How can architecture create a link and common interest between members of a community?

Program Requirements:
Restaurant
Event Spaces
Public Restrooms
Rentals (boating, Kayak, Canoe)
Observation deck
Outdoor gathering spaces
Farmers Market Space

Reconnecting the river:
This site is located on the scenic St. Croix River which eventually connects with the Mississippi and continues to flow south. As a result there are many boaters that will travel from both north and south of Stillwater. The problem is that currently there are no public docking slips in Stillwater, thus tourists and visitors cannot connect to downtown. I have proposed a large public docking space that will create a connection to the downtown and boost the local economic growth. The current Lift Bridge will be for pedestrian use only by 2017 when the construction of a larger bridge to the south is complete. This new bridge will allow for less congestion in the downtown area and promote a new bike path and walking path across the river. This is why I have located a public restroom facility on the site – to accommodate the rise in bike and pedestrian traffic.

Reconnecting the community:
This site lends itself to one specific type of design, a common gathering space for all members of the community. The city of Stillwater has a constant need for venue space and they have been lacking a space sufficient for larger gatherings. With this design the main building can house 3500 S.F. plus an additional 1500 S.F. if needed – combining for a total of 5000 S.F. for 320 occupants. The event space connects into a restaurant area that can house another 75 occupants. And with the additional outdoor spaces and roof deck this plan will be sufficient for the largest of gatherings.

Reconnecting the Historic Downtown:
The building grids for this design take influence from the existing buildings on Main Street South. These grids have determined the structure and overall look of the building design. By using the existing buildings as a guide this design connects with the city instead of detracting from it. Connecting with the historical value is key the success of the building and the surrounding area. I also used three different materials that are found among all of the buildings in the downtown area. The first material is Brick – Almost all of the buildings in the downtown area have some sort of brick or masonry materials. Brick has been proven to last a lifetime and I have utilized this material on all exterior walls and bulkheads. The second material is Wood – this is the second most used material in the area, not for exterior use, but for interior use instead. I utilized a similar building style with post and beams (steel) with structural wood decking. The third material, and third most common is Steel – the main use of steel in the area is the historic Stillwater Lift Bridge. Since the site is located directly to the south of the bridge I felt it was necessary to create a steel structured building.
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Program Requirements:

- Restaurant
- Event Spaces
- Public Restrooms
- Rentals (boating, Kayak, Canoe)
- Observation deck
- Outdoor gathering spaces
- Farmers Market Space

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Proposed concrete stair with brick piers down to restaurant level
Exterior patio area for restaurant and event users
Relocated Flag Pole from existing site
Roof Top Patio for event space users
Connection to historic downtown area
Cantilevered event space above
Pop-up skylight for added interior lighting
Exterior plaza to water connection
Fishing and observation pier
Canoe and kayak entry from river
Rental boat docking slips to accommodate up to 36' boat
Outdoor covered farmers' market area
Wood walkway at river
Concrete walkway at river
Ramp down to river level
The Design utilizes three different materials:

- Brick
- Wood
- Steel

These materials are common to the area and will create a connection between buildings and material choices.

The structure for the three buildings utilized 6" steel tube columns center on grid with Steel Wide Flanged beams that carry the loads to the columns. The perimeter and main Wide flanges are located on the centerlines of the grids. The perimeter and main beams are W18x65 with the combination of W14x60 purlin beams that transfer the load between the beams. Above the steel structure, of steel tubes and wide flanges, sits the 4" structural wood decking. This wood decking is keeping with a traditional building method that has been used throughout the 1900's. The decking spans 8' from purlin to purlin and is attached with a nailing strip above the beam.

To connect the wall with the structure I utilized a slip connection that connects the wall to the steel beams. This connection allows the structure and the wall to slide against each other when the steel beams deflect.

The covered walkway uses both concrete grade beams and wood structure to create the design. Starting from the bottom the helical piers stretch up to 60 feet into the earth and connect to the concrete grade beams above. The structural wood timbers connect to the concrete piers and a header located in the exterior wall. This system also uses structural wood decking for the roof along with a roofing membrane.
Typical Parapet and Roof Construction
- Metal panel above all window openings
- 1/2" exterior sheathing
- 2x6 wood studs spaced 16" o.c.
- Spray foam insulation
- Slip connectors at every other stud
- 5/8" sheathing
- 3" Structural wood decking
- 3/4" roof sheathing
- 4" rigid insulation R20 value
- 3" sloped insulation R15 value
- EPDM roofing membrane and cap flashings

Typical Structural Frame Construction
- 5" Steel Tube column
- W18x60 perimeter and bearing beam
- W14x55 purlin support beams at deck

Typical Covered Walkway
- 4x8 wood posts at 8'-0" o.c. typ.
- 4x8 wood joists at 8'-0" o.c. typ.
- 3" structural wood decking
- 3/4" roof sheathing
- 1" sloped insulation
- Steel tube at building to attach

Typical Wall Section Detail Notes

Typical Wall Construction
- 5/8" Gyp. board.
- 2x6 wood studs @ 16" o.c.
- 1/2" plywood with building wrap
- 2" Air space
- modular brick running bond

Typical Grade Beam Construction
- 2" Rigid Insulation @ perimeter typ.
- 2'-0" x 2'-0" Concrete Grade Beam with rebar
- Waterproofing @ Perimeter
- 4" Diameter Helical Piers at 10’ o.c.
- Helical Piers to be set at bedrock 40’ - 80’

Proposed Community Center For Stillwater Minnesota
Thesis By: Matt Hoefler
Thesis Advisor: Regin Schwaen
ARCH 772
Software Used: SketchUp, Autocad, Photoshop, Illustrator, Maxwell Render, Lumion 3D