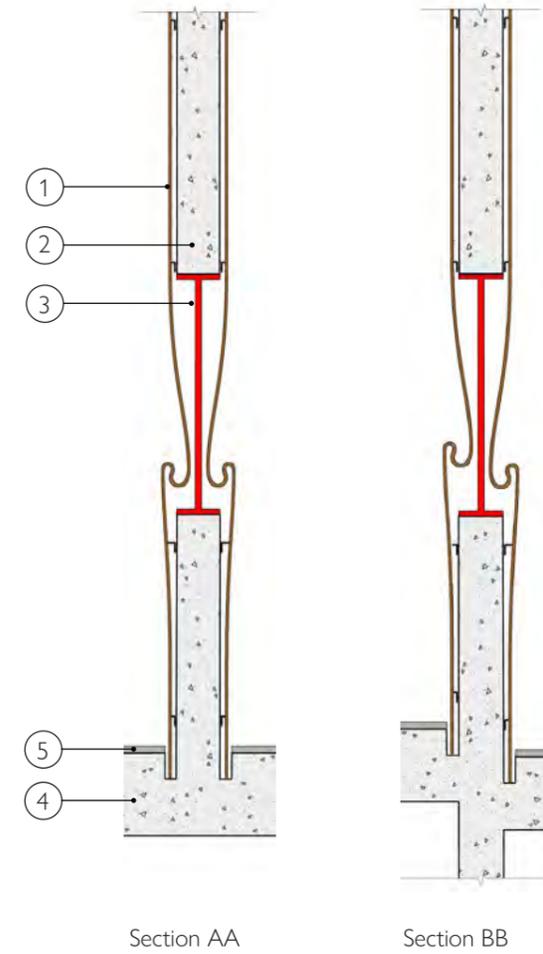
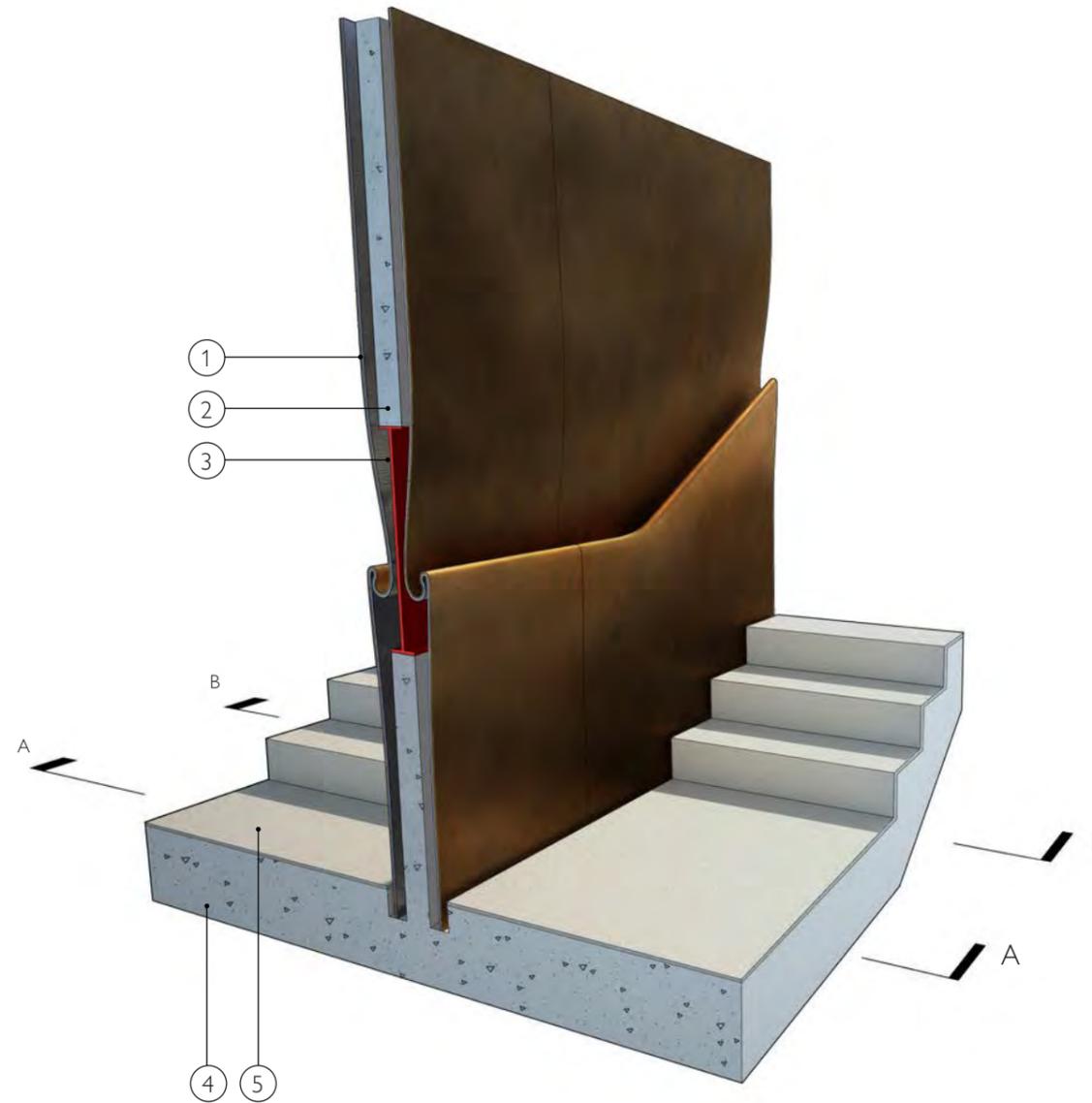


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|---|--|--|--|--------------------------------------|
| ① Emergency exit | ④ Stair landing | ⑦ Stair RC frame | ⑩ Basement raft | ⑬ Soffit and sub-frame |
| ② Memorial lift | ⑤ Handrail | ⑧ Steel transfer structure in RC walls | ⑪ Service lift | ⑭ Fin pop-up in landform |
| ③ Typical entrance stair (one of eight) | ⑥ Recessed drainage channels either side of stairs | ⑨ Labyrinth and plenum service zone | ⑫ Perimeter secant piled basement wall | ⑮ Landform build-up See ha-ha detail |

HANDRAIL DETAIL

The stairs which form an integrated part of the Memorial experience, are accompanied by a pair of handrails which meet required building regulations in relation to accessibility, safety and means of escape. The handrails are fully integrated into the bronze skin of the fin walls, minimising their appearance as a separate element. They are intended to enhance the aesthetic quality of the walls, appearing as a seam running within the wall in the form of a tear or fold.

In order to achieve this goal without sacrificing overall wall width, the handrails are recessed within the 200mm wall thickness. Work is being carried out with the structural engineers (WSP) to accomplish this by using structural transfer brackets (cast-in rebars and spreader plates within the reinforced concrete core wall within) that bridge the gap between the structural zone above and below the handrail.



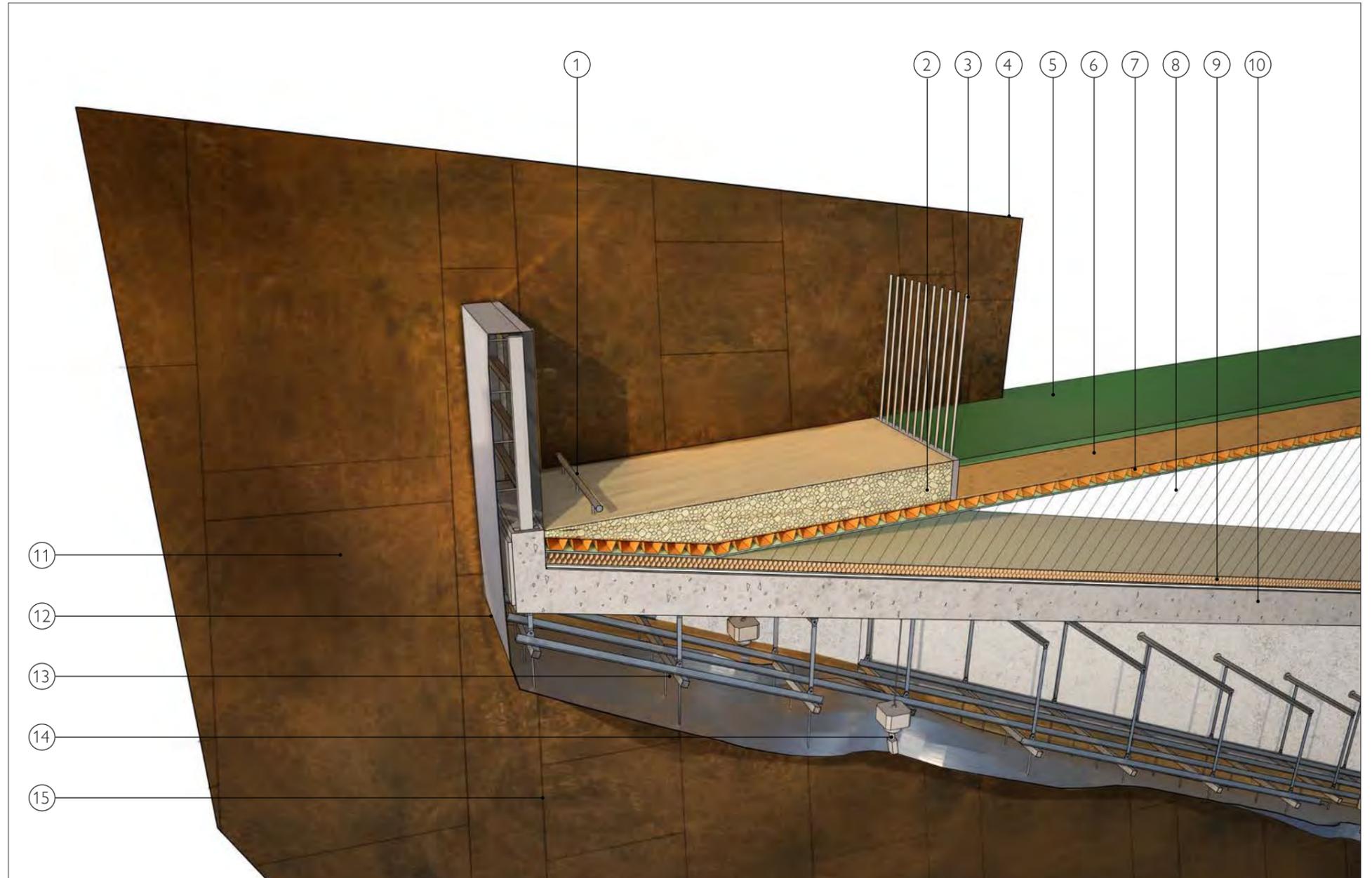
- ① RC fin walls clad in bronze sheet
- ② 150mm RC fin wall
- ③ Steel spreader plate at handrail interface, to SE spec
- ④ RC stair frame to SE spec
- ⑤ Natural stone finish to upper threshold, stair flights, landings and lower threshold

HA-HA DETAIL

The south-facing front edge of the Memorial meets the raised landform above and beyond it in a carefully articulated junction of materials and geometries.

The raised face of the crumpled stainless steel soffit panels forms a fascia, behind which a recessed buffer zone separates the visible edge of the Memorial from the publicly accessible limits of the landscape above. This is formed into a Ha-ha, bound at its northern edge by a security barrier. The Ha-ha provides maintenance access but will remain beyond public access.

Any visible edges of the Memorial's bronze walls rising above the landscape, will do so at a minimum height of 1100mm above the grass. The sculptural free-standing fin fragments which appear further north within the landscape, may be used as benches or wall segments to lean against.



- | | | | | |
|-------------------------------|------------------------------|----------------------------|--------------------------------------|----------------------------------|
| ① Safety harness anchor point | ④ 1.1m min. height from grd. | ⑦ Polypipe drainage cell | ⑩ RC structural slab | ⑬ External soffit hanging system |
| ② Gravel | ⑤ Turf | ⑧ Void former to SE spec | ⑪ RC fin walls clad in bronze sheet | ⑭ LED light fixture |
| ③ Hill-top security barrier | ⑥ Topsoil mix | ⑨ Drainage & waterproofing | ⑫ 316L stainless steel soffit panels | ⑮ Expressed welded joint |

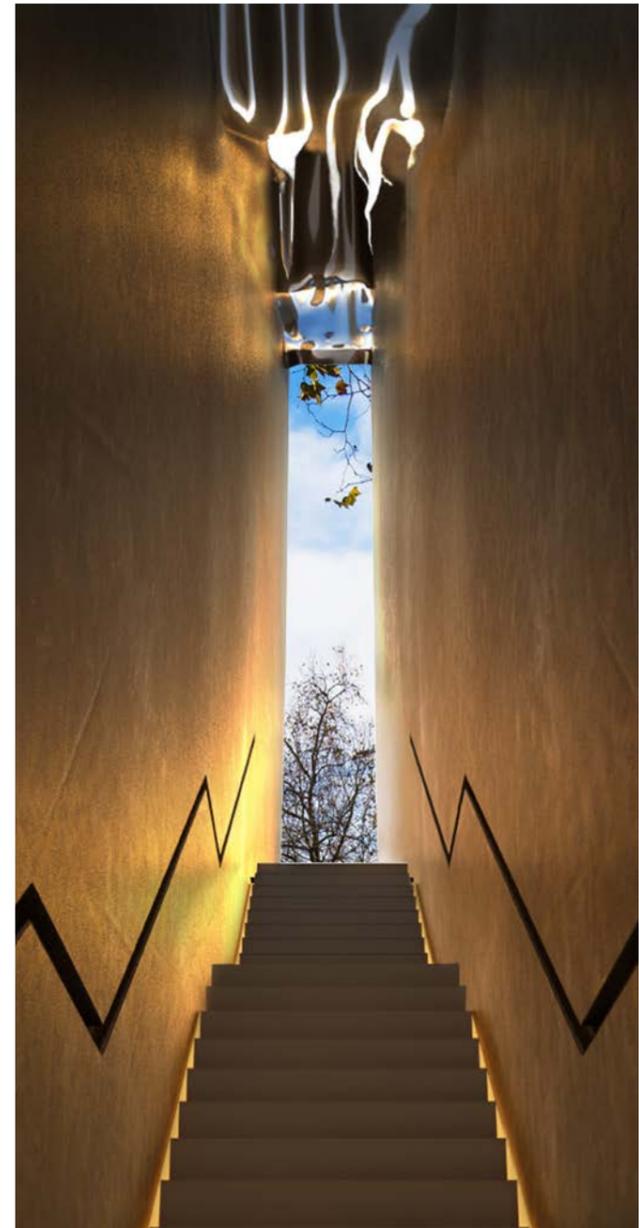
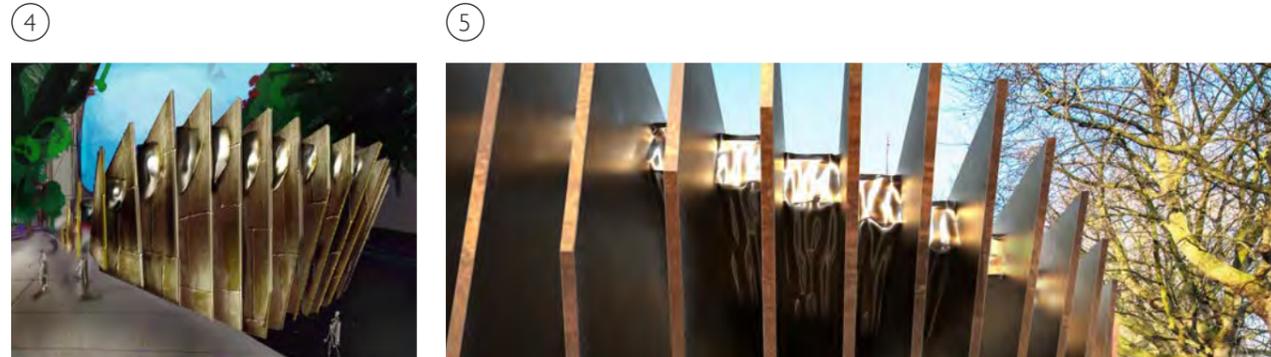
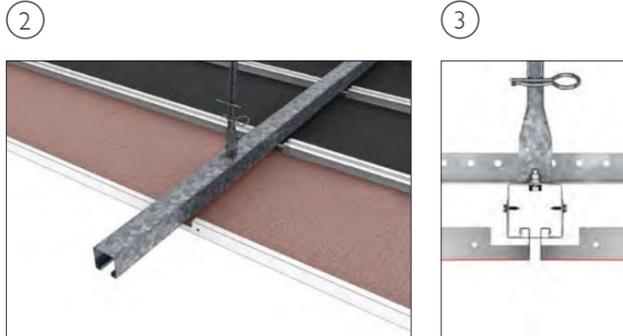
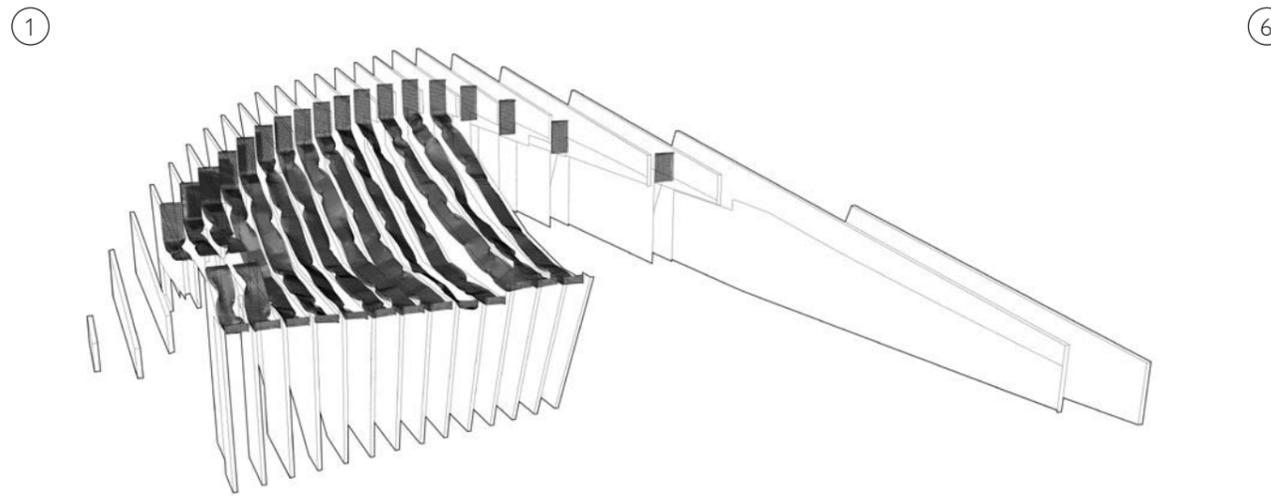
STAINLESS STEEL SOFFITS

The choice of material for use in the ceiling soffits in-between bronze fins relates both to its reflective nature, and to its durability for use outdoors. The broad outdoor/indoor ceiling array this forms, covers an area of approximately 400 m² and is largely covered, but exposed to wind and moisture. To provide sufficient longevity and robustness, the soffit panels will be made using sheets of 1.5-2.5 mm thick exterior-grade 316 L stainless steel. The length of the pieces will be determined in accordance with fabrication constraints, and in keeping with the mounting system employed (e.g. Lindner external soffit system).

Two general fabrication techniques have been evaluated for achieving the desired outcome – pressing/stamping, and mechanical deformation/crumpling.

The former involves the impression of the steel sheet onto a form or mould. These can be made in CNC-cut resin or wood. The results are homogenous and clean, but are limited by the size of moulds, and their non-repetitiveness can only be achieved using a larger number of moulds.

It was therefore decided to adopt the mechanical deformation/crumpling technique instead, which involves the incremental application of pressure on the pre-fabricated polished steel sheet via a rack or press. The distressed material is reduced (in width, in this case) to the required extent, while becoming gently crumpled.



Sketch by Ron Arad

- ① 18 no. stainless steel soffits
- ② External soffit mounting system (e.g. Lindner)
- ③ Sketch detail of mounting rail
- ④ Concept sketch of soffits in the context of the fins
- ⑤ View of soffits
- ⑥ View out between fins

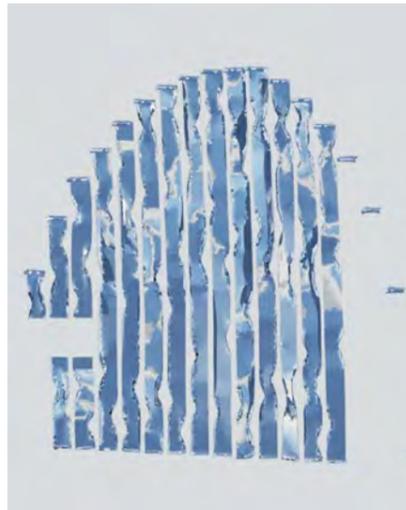
In order to preserve the monolithic and sculptural nature of both the bronze walls and the reflective soffits, it was decided to avoid introducing surface-mounted fixtures and fittings to either.

Instead, several 'crimped' bays are introduced along the sides of the steel soffits. These create widening reveals between bronze and steel, which enable the mounting of discreet fittings within the darker cavity above.



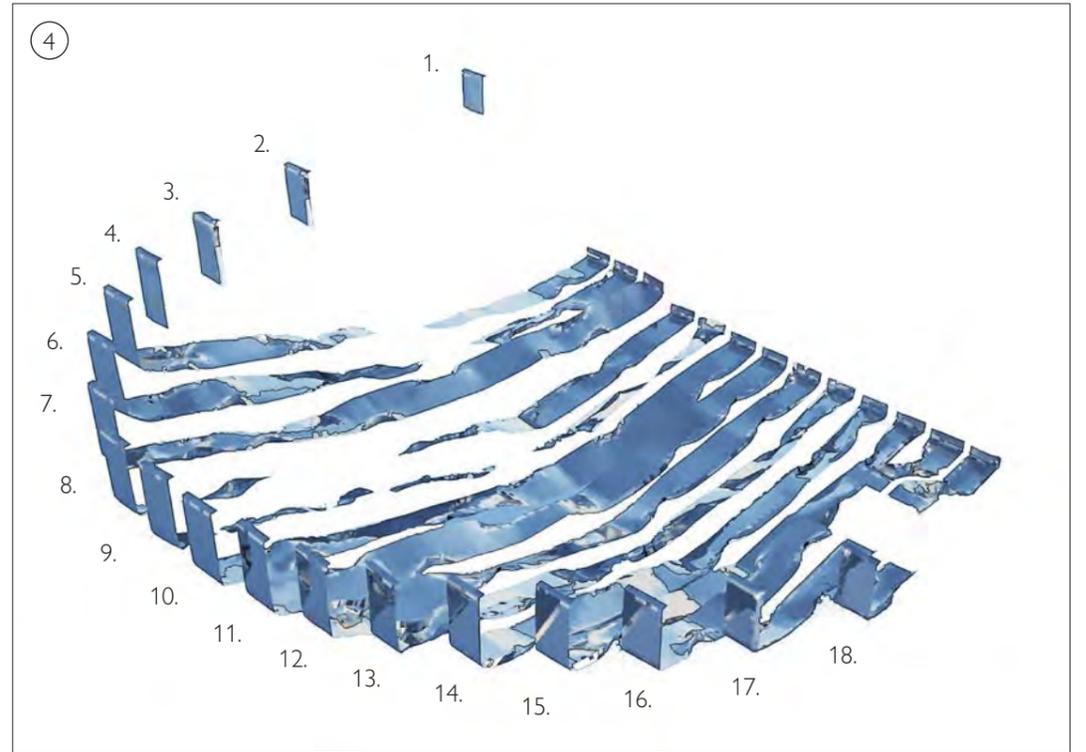
①

②



① Close up of crinkled stainless steel soffits

② Plan study of soffits



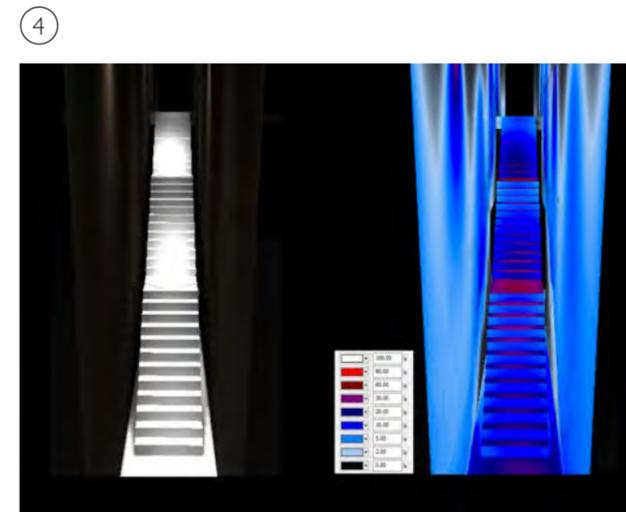
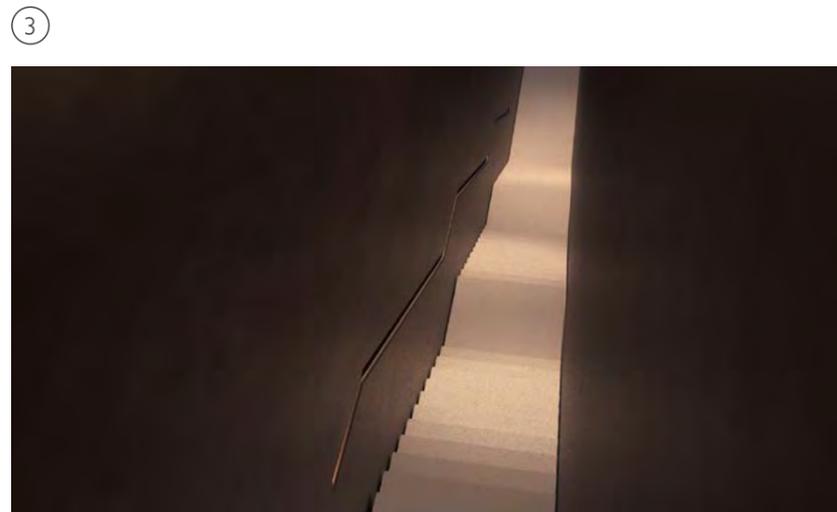
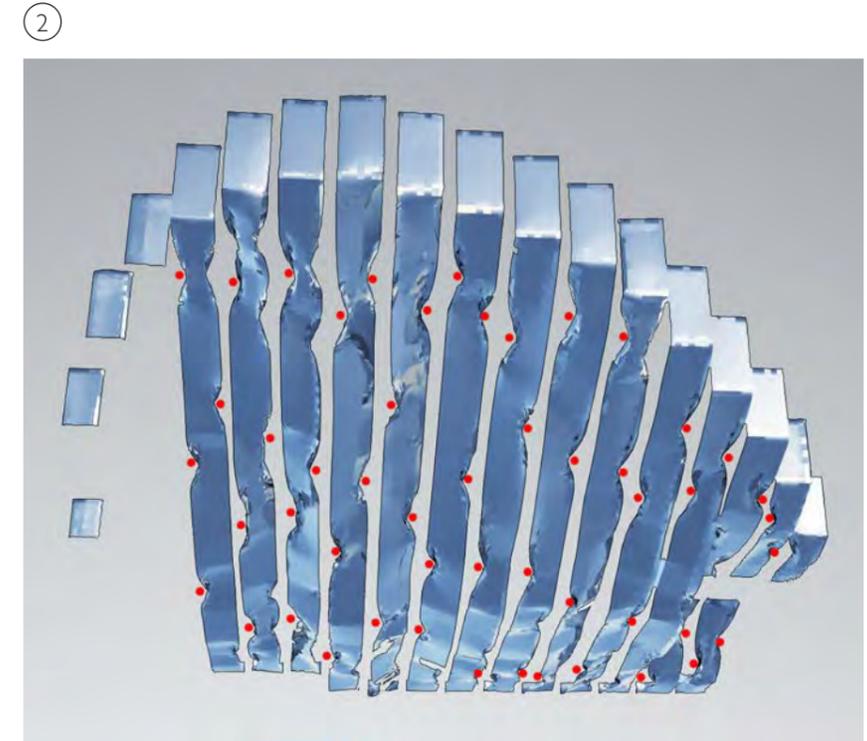
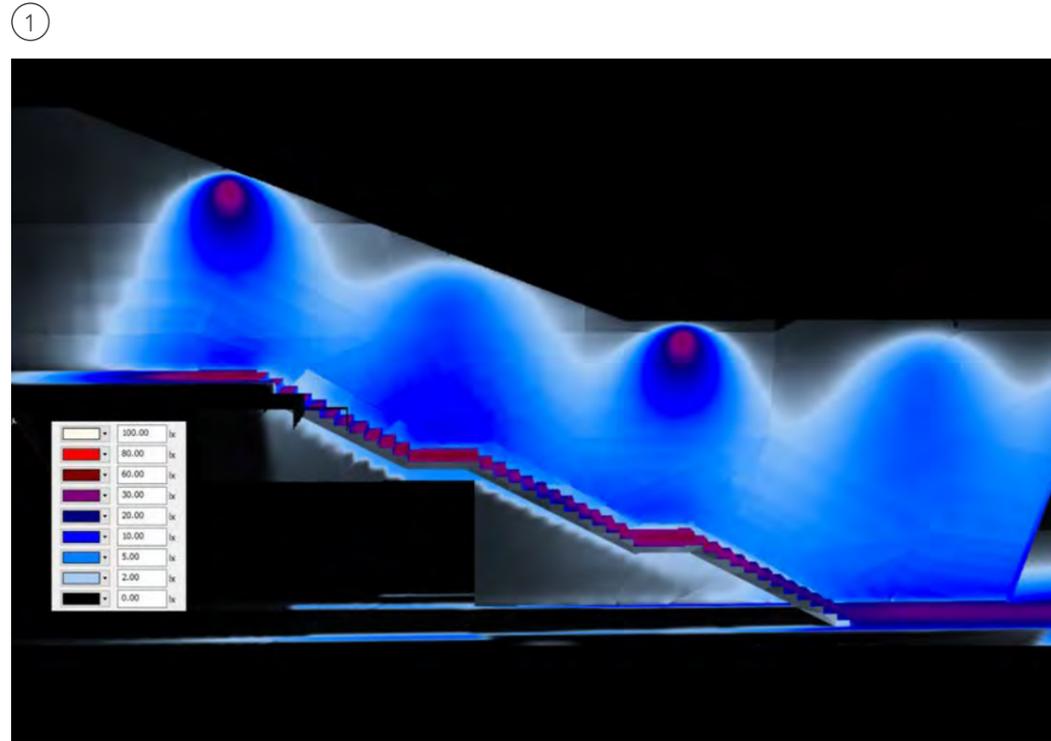
③ Perspective and corresponding plan view of typical crinkled soffit

④ Perspective view - 18 no. soffits

4.6.6 Lighting Strategy

Studies by the lighting designers (DHA) have been carried out to ascertain that the spread of fittings within such bays ensures an even and contrasting lighting of the stairs below, while avoiding visible hotspots when viewed from beneath.

The desired overall effect of the lighting is to enhance the linearity of the pathways even beyond the upper and lower edges of the bronze fin walls without drawing attention to fittings or sources, and follow the visitor along the journey from the open-air courtyard above to the Threshold space below.



① DHA Designs lighting analysis - Sectional view of lux levels in a typical Memorial stair

② Soffit study indicating locations of light fittings, (red dots) as intergrated into into soffit 'crimps'

③ Spread of light within a typical stair

④ DHA Designs lighting analysis - View up a typical stair

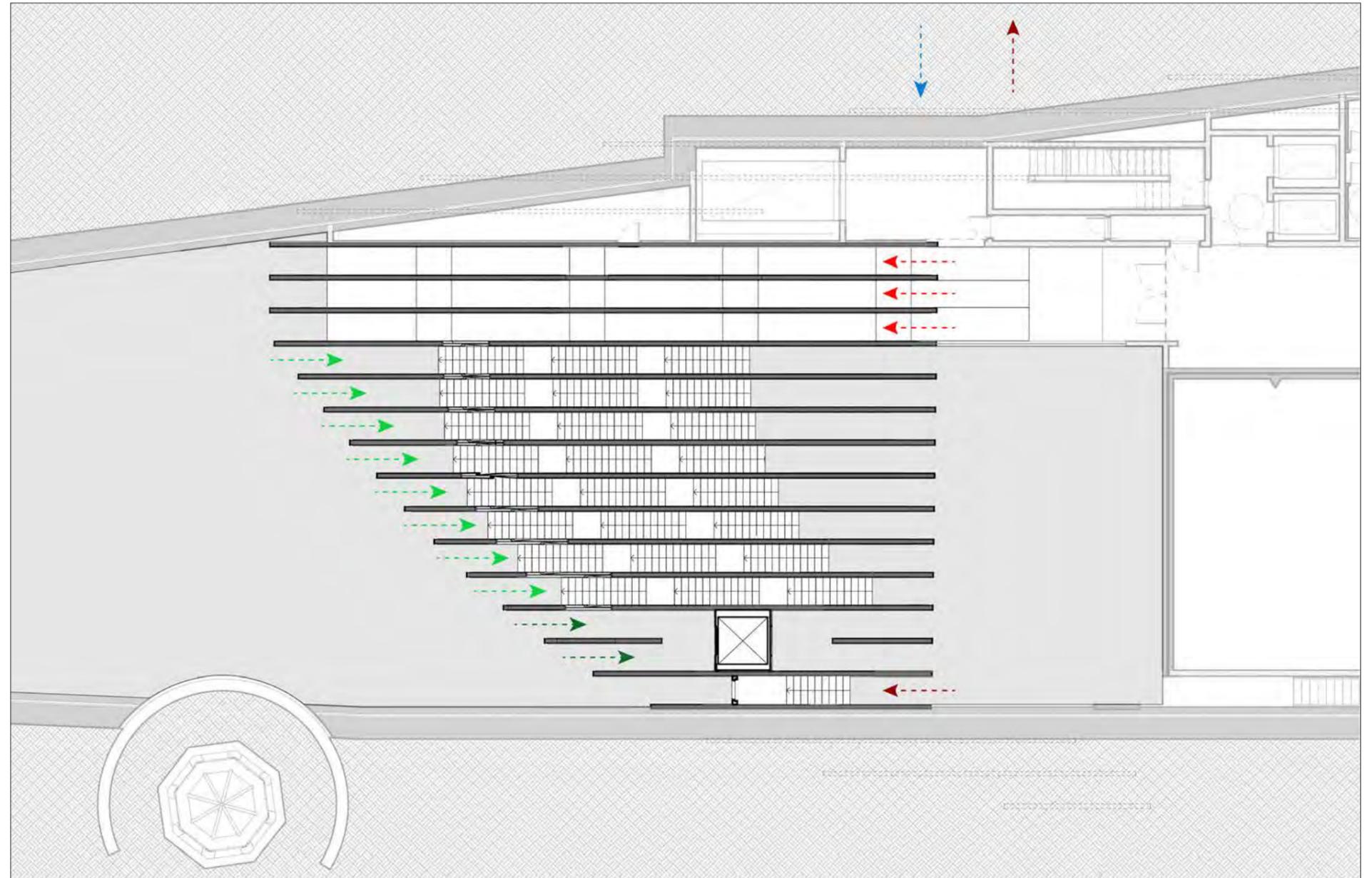
⑤ DHA Designs' proposed LED fixture and electric winch for the stairs

4.6.7 Access Strategy

The original design for the 23 fin walls inscribes 22 pathways in-between them, representing the number of countries in which Jewish communities were destroyed during the Holocaust. The pathways are and have been primarily intended as the means of access to and from the Threshold space below. This serves as a place of contemplation but also a generous hall from which to experience the memorial from within, and make the transition into the Learning Centre beyond.

The pathways fulfil a number of roles, as follows:

- Eight of the pathways contain stairs down to the Threshold, each arranged over 3 flights of 13 risers.
- Two of the pathways lead into a wider lobbied fully-accessible lift, leading down to the Threshold space alongside the stairs.
- One additional escape stair
- Three of the pathways are used as ramped means of egress
- Four pathways contain auxiliary access and service routes into the Learning Centre
- The remaining 4 pathways, to the east and west of the Memorial, will sit within the public domain, outside the Memorial's secure perimeter, and enable visitors to experience some of the spatial and material qualities of the Memorial without actually entering it.



- | | | | | | |
|--|----------------------------------|--|--------------------------------|--|----------------|
| | Entry - 8 Stairways | | Egress - Three ramped pathways | | Service access |
| | Entry - 2 Paths to Memorial lift | | Emergency exit | | |



View of Memorial from courtyard



View of Memorial Staircases

4.7 THE LEARNING CENTRE

4.7.1 Design Overview

Memorials are most successful when they are contextualised in the history they represent – without the Learning Centre the Memorial will not achieve its aims of driving forward a new era of Holocaust education in Britain. The Memorial is not just about remembering, it is also about understanding and educating, ensuring that the tragedies that took place do not happen again. This is why it is so important that a Learning Centre is integrated in the Memorial, as a single destination allowing visitors to reflect on the impacts of the Holocaust in Britain.

The view of Parliament from the Memorial will serve as a permanent reminder that political decisions have far-reaching consequences.

The team's design for the UK Holocaust Memorial and Learning Centre is drawn from extensive research into the site, its constraints and subject matter, and seeks to respect its context, honour the weight of its responsibility and inspire its visitors to strive to draw meaning and purpose out of tragedy.

It is an integrated approach, in which the Memorial is embedded within the landscape, and the Learning Centre is embedded within the Memorial.



Sir David Adjaye's design development sketch



View of Threshold area

The Learning Centre

Visitors will enter the Learning Centre through the series of narrow passages formed by the 23 bronze blades of the Memorial, allowing them to effectively join the Memorial and physically become part of it. These blades will form both the building entrance as well as puncture the ground 8m down, carving the centre's underground learning spaces.



KEY

- Proposed entrance journey
- - - Entrance journey inside Learning Centre (underground)
- Proposed exit journey
- - - Exit journey inside Learning Centre (underground)
- 👁 Contemplation point

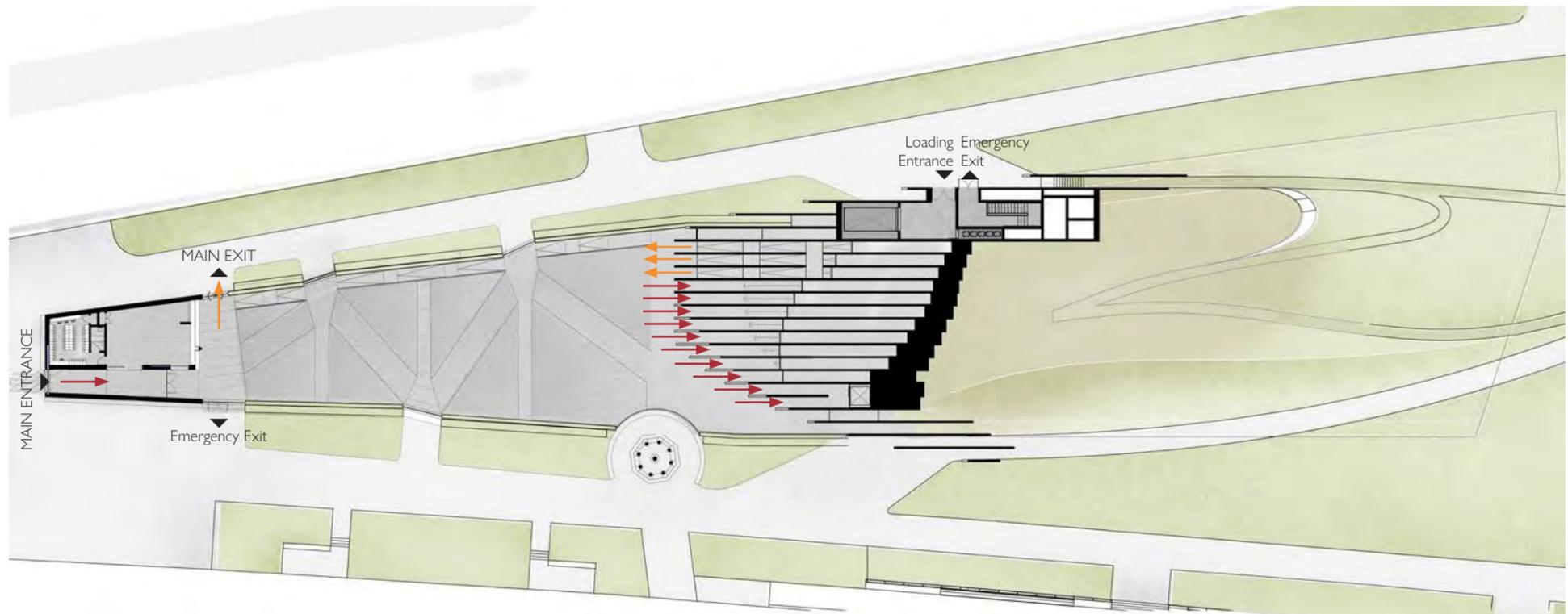
Through a careful sequencing of highly sensorial spaces, Adjaye Associates' design for the Learning Centre will draw out themes of the constant and universal human struggle for a better world. Visitors will enter the Learning Centre through a series of narrow passages formed by the 23 bronze fins of the Memorial, allowing them to experience narrowness and the scale of the pathways as part of the entrance sequence. These 1.2 m wide entrance pathways, sectioned by the Memorial fins, will lead visitors through a series of dramatic stairs (as well as step-free routes) on their journey underground.

The paths will culminate in a shared experience – the Threshold space, which will orient visitors and set the mood for the material they are about to experience. Stripes of natural light, sneaking through the narrow entrance corridors, will cut through the vast black grey stone flooring and establish a boundary between up and down, darkness and light. From there the visitors are encouraged to create their own journey through the Learning Centre, where the narrative content is designed.

At the end of their journey the visitors are invited to ascend to the mezzanine level, where a bookshop and a possible extended education space will add to the overall experience.



Learning Centre Long Section 3



KEY
 → Entrances
 → Exits



Learning Centre Ground Floor Plan

4.7.2 Floor Plans, Sections

The basement level is the main floor of the Learning Centre. After visitors finish their journey down the Memorial stairs they reach the Threshold, which is centrally located and divides the plan into main front of house areas to the north and the main back of house areas to the south.

The front of house areas comprise of the Lobby, through which visitors can access the toilets, cloakroom, lifts, fire escape stairs and most importantly, the Permanent Exhibition space. The latter can also be accessed directly through the Threshold.

Adjacent to the Threshold area, a large goods holding area connected to the service lift guarantees that any deliveries received during opening hours can be stored out of the way until out of hours.

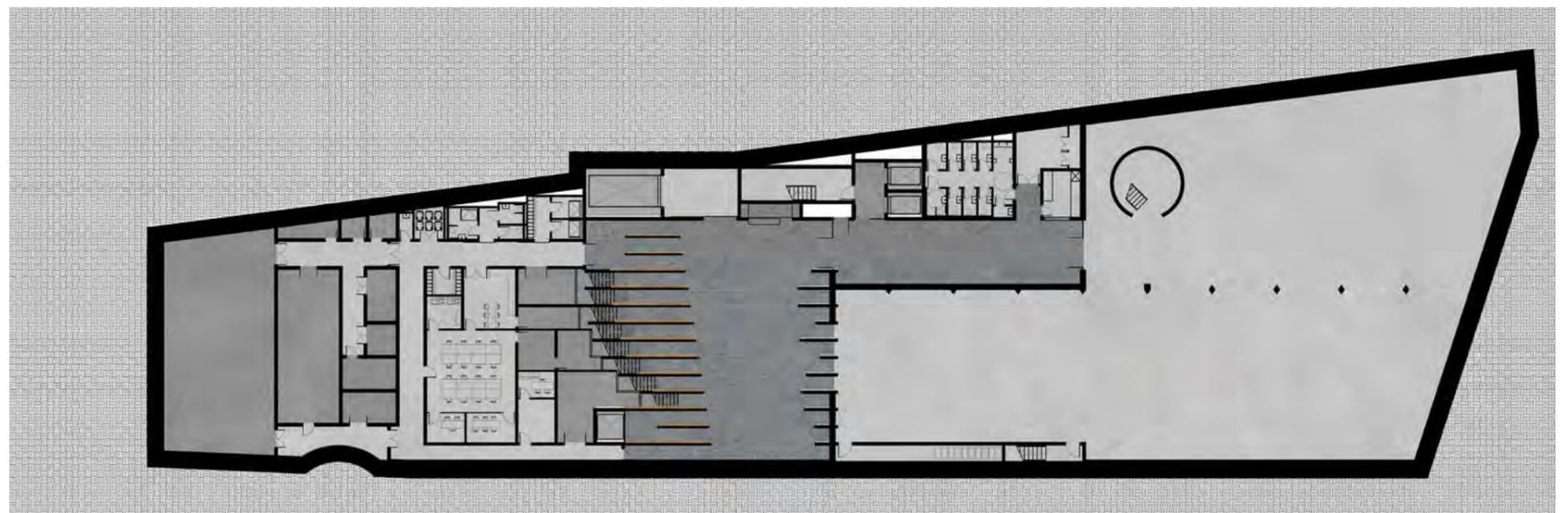
The area south of the Threshold accommodates all the necessary back of house services, including plant, office, staff amenities - toilets, shower/changing rooms and locker rooms - finishing kitchen, CCTV, and bin store.

As part of the design of the Permanent Exhibition space we have developed a folded ceiling layout that will hold the different mechanical systems – lighting, audio, air distribution and a versatile mechanism that carries all the necessary exhibition features such as objects and wall board displays, screens etc. The grid, as a calculated act of the height and width of the space, sets up a rhythm to the interior of the exhibition area.

Using the folded ceiling system, a trompe l'oeil effect is created - the underground space feels large, spacious and the perception of size is noticeable as visitors enter through the Memorial Threshold.



Learning Centre Long Section 1



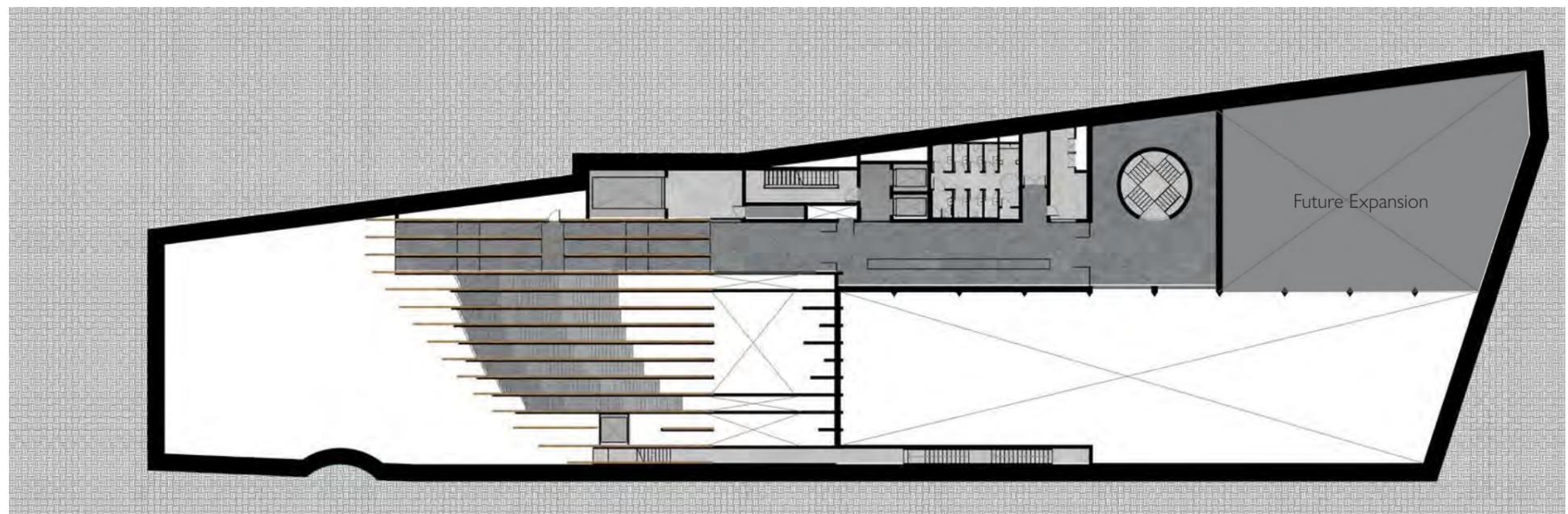
Learning Centre Basement Floor Plan

The mezzanine currently houses a bookshop, toilet facilities, cloakroom and lifts. Potentially, this space can be expanded to house an education space that will add to the overall experience.

The elongated departure hall allows the visitors to end their journey through the exit paths between the Memorial fins. As the passage through the fins ends, visitors' journeys conclude as they approach the same courtyard in which they met on entry.

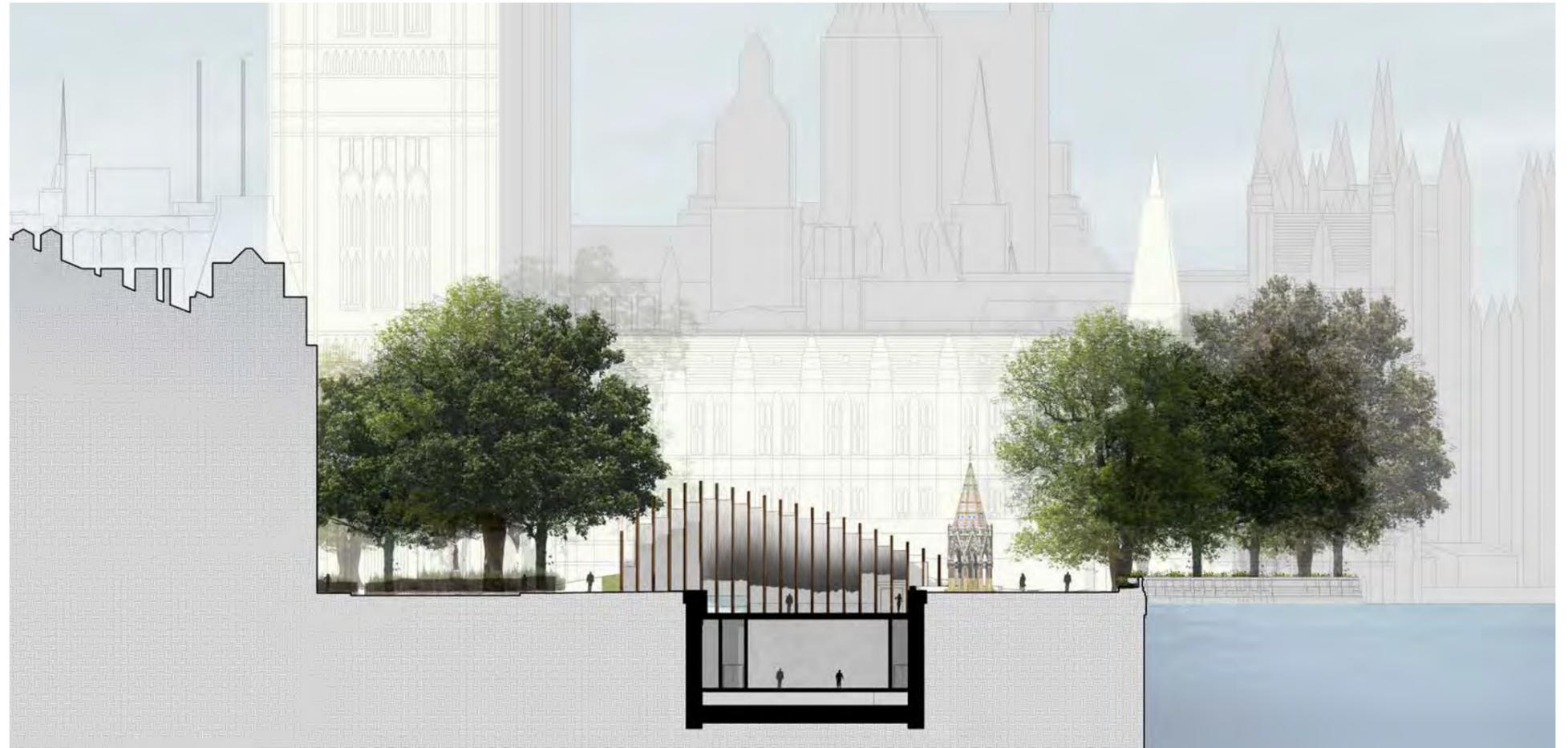


Learning Centre Long Section 2



Learning Centre Mezzanine Floor Plan





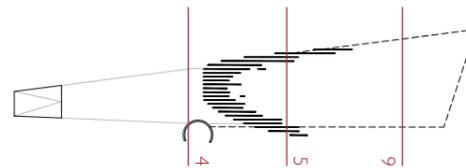
Learning Centre Cross Section 4



Learning Centre Cross Section 5



Learning Centre Cross Section 6



4.7.3 Materials

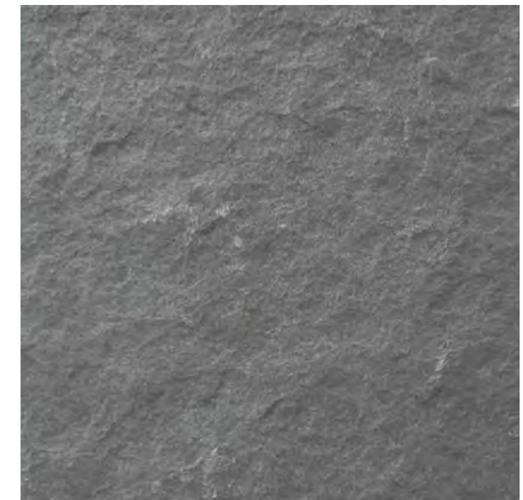
As visitors enter the Learning Centre between the bronze fins of the Memorial, the journey deepens to reach a vast Threshold space where visitors will be oriented and the mood set for the material they are about to experience.

As the building narrative unfolds and the visitor is drawn underground on a journey deep into the dark realities of the Holocaust, the surface tonality intensifies from saturated grey to deep black. The journey through the Learning Centre culminates in a natural bath of light coming through a skylight in a staircase leading up to the mezzanine level – a stark and powerful reminder of hope through the darkness.

Final choice of materials and colours is yet to be decided, and samples will be submitted.



Floor pattern



Grey stone



Unpolished Concrete

4.7.4 Building Organisation

The Learning Centre is organised in two main levels; unlike most buildings, visitors arriving from the Memorial Stairs will first reach the basement level, make their way up to the mezzanine, and then out to the courtyard, 2 m below the gardens level.

On the basement level, the Threshold - the physical, visual, emotive and narrative link between the Memorial and Learning Centre - provides main entry points, orientation, gathering and introductory facilities.

From the Threshold visitors can access the Permanent Interpretation areas directly, or make their way to a Lobby area with access to toilet facilities, cloakroom and lifts. The basement level also accommodates all the main back of house areas to the south of the Memorial Stairs.

A large service lift adjacent to the Threshold area guarantees easy access for goods/artefacts to the Permanent Interpretation spaces and to the back of house areas.

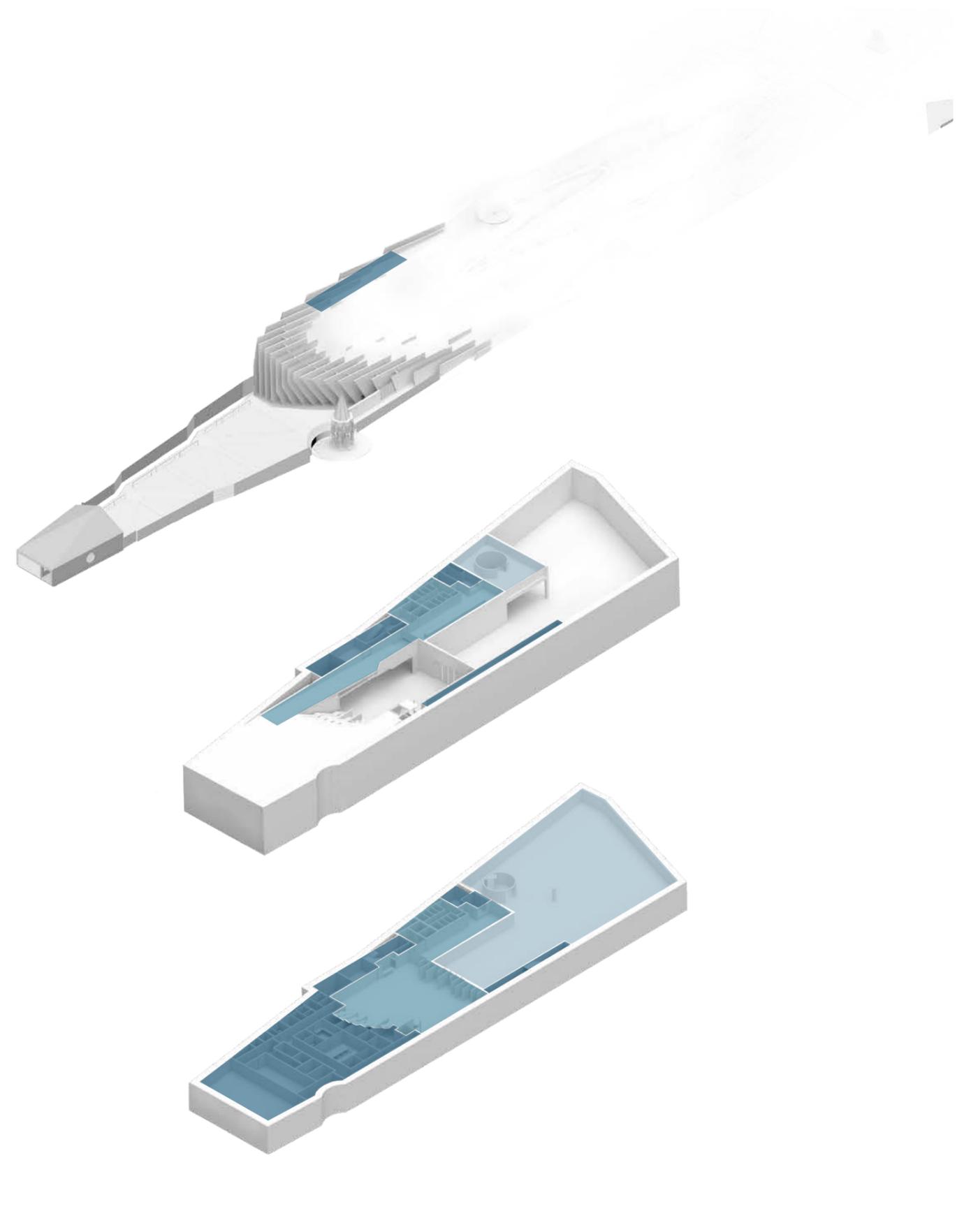
From the Permanent Interpretation spaces at basement level, a diamond-shaped staircase encased in a round concrete cylinder as the only source of natural light guides the visitors up to the mezzanine area.

The mezzanine currently houses a small retail area, toilet facilities and lifts. We are currently exploring the potential to expand this space to house educational rooms.

The journey ends with a shallow ramp that guides the visitors gently through the fins towards the outside courtyard.

KEY

- Permanent Interpretation Area
- Front of House
- Back of House



Ground Floor Level

Mezzanine Level

Basement Level

4.7.5 Entrances and Exits

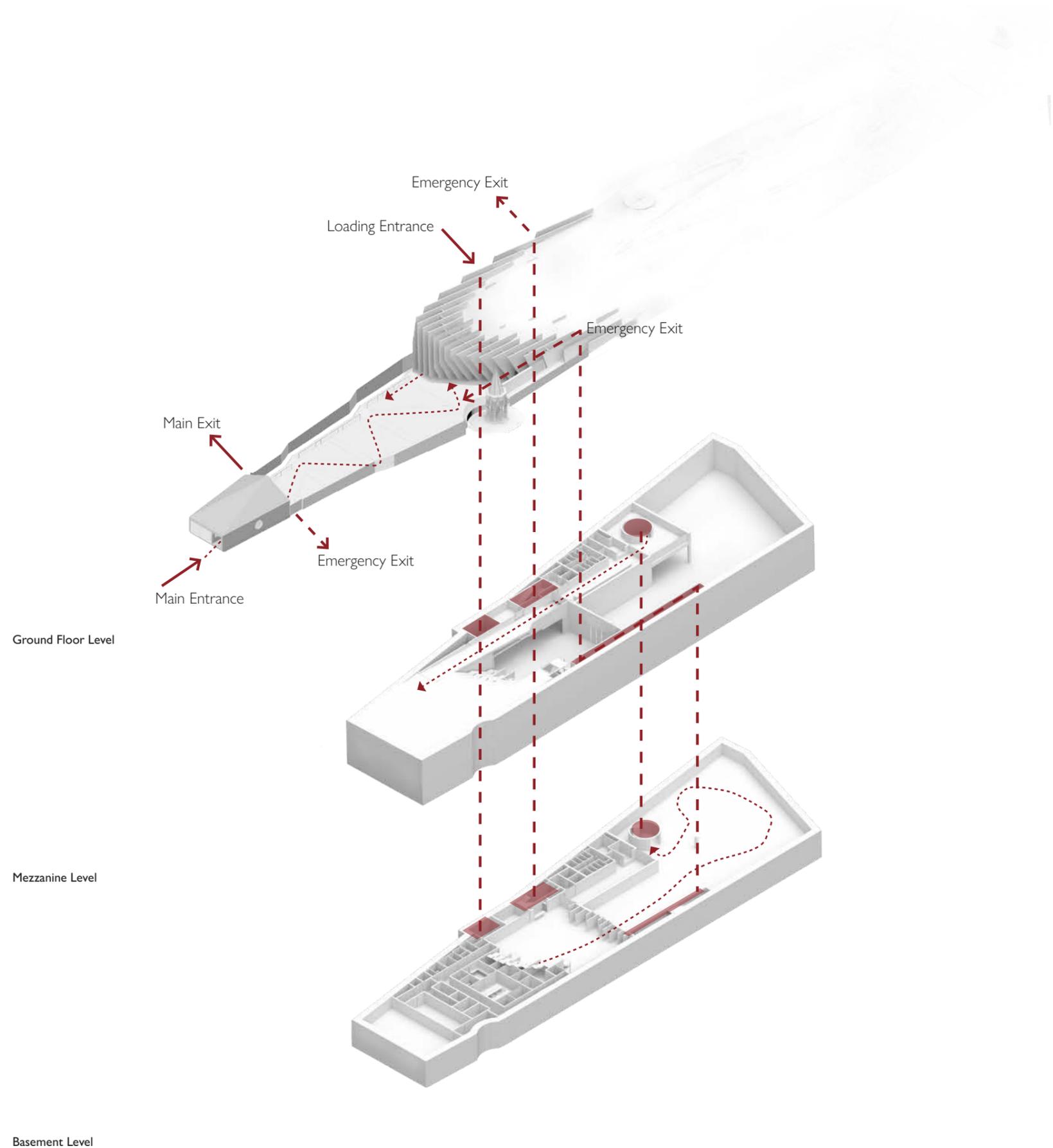
Arriving in Victoria Tower Gardens visitors will approach the Memorial Entrance Pavilion. There, visitors will be confronted by the spectacular view of the Memorial fins surrounded by the gardens' impressive trees, and, in the background, the Houses of Parliament and the River Thames. As visitors pass through swift security checks, a journey begins - the Memorial Courtyard allows time for contemplation, rest and a curial change of atmosphere from the hustle of London's busy streets.

Approaching the Memorial fins the journey continues, as visitors find their individual path walking between the tall fins, experiencing the vast height of a passage that leads them underground to the Threshold. It is from this unique space that visitors are invited to enter the Learning Centre and begin the educational part of their visit. Within this exhibition space, new opportunities are given to learn and discover new themes of the Holocaust story.

By ascending the spiral staircase, visitors reach the mezzanine level and can either extend their journey or turn toward the elongated departure hall, at the end of which are the exit paths between the Memorial fins.

As the passage through the fins ends, visitors' journeys conclude as they approach the same courtyard in which they met on entry - this gives another opportunity to linger and contemplate their experience. Reaching the Entrance Pavilion, they will find two exit turnstiles at the southwest side.

An emergency exit is located in the courtyard opposite the main exit gates. In the Learning Centre there are two emergency exits, one on the west and another on the east side of the building; the former will lead visitors directly to the Gardens and the latter to the courtyard.



4.7.6 Content

The Learning Centre will seek to combine a striking architectural monument with an engaging, reflective and powerful exhibition, currently under development. This will be founded on academic research and judicious use of sources, combined with an experiential approach to immerse the visitor in the historical content and provoke their critical thinking.

The display will confront the immense human calamity caused by the destruction of Europe's Jewish communities during the Holocaust, arousing a sincere commitment to mourn, remember and act. Victims will be remembered as individuals, not nameless statistics.

The thematic exhibition will position the Holocaust within the British narrative: historically, politically and culturally. This narrative will be balanced, addressing the complexities of Britain's ambiguous responses to the Holocaust, avoiding simplistic judgements and encouraging visitors to critically reflect on whether more could have been done, both by policymakers and by society as a whole.

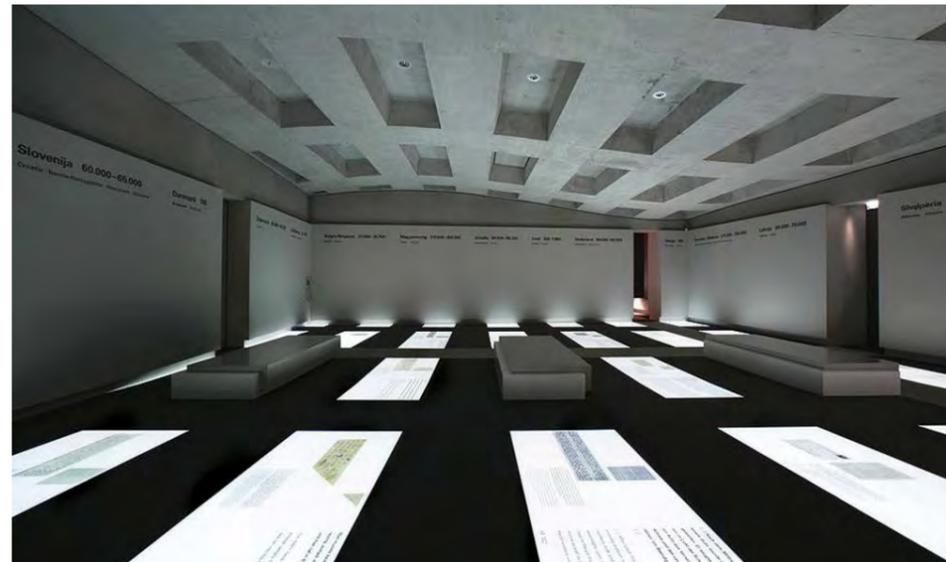
Facing history honestly requires us to question the role of our own Parliament, government and society in the history of the Holocaust, and recurring genocides in its aftermath. The obligation to confront the contemporary rise of antisemitism will not be overlooked, in light of the recent rise of extremist views in Britain and many other countries.



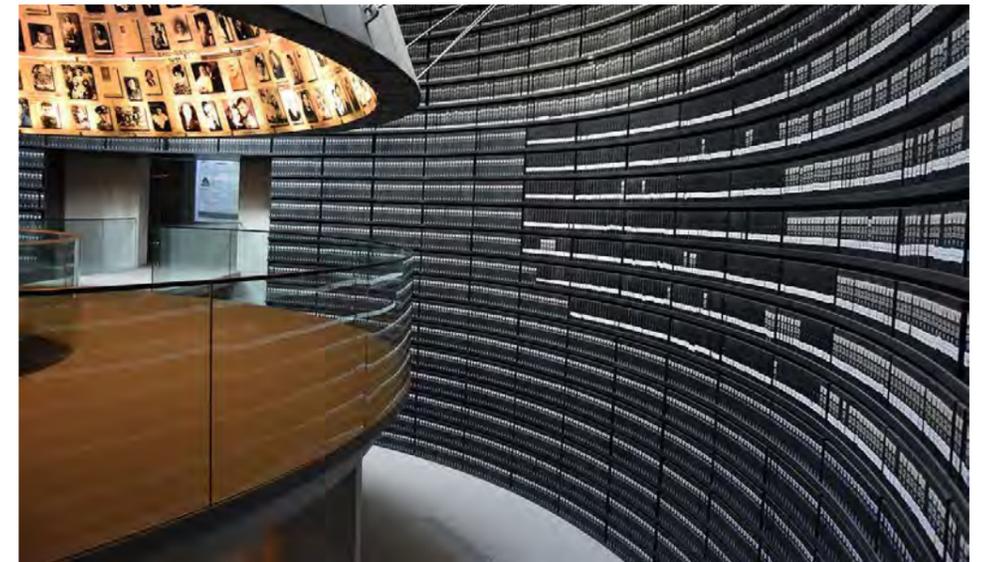
Block 27 Auschwitz



Shoa Memorial, Paris



Memorial to the Murdered Jews of Europe, Berlin



Yad Vashem, Jerusalem

This page shows examples of similar Holocaust exhibitions focused on a strong digital content

4.8 FURTHER DESIGN ELEMENTS

4.8.1 External Lighting

The external lighting design for Victoria Gardens is low key. We are very aware that there is no existing lighting in Victoria Gardens, therefore every fixture we introduce must be sympathetically selected for a particular purpose: to aid safe passage across the external space after dark and to extend the daytime beauty of the Memorial into the night.

The quality of the light is a cool white colour, with high colour rendering properties, contrasting against the existing sodium glow of the streetlights along Millbank. Lighting fixtures are selected with a minimal daytime appearance, often concealed within the new landscape features and completely out of view, or finished to match or reflect the materials used in the architecture of the Memorial.

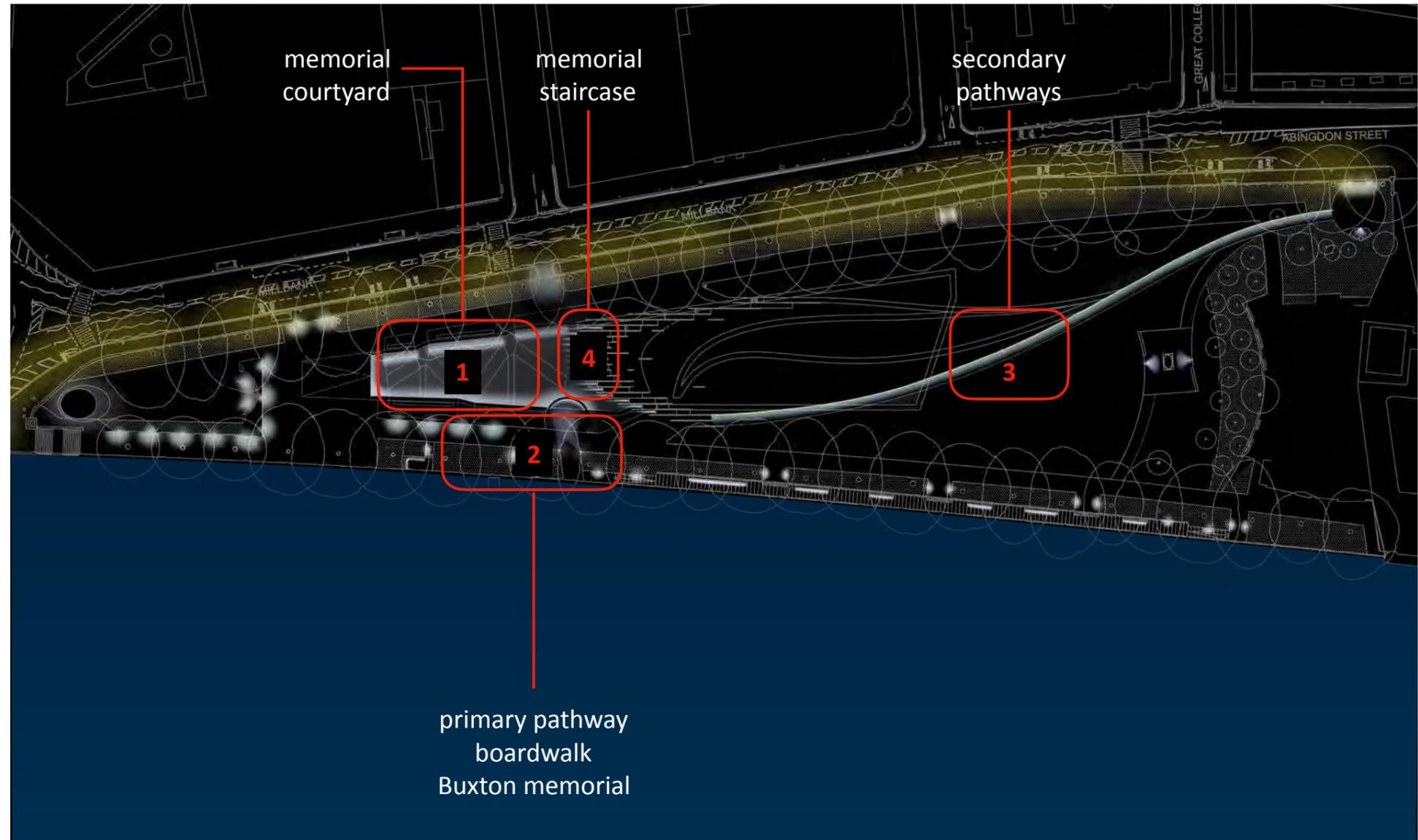
The lighting will be controlled by an automatic remote time-clock, so that light fixtures switch on automatically at sunset each evening. They will switch off at an agreed time, perhaps with only a minimum amount of light left on the Memorial fins after the area has closed to the public. The lighting will also be dimmable, so that the intensity of light can be fine-tuned during the commissioning stages.

The external lighting will produce minimal light pollution above Victoria Gardens, and is totally sympathetic to the environmental conditions beside the river Thames, and the nocturnal habitats of bats that populate the area at night.

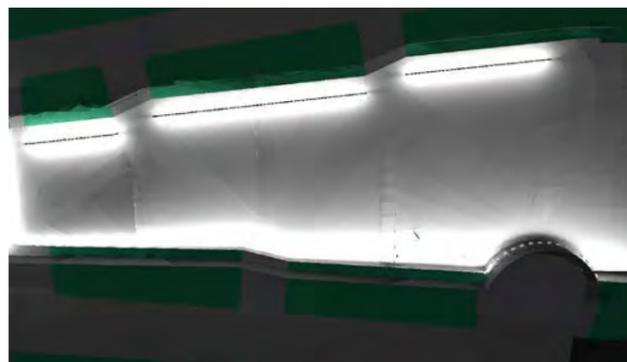
The aims of the external lighting design are as follows:

1. to allow safe passage of the public at night from the Memorial to the exits of Victoria Gardens;
2. to provide discrete, complementary illumination to the Memorial Courtyard and Memorial Fins;
3. to provide subtle illumination to new elements of the landscape at night, along the Thames Boardwalk;
4. to provide subtle illumination to the existing memorials in Victoria Gardens.

Text by DHA Design



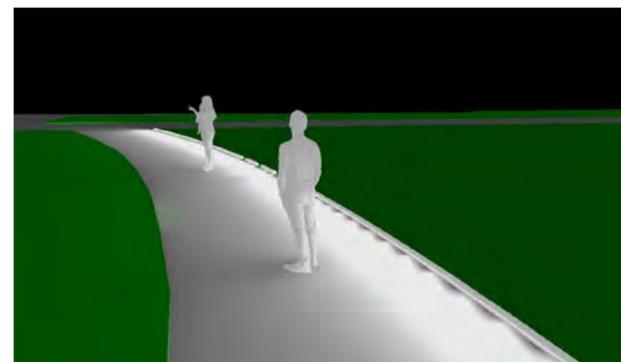
Plan of detail areas



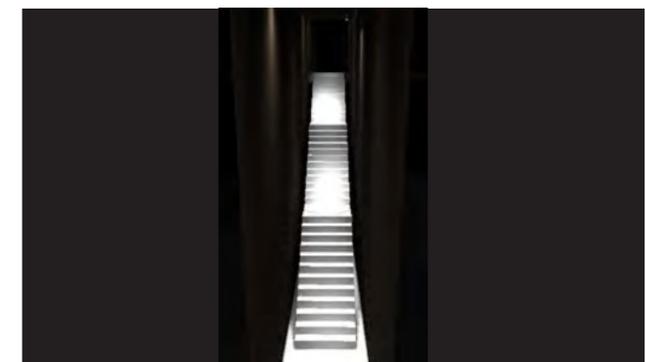
1. Memorial Courtyard



2. Primary Pathway boardwalk and Buxton Memorial



3. Secondary Pathways



4. Memorial Staircases

1. Principal Pathway Lighting

The principal pathways that guide the visitor from the Lambeth Bridge steps and from the principal entrance along Millbank will be illuminated at night using 900 mm external bollards on the edge of the hard landscape. These will illuminate the pathway with pools of cool white light, and cast some light back towards the edge of the planters. The choice of the bollard will be sympathetic to the architecture of the Memorial.



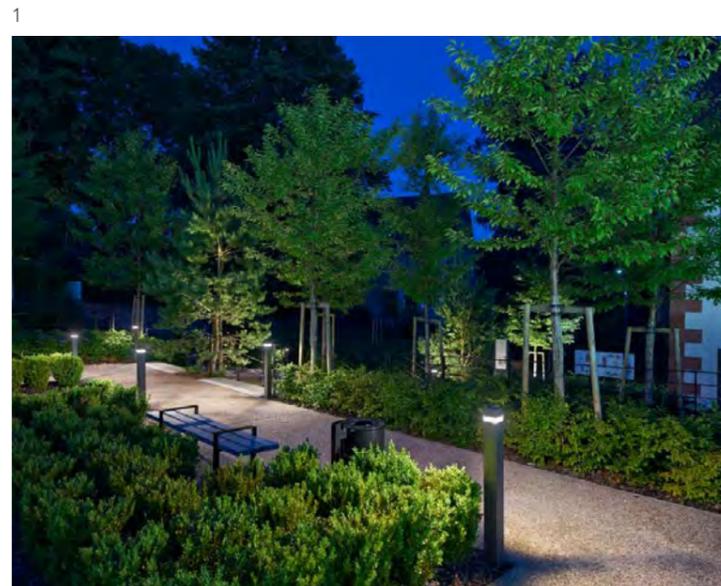
2. Thames Boardwalk Lighting

Linear concealed LED lighting will be hidden under the new benches proposed for the Thames Boardwalk, washing down onto the floor with bands of soft, cool white light. Smaller bollards will mark the entrances to the Thames Boardwalk along the principal pathway beside the river.



3. Secondary Pathway Lighting

The secondary pathways that guide the visitor towards the Westminster Palace end of Millbank will be illuminated using low-level fixtures along the edge of the pathway. These will either be a small, continuous fixture and the full length of the path, or small floor recessed marker lights every 2m, creating pools of light.



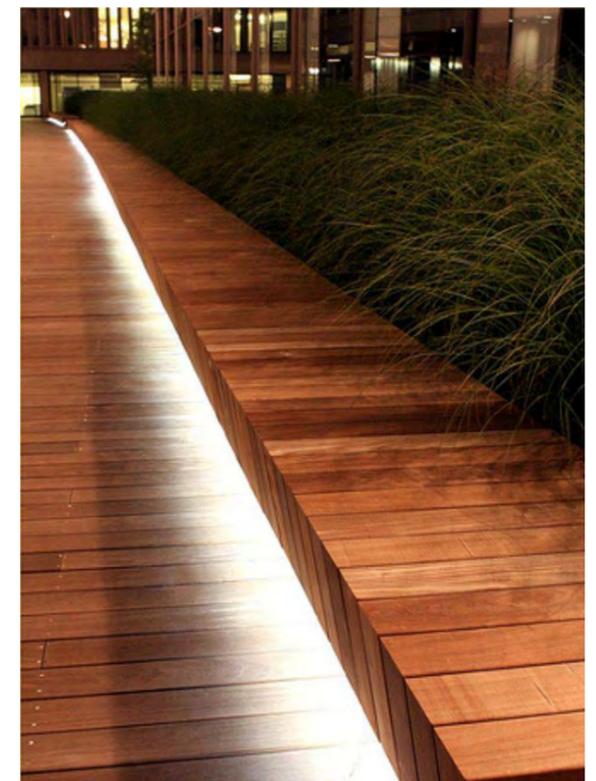
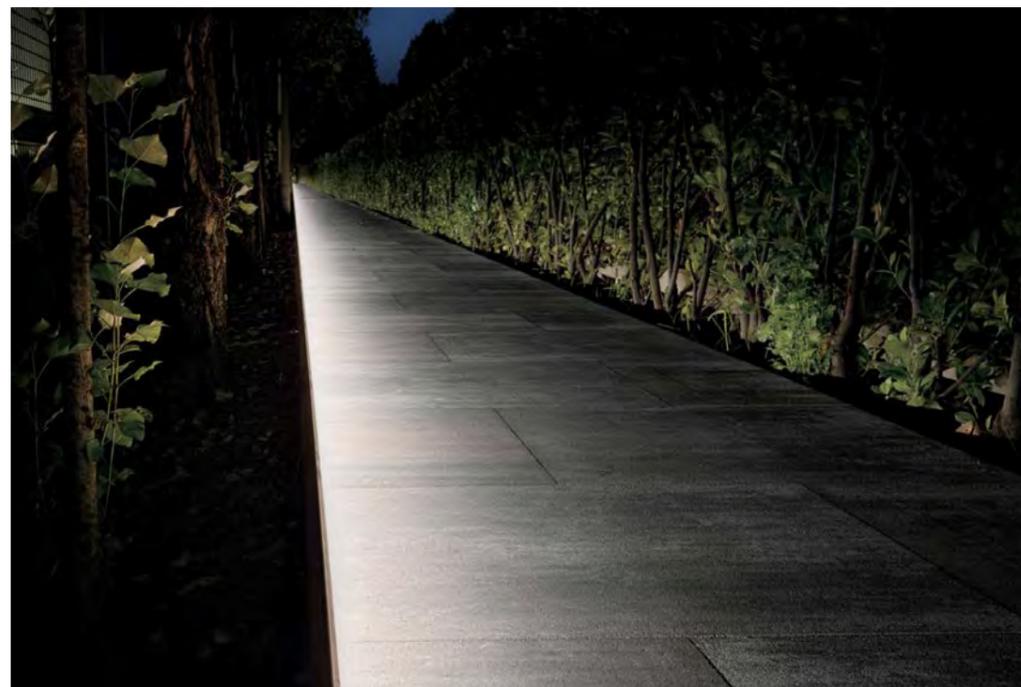
4. Millbank Entrances

The entrances along Millbank will have pairs of small bollard fixtures located inside Victoria Gardens that light down across the pathways, creating a visible focus to the visitor at night.

5. Existing Memorials

The three existing memorials in Victoria Gardens, including the dominant Buxton Memorial, will be softly lit at night using pairs of 900 mm high vertical light bollards. These are similar in appearance to the bollards proposed for the Principal Pathways, but have a direct light optic that faces the existing memorials, creating outward asymmetric illumination that lights onto each monument, using cool white light.

Text by DHA Design

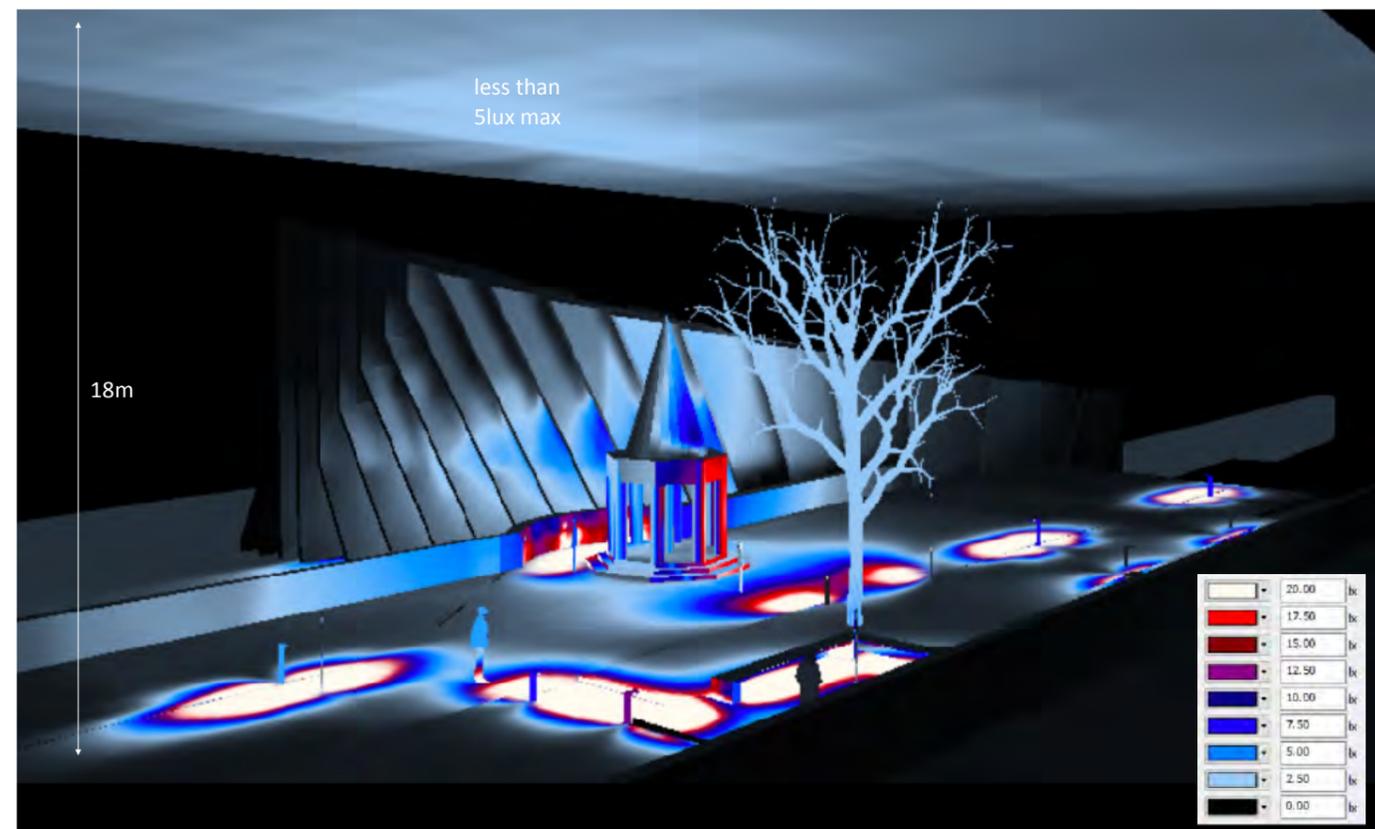
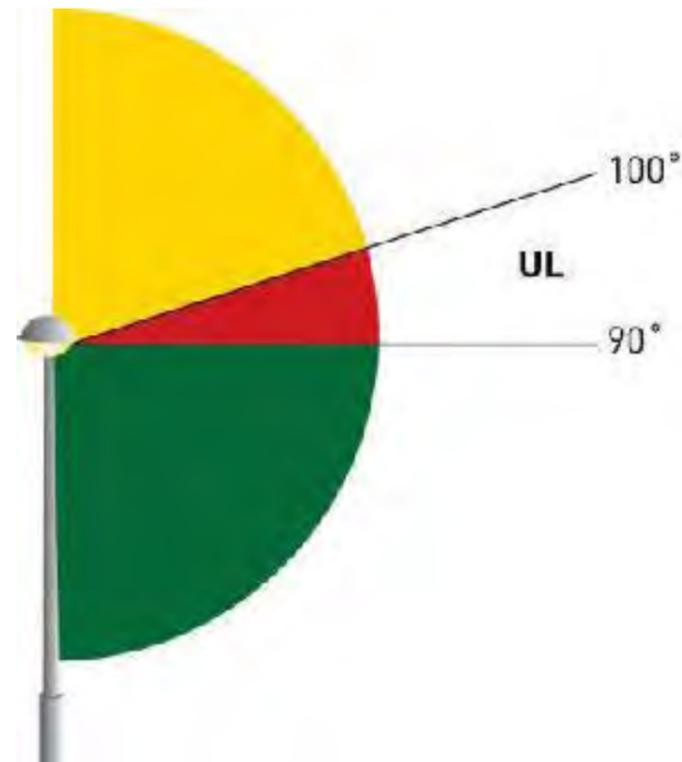


3

2

Lighting in this scheme is used only where it is needed.

- All lighting fixtures in this scheme use cool white 4000K LED sources, which emit minimal amounts of UV light, the majority of which is absorbed by phosphors in the creation of white light. UV has a high attractiveness to insects leading to direct insect mortality at street lights thereby reducing the availability of insect prey (Frank 2006; Bruce-White & Shardlow 2011).
- All fixtures in this scheme aim the light below 70deg above the horizontal, therefore minimising sky glow (ILP 2011).
- All upward light is avoided - there are no ground recessed uplights.
- All fixtures will be operated using a lighting control system with a built in time clock to ensure that:
 - a) intensity levels can be adjusted on site
 - b) all lights can be switched off after an agreed time



Reflected light onto a false sky - Proposed lighting scheme

4.8.2 Wayfinding and Signage

Due to the sensitive nature of both the subject, the architecture and the Royal Park, we predict that a natural and subtle wayfinding approach is the most appropriate. The following intends to show our initial thoughts on the how to integrate the wayfinding with the architecture.

Wayfinding and Placemaking

Setting relevant text into the existing elements within the gardens can augment the wayfinding and help intuitively guide visitors to the various memorials.

It would enhance their experience and give greater understanding of the meaning behind the various memorials as a whole. We want the gardens to be not just seen as the location of the NHM but a place that has even wider meaning and is a destination in itself.

Setting text into the pavement rather than traditionally having vertical signage means that it blends more into the environment and helps not to change the landscape of the gardens, that is so much loved by the local residents.

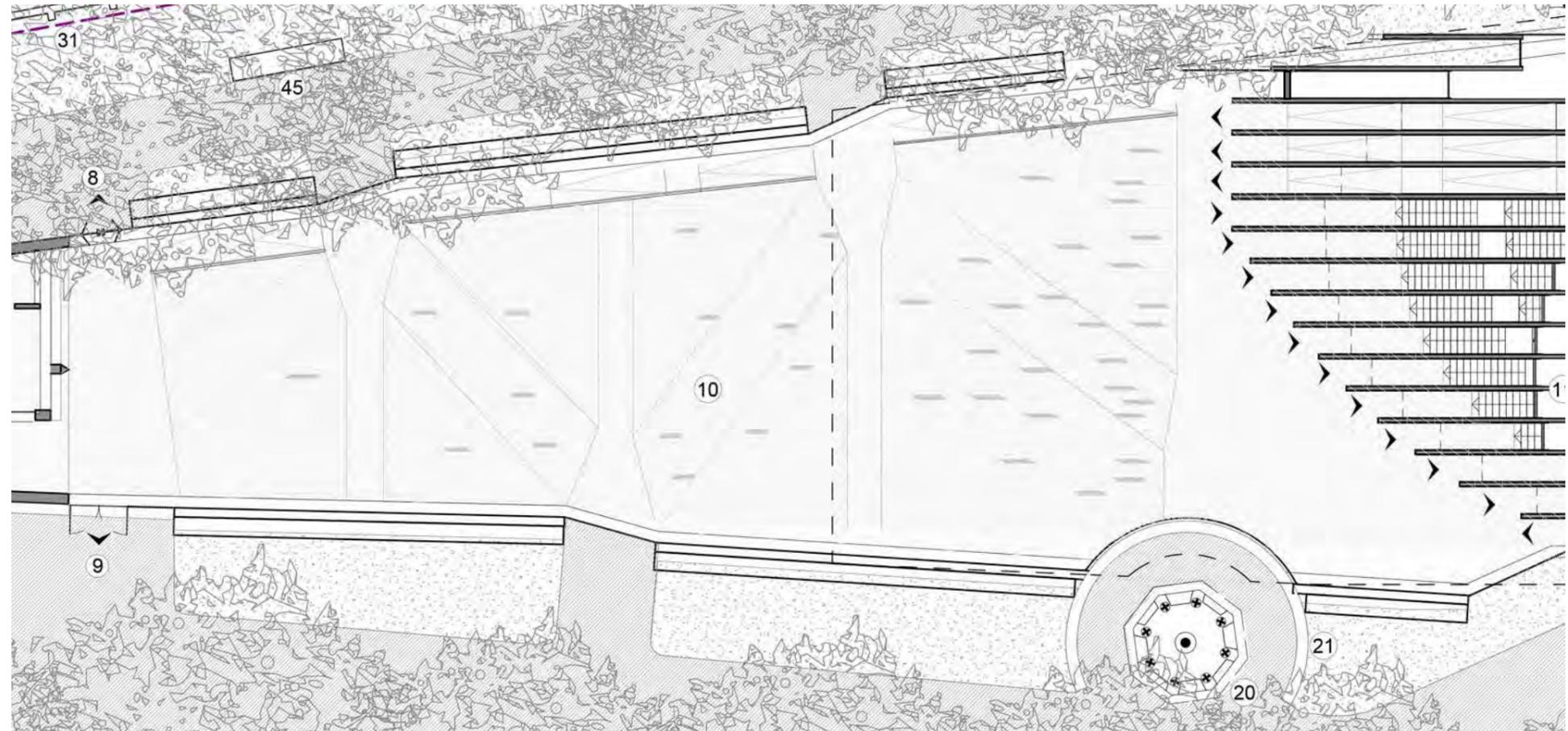
Text abridged from Wayfinding report included in annexes.



Memorial Courtyard engraved stone slabs

We propose to inscribe relevant words, statistics or specifically commissioned poetry engraved in individual stone slabs within the courtyard.

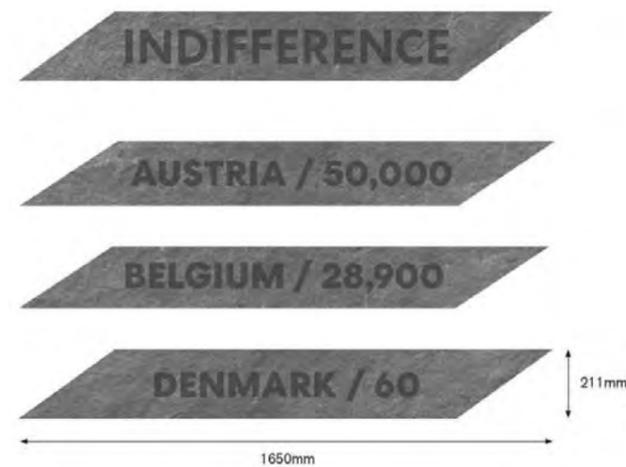
The engraved slabs could be set into the pavement at irregular intervals with the number growing towards the memorial – acting as an abstract piece of wayfinding.



Plan of Memorial Courtyard showing possible layout of engraved stone slabs replacing individual stone slabs.



Jewish Memorial tablets in the Oranienburger Strasse area of Berlin. Placed outside the former property of Jews taken away to Nazi concentration camps during World War II.



Example of stone slabs that would replace individual stone slabs in the Memorial Courtyard, possible inscriptions



Engraved stone reference images

4.8.3 Access Statement

The proposals for the development at this stage demonstrate that a good level of inclusive design will be achieved by the finished scheme.

The key access provisions for the proposed development include:

- Incorporation of the principles for inclusive design wherever possible
 - The step-free route across the Memorial Courtyard is incorporated into the design of the courtyard so that people unable to use stairs will not feel segregated from the main route
 - Incorporation of a passenger lift within the Memorial Fins so that people unable to use stairs will enjoy an experience as similar as possible to people going down the stairs
 - Step-free access to all facilities for visitors and for staff
 - Wheelchair-accessible sanitary provision on each sanitary accommodation
 - Safe refuge area suitable for a large number of disabled people
- The external landscaped that will surround and cover the Memorial building will include pathways that lead to the top of the mound as well as connecting across from the Millbank pavement to the Embankment beside the Thames.

Provisions to ensure the comfort of all pedestrians using the public realm are to include:

- Clear visual links and a legible layout between the entrances to the Victoria Tower Gardens and the entrance to the UKNHM
- Planting and landscape feature including seats and resting places every 50m. Any street furniture, paving and landscape features such as the proposed trees and public seating placed alongside circulation routes will not create barriers or hazards for people with impaired vision
- Predictable spaces, facilitating wayfinding for people who are blind or partially sighted
- Suitable non-slip, even, level walking surfaces

Text abridged from David Bonnet Associates, Access Statement

Refer to Chapter 5.3 for access within the Learning Centre. For more information refer to Access Statement Included in Appendixes.

KEY

- Park Main Route
- ▶ Park Access Points
- ▶ Park Routes under 5% accessible to disabled
- ▶ Fast Access Route to Memorial accessible to disabled (1:15)
- ▶ Contemplative Access Route to Memorial accessible to disabled (1:21)
- ▶ Entrance Route

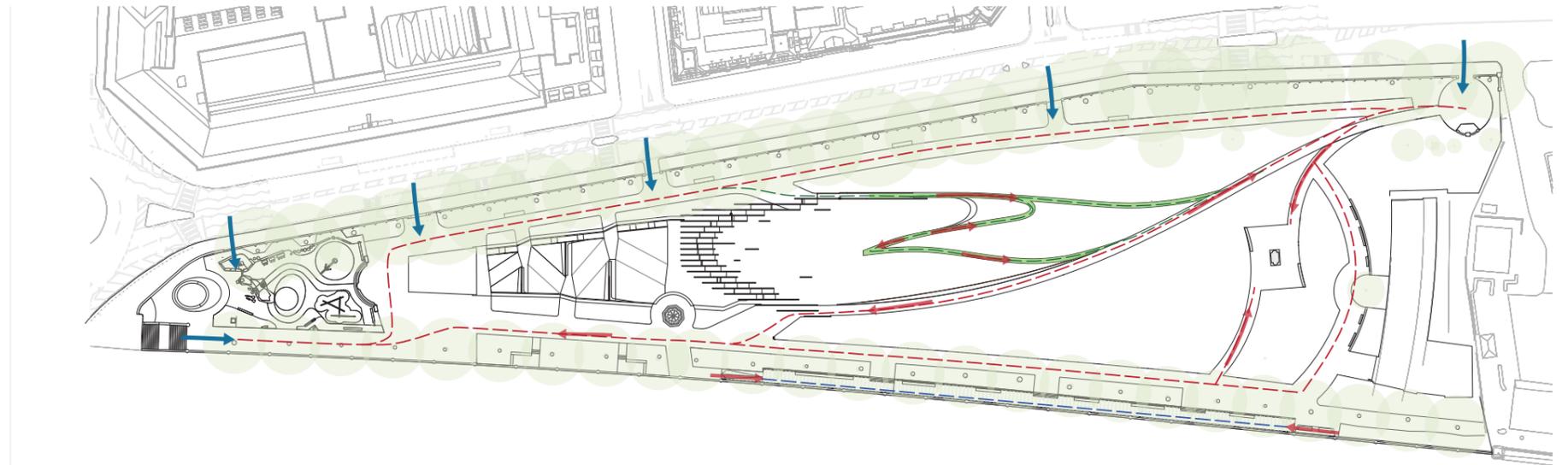
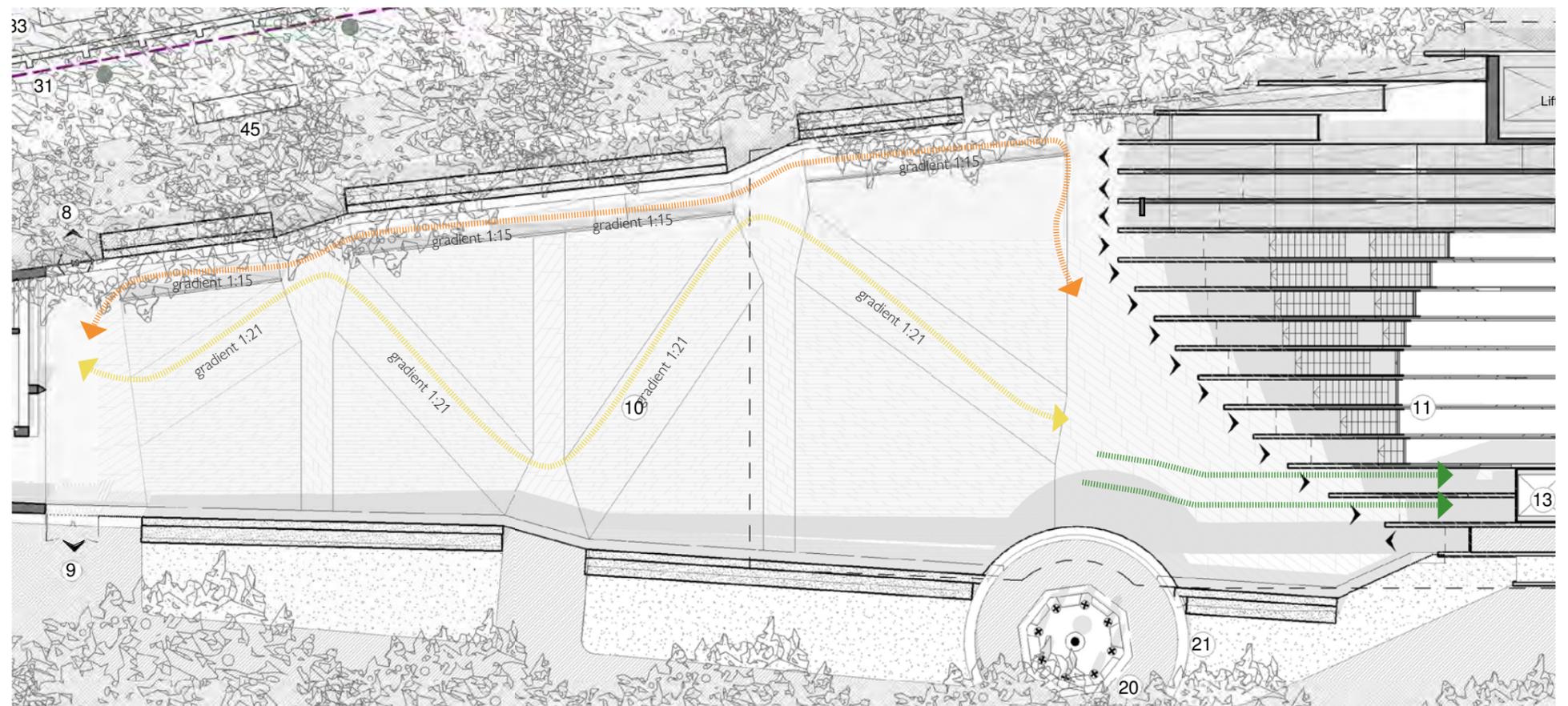


Diagram showing Routes and Access Points



Courtyard plan showing accessible routes

4.8.4 Energy and Sustainability

Our sustainable design objective is to design a low carbon and energy consumption building.

Thermal Mass

The building is situated underground with the roof of the occupied spaces being at ground level for visitors to Victoria Tower Gardens. All floors, walls and soffits will be concrete, providing high thermal mass. This will reduce internal temperature fluctuation, providing a stable / comfortable internal environment and free cooling during periods of warm weather, and free heating during cold weather, improving comfort and saving energy and carbon.

Optimised Insulation

By maintaining a thermally massive internal concrete layer and surrounding this with a layer of insulation and isolating the building from the ground, net carbon emissions will be minimised and the risk of condensation eliminated.

Thermal Labyrinth

Fresh air will be supplied to the occupied spaces via a concrete labyrinth located underneath the floor of the building. This will be “charged” using cool air overnight when the building is not occupied. During the day, fresh air will be supplied from air handling plant and the labyrinth will pre-cool the air due to the coolth retained in its thermal mass, reducing the requirement for cooling energy.

Displacement ventilation system

Will supply fresh tempered air at floor level and extract stale air at high level. This is the best technical solution to partner the labyrinth, allowing year-round heat storage and recovery to maximise efficiency in operation. The air handling plant and the distribution system, including the design of the distribution ducts were selected to minimise specific fan powers and the system will be ‘demand controlled’ using CO² sensors concealed within the extract air outlet. Refer to Ventilation Statement for Application for Planning Permission and Listed Building Consent for further details.

Optimised lighting

All the lighting in the building will utilise extremely high efficiency lamps and luminaires with optimised controls, including auto on/off sensor controls to minimise energy use when the building is not occupied. The lighting levels will be low compared to other buildings, which will significantly reduce energy consumption.

Underfloor cooling system

Supplied with chilled water from the ground source heat

pumps, the system will be zoned, using a series of manifolds which are thermostatically-controlled to maintain comfort conditions in the space.

Hydronic heating coils

Heating will be provided to the space using heating coils built into the low-level supply grilles. Using an air system ensures a faster heat-up time than an underfloor system, so comfort conditions can be maintained during occupied hours.

Open loop ground source heat pumps

Uses the ground as a heat source and heat sink, for both heating and cooling. The system will be powered by mains electricity with the potential to utilise renewably-generated electricity (generated off-site, arranged with utility supplier) and would have a high efficiency, with a COP of around 5.

BREEAM

The building is targeting the highest standard of sustainable design which in this case is expected to be “Breeam Excelent”

Ecology

New types of trees and planting will be introduced to the site, which will increase biodiversity; currently the dominant tree species is London Plane which limits the site’s ecological habitat. The new range of planting will respond to the context, and new bird boxes and insect habitats will be installed.

Transport

There is a well-established network of footways surrounding the site, including formal and informal pedestrian crossing points. There are also cycle routes within the vicinity. The site is within a highly accessible area of Central London with regards to public transport, and is easily accessible by bus, London Underground, rail and riverboat services.

Access

The proposal has been designed based on the provision of inclusive and universal access, including preserving inclusive access for Victoria Tower Gardens and ensuring ease of access for disabled users in the new proposed landscape and building.

Text from WSP - Energy and Sustainability consultants

Please refer to the Sustainability Statement, Ventilation Statement and Energy Statements included in this Application for Planning Permission and Listed Building Consent for further information

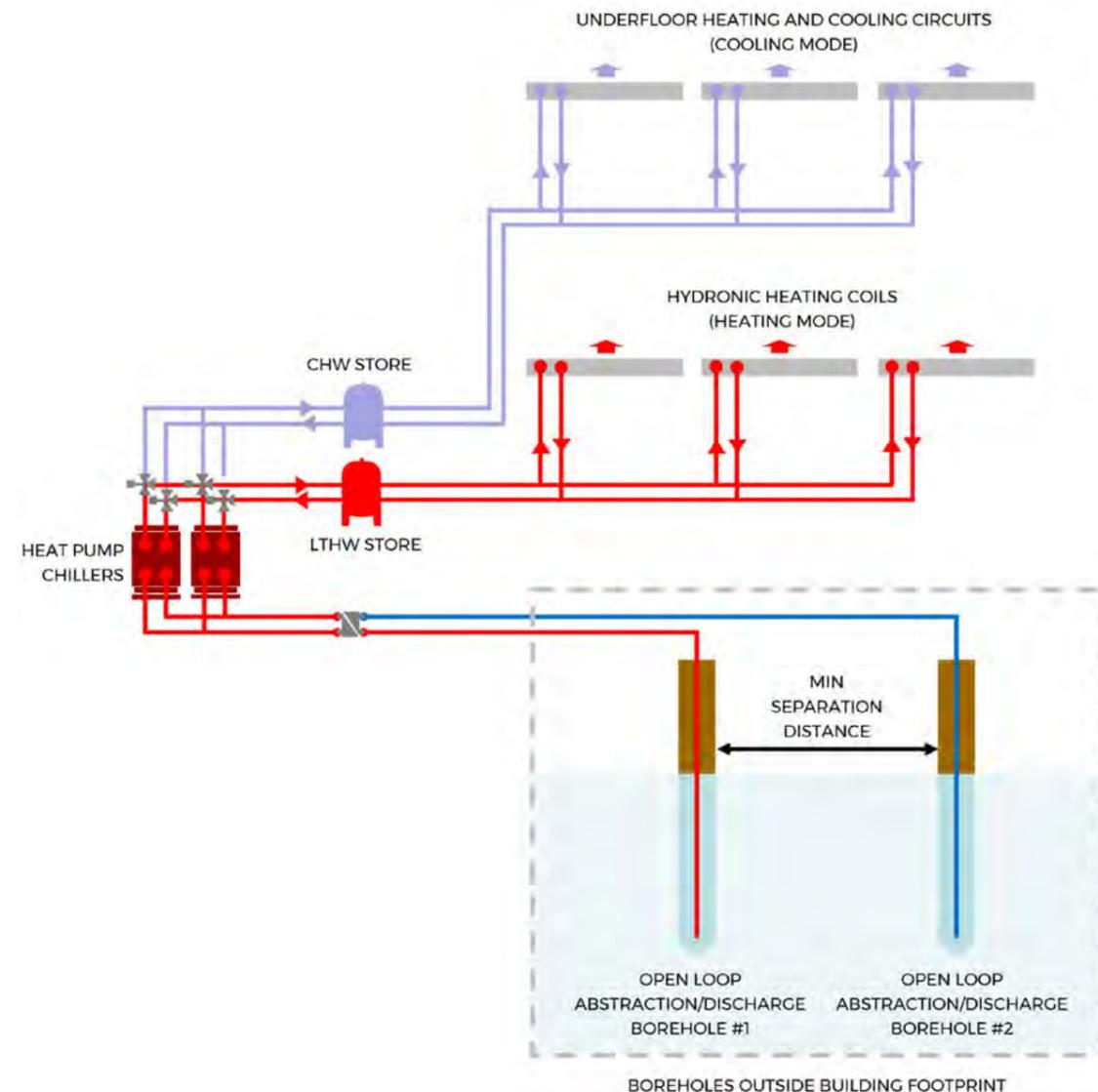


Diagram showing ground source heat pumps using loop abstraction from chalk or Thames gravel

ACCESS AND SERVICING

5

5.1 INTRODUCTION

Inclusive areas

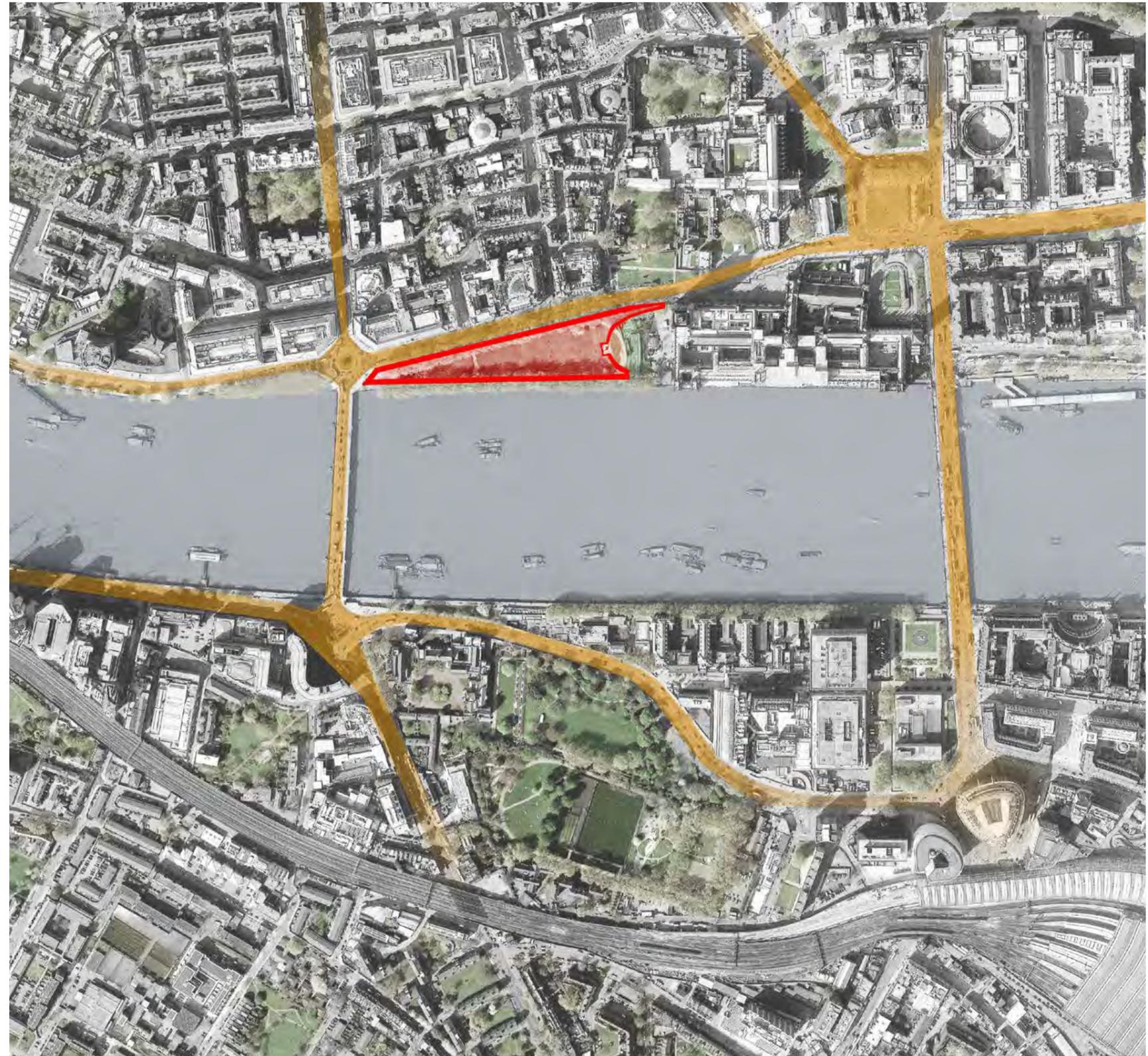
The proposal has been designed based on the provision of inclusive and universal access.

This includes preservation of inclusive access to Victoria Tower Gardens and to the new proposed landscape and building, where full consideration was given to Approved Document Part M of the building regulations and relevant British Standards.

Transport links

The site is positioned within a highly accessible area of central London, with close proximity to bus, Underground, mainline rail and river boat services. Westminster Tube Station is 800m away, from there the District and Circle lines provide access to all parts of London. Waterloo and Victoria Stations are also accessible, being a 20-minute walk away, and providing frequent services to Gatwick Airport and access to areas south of London.

Close to major arteries such as Westminster Bridge and Parliament Square to the north, and adjacent to Millbank and Lambeth Bridge.



KEY

- Memorial Site
- Main Traffic Arteries

Map highlighting main traffic arteries around Victoria Tower Gardens



5.2 ACCESS TO THE LEARNING CENTRE

Gardens access

Pedestrian access to the gardens is through five existing entrances: four level entrance points on Millbank and a stair access through Lambeth Bridge. Vehicular access to the site will be through Gardens Entrance 3, opposite to Dean Stanley Street.

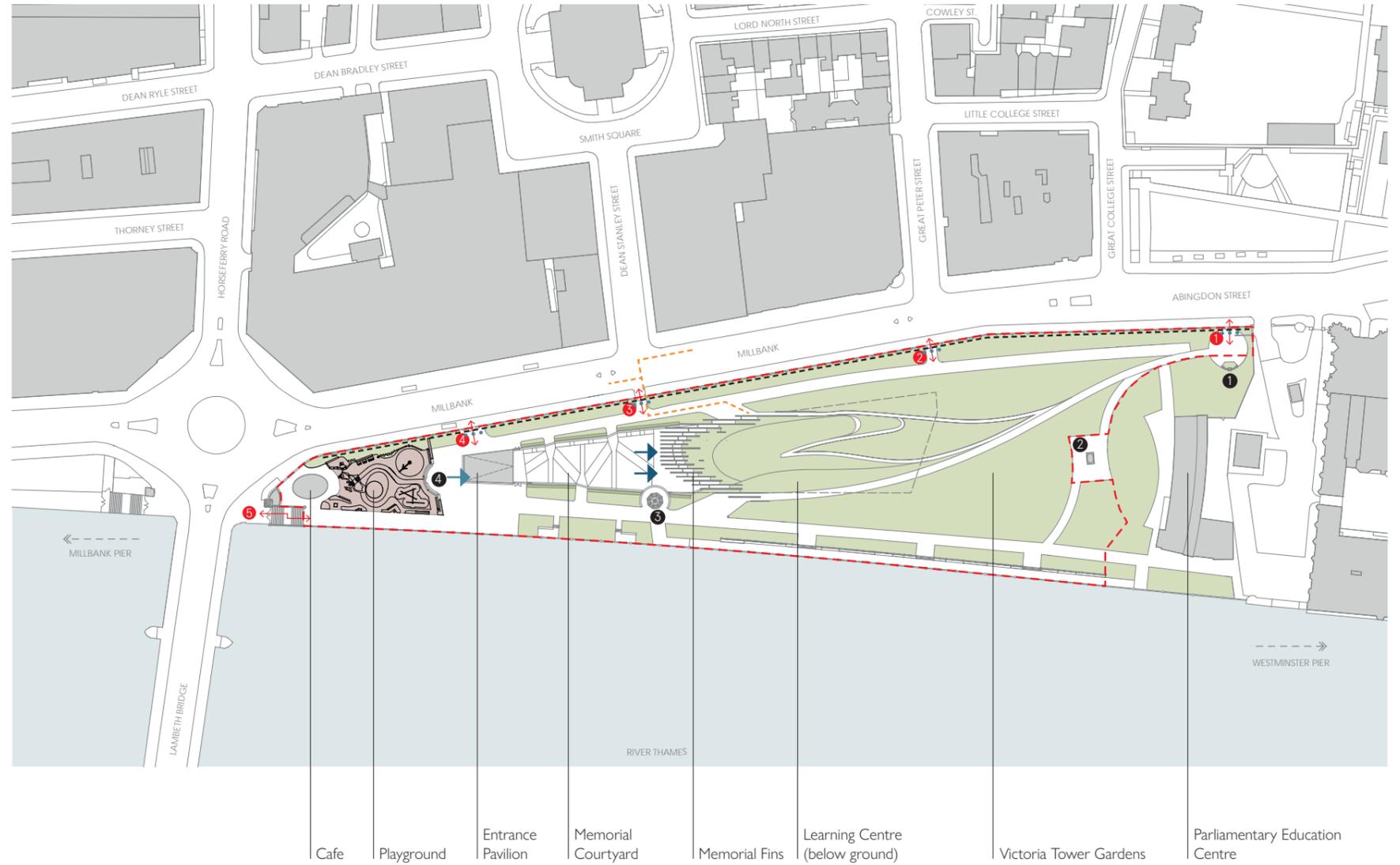
UK Holocaust Memorial and Learning Centre Access

The high security demands within the area of Westminster determined that the Memorial and Learning Centre would not be freely accessible through Victoria Tower Gardens, as visitors (and their bags) must be scanned and checked above ground, and in a location that is separate from the Memorial itself. This provided the design team with an opportunity to seek an alternative, highly sensitive solution through the creation of a 'garden within a garden' with a clear beginning, middle and end and with an Entrance Pavilion, to perform these functions, away from the Memorial.

Memorial and Learning Centre access

Access to the Memorial and Learning Centre is made through the Memorial Courtyard, which sinks down 2 m by means of ramped and sloped surfaces in accordance with Part M of the approved building regulations.

The courtyard separates the visitor from the outside world and directs their focus towards thought and reflection - a way to announce and prepare the visitor for the next stage of his or her memorial experience. A moment of contemplation as they view the dedication text within and gaze out upon the Memorial Courtyard and towards one of the 23 fins that will lead them into the Learning Centre below - whilst Parliament reigns omnipresent in their vista as a beacon to tolerance and democracy.



HMV Bollard and security perimeter location

KEY

- ↔ Step-Free access to Site
- ↕ Stairs to Site
- ① Entrance Number
- ➔ UK Holocaust Memorial and Learning Centre Access
- ➔ Memorial Access
- - - Vehicular Access
- ⋯ HVM Bollards
- - - Hostile vehicle perimeter
- ① Emmeline Pankhurst Memorial
- ② Burghers of Calais
- ③ The Buxton Memorial
- ④ Spicer Memorial



HMV Bollard location at Entrance 1

HMV Bollard location at Entrance 2

HMV Bollard location at Entrance 3

HMV Bollard location at Entrance 4



5.3 ACCESS WITHIN THE LEARNING CENTRE

Memorial Stairs

Access through the memorial is via eight staircases and 1 DDA lift, each of them in between fins and centrally located in relation to the overall elevation. The distance between each fin is 1.2m impelling each visitor to experience a solitary descent into the Learning Centre.

DDA Lift

The DDA lift located at east most side of the memorial, will permit disabled persons to have a similar experience descending through the fin down to the Learning Centre.

Stairs

A circular feature staircase with a glass platform lift links the exhibition space to the mezzanine level.

Lifts

Lifts are located at the west side of the Learning Centre. 2 DDA passenger lifts are provided, linking basement and mezzanine levels. A goods lift will link basement to ground floor where the service lobby/loading bay is located.

Exit Ramps

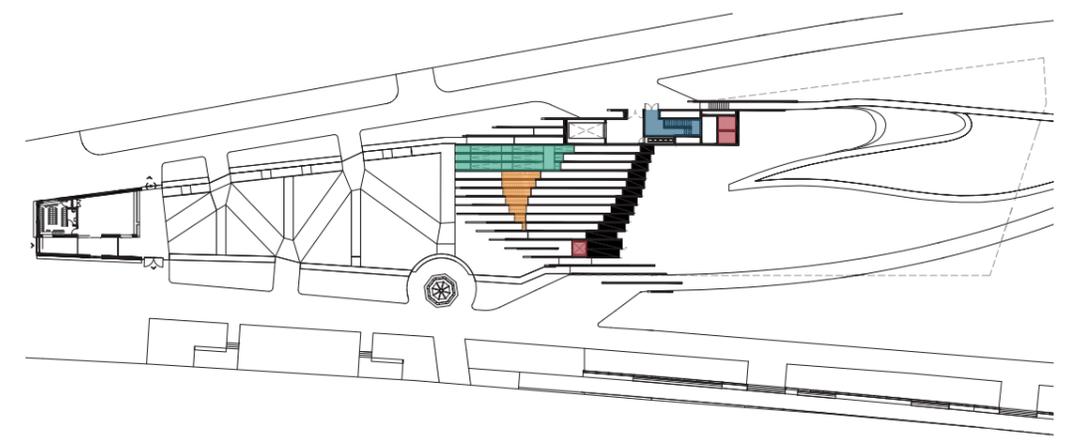
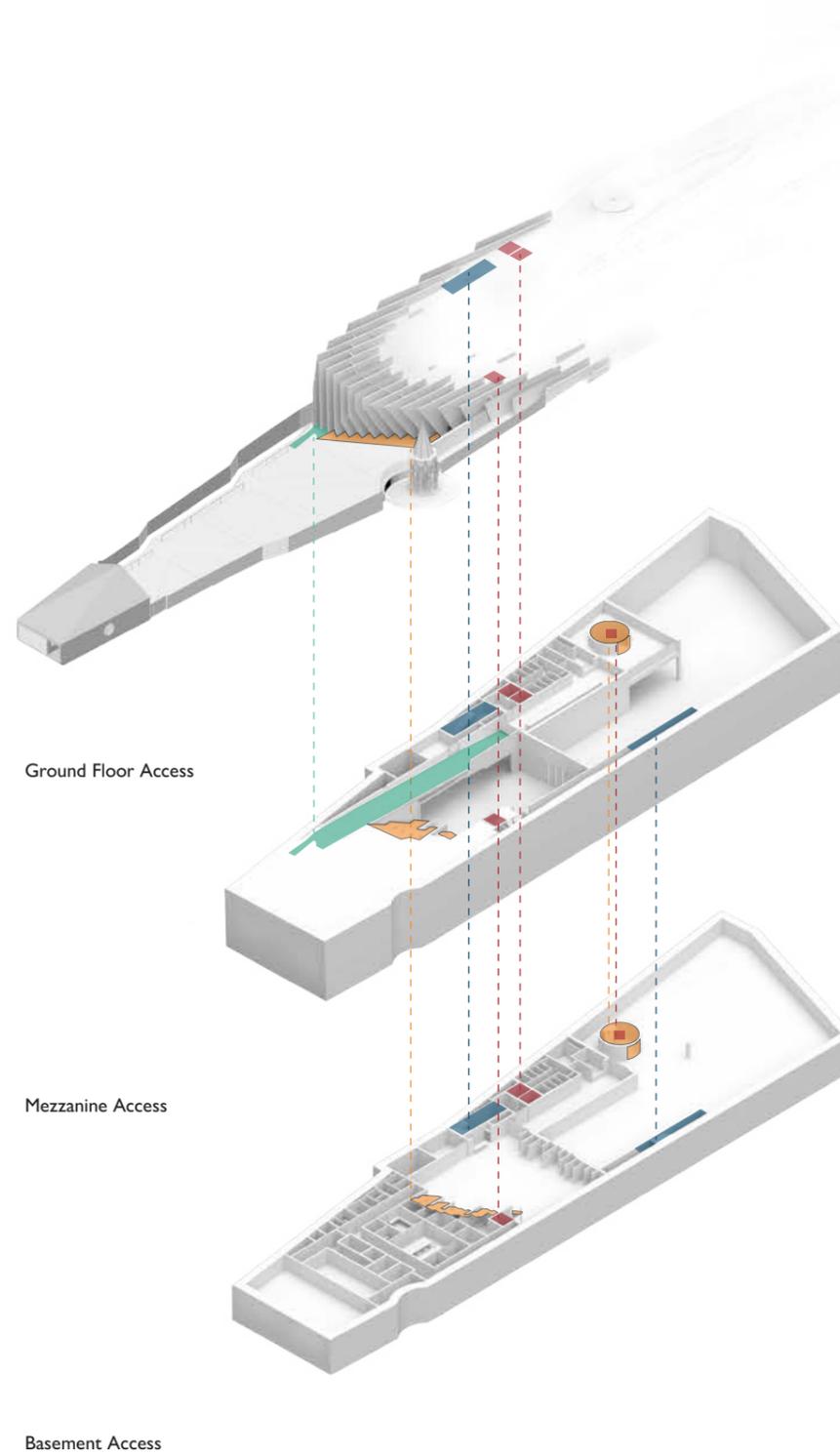
At the end of the journey the visitors will exit through three exit ramps located at mezzanine level, in between fins in a similar way to the entrance stairs and connecting directly back to plaza level.

Fire Escapes

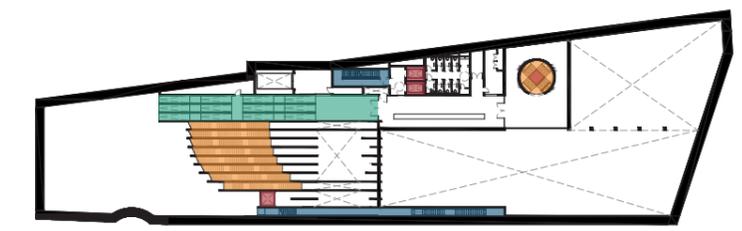
There are 2 fire staircases located on opposite sides of the Learning Centre. The west staircase leads the users from the basement or mezzanine up to the ground floor and out to the gardens adjacent to Gardens Entrance 3. The east staircase leads from the basement out to the plaza level.

KEY

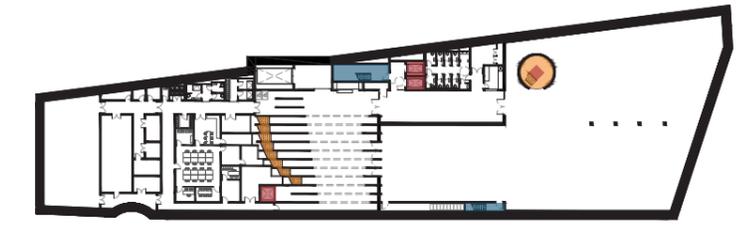
- Memorial Stair
- Fire Stairs
- Elevators
- Exit Ramps



Ground Floor Plan Access



Mezzanine Plan Access



Basement Plan Access

5.4 INCLUSIVE ACCESS WITHIN THE LEARNING CENTRE

Inclusive access

Access routes to and within the Learning Centre have been designed to accommodate the needs of wheelchair or less able users, complying with Part M of the building regulations. Accessibility regarding the external elements - landscape and Memorial Courtyard had been described in Chapter 4.

Entering and Exiting the Learning Centre

Access is through the Memorial Fins via eight staircases and a DDA Memorial Lift to enable disabled users with a similar experience as other users. Each stair will be 1.2m wide and will comprise of three identical flights of 13/13/13 steps, which is a preferred solution than adding a fourth landing, considering guidance from BS 8300.

Exit is through three ramps from mezzanine level comprising five flights of 5m long by 1.2m wide ramps with a gradient of 1:15 leading out to the Courtyard level. Part M requires a ramp width of 1.5m minimum, however the proposed ramps of 1.2m are considered acceptable on the basis that the main accessible route to exit the Memorial is through the memorial lift and that these ramps only have one direction of flow. Additionally, linked intermediate landings will be provided in order to avoid blocking a ramp in case someone falls.

Accessibility within the Learning Centre

The main space of the Learning Centre is located at the basement level, with all the exhibition space at the same level. The design of the exhibition is currently in development, but consideration will be made to ensure that the display is accessible to people with reduced mobility, people with sensory impairment, and people with cognitive impairments.

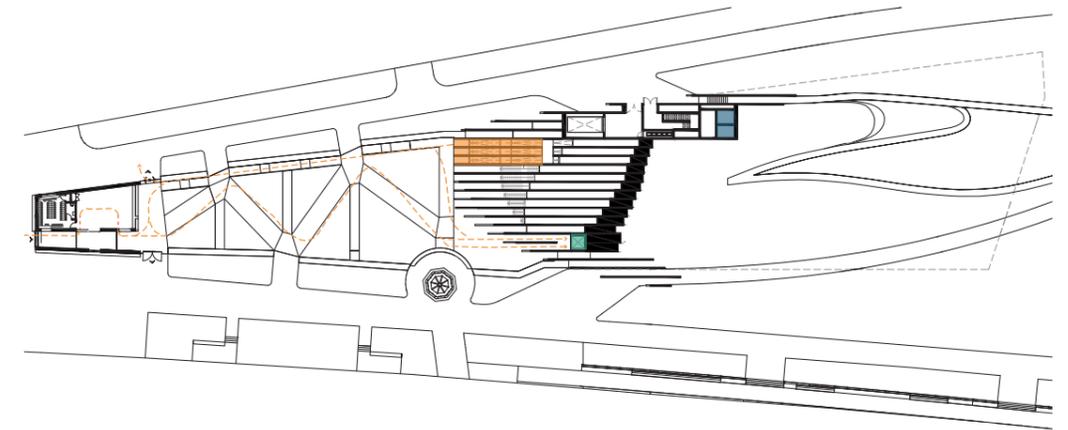
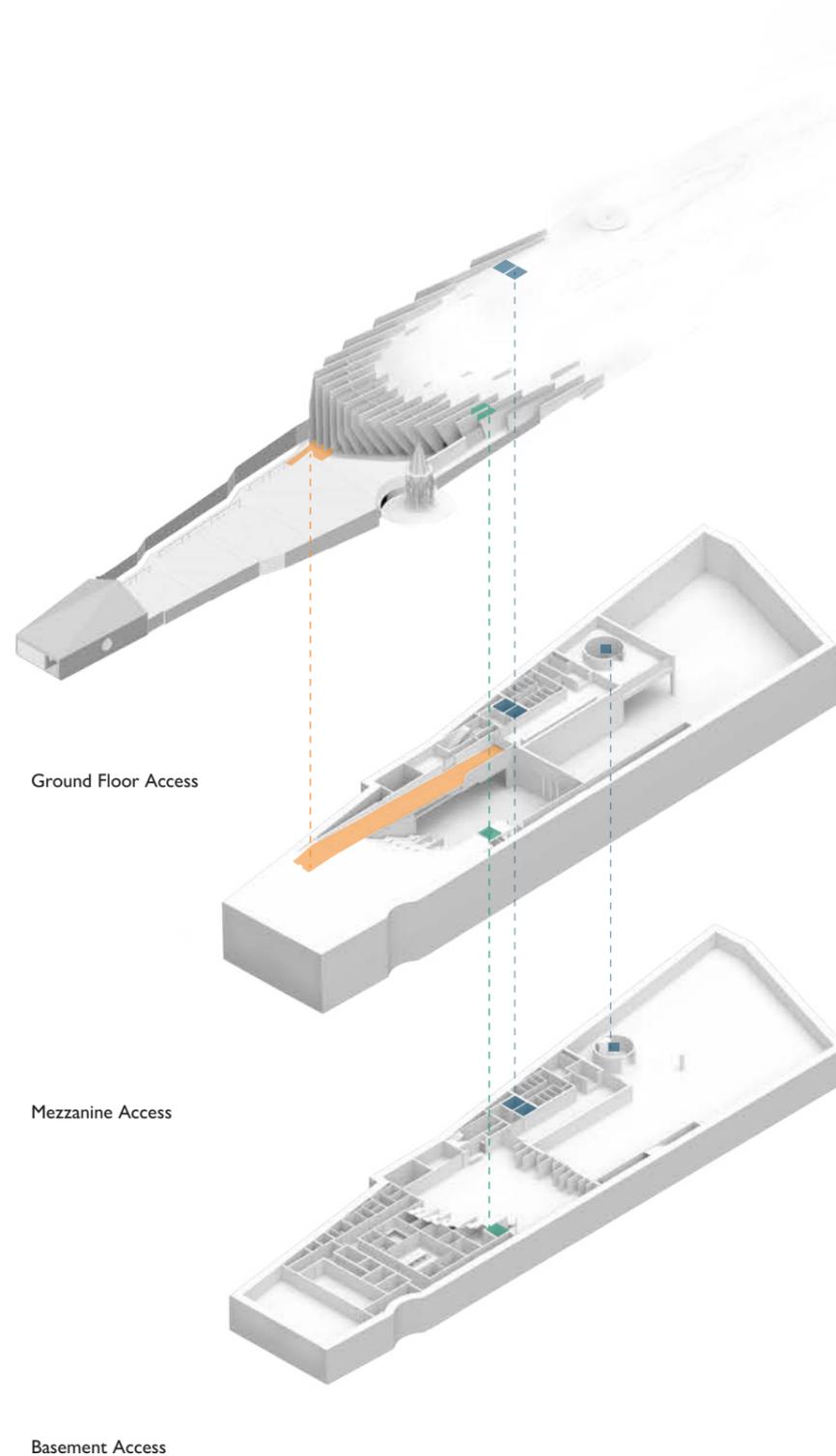
At the end of the exhibition, access to mezzanine level is via a circular feature staircase with a bespoke glass hydraulic platform lift located in its centre, or two 17 persons DDA lifts located in the Lobby.

Further details of the internal circulation, doors, visual contrast, counters and displays will be developed at a later stage and designed in accordance to AD Part M and the guidance of BS 8300.

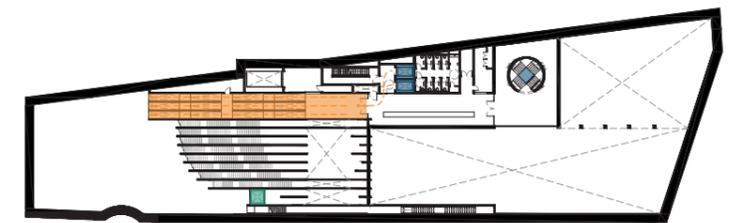
For more information please refer to Access Statement included as an annex.

KEY

-  Accessible Exhibition Path
-  DDA Memorial Lift
-  Lift
-  Exit Ramps



Ground Floor Plan Access



Mezzanine Plan Access



Basement Plan Access