

MCC PLAZA

Transformation of an urban site into a pollinator and avian refuge

/ Location /

Minneapolis, MN

/ Category /

General Design

/ Abstract /

The landscape architect led the renovation of an existing 3.1 acre green roof plaza for the Minneapolis Convention Center with the goals of implementing sustainable initiatives and creating more usable, revenue-generating space for events and visitors. The project transformed acres of mown turf into a smaller, programmable lawn surrounded by meadow and native garden installations. Graceful pathways provide access into and through the gardens for convention center visitors and the general public. The SITES certified project reflects the owner's commitment to sustainability and has transformed the downtown district, providing habitat and refuge for a wide variety of birds and pollinators.

/ Narrative /

The landscape architects led a team of engineers, ecologists, waterproofing system experts, irrigation and lighting designers through the challenging transformation of a 3.1 acre mown lawn into a SITES certified pollinator and avian refuge in Downtown Minneapolis. The project, a plaza for the Minneapolis Convention Center (MCC) constructed over a parking structure, was originally installed in 1990. A limited plant palette provided minimal habitat and a mature massing of declining spruce trees reduced safety and visibility into the space. Beyond safety concerns, the vast lawn was not typically programmed due to an unmanageable slope, lack of supportive event infrastructure and unclear connectivity to the convention center main entrance. The plaza's site furniture and pavements were dated, and the owner desired a renovation that would connect the space with adjacent contemporary public realm improvements, linking the convention center with downtown amenities. The facility director has invested in the sustainability of the building gradually over the past decade, achieving LEED v4

Certification for Existing Building Operations and Maintenance. In addition, the Green Meeting Industry Council recognizes the MCC as Leaders in Sustainability. The staff was passionate about extending those efforts to the exterior through SITES certification. After a series of design studies, a simple and elegant solution was developed. The landscape architects met the program goals of the space which included:

- Programmable, revenue-generating space which can accommodate a mobile stage.
- Upgraded electrical service and event supportive infrastructure.
- Improved sustainability of the plaza and ability to accomplish SITES certification.
- Space for private group events and guest impromptu gatherings.
- Connect plaza to convention center main entrance and link to downtown amenities.

Existing conditions of the plaza included a myriad of challenges for design and construction. 80% of the plaza is constructed over a subsurface parking structure with three lobbies exiting onto the plaza. Original documents revealed a series of undulating

sloped planes across the entire post tension roof slab, creating a limiting factor for site amenity footings and connections. The sloped concrete planes meant that soil depths varied significantly across the plaza ranging from 12" to 3'. In areas of deeper soil, construction activities revealed that shredded tires encased in geotextile had been used as ballast, impacting planned tree installation locations and limited excessive grading. The structural slab carried weight restrictions which required careful communication with contractors about equipment allowances. Removing the subgrade and replacing the waterproofing system exceeded budget limitations which required the designers to protect the existing in-place bentonite system during construction.

Sustainable strategies were considered throughout the entire design process. Early on, the owner decided to pursue SITES Certification. A variety of design options were thoroughly vetted against SITES requirements and presented to the owners. Decisions included minimizing turf areas to the size required for performances and planting the

remainder of the acreage with native plants, installing a meadow to further enhance habitat, capturing and treating stormwater through a series of carbon filters and tanks, reclaiming on-site materials such as recycling concrete into pavement base and repurposing tons of boulders used in the original design. Pavement color was minimized to reduce heat island effects. All water used for irrigation is captured on the convention center roofs and stored in cisterns. Waste and recycling streaming was monitored and regulated by the contractor.

Concerned about the intensive maintenance required for massive perennial garden and meadow establishment, the landscape architect developed a maintenance plan for the owner prior to design finalization,

complete with predicted labor hours and required staff experience for the effort. Because the project was constructed as the pandemic settled into the United States, the construction fence was left in place for an entire growing season, along with temporary rabbit fencing. With nothing impacting the growth of the native beds, the plants were able to mature quickly, which helped the performance of the overall project.

The completed plaza has become a refuge for birds and pollinators never before seen in the area. The owners sponsored the installation of an apiary that produced honey which was shared with the community. The lush native

gardens and walkways have become favorite strolling opportunities for the adjacent residential community. The reduced lawn space has been used for events, awards, yoga and picnicking. As convention center business recovers from the pandemic, the plaza is fulfilling its purpose as a sustainable revenue-generating space which supports the mission of the organization.

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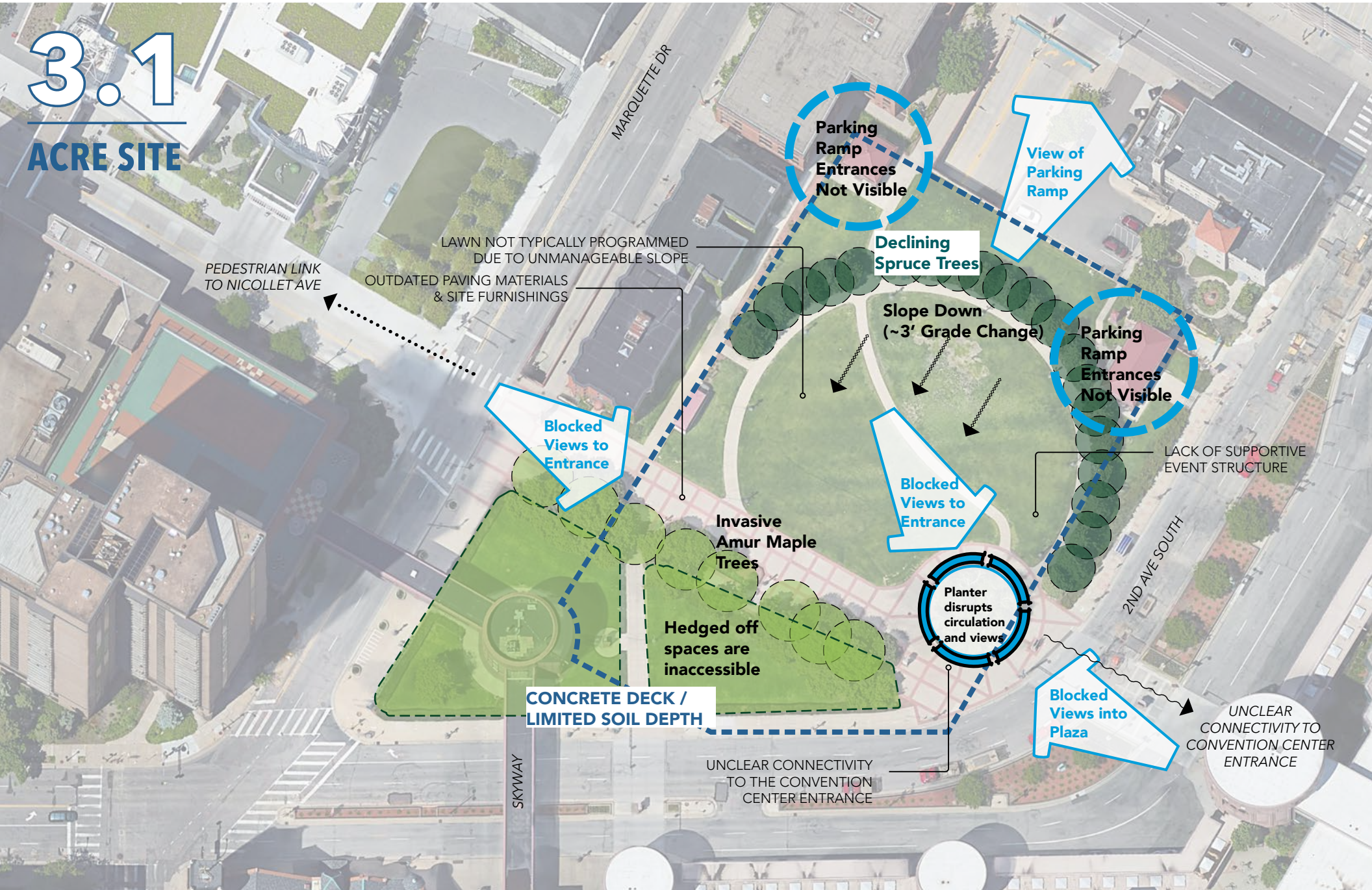
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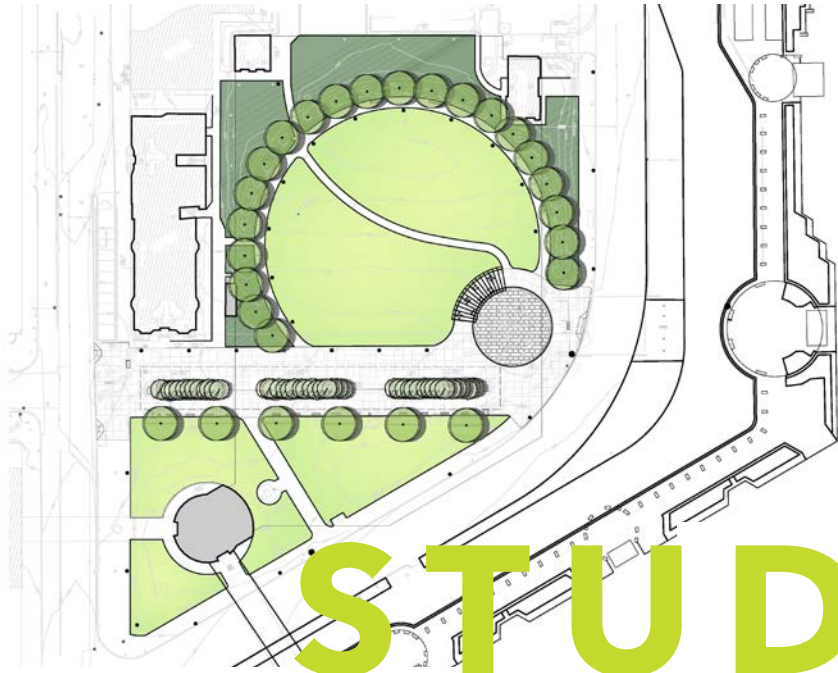
ANALYSIS

The MCC plaza was constructed over a parking structure, originally installed in 1990. The space was not visually connected to the main entrance of the convention center and the downtown Minneapolis amenities beyond. The space was largely mown turf and unused by the facility.

3.1 ACRE SITE



LIGHT TOUCH WITH LARGE OPEN LAWN AND MINIMAL DISTURBANCE

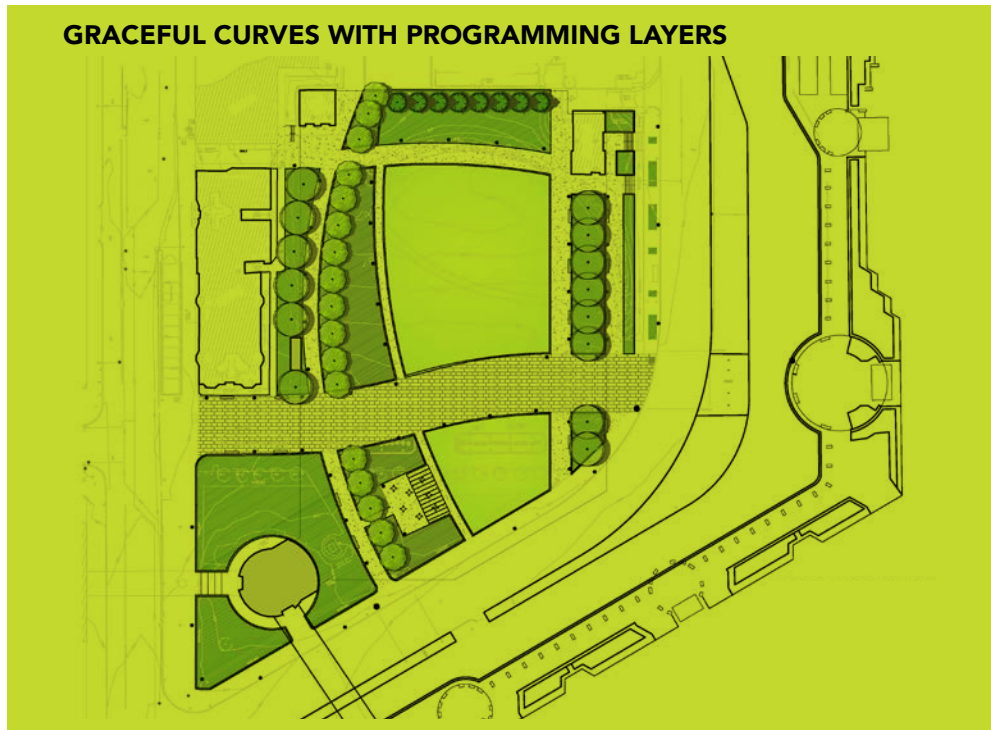


RECTILINEAR GEOMETRY MAXIMIZING FLEXIBLE EVENT SPACES



STUDY

GRACEFUL CURVES WITH PROGRAMMING LAYERS



INTERSECTING GRID WITH PLAZA CONNECTION TO ENTRANCE



The landscape architects explored a variety of options in early concepts, comparing the sustainable initiatives achieved with each option.

VISION

The project transformed acres of mown turf into a smaller, programmable lawn surrounded by meadow and native garden installations. Graceful pathways provide access into and through the gardens for convention center visitors and the general public.



BEFORE


TRANSFORM

Strategic planning led to a diverse green roof landscape working with minimal soil depth.

A monoculture border of declining spruce planted on a raised berm created a visual barrier into and out of the space. Redefining the spaces with native perennials and shrub massings created a welcoming and safe space which appeals to visitors and the adjacent residential community. The diverse landscape has attracted a myriad of pollinators and birds to the site.



AFTER



“ With the redesign of our Plaza, the Minneapolis Convention Center is proud to continue its leadership in sustainability and green building by being the site of the *first project at a convention center to earn SITES certification in the United States.* ”

– Jeff Johnson

MCC Executive Director

SUSTAINABLE RENOVATION

transforming a low diversity turf landscape into a pollinator / avian refuge

MCC Plaza Renovation worked with the owners to reimagine the landscape and how it is maintained.



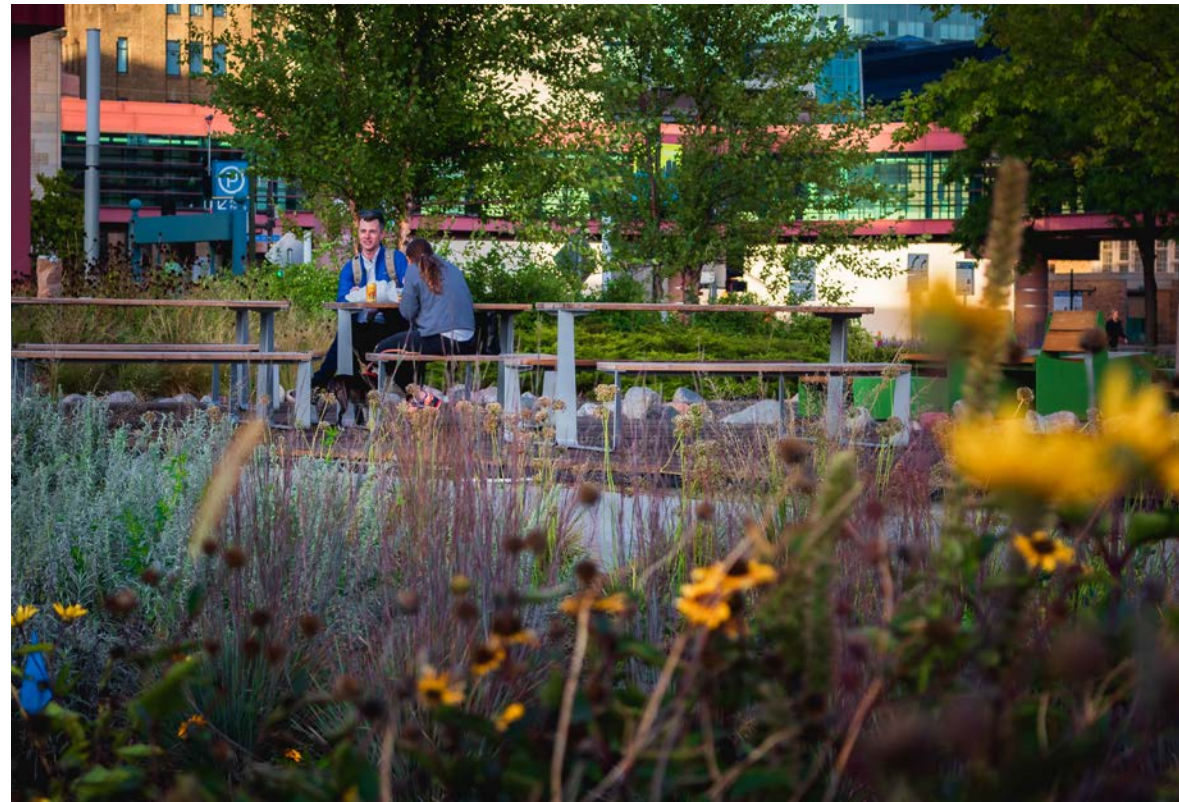
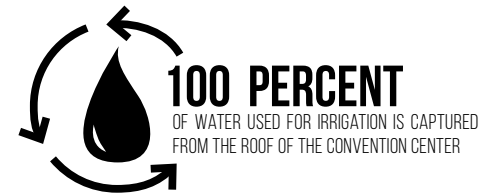
SITES silver certification

The plaza has become an amenity for the adjacent multifamily residential neighborhood and offers an example of a sustainable landscape design for convention center visitors.



water story

100% of water used for irrigation is captured from the roof of the convention center and stored in cisterns.





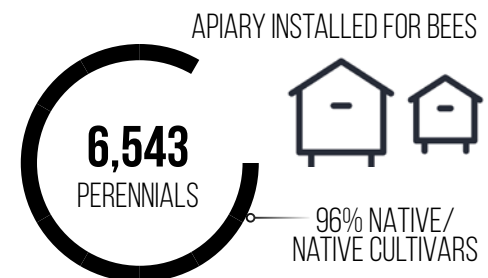
woven histories

Monuments reclaimed from the former, historic convention center on the site were retained and celebrated in the new design. The fragile stone was protected during construction and now frames a new walkway.



sustainability + education

The owner was motivated to communicate the sustainable story of the convention center. Signage was placed throughout the plaza, and an apiary was installed. The community celebrates the new pollinator habitat with a honey-gathering event in the fall.





gather

A revenue-generating event space was incorporated into the plaza, including the cedar deck, and is available for public use when not programmed. Site furnishings were carefully evaluated for recycled content and selected to provide a variety of seating options.



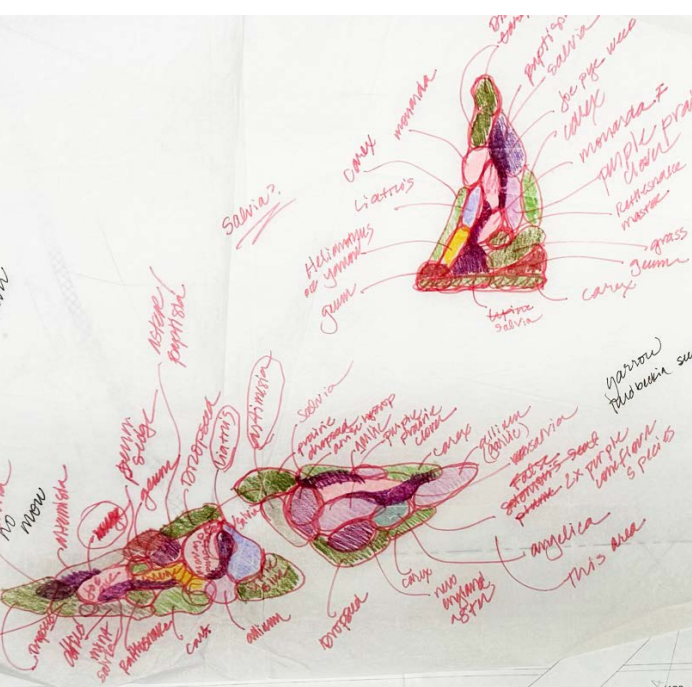
circulation + lighting

Circulation design throughout the plaza involved a complex understanding of hierarchies. Visitors required clear direction from the downtown district to the main entrance of the convention center, and three lobby connections to the subsurface parking structure exit into the plaza. Upgraded lighting was essential to maintain security throughout the space.



layered sustainable planting

The sustainable planting included layers of intervention, from a meadow installation to perennial gardens framing the programmable lawn.



The planting plan was designed to illustrate the seasonal beauty of Minnesota's native plants. 6,540 perennials, 475 shrubs and 80 trees were installed in the plaza.



PLANTED AREAS



19%
TURF



81%
NATIVE PLANTS

Minnesota's botanical beauty





reuse / recycle

Faced with tons of boulders used in the original design to armor tree planting berms, the landscape architects selected gabion benches and filled the baskets with the recycled boulders in lieu of trucking them off site. Thermally modified bench tops were custom designed. Boulders were also used as features throughout the space.



“ This space just outside our doors better connects us to our downtown community with a welcoming and sustainable outdoor area that improves the quality of life for our environment as well as our visitors and residents. ”

– Jeff Johnson
MCC Executive Director

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