Design Strategies

Future growth should be environmentally sustainable and aesthetically sensitive to the unique character of the North Shore.
The “Scenic Drive” Concept

Creating a concept helps organize the North Shore experience based on its unique character. This project recommends a concept that focuses on developing the North Shore Scenic Drive All-American Road as a scenic experience. By thinking of the road as a scenic experience instead of a highway, the focus remains on experiencing the journey rather than on how fast it takes to get from point A to point B. An experience engages the earth and embraces the landscape, its twists and turns, its ups and downs. Experiences wander through the woods, where you follow your heart’s desire, not a straight line. An experience goes out of its way to incorporate the most scenic views and vistas along the way. An experience stops frequently to rest by the cool, refreshing water, before moving on. Scenic experiences lie off the beaten track and lead into the wild unknown. Unexpected places and experiences occur along the way. The thrill of discovery and abundance of beauty makes traveling a pleasurable experience.

The North Shore Scenic Drive All-American Road follows the North Shore of Lake Superior as it travels 150 miles from Duluth to the International Border. The road maintains its timeless qualities and historic character. The road incorporates natural, cultural, and historic elements in the landscape into the traveler’s driving experience. Thinking of the North Shore Scenic Drive All-American Road as the “Scenic Drive” helps promote a unique image and identity for the North Shore that can not be found anywhere else in the world. It also emphasizes the need to preserve the experiences that attract travelers to the scenic drive in the first place.

The concept behind the “Scenic Drive” is that the North Shore is a combination of key natural and cultural features overlaid producing a truly unique landscape experience. This high caliber of intrinsic qualities qualify Highway 61 for Scenic Byway All-American Road status. Use of the word “Scenic” brings to mind an image of the character of the North Shore instead of a busy international expressway and reminds us not to let it look like one. The concept diagram represents the road winding through the landscape of Minnesota’s North Shore Arrowhead region and its various recreational/natural/cultural attributes.
Materials Palette

Another way to enhance the unique identity of the North Shore Scenic Drive All-American Road is to emphasize the use of local building materials and historic building styles. There are many design influences to draw from along the North Shore, both natural and cultural. Bedrock outcroppings occur with great frequency along the North Shore, where wave-eroded cliffs and river-carved gorges are cracked and weathered by centuries of exposure. Elsewhere, massive lava flows have cooled and fractured in columnar joints. The vertical emphasis of these natural rock outcroppings and landforms is accentuated by the soaring forests and contrasted by the horizontal emphasis of Lake Superior’s horizon.

The readily available supply of local rocks and logs was put to good use by early residents of the North Shore. Living in relative isolation on the North Shore meant everything was built with materials that could be found on site. Log cabins and fishing shacks were common along the shore. Spectacular lodges and resorts were constructed of pine and cedar logs. Stones were collected from beaches and fields to construct foundations, fireplaces, and fences.

Cultural influences reach back several centuries and across many cultures. Native Americans arrived on the North Shore shortly after the retreat of the last glaciers 12,000 years ago. Their lifestyle resulted in the construction of temporary structures. Native Americans continue to hunt and fish along the North Shore’s waterways. French explorers and voyageurs began arriving 350 years ago. The French lived among the Native Americans, adopting their ways, following their trade routes, and marrying into their families. Not much remains of the French influence except for the abundance of French placenames along the North Shore, many of which are French translations of their original Native American names.

British traders arrived in the region 250 years ago. The British chose to live separately from the French and Native Americans. The British left a legacy of trading posts and stockades along the fur trade routes. Competition between two British companies, Hudson’s Bay Company and the North West Company, frequently turned hostile and violent. The architecture of the trading post with a Great Hall, surrounded by a wooden fence, with a main gate and lookout tower has been much repeated by gift shops and tourist stops through the ages.

Scandinavian, German, and Swiss settlers began arriving 150 years ago. Wood structures with steep roofs to shed the abundant snow became the norm. Settlers brought with them the building styles from their homelands. Thus, buildings in the German community of Beaver Bay resemble Bavarian ski chalets, while the buildings in the Scandinavian community of Tofte reflect the clean, simple utilitarian lines of a Finnish sauna or Swedish stuga. Great pride and craftsmanship were used in the construction of community churches and schools up and down the North Shore. Brick was a favorite material for public buildings and was often imported because of its durability.

Temporary logging camps were built in the woods until the supply of white pine was exhausted at the turn of the century. Rough hewn logs and timber planks were common building materials in lumber camps. During the Great Depression many state park buildings and facilities were built by the young men of the Civilian Conservation Corps. Their handiwork survives to this day and for many people is the quintessential style for state park architecture.
CCC Style
Ladyslipper Lodge, Gooseberry Falls

Rustic Style
Cabins, Talmadge River

Scandinavian Style
Home, Knife River

Stockade Style
Grand Portage
Design Vocabulary

Another way to enhance the North Shore’s unique identity is to create a design vocabulary which expresses the trail character of the North Shore through the use of common design elements. Repeating these common elements along the North Shore reinforces the sense of identity. When too many different design elements are used in one place the character and identity can become confusing and lost amidst contrasting messages.

**Cairn Trail Markers**

Cairn trail markers would be used to identify the North Shore Scenic Drive All-American Road. A cairn is a pile of stones stacked up to serve as a landmark. Cairns have been used for centuries by cultures around the world to mark trails, especially in backcountry areas with little evidence of human inhabitation. Local rocks were stacked in an intentional manner to provide visual cues to keep travelers on the right path. Using the design vocabulary of cairn rock piles for signs along the North Shore Scenic Drive All-American Road reinforces the trail identity of the road. Cairns would be made of local stone materials and located in gateway areas to announce your presence on the Superior 61 Trail North Shore Scenic Drive All-American Road.

Cairns could take on slightly different forms based upon their location along the North Shore. Timber framing details could be used to give cairns a Scandinavian influence near towns and communities. Red Rhyolite rocks could be used in areas where it is commonly found, such as at Palisade Head. Black basalt or diabase rocks could be used in areas of columnar fracturing such as at Split Rock Lighthouse. Rounded boulders could be used to express the wave action at beaches or the power of glaciers to grind rocks smooth, such as at Iona’s Beach at Twin Points State Rest Area.

**Cultural Expression:**

The Boulder/Timber creates a Trail character through the use of local materials. The timber elements reflect the Scandinavian influence expressed in the Kiosk design.

Scandinavian Influence
Geologic Expression:
This sign expresses the columnar jointing that occurs in diabase intrusions along the North Shore. This design was created as an expression of road cut diabase seen southwest of Split Rock Lighthouse.

Regional Expression:
This sign uses Rhyolite boulders, reddish rock commonly seen across the North Shore, as an expression of regional materials. Cairn signs were traditionally constructed from the materials which were available in the native territory the trails traversed to mark a path or route.

Wave Expression:
Various beaches along the North Shore are composed of a variety of rounded rock. The variety of smooth rock deposited by glaciers. The cairn design expresses the historic geologic processes as well as the current erosive force of Lake Superior.
Cairn Locations

Cairn trail markers would be used in strategic locations to identify the North Shore Scenic Drive All-American Road. Cairns would not be used at every single stopping area, but instead would be used to create a rhythm along the North Shore. A variety of locations are suggested, including at natural areas, major road junctions, nodes, and other key areas with many travelers or important interpretive opportunities.

Collection of Existing Sign Styles

There are currently many different signs and styles of signs in use along the North Shore, proclaiming the highway’s status as the North Shore Scenic Drive All-American Road, the Lake Superior Circle Tour, the Gitchi-Gami State Trail, and various state parks and attractions along the way. This amalgamation of multiple styles is confusing and does not create an ordered identity for the many recreational systems and special places.

All Photos by Carlos Fernandez
**Highway Signs**

Another way to enhance the identity of the North Shore Scenic Drive All-American Road is to create a unique style for signs along the highway. These signs would be different from the signs used along highways in the rest of the state. Seeing these distinct signs would reinforce the unique character of the North Shore Scenic Drive All-American Road.

This particular sign takes its precedence from the National Park System. The color is a darker green than is typically seen on highway signs. Timber frame construction reflects northwoods architecture. This style of sign is flexible and can accommodate many different types of highway sign; from speed limits, to mile markers, and distances to upcoming facilities and communities.

**Regional Expression**

Highway Signage:

This signage creates a unique character for the NSSD using a timber frame construction reflective of northwoods architecture. The signage proposal proposes that all road signs eventually phase into this type of structure. As seen in National Parks, unique signage creates a special and memorable identity warranted by the few All American Roads in the United States.

**Construction Details**

- 2x6 timber framing with ornamental routing
- Accommodates any style or size of sign
- Is able to incorporate DNR symbols and logos
- Reinforces North Shore identity and character
- Requires maintenance

MNDOT signage which accommodates all road sign types, ex. DNR, USFS
Adaptable Highway Signage:
The signage construction can be manipulated to accommodate all highway sign types.
The proposal suggests that all road signs change over to a forest green color to create a unique identity for the corridor. The design follows a vocabulary seen in both the cairn and kiosk design details.
The Scandinavian heritage of the North Shore combined with community involvement influenced the design of information kiosks. The design process was started with a variety of options which were eventually narrowed to include the use of stone/timber constructions. Local stone foundations and the simple timber structures are cost effective. The steep metal roof ensures longevity. A series of public meetings was held to gather community input which led to the design. These final kiosk design suggestions reflect the wishes and desires of local residents.

Information kiosks would be located at trailheads and parking lots to provide historic, ecologic, and geologic information at stopping areas. Maps of trails and information about other stopping areas would be provided to tell the whole story of the North Shore.
The kiosk design is influenced by Scandinavian architecture. It reflects the cultural heritage of the people and founders of the North Shore. The high pitched roof lines and wood detailing reflects structures typically seen in Norway and other Scandinavian port towns. Using a cedar timber frame structure the design also reflects the natural wood character of Lake Superior.

This interpretive panel depicts some of the information that would be seen at the commercial fishing kiosk. All boards should use the same graphic standard which strengthens the continuity of the interpretive trail.
Viewshed Aesthetics

In order to maintain the trail-like character of the North Shore Scenic Drive All-American Road it may be necessary to implement design guidelines in its viewshed. The viewshed is that portion of the landscape visible from the road. These guidelines could be incorporated into local building codes and/or zoning controls. Design guidelines would promote aesthetics that enhance the trail-like character of the road. Design guidelines could require the use of local building materials and the planting of native vegetation to screen undesirable views from the road and maintain the sense of enclosure along the road. Policies could also be established to guide the design and layout of the road itself.

Road Alignment

How the road is built determines how it and the surrounding landscape are experienced. Rock outcroppings and vegetation along the edge of the road are important character-giving elements and provide visual stimulation for travelers. Wide, straight roads have less character than narrow, winding roads. Removing rocks and vegetation from the road side increases the sense of exposure and decreases the sense of character. Straight roads, however, are safer and can support higher traffic speeds. Road design should balance safety with character on the North Shore Scenic Drive All-American Road.

Road sections were measured at 10 different locations along the North Shore to illustrate typical conditions (see Appendix). Road sections ranged from very narrow two-lane road cuts with dangerously small and steep shoulders to extremely wide four-lane road cuts with oversized shoulders. Character ranged from a complete sense of enclosure created by tall rock cuts and forest vegetation to a complete sense of exposure with no vegetation along the edge of the road. Roadside vegetation and rock outcrops frame views down the road corridor to landforms rising in the distance or out over the expanse of Lake Superior.

Driving lanes on the North Shore Scenic Drive All-American Road remain a standard width of 12 feet in each direction in most cases. The width of paved shoulders ranged from two feet to 12 feet. The overall width of pavement therefor ranges from 28 feet, with two driving lanes, each with two-foot shoulders, to 68 feet with four driving lanes each with 10-foot shoulders. The overall roadcut ranges from 54 feet where two driving lanes have two-foot shoulders and 12 feet to the edge of the forest, to 162 feet where four driving lanes have 12-foot shoulders and 60 feet to the forest edge.

The ideal sense of enclosure is not to exceed a ratio of 2:1 in width of road cut to height of vegetation or rock along the edge of the road. White pines range in height from 100 to 150 feet. Red pines grow to heights of 70 to 80 feet. Aspen range from 30 to 60 feet and birch from 50 to 70 feet. Coniferous trees are taller and therefore are more suitable roadside vegetation for wider road cuts. A forest of 30 foot aspen would provide a sense of enclosure for a road cut up to 60 feet wide, whereas a forest of 70 foot red pine provides a sense of enclosure for roadcuts up to 140 feet wide.

The ideal road alignment would be 12-foot driving lanes with 8-foot paved shoulders and 20 to 30 feet of road cut before the start of vegetation. Two-lane road sections would add up to 80 feet and need 40-foot tall vegetation along the road. Four-lane road sections would add up to 124 feet and need 62-foot tall vegetation along the road.

<table>
<thead>
<tr>
<th>Ideal two-lane road configuration of 80 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-foot road cut</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ideal four-lane road configuration of 124 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-foot road cut</td>
</tr>
</tbody>
</table>
Trail Character Enhancing Road Cut Proportions

Two-Lane Road Cut width 80 feet
Enclosure Ratio 2:1

Four-Lane Road Cut width 124 feet
Enclosure Ratio 2:1
Proposed Ideal Road Sections To Maintain Trail Character

**IDEAL ROAD SECTION FOR A 2 LANE ROAD**

30’ Road Maintains Trail Character. Swales are at acceptable slopes. 8’ Shoulders provide ample space for vehicles to pull off.

**IDEAL ROAD SECTION FOR A 4 LANE ROAD**

This arrangement provides adequate shoulder space with good Trail-like enclosure. Swales are at acceptable slopes and distances from the road. Coniferous plantings enhance the enclosed feel of the road.
Trail separation is created by way of swales and unique paving surface. Use of native flowers and grasses maintain the Natural Open Meadow Character of the corridor.

Forest plantings separate trails and powerlines while maintaining enclosure for the road, effectively increasing safety and beauty.
Environmental Sustainability

Much of the North Shore’s identity is derived from its wilderness character. A key part of the North Shore’s attraction is the ability to see wild animals in their native habitats. It is important for the long-term health of the planet that development along the North Shore occur in an environmentally sustainable manner. It also ensures the same kind of outdoor experiences available to us remain for future generations.

Storm Water Management

Water is one of Minnesota’s most valuable resources. The “Land of 10,000 Lakes” also has over 92,000 miles of streams and rivers. Clean water is vital to agriculture, commerce, industry, and life. Recreational use of waters contributes to our quality of life and to the state’s economy. Managing shoreland helps protect water quality and maintain scenic views. Fish and wildlife depend on vegetated shorelines to provide healthy spawning grounds and habitat for feeding, resting, and mating. Wildlife are most abundant along riparian areas with healthy vegetation.

A few unplanned and poorly designed developments can degrade the entire waterbody for everyone. Increasing demand for shoreline properties can lead to an overbuilt condition which destroys the natural vegetation and scenic beauty of the shoreline. Overdevelopment increases the potential occurrence of flooding, water pollution, habitat loss, plant and animal extinctions, and scenic degradation. Poorly designed development may alter the hydrology or movement of water through the landscape.

The best way to protect water quality is for new development to mimic the pre-settlement hydrologic conditions in terms of runoff volume, peak discharge (velocity), and infiltration. When the impervious surfaces of new development replace vegetation in a landscape, the amount of infiltration decreases and the amount of surface water runoff increases accordingly. This disrupts the natural hydrology. Rainfall that used to soak into the earth, now runs off over the surface of the earth, causing flooding and erosion, and washing sediment and pollutants into our lakes and streams. Nutrients washed into our waterbodies consume excessive amounts of oxygen. Summer runoff may increase water temperatures in lakes and streams that are otherwise fed by cold water springs. The stress of oxygen depletion and thermal pollution can kill fish and invertebrate populations.

An increase in runoff also means less water is soaking into the earth and recharging groundwater aquifers. Groundwater supplies the base flow to lakes and streams through seeps and springs and may be a source of well-water for local residents. Plants and animals have adapted to the local hydrologic regime. Altering the quantity and quality of available water may shift the composition of plant and animal species in a given location, by opening the door for invasive exotic species to crowd out more sensitive native plants and animals.

The major impact of new development is caused by the amount of impervious surfaces and their connectedness. The impact is minimized when impervious surfaces are disconnected from each other. Disconnected surfaces direct runoff away from lakes and streams into vegetated swales and basins where all of the runoff is allowed to infiltrate into the earth as it did before the new development was added to the landscape. The impact is maximized by connected impervious surfaces. Connected surfaces convey everyone’s runoff into gutters and storm sewers without giving it a chance to infiltrate the earth and then deposit it directly into waterbodies. When stormwater runoff enters our lakes and streams it degrades water quality. A watershed with 10 to 20% of its area covered with connected impervious surfaces will begin to experience water quality problems.

Some basic design principles to protect water quality include; mimicking pre-development hydrology, developing the least critical areas, fitting new development to the terrain, preserving natural drainage patterns, minimizing imperviousness and its connectedness, and using redundant systems to handle stormwater runoff. New development that follows these guidelines will; maximize infiltration and minimize runoff to pre-development levels, avoid developing in floodplains and on steep slopes, minimize regrading of the earth’s surface, avoid disrupting water’s natural flow paths and drainageways, reduce the amount of roads and driveways and their use of curbs and gutters, and use yard space for bioretention ponds and infiltration swales to handle runoff as close to where it fell as rain as possible.
Pre-Settlement Hydrology
Rain falls on vegetation and soaks into the ground. Root systems provide channels to transmit water into the earth. Vegetation and soil particles filter impurities from the water. Water moves slowly underground to recharge aquifers and supply the base flow to streams and lakes where it re-emerges from seeps and springs. The earth acts as a vast storage vessel and water is available to plants and animals throughout the year.

Post-Settlement Hydrology
Rain falls on impervious surfaces such as roofs, roads, and lawns and can no longer soak into the earth. Stormwater is forced to run off over the surface of the earth. Water moving rapidly over the surface of the earth has the energy to cause erosion and pick up sediments and contaminants. This dirty water is discharged directly into our lakes, streams, and wetlands causing flooding and pollution problems. Water is no longer stored where it falls, but is transported downstream immediately. This water is lost to local plants and animals who now only have access to water during brief periods of rainfall.
Steep Slope Vegetation and Shoreline Erosion Control

Plants and soil particles filter nutrients and pollutants out of water as it flows past. A vegetated shoreline is critical for cleaning stormwater runoff before it enters a waterbody. Plants also hold soil particles in place, preventing moving water from dislodging the particles and causing erosion. The largest load of pollutants entering a waterbody is usually the sediments dislodged by erosion. The steep slopes along the North Shore mean water is moving fast and has more energy to erode soil particles. Steep banks are unstable under the influence of gravity, causing slumps and collapses to dislodge soil particles directly into streams and lakes. It is more difficult to establish a protective vegetative cover on steep slopes. New development and pedestrian trails on the North Shore often occur along the top edge of steep shorelines and stream banks to take advantage of scenic views. Disturbing vegetation and compacting the soil for new development and trails, or the removal of vegetation to improve sight lines increases the potential risk for erosion.

Wooded areas that include an understory cover of shrubs and bushes, beneath the forest canopy, are the most runoff-absorbant type of landscape. Up to 50% of rainfall never even reaches the surface of the earth under these circumstances. Raindrops that land on a tree’s leaves and branches are absorbed for the plant’s use or evaporate back into the atmosphere. Plant roots take up a large quantity of water for the plant’s nourishment as well, and encourage infiltration of water by creating channels into the earth.

Forest Habitat Fragmentation

Preserving large areas of vegetation is good, not only for water quality, but also for environmental diversity. Diversity is nature’s way of ensuring the stability of natural systems through often cataclysmic events, like the North Shore’s volcanoes and glaciers. Remote areas of northeastern Minnesota provide valuable habitat for animals that are no longer found elsewhere in the state. Much of northeastern Minnesota is National and State Forest, which is managed for its habitat value, among other things.

Patches of habitat can be described as core, the undisturbed center of that habitat, or edge, the disturbed portion where one habitat transitions into another type. Certain animals can only survive in core conditions. Some habitat patches are not large enough to contain any core habitat, transitional effects occur all the way through the entire patch. Habitat patches with large amounts of undisturbed core are extremely valuable and extremely rare. The principle cause of habitat fragmentation is human disturbance, with the creation of roads and cabins deep in the woods. A single road cutting through a large forest patch can destroy its core qualities. A road may sever an animal’s route between feeding areas or provide an opening for new plants and animals to enter the forest, either of which may cause the original animal to abandon its territory.

Clean water and diverse ecosystems are valuable resources. Low impact development sustains high quality natural resources. North Shore development ought to minimize vegetation loss and habitat fragmentation.

Forest Species Composition

As we replant vegetation to alleviate the effects of earlier logging and development on water quality, habitat value, and scenic character, it is important to consider the species we select. A red oak may be a beautiful tree, but it is out of place on the North Shore. Human disturbance makes living conditions more difficult for native species in the first place, we need to give native plant communities a boost by replanting them as much as possible. The original red and white pine forests that were common along the North Shore 100 years ago are mostly non-existent today. Much of the forest cover is aspen and birch now. It is possible to recreate the conditions under which pines thrived. Selective logging of aspen and birch can replace fire’s role in forest dynamics and become a useful tool in regenerating the pine forests once again. The pine tree is emblematic of the North Shore’s rugged and scenic character.
Shoreline Erosion Control
Vegetation Prevents Erosion

Roads Cause Forest Habitat Fragmentation
Lots of Forest Core
Lots of Forest Edge

Species Composition
Old Growth Diversity
Second Growth Monoculture
The following plant lists are native species that do well under the extreme conditions of the North Shore. Native plants have the advantage of being adapted to local climatic and hydrologic conditions. They are also better able to resist insect infestations and diseases. Native plant species also blend into the surrounding landscape better than planted cultivars. When new development calls for planting vegetation it only makes sense to select native plant species. Planting native species helps rebuild disturbed habitat and promotes environmental sustainability.

**Coniferous Forest Plantings (dry)**

**Tree Canopy:**
- Balsam Fir, *Abies balsamea*
- Eastern White Cedar, *Thuja occidentalis*
- White Spruce, *Picea glauca*
- Red Pine, *Pinus resinosa*
- Eastern White Pine, *Pinus strobus*
- Jack Pine, *Pinus banksiana*

**Shrub Layer:**
- Smooth Sumac, *Rhus glabra*
- Highbush Blueberry, *Vaccinium corymbosum*

**Ground Cover:**
- Bearberry, *Arctostaphylos uva-ursi*
- Northern White Violet, *Viola pallens*
- Twinflower, *Linnaea borealis*
- Starflower, *Trientalis borealis*
- Bluebead Lily, *Clintonia borealis*
- Canada Mayflower, *Maianthemum canadense*
- Harebell, *Campanula rotundifolia*
- Wild Sarsaparilla, *Aralia nududcula*
- Pipsissewa, *Chimaphila umbellata*
- Wild Columbine, *Aquilegia canadensis*
- Wintergreen, *Gaultheria procumbens*
Deciduous Forest Plantings (moist)

**Tree Canopy:**
- Quaking Aspen, *Populus tremuloides*
- Paper Birch, *Betula papyrifera*
- Balsam Poplar, *Populus balsamifera*
- Yellow Birch, *Betula alleghaniensis*
- Sugar Maple, *Acer saccharum*
- Red Maple, *Acer rubrum*

**Shrub Layer:**
- Red-osier Dogwood, *Cornus stolonifera*
- Nannyberry, *Viburnum lentago*
- Pin Cherry, *Prunus pensylvanica*

**Ground Cover:**
- Red Baneberry, *Actaea rubra*
- Bunchberry, *Cornus canadensis*
- Wood Anemone, *Anemone quinquefolia*
- Common Wood Sorrel, *Oxalis montana*
- Raspberry, *Rubus odoratus*
- Shinleaf, *Pyrola elliptica*
- Spring Beauty, *Claytonia virginica*
- Jack-in-the-Pulpit, *Arisaema triphyllum*
- Evening Primrose, *Oenothera biennis*
Photo: Oberg Mountain scenic overlook - by Doug VanValkenburg
**Meadow Plantings (wet)**

**Tree Canopy:**
- Black Spruce, *Picea mariana*
- Northern White Cedar, *Thuja occidentalis*
- Tamarack, *Larix laricina*

**Shrub Layer:**
- American Mountain Ash, *Sorbus americana*

**Ground Cover:**
- Wild Rice, *Zizania aquatica*
- Labrador tea, *Ledum groenlandicum*
- Bog Cranberry, *Vaccinium macrocarpon*
- Fringed Loosestrife, *Lysimachia ciliata*
- Swamp Rose, *Rosa palustris*
- Marsh Marigold, *Caltha palustris*
- Swamp Rose, *Rosa palustris*
- Fringed Loosestrife, *Lysimachia ciliata*

**Infiltration Swale Plantings (wet periodically)**

**Tree Canopy:**
- Tamarack, *Larix laricina*
- Black Spruce, *Picea mariana*

**Shrub Layer:**
- Red-osier Dogwood, *Cornus stolonifera*

**Ground Cover:**
- Big Bluestem, *Andropogon gerardi*
- Blue Flag Iris, *Iris versicolor*
- Marsh Marigold, *Caltha palustris*
- Swamp Rose, *Rosa palustris*
- Fringed Loosestrife, *Lysimachia ciliata*
Regional Perspective
Development planning along the North Shore needs to take into account a regional perspective. It is important to consider how future developments fit into the big picture. In order to preserve the aesthetic character, ecological functioning, and community livability of the North Shore it may be necessary to concentrate development in clusters along the North Shore Scenic Drive All-American Road instead of allowing it to occur everywhere along its entire length. Clustering development preserves the rhythm and pattern of alternating experiences along the North Shore. Natural areas separate one community from the next. Scenic views of natural resources are interspersed with scenic views of cultural resources. Clustering encourages development that connects the road to inland areas or to the lake rather than to the next development down the road. A regional perspective promotes development across the road instead of strung-out along it.

When development is allowed to string out along the road, the entire corridor soon becomes developed. It becomes difficult to know where one community ends and the next begins when the entire corridor is developed. The sense of progression is lost. The road is cut off from the landscape. Travelers lose their connection to Lake Superior, the forest, and the streams when all they can see is development. The road loses its unique scenic beauty under these circumstances.
Proto–typical Design Examples
The following three examples show how some of these guidelines for building materials, design vocabulary, viewshed aesthetics, environmental sustainability, native plantings, and regional perspective can be incorporated into local design work.

Boat Launch
This boat launch design incorporates environmentally sustainable design strategies. Pavement is minimized to reduce the amount of runoff generated by impervious surfaces. Paved surfaces are graded to drain runoff away from Lake Superior. Runoff is collected in vegetated infiltration swales and retention basins where it is allowed to soak back into the earth. The shoreline remains vegetated to prevent shoreline erosion. Vegetation remains along the road to screen views of parked vehicles and to maintain the aesthetics of the North Shore Scenic Drive All-American Road. Native plant species are used throughout the site and habitat connections are maintained through the site to minimize the disturbance to the movement of animals.
Residential
Without design standards in place, the North Shore Scenic Drive All-American Road may begin to look like the suburbs everywhere, with many homes on large turf lawn lots. Design standards include maintaining vegetation along the shoreline to prevent erosion and along the road to maintain the aesthetic character of the corridor. Impervious surfaces are kept to a minimum and the infiltration of stormwater runoff is encouraged on-site. Habitat connections are made throughout the lot and areas of turf lawn are allowed.
Commercial establishments need visibility from the road to entice travelers to stop. Design standards for commercial development along the North Shore Scenic Drive All-American Road include maintaining vegetation along the shoreline to prevent erosion. It is possible to be visible from the road and not block scenic views of Lake Superior. Building masses are split up and combined with plantings of native plant species to maintain the aesthetic character of the corridor. Impervious surfaces are kept to a minimum and the infiltration of stormwater runoff is encouraged on-site.
The Beaver Bay design strategy uses the North Shore Scenic Drive as a spine that links the commercial and civic centers of the community, its scenic natural environment, and the regional recreational systems that pass through it. The design demonstrates how the North Shore Scenic Byway can be used as an ordering device that can reinforce a sense of place in individual North Shore communities.

Elements of design include:

- A design for a NSSD Rest Stop parking lot / trailhead for the Gitchi-Gami State Trail that ties together access to the local historical society, the historic cemetery, and access to the Superior Hiking Trail while addressing serious erosion concerns along the Beaver River.
- A streetscape design along the byway that accommodates pedestrians and bicyclists which reinforces Beaver Bay as a special place.
- A civic center design that provides a civic context for the Beaver Bay Community Center and provides a welcoming entry into town.
**Beaver Bay**

**Streetscape Concept and Gateway Sketches**

**Experiential Gateway to the Oldest Continuous Settlement on the North Shore:**

Gateway signage is placed where the Beaver Bay geologic intrusion first becomes visible, and symbolizes the transition of landform character along the North Shore.

- **Hwy 61 & Old Town Road**
  - Crosswalk added
  - Crosswalk upgraded for automobile and pedestrian circulation
  - Centralization of intersection to road
  - Reduce speed of traffic

- **Hwy 61 & MacDonald Ave.**
  - Crosswalk added
  - Butterfly traffic on greenway
  - Bicycle traffic on greenway
  - Visibility of modular crosswalk
  - Street light options

- **Hwy 61 & Lax Lake Road**
  - Connection between interpretive center, pedestrian, and design elements

**Gitch-Game Trail**

- Proprietary signage for Gitch-Game Trail
- Welcome to Beaver Bay
- Show road planting helps define trail
- Redesign on east side

**Rock Cairn Design**

- Experiential gateway
- Triangular storm drain cover
- Timber frame and local rock

**Section Through Experiential Gateway Showing Road Widths and Rock Cairn**

**Concept Overview:**

The concept is centered on bringing the character of the Gitch-Game Trail into downtown Beaver Bay. Travel along the Gitch-Game Trail has many scenic rewards which produce a memorable experience and create interest in the area of Beaver Bay and the north shore. The trail engages the earth, embracing its twists and turns and creates many varied experiences along the north shore. Within Beaver Bay the road edge is to be thought of as more than a sidewalk, but rather as a length of the scenic Gitch-Game Trail System. The trail will link key destinations, encompass natural, cultural, and historic elements of Beaver Bay and the north shore in design elements and interpretative opportunities.

**Hwy 61 & Lax Lake Road**

- Connection between interpretive center, pedestrian, and design elements

**Gitch-Game Trail**

- Proprietary signage for Gitch-Game Trail
- Welcome to Beaver Bay
- Show road planting helps define trail
- Redesign on east side

**Rock Cairn Design**

- Experiential gateway
- Triangular storm drain cover
- Timber frame and local rock

**Section Through Experiential Gateway Showing Road Widths and Rock Cairn**

**Concept Overview:**

The concept is centered on bringing the character of the Gitch-Game Trail into downtown Beaver Bay. Travel along the Gitch-Game Trail has many scenic rewards which produce a memorable experience and create interest in the area of Beaver Bay and the north shore. The trail engages the earth, embracing its twists and turns and creates many varied experiences along the north shore. Within Beaver Bay the road edge is to be thought of as more than a sidewalk, but rather as a length of the scenic Gitch-Game Trail System. The trail will link key destinations, encompass natural, cultural, and historic elements of Beaver Bay and the north shore in design elements and interpretative opportunities.

**Hwy 61 & Lax Lake Road**

- Connection between interpretive center, pedestrian, and design elements

**Gitch-Game Trail**

- Proprietary signage for Gitch-Game Trail
- Welcome to Beaver Bay
- Show road planting helps define trail
- Redesign on east side

**Rock Cairn Design**

- Experiential gateway
- Triangular storm drain cover
- Timber frame and local rock

**Section Through Experiential Gateway Showing Road Widths and Rock Cairn**

130
**Beaver Bay Streetscape Masterplan**

**Streetscape Design Goals:**
- Give clarity to the Gitchi-Gami Trail where it runs along HWY 61.
- Create public spaces and zones along the downtown corridor.
- Establish a planted corridor to beautify the public face of downtown Beaver Bay.
- Incorporate a common design vocabulary for Beaver Bay and the Gitchi-Gami Trail.
- Increase linkage to the existing regional recreational system.

**Masterplan and Design Features:**
The new streetscape along HWY 61 in downtown Beaver Bay enhances the existing road profile into a new configuration slowing traffic and providing a park-like pedestrian experience. The entrance to town on both sides will become the transitioning areas which mark town boundaries and create an awareness of the recreational opportunities found in the surrounding area. The downtown streetscape is a change in landscape character seen as one first encounters the Beaver Bay region. A planting plan enlivens all downtown streets and forested valleys. New crosswalks are placed to increase access to area shops and services on both sides of HWY 61. Design features include colorful paving, marking, creosote, and safety islands which become green islands along HWY 61 where one can sit an enjoy daily activities, talk with friends, or enjoy a cup of coffee while reading a book or newspaper.

**Plan View Showing: Safety Island, Street Tree Plantings, and On-Street Parking**

**Existing Street Cross-Section**

**Proposed Street Cross-Section with Safety Islands and Street Trees**
**Beaver Bay Streetscape Concept West**

**Streetscape Sections: Options for A - A1**

**Existing Condition**
- Beaver Bay Fire Dept.
- Gutter Gains Trail
- Traffic & Center Turning Lanes
- More Gas Station

**Option 1**
- **New Sidewalks:** 6' Paving Surface
- **New Streetlight:** 15' x 9'
- **New Signage:** 15' x 9'

**Option 2**
- **New Sidewalks:** 6' Paving Surface
- **New Streetlight:** 15' x 9'
- **New Signage:** 15' x 9'

**Streetscape Plan West**

- **Gutter Gains Trail**
- **Streetlight Installed at Key Locations**
- **New Crosswalks**
- **New Plantings Around Signage**

**Funding provided from the Environment and Natural Resources Trust Fund through the LCMR**
Perspective View of Town Entry and Community Center

The eastern entrance into the community has been readdressed with a new streetscape and design concept for the community center area. The public gathering space acts as one of two bookends at either end of the business district. Continuity is created throughout the town by using the "Flowing Waters" concept and common design vocabulary.
BEAVER RIVER PARK & TRAILHEAD PLAN: "FLOWING WATERS" CONCEPT

The design concepts for the park and trailhead use the river form and the movement of water as the inspiration for creating a specific experience for the site. The concept creates new connections between the city streetscapes, identifying recreational systems and existing visitor’s centers. The result is the Gitchi Gammi Trail has become a new community amenity that provides improved access for both local residents and visitors, maintains a respect for the local ecology by treating storm water on site and in adjacent forested areas, and celebrates local culture by using the historic millstones, promontory interpretation and a new John Beargrease Memorial.
This view of the trailhead and visitors center reveals how the movement of water is embodied in physical space. The snaking forms and meandering pathways inspire a river experience while uniting the various site features. Social and historical amenities are presented at the memorial to John Bearse and the North Shore Scenic Drive Card sign. The park also creates a regional sensibility and an awareness of the northern landscape. A common design vocabulary is used in structures, streetlights, foot bridges, and other site features to increase experiential impact and the creation of place.
“I shall be telling this with a sigh somewhere ages and ages hence: Two roads diverged in a wood, and I took the one less traveled by, and that has made all the difference.”

- Robert Frost

“In wildness is the preservation of the world.”

- Henry David Thoreau