



Riverside Park Band Shell early concept rendering with locally sourced round timbers reflecting the arches and trusses of the Mississippi River Bridges, and one option for the acoustically engineered wood ceiling.

La Crosse Riverside Park Band Shell Design Proposal

Gundersen Architecture & Structures

Gundersen Architecture & Structures, LLC is honored to present the following design proposal to the Band Shell Consortium for the City of La Crosse as a beautifully iconic, functionally acoustic and weather protecting complement to the historic Anderson Memorial Band Stand. Most committee members are familiar with our preliminary concept design (above). This proposal details the features and feasibility of our design and the core team capable of accomplishing it. As a Request for Proposal it's important to keep in mind this design is a beginning place; the process of refinement and dialogue "begins" with this proposal and looks forward to engaging the stakeholders of the Band Shell Coalition, La Crosse community and its elected representatives. Then it will only be improved.



Iconic Design Inspiration and Lasting Legacy:

The band shell timber structure mirrors the iconic shapes of La Crosse's bridges: the old trestel bridge are reflected in branched ash columns while white oak arches match the curves of the new arched bridge. The bridges and band shell are visually paired for concert audiences to form an optical fugue.



Round Timber Structure:

The band shell's **Round Timber Structure** is not only beautiful, but intrinsically strong and durable. Round timbers are 50% stronger than comparably-sized milled timbers. Their intact

fibers don't wick moisture, substantially reducing potential for rot. And their small relative surface area and round profiles reduce combustibility as well. Round timber structures--like the stave churches of Scandinavia and the Buddhist Temples of Asia-- are among the oldest wooden structures, some of them still standing after a thousand years or more. Gundersen has designed public round timber structures to withstand the hurricanes of Costa Rica, the earthquakes of San Diego, and the heavy snows and winds of alpine Vermont (see portfolio)

The Riverside Band Shell will be an audio-visual upgrade for what has become the city's living room. As a place-maker, it will both complement and yet distinguish itself from the historic band stand's art-deco design. Its stream-lined timber and roof structure using locally-sourced, carbon-negative building materials, simultaneously recalls the city's bridges and lumbering past and evokes the green architecture and industries of the future. Local sourcing means local jobs in design, manufacturing, and construction and the pride and identity that come with them. Wooden architecture is emerging as the *avant-garde* material of the 21st Century, and Gundersen has long been among its leading developers.

Gundersen designed and tested the trusses and branching columns supporting over 25,000 square feet of roof and floor loads for the first Festival Foods store in Madison, WI. Some of the ash tree columns are designed to support over a quarter million pounds. The columns were sourced from Emerald Ash Borer-infected trees from the City of Madison Parks. We paid the city for their removal and replacement. We propose to do the same with the City of La Crosse Parks, furthering the band shell's legacy, investment and meaning in the La Crosse community. The structure will be engineered by Bob Grothman of SCL Engineers. SCL did the engineering for Gundersen's design for the Burke Pavilion at the Wilson Arts Center in Brookfield, WI, and many timber structures in the Wisconsin Dells. Along with SCL Engineers, Gundersen will partner on the fabrication of the round timber structure with the business he co-founded, WholeTrees, LLC. They have offices in Madison and production facilities in Westby and Muscoda, Wisconsin.

The proposed round timber structure will be bolted onto steel plates in-bedded into concrete pier, with footings provided by and coordinated with the City of La Crosse as part of the restoration and upgrade of the band stand. The 1980 concrete block columns, on either side of the historic stone backdrop, will be replaced with two monumental round timber columns, keeping sight-lines intact and removing the tacky ambiguity of the concrete block addition. The other four columns will be anchored to new piers just behind the historic carved stone backdrop.

Acoustic Ceiling:

The largely wood ceiling will be acoustically engineered in collaboration with Talaske Associates, a nationally-respected acoustic and audio engineering firm, which has designed the acoustics and audio of several outdoor performance venues including the Pritzker Pavilion at Millennium Park in Chicago. Wood is the material of choice for its acoustically-reflective and resonate properties, which is why the finest concert halls and musical instruments are often finished or made with wood. The preliminary design features convex acoustic wood ceiling panels between the round timber arches, made from finish-grade hardwoods and veneer-grade

plywood. The visual impression from beneath will be of draped cloth over the timber arches. Structural attachment points will be integrated into either side of the front and middle arches for stage-lighting trusses. Integration of other acoustic, audio and lighting elements will be considered as part of the design and budgeting process.



Band shell side-view: shows how the band shell covers and protects the historic stone band stand without touching it, while integrating with the new band stand ramp and stage. Our 3-D model is a proof that the initial 2-D concept rendering works.

Copper Fish-scale Roof:

The band shell roof will be one of the first things visitors see as they enter Riverside Park. Befitting this prominent location, our design proposes a copper fish-scale roof for its beauty and durability. The fish-scales reinforces the subtle metaphor suggested by the nautical roof lines of a large fish next to the grand old river. The 16 gauge copper (see sample shingles) will be under-laid by a total water- and ice-shield. The roof assembly, to be installed by Krause Konstruktion of Coon Valley, WI, will carry a five year warranty on workmanship. Krause has been in business 44 years, installing roofs on hundreds of public buildings, including the most complicated steeples and domes. We propose that the copper be installed shiny, then allowed to tarnish naturally to a soft patina green to match the copper pagoda roof of the Pettibone Park Shelter across the river. Gutters are concealed behind the fascia, sloped to copper downspouts attached to the middle columns and into ground drainage. This is not the cheapest roofing solution; but it is certainly one of the best. The roof covers all but the front couple of feet of the proposed new round stage and tucks down towards the west, which is the

predominate summer storm direction, protecting performers and equipment from all but the worst storms. It also shades performers into the early summer evenings, while allowing warming winter sun in.



Band Shell Roof Assembly: the 16 gage copper fish-scales sheets are cleat-together in rows which are then fastened through the ice-sheild onto the plywood decking with copper clips and nails.



The copper fish-scale roof presents nautical lines complimenting the art deco band stand and acknowledging the river.

Gundersen proposes a white oak fascia. He has designed a fascia detail for the front and back curved fascia which recalls the shape of the band shell, the double sign-waves of music and a fish-eye motif. The design would be carved on a computer aided milling machine by Peredesign.

Recommended Audio/Visual Project Scope:

Gundersen recommends, and has budgeted \$4000 (see budget), additional audio “consulting” work. He feels this is an great opportunity to work with the city to attain a concert hall audio system similar to what Talaske designed for Millennium Park in Chicago. This would include mixing-board stand and band stand & shell wiring for plug-and-play setups, and exterior speakers on the band shell and in the new fixed seating area. Gundersen also proposes ambient up-light sconces mounted to the backs of the columns, dramatically lighting the timber structure and the ceiling, and providing indirect lighting of the stage area during set-ups and tear-downs. These fixture would be added to the historic lanterns which the city plans to recreate as part of the electrical contracting scope. Gundersen proposes the coalition request these expanded audio and lighting scopes be added to the city’s electrical contract.

Project Team & Prior Experience:



Education:

B.S. Architecture, 1984, University of Minnesota

Registered: Architect

Wisconsin No.10716-5

Professional Affiliations: AIA

Roald Gundersen, Gundersen Architecture & Structures, LLC

Roald is a La Crosse native, having graduated from Central High School and the University of Minnesota, with a degree in Architecture. After completing work on the [Biosphere 2](#) in Arizona, he moved back to La Crosse in 1993 to open his own practice, and later co-founded [WholeTrees](#), focusing on round timber structural systems. The [New York Times](#) did a full-page expose on his work and Architect magazine gave his firm an [R&D award](#) for the innovative round timber trusses he designed for Festival Foods, in Madison. His firm has received a series of [USDA grants](#) supporting research and development of round timber in construction, in collaboration with the USDA Forest Products Laboratory. His firm has since designed and built hundreds of round timber structures in every region of the US, Canada, and Costa Rico. As part of a community service project, Gundersen founded, designed and raised funds for the [Cameron Park Market canopy](#), working with the City of La Crosse Parks to win committee and council approval.



Education:

B.S. Civil Engineering, 1982

Michigan Technological University

Registration: 7 States

Professional Engineer

Robert Grothman, P.E. Principal Structural EngineerSCL Consulting, Structural Engineers

Robert Grothman, P.E. leads many of our structural engineering projects with over 35 years of experience. His vast experience and service-oriented personality make Robert a team asset. His experience includes an extensive variety of municipal and governmental projects. Robert has an extensive background in a wide variety of wood framed construction, ranging from multi-level wood frames builds to unique wood log and whole tree structures. Robert was the engineer on the Burke Pavillion at the Wilson Arts, and Wilderness Village in Wisconsin Dells. There are many advantages when building structures with wood. Wood timber and whole tree timber structural members are very strong: wood has a strength to weight ratio 20 times greater than steel and 5 times greater than reinforced concrete. Wood is very durable and, when properly cared for, can last hundreds of years.



EDUCATION

- M. S. in Acoustics, Penn State, 1980
- B. S. in Engineering, University of Michigan, 1976
- Fellow of Acoustical Society of America. Member of USITT, ASOL, ISPA and NASM

Richard Talaske, Principal Consultant, Talaske Assoc. Acoustic & Audio Engineering

Rick Talaske has extensive experience with acoustic and audio consulting on prestigious outdoor performance venues such as: Jay Pritzker Pavilion, in Millennium Park in Chicago, IL; Aurora Riveredge Park, in Aurora, IL; and the Tuscaloosa Amphitheater in Tuscaloosa, Alabama.

The Pritzker Pavilion has acoustic and audio innovations which deliver virtual concert hall sound outdoors. The renowned outdoor concert venue offers superior sound experiences to audiences of 11,000, using reinforcement and acoustic enhancement systems to support all types of musical performances. Talaske Assoc. is offering an estimated audio services scope for consideration by the Band Shell Consortium.

processing, Spanish, piano, and photography



Education:

B.S. 2004, University of Wisconsin La Crosse

Professional Affiliations: B Corp

Derek Mayhew, Timber Frame Project Manager WholeTrees, LLC

Derek Mayhew joined Roald Gundersen Design in 2004 and has been with WholeTrees since its inception. He heads up operations as well as project management. He believes that this job is on the growing edge of real meaningful changes in the way we manage and cohabitate with Earth's forests. Many of the trees sourced for this and other WholeTrees projects are considered of low or no-value to the conventional forest products industry, hence their use catalyzes sustainable forest management practices in concert with Wisconsin's managed forest program. This in turn gives forest land owners more value for their forests. Derek finds that his work with trees has a way of seeping into all aspects of his life, from hunting morels to collecting and making maple syrup.



Jason Krause, President and Owner

Krause Konstruktion, Coon Valley, WI

Krause Konstruktion has been restoring and installing custom roofing, steeples and accessories throughout the Upper Midwest over the last 44 years, on hundreds of the most challenging roofs, including steeples and domes. They have the experience and interest in doing these unique projects perfectly suited for the challenges of the curved band shell roof. They work closely with design teams and clients to achieve the desired finished product.



Adrian Pereyre, Owner, Peredesign

Adrian is trained as a product designer and innovator, but he has a diverse background in computer-aided design mediums and will serve as the principle digital technician and draftsmen on the team. His charge will be in developing the computer models, base drawings, and shop drawings for fabrication of the round timber frame, fish-scale roof, and acoustic ceiling panels. The ceiling panels will be prefabricated for rapid installation.

Proposed Band Shell Budget:

Service Fees:	Provider:	Price:
Architectural Design Fees:	Gundersen Architecture & Structures, LLC	\$23,750
Structural Engineering	SCL Engineering: includes foundation engineering	\$14,800
Acoustic Engineering	Talaske Associates, Acoustic Engineering	\$6,850
Audio Engineering (optional-recommended)*	Talaske Associates, Audio Engineering	\$4,000
Shop Drawing	Peredesign, LLC	\$4,500
Total Services Fees		\$39,100

Product & Installation:	Provider:	Price:
Footings, Masonry Piers, Embedments	La Crosse Parks Dept., Not in Contract	N/A
Timber Structural System	WholeTrees, LLC	\$245,000
Sub-framing, Roof Decking, & Acoustic Ceiling	Gundersen Architecture & Structures, LLC	\$78,000
Cooper Metal Roofing	Krause Construction, Coon Valley, WI	\$96,000
Construction Management	Gundersen Architecture & Structures, LLC	\$46,000
Total Product & Installation		\$465,000
Total Services, Product, & Installation		\$504,100

Proposed Project Schedule:

June, 2018: Negotiation and signing of architectural, engineering and acoustic contracts.

July- August, 2018: Design and engineering city approvals obtained.

September, 2018: Band Shell Foundation Package let for bids with band stand and awarded.

Oct.-Dec., 2018: Band Stand remodeling/restoration, band shell foundations, electrical rough-in.

November, 2018: Band stand architectural and engineering packages out for bid and awarded. Contracts negotiated and signed.

December, 2018- January, 2019: Timber inventory acquisition and processing.

February- March, 2019: Processing and prefabrication of timbers.

April, 2019: Timber install and sub-framing.

May, 2019: Roofing, acoustic ceiling, and electrical.

June, 2019: Punch-lists and Opening celebration!

Selected Gundersen Portfolio

Burke Pavilion, Sharron Lynn Wilson Arts Center, Brookfield, WI



Gundersen designed the Burke Colonnade to replace a tent as an up-grade to their event-space offerings to host pre and post show receptions, weddings, and outdoor music events.



With approval from the City Parks and the City of Brookfield, who owns the property, Gundersen, worked with Grothman of SCL and WholeTrees accomplished the design, approval and construction in six months. It took Whole Trees only two weeks to install the timbers on the 4000 SF project.

Watering Hole, San Diego Zoo, Safari Park



For the Watering Hole event space, Gundersen worked from a sketch by the architects to design the curved round timber frame structure and connections then selected the curved trees to accomplish the client's vision for a safari lodge of over 5000 SF.



The arches of the Watering Hole span a similar distance to the proposed band shell, yet in a high earthquake zone.

Cathedral of Saint Joseph Restoration, San Jose, CA



Replacing a tin roof, Gundersen detailed the cathedral's new copper and composite roof.

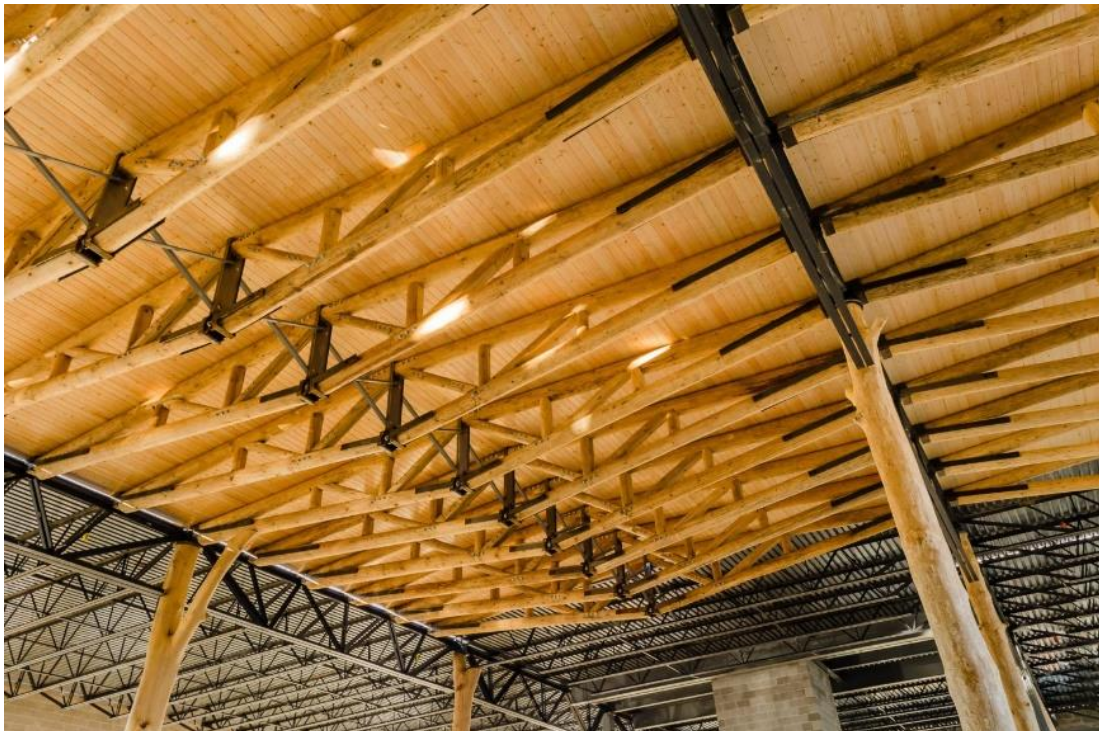


Gundersen worked with the acoustic and lighting engineers on the sanctuary design

Festival Foods, Madison, Wisconsin



The borer-infested ash columns were sourced from City of Madison Parks, providing a local legacy connection for the community, and funds for tree-replanting.



Gundersen designed, structurally tested and lead WholeTrees in the manufacturing of innovative “Wing Trusses” which he later received a patent and Architect magazine R&D award. They installed as quickly as steel, and were harvested from Wisconsin red pine cullings, storing some 200 tons of carbon.

Cameron Park Market Canopy



Gundersen's water color renderings which he used to help sell the project to the community and the city.



Gundersen co-founded Cameron Park Market in 1998. He designed a canopy with water and power, which he raised over \$150,000 for its construction working closely with City Parks, Public Works and Engineering through the approval and construction process. The first half was constructed in two weeks.