Land Use:

The masterplan sites the buildings and parking in a configuration in order to minimize the impact of the new facilities on the surrounding landscape. Measures are taken in order to minimize the amount of existing trees that need to be removed. If an existing tree does need to be removed, another tree will be planted in another location to replace it. By using outdoor spaces the building footprint is reduced which not only reduces the impact of the buildings on the surrounding landscape, but also reduces the amount of energy and resources that are required to operate and

Water and Air Quality:

The buildings use low-flow plumbing fixtures in order to decrease the water consumption of the facilities.

The buildings have operable windows in order to increase indoor air quality through natural ventilation. Materials that emit toxins or CFC's into the air are avoided whenever possible.

Energy Conservation:

The buildings in this project incorporate daylighting strategies in order to reduce energy consumption due to lighting. The buildings have relatively large overhangs in order to block out the high summer sun but still allow for the heat from the sun to enter the spaces in the winter. There are also some clerestory windows which help bring in the natural daylight into the buildings.

Highly Insulated Envelop

The buildings have highly insulated envelops in order to conserve energy by reducing the amount of heat that escapes through the building envelop. This includes having low-e insulated glass windows so that there are no thermal breaks at the windows.

Operable Windows

The buildings have operable windows throughout the facility in order to increase the natural ventilation within the spaces and reduce the amount of energy that is required in order to condition the air at certain times of

Evaporative Cooling

By the buildings being surrounded by the trees in the forest, the summer temperature will typically be cooler due to evaporative cooling.



The park is the oldest state park in the state of Minnesota. The park is full of virgin timber, wetlands, and lakes, but the largest attraction is Mississippi River Headwaters. At the north arm of Lake Itasca is where the Mississippi River begins its 2,552 mile journey to the Gulf of Mexico.

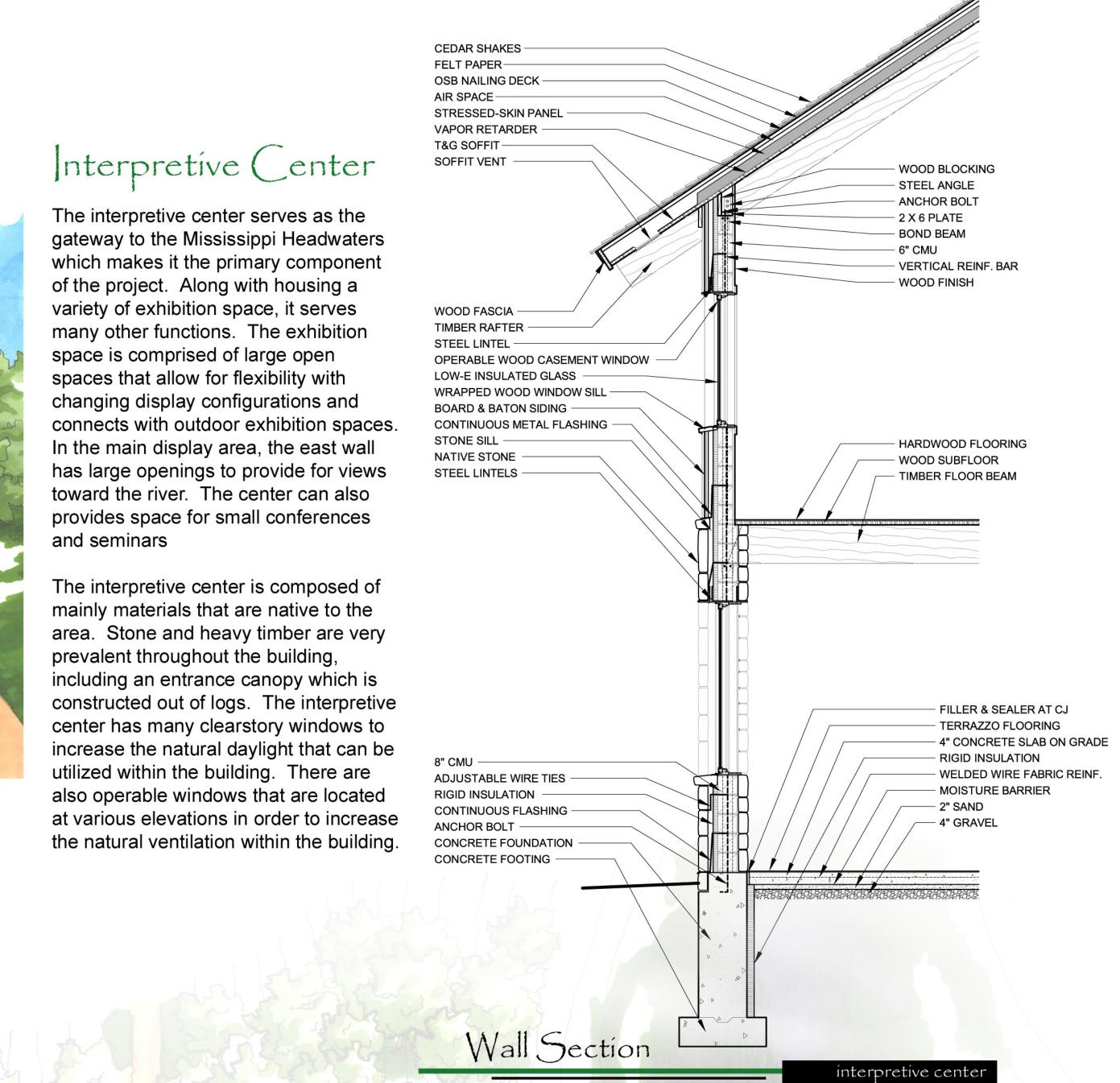
The majority of the infrastructure of Itasca State Park along with most of the rest of the state parks in Minnesota was built by the Civilian Conservation Corps and the Works Progress Administration in the 1930's and 40's. Many of the projects that these programs are responsible for are still utilized to this day. The park architecture that came out of this period has become known as Rustic Depression Era Architecture.

Rustic Depression Era Architecture serves a good representation of how the natural and built environments can form a harmony between them. These rustic buildings have become fixtures of the parks in which they are located. The new facilities attempt to capture the same sense as these historic structures. Some of the distinguishing features of this style of architecture are the use of regional materials and extremely well crafted details. The intent of this project is not to create exact replicas of the existing structures, but to draw inspiration from them while integrating modern techniques and technologies with the traditional precedence.



This project is comprised of a multi-use facility for Itasca State Park of which an interpretive center is the main focus. With a steady increase in the amount of visitors, improvements must be made to the park facilities in order to keep up with the demand that comes with the increase in tourism. There are three main buildings that make up this project, the interpretive center, a lodge, and a restaurant. Each of these buildings have there own distinct functions, yet work together to provide a fantastic experience for the park visitors.

The site for this project is near the Mississippi Headwaters in a location where there was previously a small visitor center and gift shop. These small structures were a poor representation of traditional park architecture and were inadequate facilities in fulfilling the park visitors' needs.



Loto



Materials:

Some of the main qualities that were sought in the material selection of this project were to find materials that are durable and low maintenance. Materials that come from renewable or recycled sources are desirable along with materials that have the potential to be reused or recycled if they no longer serve the buildings needs. When selecting a sustainable material, you cannot look only at the material product, you must also look at the processes that it took in order for that product to be in its current condition. The materials embodied energy was considered in order to find materials that have a low embodied energy for this specific project.

unaltered condition, it has a very low embodied energy. Stone serves a very durable and low maintenance material and if the building that it is used in is destroyed, it can be reused or returned to the earth with no harmful impact on the environment. Wood Products

Wood products allow for a variety of applications in building construction. Wood is a renewable

over harvest this resource or destroy old-growth tree stands. There are over 600,000 acres of

certified forests in Minnesota, which reduces the embodied energy due to not having to transport

material and using certified wood products ensures that responsible logging practices will not

One of the primary materials that are used in this project is native stone. Fieldstone can be collected

near the site of the project with no negative impact on the environment. Since it is used in a virtually

used in a building. Stress-skinned Panels / Engineered Lumber Stress-skinned panels and engineered lumber are produced using wood waste. These products can be produced using no CFC's or toxic waste. Stress-skinned panels provide an excellent

it over long distances. Wood products can be either recycled or reused if they are no longer

Other Materials

Some other materials considerations that are used in this project are using carpets that are made from recycled content and using fly ash in concrete. Using fly ash in concrete uses waste from one application and converts it to something that improves the quality of the

insulating envelop because the number of thermal gaps are greatly reduced.

Waste Management:

A construction waste and recycling plan will be incorporated throughout the construction of the facilities. This should reduce the amount of waste that is sent to the landfill along with using resources more efficiently.

Adaptabilitu

The buildings have open, flexible floor plans in order to accommodate potential future requirement changes. Some areas have moveable partitions in order to change the space configurations within the buildings. Some spaces are designed with the intention that they can be used for multiple uses. The buildings have a traditional design which fits in well with the surrounding vernacular which will minimize future

