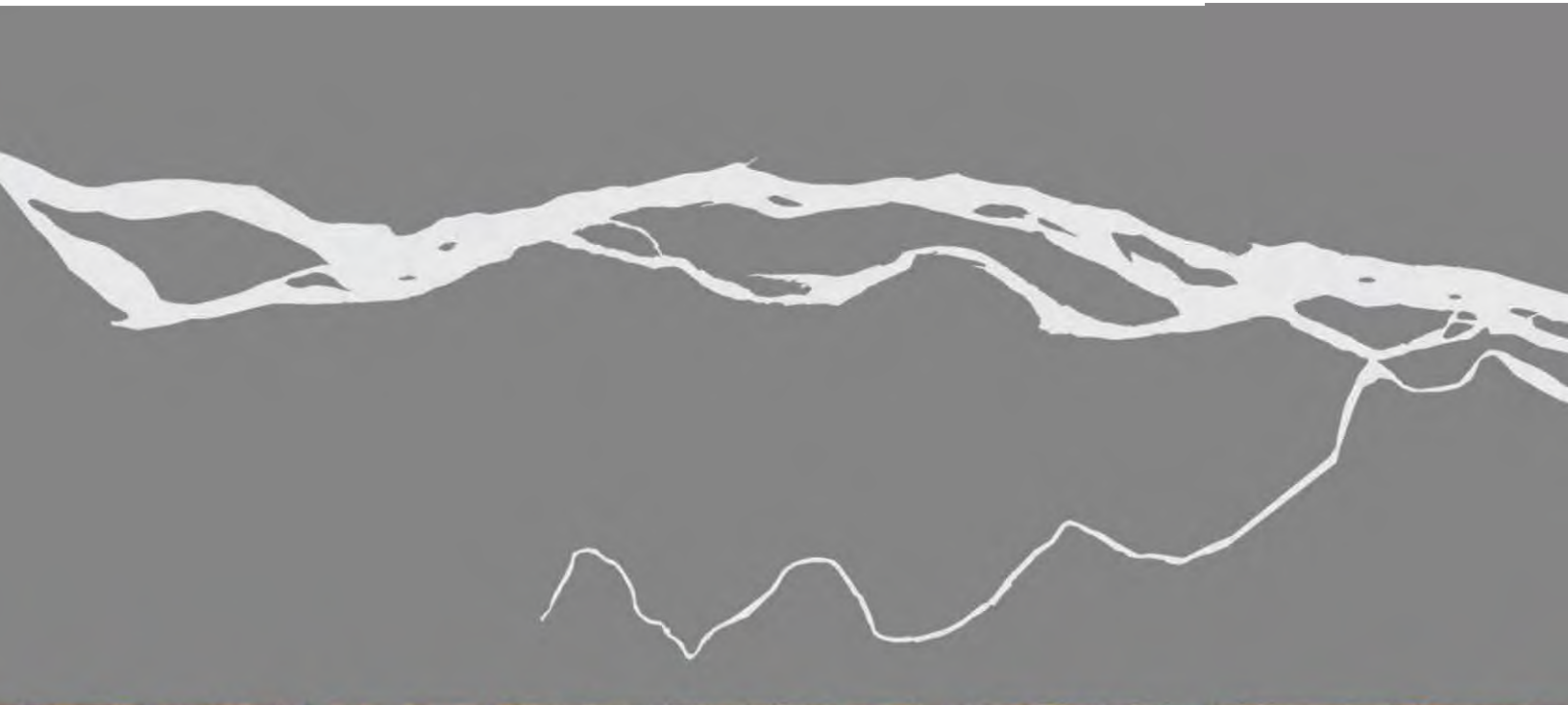


**Battlefords River Valley Advisory Committee**

**Update of the Battlefords  
River Valley Master Plan**



The Battlefords River Valley Advisory Committee

## Update of the Battlefords River Valley Master Plan

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**Date:**

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This document updates the Battlefords River Valley Master Plan, April 1989, prepared by Hilderman Witty Crosby Hanna & Associates Landscape Architects and Planners, Johnson and Weichel Resource Management Consultants, Clifton Associates Ltd. Consulting Geotechnical Engineers, and Dr. Ernest G. Walker Archaeologist

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# Forward



The City of the North Battleford and the Town of Battleford commissioned the creation of a Battlefords River Valley Master Plan in the late 1980's. As noted in the original document:

“The Battlefords are blessed with a river valley system rich in natural and cultural heritage resources. Since prehistoric times, the North Saskatchewan and Battle Rivers have attracted hunters, gatherers, farmers and settlers. The river valleys have provided a means of transportation, a critical source of water and sources of food and shelter. This attraction has also been evident for a wide variety of wildlife species, many of which may still be found in the area.”

The 1989 Master Plan identified an overall goal of conservation, and indicated its intention to provide resource management and land use policies, as well as to propose appropriate complementary opportunities for enjoyment and learning that will protect the Valley as an important legacy for future generations.

In the time that has passed since that document was completed, development has been slow due to municipal funding pressure and priorities. With a funding partnership announcement from the Province in 2006, there is a renewed commitment and directive from our communities to bring the project to the forefront. The need for a review and update of the 1989 Master Plan was identified, and this report is intended to serve as an update to the original document.

Twenty years have passed since the original Battleford's River Valley Master Plan was created. This document strives to address the current and future needs of the users and renews the commitment to environmentally responsible development and protection of this urban park.

In assessing and evaluating what has been achieved to date, priorities for development have been reviewed for their continued relevance, and new priorities identified. Development Concept maps that identify existing facilities and developments, as well as recommend future developments are included in this document. These are categorized as short, middle or long term project priorities. In general, the overriding priorities include the development of crucial trail linkages throughout the river valley, and the development of a unifying visual identity through signage, site furniture and interpretive elements within the river valley.

In reviewing and updating the River Valley Master Plan, it is apparent that much of the background information provided in the document remains relevant, as are many of the policies and recommendations. This review focuses primarily on;

- Updating of all mapping, and development of additional mapping
- Simplification of the management zones
- Clarification and updating of policy, including additional policies that will provide further direction to the overall management of the river valley
- Review and updating of Development Concepts section to reflect existing development initiatives, and to propose a strategy for future development priorities

The update also includes the background information that was provided in the original Master Plan as it serves to provide detail about the history, geology, natural and cultural features. This information is still pertinent today, and provides an important role in informing the ongoing management and development considerations. Mapping that is included has been updated to reflect a revised style, but content is based on the original maps in the Master Plan, unless otherwise noted.



## Study Objectives

### 1989 Battlefords River Valley Master Plan

In late 1986, the Battlefords River Valley Advisory Committee, acting on resolutions of Battleford Town Council, requested proposals from a number of consultants for the preparation of a long term Master Plan for that portion of the North Saskatchewan River Valley that lies within the Battlefords.

In June of 1987, the firm of Hilderman Witty Crosby Hanna & Associates, in association with Clifton Associates Ltd. and Johnson & Weichel, were retained to develop a comprehensive long term Master Plan for the river valley.

The final document, entitled Battlefords River Valley Master Plan, dated April 1989, was a comprehensive report that provided extensive background information about the natural and cultural history of the river valley, established management objectives and policies, and proposed development concepts for future development. The report also provided an overview of the process by which the study was completed.

“Initial efforts were directed at developing an understanding of the river valley in terms of the cultural heritage of the area and the remaining resources that illustrate this heritage, the natural processes on-going in the valley and the resources that have been created as a result of these processes, the major visual characteristics of the valley, existing land use and ownership patterns, current land use and management policies and controls, and the desires and concerns of the community relating to the valley and its future. On the basis of this initial work, opportunities and constraints were identified which framed and influenced the land use policy recommendations and the development concepts presented in the Master Plan.”  
(Battlefords River Valley Master Plan, 1989)



# 2009 Battlefords River Valley Master Plan Update

## Goals

The primary goals of the current study are as follows;

- Develop an updated 25-Year Master Plan for the Battlefords River Valley that recognizes the park development that has occurred since the 1988 Master Plan was developed;
- To study and make recommendations regarding the reopening of the span of bridge (between the north shore and Finlayson Island) to vehicular traffic.

## Objectives

The specific objectives in preparing the Master Plan are as follows:

- To outline a park system that incorporates a link to a portion of the Battle River Valley that includes the Government Ridge Site and to review the boundaries in the existing Master Plan for current need and relevance;
- All areas shall be planned in a comprehensive fashion and, for the most part, have an emphasis on passive, nature orientated, non-intensive recreation uses;
- To respect existing land uses within the Master Plan area and integrate their use, where possible and desirable, into the Master Plan;
- To maintain and conserve the fauna and flora of the area with the purpose of protection and retaining these resources for the enjoyment of all citizens;
- To rehabilitate already disturbed ecosystems within this park area;
- To ensure that the historic and archeological aspects of the area are respected in the Master Plan;
- To protect environmentally sensitive areas from incompatible or harmful development;
- To consider options and establish the feasibility of reopening the north span of bridge between the north shore and Finlayson Island to vehicle traffic.
- The public shall be integrally involved in the process of preparing the Master Plan.

A public consultation program has been incorporated in the update of the Master Plan at key stages in the study. An initial consultation workshop with key stakeholders representing agencies, organizations and individuals with particular knowledge or interest in the river valley was held early in the process, in March 2008, to ensure that community knowledge and information can be incorporated into the planning process.

A key component of the workshop was the opportunity for participants to add detail to base mapping of the river valley. Large scale mapping was provided at each breakout table and participants were requested to use the mapping to add detail specific to existing and new recreational opportunities, areas susceptible to damage and any other pertinent

information. This information has been incorporated in the base mapping.

Participants offered many suggestions to ensure the enjoyment and benefit of the of the river valley for all. In general it was felt that the river valley should be retained in a natural state, while continuing to provide both active and passive recreational opportunities, including some basic facilities or amenities. Many people indicated a need for common signage and site furniture, such as benches and waste receptacles, throughout the valley, as well as a marketing program to ensure people are aware of the various recreational opportunities in the valley. The need for more parking lots (ensuring they are well identified) was noted, to increase accessibility to various parts of the river valley.

Development through the valley has generally proceeded in conformity with the recommendations from the 1989 Master Plan, although not necessarily in order of the priority recommended in that document. Participants were generally supportive of focusing active recreational opportunities to areas already being used for recreational purposes, and ensuring that sensitive / significant areas were protected. Speers Forest and the accompanying shoreline along the North Saskatchewan River were identified as one such area.

Generally, more active management of the river valley (marketing, signage, interpretation, some facility/parking lot improvements, enforcement to prevent vandalism and damage) was felt to be a critical aspect in enhancing the opportunities, use and enjoyment of the river valley for both residents and tourists.

These considerations are reflected throughout this document.



*Prairie Crocus (credit: City Parks Department)*





## Study Area



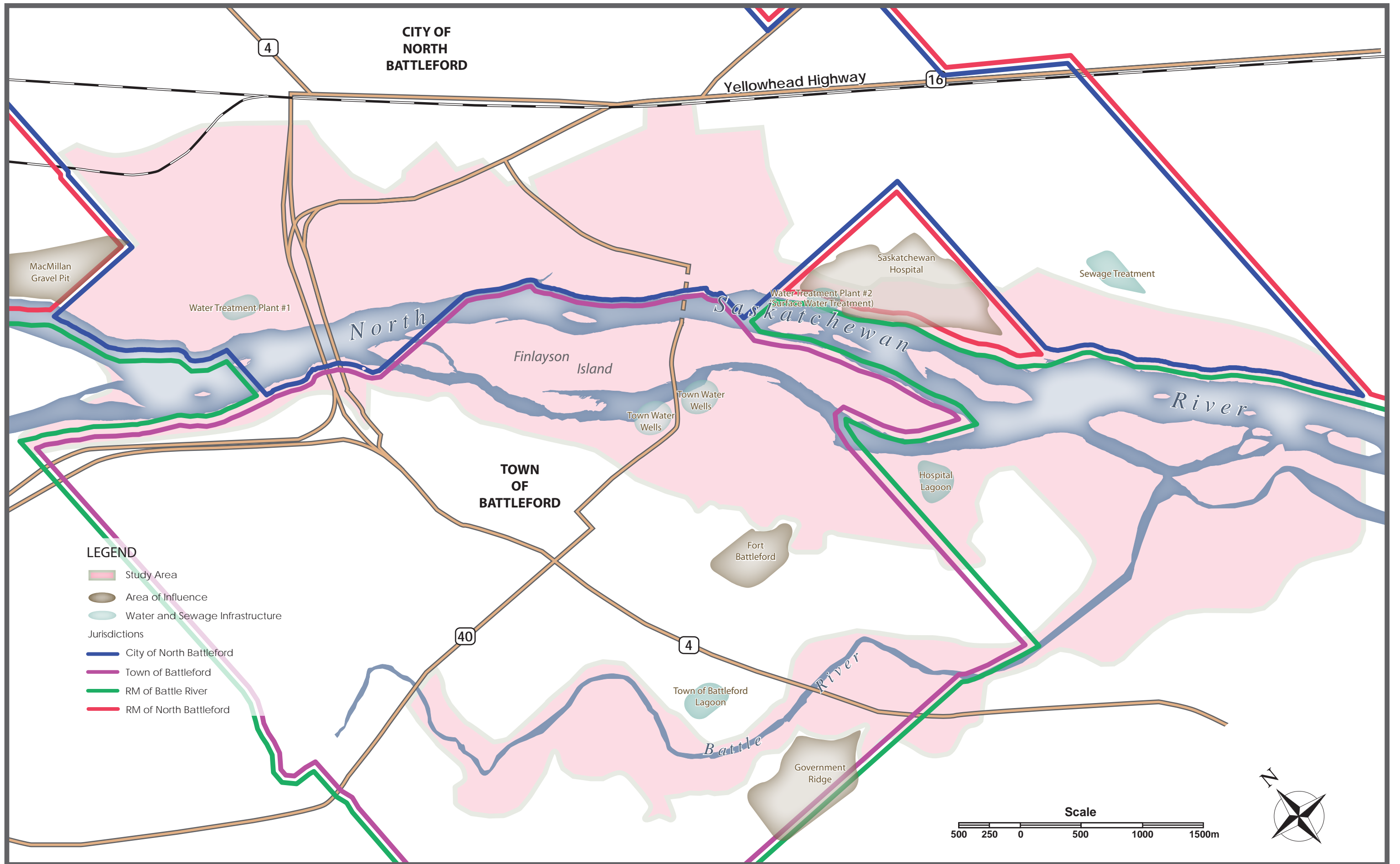
The study area for the original Battlefords River Valley Master Plan was to focus upon those portions of the North Saskatchewan River Valley bounded by the City of North Battleford and Town of Battleford, but was also to consider the advisability of inclusion of adjacent portions of neighboring rural municipalities. Thus, the boundaries of the Master Plan study area extended beyond the corporate limits of the City and the Town in the vicinity of the forks of the Battle and North Saskatchewan Rivers. Although this area was included in the study area (for a variety of reasons related to the historic and biophysical importance of the river confluence), it was recognized that implementation of proposals or policies in this area could not and should not occur without the agreement of the R.M. of Battle River to participate in Plan implementation.

The remainder of the study area falls within the Town and City. Two general principles were followed in delineating the study area boundary:

1. To the greatest extent possible, and given natural cultural heritage resource characteristics, attention was focused on areas lying between the tops of the valley walls.
2. Areas of existing private urban development were excluded, to the greatest extent possible, from the study area.

In the update of the Master Plan, the above noted principles remain valid. However, an additional land area, extending along the Battle River, from its confluence with the North Saskatchewan river upstream to Highway 40 crossing, has also been incorporated. The Battle River offers passive recreational opportunities, in addition to providing a strong linkage to significant historic sites such as Government Ridge.





## Need for a Conservation Authority

The original Master Plan recommended the establishment and operation of a River Valley Conservation Authority, that would be responsible for the implementation of the Master Plan. However, this Conservation Authority was never established, and the municipal administration has determined that a formal body such as this is neither necessary nor desirable. In 2005, an agreement between the province and the two municipalities was established for the purposes of identifying the role of the Battlefords River Valley Board comprised of representatives of the two municipalities and the provincial government. An overview of the role and mandate of the Battlefords River Valley Board that has been established is provided in the Administrative Framework section of this document.



## Cultural Heritage

There is reliable evidence to suggest that human occupation in the Battlefords region spans at least the last 10,000 years. At the same time, it is frustrating to attempt to describe this occupation because of a lack of detailed archaeological research in the immediate study area. As a result, it was necessary to use professional judgment and experience, supplemented by an understanding of the wider Northern Plains region, in assembling a picture of probable prehistoric occupation and resources in the Valley.

### The Prehistoric Period

The prehistory of the Northern Plains can be divided into three general periods. These are the Paleo-Indian Period (from about 13,000 years ago to 7,000 years ago); the Middle Prehistoric Period (from about 7,000 years ago to 1,500 years ago); and the Late Prehistoric Period (about 1,500 years ago to the beginning of historic times – about 1760 A.D.). Much of what is known about the prehistoric cultures living in the Northern Plains indicates the major role played by the environment in affecting human activities and the relatively harmonious relationship that existed between these peoples and the land.

The Paleo-Indian Period represents an occupation of the plains area during times of glacial retreat and major postglacial environmental changes. The initial occupation that can be reliably identified was characterized by scattered hunting bands which relied on a variety of Late Pleistocene animal species for survival. Many of these animals, such as mammoth, camel, horse and some forms of bison, are now extinct. Succeeding cultures in this period are generally associated with a shift in subsistence activities from mammoth hunting to bison hunting. Finally, a series of cultures representing technologically diverse groups of bison hunters occupied the region in the later part of this period. Subsistence, although primarily based on bison procurement, undoubtedly included a reliance on a broader spectrum of the local plant materials as well. Projectile points from the early Paleo-Indian period have been found in both the Lloydminster and Radisson areas indicating the presence of these early occupants as far back as 12,000 to 13,000 years ago in the Battlefords region.

The Middle Prehistoric Period is generally characterized by cultural adaptations to fluctuating climatic conditions. During this time, warming climatic trends culminated in a period of very dry conditions. The associated expansion of grassland environments is generally tied to the beginning of the Middle Prehistoric Period. The earliest cultures of this period in the Northern Plains are poorly understood. It is generally believed, however, that they were characterized by a subsistence pattern based on exploitation of both riverine and upland game resources and hence a closer adaptation was thought that the arid (altithermal) period may have coincided with a period in which prehistoric peoples moved away from the Northern Plains. This may be only partially correct, as recent evidence suggests almost continuous occupation especially in the western foothill and mountain regions as well as the northern and eastern fringes of the Plains area.



Later in the Middle Prehistoric Period (approximately 5,000 years ago), prehistoric people are known to have occupied the region, and it is believed that these cultures were characterized by careful scheduling of activities on a seasonal basis, over a wide range of ecological zones. This period of more intensive activity and occupation of the plains is coincident with a climatic shift towards cooler and more humid conditions.

The cultures occupying the region in the later stages of the Middle Prehistoric Period represented a resurgence of sophisticated bison hunting groups established over a wide area of the Northern Plains. Some researchers have proposed that these peoples represent an intrusion onto the Plains from the eastern plains periphery and thus indicate a Plains-Woodlands relationship.

Finally, the Late Prehistoric Period represents a technological shift resulting from the introduction of the bow and arrow as well as the use of ceramics. Communal bison hunting remained as the predominant economic activity and this cultural pattern survived well into historic times.



## Archaeological Resources

Prehistoric archaeological sites include a wide variety of features and associated artifacts indicative of human activity. The various sites expected to be found in the Battlefords region include those which represent nomadic hunting and gathering populations.

The most common types of sites are campsite areas and tipi ring clusters. These are habitation sites at which the total range of domestic activities including food preparation and tool manufacture were carried out. Tipi rings consist of a circular pattern of stones that were used to secure lodge covers. Both of these site types are characterized by discarded artifacts such as stone tools and perhaps ceramics as well as fire-cracked rock from cooking or heating fires. Quantities of lithic debris and bone scrap usually litter the occupation floor. Habitation sites occur in a variety of locales including stream and river terraces, on the prairie and moraines around sloughs, overlooking stream and river valleys, and on high, relatively isolated buttes. These sites usually represent shifting settlement patterns between river valleys and uplands on a seasonal basis. Such sites may range in size from small surface scatters to major sites covering a number of acres.

A second site type is the kill site which represents a location where food animals were killed and processed. These sites may be associated with campsites or tipi ring sites. Kill sites included "bison jumps" where animals were stampeded over some steep incline as well as a variety of traps such as blind coulees, dune depressions or artificial corrals called "bison pounds". Associated artifacts usually consist of large quantities of animal bones and stone tools used to kill or process the animals.

Burial sites are those at which human remains were interred. These sites most often consist of single or multiple subsurface burial pits or stone piles called cairns. In addition to the skeletal remains, grave goods or offerings associated with ritual behavior may be recovered.

Quarry sites are locations at which lithic materials, used in the production of stone tools, were procured. Such sites are usually characterized by large amounts of stone debitage or waste flakes and fragments.

Boulder alignments are archaeological sites which consist of a variety of stone formations including stone cairns used as route markers or cache piles, as well as drive lane markers at bison kills. Medicine wheels are large stone features usually consisting of a central stone cairn surrounded by a peripheral ring of stones. The central cairn may also be connected to outlying cairns by a series of radiating spokes. These stone features probably served as calendrical devices relating to certain astronomical phenomena. A final group of stone alignments known as effigies consist of boulder outlines in the form of animal or human figures.

Finally, rock art sites consist of figures and/or geometric designs incised on the face of a rock outcrop (termed a petroglyph) or actually painted on the rock face (termed a pictograph).

Despite the fact that the Battlefords area is one of Saskatchewan's most important historic regions concerning aboriginal peoples, only one prehistoric archaeological site has been recorded for the study area. This site is interpreted as a butchering and processing site situated at the confluence of the North Saskatchewan and Battle Rivers. No detailed research has been carried out at this location. This absence of other prehistoric sites in the Valley simply reflects a lack of concentrated research in the area. An archaeological survey and assessment study should be considered for the Battlefords area, especially concerning the prehistoric resources.



## The Historic Period

The Battlefords region is the traditional home territory of the Cree and much of the early history is tied to the relationships of this group with neighboring groups. The Blackfoot play the major role in this regard, serving as both allies and adversaries at various times. The Blackfoot were located to the west, and the Eagle Hills (to the west of the Battlefords) are often reputed to be the buffer zone between the two large tribal units. Other groups that undoubtedly played somewhat lesser roles were the Gros Ventre to the south and, likely, the Assiniboine from the southeast. Access to European trade goods, the need for and greater alliance to horses, coupled with a rapid decline in the bison population are all factors which affected these external relations.

The first entry of Europeans began in the year 1670 and was related to explorers searching for a north-west passage. The first documented entry into the immediate vicinity of the Battlefords by a European was on August 30, 1754 when Anthony Henday passed through with a band of Cree heading for the Eagle Hills. On this trek, he passed immediately south of present day Battleford. During the initial period of contact, the Cree were located further to the east and became the first and main consumers of European goods during the 17th Century. The Cree soon after began to involve themselves in the trade of these goods to other Indians to the south and west. As their position as “middlemen” expanded, the Cree moved progressively westward with one migration route being along the Saskatchewan River system.

During this time, the Cree maintained good relations with the Blackfoot and traded heavily in arms, especially during the period from 1732 to 1754. A fur trade post was established at Battleford in 1785 by William Holmes, representing the North West Company. This post, near the mouth of the Battle River, was closed in 1787. The first permanent post in the region was established by Peter Pangman, in 1778, further down the Saskatchewan. However, as inland posts of the Hudson Bay Company were abandoned, the Cree lost their position as middlemen and were no longer needed as suppliers of European goods.

With the loss of their advantageous position as middlemen, the Cree began their full adaptation to plains life which centred around bison hunting. This necessitated the use of horses and the Cree subsequently forged an alliance with the Mandans to the south, from whom these horses were obtained. As this trading alliance began to crumble, during the period 1790 to 1810, the Cree were forced to look elsewhere for a reliable supply of horses. Inevitably, they came into conflict with the Gros Ventre to the south who also acted as horse suppliers via their direct contact with the Arapaho. Since the Gros Ventres were traditional allies of the Blackfoot, the Cree were caught in the middle and, by 1790, the Cree alliance with the Blackfoot had disintegrated.

The Cree persisted on the plains during the period 1810 to 1850 and, because of a political tendency to centralize, they assumed the trappings of a tribal society. The period 1850 to 1870, however, was characterized by the diminishing of the buffalo herds on which the Cree relied. Although the Cree blamed the Metis and Whites for this decline, they did not openly clash with them. By the late 1870's, the buffalo were becoming scarce but still were relatively plentiful in the Blackfoot territory. The



Official Opening of the Bridge 1908 (credit: The City of North Battleford Historic Archives)

Cree came into increasing conflict with the Blackfoot as they focused their attention on buffalo hunting further west. In 1869, a Cree chief, Maskepetoon, was killed in one of these battles, which resulted in a larger scale campaign in 1870-1871 in the vicinity of the Old Man River in Alberta.



Battleford Ferry Crossing (credit: The City of North Battleford Historic Archives)

By the late 1870's, the buffalo were very scarce and American bison hunters routinely crossed into Canada in an effort to gain access to the diminished herds. This put even greater pressure on the Indians. A massacre of 30 Assiniboine by a group of Americans in the Cypress Hills in 1873 brought out the North-West Mounted Police and signaled further change to come across the Northwest Plains.

As the situation for the Indians became nothing short of critical, the government of Canada was required to play an increasing role in the affairs of these aboriginal groups. It was also during this time that various missions were established and, by the 1860's, both Anglican and Catholic missionary activities were commonplace across the west.



Saskatchewan Hospital Road Construction 1915 (credit: The City of North Battleford Historic Archives)

As immigration to and settlement of the west became a reality, the federal government saw the large numbers of hungry and unpredictable Indians as a hindrance to settlement. The creation of reserves was seen as a method by which the Indians could be socially and economically controlled. It might be argued that obtaining Indian lands was the prime motive behind the move to establish reserves, rather than any notion of providing economic assistance to the aboriginal population. There is evidence that the Indians were anxious to adapt to the new promised way of life, although they certainly intended to negotiate as best they could to better their own interests. This was especially true for Treaty 6, which includes the Battlefords area.

Treaty 6 was signed at Fort Carlton and Fort Pitt in 1876. The Indians were successful in gaining more concessions in this treaty than any of the preceding treaties. This was especially true concerning agricultural

commodities which suggests that the Indians were interested in making the transition to an agricultural way of life. In the ensuing years, however, the position of the Indians weakened and during the period 1876-1879 malnutrition and starvation were commonplace. The attempts at agriculture failed for a variety of reasons, including the failure of the government to set up an administrative structure which could cope with the problems and conditions unique to the West.



*View from the Saskatchewan Hospital Grounds (credit: The City of North Battleford Historic Archives)*

As the Indians turned to a subsistence pattern, again based on hunting, they came into increasing conflict with the authorities over hunting rights as guaranteed by the treaty. Chief Big Bear had continued to call for hunting rights, even after Treaty 6 had been signed, and considerable misunderstanding and tension resulted when these perceived needs were not met.

As the Indian population gave up on farming and on the federal government, these problems became increasingly complex and, by the 1880's, the North-West Mounted Police were required to deal with these problems. Although the police had previously earned the respect of the Indian population, this relationship became strained as the police were called in to deal with eruptions of violence resulting from ineffectual government policies.

One of these incidents occurred in the Battlefords area in 1884, on the Little Pine Reserve. The occasion was the visitation of Big Bear's band from Fort Pitt to the Poundmaker Reserve for the purposes of the annual Thirst Dance. During this visit, Mr. Craig, the farm instructor, refused to provide rations to the visitors and when a group of Indians came to the store to insist on food, Mr. Craig was struck on the arm with an axe handle. The following day, Superintendent Crozier of the North-West Mounted Police and a troop of police arrived to arrest the Indian involved. The Chiefs refused to give the culprit up, although after considerable trouble, the arrest was made. Unfortunately, the police were seen as agents of the government and the dye was cast for the continued tension and set the stage for the

siege of Fort Battleford.

Fort Battleford was established in October 1876 as the new site of government of the North West Territories. The North-West Mounted Police occupied the barracks in 1877. The survey for the town site of Battleford followed shortly thereafter in 1882. The most significant period in the history of Battleford relates to events associated with the North-West Rebellion of 1885. Rumors that the followers of Big Bear and Poundmaker were about to lay siege to the Fort constituted the initial threat, but these threats became more realistic with the events that followed at Duck Lake and Frog Lake. These events began on March 24, 1885, the day before Duck Lake erupted, when 50 Battleford townsmen were sworn in as the local Home Guard and supplied with arms.

On March 27, word came from Fort Carlton that the Fort was endangered and on March 29, it was reported that Poundmaker would attack Battleford the following day. Preparations were made as word came in that Indians had looted some farm homes in the Battleford area. By March 30, most of the settlers had taken refuge within the stockaded walls of the fort, occupying not only the barracks but also the Commissioner's residence and the stables. The arrival of news that a local rancher and a farm instructor had been killed, as well as the cutting of telegraph lines to Prince Albert and Swift Current, made the situation appear even more grave. A total of 600 refugees were present at the Fort, of which 200 men formed the Home Guard under the direction of 25 policemen. On March 30, the Indians occupied the Industrial School and on March 31 various stores, including the Hudson's Bay Company stores and private homes in the town, were looted. Outlying farm homes were also raided and two individuals killed. Settlers continued to arrive at the Fort for protection. On April 1, the defenders attempted to drive the Indians out of the town site by shelling Indians on the other side of the Battle River. Some Metis were included among the refugees, as they feared reprisals for not joining Riel. That same day some stores in the town and the stables at the Industrial School were burned. On April 5, news was received of the massacre at Frog Lake, which involved the killing of the Indian Agent, a number of townsmen, and two priests, as well as the burning of the church. Abandonment of Fort Pitt followed, with the police detachment moving to Fort Battleford.

On April 9, the telegraph lines were repaired and word was received that Colonel Otter's column had left Swift Current headed for Fort Battleford. They arrived on April 24, and a column of some 438 men camped in the vicinity of the Industrial School. This camp was referred to as Fort Otter.

On April 29, the townsfolk began to return to whatever was left of their homes and Colonel Otter made preparations to attack the Indians assembled on the Poundmaker Reserve. On May 1, 1885, Colonel Otter moved to Cut Knife Hill. The move against the Cree failed and culminated in a retreat back to Fort Battleford on May 2. Little transpired until May 24 when General Middleton's forces arrived. Poundmaker surrendered on May 26, 1885 and this was followed by the arrest of Big Bear and some of his men for their participation in the Frog Lake Massacre. Trials followed and eight Indians were subsequently put to death by hanging on November 27, 1885.

The territorial government was moved from Battleford to Regina in 1883, and the Lieutenant-Governor's residence was converted into an Indian Industrial School. It was closed during the rebellion years, but was reopened soon after the hostilities ceased. The



looting of the town site on the south side of the Battle River during the rebellion sealed its fate. In 1886 there was a movement of the Clinkskill and Hudson Bay Company stores to the new town site. A census was taken in December of 1903 which revealed Battleford had a population of 489 inhabitants and on June 15, 1904 Battleford acquired town status. A severe blow to continued growth of the town, however, occurred in 1905 when it became apparent that the Canadian Northern Railway would pass on the north side of the North Saskatchewan River and thus bypass the town. Businesses began to locate on the north side town site and North Battleford became a village on March 21, 1906, and a town four months later on August 15, 1906.



*Saskatchewan Hospital Main Building 1915 (credit: The City of North Battleford Historic Archives)*

North Battleford grew very rapidly and was incorporated as Saskatchewan's fifth city on February 11, 1913. The period from 1905 to 1913 were boom years but, after 1913, the Town of Battleford began to flounder. North Battleford also suffered financial difficulties, but did fare better and underwent continued expansion, including the opening of the Saskatchewan Provincial Hospital in 1914.

The period from 1905 to 1945 was a time of technological change, war, and depression, all of which had considerable effect on the Battlefords. The first automobile in North Battleford was purchased in 1900. Prime Minister Sir Wilfrid Laurier visited the Battlefords on August 11, 1910. What followed was two World Wars, interspersed by the Great Depression. Immediately after World War II, the Battlefords began a second boom period; this period of expansion has continued and it can be safely argued that the Battlefords area is currently on the verge of yet a third period of growth, based primarily on the development of oil resources in northwest Saskatchewan and the development of a diversified manufacturing and food processing base in the community.



*Battleford Cemetery (credit: AECOM)*



*Town Hall*

## Historical Resources

A number of sites, buildings and features in and near the river valley have cultural heritage significance to the Battlefords and to Saskatchewan. Within the valley walls, very few of these sites contain intact buildings or features. However, within close proximity of the valley, buildings and features have been retained and, in many cases, restored or protected. In combination, these resources offer excellent potential for interpretation and complementary tourism development.



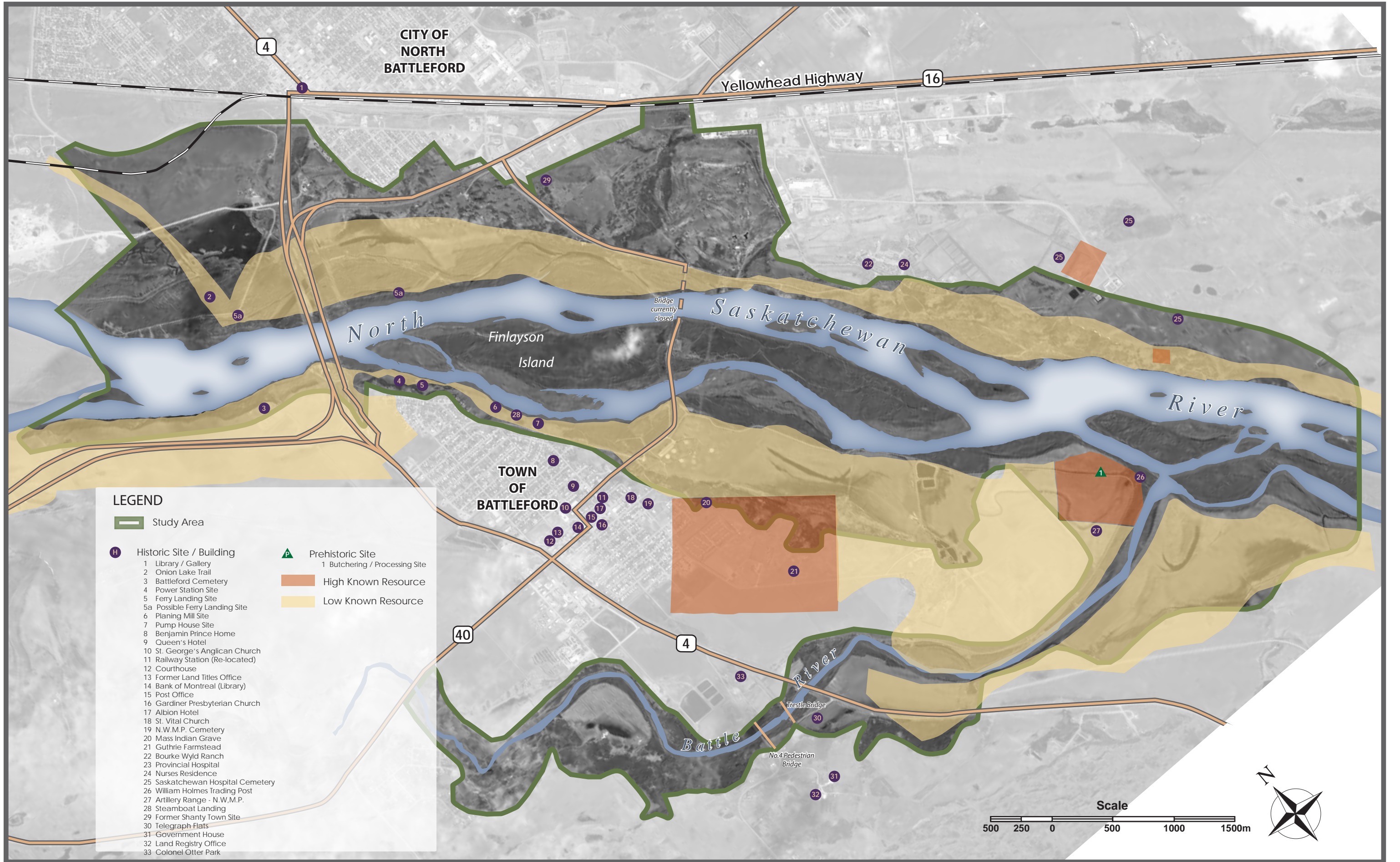
*Government House*



*Government House Foundation*









# Natural History

## The Distant Past

In relation to all of earth history, the present landscapes of much of southern Saskatchewan consist of a thin film of quite recent glacial deposits. At great depths rest bedrocks formed during bygone ages under vastly different environmental conditions from those we see in the area today. For instance, many hundreds of meters beneath the Battlefords lie rocks of the Paleozoic Era, an enormous time period extending from 600 million up to 230 million years ago and spanning the ages of primitive marine life, through the appearance of fishes and amphibians, to the earliest appearance of land plants and reptiles. What is now western North America underwent long periods of inundation by tropical seas, under which marine sediments accumulated to produce limestones and dolomites.

The era which followed, from 230 million to 63 million years ago, was the Mesozoic. This was the Age of Dinosaurs, as these large reptiles gained prominence. Erosion in newly-forming mountain ranges to the west brought sands, silts and clays eastward as river sediments to be deposited in shallow seas that occupied the central portion of the continent. By the time this era waned, during the Upper Cretaceous Period, primitive forms of birds, mammals and flowering plants had evolved and the great extinction of dinosaurs had occurred. At depths ranging from a few meters to hundreds of meters below the present ground surface, it is interbedded sandstones and clay-shales of Upper Cretaceous age that form the shallowest bedrocks beneath most of west central Saskatchewan. These “soft” bedrocks are the ones that have some major influences on the river valley today.

The Cenozoic Era, extending from 63 million years ago to the present, is named for the more recent forms of life that flourished, including larger mammals, more advanced birds and an abundance of flowering trees and grasses. Throughout this era’s earliest and major period, the Tertiary, eastward-flowing rivers bore alluvial sands and gravels from rapidly rising mountains to the west. Many of these sediments have since been eroded and none are present beneath the Battlefords River Valley area.

During the last one million years, glaciation has been the dominant agent of large scale environmental change, as thick ice sheets advanced and retreated across this region of the continent. Interrupted by periods of relatively warm, dry climate, the four Pleistocene Ice Ages of the Quaternary Period were responsible for the alternately scouring and scraping the land surface and then leaving deposits of glacial drift (debris) in their wake. Bedrocks and weathered sediments were eroded and many preglacial valleys were infilled with drift.



## The Last Hundred Centuries

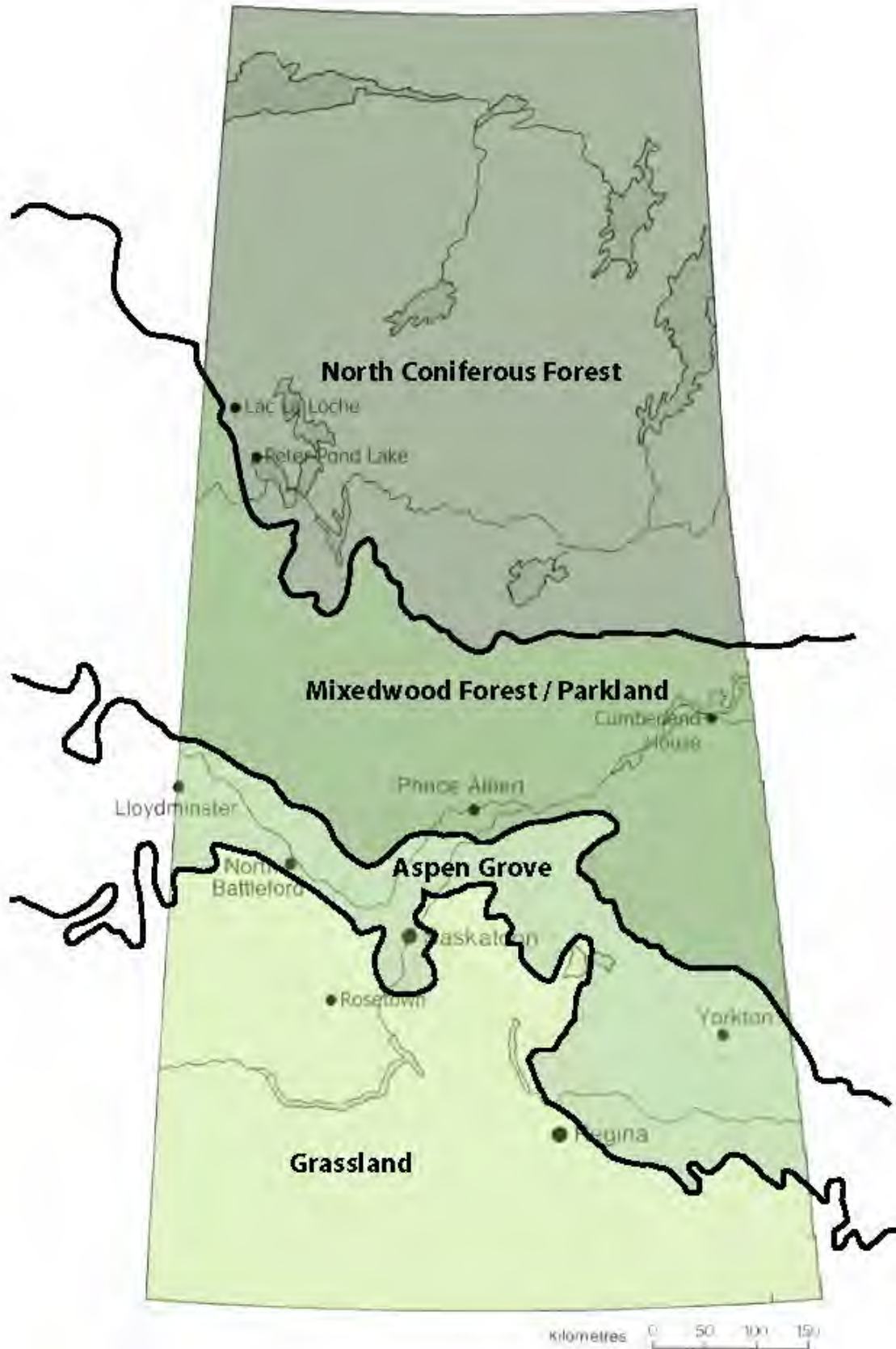
The present environment of the Battlefords area has developed primarily through events which, in terms of earth's history, have occurred almost in the "blink of an eye". As the Wisconsin Glaciation was ending, the ice laid down a blanket of drift; rock material eroded from regions to the northeast, transported and pulverized into mixtures of clays, silts, sands, gravels and boulders. Huge quantities of glacial meltwater created massive lakes fed by broad streams that washed, carried and redeposited large amounts of the sands, silts and clays to form outwash plains, valleys and lake bottom sediments in the process.

By about 12,000 years ago, the main ice front had retreated to areas north and east of the Battlefords. For a time, the ice acted as a dam, blocking the postglacial predecessors of the North Saskatchewan and Battle Rivers and creating Glacial Lake Saskatchewan. This allowed those streams to deposit sands and silts as a broad delta over ice-deposited till (called moraine) at the lake's margin. Later, further ice retreat enabled Glacial Lake Saskatchewan to drain eastward while the meltwater streams formed valleys (some of them very large) by cutting downward through the unconsolidated glacial drift and, to a small extent, into the more resistant Cretaceous clay-shale bedrock beneath. The valley formation included deepening as well as widening through collapse of unstable river-steepened valley wall slopes.

Deglaciation exposed "raw" land surfaces for recolonization by plant and animal life. In the wake of the ice sheets the climate was initially rather cold and later cool and moist. Early vegetation in the area was therefore much like that of the present-day arctic tundra, followed soon after by a form of the northern boreal forests in which roamed the last of the mammoths together with ancestors of modern caribou, bison and musk-ox.

Over several thousand years the climate shifted toward warmer, drier conditions ushering in a period known as the altithermal. This semi-arid climate altered the ecology of northern plains causing a northward recession of forests as a prairie grassland environment became established. By this time (about 7000 to 5000 years ago), the human species had appeared on the landscape with such wildlife species as bison, pronghorn, wapiti (elk) and the prairie wolf and plains grizzly bear.

The decline of the altithermal came with a gradual return to somewhat cooler, more moist conditions more closely resembling those of the present, together with a southward re-advance of boreal mixed wood forest and forest fringe. This latest change allowed the development, particularly in the last 2000 years, of the grassland – aspen parkland ecosystems existing at the advent of European exploration and immigration.



Ecological Regions of Saskatchewan

## The Environment of Today

To understand the present landscape, it is first necessary to realize that settlement-related activities in the last century have wrought dramatic, almost sudden, changes of their own. The environment which sustained the modern Plains Indian societies that the early European explorers and fur traders encountered must now be envisaged from scattered remnant native plant and animal communities. For many of those remnants, the river valley setting constitutes a significant refuge or haven containing vital habitats. In addition to the abundance of water, rivers on the plains are special places because of the diversity of topography and microclimates they provide. For some species, such valleys provide significant corridors for extension beyond their normal range.

In the Battlefords vicinity, the upland areas flanking the valley lie within a zone where the Fescue Prairie (rough fescue) and Mixed Prairie (spear grass – wheat grass) grassland associations were found intermixed with scattered groves of trembling aspen. This natural vegetation has since been virtually eliminated by agricultural and urban development adjacent to the valley slope crests.

Below the crests the natural vegetation is generally referred to as a Valley Complex; a diverse mixture of plant communities made possible by the interactions of varied topography, sediments and microclimates. The prairie grasses such as spear grass, blue grama and wheat grass tend to occupy the drier sites on the upper slopes, ridges and knolls, particularly where southerly and westerly exposures exist. However, areas of shrubs such as snowberry, rose, chokecherry, silverberry and saskatoon are extensive, giving way in more moist hollows, gullies and zones of high water table to tree cover dominated by trembling aspen and balsam poplar. On a few of the driest sites along the north valley wall the occurrence of some sagebrush among blue grama grass and bare soil is more representative of the short grass prairie of southwestern Saskatchewan.

A unique natural feature for this area is the occurrence of a small stand of spruce on a steep, northeast-facing slope of the south valley wall. Located upstream of the Highway 16 bridge, this site is locally known as the Speers Spruce Stand. The presence of mature white spruce trees over a ground cover of feather mosses and scattered spruce seedlings, together with a small red squirrel population, indicates the site is an isolated southerly outlier of the contemporary boreal forest.

Across the floor of the valley, the braided channels of the North Saskatchewan River shift about in an alluvial fill (water-deposited sands and silts) that forms flat terraces and mid-channel islands and bars. Here the natural vegetation consists of a riparian (i.e. “riverbank”) shrub-forest association. Open areas and sand bar willows dominate on exposed bars and low islands of the active floodplain and channel banks. On the higher terraces a tree cover of balsam poplar, cottonwood, trembling aspen and Manitoba maple develops above dense stands of shrubs including red-osier dogwood, willows, alder, river birch and high bush cranberry.

## Wildlife

River flow has shaped the landscape of the North Saskatchewan River valley throughout the last 10,000 years. Centred on this major geomorphological influence, a diversity of riparian landforms have been and continue to be created. Coinciding with formation of the valley, a variety of wildlife habitats evolved and were altered in type and extent through the action of natural processes. In recent time, areas of habitat have been created, modified or removed through human activity.



*"The Goose Project" at the Base of King Hill (credit: AECOM)*

Although major groups of wildlife are still present within the valley, the diversity of species is less than historic records have indicated. Larger or less adaptable forms are no longer inhabitants. Buffalo, prairie wolf, greater prairie chicken, whooping crane and others rank among the species which once comprised the wildlife community. In addition to those species no longer found in the area, former ranges of pronghorn, mule deer, wapiti, moose, black bear and cougar have receded, limiting observation to infrequent or rare occasions.

Upstream water demands have resulted in local river alterations, forcing aquatic and semi-aquatic inhabitants to cope with reduced flow regimes. Development on slope and upland areas (for agricultural and urban uses) has caused many terrestrial populations to retreat to undeveloped habitat remnants. At the same time, certain previously-absent species, such as house sparrows, rock doves (pigeons), Norway rats and white-tailed deer have appeared since settlement and adjusted to new habitat circumstances.

The terrestrial (land-based) wildlife community is strongly influenced by the slope areas, as it is confined by land uses on the upland which have destroyed appropriate habitat. This narrow corridor is variable in both extent and type of vegetative cover, providing for zones of occupation by differing birds, reptiles and mammal groups. Lower elevations between shoreline zones and steep slopes (the base of slopes and terrace locations) are covered by narrow, linear areas of vegetation varying from grass and shrubs to closed overstory. Open grass covered areas are inhabited by ground-dwelling or nesting species of birds including



horned lark, gray partridge, sharp-tailed grouse, savannah and vesper sparrows. Typically, the cultivated or “manicured” sections of this zone are also used by burrowing mammals like Richardson’s ground squirrel and American badger. Predatory birds and mammals move in and out of the zone during foraging activities. Larger mammals, most notable white-tailed deer, also forage on herbaceous and cereal crop growth, especially near edge or transition zones to their major shrub and tree habitats.

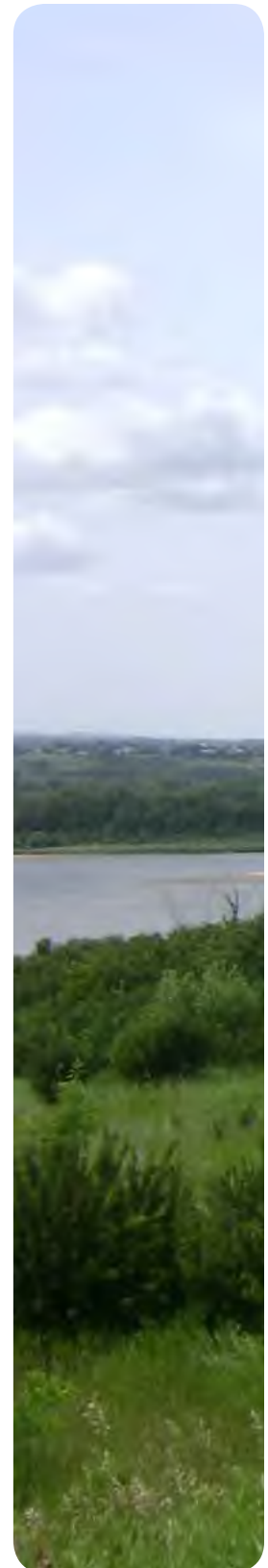
Tall cover of shrubs or trees, either on sites where development has occurred or on less-modified continuous cover, support a varied community of bird life. Dependent on localized composition and structure of the vegetation, these habitats support grassland, parkland and boreal forest inhabitants as well as certain introduced species. Yellow-rumped warbler, American redstart, yellow warbler, hairy woodpecker, downy woodpecker, blue jay, waxwings, black-capped chickadee, clay-coloured sparrow and larger variable habitat users, such as common crow and black-billed magpie, are present in the zones of shrub and tree growth. Birds of prey (e.g. northern goshawk, great horned owl) also hunt and nest in the mature tree growth of this zone. The cover provides a corridor for large mammals such as coyote, fox and white-tailed deer to use for seldom-observed movement through the valley.

Higher elevations of the valley slopes also provide varied plant growth and habitat potential for wildlife. Vegetation includes grass through to tree-height forms and includes species preferring an open to short-growth habitat to densely-covered treed sites. North- and south-facing aspects correspond to conditions which are cool and humid or warm and dry, respectively. Grass and herbaceous openings are more prevalent along south facing slopes and host a selection of wildlife similar to that described above for the lower slopes of the valley. Vesper sparrow, savannah sparrow and house sparrows are common along with Richardson’s ground squirrel populations on gentle slopes. Shrub-dominated areas support populations of small mammals (moles, mice, and hares) other than Richardson’s and thirteen-lined ground squirrels. The important role of these vegetation communities for larger mammals is evident in tracks, droppings and signs of browsing.

Tree-covered slope areas, consisting primarily of trembling aspen, are home to perching and predatory bird life. American robin, black-capped chickadee, dark-eyed junco, brown thrasher, gray catbird, cedar waxwing, shrikes, common crow and merlin are examples of species breeding, nesting and foraging throughout the canopy. White-tailed deer remain the major large mammal, while least chipmunk, weasels, porcupine, red squirrel (coniferous sites) and other small mammals occur within the areas of canopy.

The semi-aquatic (shoreline) wildlife group consists of waterfowl and species common to shoreline zones. In the study area, wetlands (either created or natural) and the North Saskatchewan River form an extensive habitat for waterfowl, waders, shorebirds and semi-aquatic furbearing mammals. It is within this zone that the largest diversity of mammals, birds, amphibians and reptiles are found to occur.

The waterfowl, waders and shorebirds group includes a variety of common diving, dabbling and shoreline feeding species. American coot, American white pelican, American widgeon, blue-winged teal, black tern, canvasback, Canada goose, great blue heron, killdeer, lesser scaup, lesser yellowlegs, mallard, Northern shoveler, ruddy



duck, and various gulls forage or nest in the waterfowl project or in the numerous North Saskatchewan River channels. On and near the marshes, red-winged and yellow-headed blackbirds are using emergent vegetation for habitat, while aerial predators like the Northern harrier search the zone during hunting efforts. Mammals which frequently forage or depend on wetlands or rivers for a portion of their range are represented by American beaver, American mink and muskrat. Numerous bank dens and huts are found along the river and in marshes, respectively. Amphibians and reptiles frequent these wetland zones, especially the wet meadow conditions near marsh edges; red-sided garter snakes also are found on more remote and dry locations in this zone.

The aquatic (water-based) environment of the North Saskatchewan River provides habitat for a number of fish species. Common game fish include goldeye, mooneye, northern pike, yellow perch and walleye. Lake sturgeon, lake whitefish, burbot, white sucker and sauger are also present, as are numerous small species such as chubs, minnows, dace, shiners, quillback, redhorse, trout-perch, stickleback, darters and sculpin.



*Looking downstream towards North Battleford (credit: AECOM)*





# Terrain Analysis

## Geologic Setting

### Preglacial Geology

Over the last several thousand years, the North Saskatchewan and Battle Rivers have eroded through the surface layers of glacial drift into the preglacial sediments, or “bedrock”, underlying the area. These preglacial materials are exposed for considerable distances along the slopes of the river valleys in the Battlefords area.

In geological terminology, these preglacial sediments are referred to as “bedrock”, even though the sediments are not cemented; they look like soil and not at all like hard rock. The bedrock is subdivided into layers which are called “Formations”, each having identifiable characteristics, particularly with respect to its age; the materials within any formation are laid down within a similar time period. For instance, the Judith River Formation and the Lea Park Formation are the upper-most bedrock formations in the Battlefords vicinity. These formations originated as sediments which settled to the bottom of an inland sea which covered Saskatchewan from about 135 to 65 million years ago. This was called the Cretaceous period in the geologic calendar. Cretaceous bedrock usually has a high clay content and is often referred to as “clay shale”. Weathered shales are very unstable and have been the cause of many landslides along the river valley walls.

When the earth’s climate cooled about a million years ago, massive glacial ice sheets formed in polar regions and “flowed” south over most of Canada and much of the U.S.A., Europe and Asia. The beginning of this “ice age” marked the start of the Quaternary period, which is continuing today. As noted above, the ice age began about a million years ago; it is thought that at least four different glaciations have occurred since then. Each glaciation sculpted the landscape differently. To illustrate, a preglacial valley, actually eroded by an earlier glaciation, is buried under the present landscape about 10km north of the Battlefords (the Battleford Valley). These infilled preglacial valleys are excellent aquifers and ideal locations for high yielding water wells. The bottom of this particular valley was about 100 meters deeper than the bottom of the present North Saskatchewan or Battle River valleys in this area.

### Glacial Geology

As noted above, the landscape we see today was formed primarily by the last glaciation. The extent of the advance of the ice has been determined by geologic mapping and the age of the sediments left behind are dated by radiocarbon dating and other methods. These procedures have determined that the last ice sheet which covered this area probably reached its maximum advance (into the northern U.S.A.) about 18,000 years ago, and retreated (melted away) from the Battlefords area about 12,000 years ago. The advance and retreat of the ice front has resulted in a combination of erosion and deposition of sediments both by ice and by flowing water. Prominent features created by the scraping and eroding action of moving ice



are the parallel linear, elongated depressions that are present north and east of the community. Although these troughs, called “flutings”, were eroded into the underlying bedrock, they are readily reflected in present landscape.

Observations of glaciers today indicate that they are not pure ice but, rather, a combination of soil and rock debris mixed with ice. This debris is left behind when the glacial ice melts. The resulting sediments are called “drift”. The drift deposited by the melting ice, without sorting according to size or texture, is a random mixture of boulders, gravel, sand, silt and clay, and is called “till”. The drift in the Battlefords area is only 0 to 10 meters thick, relatively thin compared to surrounding areas where thicknesses of 50 meters are typical and greater thicknesses are not uncommon.

Melting glaciers result in a great deal of water. When the retreating ice front was just north of the Battlefords, the meltwater was dammed by glacial ice and higher ground, forming Lake Saskatchewan. This glacial lake covered a large part of the Battlefords area. Sediments, consisting mainly of sand and silt from the melting ice, flowed into this lake, accumulating on top of the till on the lake bottom. This is the origin of the “lacustrine” deltaic surficial deposits which occur over much of the study area. It was this same glacial meltwater that eroded the present North Saskatchewan and Battle River valleys. Today, these rivers occupy a small part of the valley flood plain because the rivers are now in a depositional phase. Thus, the present channel is at a much higher elevation than was the original channel eroded by glacial meltwater. The larger valley has been filled in with sand and silt to create a large flood plain in the river valleys.



*Finlayson Island Bank Erosion (credit: AECOM)*







## Landforms

The processes that formed the bedrock and glacial landscapes were briefly described on the preceding pages. The features and characteristics of the landscape are governed by the way they were formed and the type of sediments (for instance clay, sand, silt or rock) of which it is comprised. A great deal can be learned about the landscape by subdividing it into “landforms”, which are relief features on the earth’s surface and are of similar composition and origin. While the upland can be subdivided into landforms, a great deal can also be learned about the floodplain through an evaluation of river behavior.

The landscape has been subdivided into landforms, the boundaries of which have been depicted on the Terrain Analysis Map. Till plains, deltas, outwash, landslides, alluvial terraces and springs are terrain features which have been identified. A short description of each landform follows. The capital letters (e.g. MG) are the landform abbreviations used in the terrain mapping.

The geotechnical constraints associated with building and open space development within the various landform types shown on the Terrain Analysis Map are described below. Beneficial conditions are also identified. The constraints are very broadly applied and site-specific geotechnical investigations are needed to accurately define conditions.

**Lacustrine Deltas (LD):** These were deposited in glacial lakes by meltwater emanating from thawing glaciers. The sediments can be alternating still water (silt and clay) and flowing water (generally gravel, sand and silt) materials. These landforms are common in the study area, often overlying ground moraine.

The materials in the landform consist of sand and silt of lacustrine origin. The material is suitable for foundations and provides excellent fill for roads and streets. However, it may be susceptible to frost heave if the water table is within the depth of frost penetration. If the pervious sediments are underlain by a more impervious soil such as till, springs may occur on the valley walls at the contact between these two layers. This landform usually has thin topsoil and is sensitive to wind and water erosion.

**Ground Moraine or Till Plain (MG):** This is usually an undulating plain consisting of a variable mixture of boulders, sand, silt and clay (till) which was left behind as debris from the last glaciation. Till often contains interbedded zones of sand and gravel which may be water-bearing. It is considered to be a good foundation and fill material. This landform is prevalent in the study area, although it is usually overlain with lacustrine delta deposits.

Foundation conditions are generally very good. High capacity foundations can be developed in dense till. The stable nature of till makes it an excellent subgrade material for roads and streets. Boulders and water-bearing sand strata are concerns when excavating in till. The “knob and kettle” terrain provides numerous low wet areas which can be productive wildlife habitat areas. In addition, the sequence of flutings previously described are unique to the Battlefords area and offer considerable interpretive potential.

**Alluvial Plains (AP):** These landforms are comprised of sediments deposited by streams in the valley bottoms. They are strongly stratified (i.e. layered) and consist mainly of sand and silt with numerous organic layers. They are usually weak and compressible and form poor foundations.

The sand and silt in an alluvial flood plain is subject to constant shifting due to erosion or deposition caused by the river flow. However, the main deterrent to permanent development of these low-lying areas is the susceptibility to flooding. Thus, alluvial flood plain areas, such as Finlayson Island and all other areas lying within the 1:500 flood plain are not suitable for permanent structures. However, these areas might be quite satisfactory for “soft” structures such as picnic sites, ski trails, hiking trails and associated shelters, etc.

**Slumps or Landslides on Valley Walls (SL):** This landform is comprised of landslide debris along the slopes of major river valleys and ravines. They are very common where the valleys have been eroded into Cretaceous shale bedrock. Landslides are rare where the valley wall is made up entirely of drift.

It is recommended that permanent structures not be located on this landform, nor within 100 meters of the scarp at the top of the valley wall. The setback distance should be determined by a detailed site investigation and a slope stability analysis. Water-retaining structures should be set well back from the head scarps on the uplands. Drainage development on the upland and the landslides should avoid blocking natural drainage or concentrating drainage in one area. Development should be undertaken in a passive manner which does not require significant earthwork. Fill should be limited to less than one meter. Measures to improve the stability of the slope, such as selective grading or groundwater control may be required in particular areas. Care must be taken to avoid erosion of ravines or gullies or erosion of the toe of the slope. Some slope rehabilitation, such as in the vicinity of the Town Cemetery may be required in the near future.

Bank Stabilization has been undertaken at the F.E. Holliday Water Treatment Plant. In the past riprap was placed west of the well field for bank stabilization. Storm outfalls have been rehabilitated south and west of the Riverview Neighbourhood.

**Colluvial Slopes (CS):** These landforms are a collection of sediments resulting from erosion of valley walls and uplands. They form a fillet or mantle, usually at the base of the slope. Colluvium is found on most slopes to varying degrees.

Development on colluvial slopes should also be avoided. Removal of vegetation may develop serious erosion problems. Careful control of drainage is essential during any development on or near the slopes. As with any landslide slopes, comprehensive policies should be defined to govern development on colluvial slopes.

**Alluvial Terraces (AT):** These landforms are comprised of well sorted sediments deposited by flowing water. They often occur as a bench on a valley wall and consist primarily of sand and gravel. The McMillan Brothers pit is on an alluvial terrace.

**Glacial-Fluvial Outwash (GF):** These landforms are comprised of sediments deposited by overland flow of glacial meltwater. The sediments are generally gravel

and sand with few fine-textured materials. They are an excellent source of sand and gravel for construction purposes and provide excellent foundation conditions.

Till can be expected to underlie the sand and gravel. Although the material found in these landforms is generally very suitable for foundations and embankments, development thereon may be determined more by the vulnerability to flooding than by geotechnical conditions. These landforms also have thin topsoil that is sensitive to disturbance by vehicle traffic or erosion.

**Alluvial Fans (AF):** These are fan shaped deposits formed where tributary gullies, creeks and rivers enter the valleys and flood plains. The landform is comprised of stratified sediments consisting of sand, silt and clay. This is a minor landform in the study area.

**Springs (S):** These are areas where water seeps out of the ground, usually on a valley wall. They most often occur at the contact between sand and underlying impervious material such as till or clay shale. Springs are well developed in several areas, particularly where valleys have eroded through the sand and gravel that caps much of the landscape.

## The Ever-Changing Valley

The North Saskatchewan River originates from snow and glacial meltwaters in the eastern Rocky Mountains of Alberta. Waters flow through the foothills region on the eastern slopes and then enter the rolling plains of the Alberta Plateau. The Missouri Coteau escarpment, a discontinuous ridge adjacent to the valley near the Battlefords, separates the Alberta Plateau from the lower Saskatchewan River Plain. The river flows through this latter region to its confluence with the South Saskatchewan River at a point approximately 60 kilometers east of Prince Albert.

Historically, the natural flow regime of the river was characterized by very low winter flows, followed by two periods of much higher flow: one in April and May, associated with snowmelt from prairie tributaries; and one in June and July, associated with mountain glacier meltwater and spring rainfall in headwater areas. This seasonal pattern has been altered in the recent past by the construction and operation of the Brazeau (1965) and Bighorn (1972) hydroelectric dams in Alberta. Winter flows have increased and spring and summer flows decreased due to water storage practices in upstream areas related to these projects. Total annual flow volumes have, however, not changed significantly.

The channels of the North Saskatchewan River are constantly changing. The bottoms of the channels are infilling and the river is said to be “aggrading”. Some portions of the shoreline are eroding, while sedimentation is occurring elsewhere.

A comparison of aerial photography from 1962 and 1987 indicates that the north bank of the river, just east of the new highway bridge, has migrated about 50 meters to the north in the time interval between the two photography dates. This represents a bank recession of approximately 2 meters per year. Similarly, the north side of Finlayson Island, east of the old highway bridges, has eroded approximately 50 meters, undermining one of the original ski trails

However, sedimentation is also occurring. The south channel, between the Town of Battleford and Finlayson Island, has infilled during this 25 year interval, to the point where it is almost dry at low water levels.

There are other examples of bank erosion and deposition over longer periods of time. The old highway bridge was built between 1905 and 1910. Presumably, both sections of this bridge were built over water. At low water levels today, the north span of the southerly section (approximately 60 meters of this section) no longer has water flowing beneath it, while the abutment of the south span of this section is now well out into the channel. Further, the two northern spans of the northern bridge section (about 75 meters of this section) are now over dry (albeit low-lying) land and the south abutment of this section is also well out into the channel. These changes illustrate well the dynamic nature of the river channel.

## Landslides

Cretaceous clay shales outcrop at relatively shallow depth in the Battlefords area. These materials are very unstable, especially when wet or weathered. Accordingly,

extensive sections of the valley wall show signs of previous and ongoing landslide activity as described below:

- The north valley wall from the Provincial Hospital to the east.
- The north valley wall between the Riverview residential area, east, almost to the north abutment of the old highway bridge. Depressions in the road pavement between the Voyager Inn and the old highway bridge are evidence of movement of old landslides along this route.
- The ravine west of the Don Ross Centre. This is the former St. Thomas College which experienced several problems, such as slumping at the south-west corner of the indoor arena and several water line breaks. Slope stabilization was undertaken by the City of North Battleford in the mid 1980's to stabilize the Don Ross Arena and South Railway Avenue from 99th Street to Highway 4.
- The south valley wall from the Town Cemetery to below the Riverbend subdivision development.
- The south valley wall at scattered points upstream of the Town Cemetery.

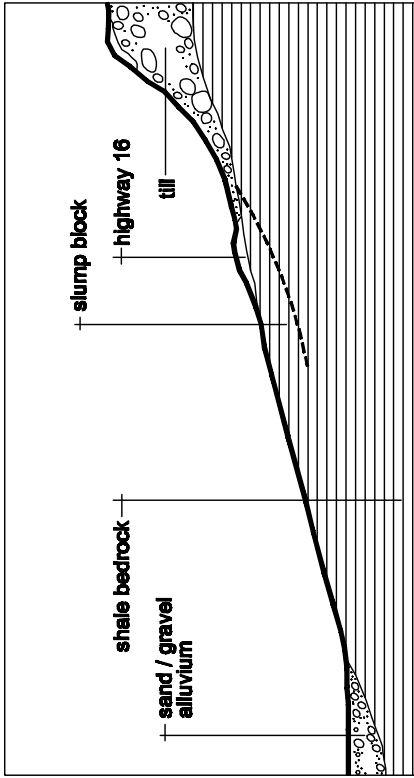
While there is not likely risk of catastrophic or dramatic movements of these slopes, structures formed on or near the top of the slopes often experience slow deterioration due to creep type movements.

In 1993 a study was undertaken by Clifton Associates Ltd. to evaluate the broad perspective of the slope stability of the North Saskatchewan River valley slope through the city limits of North Battleford. This work, in part, provided an update of a slope classification study of the river valley slopes completed in 1975 by J.D. Mollard and Associates Ltd, which assessed the valley slopes on both sides of the North Saskatchewan River, and the Battle River.

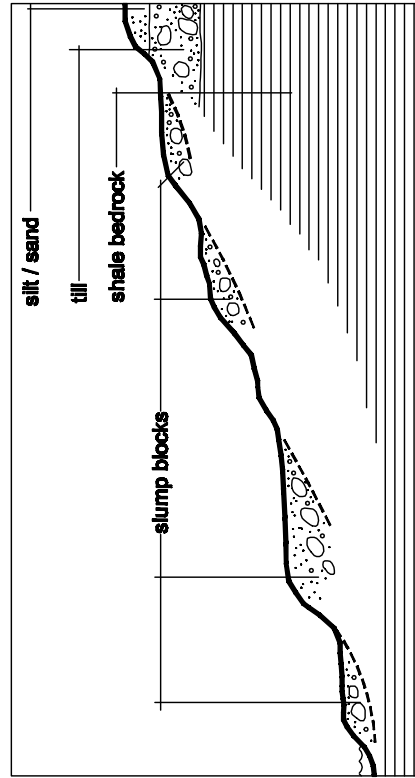
The Clifton report noted " Of the 14 km of valley slope through the city limits it is noteworthy that approximately 12 km, or 85% show evidence of either past or present landslides. Only two sections show no apparent sign of slope instability: - from the west city limits, uplope from the McMillan Gravel Pit, to approximately the waterslide complex; and a short section at the end of the old bridges, from the west (large) Gold course coulee to the east Golf Course Coulee." Mapping provided in the Clifton report included a fourth classification of stability classification, that being "Currently Active Landslides".

Land-sliding was originally caused by over-steepening of the valley walls due to down-cutting of the river. The strength of the shale along the landslide shear plains is much less than the strength of the underlying undisturbed bedrock. The slopes of the valley walls are very sensitive, even at the existing relatively flat slope angles (which are in the order of 5 to 9 degrees to the horizontal). One of the most active landslide areas is in the vicinity of the Battleford Town Cemetery, where the slope angle is 10 to 11 degrees.

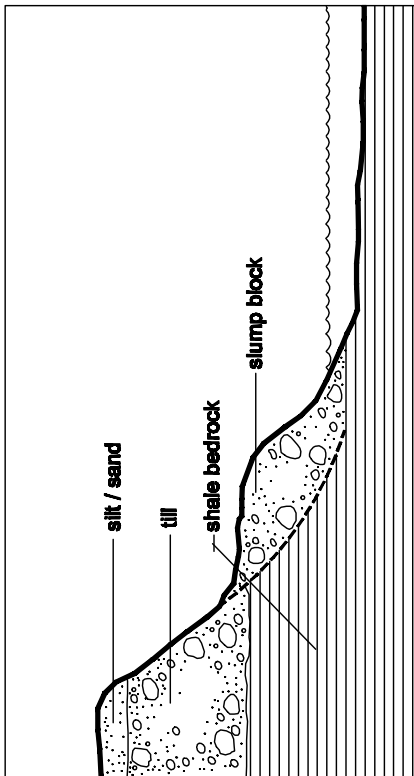




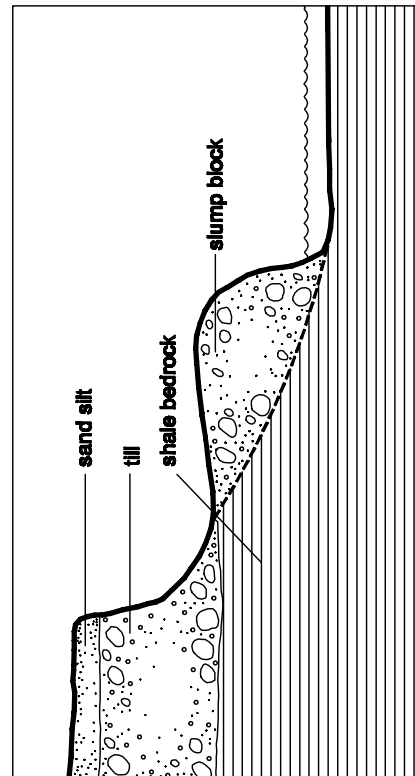
**B. Riverview Area**



**D. Saskatchewan Hospital Area**



**A. Town Cemetery**



**C. Riverbend Area**

**Schematic Sections (Locations mapped on Figure 3. Terrain Analysis)**

Factors contributing to landslide movements include erosion of the toe of the slope by the river and the presence of groundwater. The river is actively attacking the toe of the landslide at the Town Cemetery, removing slide debris and decreasing the stability of the bank further. At the same time, seepage of groundwater into the landslide is occurring, primarily from the overlying deltaic sediments. Both of these factors work to decrease the stability of the slope.

Similar processes are evident elsewhere. For instance, the numerous erosion gullies that cross the unstable slopes just east of the Saskatchewan Hospital were formed by groundwater seepage (springs). Another example of seepage-induced instability is the active landslide opposite the sewage lagoons immediately downstream from the Provincial Hospital. A rise in the local water table from lagoon seepage has contributed to slope movements. The landslide scarp has moved landward approximately 55 meters, resulting in a significant loss of land.

Landslides at and upstream of the Town Cemetery and opposite the Hospital Lagoons were the most active at the time that the original River Valley Master Plan was written. Others are exhibiting only very small creep movements. In all cases, an increase in groundwater levels or placement of fill on the slope could be expected to cause faster rates of slope movement. For this reason, residential areas or landscaped open space that require filling or irrigation are undesirable on landslide topography. As noted in a more recent study completed by Clifton Associates in 1993, much of the slope from below the Saskatchewan Hospital Grounds ( at approximately the point indicated as Schematic D on Figure 3 Terrain Analysis Map) and extending approximately 3 km. east, was identified as having currently active landslides.

Stabilization of landslides is a difficult and costly procedure. However, stabilization measures may be required to save significant heritage sites or important infrastructure facilities and buildings. There may be an option to move the facility, or a threatened portion thereof, to a new location in certain cases. This option is not usually open in the case of heritage sites such as the Town Cemetery or archaeological sites, because retention of the original location in a more or less undisturbed state is a key factor in retaining the heritage and scientific value of the site. Thus, other stabilization options, such as lowering of the groundwater table with subsurface drainage and the construction of buttressing berms at the toe of the valley wall may be more attractive. All techniques, such as reinforcement of a slide area with well-reinforced piles or ground anchors can be effective, but are extremely expensive; usually beyond the feasible cost threshold of all but the most intensive developments.



## Present Land Use

Land use activity within the North Saskatchewan River Valley in the Battlefords is limited (for the most part) to three general types:

1. Recreation
2. Vegetation/wildlife protection management
3. Agriculture/horticulture

### Recreation

Recreation development and activity is concentrated in three main areas:

1. Finlayson Island, where the Town and City have jointly developed a network of hiking/skiing/interpretive trails and associated day use facilities.
2. The Battleford Flats ball diamond complex south of the old highway bridge.
3. The North Battleford and Saskatchewan Hospital golf courses.

In addition, a boat launch situated below the Saskatchewan Hospital grounds, the King Hill Lookout, the TransCanada and the North Shore trail systems, and bike trails along the north shore provide opportunity for recreation use.

Considerable recreational use is also made of many trails and areas along both river banks (fishing, bird watching, dog walking, parties), even though no formal facility development has occurred. An especially popular recreation area, despite the absence of facilities and services, is the south channel of the river, between Finlayson Island and the Town. Here, large numbers of people take advantage of the extensive sandbars that have developed for summer beach activities. A second very popular area for casual use recreation is the confluence of the North Saskatchewan and Battle Rivers. Unfortunately the use of ATV's and off road vehicles throughout the valley has become a popular, but unwanted activity.

### Vegetation/Wildlife Protection and Management

Wildlife populations are distributed through much of the valley. Further, existing zoning controls serve to protect many areas in the valley from urban development, although this has been, in a sense, a secondary or spin-off benefit of these controls. There are, however, two areas in the valley where development and management has been directed specifically at ecological protection or wildlife population enhancement. The first is the Speers spruce stand on the south valley wall, immediately west of the new highway bridge. Here, through the action of the landowners and the cooperation of most area residents, a remnant of boreal forest has been protected. Speers Spruce Stand is now held as land in trust with Saskatchewan Wildlife Federation.

Directly across the river, a major project directed at enhancing waterfowl production



(involving the local chapter of the Wildlife Federation, Ducks Unlimited and others), has been developed. Though in close proximity to a major gravel extraction operation and haul road, and the Yellowhead Highway, this project has provided significant nesting opportunities for large numbers of Canada geese and other waterfowl.

## Agriculture / Horticulture

Agricultural activity continues within the corporate limits of the Battlefords in a number of river valley areas. Immediately east of the new highway bridge, a small beef cattle operation exists in the City. Horses and ponies graze the flats near the new highway bridge and the north valley wall and adjacent upland areas west of the gold course.

Further downstream, near the confluence of the two rivers, field crops and sod are grown both within the Town and in the adjacent Rural Municipality, in the low-lying river flats.

## Other Land Uses in the Valley

In addition to the above major land use types, there are several uses in the river valley. These include the a private gravel pit operation, two water treatment plants on the north side of the river, the Town of Battleford Sewage Treatment plant, two lagoon sites, municipal wells, a few scattered residences, the Regional Care Centre and its sewage lagoon, a Saskatchewan Hospital Cemetery, the two highways (and associated bridges) and a number of hard-surface, gravel and dirt roads.

## Adjacent Land Uses

In areas adjacent to the valley, the variety of land uses is much wider than that within the valley. The following indicates the major uses in immediately adjacent areas and describes where these uses occur.

### Residential

- Through the entire length of the eastern edge of the Town's built up area; closest encroachment to the river is in the Riverbend development at the north end of Town.
- The Riverview neighborhood of the City, perched on the edge of the high valley wall.
- Country residential development located on Poundmaker Trail.
- The West Park subdivision, in the Town of Battleford, in proximity to the Battle River.

### Industrial

- Immediately north of the Saskatchewan Hospital and extending along Highway 16 east.

- Between the City's downtown area and the Riverview neighborhood (primarily railway and associated uses).
- Battlefords Industrial Park on the north bank of the Battle River.

#### Commercial

- The City's downtown area and highway commercial development along Highway 16 east and the Highway 16 City by-pass.

#### Institutional

- Saskatchewan Hospital
- Battlefords Regional Care Centre
- Don Ross Centre
- Battleford Town Cemetery
- Battleford Town Hall
- St. Vital Church

#### Recreational

- Fort Battleford and adjacent campground
- Exhibition grounds
- Fred Light Museum

#### Agricultural

- South of the Speers spruce stand
- South of the built-up area of the Town
- Between Territorial Drive and the railway, north of the goose project
- East of the Saskatchewan Hospital
- Numerous small tracts of agricultural land adjacent to the Battle River

## The North Saskatchewan River Basin Council

In recent years, issues relating to water quality have come to the forefront not only, in the North Saskatchewan River watershed, but throughout the province, and beyond. The Saskatchewan Watershed Authority has been instrumental in assisting in the development of a number of Source Water Protection Plans throughout Saskatchewan.

The North Saskatchewan River Basin Council is a non-profit organization that was formed to support and direct the implementation of a Source Water Protection Plan

for the North Saskatchewan River Watershed. The Source Water Protection Plan identifies a number of planning objectives, recommendations and key actions for future implementation, based around the themes of Water Conservation, Climate Change, Ground Water, Surface Water Quantity, apportionment of Inter-Provincial Water Flows, Surface Water Supply and Natural Habitat. A background report prepared prior to this development provides more detailed technical information, although with a focus on the entire river basin.

The vision and mission of this organization, identified below, indicate that their work will complement and support the goals and objectives of the Battlefords River Valley Board, particularly as they work through implementation of the key actions identified in the Source Water Protection Plan.

***Our Vision***

A watershed which provides for the social, economic, environmental and cultural water needs of the future generations.

***Our Mission***

To create and implement a plan to develop and protect source waters in the watershed so that the resource can sustain future social, economic, environmental and cultural needs.”

Further information about the North Saskatchewan River Basin Council, including links to documents that have been produced, is available online at: [http://www.nsrbc.ca/source\\_water\\_protection.html](http://www.nsrbc.ca/source_water_protection.html)



## Access and Circulation

Strengthening and establishing linkages and connections both into and throughout the river valley is a priority of the River Valley Master Plan. Open space and pedestrian linkages should be provided through the area, connecting the river valley to the neighbourhoods, cultural amenities, and other recreational facilities of the adjacent municipalities. As well, trail connections to the areas of influence which lay just outside the boundary of the study area should be considered a priority.

Improved access and circulation throughout the river valley is crucial to ensure development of the river valley is done through the lens of improved public access and continued conservation. Specific goals related to access and circulation includes the following:

- Improved vehicle access and parking facilities
- A visual identity and way finding program for the river valley
- A hierarchical system of pathways and trails
- Pedestrian and cyclist access into and within the valley
- Linkages that minimize the negative impacts of trail development.
- Clear policy on the use of motorized vehicles within the river valley

As was noted in the original Master Plan document, the provision of physical access to the valley is very important but also complex, because of the scale of the valley, terrain conditions and existing development. Physical access needs to be considered from adjacent upland areas into the valley, across the valley, and along the valley. Access considerations for pedestrians, cyclists, equestrian, vehicular and water craft should be considered.

A very significant concern that affects many areas of the river valley, is the use of quads, motorbikes, and 4X4's. Tracks established through continued use of motorized vehicles are evident in a number of areas. The use of these motorized vehicles impact the ecosystems, result in damage to plant materials and structures, and pose safety concerns for others.

Differing terrain conditions and development patterns have allowed for numerous vehicle access routes from the Town of Battleford into the valley. Most of these are residential streets, which can also serve as pedestrian access routes into the valley. In addition, a number of informal (but relatively heavily used) trails have been created, especially on the valley wall between Fort Battleford and 22nd Street.

Vehicular access across the river is restricted to the Highway 16 /4 Bridge, which has been twinned in recent years. With the twinning, a pedestrian / cyclist walkway has been provided. In addition a culvert underpass under the bridge provide pedestrian cyclist access through the valley from one side of the highway to the other. "Currently, the North Span Bridge on Highway 16A is closed to vehicular traffic, although it is



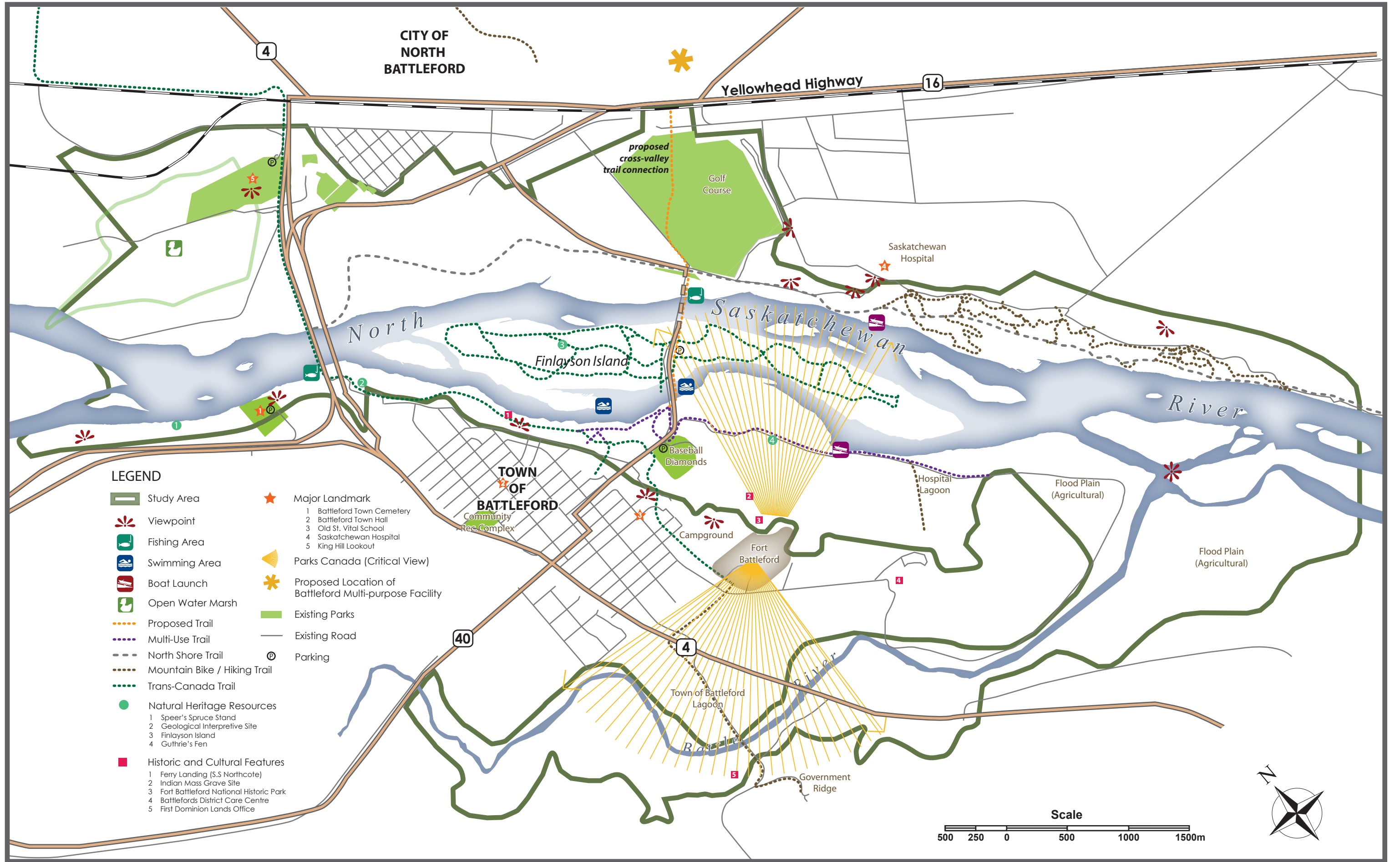
available for pedestrians and cyclists. The South Span Bridge provides developed access to Finlayson Island for light vehicle traffic only. While it is also used by pedestrians and cyclists there are no separate lane or walkway for pedestrians”.

The North Shore Trail on the north bank of the North Saskatchewan River provides pedestrian and cycling access eastward along the extent of the river valley from Highway No. 4. A multi use trail, as well the the Trans-Canada Trail provides pedestrian access to along the south side of the river. Finlayson Island also offers quite an extensive network of trails for multi-use purposes. In addition informal trails have been created on the south of side of the river through casual use over time.

Vehicle access along the valley is limited to relatively short sections, west of the Saskatchewan Hospital and along Highway 16A in the Town. Some access is also afforded in the vicinity of the goose project, to King Hill lookout , to the the main City water treatment plant, and along the dyke road between Highway 16A and the Battle River.



*Highway 4/16 at King Hill Lookout (credit: AECOM)*





## Opportunities and Constraints

The 1989 Master Plan provided a comprehensive list of opportunities and constraints categorized by the various natural and cultural resources in the Valley, as well as physical development. These opportunities and constraints are listed below; where appropriate an update or status of that particular component has been provided.

### Geological Resources

#### Opportunities

The geologic setting and evolution of the landscape in the study area has created unique terrain with attendant areas of some sensitivity and some unique opportunities. The opportunities result from relief features and environments which are unusual within Saskatchewan, while the constraints relate not only to the engineering limitations of the landforms and materials, but also how the public perceives how the terrain should be used.

Because of a combination of slope stability concerns, riverbank erosion and deposition processes and flood hazard, it is suggested (from a geotechnical and river engineering point of view) that future development in the Valley be oriented to emphasize the following:

- The use of floodplain areas for extensive recreation / interpretation / environmental education purposes, requiring very little in the way of permanent or “hard” structures that could increase potential costs of flood damage to unacceptable levels;
- The use of much of the valley slope area for similar purposes. The construction of shelters or service facilities might be considered on the valley slopes but they would need to be light, flexible structures on temporary foundations, giving ease and economy of maintenance;
- The expansion or enhancement of habitat for such species as Canada goose and white-tailed deer would be quite acceptable at geotechnically appropriate locations in the valley.

Development of a highly manicured, or developed, urban park is not appropriate for Battlefords River Valley, because of the size and extent, as well as the highly varied and changing nature, of the valley, due to these ongoing natural processes.

There are numerous different geologic settings and landforms in the study area. It would be an ideal environment in which to establish interpretive or point of interest stops. For instance, the exposed cut at the south end of the new highway bridge would be an ideal location to demonstrate the vast age difference between the till sediments in the top half of the cut (12,000 years old) and the Cretaceous shale in the bottom half (about 100 million years old). A visitor may be interested in the fact that these are the same age of sediments from which oil is extracted in this part of the province, and that these sediments were deposited at the time that dinosaurs



ruled the world. In addition, the cold glacial origin of the till could be contrasted with the warm marine environment of the clay shale. Other appropriate interpretive sites would include several areas along the North Saskatchewan and Battle Rivers where the dramatic evidence of channel shifting may be pointed out and where the effects of the 1986 flood (a 1:50 ± flood event) may best be seen. The landslide activity in the vicinity of the Town Cemetery can be used to demonstrate the active and relentless nature of slumping movements. Finally, on the north side of the river, east of the Provincial Hospital, prominent features created by the scraping and eroding action of glacial ice are the parallel, linear, elongated depressions called “flutings”. Although these flutings were eroded into the underlying bedrock, they are readily visible in the present landscape and, in the geological community, have a national reputation as classic examples of such features.

## Constraints

The geotechnical constraints to development on different landform types in the river valley have been discussed previously. While the engineering limitations are measurable, there are other factors which must also be considered and which cannot, in every case, be quantified. The fact that they cannot be quantified does not, however, suggest that they are any less important than those which can be measured. These additional constraints include the following:

**Public Acceptance:** The engineering limitations of the terrain can be documented, and people advised against further development. However, valley walls are extremely attractive areas and development pressure will increase. The wisest use of the terrain can only be made if public leadership is given well in advance of a development plan. There is a need for public education regarding appropriate development in sensitive areas.

**Preservation or Conservation:** It must be recognized that the dynamic nature of the valley will make preservation in its present state virtually impossible. Conservation of critical elements is probably the only available avenue.

**Cost:** Evolution of the valleys in the Battlefords areas is an ongoing geologic process. That existing land areas will be eroded and new areas created has been well demonstrated. It is beyond the available financial resources (with or without senior government assistance) to prevent the natural cycle from progressing. Thus, the reasonable policy decision is to allow natural evolution of the landscape while recognizing that landowners and citizens will be affected. Natural evolution of the valley is not a zero cost option.

## Biological Resources

### Opportunities

The following list describes the most noteworthy biophysical features in and near the Valley. These features (as shown on Figure 5) provide a diversity of opportunities for interpretation, environmental education and conservation.

1. Speers Spruce Stand
  - Unique remnant outlier of boreal forest vegetation
  - Stand of white spruce and ground cover of feather mosses.
2. “Rapid” Slumping
  - Relatively recent slumping in an area of essentially natural vegetation
  - Pronounced scarp/backslope effect and micro habitat diversity.
4. Riparian Forest (island)
  - Mature poplar canopy with some cottonwoods and dense shrub community
  - Stabilized Island “dunes” (low-relief surface ridges and swales).
5. Open Water Marsh
  - Man-made waterfowl habitat enhancement project.
6. Channel Abandonment (middle stages)
  - Early stages of afforestation and island-to-bank connection.
7. “Slow” slumping
  - Broad zone of slump-induced valley crest retreat
  - Localized evidence of groundwater seepage.
8. Tributary Ravine
  - Slumped creek valley walls and spring-fed stream
  - One of the area’s largest tributary ravines.
9. Spring-fed Marsh
  - Active seepage site and associated emergent deep marsh community.
10. Actively Eroding Terrace Edge
  - Active and recent erosion of river channel bank along island margin.
  - Undercutting collapse and island devegetation.
11. Bank Levees
  - Manitoba maple stands on levee ridges of Battle River.
12. River Confluence
  - Confluence of continental (North Saskatchewan) and regional (Battle) rivers
  - Contrasting fluvial processes and limnology.

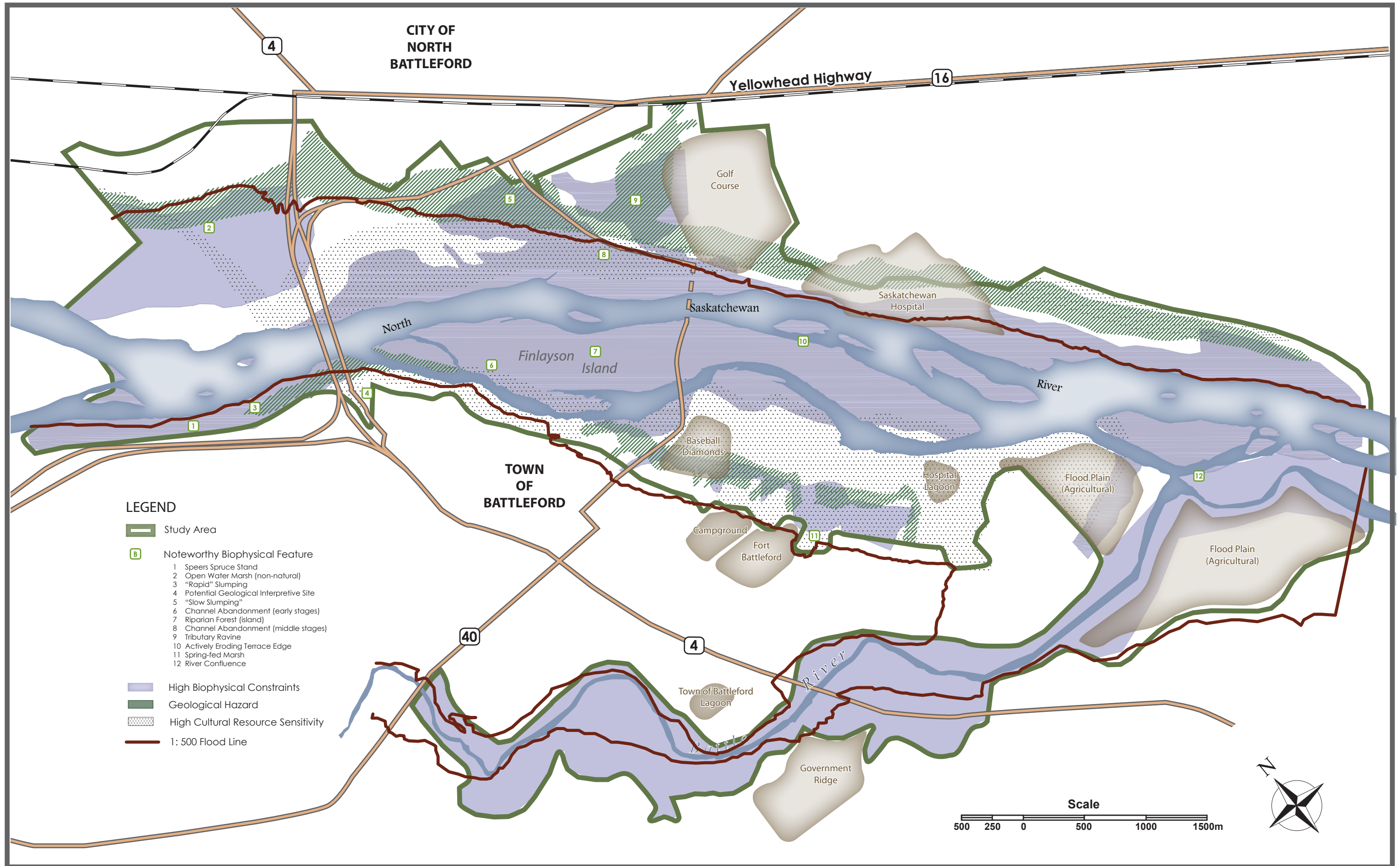
### 13. Abrupt Valley Wall

- Steep slope with full valley wall height
- Minor bedrock exposures of Cretaceous sandstone
- Very dry slope with sparse, xerophytic vegetation.

### 14. Glacial Flutings

- Extensive parallel ridge/trough pattern to the glacial drift deposits (ground moraine)
- Aspen grove remnants on upland terrain.





## Constraints

- Development and land use will have a variety of impacts on the valley landscape. Depending upon the types of facilities and activities involved, effects on biophysical resources may range from insignificant to severely detrimental.
- The detrimental effects may occur as negative environmental impacts, loss of resources and partial or complete development failure; more often than not there is some measure of all three of these consequences.
- Areas in the valley with relatively high levels of biophysical development constraint generally correspond to areas where there is relatively little cultural modification of landform or natural vegetation.
- Conversely, a relatively low level of constraint is generally found in areas already extensively modified by past development. Further development on such areas may therefore tend to have less impact on biophysical features and resources.
- Generally, as the level of biophysical constraint declines, the range of appropriate land use opportunities both widens and shifts from opportunities for preservation activities only (in the areas of highest constraint) through opportunities for extensive and intensive recreation (in areas of lower constraint), to opportunities for recreational, agricultural and urban/industrial development (in areas with the lowest level of constraints).

## Cultural Heritage Resources

### Opportunities

- The potential for major additional tourism development, heritage interpretation / education development programs (based on a theme of settlement and Indian / white interaction in the valley) is clear and significant.
- Major opportunity exists for thematic and physical / functional linkages between known cultural heritage resources in the valley and those elsewhere in the Battlefords area.
- The potential exists for significant additions to understanding the history and prehistory of the area (and of Saskatchewan) through the undertaking of a major systematic archaeological survey of the area.

### Constraints

- Because of the absence of detailed information regarding specific locations of prehistoric cultural heritage resources, large portions of the study area must be assumed (based on judgmental evaluations only) to have a high sensitivity to physical development.

## Visual Resources

### Opportunities

- Key viewpoints can be enhanced or developed to provide spectacular and diverse views of valley.
- Selected landmarks and valley views can be protected and enhanced through appropriate development controls and guidelines.

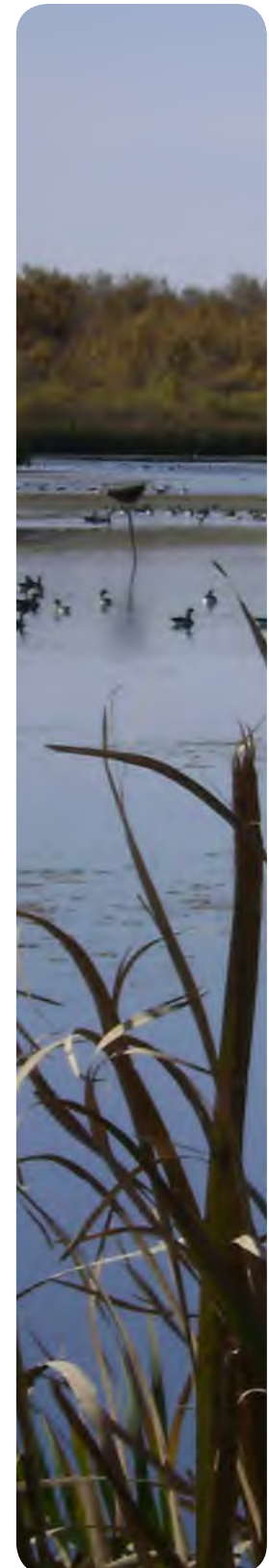
### Constraints

- Previous development precludes the provision of significant new viewing corridors from the City of North Battleford into the valley.

## Existing and Proposed Development

### Opportunities

- A Multipurpose recreational facility serving the region is in the planning stages and will be located adjacent to the casino. A trail linkage from the facility to the river valley is proposed as a future development
- Municipal bylaws, including Official Community Plans and Zoning Bylaw can provide an effective means of regulating development within the respective areas of the river valley.
- Redevelopment and reprogramming of Fort Battleford National Historic Park by the Canadian Parks Service should afford significant opportunity for integration of the Park's offerings and operations with what is happening in the community and surrounding areas.
- A proposed Indian Village tourist attraction in the vicinity of the Western Development Museum could be thematically linked, and programming coordinated, with tourism, recreation and / or interpretive programs or facilities within the valley. An opportunity may also exist to provide some form of physical linkage with the W.D.M., the Exhibition and the proposed Indian Village along a coulee that extends from the river, past the golf course, to the area of these attractions. This facility is still in the planning stages.
- Ducks Unlimited has indicated that there may be an opportunity to develop an additional waterfowl habitat enhancement project in the floodplain north of the river, directly across Highways 4 and 16 from the existing goose project. It is recommended that consideration be given to establishing a storm water bio-remediation program in this area.
- The local branch of the Saskatchewan Wildlife Federation has redeveloped the building that formerly served the waterslide park, for use as an interpretive facility serving both the Wildlife Federation and the broader community.



- The widespread distribution of public land in the valley affords considerable opportunity and flexibility and guiding development and conservation efforts. To date little, if any, private purchase of public land has occurred, with the exception of land acquired by the City of North Battleford adjacent to the valley wall in the Riverview neighbourhood, in order to preserve this land from development.

## Constraints

- Terrain conditions and existing land use patterns have combined to close off a number of options for providing pedestrian access into the valley from the City.

## Community Input

### Opportunities

- There appears to be strong community support for emphasis being placed on the conservation of river valley resources rather than on development of facilities.
- There is a high level of interest in public participation (at various levels) in river valley planning, management and development.
- Some of the private landowners in the valley are fully supportive of a conservation emphasis for the future.

A Stakeholder meeting held in conjunction with the update of the Master Plan provided the following input:

- Participants offered many suggestions to ensure the enjoyment and benefit of the of the river valley for all. In general it was felt that the river valley should be retained in a natural state, while continuing to provide both active and passive recreational opportunities, including some basic facilities or amenities. Many people indicated a need for common signage and site furniture, such as benches and waste receptacles, throughout the valley, as well as a marketing program to ensure people are aware of the various recreational opportunities in the valley. The need for more parking lots (ensuring they are well identified) was noted, to increase accessibility to various parts of the river valley.
- Development through the valley has generally proceeded in conformity with the recommendations from the 1989 Master Plan, although not necessarily in order of priority recommended in that document. Participants were generally supportive of focussing active recreational opportunities to areas already being used for recreational purposes, and ensuring that sensitive / significant areas were protected. Speers Forest and the accompanying shoreline along the North Saskatchewan River were identified as one such area.
- Generally, more active management of the river valley (marketing, signage, interpretation, some facility/parking lot improvements, enforcement to prevent vandalism and damage) was felt to be a critical aspect in enhancing the opportunities, use and enjoyment of the river valley for both residents and tourists.





# The River Valley Master Plan

An important first step in undertaking the Master Plan update was to review the overall theme, goals and objectives. The Steering Committee and Stakeholders group provided key input to the review of these, and the modifications reflect their comments.

## Theme

The theme of “conservation” established in the 1989 Battlefords River Valley Master Plan continues to be relevant and appropriate. However, the definition of “Conservation” has been amended slightly, and is now proposed as “the wise management and use of natural and cultural heritage resources of the Battlefords River Valley.”

## Primary Goals and Objectives

Similarly, the goals and objectives established in the 1989 Master Plan continue to be relevant, and are as follows:

### Goals

1. **Natural resource conservation** - To conserve the natural resources of the river valley .
2. **Cultural heritage resource protection** - To protect the cultural heritage resources of the river valley.
3. **Development of facilities, services and opportunities** - To develop and encourage development of facilities, services and opportunities which are consistent with the conservation and protection of heritage resources and which will add to the enjoyment of the river valley by residents and visitors.
4. **Public education** - To promote and increase public awareness and understanding of the river valley and the heritage resources within the valley and nearby areas.
5. **Community involvement** - To encourage and promote community involvement in the planning, management, conservation and development of the river valley.
6. **Implementation** - To create an appropriate administrative and operational framework to permit the effective and efficient implementation of Master Plan recommendations and policies to achieve River Valley goals and objectives.

### Objectives

To successfully follow the direction indicated by the six proposed broad primary goals, a number of more specific objectives have been identified. These objectives are grouped according to the goals they are intended to support.



## 1. Natural Resource Conservation

- To protect significant natural resources from detrimental impacts of human activity and development.
- To minimize interference with natural processes in the river valley, unless necessitated by factors or considerations related to public health and safety or to potential loss of cultural heritage resources.

## 2. Cultural Heritage Resource Protection

- To collect and analyze information regarding the cultural heritage resource base in the river valley.
- To ensure effective protection of documented significant cultural heritage resources from detrimental impacts of human activity and development and, where feasible, from natural processes.

## 3. Development of Facilities, Services and Opportunities

- To work with jurisdictional agencies to ensure that all development in the river valley is compatible with the conservation of natural heritage resources and protection of cultural heritage resources.
- To provide upgraded access into and within the river valley for residents and visitors.
- To provide a variety of outdoor recreational opportunities at locations in the valley that are environmentally suited for such activity.
- To co-ordinate development of facilities, services and opportunities with other public and private initiatives and programs in the Battlefords.
- To design and develop facilities and services which are visually and environmentally compatible with the valley, which enhance the use of the valley by residents and visitors, and which convey a distinctive image for valley development.
- To develop and implement a signage program that identifies amenities and features, and contributes to the public education program.

## 4. Public Education

- To promote “conservation” as the underlying principle or theme of the River Valley Master Plan.
- To work with agencies and community organizations to develop a coordinated program of communication (i.e. interpretation and education) to help the public and school groups better understand and appreciate the need to conserve the natural and cultural heritage resources in the river valley.
- To encourage and facilitate appropriate uses, activities and enjoyment of the river valley.



- To provide opportunities for residents and visitors to experience, first hand, the natural and cultural heritage resources of the river valley and to understand the significance of these resources in the context of the river valley and interrelationships with other such resources in the Battlefords area.
- To promote the river valley and its resources as a significant part of the “package of attractions” in the Battlefords.

#### 5. Community Involvement

- To ensure that the River Valley Master Plan and all subsequent plans consider the concerns, desires and needs of the general public and of groups or individuals with interests relevant to the purpose or the area being addressed in such plans.
- To ensure an optimal level of participation by the community at large, special interest groups and service clubs in the appropriate development and management of the river valley.
- To develop a broadly based volunteer program related to all aspects of river valley analysis, planning, development and management.

#### 6. Implementation

- To encourage the active participation of the City of North Battleford, the Town of Battleford, the R.M. of Battle River, the R.M. of North Battleford and the Province of Saskatchewan, as well as other government departments and utility companies (with easements) in the implementation of the River Valley Master Plan and in the on-going management of the valley.
- To develop and administer appropriate policies, guidelines and / or regulations relating to resource protection or conservation, facility, service and opportunity development, operations and maintenance, land use, communication and updating / refining the River Valley Master Plan.

## Master Plan

To achieve its goals and objectives, this update of the Battlefords River Valley Master Plan continues the focus on three main areas of emphasis. These are:

**Protection** – A focus on conserving and enhancing natural and cultural heritage resources in the valley in a manner consistent with stated goals and objectives.

**Interpretation** - promoting and encouraging conservation of resource values in the valley, through environmental and heritage education programs, natural resource and cultural heritage interpretation programs and a variety of communication programs.

**Recreation** - ensuring that recreation and interpretive facilities are provided in a manner appropriate to the goals and objectives of the River Valley Master Plan.

The updated Land Use and Management Policy Plan for the valley and complementary Development Concepts incorporate these considerations.

## Administrative Framework

In order to oversee the implementation of the River Valley Master Plan, and to ensure that the goals and objectives of the plan are met, an Agreement was set in place in 2005, establishing a cooperative partnership between City of North Battleford, the Town of Battleford and the Province of Saskatchewan, through the establishment of a Battlefords River Valley Board.

Under this agreement the Battlefords River Valley Board will oversee the implementation of the Master Plan.

The Board will provide recommendations to The Battlefords on:

- Development of the River Valley in accordance with the Master Plan,
- Allocation of funds provided under the Agreement
- Prepare an annual report respecting River Valley development and improvements
- Address other matters as determined by the parties to the Agreement or otherwise specified in the Agreement.

Board members will consist of

- Two members appointed by the City of North Battleford
- Two members appointed by the Town of Battleford
- One member appointed by the Province of Saskatchewan

The City of North Battleford Director of Parks and the Town of Battleford Director of Parks and Recreation will act as co-secretaries for the Board. The City of North Battleford Director of Parks and Recreation will serve as an advisor to the Board.

The Agreement may be amended at a future time ( with the agreement of all parties) to permit the participation of a rural municipality in the Battleford River Valley Board.

It is intended that actions taken under the Agreement will reflect adherence to the river corridor concept, principles and philosophy embodied in the Battlefords River Valley Master Plan.

The Agreement establishes physical boundaries of the River Valley. Amendments to the physical boundaries may be made by parties to the agreement. It is intended that agreements will be made with the owners of any lands not owned by the city of town within the perimeters of the Battlefords River Valley in order to use and manage those lands as part of the River Valley corridor.

It should be noted that the Battlefords River Valley Board is not structured as a corporate body, and has no legislated authority. Land use will be managed by the participating municipalities through adoption of a zoning bylaw within their respective jurisdictions, to ensure that incompatible new development is prevented and that the nature of the nature of the River Valley is protected.

The Battlefords River Valley Agreement also establishes detailed information pertinent to funding of the River Valley program as well as expenditures. All agreed upon developments in the River Valley are considered cooperative Battlefords projects and therefore eligible for full funding from the pool of capital available for the River Valley program, regardless of the municipality in which they are located.

Financial contributions to the program are based on provincial funding based on a per capita grant of \$3.85 (2009), with matching funding to be provided by the municipal partners. If the municipalities are unable to match to the full entitlement grant amount, the province will match to the level the municipalities can contribute. Funding is to be used only for expenditures within the River Valley. Funding may be accumulated for up to three years to facilitate expenditure on larger capital budget items at the Board's discretion. The Board may allocate up to 50 per cent of the provincial funding and 100 per cent of city funding to maintenance and operations as deemed necessary.

The allocation of annual funding is to be guided by the intent of the Agreement to facilitate capital development of the River Valley, for maintenance of those development, and educational programming related to the natural and cultural history of the River Valley and protection of its natural and cultural values.

The Board will prepare a three year capital plan and annual budget for the River Valley each year by the first day of December.

The critical role of on-going operation and maintenance of facilities that are developed in the river valley in accordance with the Master Plan is intended to be taken on by the individual participating parties.

- i. Management, operation and maintenance of the Battlefords River Valley, its recreation facilities and other related amenities, as may be approved by the Councils of the Battlefords*
- ii. Design, construction, and landscaping improvements and projects as may be approved by the Board utilizing the capital funding provided by the province and the Municipal partners.*
- iii. Acquisition, ownership and management of any land and property determined by the Board to be required for River Valley purposes, subject to funding approval by the parties, and disposition of any land and property no longer considered to be required by the Board*
- iv. Management, investment and expenditures of capital funds provided by the parties to this Agreement under Article 8 or from other sources for River Valley purposes; and*
- v. Regulation and control of the River Valley landscape improvements, open space and recreation facilities.*

In that regard the Agreement identifies that the municipal partners shall be responsible for the following on behalf of the parties to this agreement consistent with the Master Plan.

With the approval of the Board, the Municipal partners may contract out the design, construction, operation or maintenance of any River Valley facilities or services.

In addition the municipal partners will provide the administrative support necessary to develop and operate the River Valley, and to support the functioning of the Board. This administration will be provided by the municipalities out of its general revenues.

The parties to the River Valley Agreement will undertake a review of the provisions of the Agreement, including those relating to annual funding, of the concepts embodied in the Master Plan and of progress made toward achieving the concepts at five year intervals.

## Policy Plan

To achieve the goals and objectives established in the Master Plan, comprehensive policies relating to the management of resources, development and activity in the valley are required. Policies from the original Master Plan are still appropriate, and are therefore included below. Some additional policies that may assist in addressing some of the issues and concerns that have been noted are also included.

Policies to guide future development and conservation decisions, can be categorized into general policies that are relevant to the entire river valley, and management policies specific to various management zones identified in Figure 7 Management Zones.

Under the Battlefords River Valley Agreement, it is intended that participating municipalities will adopt appropriate policy statements in their respective Official Community Plans and Zoning Bylaws for lands falling within the jurisdiction of the River Valley Master Plan.

Further, it is recommended that the City and Town adopt appropriate policies and development standards for areas adjacent to the Battlefords River Valley, where such policies and standards are not already in place to complement the management intent of the River Valley Master Plan.

The Battlefords River Valley Master Plan is intended to work in concert with these current, as well as future, municipal planning and policy documents, and other applicable documents, Acts and Regulations.

## General Policies

Policy considerations affecting the entire river valley can be categorized into a number of topic areas. The following are proposed as general policies to guide management and administration of the river valley.

### 1. Linkages and Connections

Strengthening and establishing linkages and connections both into and throughout the river valley is a priority of the River Valley Master Plan. Open space and pedestrian linkages should be provided through the area, connecting the river

valley to the neighbourhoods, cultural amenities, and other recreational facilities of the adjacent municipalities. As shown on the Access and Circulation Map an extensive trail network has been established over time. The following policies are recommended to ensure that the trail system serves to provide linkages to key interpretive and recreational facilities, and encourages extensive passive recreational use of the river valley.

The Battlefords River Valley is characterized by highly variable pedestrian and cyclist accessibility from different areas in the City and Town and by discontinuous circulation opportunities within the valley. Further, vehicle traffic across the North Saskatchewan River is effectively restricted to the Highway 16/4 bridge crossing.

1. Vehicle access will be provided to, and parking facilities developed at significant interpretive sites, at appropriate locations within the natural areas zone, at active recreational facilities and at key interpretive developments within or adjacent to the river valley.
2. A visual identity program for the river valley will include directional and informational signage located along major vehicle access routes and at key interpretive sites throughout the river valley.
3. A hierarchical system of pathways and trails will be developed to provide upgraded pedestrian / cyclist access into the valley and circulation within the valley. This system will consist of five general types of developed linkages, as follows:
  - i. *Hard-surfaced (i.e. asphalt, unit paving, gravel screenings, crusher dust, etc.) primary pathways providing access to and linking major destinations and attractions, suitable for multiple use (pedestrian and cyclist).*
  - ii. *Soft-surfaced secondary trails where the level of development is limited to corridor clearing / marking and where treadway development ranges from nil to providing such surfaces as wood chips, linking attractions through relatively natural settings where use levels are relatively low, suitable for pedestrian traffic only.*
  - iii. *Cross-country ski trails, some of which will be provided along secondary trail corridors and some of which will be temporary winter trails.*
  - iv. *Roadside trails, which will utilize existing low vehicle traffic roadways and lanes without the need for separate pedestrian or cyclist corridors.*
  - v. *Equestrian trails which will be developed through selected areas in the valley.*

In areas of high resource sensitivity, pedestrian linkage development will be geared to minimizing the negative impacts of trail development and use or, where this is not feasible, trail development will avoid such areas.

4. Use of all-terrain vehicles, motorcycles, dirt bikes, four-wheel drive vehicles, dune buggies, snowmobiles, etc. will not be permitted in the river valley (on trails,

or off-road). Various measures should be explored to discourage use of these motorized vehicles including site design, enforcement, and signage.

5. Trail alignments will, where feasible, be based on the principle of providing access to resources or features offering potential for interpretation and to locations affording pleasant valley views or vistas, provided that such alignment will not jeopardize the natural or cultural heritage resource values in the valley.
6. To provide focus to the important role of linkages and connections through the river valley, it is recommended that a map of the river valley, highlighting existing trails and access points be developed. This brochure can also serve to educate about the goals and objectives of the River Valley Master Plan.
7. Accurate mapping of existing trails using a gps system should be considered in order to support development of mapping, interpretive signage, brochures and other promotional materials.

## 2. Views and Vistas

One of the most striking features of the river valley are the views and vistas afforded throughout. Protection of views should be a key consideration in any decisions made regarding development in, or in proximity to, the river valley.

1. Special buffer areas should be recognized in those areas with a high visibility from within and across the valley. This includes lands south of Highway 16, overlooking the Saskatchewan Hospital and golf course, and the area identified by Parks Canada as a Critical View area. Land use controls and development standards for areas lying within these areas should be implemented in the appropriate planning bylaws to ensure these views and vistas are protected.
2. To the north of the Hospital core area, additional industrial development is anticipated. In this area, it is recommended that a buffer zone be established, either as part of the subdivision planning process or through the application of site development (i.e. landscaping) performance standards on the industrial lots developed in the area. The key is the development of a strong visual and psychological separation between the industrial area and adjacent river valley lands, through a combination of extensive and intensive planting and spatial separation.
3. Overhead utility lines are a predominant visual feature at many locations within and adjacent to the river valley. Measures to minimize the visibility of existing and any potential new utility lines should be considered, including burying of lines, where feasible.

## 3. Areas of Influence

Although not situated within the boundaries of the River Valley Master Plan, a number of cultural and heritage amenities located adjacent to, or in proximity to, the river valley have a significant linkages to the river valley and are key elements in the





*Battleford Town Hall (credit: AECOM)*



*Fort Battleford (credit: Kevin Hogarth / Parks Canada)*



*Saskatchewan Hospital (credit: The City of North Battleford Historic Archives)*



story of the river valley. These features have been identified as areas of influence and comprise the following:

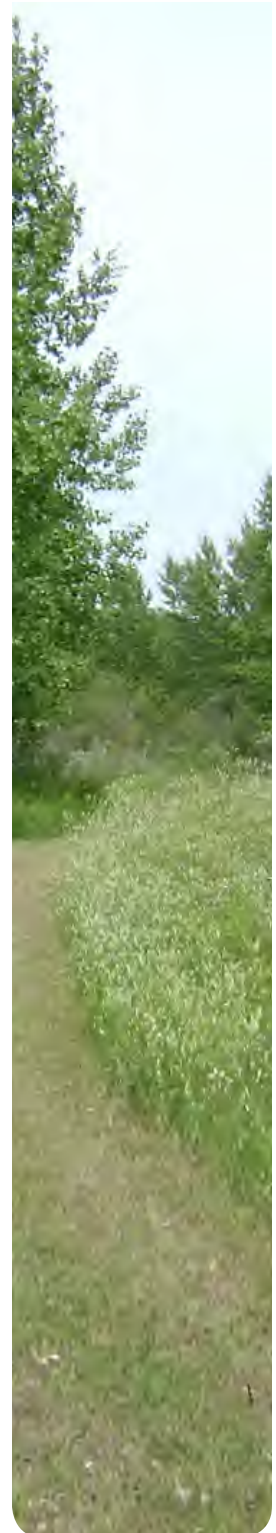
- Fort Battleford
- Government Ridge
- Historic sites and buildings in the Town of Battleford
- Saskatchewan Hospital
- McMillan Gravel Pit

It is recommended that that Battlefords River Valley Committee seek to establish or maintain communications with the agencies and organizations responsible for overseeing and managing these facilities and to explore opportunities to work together to achieve common goals. This might include ensuring that physical connections are established from these facilities to other parts of the river valley, and that marketing and promotional initiatives incorporate these facilities as part of the broader context of the river valley experience.

#### 4. Tourism and Recreation

The Battlefords River Valley remains as the only extensive area in the community where residents and tourists can spend their leisure time in the peace and solitude of a near-natural setting. Recommended policies, which would take full advantage of this special tourism and recreation resource without jeopardizing the overall river valley theme of “conservation”, include the following:

1. Opportunities will be provided for year-round, active and passive leisure time pursuits that do not place natural and cultural heritage resource values in the valley at risk.
2. The river valley and the associated opportunities for recreation and interpretation, will be marketed as an integral component of the Battlefords’ “package of attractions” for business and recreational tourism markets. Joint marketing and coordination with other agencies, and community organizations is encouraged. The Battlefords River Valley Board will provide information, assistance and other support to the Battlefords’ Chamber of Commerce, other community economic development groups, non-profit agencies and community based organizations. The Battlefords River Valley Board will also coordinate tourism and promotion efforts with local, provincial and federal agencies such as Tourism Saskatchewan and the Canadian Parks Service.
3. The Battlefords River Valley and the recreational / interpretive facilities it contains shall be considered as an integral component of both the City’s and the Town’s open space systems and municipal recreation programs and services.
4. Particular focus will be placed on working with other agencies and organizations to enhance and promote the unique cultural and heritage features of the area.



5. Linkages to provide connections to recreational and cultural facilities and amenities will be considered as part of the overall development scheme for the River Valley.

## 5. Heritage Resources

The Battlefords River Valley and adjacent areas are known to be rich in natural and cultural heritage resources. Together, these resources can offer tremendous opportunities (for residents and visitors alike) to learn about, appreciate and enjoy the natural processes and features in the valley and the rich and colourful history of the Battlefords area. In terms of cultural heritage especially, the Battlefords have played a major role in the settlement, government and military history of our province and, indeed, our country. The potential for interpretive facility and program development related to this role has already been partially realized through such attractions as Fort Battleford National Historic Park. There is, nevertheless, considerable untapped potential for additional interpretive and associated tourism development initiatives related to the cultural heritage resources of the Battlefords and, more specifically, the Battlefords River Valley. Much remains to be learned about the resources of the area. Given the Master Plan emphasis on natural and cultural heritage resource conservation, the following policies are recommended:

1. The original River Valley Master Plan identified the preparation of a comprehensive archaeological survey of all lands in the river valley as a priority need. It is recommended that a subcommittee comprised of cultural and heritage focused interest groups and agencies be established to assess the need and value of this study in conjunction with other opportunities or initiatives (existing or proposed), to define an appropriate scope for such as study and to identify potential funding sources.

The establishment of a comprehensive register of archaeological and other cultural heritage resources, sites and structures in the river valley should be given consideration as part of this assessment.

Cooperative research efforts with universities, research institutions, or other agencies should be encouraged and developed.

2. Construction or other planned disturbance to the land surface in any parts of the river valley that have been determined to exhibit a high cultural resource sensitivity will be preceded by appropriate archaeological impact assessments.
3. Should prehistoric or historic archaeological sites of regional or provincial significance be discovered in the valley, the Battlefords River Valley Board will consult with the appropriate provincial authorities to determine the preferred disposition of such sites and their artifacts.
4. The need and value of establishing a comprehensive register of natural heritage resources in the river valley should be explored. It is recommended that a subcommittee comprised of representatives of the Battlefords River Valley Board, and other interest groups and agencies with mandate or interest in the protection

of natural heritage resources of the river valley, be formed to review the feasibility and value of such a study.

5. The Battlefords River Valley Board will ensure that all natural and cultural heritage information that may be compiled is made available to participating municipalities, interest groups, and agencies for their use. This information may form the basis for recommendations related to refining heritage resource protection policies and procedures and for the development of community education programs directed towards communicating the value of these resources (and the need for their protection) to the general public.
6. Hunting and trapping in the river valley shall be undertaken for resource management purposes only, not as recreational activities.

## 6. Interpretation

The original Master Plan identified, as a key element, the need to communicate the importance of conservation of resource values in the valley and also outlined a number of interpretive stories that could form the basis for this work. This information is still relevant today and so continues to form the basis for the interpretation policies.

1. The Battlefords River Valley Board will work closely with agencies and organizations, including the local school boards, provincial ministries, the Canadian Parks Service, the Battlefords Wildlife Federation and other appropriate groups in the preparation of a coordinated interpretation and education program. Materials produced will incorporate the common themes/design established by a visual identity program for the River Valley, and thereby reflect linkages to other educational initiatives and communication pieces, as well as to signage and facilities established throughout the river valley.
2. The underlying message is this program will stress the need for, and value inherent in, a philosophy that advocates developing a truly harmonious relationship with our environment (i.e. a conservation ethic).
3. The inventory and analysis of natural and cultural heritage resources in and near the river valley, undertaken to prepare the original River Valley Master Plan, has indicated a wide range of interpretive stories that could be told. Opportunities to partner with other agencies and organizations to advance these stories should be explored.

These stories could be categorized under two main headings and include the following:

### *Cultural History Stories*

- Prehistoric people and their interrelationships with their environment (more information is needed, based on further archaeological research)
- Use of the environment for food, shelter, clothing and fuel
- Spiritual significance of the river and of the valley



*Government Ridge  
(Credits: Kellyn Anderson)*

- Importance of the river for daily and seasonal needs
- The importance of the river for transportation
- The fur trade (river and trail transportation, trading posts)
- Territorial government
- Indian Treaties
- The northwest rebellion, the N.W.M.P., regional Indian Bands and the Metis
- The railway and its effect on the Battlefords
- Urban development and the role of the river valley
- Conservation of cultural heritage resources.

#### *Natural History Stories*

- Geological history
- Glaciation, deglaciation and the evolution of a river and a landscape
- River dynamics and geological processes
- Vegetation / landform / wildlife interrelationships
- Slope stability and the river valley
- Flooding, landslides and other natural hazards
- Human exploitation of natural resources and human response to natural hazards
- Conservation of natural resources.

The above possible storylines serve to indicate the great breadth of interpretive possibilities in the Battlefords River Valley. Further, they begin to suggest a theme, a focus or a perspective for interpretation; in other words, a “window” through which all interpretive stories in the valley could be told and with which the key message (conservation) can be delivered. This suggested theme is “Tracking Back”. In the valley, the natural and cultural heritage resources, with appropriate development and programming, will allow visitors to “track back” through historic time, into the time of prehistoric cultures and, indeed, into geologic time. This trip can be used to convey the complex interdependence among all components of our landscape (including mankind) that has always existed. Specific resources can be used to illustrate what happens if this interdependence is not understood and respected; in short, if a conservation ethic is not followed in our treatment of the environment in which we live.

## 7. Landscape Development and Habitat Restoration

The Battlefords River Valley currently consists, for the most part, of relatively natural vegetation communities. However, cultivated plant species have “escaped” into the

valley over the years and, in some areas, natural vegetation has been completely removed.

1. Use of native species will be emphasized in all site development in the valley, and will be required in all areas but those where design concerns may supersede ecological concerns (e.g. near major facilities and areas of intensive development).
2. Except in locations where cultural heritage interpretive themes can justify their retention, no efforts will be expended to maintain or protect horticultural plant species that have “escaped” into the valley.

Both natural processes and human activity have had significant impacts on natural and cultural heritage resources.

3. Intervention in natural processes, for purposes of site or landscape restoration will be undertaken only where significant cultural heritage resources, or public health and safety, are at risk. In such cases, intervention will only be undertaken after a thorough review of all costs and benefits and will be to the least extent required to protect the resource at risk or to maintain public health and safety.
4. Intervention in natural processes will not occur for the purposes of protecting natural heritage resources.
5. Site or landscape restoration required as a result of the impacts of human activity will be undertaken as required to protect cultural or natural heritage resources and public health and safety. In undertaking such restoration, on-site and off-site impacts of the restoration will be minimized. An inventory of sites requiring restoration should be maintained and prioritized on a yearly basis to ensure efforts are directed to the areas of highest need.

## 8. Facility and Service Design

An important part of some open space development will be the requirement for structural elements and utility servicing. These elements should be sensitively placed and designed to accommodate predicted user needs while blending with the topography, development theme and existing conditions. Within most of the Battlefords River Valley, facilities should be designed to accommodate periodic flooding. Utility servicing also needs to be designed in recognition of the flooding potential as well as existing services.

Future facilities and services planning and development of the Battlefords River Valley should be designed within the following policy framework:

1. Facility architecture should conform to a standard design theme throughout the valley, utilizing “organic” materials that are functional in terms of durability, ease of maintenance and long term availability.
2. Materials and construction techniques should be applied taking into account the opportunity to utilize local skilled and semi-skilled labour.

3. Site furniture, such as benches, drinking fountains, lighting standards and bollards should also be designed as functional, thematic units using “organic” materials for both relatively natural sites and more groomed, formal sites.
4. Facilities constructed in the river floodplain (e.g. washrooms and picnic shelters) should be constructed of materials which can withstand submergence and can be easily maintained. Major permanent facilities should be located above the 1:500 flood line.
5. Facilities should be designed and located to conveniently accommodate existing or proposed utilities and services.
6. New service lines should be designed in conjunction with location requirements for new trails and pathways. Electric and telephone lines should be placed underground.
7. Irrigation systems should be contemplated when water demand is being estimated. However, the provision of irrigation must be carefully weighed against potential slope stability concerns.
8. Water supply should be obtained from the existing municipal service or, if potable water is available, from wells. Water storage tanks should be designed for placement underground.
9. When winter use is contemplated for a specific site, the appropriate servicing design criteria should be utilized.
10. Waste disposal should utilize existing municipal service lines or, as in the case of limited use areas, vault systems. Refuse disposal should take place off-site.
11. Site design and site features should be developed with consideration to CEPTED (crime prevention through environmental design) principles, minimizing potential concerns around public health and safety. A CEPTED analysis of existing sites and features should be undertaken to identify how existing facilities might be improved to address potential public health and safety concerns, and minimize vandalism.

## 9. Private Land

Although much of the area within the Battlefords River Valley is publicly owned (either federal or provincial Crown Land or municipally-owned land), there are significant areas of privately-owned land scattered through the valley, as indicated by the Land Ownership Map. To protect the rights and interests of private landowners while continuing to achieve the goals and objectives of the River Valley Master Plan, the following policies are recommended:

1. Notwithstanding any other policies, proposals or recommendations in this River Valley Master Plan, the Battlefords River Valley Board will not initiate



any development or resource management activity or apply any land use / development control policies on privately-owned land in the valley without the written consent of the owner.

2. Any current land use or development on private land in the valley that conforms to all applicable provincial statutes and municipal bylaws will not be restricted in any way by the River Valley Master Plan.
3. Where public access across private land is considered necessary to achieve the goals and objectives of the River Valley Master Plan, the Battlefords River Valley Board will work cooperatively with private landowners, the City of North Battleford and the Town of Battleford, to reach mutually satisfactory agreements regarding such access. Options such as fee-simple purchase, tax concessions, donations, creation of easements or rights-of-way, sale-back and leasing will all be considered in reaching such agreement.
4. In agreements for acquisition of private land or rights of access across private land within the valley, the Battlefords River Valley Board will ensure that such title or rights of access will be held by the appropriate municipality.

## 10. Community Involvement

Successful implementation of the Master Plan will require community support. One key to ensuring such support is the provision of opportunities for the community to become involved in plan implementation. This involvement can occur in several ways and at different times in the planning and implementation process. The following are key policies for securing community involvement.

1. The Battlefords River Valley Board will actively solicit public input to development or resource management initiatives in the valley.
2. The Battlefords River Valley Board will work directly with local school boards in the development of environmental education and student participation programs in the valley.
3. The Battlefords River Valley Board will actively explore opportunities to undertake studies, projects and development initiatives jointly in cooperation with other interest groups and agencies. As appropriate they will establish sub-committees and public advisory committees with mandates relating to interests or initiatives of the River Valley Board. Representation on such committees shall consist of both special community interest groups and interested members of the community-at-large.
4. To the extent feasible and fiscally responsible the Battlefords River Valley Board shall utilize locally-produced products / materials and local labour in the undertaking of its development and resource management initiatives.
5. The Battlefords River Valley Board will establish an information “network” with

other agencies, community groups and knowledgeable individuals to develop a comprehensive resource data base concerning the valley. Volunteer participation in resource data collection and analysis will be encouraged and coordinated by the Board.

6. The Battlefords River Valley Board will work cooperatively with all service clubs in the Battlefords with the dual aim of meeting service clubs needs and funding Authority initiatives

## 11. Safety and Security

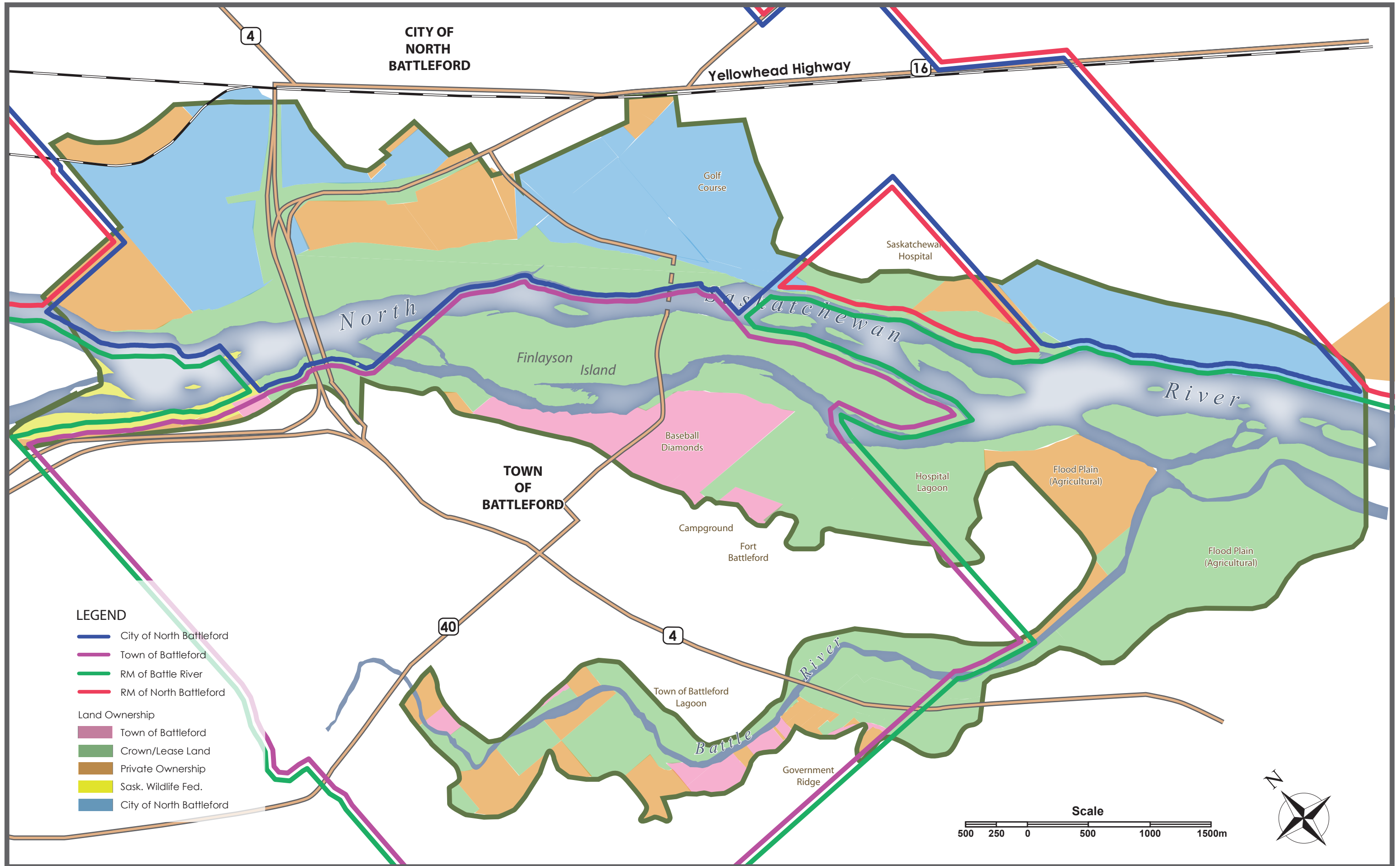
The Battlefords River Valley offers a vast expanse of natural area. However, this amenity also brings about some concerns of safety and security. These concerns should be addressed, to ensure the safety of the public, to minimize vandalism and to maintain the river valley as an attractive and desirable asset to the communities that it serves. The following are key policies to address public safety and security.

1. Establish a regular presence throughout the river valley by police and bylaw enforcement officers
2. Consider implementation of a trail / safety ambassador program
3. Implement crime prevention through environmental design (CPTED) principles in with all new sites and facilities. Review existing sites and facilities to identify opportunities for improvements from a CPTED perspective.
4. Facilities and furniture should be designed to be resistant to vandalism and graffiti. Any vandalism should be repaired immediately.
5. Require that all pets be on-leash, (except in areas that may be designated for off-leash use) and that owners be responsible for picking up after pets.



*Quad Damage: King Hill (credit: AECOM)*







## Management Policy Zones

A series of Management Policy Zones have been identified for the Battlefords River Valley. For each of these zones, policy emphasis is recommended for resource management, and use and development. Policies within these zones are suggested as a framework for guiding and controlling development and human activity through such tools as Official Community Plans and Zoning Bylaws. They will also provide an indication of priorities for resource management initiatives by the Battlefords River Valley Board.

The policies put forward for land use control in the Management Policy Districts are relatively clear and specific in intent. Application of these policies must, however, be undertaken with considerable discretion and a spirit of flexibility to assure that future innovative development or land use proposals, which may offer alternative acceptable approaches, are given due consideration. Further, as the community grows over time, and as needs, priorities and other circumstances change, there will likely be a need for revisions to the boundaries of, and policies / guidelines for, the Management Policy Zones.

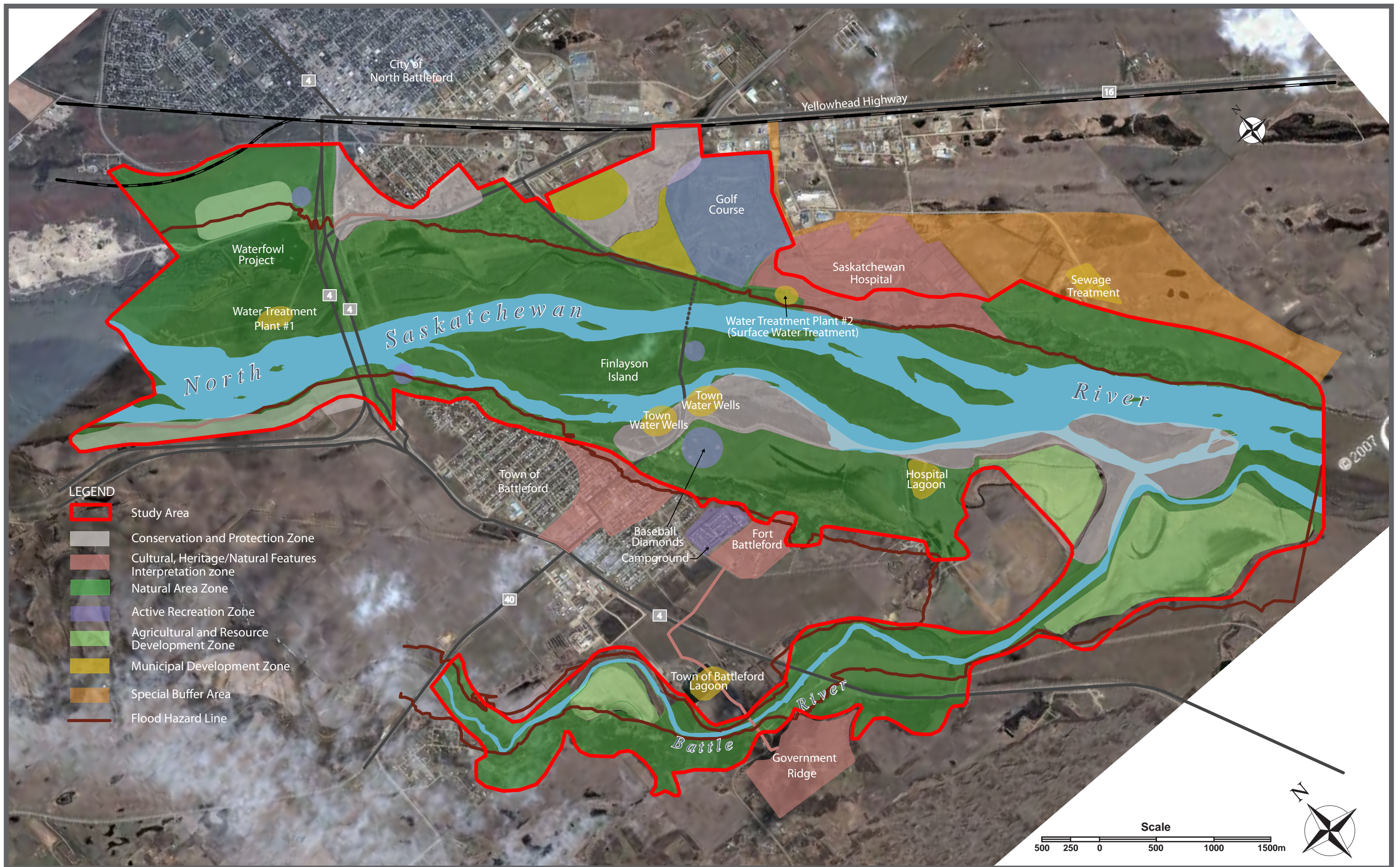
Policies proposed for the various Management Policy Districts in the river valley include the following six policy categories:

- Conservation and Protection Zone and Cultural, Heritage/Natural Features Interpretation Zone
- Natural Area Zone
- Active Recreation Zone
- Agricultural and Resource Development Zone
- Municipal Development Zone











## Conservation and Protection Zone and Cultural, Heritage/Natural Features Interpretation Zone

Policy districts where resource conservation and protection is emphasized are districts where high natural resource values, significant natural hazards, or significant cultural heritage resources make their protection from the adverse impacts of human activity (or, in certain cases, protection of cultural heritage resources from natural processes) a priority.

Under this policy emphasis, the aim is primarily to protect significant natural and / or cultural heritage resources by ensuring that human impact or intervention is minimal. These areas may also provide significant wildlife habitat. Activities and access may be restricted and will generally be transient (i.e. movement through the area) and of low intensity. Development or other interventions will be directed toward measures necessary to mitigate any negative effects of human presence rather than encouraging such presence.

Passive recreational uses may be appropriate in these areas, subject to a site specific review to determine whether adverse impacts to existing natural, cultural or heritage features might arise.

Areas included in the Conservation and Protection Zone includes:

- The valley wall around the Riverview neighbourhood in North Battleford (potential for slope stability issues)
- The ravine area northwest of the golf course (Potentially unstable slopes, a spring-fed stream and considerable wildlife habitat diversity)
- The Speers' Spruce Stand (high natural resource values associated, areas of slumping)
- The Battleford Town Cemetery (significant cultural heritage resources) ,
- The generally wooded riverbank flats and levees at the confluence of the Battle and North Saskatchewan rivers, and extending westward along the North Saskatchewan River ( a high flood hazard potential).

A number of areas through the river valley can be characterized as having potentially unstable slopes. These areas are intended to be included in the Conservation and Protection Zone, and subject to further policies considerations including:

- Management considerations will be given to ensuring that areas identified as having significant slope stability concerns are not further compromised through initiatives, facilities, or activities initiated in the river valley . This could include both facility or trail development, as well as land uses / land use practices such as irrigation, clearing etc.
- Where approvals are sought for developments within these areas, the proponent

should provide appropriate reports addressing any potential issues related to slope stability and mitigation measures that will be take to address these issues.

- Measures to minimize or alleviate the natural processes of slumping, erosion, and landslides will not be taken, unless these measures are deemed necessary to protect public health and safety, existing cultural or heritage facilities, or existing infrastructure.

## Natural Area Zone

The Natural Area zone identifies areas where the environmental character of the area is predominantly natural, rather than developed. The areas identified within this zone comprise the largest land base within the river valley, in keeping with a stated community desire to maintain the general look and feel of the river valley as a natural area.

Areas identified in the Natural Area zone are felt to be suitable for non-intensive recreation uses; defined as those uses where dispersed recreation activity (including such activities as interpretation, hiking, trail riding, picnicking, canoeing, skiing, etc.) is encouraged.

In appropriate locations, “soft” (i.e. low-impact) facilities such as trails, signage and small shelters may be developed.

This zone also includes areas which have been significantly disturbed or damaged, yet still contain natural or cultural heritage resource values worthy of enhancement that will increase the potential in the river valley for resource conservation and for promoting a conservation ethic.

Policies and practices that contribute to both the protection of existing environmental conditions (i.e. impact mitigation) and the development of enhanced conditions that improve upon wildlife habitat values, visual aesthetics and natural or cultural interpretive potential is encouraged.

Areas included in the Natural Areas zone are:

- Finlayson Island (recreational uses)
- North Shore, extending east of the Golf course (extensive network of biking and hiking trails)
- Combination of bottomland, valley wall and upland areas on southern shore of the North Saskatchewan River (flowing marsh/fen)
- Undeveloped areas along the Battle River (undeveloped lands with a combination of public and private ownership).

Specific policies relevant to this zone are:

- Uses proposed for inclusion in natural area zones will be non-intensive in nature, and may include trails, viewpoints, interpretive panels, and/or signage.
- Cultural and natural heritage resources situated in these areas must be protected.
- Existing operations within or adjacent to natural area zones (Saskatchewan Hospital, Regional Special Care facility, municipal infrastructure / treatment facilities) will be

recognized as a continuing use. However, these facilities and operations will be encouraged to ensure future development decisions are reflective of the general intent and goals of the River Valley Master Plan.

- The flowing marsh or fen (located west of the confluence of the North Saskatchewan and Battle Rivers) has, over the years, been severely disturbed by agricultural drainage measures, cultivation and livestock trampling. However, given a systematic program of ecological rehabilitation, cessation of agricultural activity and time, this fen area has the potential to offer considerable wildlife habitat and nature interpretation opportunities. Such an environmental enhancement emphasis could extend into upland areas (i.e. restoration of natural prairie communities). The on-going operation of the Regional Special Care facility must be incorporated into any such program
- Lands under private ownership will be recognized. Unless permission of the landowner is provided (through appropriate easements or covenants) public access will not be provided to, or through, privately owned lands.

## Active Recreation Zone

The Active Recreation Zone identifies locations where intensive recreation is emphasized. Active recreation areas are defined as those areas where concentrated recreation activity (including golfing, beach activities, tourist camping, etc.) is encouraged and where significant facilities and services may be developed to support and accommodate such activity. The predominant characteristics of such areas would be developed, rather than natural.

These areas have been identified on the management zones map primarily as nodes; indicating relatively distinctive areas suitable for this type of development and use.

Areas identified as active recreation zones are appropriate for facility and service development may be such that a variety of intensive recreational activities can be accommodated without jeopardizing natural or cultural heritage resource values.

Specific policies relevant to this zone are:

- Active recreation zones will be contained within specified areas
- Proposed uses that could be classified as intensive in nature will be encouraged to locate in proximity to existing sites or nodes, to minimize the random dispersal of these uses throughout the river valley.

## Agricultural and Resource Development Zone

Policy districts where agricultural activity is emphasized are those where agricultural or horticultural operations are an established element in the landscape and where natural hazards preclude other forms of economic activity or development. Other resource development uses might include mineral extraction.

Specific policies relevant to this zone are:

- Existing agricultural operations are recognized as a long standing use within the river valley.



- As agricultural operations cease to exist the Battlefords River Valley Committee may consider whether purchase of these properties would contribute to the long term protection and conservation of the river valley.
- Proposed resource development uses should be evaluated through the appropriate zoning bylaws to ensure impacts of the proposed use are minimized for the site and surrounding area, and that mitigation measures are in place to ensure the site is restored appropriately following the completion of activity.
- The implementation of best management practices in agricultural / resource development operations to minimize impacts on surrounding natural areas and the river will be encouraged.

## Municipal Development Zone

The Municipal Development zone includes areas where urban development is considered appropriate to the intent of the River Valley Master Plan, provided that special measures are followed to ensure that such development respects the opportunities and constraints presented by the resource base of the areas, visual impact in the valley, and policies regarding land use and development in adjacent areas.

In addition, there are a number of utilities located throughout the river valley that are required on permanent basis or long term basis, including municipal wells, surface water plants, sewage lagoons, water treatment plant, sewage treatment plants and associated municipal infrastructure.

Some portions of the lands identified as municipal development zones may be appropriate for further urban development. However, in general, it is anticipated that this will be primarily restricted to residential development.

Specific policies relevant to this zone are:

- Potential slope stability problems on the valley wall should be thoroughly understood and steps taken to ensure that development and associated activity (e.g. major grade changes; increased lawn watering) do not lead to slope failure
- All development proposals must reflect (in terms of building size, massing, siting and orientation) the highly visible nature of all lands in this district.
- Open space and pedestrian linkages should be provided any development area, connecting the river valley with existing neighborhoods to the north.
- The permanent presence of municipal wells, water treatment plant, associated municipal infrastructure as well as lagoons serving institutional uses in the river valley is acknowledged. Upgrades to existing facilities, and development of new structures and facilities will be accommodated. As appropriate, as utilities and municipal infrastructure are phased out, these sites will be rehabilitated and returned to natural areas.
- Encourage the development of standards for design, buffering and landscaping of municipal buildings and structures located in the river valley, to minimize their presence and visibility within the natural environment landscape.

## Development Concepts

The development concepts proposed for the Battlefords River Valley integrate a series of six areas, each of which reflects the policies, the opportunities and constraints, and the overriding theme of conservation within the Battleford River Valley. Integration of these areas is achieved through a network of linkages in the form of pathways and trails throughout the valley.

In addition to connecting the various development areas in the valley, the trail and pathway network serves the vital role of increasing the accessibility of many portions of the valley from both the City and the Town. In areas where pedestrian and cyclist access to the valley is a challenge, facilities and amenities are proposed to provide for convenient and safe vehicle access and parking.

It is recommended that a Battlefords River Valley Detailed Development Plan be established to assist in the implementation of policies and initiatives outlined in the River Valley Master Plan. This document should address some of the details for implementation of the general policies of the Master Plan. This might be undertaken in components, but the following are recommended as being high priority:

- A Visual Identity Plan that establishes a common theme or look as well as standards of development throughout the river valley. This should include recommended interpretive signage, furniture, lighting, design guidelines, and marketing material. Along with this plan, the preparation of an overall interpretive and way finding concept should direct physical development and programming of valley facilities and management guidelines. Such a concept is essential to ensure the communication of a conservation ethic and all that such an ethic entails, for the protection, enjoyment and wise use of the Battlefords River Valley.
- An Access and Circulation Plan that documents existing trail and roadway networks, and a plan for implementation of trail improvements. This plan should include documentation and mapping (using gps) of all existing trail systems (primary and secondary). A digital trail system map based on the information thus compiled will be a tangible product that will provide value to a number of other initiatives and stakeholder groups.
- Identification of stakeholder and partner organizations who are willing to partner in addressing various policy components, including tourism and recreation, heritage resources, and interpretation.

In addition the Detailed Development Plan can provide a higher level of detail for the short term projects identified in each of the Development Concept Areas. These should address:

- Site specific resource analysis, based on preliminary development or resource management proposals set out in the River Valley Master Plan
- Preliminary designs of proposed facilities and services including updated cost estimates



- Detailed designs of facilities and services approved for development.

It is expected that implementation of the Battlefords River Valley Master Plan will be a long term process. The following six development concepts each identify a logical sequence of development within the specified areas complete with associated costs and phasing. We have categorized the proposed development projects as either short term (1-5 years), medium term (5-10 years) or long term (10+ years). Trail linkages within, throughout and outside of the river valley have been identified as priority projects. The development concepts attempt to build upon this notion. Consideration for a common types and styles for signage, interpretive features/ design elements and site furniture (based on the results of a Visual Identity Plan), are desirable.

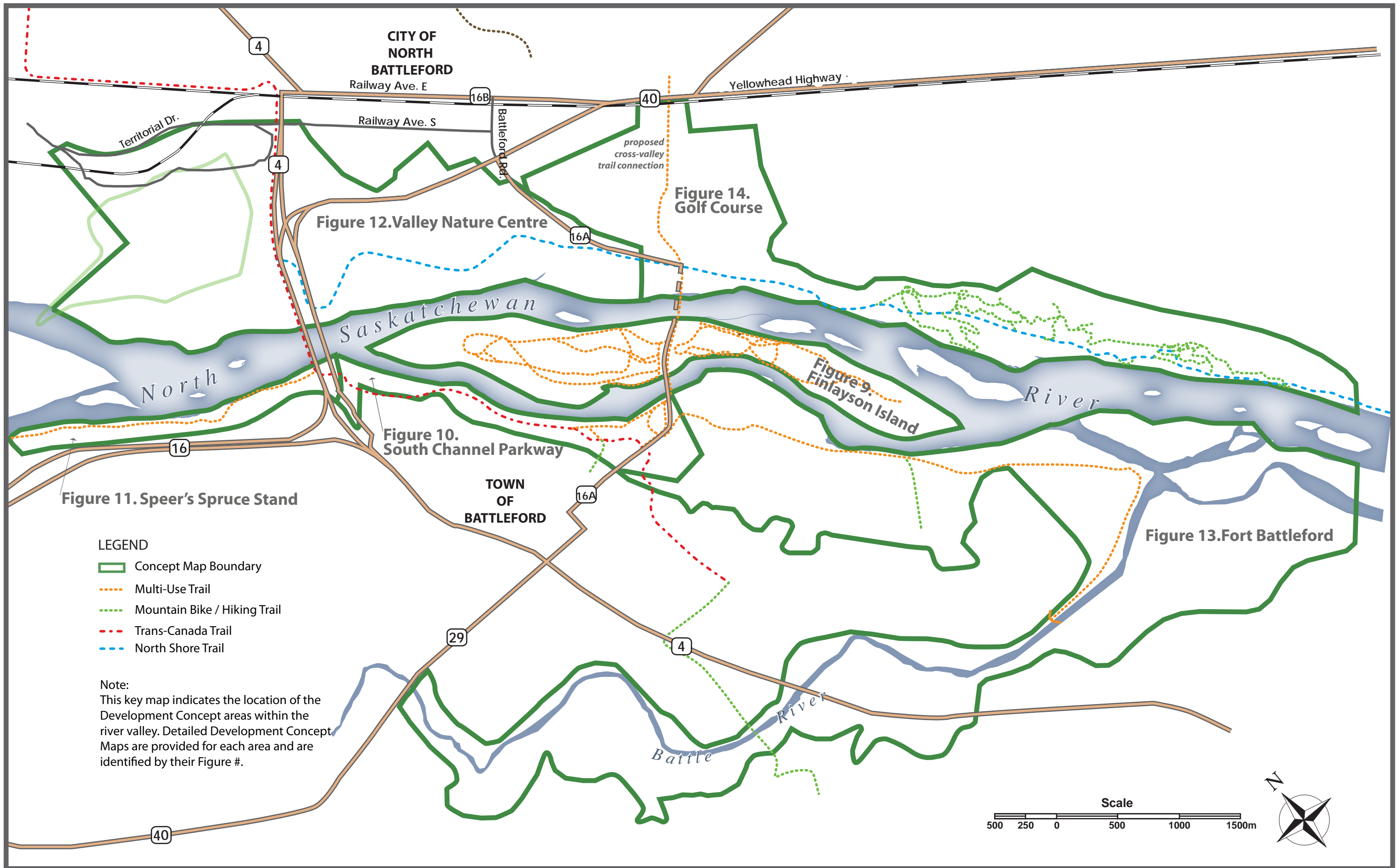
Within each Development Concept, the following initiatives have been identified as a priority within the short term development and considered relatively minimal in cost (1-5 years):

- Trail linkages within the river valley or to areas outside the river valley that are deemed “areas of influence”
- Consistent river valley themed way finding elements
- Consistent site furniture styles and amenities
- Consistent interpretive signage

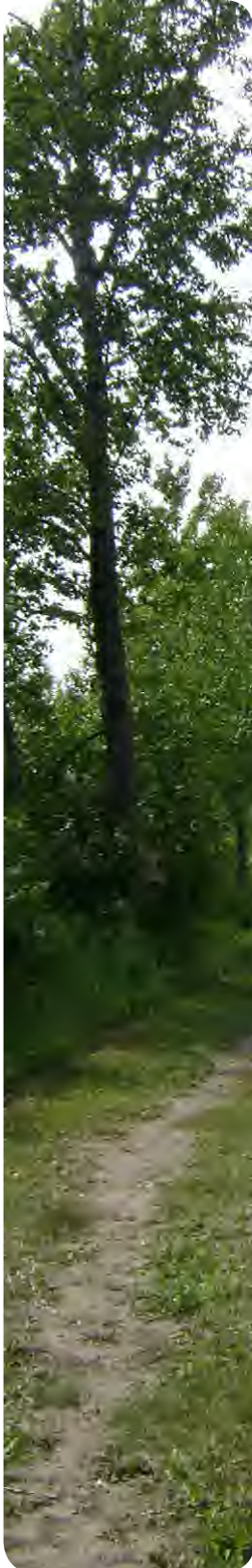
A Key Map is included to identify the location of each of the Development Concept areas within the river valley.



*Western Wood Lily (credit: Keith Anderson, City Parks Department)*







# 1. Finlayson Island Development Concept

Finlayson Island has, for years, been a popular attraction for residents of the Battlefords for picnicking, cross-country skiing, nature walks, exploring and summer beach activities in a relatively natural setting.

At the present time, the north channel bridge is open but only being used for pedestrian traffic and the soon to be annual “Bridgefest.” In order to provide true conductivity through the entire area, a structural assessment of the north bridge from Finlayson Island was undertaken to determine the extent of vehicular and pedestrian traffic acceptable for the bridge and possible upgrades to allow better access between the City and the Town. While this study provides a number of options for consideration to reopen the bridge, it is suggested that Option 2, which would involve upgrading to allow for one lane for passenger cars and light duty trucks, with bidirectional controls, as well as a dedicated laneway for pedestrians and cyclists, be considered as the most suitable option. This option has been built into the capital cost estimate. With the reopening of the north channel bridge to light vehicle traffic, a true linkage would be created allowing better access to areas such as Fort Battleford, Finlayson Island, golf course and clubhouse, hospital grounds, and the future location of the multi-use centre north of the casino area.

The proposed development concept for Finlayson Island respects the potential for this vehicular/pedestrian link from the north side of the river and recommends supportive low-impact development in the area. Included among these development recommendations are:

## Short Term Objectives

- Redevelopment and upgrading of parking area;
- New washrooms and a heated shelter adjacent to the upgraded parking area;
- Selective realignment of trails and closure of others;
- Improved river valley themed way finding and interpretive signage;
- New site furniture such as benches and waste receptacles;

## Medium Term Objectives

- Development of rest areas and picnic shelters;
- A new lookout adjacent to the old highway bridge;

## Long Term Objectives

- Redevelopment of picnic facilities with outdoor kitchen;
- Lighting of cross country ski trails;



- Structural upgrades to the North Span of the traffic bridge to permit reopening of the bridge for light vehicle traffic (one lane with bidirectional controls);
- Aesthetic upgrades to the South Span of the traffic bridge.



*South Open Traffic Bridge on Finlayson Island*

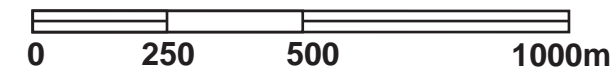
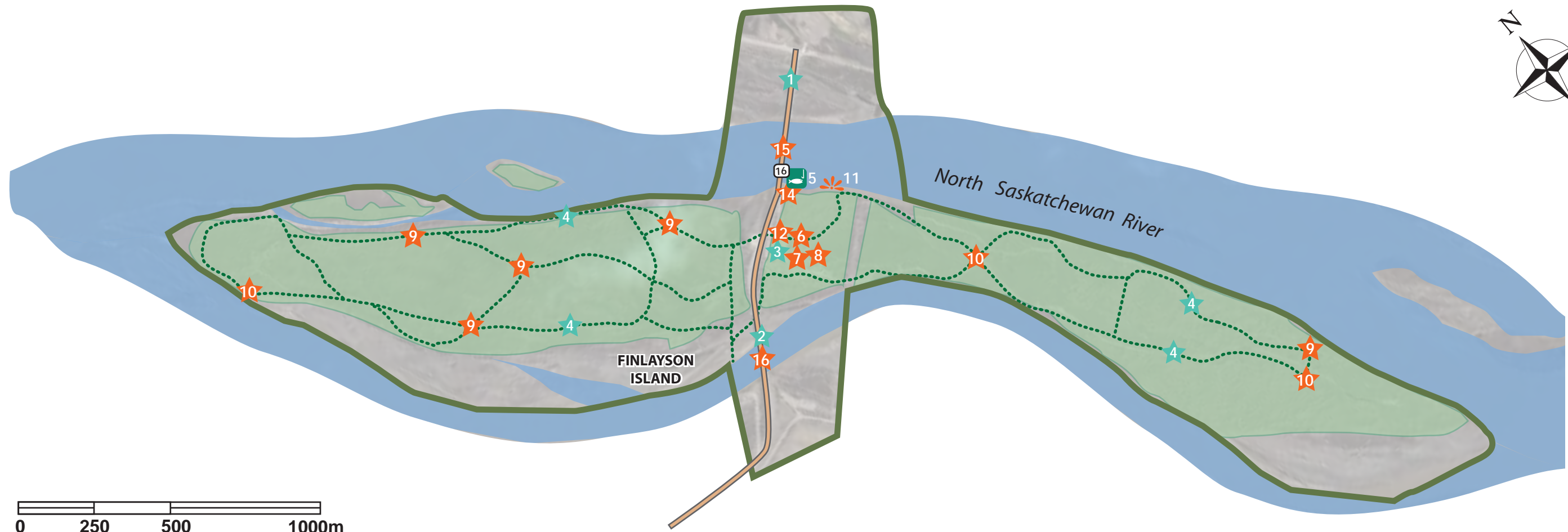


*North Span Pedestrian Bridge  
Finlayson Island*



*Brick washrooms and parking improvements,  
Finlayson Island, built in 2008*

*(credits: City Parks Department)*



Project	Priority		
	Short Term (1-5 years)	Mid Term (5-10 years)	Long Term (10+ years)
6. Day-use Picnic Facilities		☑	
7. Washrooms/ Parking Lot Upgrades	☑		
8. Outdoor Kitchen			☑
10. Rest Area/Shelter		☑	
11. View Point		☑	
12. Trail Upgrades (Accessibility)	☑		
13. Ski Trail Lighting			☑
14. Overlook Structure		☑	
15. North Span Upgrades			☑
16. South Span Upgrades (Aesthetic)			☑

**LEGEND**

- Development Boundary
- Existing Features**
- 1 North Bridge - pedestrian/cyclist crossing
- 2 South Bridge - light vehicle/pedestrian/cyclist Crossing
- 3 Parking: 140 cars
- 4 Hiking/Skiing Trail Network
- 5 Fishing Area

- Proposed Features**
- 6 Day-use Picnic Facilities
- 7 Washrooms/Parking Lot Upgrades
- 8 Outdoor Kitchen
- 9 Interpretive Signage
- 10 Rest Area/Shelter
- 11 View Point
- 14 Overlook Structure
- 15 North Span Upgrades
- 16 South Span Upgrades (Aesthetic)

## 2. South Channel Parkway Development Concept

A continuous open space has been retained along the river edge in the Town of Battleford between the old and new highway bridges. This open space fronts along the south channel of the river and faces across to Finlayson Island.

Over the past several decades, changes in river flow patterns and the associated processes of erosion and sedimentation have led to reductions in the flow in the south channel and the creation of extensive sandbars which lie exposed during periods of low water flow. Although this loss of “river frontage” along the South Channel has been the source of considerable concern to many residents, a number of significant outdoor recreation opportunities have resulted.

The South Channel Parkway is envisioned as a series of interpretive and day use recreational nodes made easily accessible and linked together by a hard surfaced pathway; the Trans Canada Trail and soft surface pathway system extending from the Speers' Spruce Stand Conservation Area, utilizing the recently constructed pedestrian underpass at Highway #16, and extending to the Battleford Flats sports field complex. Pedestrian entries to the parkway are located strategically along 1st Avenue West, and in the Riverbend subdivision. Vehicle parking is provided at the sports field complex and at the nearby group picnic area.

### Short Term Objectives

- Soft surfaced pathway linkages;
- Improved river valley themed way finding and interpretive signage;
- New site furniture such as benches and waste receptacles.

### Long Term Objectives

- Hard surfaced pathway linkages;

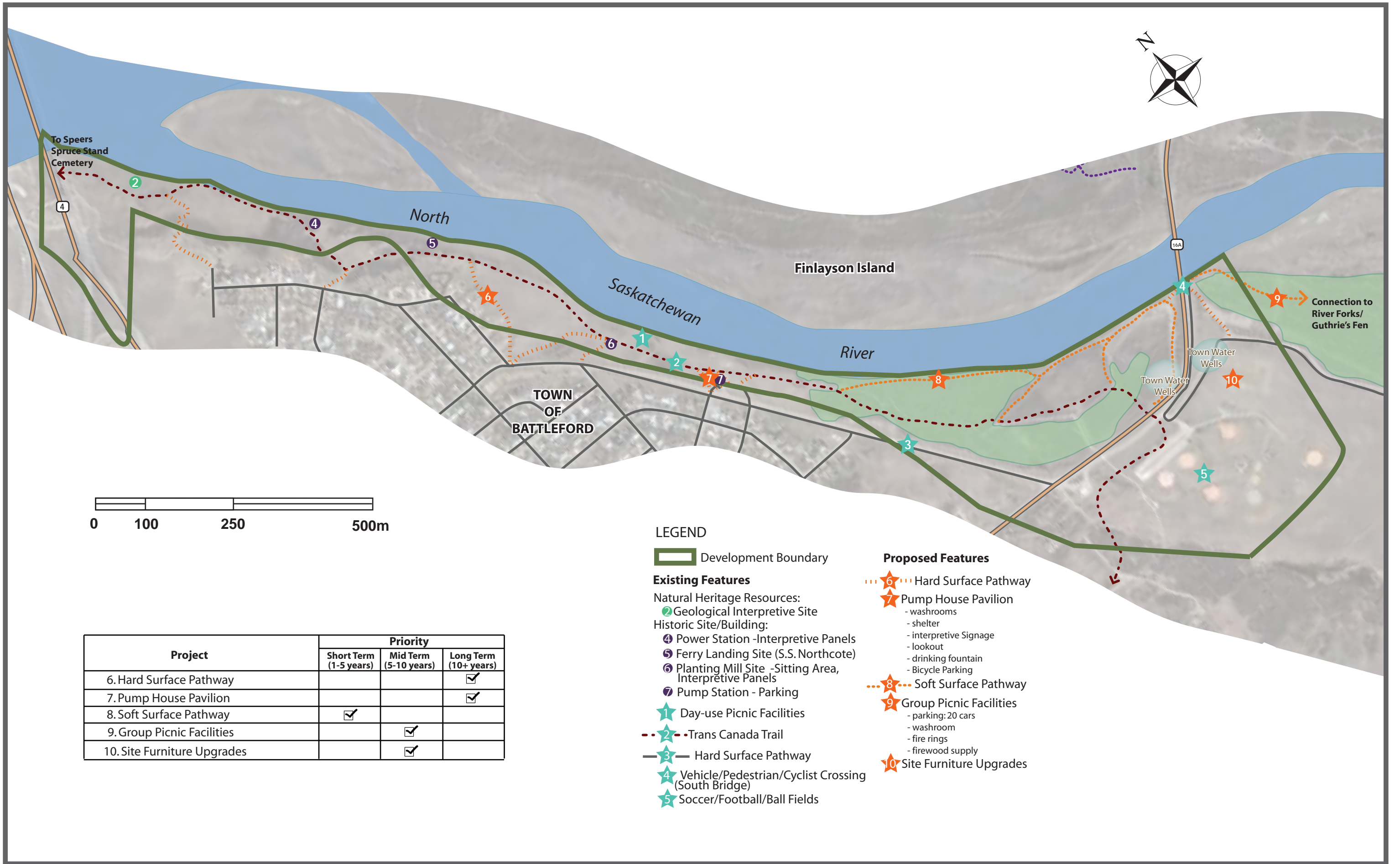
#### *Pump House Pavilion Development*

- Washroom facilities;
- Picnic shelter;
- Lookout area with seating.



*Looking upstream from the Saskatchewan Hospital Golf Course (credit: AECOM)*







### 3. Speers' Spruce Stand / Town Cemetery

## Development Concept

The Speer's Spruce Stand lies adjacent to the limits of the Town of Battleford between Highway 4 and along the North Saskatchewan River valley wall. This is an area of considerable concern from a slope stability perspective and it contains some of the most unique biological resources in the Battlefords River Valley. A small remnant of coniferous boreal forest exists. Historically, the area has been subject to vandalism, as individual trees have been cut down and removed. As the area has some considerable aesthetic and environmental impact, every effort should be made to conserve this area and development/circulation should be kept to a relative minimum.

#### **Access and Circulation**

Vehicular access to the site would be at the east end, either along the cemetery access road or along the hard surfaced multi-use trail under the Yellowhead Highway Bridge from the South Channel Parkway.

#### **Short Term Objective**

##### *Management Plan:*

The key to protection of this special area lies in the provision of opportunities for appropriate activity and in the communication of the "specialness" of the place to those who may not appreciate it or know it exists. It is therefore recommended that, with the cooperation and support of the owners, this area be recognized as the "Speer's Spruce Stand Conservation Area" and that low-key development initiatives be aimed at a better understanding of the area and at its limited appropriate use for nature interpretation and environmental education. The first step in developing the conservation area would be to develop the framework under which the area would be managed. The creation of a Management Plan for the area is therefore crucial and should be set as a short term priority (within 1-5 years).

#### **Medium Term Objectives**

##### *Trail Development and Entry Node*

An interpretive hiking trail could be aligned along lower portions of the valley wall. Location and alignment of the trail should be balanced with the need to minimize site disturbance and to bring people into contact with this small boreal forest environment without placing the forest at risk. The proposed trail would include interpretive signage that would help tell the story of this special place within the river valley. To provide for a trail loop (and thus eliminate the need for trail backtracking) a hard

surfaced multi-use trail is proposed along the crest of the valley wall, returning to the east end of the forest at the Town Cemetery. To encourage year round trail use, cross country skiing should be encouraged on the trails in the winter months. A formalized entrance to the site should be developed as staging areas for users.

### *Interpretive Nodes*

There is significant opportunity to develop interpretive nodes within the area. These nodes are intended to consist of interpretive panels explaining the major interpretive stories of the river valley, and the Spruce Stand (e.g. ecological succession, micro-climates, and slope stability). Two lookouts are planned; one upstream and one downstream (long term objective), that would afford long views across the river valley towards the City on the upper banks of the river valley. Way finding elements should be incorporated to ensure the trail users (all seasons) can easily navigate the area with minimal disturbance to the highly fragile environment.

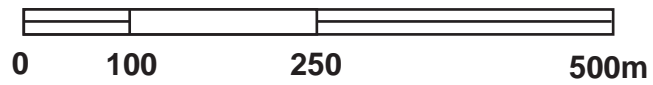
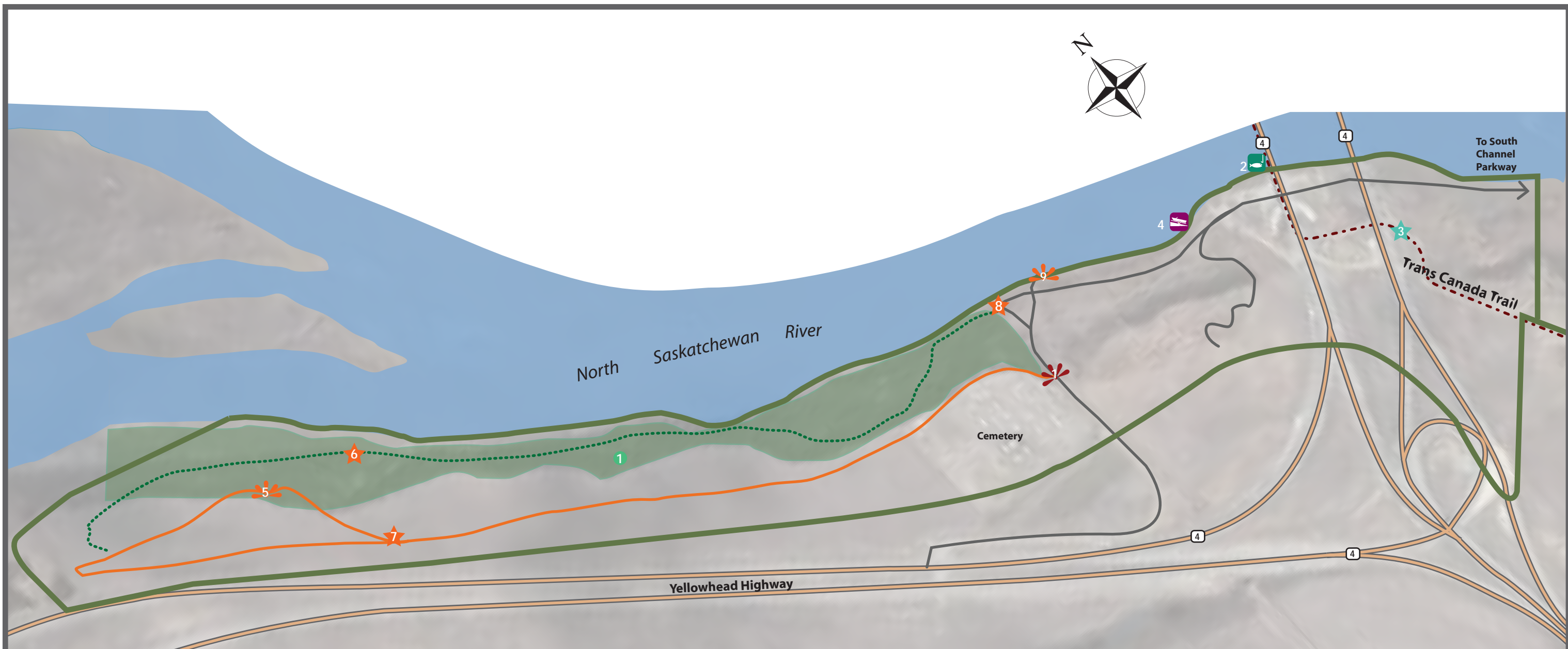
### **Long Term Objectives**

#### *Downstream Lookout Node*

Develop a downstream lookout node that would include seating and interpretive features.



*Some of the old growth in Speers Spruce Stand (credit: City Parks Department)*



Project	Priority		
	Short Term (1-5 years)	Mid Term (5-10 years)	Long Term (10+ years)
5. Upstream Lookout		☑	
6. Interpretive/Skiing Trails		☑	
7. Hard Surface Multi-use Trail		☑	
8. Speers Spruce Stand Entrance		☑	
9. Downstream Lookout			☑
10. Speers Spruce Management Plan	☑		

**LEGEND**

**Development Boundary**  
 Development Boundary

**Existing Features**

- Speers Spruce Stand
- Trailhead
- Fishing Area
- Trans Canada Trail
- Canoe Put-in

**Proposed Features**

- 5 Upstream Lookout
- 6 Interpretive Hiking Trails
- 7 Hard Surface Multi-use Trail
- 8 Speers Spruce Stand Entrance
- 9 Downstream Lookout

## 4. Valley Nature Centre Development Concept

The proposed Valley Nature Centre encompasses a large area north of the North Saskatchewan River Valley between the western city limits and the old highway bridge. It includes the area upstream of the Highway 4 Bridge, including the waterfowl project, the former waterslide site, the city wells, and water treatment plant. Also included is the area between Highway 16, Battleford Road and the river, presently occupied by a small farming operation and river terrace / floodplain woodlands.

The combination of a broad diversity of ecological communities and landforms, existing habitat enhancement projects and proximity to the major highways passing through the Battlefords suggests a key opportunity for the creation of a Valley Nature Centre, easily accessible to Battlefords residents and visitors alike, where the “story of the river valley” can be told. Nature interpretation opportunities abound, and could include the following:

- Natural evolution of the Valley (glaciation and deglaciation; river dynamics; erosion and deposition; vegetative succession; flooding; etc)
- Geology, landforms, slope stability and groundwater relationships
- Valley environments and wildlife (aquatic, shoreline and terrestrial; mammals, birds and fish)
- The importance of the river to our community (water supplies, sand and gravel, agriculture, recreation, etc.)
- Natural processes and attendant human response to them (slope stability and valley wall development; flooding and flood damage; water quality and pollution control).

In addition, cultural heritage resources are known to occur in the area (e.g. ferry landing in South Channel Area) and there is likely considerable potential for discovery of prehistoric sites. Thus, there may be some opportunity for heritage interpretation and preservation that relates to past human activities to the valley environment in which they occurred.

The addition of the King Hill lookout on the top bank of the river valley and the proposed amphitheatre notched into the hill just below it are two man-made features that will provide focal features within a generally naturalized environment.

### **Access and Circulation**

Access to and through the Valley Nature Centre area, for pedestrians, cyclists and vehicles, is achieved a number of ways. Vehicle access to the Visitor Centre and proposed amphitheatre is very convenient, from Highway 4 along the gravel pit access road. The existing service road / driveway from Battleford Road could continue to provide vehicle access to the Equestrian Trailhead and stables.



Primary pedestrian access to the Valley Nature Centre would be along a system of hard-surfaced pathways in two areas. First, a pathway along the valley crest above the existing waterfowl project, with connections into nearby residential areas and into the Downtown would wind down the valley wall to the Visitor Centre and the proposed amphitheatre. Three lookouts exist along this valley crest trail: one at King Hill, one overlooking the waterfowl project, and one overlooking the gravel pit operation. Interpretive signage for these areas should be incorporated.

Internal circulation within the Valley Nature Centre area occurs along a system of the hiking trails, the North Shore Trail as well as the Equestrian Trails previously noted. The nature of these trails also suggests that while interpretation and environmental education is the primary thrust of the Valley Nature Centre area, many opportunities are recognized for standard non-intensive outdoor recreational activities (hiking, strolling, skiing, fishing, canoeing, etc.). Soft surface trails should be aligned to provide a broad range of experiences through open and wooded areas, along edges and, to the extent possible, taking advantage of topographic variations and riverbank access opportunities.

## **Short Term Objectives**

### *Amphitheater Development*

Proposed development in the area is focused on an amphitheater that is set to be developed on the naturally sloping area below the King Hill Lookout and adjacent to the proposed Visitor Centre site. The amphitheater could link into programming from the Visitor Centre and could also offer the wider community a unique performance venue for an array of additional programming opportunities. Conceptual design for this terraced facility is currently in the process of being completed.

## **Medium Term Objectives**

### *Equestrian Trailhead and Trails (Private-Land)*

An equestrian Trailhead is proposed on the hillside near the intersection of the Highway 16 bypass and Battleford Road. Here, a “jumping-off” point is envisioned for a system of Equestrian Trails which could ultimately extend upstream to rural river-edge areas well beyond the city limits and perhaps up the golf course ravine, eventually to the Exhibition Grounds and the Western Development Museum. The trailhead could also contain stables for horses and a parking area for visitors.

### *Storm Water Bio-remediation Project*

A storm water bio-remediation project is proposed adjacent to the off ramps from Highway 4 at its connection with the Yellowhead Highway. The naturally occurring collection point for storm water in the area makes the ideal location for the development of a project to capture and cleanse storm water in advance of it entering the proposed expanded waterfowl project. Organizations such as Ducks Unlimited,



Sask Water etc. could be involved to promote education in the forms of interpretative signage and kiosks.

### **Long Term Objectives**

#### *River Valley Visitor Center*

There is tremendous opportunity to develop a signature River Valley Visitor Centre, located in the vicinity of the former waterslide development. The River Valley Visitor Centre would overlook the existing waterfowl project with a more distant view across the river to the Speers' Spruce Stand Conservation Area. As a major interpretive and environmental education facility, the River Valley Visitor Centre will contain indoor interpretive displays, classroom and teaching facilities, washrooms, parking and directional / orientation information on how best to enjoy the interpretive and recreational opportunities available within the river valley.

Given current lease agreements, the existing building will not be available for use as the visitor centre in the short term, thus we have identified its development a Long Term Objective.

#### *River Valley Lookout*

A lookout node with seating and interpretive features is proposed on the slopes above the existing waterfowl project area.

#### Habitat Enhancement Initiatives (Private)

An additional waterfowl habitat project is envisioned situated in an area already periodically inundated with season runoff. This additional area of habitat enhancement is will be developed with a number of objectives in mind;

- Utilize water from this wetland for spray irrigation of adjacent areas in the river terrace.
- Develop an upper lookout node with seating and interpretive features off of 16A that would overlook the waterfowl project and river valley to the west.
- Develop a viewing tower that would offer views down stream as well as of the waterfowl project.



*Goose Project: a view from King Hill (credit: City Parks Department)*



*Trans Canada Trail Pavilion (credit: AECOM)*



**LEGEND**

Development Boundary

**Existing Features**

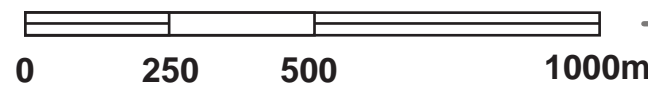
- 1 Gravel Pit Interpretive Lookout
- 2 King Hill Lookout
- 3 Toboggan Hill
- 4 Don Ross Centre
- 5 Former Shanty Town Intepretive Feature
- 6 Golf Course
- 7 Grade Separated Wildlife and Pedestrian Crossing
- 8 Hiking Trail
- 9 Viewing Tower
- 10 Open Water Marsh
- 11 North Shore Trail

**Proposed Features**

- 12 Visitor Centre
  - Classroom
  - Interpretive Display
  - Information
  - Washrooms
  - Parking: 90 cars/bus lane
  - Trans Canada Trail
- 13 Waterfowl Interpretive Lookout
- 14 Amphitheatre
- 15 Equestrian Trailhead (Private)
- 16 Parking : 60 cars
- 17 Equestrian Trail (Private)
- 18 Valley Lookout
- 19 & 20 Habitat Enhancement (Private)
- 21 Viewing Tower
- 22 Storm Water Bio-remediation Project



Project	Priority		
	Short Term (1-5 years)	Mid Term (5-10 years)	Long Term (10+ years)
12. Visitor Centre			☑
13. Waterfowl Interpretive Lookout			☑
14. Amphitheatre	☑		
15. Equestrian Trailhead		☑	
16. Parking: 60 cars			☑
17. Equestrian Trail		☑	
18. Valley Lookout			☑
19. & 20. Habitat Enhancement			☑
21. Viewing Tower			☑
22. Storm Water Bio-remediation Project		☑	



## 5. Fort Battleford Development Concept

The proposed Fort Battleford Development Area occupies that portion of the Battle River and south bank of North Saskatchewan River from the intersection westward to No.40 highway along the river valley wall. This is an area of considerable concern from both historic and ecological perspectives. Adjacent to the most historic sites in the Battlefords River Valley, the Fort Battleford National Historic Park has been upgraded with enhancement and management plans since 1987. In addition, this area encompasses two Parks Canada Critical View corridors.

### Short Term Objectives

#### *Historic Battleford Walking Tour*

The Town of Battleford offers great potential for a walking tour of significant historic sites and buildings. A self-guided tour will encourage visitors to see some of the best examples of Saskatchewan's heritage architecture and also learn of the settlement history of the Battlefords and the important relationships that have continued between the community and the river.

The area covered by the walking tour could extend from the sites along the South Channel Parkway, past the Hewitt Residence and Queen's Hotel, through the downtown area and south past the St. Vital Church and Fred Light Museum to the Indian Memorial, N.W.M.P. Cemetery and end at the newly erected interpretative centre at Fort Battleford. Extending the tour could ultimately link Government Ridge and the Western Development Museum.

Very little would be required in the way of physical development to put such a walking tour in place. Preparation and installation of a series of plaques and / or interpretive panels with the cooperation of property owners, the assistance of local history experts and professional input from communication specialists, in association with the printing of a small informative brochure or booklet would be sufficient. It is recommended that this occur as an integral part of an overall interpretive development plan for the river valley.

Consideration should also be given to supporting the interpretive activities associated with the Historic Battleford Walking Tour through low-key site development. Directional signage and special paving treatment along the walking tour route would provide an orientation function and an element of visual continuity to the varied sites and buildings on the tour.

#### *Trail Link between Fort Battleford and Government Ridge*

A trail link between Fort Battleford and Government Ridge is a crucial connection. Fort Battleford encompasses several Parks Canada Critical View corridors, one towards Government Ridge. This visual connection should be strengthened with the development of a physical connection by way of a pathway which links the





Land Registry Building (credit: AECOM)





two culturally and historical significant sites within the river valley. A pedestrian connection across the Battle River would be required and could be linked into the Historic Battleford Walking Tour (see above).

### **Medium Term Objectives**

#### *Guthrie's Fen Enhancements*

On the valley side adjacent to Fort Battleford, on the Guthrie farm, lie the upper reaches of a flowing marsh, or fen which is fed by a continuous flow of groundwater appearing along the valley wall as springs. This fen extends across a portion of the river flats below the valley wall. It has suffered extensive disturbance and ecological change as a result of past and present economic activities. The upper reaches of the fen, near the present Guthrie farmstead, have been subject to intensive trampling by livestock over an extended period and continuing today. On the flats, the extent of the fen was significantly reduced through the construction of a system of interceptor and lateral drainage ditches which conveyed this discharging groundwater more efficiently to the river, thereby making the flats more suitable for agricultural cultivation. In achieving this, however, the drainage system has destroyed much of the rich ecological integrity of the fen and has likely contributed to the increasing problem of soil salinization in the flats.

Recommendations for the Guthrie's fen area include a program of ecological restoration and naturalization (once livestock activity in the fen area has ceased) in association with major modifications to, or removal of, the ditch drainage system.

The Walking Trail extending north from the Battlefords Flats sports field complex is proposed to pass along or through the upper reaches of the fen. A timber boardwalk through the area would limit the adverse impacts often associated with pedestrian activity. Interpretive signage related to groundwater and vegetation, ecological rehabilitation, soil salinization and agricultural impacts on the environment can be conveyed to visitors to the area.

#### *River Forks & Trails*

In a geological and ecological sense, the confluence of the Battle and North Saskatchewan Rivers is of significance and, in a recreational sense, the River Forks area is clearly a very popular location for a variety of leisure time activities. Suggested development for the area is related primarily to day use recreation activities, interpretation of significant natural and cultural heritage resources, parking, canoe put-ins, and picnic facilities.

The development of a River Trail that links the Battlefords Flats sports field complex, running along the banks of the North Saskatchewan River, which then turns westward and runs up the Battle River towards Government Ridge should be developed. This trail links the South Channel parkway to Government Ridge and creates a looped trail system.

## Long Term Objectives

### *Telegraph Flats Interpretive Feature*

An interpretive feature should tell the story of the early development in this location. The interpretive feature would be adjacent to the River Trail.

### *Cross Country Ski Trails*

The topography and aspect of the lands to the west of the Battle River would be prime locations for the development of cross country ski trails. The long term vision for this development would include groomed ski trails with warming shelters for users. The ski trails would be easily accessible to trails connections that connect the South Channel Parkway (via the River Trail) and Government Ridge.



*Ever-changing groundcovers and forbes (credit: AECOM)*



**LEGEND**

Development Boundary

**Existing Features**

- Historic Site / Building
- 8 Benjamin Prince Home
- 9 Queen's Hotel
- 10 St. George's Anglican Church
- 11 Railway Station (Re-located)
- 12 Courthouse
- 13 Former Land Titles Office
- 14 Bank of Montreal (Library)
- 15 Post Office
- 16 Gardiner Presbyterian Church
- 17 Albion Hotel
- 18 St. Vital Church
- 19 N.W.M.P. Cemetery
- 20 Mass Indian Grave
- 21 Guthrie Farmstead
- 26 William Holmes Trading Post
- 27 Artillery Range - N.W.M.P
- 30 Telegraph Flats
- 31 Government House
- 32 Land Registry Office
- ▲ Prehistoric Site
- ▲ Butchering/Processing Site

Fort Battleford National Historic Park

Existing Fishing Spot

**Proposed Features**

Guthrie's Fen Board Walk

Canoe Put-in

River Forks

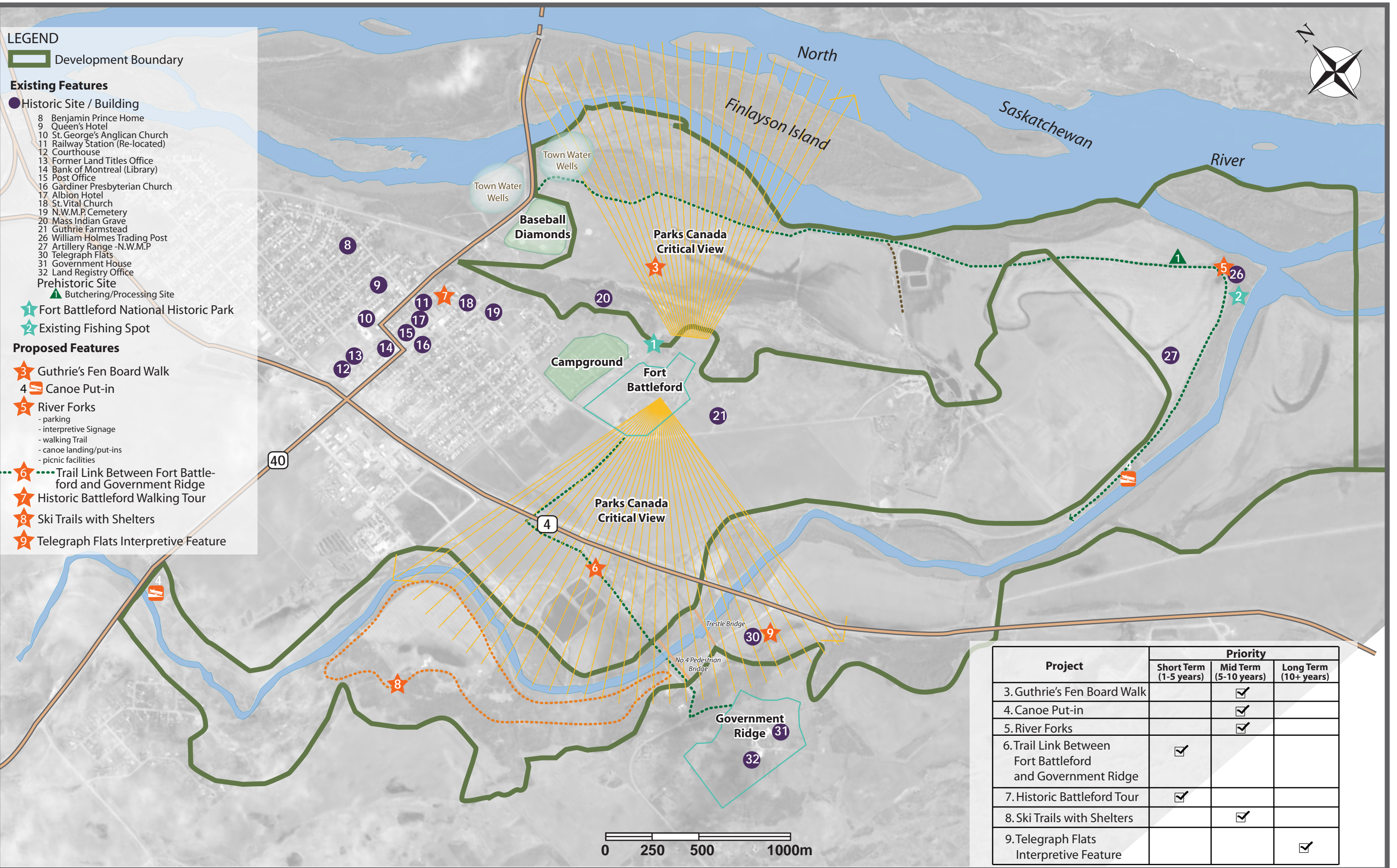
- parking
- interpretive Signage
- walking Trail
- canoe landing/put-ins
- picnic facilities

Trail Link Between Fort Battleford and Government Ridge

Historic Battleford Walking Tour

Ski Trails with Shelters

Telegraph Flats Interpretive Feature



Project	Priority		
	Short Term (1-5 years)	Mid Term (5-10 years)	Long Term (10+ years)
3. Guthrie's Fen Board Walk		<input checked="" type="checkbox"/>	
4. Canoe Put-in		<input checked="" type="checkbox"/>	
5. River Forks		<input checked="" type="checkbox"/>	
6. Trail Link Between Fort Battleford and Government Ridge	<input checked="" type="checkbox"/>		
7. Historic Battleford Tour	<input checked="" type="checkbox"/>		
8. Ski Trails with Shelters		<input checked="" type="checkbox"/>	
9. Telegraph Flats Interpretive Feature			<input checked="" type="checkbox"/>

## 6. Golf Course Development Concept

This development area encompasses the east side of the North Saskatchewan River and the associated river bank and uplands. Within the development area lies the North Battleford Golf & Country Club and the Saskatchewan Hospital Grounds which is one of the most important cultural heritage locations within the Battleford River Valley. A boat launch has been constructed just below the hospital grounds. Enhanced planting at this location will shield pedestrians from the lookout points along the top of the valley.

### Short Term Objectives

#### *Shanty Town Interpretive Feature*

A small interpretive feature is proposed for the site of the original shanty town. The interpretive elements would tell the story of the place and relate it to the historical settlement patterns of the Battleford River Valley.

### Medium term Objectives

#### *River Valley Lookout Nodes*

Five river valley lookout nodes with seating and interpretive elements have been identified for development at strategic locations where valley views are spectacular and in such locations as the historical Hospital cemeteries.

#### *Golf Course Ravine Trail*

Extending from the North Saskatchewan River eastward to Highway 16 near the Exhibition Grounds, the Golf Course Ravine is a fascinating example of a natural tributary ravine, characterized by slump block topography and a spring-fed stream. In the development concept, the Ravine is seen to serve a significant trail linkage role, connecting the two sides of the river valley. In the long term (10+ years), an underpass at the Yellowhead Highway could extend these linkages to the proposed Multi-Purpose Facility, to the Exhibition Grounds and Western Development Museum.

#### *North Shore Bike Trails*

The North Shore Recreational area offers approximately 12 km of trails maintained by the Northwest Mountain Bike Club. Access to these trails can be reached from Riverside Drive near the North Battleford Golf and Country Club.

Comments from the Stakeholders meeting suggested that signage, parking, and better access to these trails should be considered. The mountain bike club may provide key input to desired locations for parking and trail access.



## Long Term Objectives

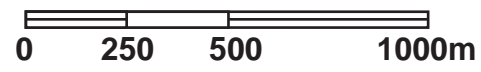
### *Golf Course/Saskatchewan Hospital Grounds*

This vast area is already very popular for a variety of active and passive recreation pursuits. The valley wall portion of the Saskatchewan Hospital grounds is an attraction to those who enjoy hiking and viewing wildlife in a relatively natural, sheltered setting. In addition, the core area of the Hospital grounds provides a very pleasant combination of interesting architectural styles and formal, institutional landscape for those wishing to take a quiet weekend stroll and enjoy the colour, peace and spectacular river valley views. The core area of the Saskatchewan Hospital grounds contains several active institutions, each with needs for privacy and security which must be respected.

On the Saskatchewan Hospital grounds, development proposals relate primarily to providing recreational and interpretive opportunities away from the core area of the grounds. A network of roadside trails, hard-surface pathways and soft-surface trails provides a series of loop opportunities for cyclists, strollers or hikers around the perimeter of the site. Along these pathways and trails, Lookouts with interpretive signage are proposed at strategic locations where valley views are spectacular and in such locations as the historical Hospital cemeteries. Further, it is proposed that a small “museum” or interpretive centre be developed in proximity to the Saskatchewan Hospital, relating to the Hospital’s history, role and ongoing operation in the Battlefords. Such an interpretive facility should be planned and developed as part of an overall interpretive development plan for the river valley and will, of course, require the support and cooperation of the Hospital administration.



*One of the countless sandbar islands in the North Saskatchewan (credit: AECOM)*



Project	Priority		
	Short Term (1-5 years)	Mid Term (5-10 years)	Long Term (10+ years)
5. Valley Lookouts (5)		☑	
6. Golf Course Ravine Linkage		☑	
7. Saskatchewan Hospital Ground Improvements			☑
8. Shanty Town Interpretive Feature	☑		

**LEGEND**

Development Boundary

**Existing Features**

- Historic and Cultural Feature
  - 22 Bourke Wyld Ranch
  - 23 Saskatchewan Hospital
  - 25 Saskatchewan Hospital Cemetery
- Golf Course (Privately Operated)
- North Shore Trail
- Boat Launch
- Mountain Bike Trail

**Proposed Features**

- Valley Lookout
- Golf Course Ravine Linkage
- Saskatchewan Hospital Grounds Improvements
- Shanty Town Interpretive Feature



## Implementation and Phasing

It is expected that implementation of the Battlefords River Valley Master Plan will be a long term process, taking in the order of several decades to complete. Within each of the six identified geographic Development Areas the proposed development projects have been categorized as short (1-5 years), medium (5-10 years) or long term (10+ years). The Capital Budget Table shown in the following section is a consolidated overview of the short, medium, and long term projects.

In a departure from the recommendations of the original River Valley Master Plan, which suggested choosing one or two areas within which to focus implementation, it is recommended that focus be placed on implementing the short term initiatives throughout the valley in a manner that emphasizes visibility, accommodates efficiencies (with existing facilities and amenities as well as with future uses) and facilitates broad and increased public use. It is recognized that some projects will require or benefit from a relatively focused development of a number of amenities and facilities within a specific Development.

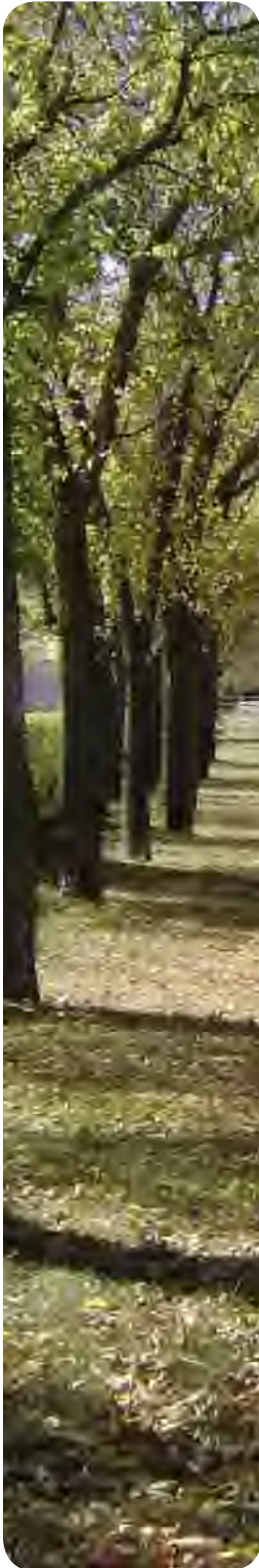
The Battlefords River Valley Agreement provides a formal mechanism to ensure yearly funding to the ongoing development as well as maintenance of initiatives undertaken in conjunction with the Battlefords River Valley Master Plan. This agreement is critical to the success of the River Valley Master Plan as it now permits long term planning for capital expenditures, as well as identifies a funding component that may be allocated to maintenance.

The provincial funding commitment, which is contingent on matching funding from the two participating municipalities, can result in significant progress towards achieving the development goals of the River Valley Master Plan. Efforts to integrate the work of other organizations and agencies with a vested interest or similar mandates should result in further progress towards common goals.





# Proposed Capital Budget



Battleford River Valley Master Plan Project Matrix				
Development Concept Area	Project	Priority		
		Short Term (1-5 yrs)	Mid Term (5-10yrs)	Long Term (10+ yrs)
Finlayson Island	Day-use Picnic Facilities		\$25,000	
	Washrooms / Parking Lots Upgrades	\$125,000		
	Outdoor Kitchen			\$30,000
	Rest Area / Shelter		\$65,000	
	View Point		\$15,000	
	Trail Upgrades (Accessibility)	\$40,000		
	Ski Trail Lighting			\$250,000
	Overlook Structure at Bridge		\$250,000	
	North Span Upgrades			\$600,000
South Span Upgrades			\$150,000	
South Channel Parkway	Hard Surface Pathway			\$250,000
	Pump House Pavillion			\$300,000
	Soft Surface Pathway	\$200,000		
	Group Picnic Facilities		\$100,000	
Speers Spruce Stand/Cemetery	Upper Lookout Development		\$20,000	
	Interpretive / Skiing Trails		\$250,000	
	Hard Surface Multi - Use Trail		\$250,000	
	Speers Spruce Stand Entrance		\$35,000	
	Lower Lookout Development			\$20,000
	Speers Spruce Management Plan	\$45,000		
Valley Nature Centre	Visitor Centre			\$250,000
	Waterfowl Interpretive Lookout			\$45,000
	Amphitheatre	\$260,000		
	Equestrian Trailhead		\$10,000	
	Parking : 60 cars			\$60,000
	Equestrian Trail		\$300,000	
	Valley Lookout			\$20,000
	Habitat Enhancement			\$250,000
	Viewing Tower			\$100,000
Storm Water Bio-remediation Project		\$200,000		
Fort Battleford	Guthrie's Fen Board Walk		\$75,000	
	Canoe Put-In		\$10,000	
	River Forks		\$60,000	
	Trail Link between Fort Battleford and Government Ridge	\$550,000		
	River Trail		\$100,000	
	Historic Battleford Tour	N/A		
	Ski Trail with Shelters		\$250,000	
Telegraph Flats Interpretive Feature			\$20,000	
Golf Course	Lookout Development (5)		\$100,000	
	Golf Course Ravine Linkage		\$100,000	
	Saskatchewan Hospital Grounds Improvements			\$100,000
	Shanty Town Interpretive Feature	\$20,000		
All Areas	Site Furniture Upgrades	\$50,000	\$30,000	\$20,000
	Wayfinding Upgrades	\$30,000	\$15,000	
Priority		1-5 Years	5-10 Years	10+ Years
Subtotal		\$1,320,000.00	\$2,260,000.00	\$2,465,000.00
	TOTAL		\$6,045,000.00	