

Ozawa Fields

the music venue

Bachelor project in Architecture and Engineering
Chalmers University of Technology

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ozawa fields

concept

Ozawa Fields is a lush park located near Boston and the Connecticut River, hosting an outdoor concert venue for the Boston Symphony Orchestra during summer. The project is named after the BSO's late musical director, the Japanese conductor Seiji Ozawa, with inspiration drawn from Japanese rice fields and origami. The design is driven by acoustic performance while also focusing heavily on creating a visually striking experience.

the park

The park provides a public garden where people, even if you are not attending a concert, can enjoy nature and planted greenery. Although thoughtfully designed, the greenery resembles a constructed wilderness that changes over time and with the seasons. The park is not intended to be the same as it was yesterday.

planting

The planted vegetation is selected for ecological sustainability and low maintenance. Flower species that thrive in the area year-round, such as New England Aster, Swamp Milkweed and Joe-Pye Weed, are planted throughout the park. The fields are also used for the cocktail bars and food stalls connected to the concert venue.

Vegetation plays a central role in strengthening both ecological and spatial qualities. The lush planting strategy promotes biodiversity by creating habitats for pollinators such as bees and other insects, while contributing to a richer, more dynamic landscape. Planting is carefully distributed across the terraces to provide seasonal variation, shade, and micro-climatic regulation. Together, these strategies form a resilient landscape that enhances both environmental performance and the overall visitor experience.



landscape

site

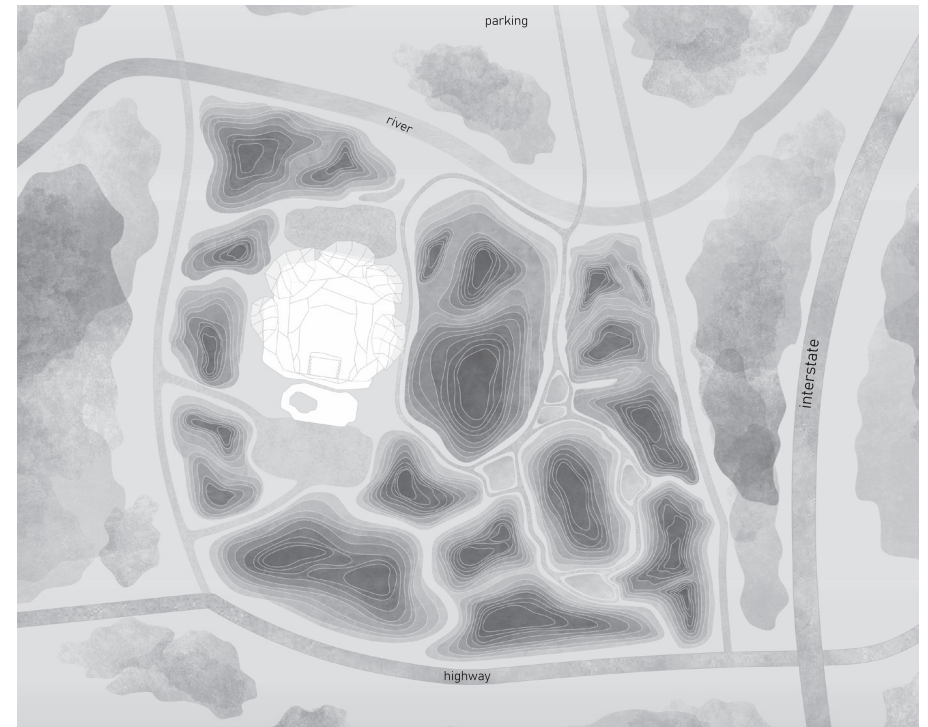
The site is located about one hour outside Boston, along the Connecticut River and Interstate 91, with a residential area in the southwestern part. To respond to these circumstances, the venue is situated in the western part of the site. This moves the venue as far as possible from the Interstate, while keeping some distance towards the residential area. The shielding is achieved by sinking the venue into the ground and using the excavated soil to form rice fields inspired terraced hills across the park.

In the southwestern part of the site, the stage is oriented to the north to avoid direct sunlight, creating stable conditions for both the orchestra and their instruments. This orientation directs sound away from the residential area and helps to minimize disturbance during performances. The placement further protects the residential area by elevating the back-of-house area above ground level, forming a physical barrier that limits sound propagation near its source. This elevated structure also provides the orchestra and staff with access to natural daylight in their spaces.



circulation strategy

The flows between the staff and audience are clearly separated. The audience accesses the venue from the parking area on the other side of the river. From there, visitors cross a bridge and can either proceed directly to the venue along the river or move through the lush park. Staff access is located on the opposite side, in a concealed part of the site, via two separate roads leading to an open service area connected to the loading dock. This zone, reserved exclusively for performers and staff, ensures efficient logistics.

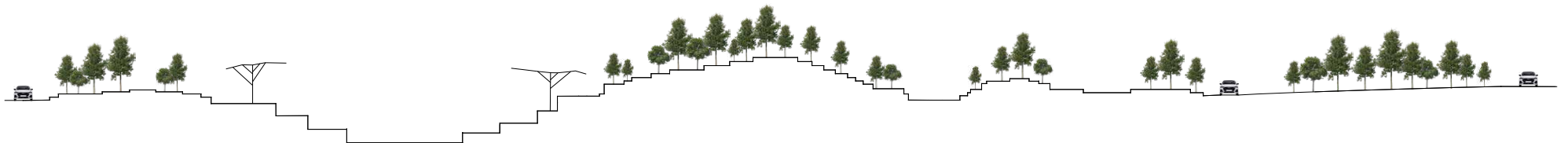
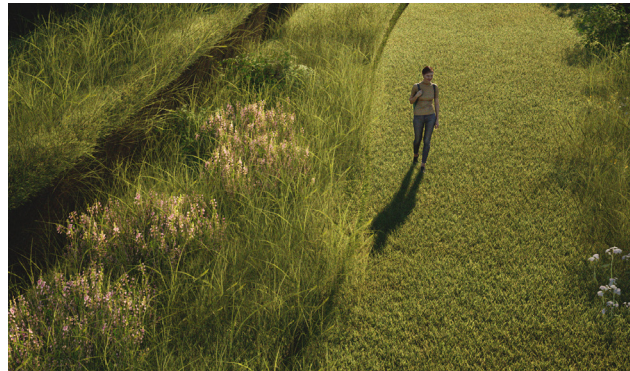
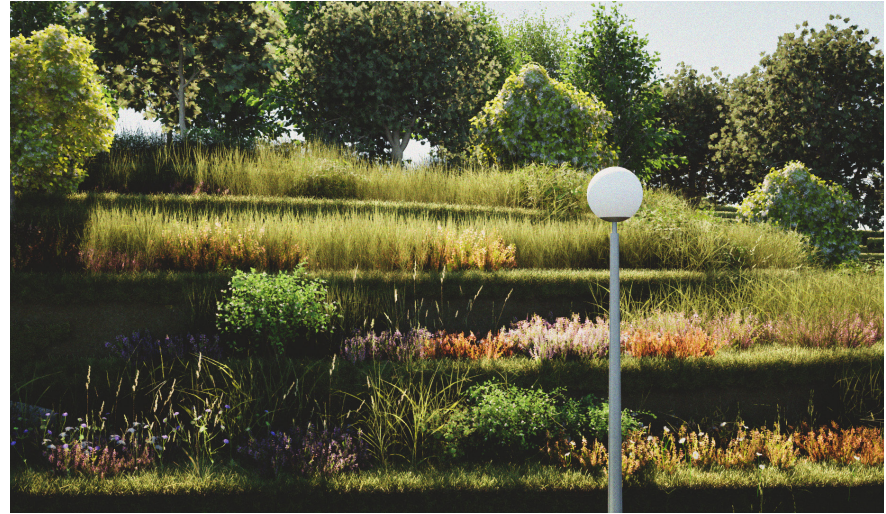


terraced hills

structure

The terraced fields are constructed according to traditional techniques, using packed earth, stones and bamboo to provide stability at edges. Each level absorbs traffic noise. The terraces are carefully crafted evenly to hold water and soil in place, while diverting excess rainwater through channels and outlets.

The terraced levels serve different functions, with most planted with flowering vegetation while others are designed as seating areas and pathways. This creates a sequential spatial experience in which visitors move through the park and gradually discover new views and spatial qualities. The terraces are also designed to manage water through concealed channels that, together with smaller ponds, form an integrated stormwater system. This system additionally functions as irrigation, supplying the vegetation with the necessary amount of water.



music venue

seating areas

The design language of the park extends into the sunken music venue through a series of terraces that gradually lead down to the lowest point, where the stage and standing area are located. The venue is designed to accommodate 13 000 visitors, with approximately 6 500 seated, including 3 000 covered seats.

The terracing is organized across three levels, with access from different entrances depending on the ticket type.

The upper terrace levels are equipped with a roof, designed to preserve clear sightlines while concealing larger speakers, which enhance the acoustic experience for more distant audiences. These terraces are also fully accessible, with elevators distributed throughout the upper terraces to accommodate visitors with reduced mobility.

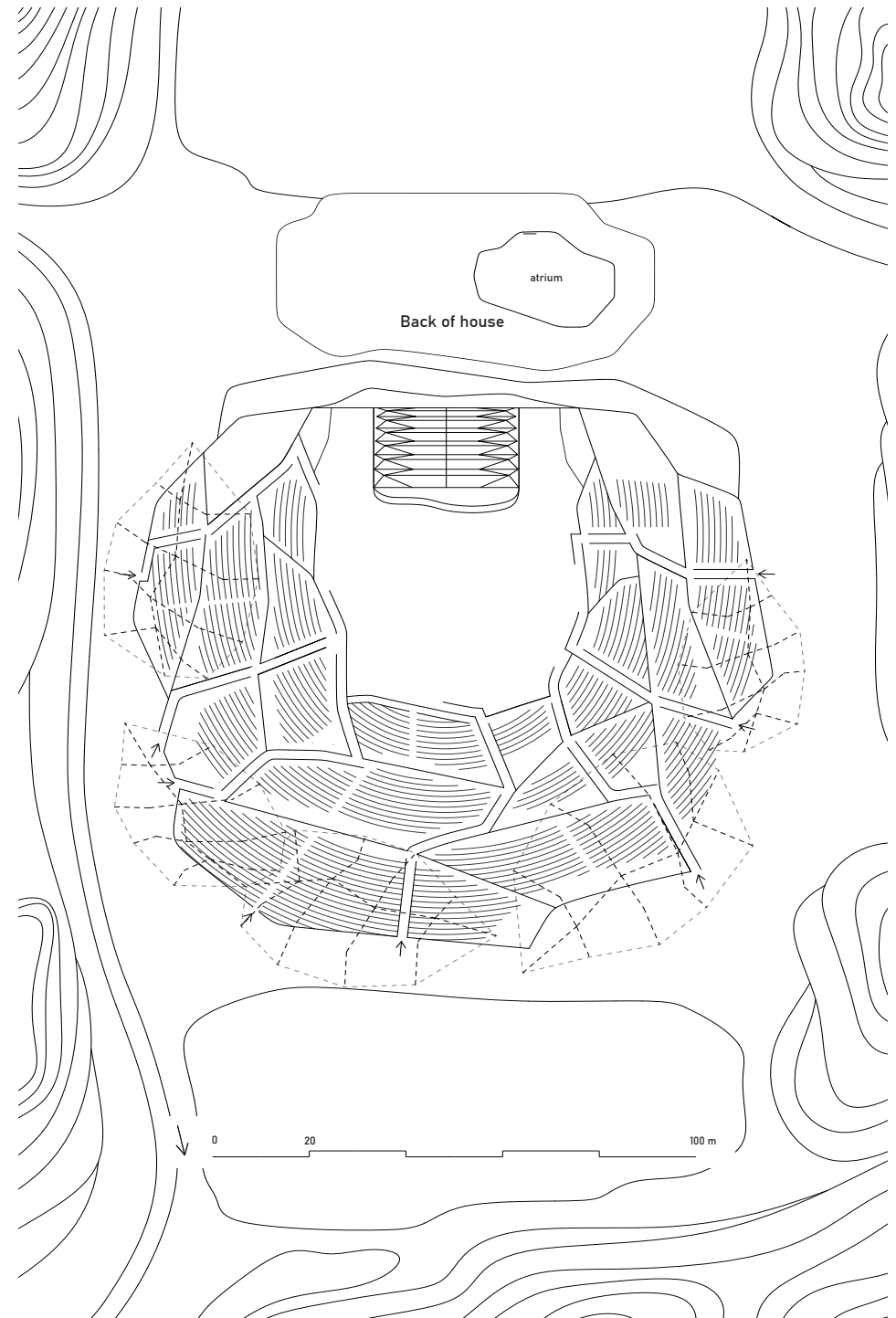
The venue is designed with eight entrances leading down to the various seating areas on the terraces, as well as to the standing area at the lowest level. The stairs leading to assigned seating are located along the sides of the terraces to avoid obstructing sightlines and to maximize seating capacity. They connect the terraces vertically and emerge at the front of each level, from where movement toward the seating continues via a series of flatter stairs. The largest staircases extend all the way down to the standing area in front of the stage.

acoustics

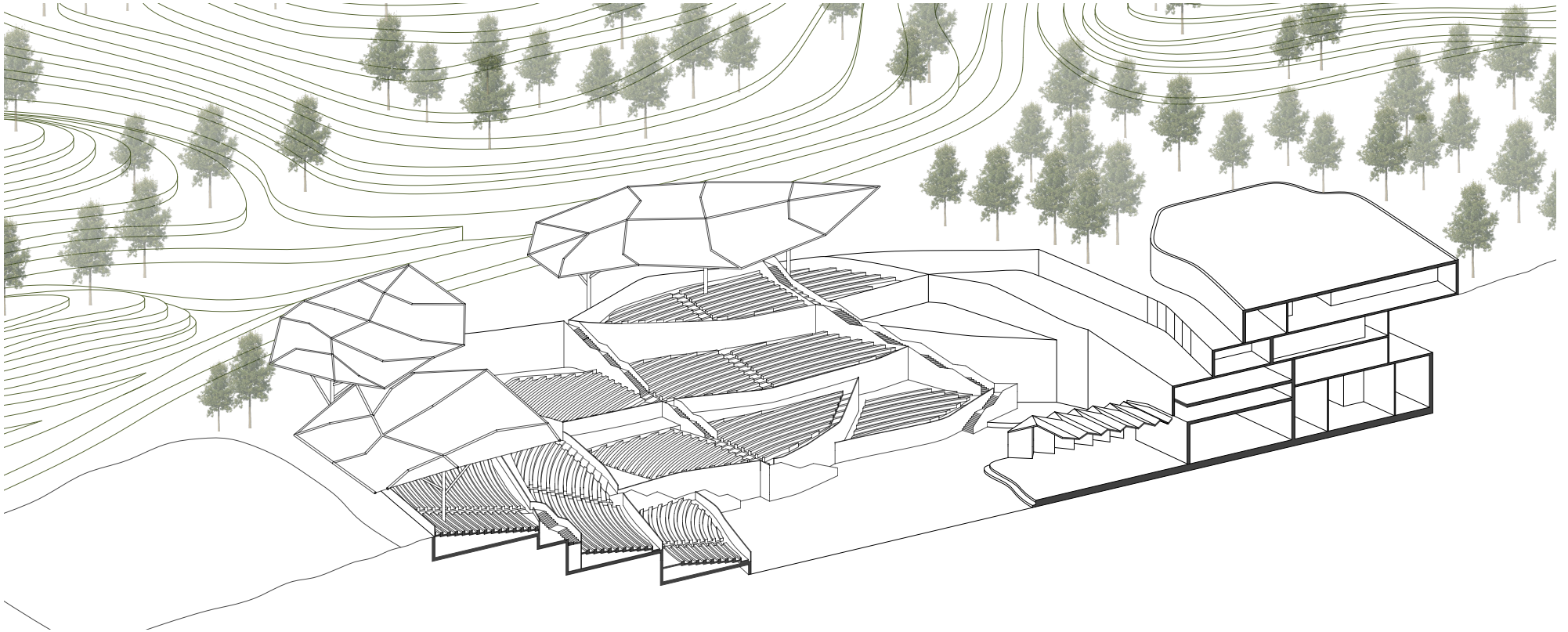
The surrounding areas along the terracing are designed to absorb as much sound as possible, while electroacoustic systems are used to enhance and control sound levels. Scattering and absorption strategies are employed to avoid strong reflections that could interfere with the electroacoustic system, while also reducing sound transmission toward the residential area.

The seating is formed using gabions, where the gravel provides mid- to high-frequency scattering and low-frequency absorption. In selected areas, absorption is increased by incorporating porous absorbers within the gravel. Vertical surfaces are clad with thick porous absorbers and a rough Corten steel structure that provides additional scattering and supports climbing vegetation.

To minimize disturbance, highly directional cardioid arrays are used as the primary speakers, housed in towers with acoustically transparent frames that match the surrounding architecture. Two towers on each side of the stage ensure proper sound localization. Secondary delayed arrays are suspended within the roof structure to cover the rear of the venue, while a network of distributed speakers integrated into lighting poles provides even coverage across the audience area. A calibrated mix of signals from instruments, stage, chamber, and audience is used, with precise delays to satisfy the precedence effect. The aim is to create a soundscape that gives the audience a full acoustic experience.



section



back of house

logistics

The back-of-house is organized across three levels, one above ground and two below ground.

entrance floor

The entrance floor, above ground, is directly connected to the loading dock, allowing instruments to be transported seamlessly from trucks into the building and onto a freight elevator that leads to the lowest level, where the stage is located. A large storage area is also positioned adjacent to the loading dock.

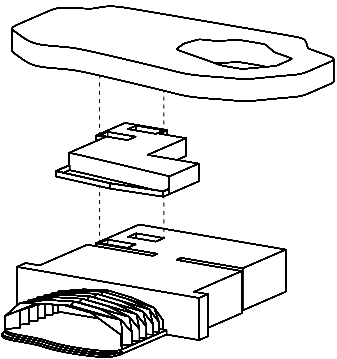
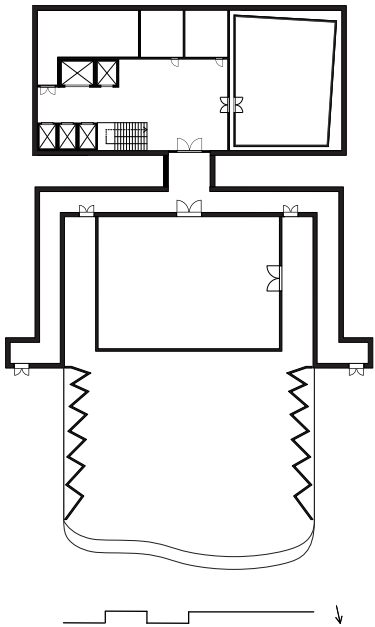
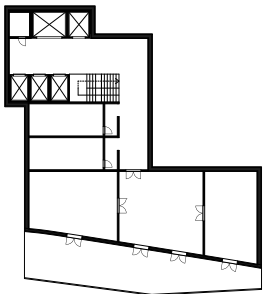
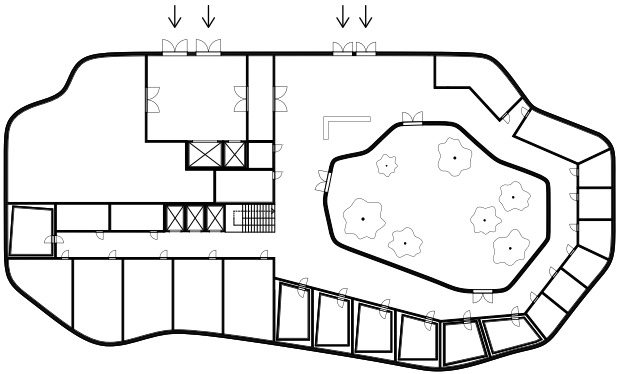
The entrance floor also includes a spacious entrance with a reception and lounge area designed to welcome the orchestra. An atrium with a Japanese garden brings in natural daylight and creates a pleasant atmosphere for both staff and performers. This level also accommodates all offices and locker rooms, which are placed along the facades to ensure access to daylight. Dressing rooms are located on this floor, combined with rehearsal rooms, as required by the competition brief. These spaces are designed according to the box-in-box principle to isolate them from both airborne and structure-borne sound, ensuring appropriate acoustic conditions.

mid level

The mid level serves as a social floor where guests can meet the orchestra. This level is equipped with a kitchen connected to a lounge with a dining area, as well as a separate green room that functions as a meeting space. All of these rooms have direct access to an outdoor terrace overlooking the music venue.

lowest level

The lowest level is directly connected to the stage, which opens out toward the music venue. This level includes the chamber directly linked to the stage, with a large storage area located beneath it for props and related equipment. A mechanical equipment room is also located on this floor, near the elevator. In addition to the smaller rehearsal rooms on the upper level, this floor contains a larger rehearsal room designed for full ensemble practice.



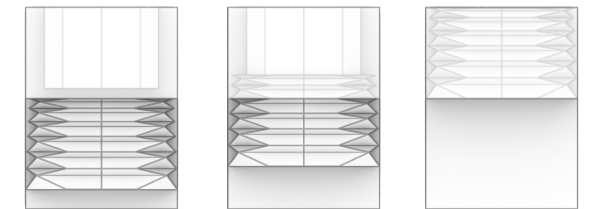
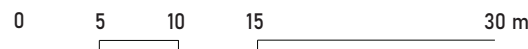
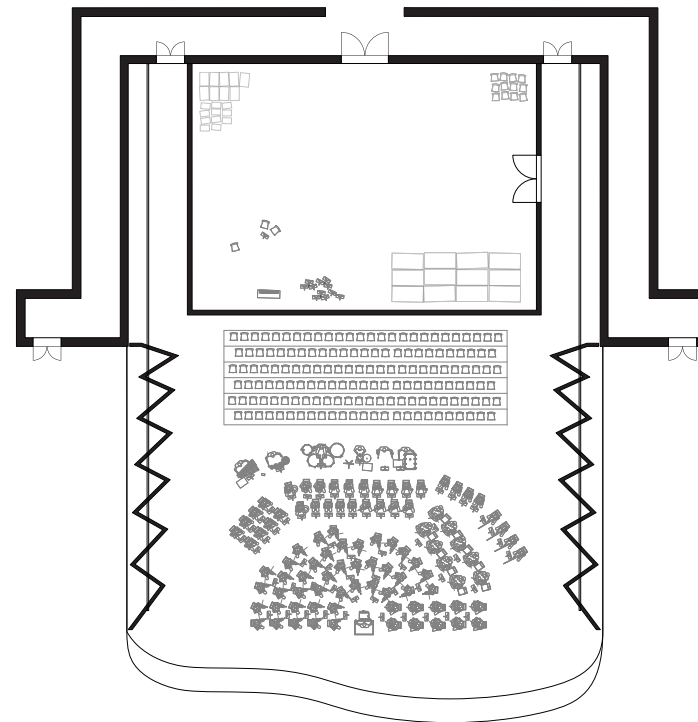
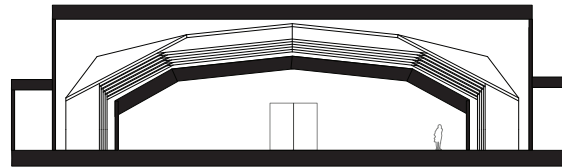
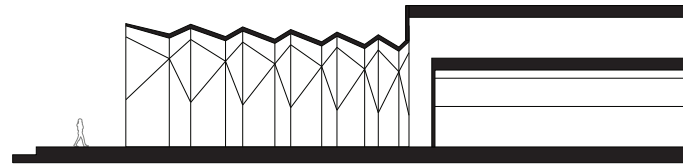
rooms	(m²)
1. Storage	607
2. Loading dock	119
3. Reception & lobby	180
4. Restrooms	187
5. Admin	26
6. Atrium	373
7. Office (touring staff)	28
8. Office (technical staff)	56
9. Solo dressing room	114
10. Locker room	247
11. Star dressing room	27
12. Cleaning center	20
13. Green room	80
14. Dining hall & lounge	91
15. Kitchen	65
16. MER	76
17. Rehearsal room	133
18. Chamber	299
19. Stage (under shell)	468

stage

a hidden concert hall

The heart of the venue is the stage, conceived around the idea of a “hidden concert hall”, where musicians experience the acoustics of a full-scale concert hall without it being visible to the audience. This is achieved through a concealed acoustic chamber coupled directly to the stage, enabling an outdoor performance to attain the richness and spatial qualities of an indoor hall.

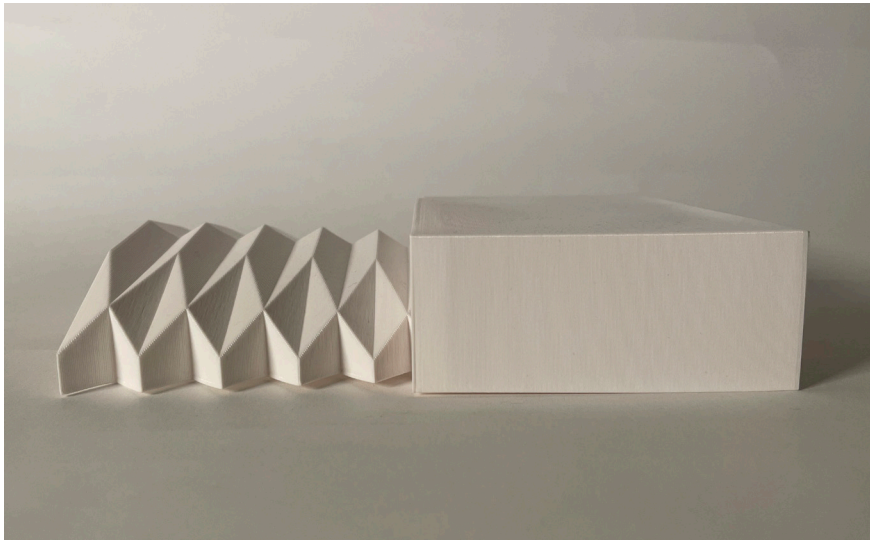
The stage is formed as a continuous CLT volume, where walls and roof are shaped by folded planes inspired by origami. This sculptural geometry integrates function and expression, creating a dynamic space that frames the musicians while generating early sound reflections. This is designed to support internal ensemble hearing without the need for amplification. Directly connected to the stage is a 2146 m³ concrete chamber. Through carefully calibrated volume, coupling and absorption, the two elements act acoustically as a single room, as evidenced by smooth energy decay curves. Although the chamber contains no audience, it provides musicians with an acoustic response equivalent to that of a traditional concert hall.



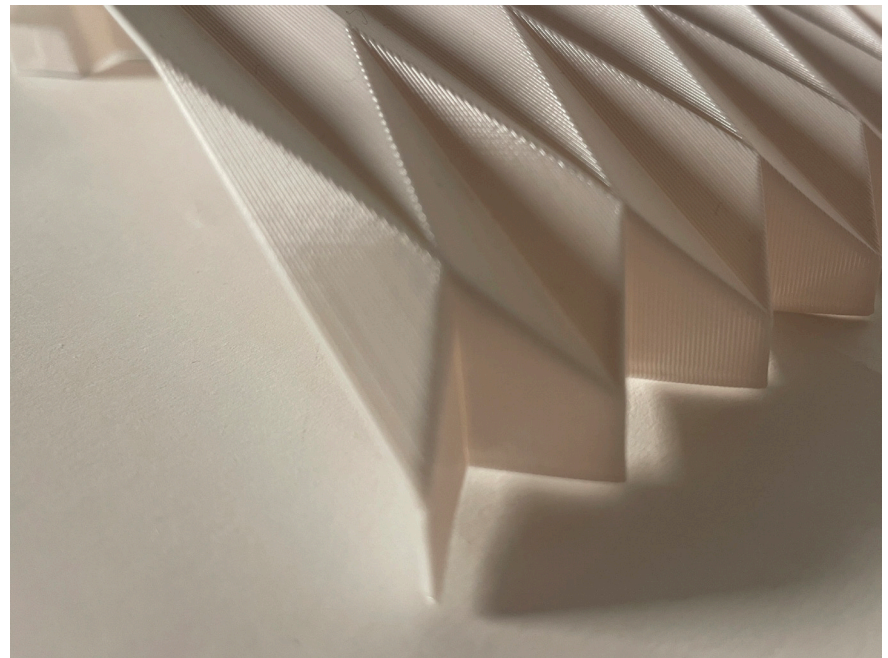
sound & structure

The orchestra shell is adjustable, and when not in use it can be retracted and stored within the chamber. This allows flexibility for touring productions to create custom stage setups and enables the shell to be reduced in size to accommodate smaller ensembles or alternative performance types. The shell is acoustically tuned with Helmholtz resonators for low-frequency absorption and Voronoi carvings for high-frequency scattering. Its origami-inspired geometry provides structural depth while producing directed early reflections. The design also integrates stage lighting within its folds, reinforcing the architectural expression.

stage



stage and connected chamber



folded plate structur

reflections

site analysis

The work began with an analysis of the site's qualities and acoustic conditions to meet the competition's requirements. Challenges were identified and opportunities explored through an architectural proposal that is both functional and inspiring. Considering the surrounding roads, river, and residential area, movement, light, sound, and spatial experience were analyzed. Noise levels, particularly from traffic, were studied and strategies to mitigate them were tested. This informed the placement, orientation, and level of the music venue.

concept

During the conceptual phase, sketching and model-making were used to explore the site's potential. A design language inspired by Japanese rice fields and origami emerged while addressing acoustic requirements. The vision expanded beyond a music venue into a landscape experience. Terraced hills and lush gardens shaped the site, creating a cohesive relationship between architecture and landscape. The stage was designed to meet acoustic demands through an innovative approach that replicates qualities of an indoor performance space. The result is a folded, origami-inspired structure with sharp facets, reflected throughout the roof structure and architectural detailing.

iterative process

Ideas were developed into more concrete proposals through testing and adjustment. Sketches transitioned into scaled drawings, where placement, light, acoustics, and spatial qualities were refined and evaluated.

final drawings

In the final phase, the project was refined through detailed drawings and models, focusing on clearly communicating the concept and functions. The work was compiled into drawings, renderings, and diagrams to present and support the design decisions.

qualities

The project's architectural qualities are defined by a strong sense of cohesion, where landscape, function, and aesthetics are integrated into a unified experience. A key quality lies in the spatial sequence, where visitors move through a park before ultimately reaching the music venue. This gradual transition creates variation in views, spatial conditions, and experiences, while the venue is gradually revealed.

Functionally, the project is well resolved, with a clear separation between public and staff circulation, ensuring efficient logistics and intuitive wayfinding. The sunken placement of the venue contributes both to acoustic control and to minimizing disturbance to the surroundings. Accessibility is also a central quality, with elevators and carefully designed circulation making the entire facility accessible to all.

Aesthetically, the project is characterized by a coherent design language inspired by Japanese traditions. The terraced landscape and origami-like folded geometries establish a distinct identity. This expression unites construction, acoustics, and visual form, particularly in the stage design, where form and function work together to optimize the acoustic experience. A particularly notable quality is the integration of architecture and acoustics. Through innovative solutions, the project achieves a sound experience that is unusual for an outdoor setting, embedded within a refined architectural design.

Finally, sustainability strategies such as integrated stormwater management and the promotion of biodiversity contribute to the project's long-term value, where ecological and experiential qualities reinforce one another.



competition entry

collaboration with
Alma Reinhold & Tomas Johansson Ågren



ozawa fields

proposal

Boston Symphony Orchestra is looking to build an additional outdoor venue, as a complement to Symphony Hall and Tanglewood. The inspiration for the proposal comes from the recently passed, renowned Japanese conductor, Seiji Ozawa, the musical director that led BSO for 29 years. Drawing inspiration from Japanese rice fields and origami, the proposal merges parts of Japanese and American culture into a lush garden acting as venue for classical music.

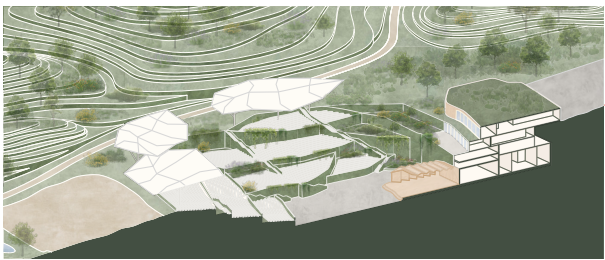
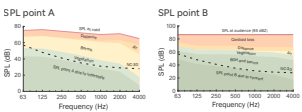
landscape

The site is located an hour outside of Boston, alongside the Connecticut River, Interstate 91 and a residential area. To adjust to these circumstances the venue is situated in the western part of the site. This moves the stage as far as possible from the Interstate, while keeping some distance towards the residential area. To further aid, landscaping is used to shield the venue from the noise generated at Interstate 91, and the residential area from the venue, when it is being used for a performance. The

shielding is created by digging the entire venue down into the ground and using the soil to create the rice field inspired hills that make up the park. To further help protect the residential area, the Back of House is raised above ground level to create a high barrier, close to the sound source.

The characteristic, vertical terraces in the hills are created using gabions. These steps serve a dual purpose as they help de the park to its namesake, but also increase the efficiency of the berm, giving a higher insertion loss compared to a regular berm. Tree belts and lush vegetation supply further reduction. They also help to keep the soil permeable and sound absorbing; tree trunks add damping, and tree canopies reduce downward wind propagation.

The achieved insertion loss gives sufficiently low noise levels at the venue and at the residential area. At the venue the noise from the highway is still audible (below NC-30) and in this way underlining the urban setting of the venue.



electroacoustics

To minimize disturbance, highly directional cardioid arrays are used as primary speakers. These are placed in towers covered with acoustically transparent frames, made with a pattern that matches the surrounding venue walls. Two towers at each side of the stage provide localization. Two secondary delayed arrays are suspended in the roof structure to cover the venue's rear. The audience area is also covered by a network of distributed speakers placed in lighting poles. A mix of signals from instruments, stage, chamber and audience is used, properly delayed to ensure that the precedence effect is fulfilled. The goal is to create a soundscape that makes the audience experience the hidden concert hall, thus gaining the full experience.

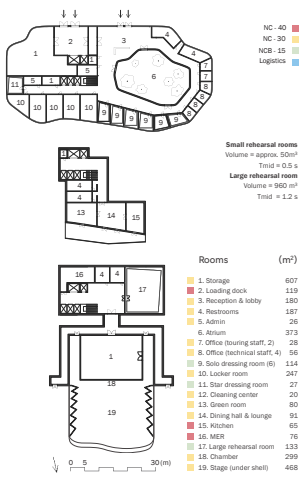


back of house

BoH is divided into three levels, one above ground and the remaining below ground. The first level contains logistics and essential functions, with an addition of an atrium with a Japanese garden. The second level is a social floor for guests meeting the orchestra, with a restaurant and a terrace overlooking the music venue. The lowest level contains the stage, with associated chamber. These are isolated from structure-borne sound. There is also an additional rehearsal room for larger group practice on the lowest level, that complements the smaller rehearsal rooms above ground. They are designed according to the box-in-box principle to isolate them from air and structure-borne sound. The stage can be accessed from the loading dock by separate elevators, and there is also an additional lift for the orchestra and staff. Access between the music venue and the Back of House is provided for security reasons.

venue capacity

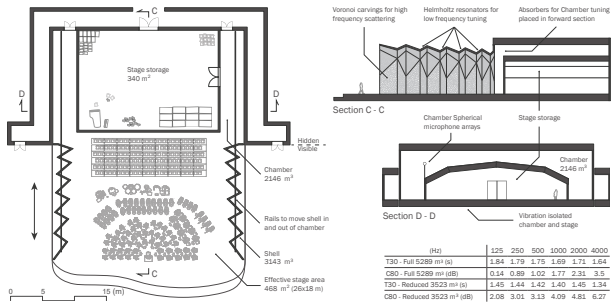
Orchestra performances:
Total of 6277 seated, with 6777 on terraces (3127 under roof and 1500 stall seats).
Touring acts:
Total of 16077, with 6777 seated on terraces and 6300 standing.



a hidden concert hall

Ozawa is honored by a "hidden concert hall" at the heart of the venue. It features a wooden CLT orchestra shell, strongly coupled to a 2146 m³ concrete chamber. Size, coupling and absorption have been designed to ensure that the pair acts acoustically as one room, documented by the straight energy decay curves. Although no listeners are present in the chamber, the hidden hall provides the musicians with a response to that of playing

in a full-scale concert house. When not in use, the shell can be rolled back and stored in the chamber. This provides access to the stage for traveling acts to build custom stages and use their own equipment. It also allows for the shell to be reduced in size to fit smaller ensembles, or another style of music, such as chamber music. The shell itself is tuned with Helmholtz resonators for low frequency absorption and



surface treatment

The venue utilizes strategies to scatter and absorb sound to avoid strong reflections which could interfere with the electro acoustic system. As an additional effect, less sound is transmitted from the audience to the residential area.

1. The terraced seating is built with gabions where the gravel provides to high frequency scattering and low frequency absorption. At certain positions, absorption is increased by adding porous absorbers within the gravel.
2. The bottom horizontal surface uses pavers with a generous gravel layer in between. This roughness scatters mid-to-high frequencies while the underlying gravel is sized to absorb lower frequencies.
3. Vertical surfaces are covered with thick porous absorbers and a rough CorTen Steel structure that provides scattering and a skeleton for climbing plants.

