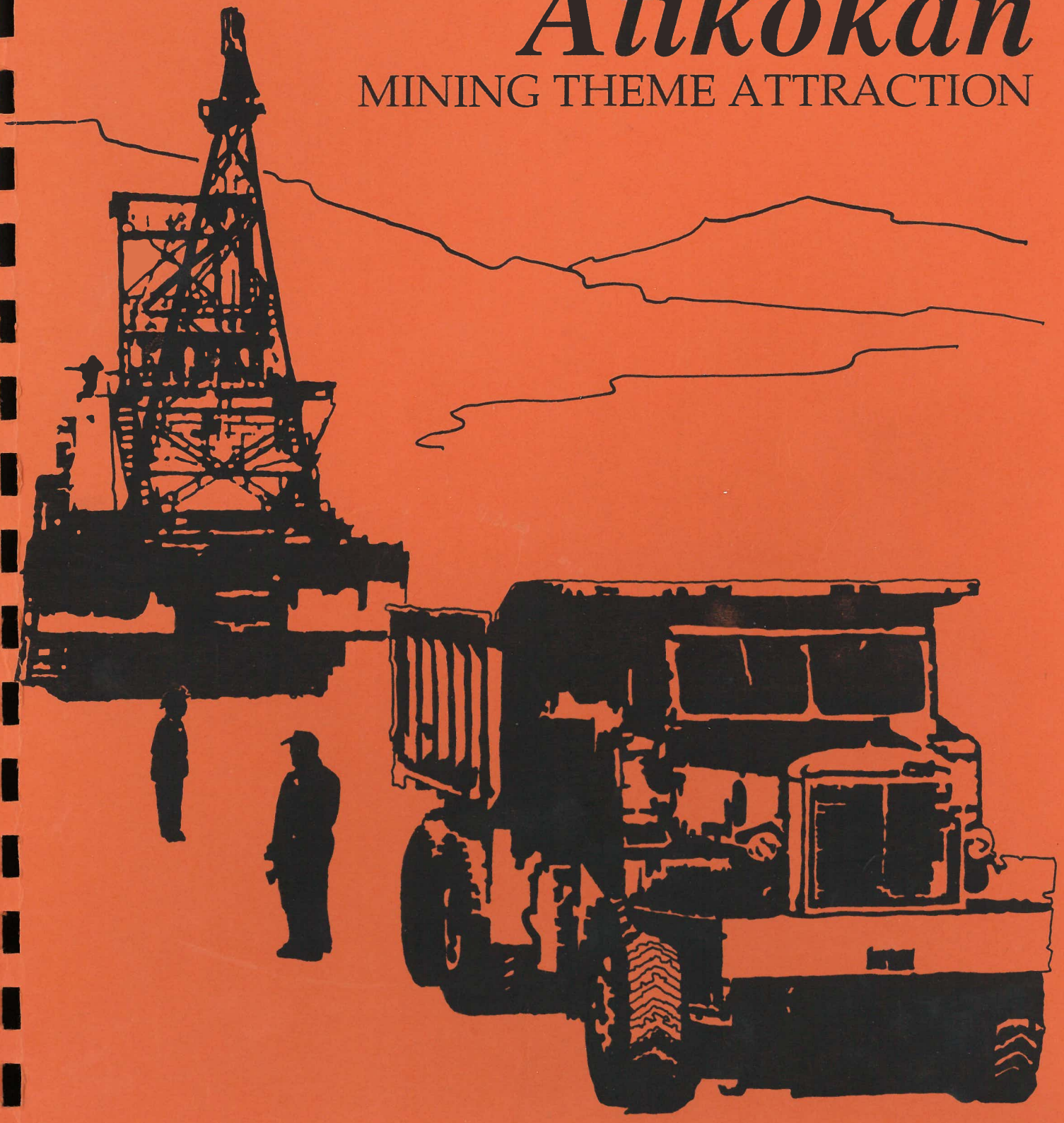
J. Switzer

Atikokan

MINING THEME ATTRACTION



MINING THEME PARK STUDY

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"The diamond drill, perched on the ice of Steep Rock Lake, chugged away, the sound of its steam engine soaked up by the snow. The diamond drillers felt, as much as heard, their diamond-impregnated bit grinding its way through the clay and boulders that covered the lake bottom, two hundred feet below them. The light grey clay sludge poured out of the pipe that disappeared through the floor of the drill shack, and ran outside onto the snow.

The sound of the drill changed as the diamond bit left the clay and entered the bedrock. The driller noted the depth, made adjustments on the speed of the drill, and stood watching as the drill turned the long string of steel rods below them.

Imperceptibly at first, the colour of the sludge changed. Half expecting to see the darker grey of the barren volcanic rocks that they had encountered on the last five holes, the drillers became alert when they saw the sludge slowly change to a dull reddish-brown colour. The drill slowed now, as the bit encountered something harder than had been encountered yet on this job.

The driller called to a man who was sitting in a corner of the drill shack writing in a notebook. Then he cupped his hands and let the sludge that was being pumped out of the casing run through his hands, trapping the solid particles. Small angular chips of a dark brown mineral were scattered through the lighter coloured clay. The man with the notebook picked up some of the sludge, looked at the specks of mineral for a moment, and then quietly said, 'Well, that's just worth a million dollars to me!'"

Steep Rock, The Men and the Mines

by Bruce Taylor, p.9

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ACKNOWLEDGEMENTS

Often the true catalyst for ideas and perservence by local groups goes unnoticed. Not so here. The residents of Atikokan have continued to pursue their belief that the Atikokan mining story should not be left to die with the closure of the mines. Therefore, over the years many people have pushed, prodded and discussed the concept of "telling the story". The latest most active group was a special Steering Committee who directed this study and provided long hours of advice and excellent comment. We thank them all!

These members are:

Healther Schmutzer, Chair
Ray Bernatchez
Owen Boland
Dennis Brown
Ruby Chumway
Ted Couch
Garry Girard
Mary Makarenko
John McInnis
Adrian VanRooyen

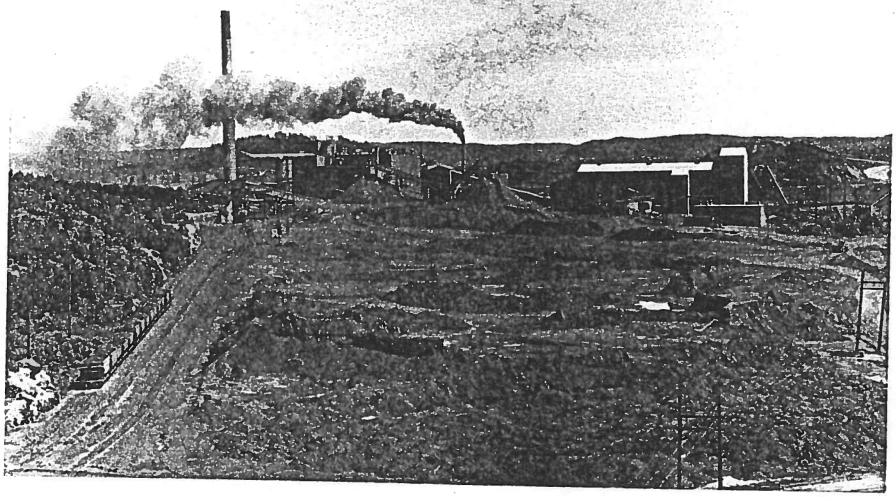
Lynn Arnold, Ministry Tourism & Recreation
David Feldbruegge, Ministry Northern Development & Mines

Executive Summary

The Township of Atikokan in association with the Ministries of Tourism and Recreation and Northern Development and Mines, through a Steering Committee, has coordinated the preparation of this study.

The study documents the exciting and interesting history of iron ore mining in Atikokan and identifies the potential to develop a viable tourist attraction based upon the iron ore mining theme. That story is recommended in detail and proposed for three complementary sites: a Highway Orientation Centre at the junction of Highway 11 and 11B, a Visitor Reception Centre located in town at the former municipal office site and a Mine Site interpretive display package at the Hogarth and Caland sites. Total development costs for these sites and other support requirements will be $1.6 million. The project is projected to break even by year 5. Visitors are expected to be 41,000 in number by year 5 with an induced expenditure impact of $1.1 million.

A non-profit corporation composed of a Board of Directors is recommended to manage the attraction.



1. INTRODUCTION

Atikokan played a major role in the mining history of Canada. That history centred upon the production of iron ore concentrate from two mines: Steep Rock and Caland. This study examines the potential to develop a tourism programme around that history.

1.1 Location

Atikokan is situated in northwestern Ontario midway between Lake Superior and the Manitoba border (Map 1). Located 3 kilometres north of Highway 11, Atikokan is near Quetico Provincial Park far removed from other major centres.

1.2 Study Purpose

The Atikokan Community Futures Committee commissioned a pre-feasibility study in 1987 to examine the potential for a mining theme park in Atikokan.[1] That study determined that the project warranted further study and that significant economic benefit could accrue to the Atikokan area. In response to those findings, a follow-up study was commissioned through the preparation of terms of reference. Those terms of reference identified the purpose of the follow-up study to:

- prepare a practical, visionary conceptual plan;
- determine the capital and operating costs;
- refine the preliminary market assessment;
- identify potential private sector development opportunities;

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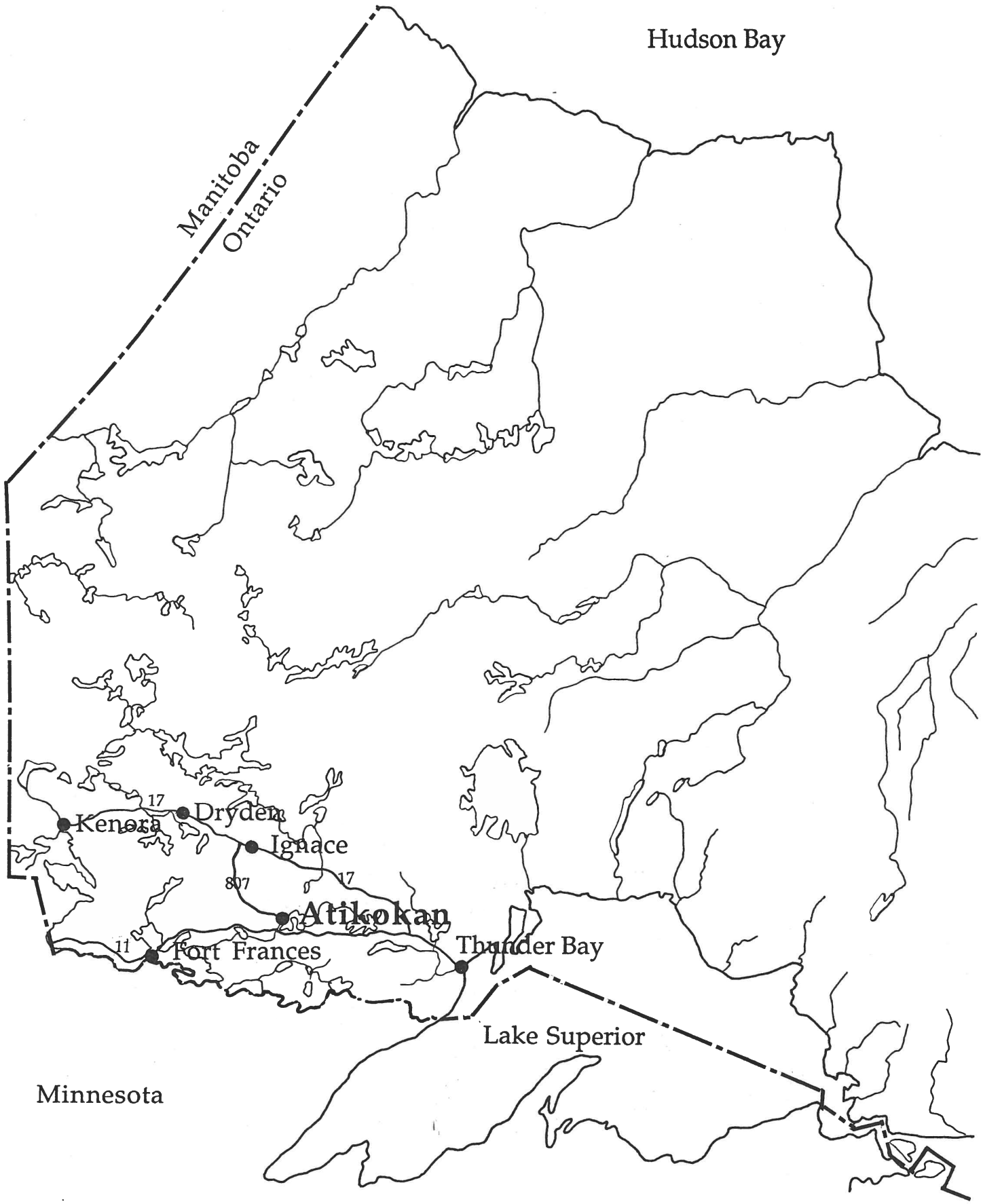
[1]Atikokan Mining Theme Park Study, Pannell Kerr Forster, May, 1988



Atikokan

Mining Theme Park Study

Map 1

Regional Context

- determine the relationship of the mining theme park to the other tourist attractions in the region;
- prepare an implementation plan;
- prepare an opening plan for the mining theme park.

In addition, a mission statement was prepared for the project by a Steering Committee composed of local agencies and citizens and provincial agency staff. This mission statement notes:

> " Atikokan Economic Development began considering the two mining sites (Caland and Steep Rock) for the development of a Mining Interpretive Centre with the main objective of becoming a major mining tourist attraction. The purpose of this theme park attraction was to feature the history of iron mining at the Steep Rock and Caland sites; explain the engineering feats related to these mines and integrate the attraction with other developments in the area".

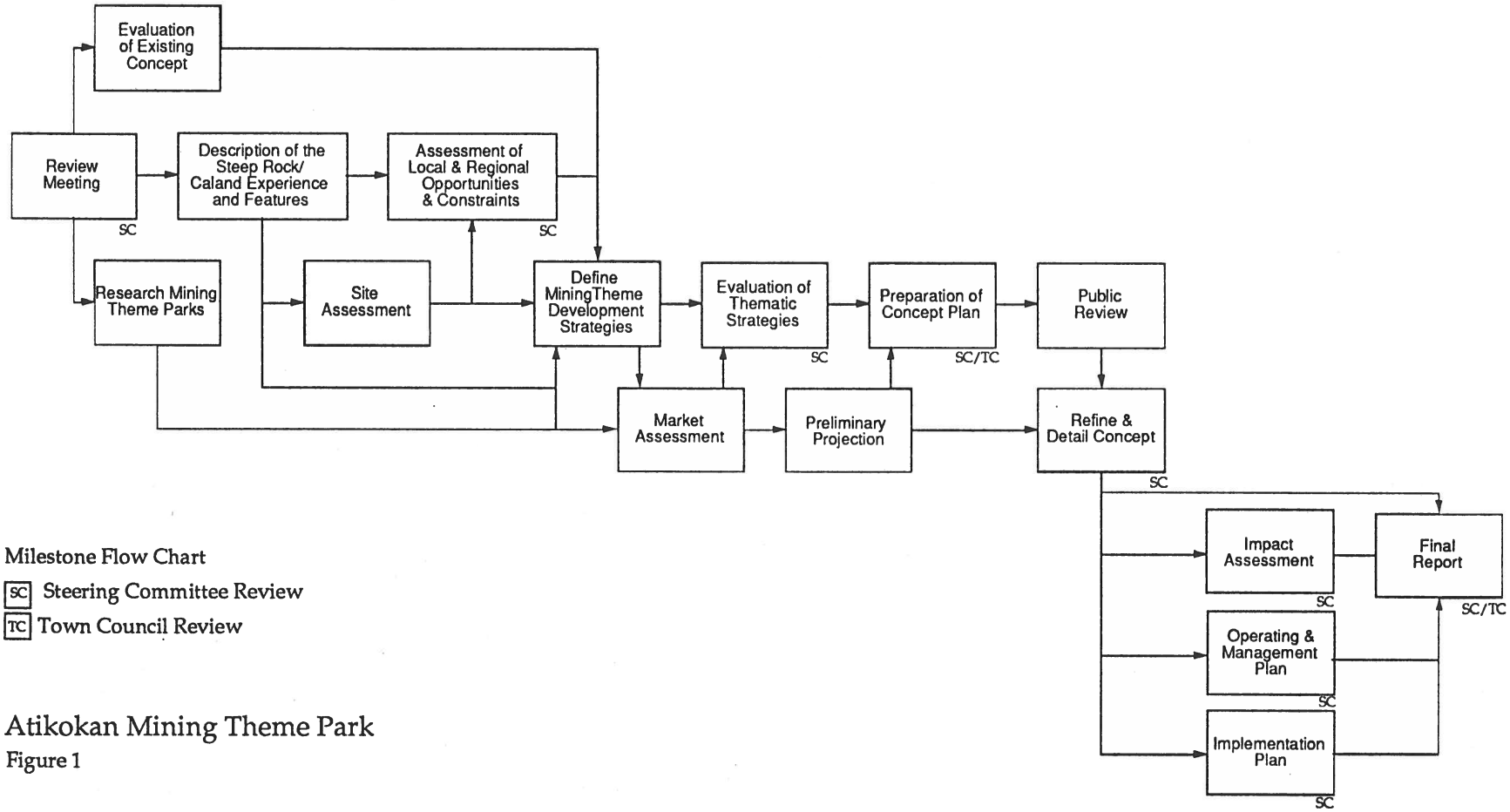
The following report examines these requirements.

1.3 Study Process

The Mining Theme Park has been examined in two stages. Stage One reviewed the pre-feasibility of the concept of a mining theme park. Since that report identified potential for tourism opportunities, Stage Two, which is this study, was commissioned.

A Steering Committee with membership from local interested citizens, Atikokan Economic Development Corporation, Township of Atikokan and several Ministries of the Government of Ontario provided direction for the study (see acknowledgements).

The study set out a clear process for information gathering, analysis, synthesis and plan preparation (Chart 1). It emphasized several steps, including evaluation of previous findings, historic research, site assessment, market assessment, financial analysis and site plan preparation. A critical component included regular Steering Committee review, as well as public information review.



Milestone Flow Chart

SC Steering Committee Review

TC Town Council Review

Atikokan Mining Theme Park

Figure 1

1.4 Report Outline

This report is divided into nine sections. Each section examines a key element of the study process. These sections are: Introduction, Historic Development and Use, Site Assessment, Regional Analysis, Existing Mining Theme Developments, Market Assessment, Evaluation of Thematic Strategies, Proposed Development and Conclusion.

1.5 Previous Findings

Atikokan has been aware of the potential for a mining theme park since the closure of active mining at the Caland and Steep Rock sites at the end of the 1970s. In response to these considerations, a Preliminary Feasibility Study for Atikokan Mining Theme Park Study was completed by Pannell Kerr Forster in May, 1988. That report identifies:

- estimates of visitation, capital costs, operating costs and economic benefits;
- guidelines for marketing and promotional programs;
- the facilities and services required; and
- statement of overall potential and viability of the project.

That study confirmed the potential of undertaking the development of a mining theme park. It recommended further analysis and planning to detail specific mining theme components. The current report proceeded to fulfil that recommendation.

2. HISTORIC DEVELOPMENT AND USE: STEEP ROCK LAKE

This section examines the history of the Steep Rock ore body, its development and significance. The colourful personalities involved and accompanying events are also reviewed.

2.1 Historical Background

The general landscape in which the Steep Rock Lake mines are located has always been thinly populated. The climate is harsh, and the country rugged. It was only with the rise of the fur trade in the eighteenth century that minor inroads were made into this territory anciently inhabited by a long succession of Native peoples. Early French traders made some use of the Seine River route as one of a number of ways of crossing the river and lake-studded Shield country west of Thunder Bay. This route was often followed by the fur traders and was used by Simon Dawson in 1857 when he and Henry Youle Hind were undertaking a general resource appraisal of the Canadian West. The not-very-practical Dawson route from Fort William to Fort Garry (Winnipeg) was established in the late 1860's passing close to the Atikokan area, but following the Maligne River rather than the Seine. This route was destined to be short lived, replaced in the 1880's by the new railway.

Mining was a feature of pre-European settlement, although on a scale much different from that at modern Steep Rock. The use of natural copper deposits capable of being worked into useful implements and items of fashion, was widespread in the upper Great Lakes Region, particularly at Isle Royale and in a large arc of territory stretching around the western end of Lake Superior. A widespread use of iron-bearing matter by Native peoples is suspected in the form of red ochre which appears to be a constituent in the original rock art paintings which appear on numerous shield lake cliffs above the

waterline. Some of these paintings have been documented on White Otter Lake, north of Atikokan and they are frequent throughout the Quetico Provincial Park.

Reports of iron at Steep Rock Lake had circulated since the early 1880's. A Native trapper, Jim Shogonosh reported the mineral to a Mr. G. McLaurin, who in turn reported it to the enterprising McKeller Brothers of Fort William who then acquired the property and initiated iron ore production in the Atikokan area by 1905. This magnetite ore of the so-called Atikokan Iron Range (as opposed to the Steep Rock Iron Range) was taken to Port Arthur for roasting off of impurities at a blast furnace near the site of the CNR ore docks. Some nickel and copper was derived from the ore as well, but production ceased in 1913.

The possibilities of ore at Steep Rock Lake itself had been theoretically suggested in 1897 by Geological Survey of Canada surveyors. W. Smith and W. McInnes had prepared a map based on field work undertaken in the 1890's: "An iron-bearing horizon with hematite of good quality appears to be generally covered by the waters of the lake." A general rush to the area ensued, but the results of drilling were disappointing and interest in the Steep Rock Lake site declined, reinforced by the failure of the Atikokan Iron Range in 1913. It was not until Julian Cross started to ponder the report of Smith once again in 1925 that interest in Steep Rock was re-kindled.

2.2 Development of Steep Rock and Important Personalities

Demand for expanded iron ore production was not experienced until the late 1920's when U.S. iron ore production capacity started to decline somewhat. In 1929-30, Cross

made another attempt to analyze Steep Rock geology. The historian of the Steep Rock Mines, Bruce Taylor, cites the following passage from Cross' writings:

> "The beaches on the south side of the lake contain a great deal of float ore, in fact some localities, as much as fifty percent. On the north shore of the lake no float ore was found in the glacial drift, or on the beaches. There were no outcrops of ore or iron formation exposed anywhere on the surface, to give a clue as to the origin of the float. Obviously then, the source of the rich float was in the bed of Steep Rock Lake, entirely covered by water, an obvious deduction under the circumstances."(page 14)

Dip-needle surveys undertaken in collaboration with a Duluth firm headed by Robert Whiteside proved successful, but the attempt to locate the ore body failed once again. Whiteside's death then lost Cross his financial backing. It was only after Cross successfully located a major nickel find at Shebandowan Lake and his successful sale of the staked properties to the International Nickel Company of Sudbury, that he was able to turn to Steep Rock once again. With his assets from the sale he quickly interested the experienced mining developer, Joseph Errington, in the virtues of Steep Rock. Together they financed a major drilling program under a new firm, Steerola Exploration Company Ltd. By the summer of 1938, they had successfully demonstrated the existence of a major ore body underlying the Middle Arm of Steep Rock Lake. M.W. "Mel" Bartley, a geology student undertook mapping that summer and later joined the Steep Rock group and played an important part in development. By the end of 1938 ore bodies A,B, and C had been outlined. On February 27th, 1939, a new company was established in order to undertake the expensive development commitment. This was Steep Rock Iron Mines Ltd.

Negotiations then commenced for necessary infrastructure requirements in anticipation of a large tonnage mine. This included sinking of shafts, construction of CNR spur line into the mine area, and arrangements with Ontario-Minnesota Power Company for a power supply from their dam at the south end of Steep Rock Lake. Former MPP from Thunder Bay, General Donald Hogarth began to negotiate for land options on which to

build an ore loading dock at the Lakehead. M.S. Fotheringham had joined the firm as the master engineer, and with the failure of traditional shafts as an option, owing to ground water flooding, it fell to Fotheringham to devise the massive river diversion scheme which would bring Steep Rock into production by 1944 (Map 2).

This scheme would have probably been impractical without the crisis brought on by World War II, despite the favourable estimate of reserves which by March of 1940 stood at 200 million tons to a depth of 1000 feet. Fotheringham had already conceived of the diversion scheme however, and through the efforts of Errington and Hogarth the right combination of international private and public capital was put together sufficient to undertake Fotheringham's bold scheme. It was an arrangement which brought such formidable personalities as Cyrus Eaton, C.D. Howe, and Franklin Roosevelt into the picture.

Under the pressure of war the Steep Rock mines were considered to be of the highest priority and the quality of the ore was to the satisfaction of all. Between 1944 and 1953 some 9,165,000 tons were shipped.

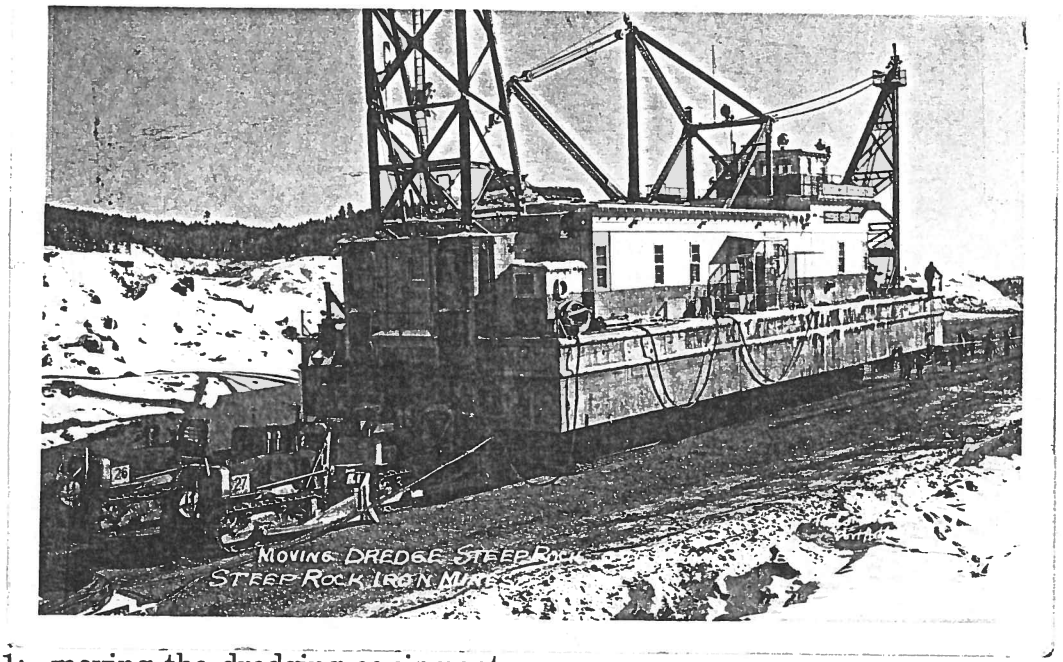
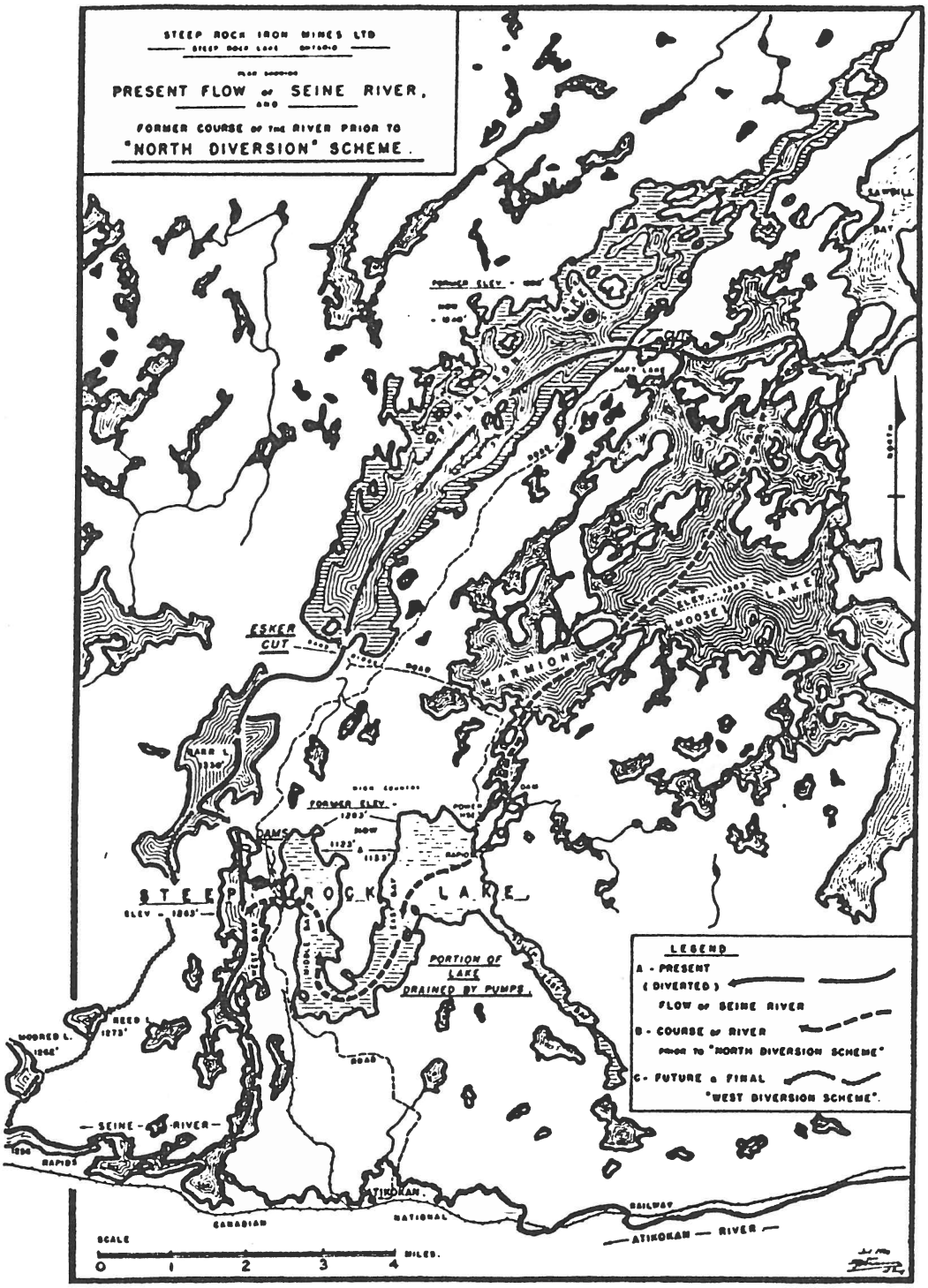


Photo 1: moving the dredging equipment

Map 2
The Diversion Scheme at Steep Rock Lake

Courtesy: Steep Rock Iron Mines Ltd.



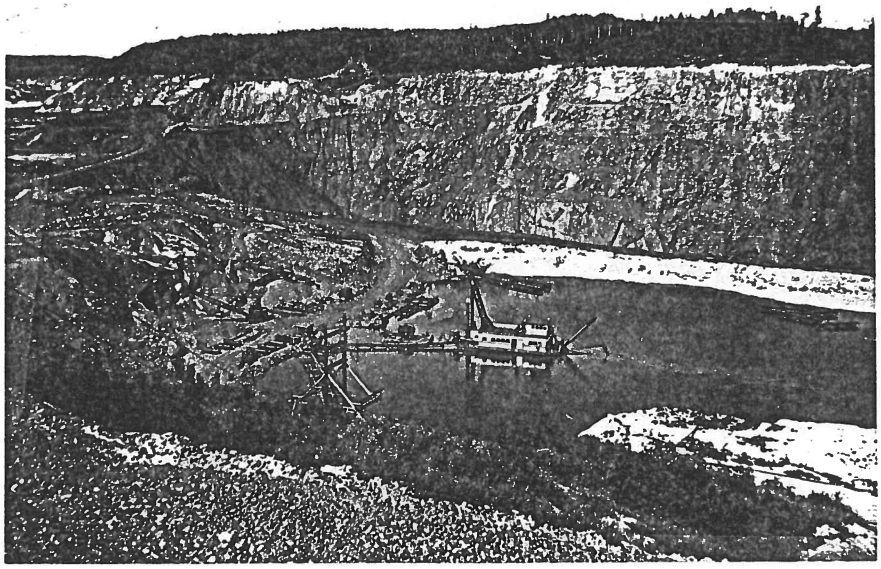


Photo 2: dredging Steep Rock Lake

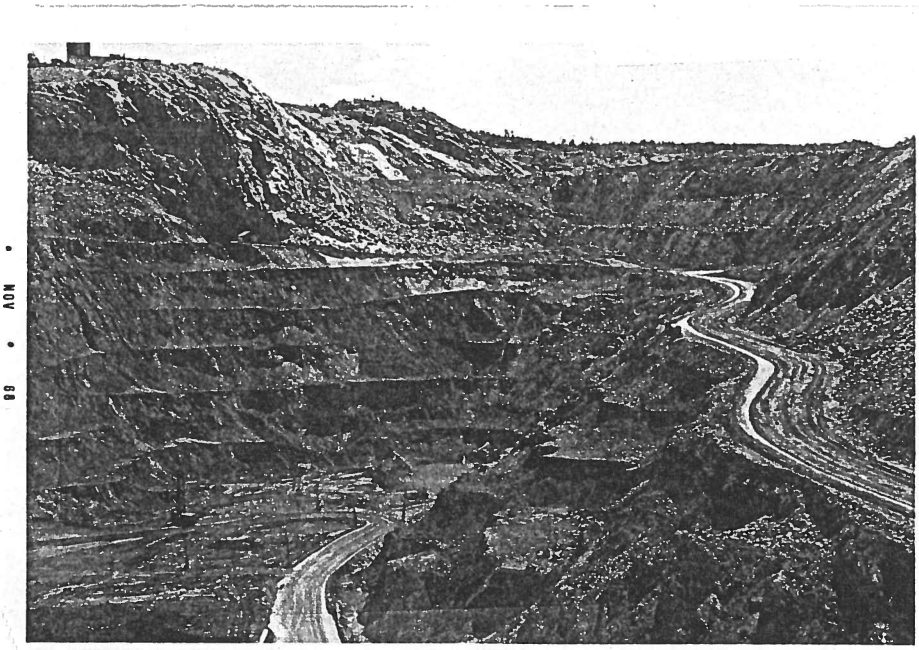


Photo 3: open pit operation

2.3 List of Personalities

Some of the leading personalities involved in the development have been mentioned above. Many others took part in the years after 1939 and a partial listing is provided below.

Julian S. Cross, Born, Silver Islet, Thunder Bay, July 25, 1888. d. 1972. Discoverer of the Ore Body.

Joseph Errington, Mining Businessman, bankrolled the first Steep Rock Mines enterprise, Steerola.

Major General Donald Hogarth, key negotiator in the international effort. Former MPP for Fort William.

Morson Scarth "Pop" Fotheringham. The on-site engineer who guided the large diversion project which brought iron ore into production by 1944.

Dr. M.W. "Mel" Bartley. Geologist to the company. Mapped ore bodies

Sydney G. Hancock, O.L.S. On site surveyor. Administrator with Steep Rock Iron Mines Ltd. Reeve, Atikokan.

Neil Edmonstrone, Financier. Secretary-Treasurer, Steep Rock Iron Mines.

Cyrus Eaton, Financier. International Industrialist.

William Daley, Director, Steep Rock Iron Mines.

F.H. Black, Director Steep Rock Iron Mines.

Hon. C.J. Burchell Q.C., Director, Steep Rock Iron Mines.

Mark McKee, Director, Steep Rock Iron Mines.

John Paterson, Steep Rock Iron Mines.

Franklin D. Roosevelt, President, United States of America. Authorized use of U.S. emergency funds for the Steep Rock development.

William Crago, Mining Engineer.

Hugh Roberts, Geologist.

Tom Rawn, early Atikokan Iron Range miner. Died mysteriously in 1943.

C.A. Pitts, Construction Contractor.

C.D. Howe, Federal Minister of Munitions and Supply.

George E. Allen, Director, and the "Court Jester" of the Whitehouse.

William R. Daley, Assistant to Cyrus Eaton.

Jesse Jones, Chairman, Reconstruction Finance Corporation (US).

P.D. Pearson, Manager, Caland Ore Ltd.

E.W. Whitman, Chief Engineer, Caland Ore Ltd.

Joseph L. Block, President, Caland Ore Ltd.

Clarence B. Randall, Chairman of the Board, Caland Ore Ltd.

N.S. Scott, 3rd Manager, Caland Ore Ltd.

C.F. Brooks, Surveyor.

A.F. Antler, Surveyor.

Russell Barker, Shovel Operator.

Archie Law, Pit Mechanic.

Bob Moffatt, Employee.

Ken Eoll, Manager of Industrial Relations.

Raymond D. Satterly, Manager of Mines, Inland Steel. Member of the initial negotiating team for the least.

Bruce Taylor, General Manager, Steep Rock Mine (1970s), and author of: **Steep Rock: The Men and the Mines** (1978).

2.4 Caland Ore Company Ltd.

In 1953, the corporate arrangements surrounding the working of the mines was altered. A lease agreement was executed with Inland Steel to work the "C" orebody.

This would be done through formation of a subsidiary of Inland known as Caland Ore Company, (Caland being an acronym of "Canada" and "Inland"). This led to a new series of environmental adjustments which allowed the south-east arm of Steep Rock to be drained in order to get at the ore. Between 1960 and 1977 Caland produced well over 30 million tons of ore. In 1965, Caland introduced a pellet plant, one of the first in North America designed to process hematite ores of the kind found at Steep Rock. Caland closed down in 1979 having utilized most of their open pit reserves such as could be worked economically and safely.

2.5 Significance of the Steep Rock Story

The phenomenon of "Steep Rock" is one with few parallels in Canadian or indeed world mining history. It was born of crisis and for that reason centralized international and government development capital of unprecedented proportions. Providing a supply of North American domestic iron ore rapidly became a priority during World War II under the intense conditions of Nazi U-Boat demolitions of ore carriers from South America destined for the United States and Europe. The continuity of Steep Rock during peace time did not match that achieved by the Misabi Range, active as an ore producing range since 1892. But nevertheless, a quarter of a century is a respectable length of time. The significance of the site can be listed under a number of headings.

(a) Development Rationale

Significance can be attached strongly to the circumstances surrounding the Steep Rock development. The allied nations opposing the European Axis powers were in a critical state of iron ore shortage and the richness of the Hematite ore body at Steep Rock, despite its access problems, was sufficient to warrant massive public funding. Few mines have been developed with such a sense of priority, international joint-subsidy, and productivity.

(b) Theme Gaps in 20th Century Iron Mining in Federal and Provincial Site Commemorations

Little attention has been given to 20th century mining developments by official heritage agencies at the federal or provincial level. Large-scale 20th century iron open-pit mining in particular is poorly commemorated in Canada. The Steep Rock site is one of relatively few candidate areas which could fill in this gap in a satisfactory way. A potential competing candidate site is the Helen Mine Site at Michipicoten which enjoys relatively good public access from the Trans-Canada Highway at Wawa. The Elliot Lake Uranium Mines and the multi-faceted Manitouwage Mines, have some comparable advantages, but do not involve iron ore production.

In Ontario, the Steep Rock Site has commanded relatively little attention in past Systems Plans produced in 1974 and 1961 by the Ontario Parks Branch. (Topical Organization of Ontario History: Park System Plan, 1974); in general, the systems plans have given greater attention to pre-World War II developments and in particular to gold mining landscape has gained priority status as an historic landscape. (Weiler and Fram, 1985) At the Federal level, the latest Historic Systems Plan identifies mining as a priority theme but comparative studies have not been undertaken as the considered necessary prelude to any site designations for 20th century open-pit hard-rock mining. The Federal system of historic parks has committed major amounts of funding since the early 1970's to the Dawson City system of Klondike National Historic Sites, and in this respect, mining as a general theme may be said to have been recognized in an important way.

(c) Other Sites, Regional and National

In the United States, sites of comparable interest ring the Lake Superior Basin. At certain of these, interpretive developments have been put in place such as the Iron Range Interpretive Centre at Chisholm, Minnesota, sponsored by the State of Minnesota. At the federal level, the Historical Systems Plan sponsored by the U.S. National Park Service does not identify Lake Superior Mining as a theme-gap of interest. (U.S. National Park Service. Part II of the National Park Systems Plan. History). In addition to the Chisholm Iron Range Centre near Hibbing, there are two other related developments to the north of Tower and Ely. The Soudan Iron Mine is located in Tower-Soudan State Park. This mine dates from 1884 and commemorates the opening of Minnesota's oldest and deepest underground mine. The related Tower-Soudan Historical Society Museum is housed in an old railway coach connected to a steam engine which was once active in hauling iron ore.

Further afield, there are mining history developments of some sophistication at the following locations:

- Mary Aaron Museum, Marysville, California
- Angels Camp Museum, Angels Camp, California
- Arrastra, Cashmere, Washington
- Badger Mine and Museum, Shullsburg, Wisconsin
- Bannock State Monument, Dillon, Montana
- Barkerville, Gold Rush Town, Barkerville, BC
- Big Nickel Mine, Sudbury, Ontario (Tour)
- Blackburn State Park, Dahlonga, Georgia
- Bonanza, Idaho
- British Columbia Museum of Mining, Britannia Beach, BC

- Broken Boot Goldmine, Deadwood, South Dakota
- Buckskin Joe, Canon City, Colorado
- Central City, Colorado
- Coeur d'Alene District Mining Museum, Wallace, Idaho
- Columbia State Historic Park, Sonora, California
- Cripple Creek, Colorado
- Dahlonega Courthouse Gold Museum, Dahlonega, Georgia
- Desert Caballeros Western Museum, Elliot Lake, Ontario
- Florence. Grangeville, Idaho
- Georgetown, Colorado
- Gold Hills of Dahlonega, Georgia
- Gold Rush Museum and Trading Post, Amador City, California
- Healy House, Leadville, Colorado
- Highly Copper MIne, East Granby, Connecticut
- Homestake Mine, Lead, South Dakota
- Jerome Historical District, Jerome, Arizona
- Klondike National Historic Sites, Dawson City, Yukon Territory
- Museum of Northern History, Kirkland Lake, Ontario
- Last Chance Gultch Tour, Helena, Montana
- Lost Mine at Gold City, Franklin, North Carolina
- Marquette County Historical Society, Marquette, Michigan
- Marshall Gold Discovery State Historical Park, Coloma, California
- Mint Museum of Art, Charlotte, North Carolina
- Mount Idaho, Grangeville, Idaho
- Northern Ontario Mining Museum, Cobalt, Ontario
- Placer Country Museum, Auburn, California

- Ruggles Mine, Grafton, New Hampshire
- Silver Islet Landing, Sibley Provincial Park, Thunder Bay, Ontario
- Siskiyou County Museum, Yreka, California
- Thompson-Hickman Memorial Museum, Virginia City, Montana
- Tombstone, Arizona
- Washington's Office, Winchester, Virginia
- World Museum of Mining, Butte, Montana
- Wytheville, Virginia

Commentary:

From the information provided above, it is clear that there are a few key areas in Canada and the United States which have stressed mining history heritage developments. These areas are: California, Idaho, Colorado, the Yukon, the Cariboo Gold Rush area of British Columbia, the iron ranges of Minnesota and Wisconsin, Montana, Arizona, and northern Ontario. Iron is relatively under represented compared to gold. To the extent that iron open pit commemoration has taken place, it tends to be in the upper Great Lakes basin in the United States.

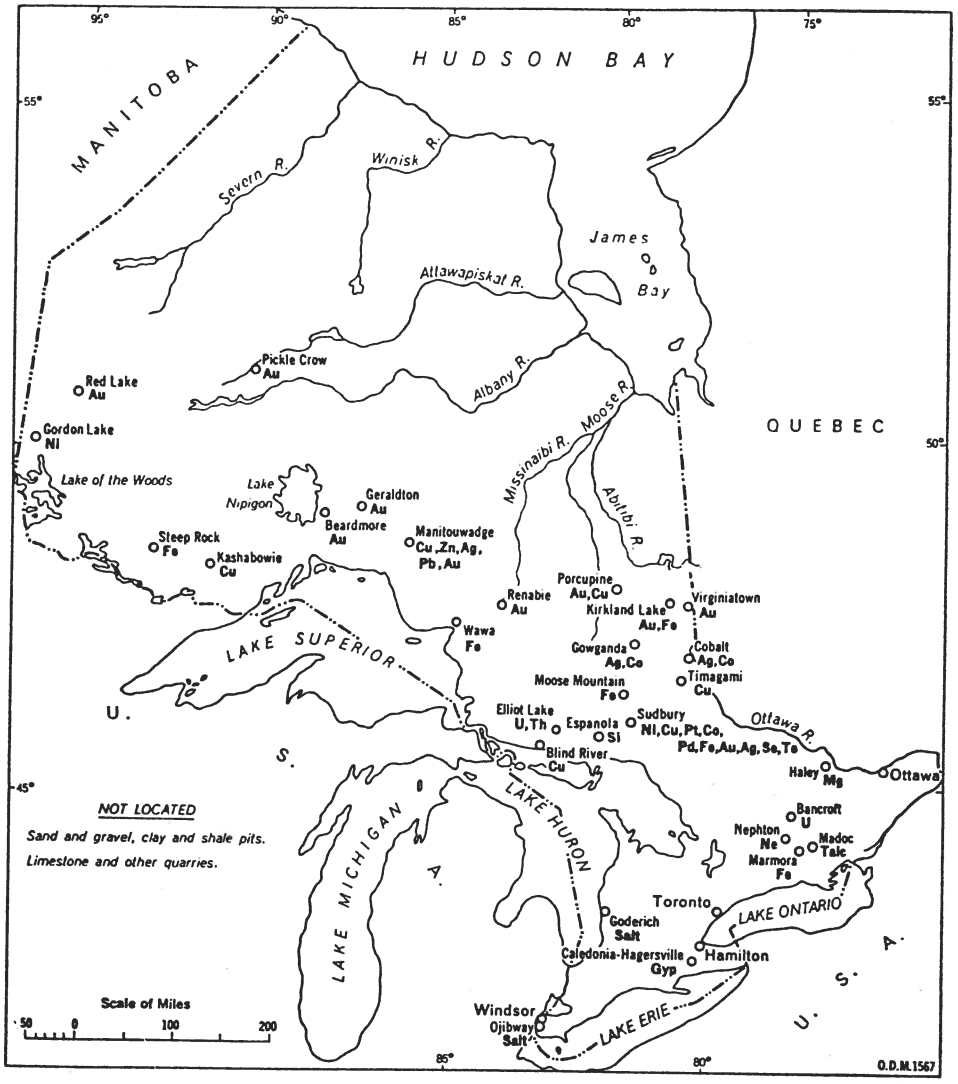
Relative to gold and copper mining, there are relatively few sites in Northern Ontario which can be selected to illustrate iron mining. The Steep Rock site, the Helen Mine site and the Moose Mountain site near Sudbury represent the most important ones. (See Map 3).

(d) Documentation

The rigorous way in which daily events were captured on film or by still photography by Steep Rock personnel, is a matter of great interest in any assessment of feasibility and interpretive planning. A lack of photographic documentation is often the greatest

Map 3
Distribution of Mines in Ontario by Mineral Type

Courtesy: Ontario Department of Mines



Ag — Silver
Au — Gold
Co — Cobalt
Cu — Copper
Fe — Iron
Gyp — Gypsum
Mg — Magnesium
Ne — Nepheline Syenite
Ni — Nickel
Pb — Lead
Pd — Palladium
Pt — Platinum
Salt — Salt
Se — Selenium
Si — Silicon
Talc — Talc
Te — Tellurium
Th — Thorium
U — Uranium
Zn — Zinc

limitation at sites, even those which have received official designation with public funds. The photographic collection currently housed in the Atikokan Public Library, (numbering some 50,000+) give this site more documentary credibility than many established federal and provincial sites. The live film footage which has survived from the earliest days of the Steep Rock development is of great value from a documentation and programming point of view. Similarly, there is a rich source of company records and other forms of parallel documentation which would be great value to any future public program.

(e) Environmental Education

The general character of the site provides a constant series of object lessons with respect to the current debate about environmental manipulation and management. The site has significance then, as an outdoor learning area and as a case study in the evolution of environmental attitudes during and since the World War II period (See Map 4). The extensive exposed rock beds also afford a potential area of interest for rock-hounding and guided geological group tours in educational or recreational contexts.

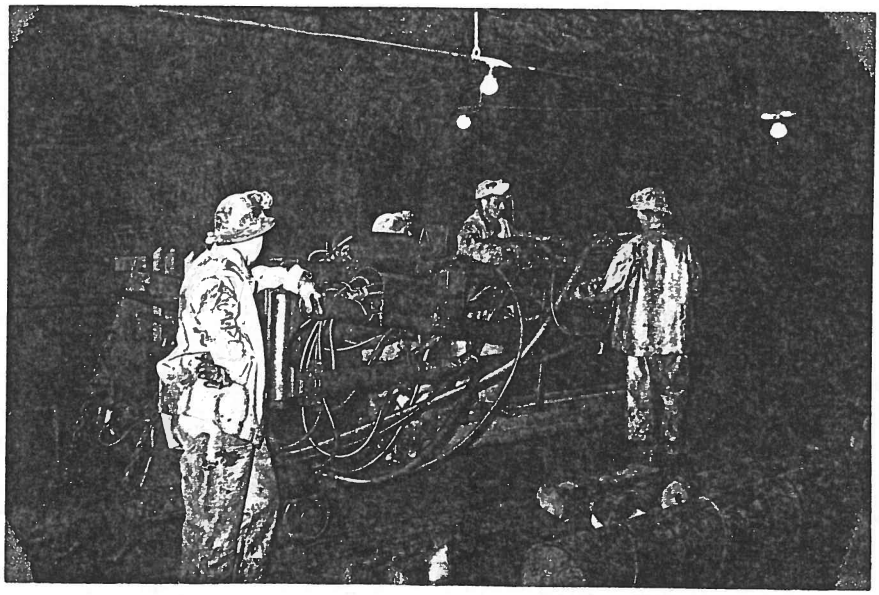
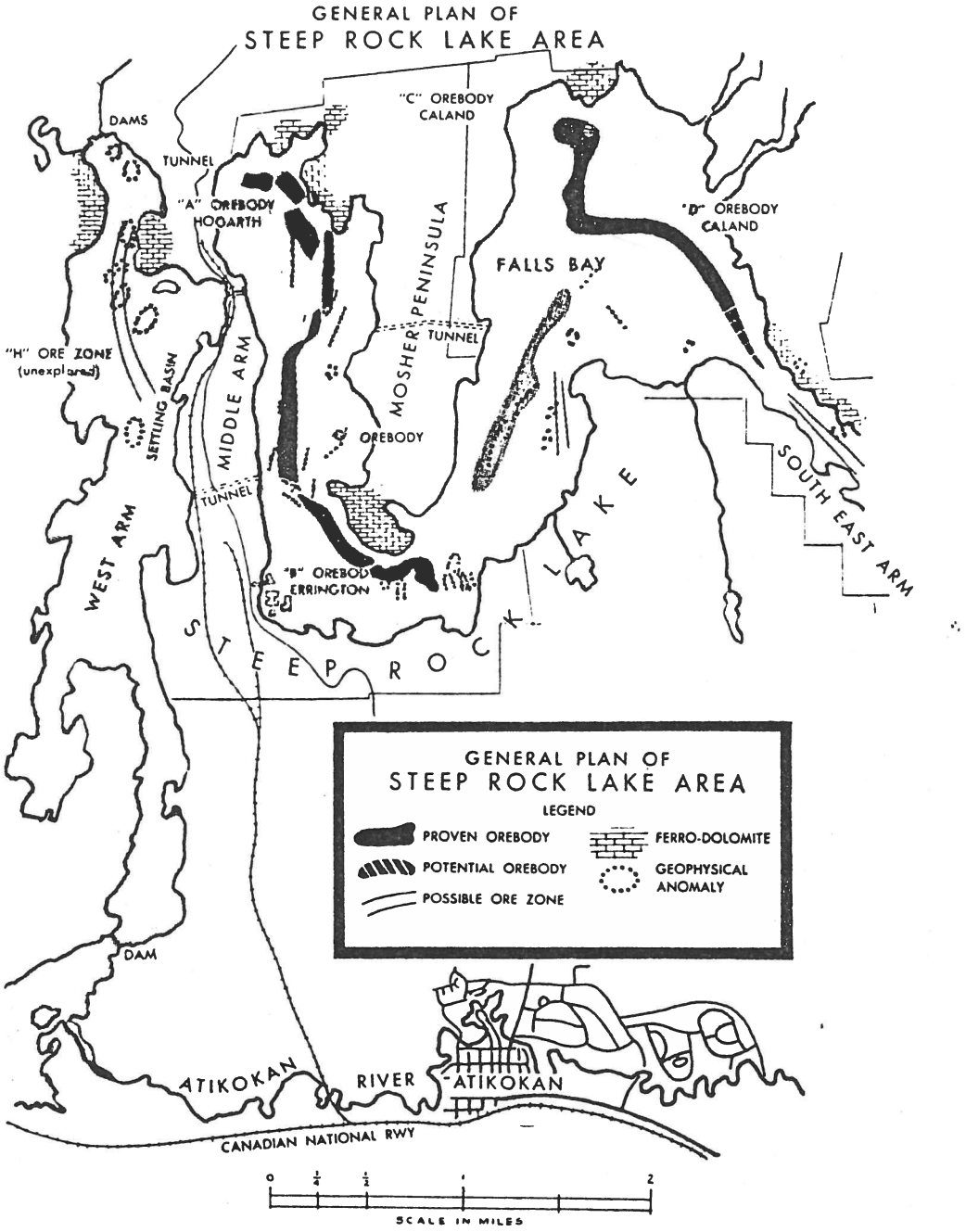


Photo 4: limited underground operations also occured.

Map 4

Disposition of the Ore Bodies in the Steep Rock Lake

Courtesy: Steep Rock Mines



2.6 Implications

The Steep Rock story is highly unusual for the manner in which essentially local traditions of mine prospecting, benefiting from the support of official geological survey reports, coalesced in the persistence of one man, and then achieved notice from those guiding international events in a time of crisis. The factors of stubbornness which led to the discovery of the actual ore load were supplemented by a change in international affairs which provided the financial and political climate for the development of the mine. Without this coming together of events, it is unlikely that the Steep Rock Mines would have been developed by private capital. This being the case, the drama of that story and the technological feats which accompanied it must be recognized as the items which set this story apart from all other versions in mining history. Other comparable open-pit mines in the upper Great Lakes Basin may be able to boast greater productivity and greater longevity, but none can claim such an unusual birth-right, or such a singleness of original purpose.

Those sections (3.1.5) dealing with the site characteristics of the Steep Rock site in its present condition make it clear that there are serious concerns about the degree to which the public can be granted general access to the site. It is therefore proposed that the essential **drama** of the Steep Rock story must provide an important avenue into the interpretive approach in ways other than ones which are site-oriented. The short and long-term development of high quality audio-visual and feature dramatic film approaches are seen as important ways in which to market the site locally, regionally and internationally. The outstanding documentary collection which is part of the present legacy lends itself well to such approaches. The general lack of large scale artifacts from the mining period is something of a constraint, but can be compensated for by this approach as well, since so much documentary footage and stills are available. Long-term reconstructions of a few key large-scale artifacts may be feasible.

3. SITE ASSESSMENT

The Steep Rock and Caland Mine Sites are abandoned open pit mines which provide a dramatic contrast to the surrounding landscape (Photos 5 and 6). Their steep wall faces, mine waste deposits and surface and groundwater accumulation suggest a need to investigate site development viability.

3.1 Geotechnical Findings

Dominion Soils Investigation Inc. of Thunder Bay was retained to provide advice on the status of the pits from the point of view of slope stability, water infill and access and building impacts. In addition, a very comprehensive study completed by the Ontario Ministry of Natural Resources entitled "Report on Surrender of Mining Claims by Steep Rock Resources Inc." provided additional insight.

3.1.1 Bedrock Type

The study area is extremely complex in terms of geology. This applies to rock type, faulting, stratigraphy, folds, metamorphism and folding in the rock. Details are provided in a report by Schklanka, 1972, for both the Steep Rock and Caland Ore areas.

In general, the ore zone exists between the carbonate and ash rock units. A soft, highly weathered zone of the car onate called paint rock, occurs at most locations against the ore body. The locations of the main rock types have been simplified (Map 5). A few sections have also been shown as Figure 1 to clarify the stratigraphy below the ground surface. In general, the iron ore hematite deposits at Steep Rock were soft rock type which did not lend itself to underground mining.

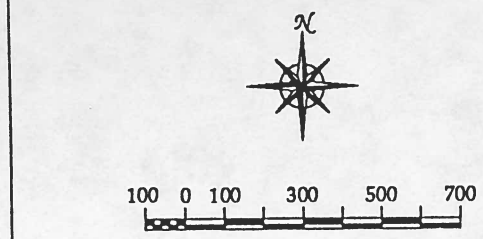
Photo 5: current view of Hogarth Pit

Photo 6: current view of Roberts Pit

Atikokan

Mining Theme Attraction

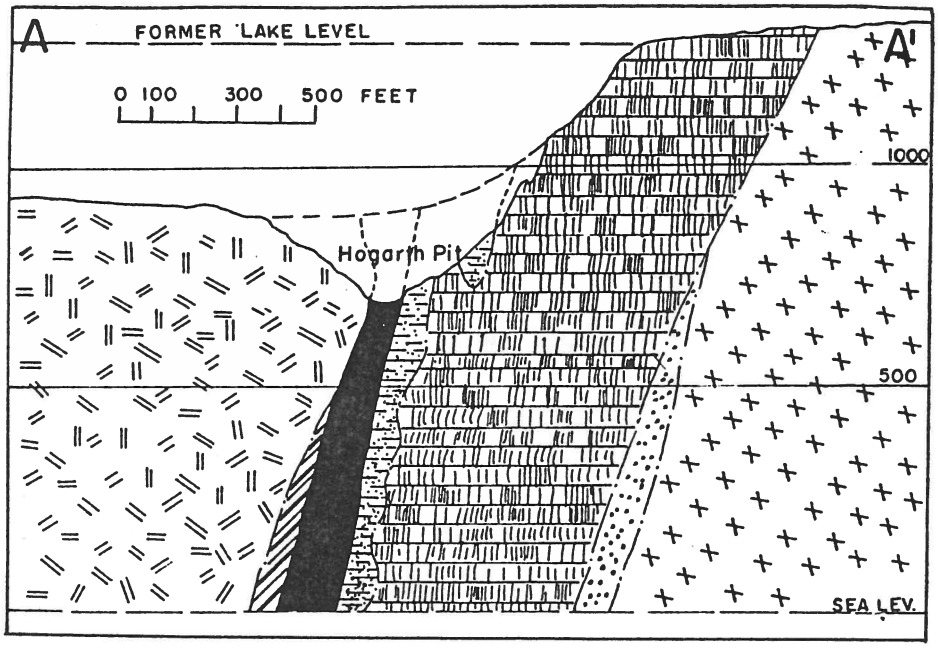
Site Opportunities and Constraints



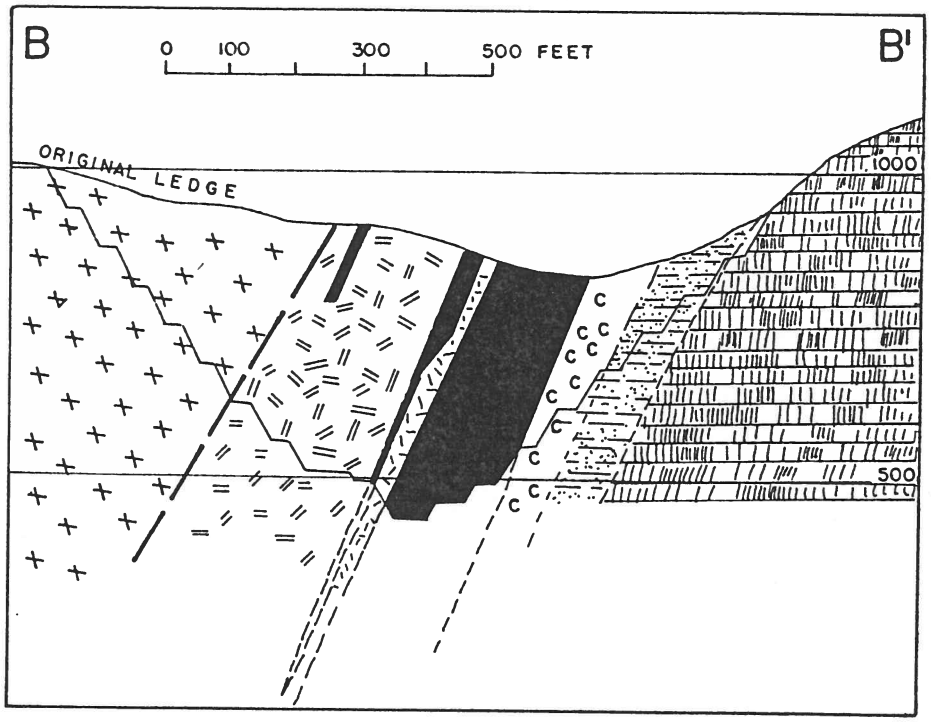
LEGEND

- Interpretive Opportunity
- Tunnel
- Dam
- Scenic Feature
- Viewpoint
- Collection Area
- Reforestation Area
- Hematite Deposits
- Old Shoreline
- 2050 Flood Level
- Hazard Zone
- Mine Waste Dump

- Paved Road
- Trail
- Railroad
- Hydro line



SECTION A-A', HOGARTH MINE
STEEP ROCK IRON MINES DEPOSIT



SECTION B-B', ISLAND ZONE
CALAND DEPOSIT

LEGEND

ASHROCK
PYRITE MEMBER
GOETHITE ORE
PAINT ROCK
CONGLOMERATE
CHERT
DOLOMITE
GRANITIC COMPLEX
BASIC DIKE

TYPICAL GEOLOGICAL SECTIONS

figure 1

3.1.2 Slope Stability

A cursory check of published data regarding rock strength and pit slope stability for this site was made. Two papers (Brawner et al., 1976 and Stark, 1976) were noted. These indicate slope angle designs for the south Roberts pit of 58° for the carbonate and 42.5° for the paint rock. For the Hogarth pit, a massive failure of a steep slope in diorite is described, and a 40° slope is indicated for the ore zone material.

The open pits have been cut at various slope angles in the bedrock, some as steep at 80° to the horizontal, others in the order of 40°. These slopes w re carefully designed by mine engineers during operations such that they would be as steep as possible without compromising safety during mining. Such design is based on a rock mechanics approach using joint patterns and spacings and the availability of friction along joints, together with experience. The level of the groundwater table (or phreatic surface) within the rock slope is also taken into account: the higher the water, the flatter the slope angle must be. The slope angle would have had a tremendous impact on the mining cost. Even a 1° flattening of the pit slope involves very large additional costs.

To use slopes as steep as possible, the slopes were monitored very accurately on a daily or weekly basis to provide warning of any impending slope failure, since in a mine of this size failures could be very extensive, with enormous implications on safety and ore extraction costs. In some cases, some movement in the slope is tolerated during mining, on the basis that accurate monitoring will predict complete failure early enough to allow evacuation of the pit. The amount of warning needed is not constant for all areas of the pit, since this depends on the potential failure mode.

Given the above, all of the pit slopes at the site today, without routine monitoring, cannot be considered safe to public access.

To illustrate the safety problem, it is noted that serious and unexpected slope failures did occur during operation of the Steep Rock Iron Ore Mine. Furthermore, during the site

visits, various slope instabilities were observed along most of the pit faces. These varied from over 100m high surficial slope movements in the paint rock at the Errington pit, to local slumping near water level on the east side of the Hogarth pit, to circular type failures in the paint rock in the Caland Ore pit, to large slides extending back over 50 m into the west wall of the Robertson pit. Each one of these is likely a different type of failure that depends on the rock type, joint spacing, degree of weathering and location of the groundwater table. These movements also indicate factors of safety near 1.0, which are unsafe with respect to public areas.

On the other hand, not all rock slopes around the site are man-made pit slopes, but are natural rock outcrops. Most of these would be expected to be safe, assuming they are not part of a larger potential failure into the excavated pit.

3.1.3 Overburden

Enormous quantities of soft clays have previously been dredged from the site of the open pits (originally Steep Rock Lake). Some localized zones of these materials may still exist outside the area of the pits, particularly below the original lake level. Exposed bedrock is now visible over most of the site.

Another overburden deposit is the large quantity of rock waste placed in many of the mined out areas of the site. These deposits would have been placed in a loose condition and will continue to consolidate, (that is, settle) for several years after placement as a result of their self-weight, weathering and flooding.

Other overburden deposits expected to occur at the site are glacial tills (ground moraine) which normally overlie the bedrock. The Ontario Geological Survey (1980) has also indicated a sand and gravel deposit at the south end of the study area.

3.1.4 Hydrogeology

The hydrogeology at the site concerns groundwater movement. Since the pits were dewatered by pumping during mining, the water level in the pit is rising now that the pumps are shut off. A prediction of the rate of water rise has been made by the MNR (1986). It is reported by the MNR that by the summer of 1989, the actual rate of water level rise had followed the prediction very closely, although the Caland Ore pit was rising slightly faster than the Steep Rock pit. This is currently still being monitored by the MNR, who installed steel survey pins in the slopes at 5 m intervals of elevations for this purpose.

The above information has been used to outline projected lake levels in the study area for the years 2000, 2025 and 2050 (Map 5).

3.1.5 Site Suitability (Map 5)

The information described above has been used together with airphoto interpretation to delineate potentially unstable areas of pit slopes, and zones of mine waste. The remaining areas consist of bedrock and various native soils.

These zones are intended to provide preliminary guidance for planning purposes, and an indication of their significance is given below.

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d. Other Soils

In general, native, undisturbed soils found over the site are expected to be suitable for site development and light construction.

3.2 Existing and Past Use (Map 5)

During the past 10 years, since the closure of both the Steep Rock and Caland mines, the site has witnessed a massive decommissioning of equipment, buildings and infrastructure. Whereas the mine sites were once dynamic major producing centres, they are now entirely abandoned except for a few remnant works.

3.2.1 Past Use Remnants

While the majority of the site has been markedly altered through the removal of all on-site equipment, most buildings, infrastructure including railways and power lines and non-maintenance of internal access roads, a few mine features remain. These include: the Caland Pellet Plant, Caland Generator and Caland Office and Head Frame Shop (now used by Foothills Timber Products); the foundation remnants of the Steep Rock concentrator (Photo 7) and the Steep Rock Head Frame and Hoist Room (now used for PCB storage)(Photo 8); and a number of abandoned shafts, tunnels and water pump pipes. Other features such as the railway lines and other buildings have been removed. No pieces of heavy equipment remain on the site. Dams constructed to maintain altered water flows continue in place.

Photo 7: foundation remnants of Steep Rock concentrator

Photo 8: former headframe and hoist room

3.2.2 Existing Uses

With the abandonment of the mine site by the mining companies, other uses have begun to become established in and around the area. These new uses include the Atikokan Sno-Ho Snowmobile Clubhouse at the north end of Steep Rock site; the conversion of several Caland buildings to the recently closed Foothills Timber Products offices, mill and storage area; the development of a ski hill southeast of the Caland site; the storage of PCBs at the abandoned Steep Rock head frame; and a fish farm at the Caland pit site and hatchery on Steep Rock Lake.

In addition, visitors to the sites to see the abandoned pits and to collect rock specimens commonly use the area. Local residents also visit the site to snowmobile, cross country ski, explore, hunt and walk for pleasure.

3.2.3 Rehabilitation

A limited attempt at rehabilitating the abandoned pits was undertaken on an experimental basis along the eastern flank of the upper slopes of the main Steep Rock pit. There grasses and small saplings were planted in mine waste overburden (Map 5). Throughout the remainder of the site, natural regeneration has been occurring on a variety of waste deposit and slope conditions (Photo 9).

3.2.4 Land Ownership and Control

Following the report of the Regional Services of the Ministry of Natural Resources North Central Region Office (1986), the mining claims at Steep Rock were surrendered to the Crown. The area now rests as part of the vast regional Crown land holdings of the Province of Ontario in the name of the Queen. As a result, Crown land permits are required for land uses. While no land use plan is currently in place for the site, the area is part of the Atikokan District Land Use Plan. It is imperative that an overall land use

Photo 9: regeneration has occured at many locations

Photo 10: a number of viewpoints provide excellent interpretive potential

plan be developed for the site as part of this study, so that fragmentation of the area through individual land use permits does not occur.

3.3 Visual Analysis

Since much of the mine site potential for interpretation and visitor attraction rests with its visual impact, a visual impact assessment was undertaken for the site. A number of significant viewpoints have been noted (Map 5) with corresponding views (Photo 10).

It is evident from the visual analysis that the sites provide extraordinary viewing opportunities of the abandoned pits.

3.4 Reclamation Assessment

Little of the area can be reclaimed for interpretive and mining theme development purposes. This conclusion is based primarily upon three factors. These are:

(1) the geotechnical findings forewarn of serious future stability problems on the majority of pit face slopes;

(2) the record of water inflow into the pits is such that significant filling is occurring and will continue to occur over the next 40 years, reducing the visual impact of the abandoned pits; and

(3) little remains of the original mining features.

3.4.1 Stability

It will be possible through extensive field work to more accurately identify specific degrees of stability over the study area. Even so, such work will not likely identify any additional stable slopes suitable for physical development. Such work may identify additional limited access opportunities. Stability and related safety and liability are

significant severe constraints for site development. Reclamation of such areas is totally and prohibitively unfeasible.

3.4.2 Water Infill

The rapid rate of water infill into the pits will only slow down as the surface area of the lakes increases over time. Through the combination of rainfall, runoff and groundwater movement, water infill will continue, particularly during the next 20 years. Attempts at minimizing infill through redirection of surface runoff will not stop that process. Likewise, pumping of these lakes at their current elevation or at a rate greater than infill is extremely costly. For instance, costs to pump the pits have been estimated as high as 20 million dollars for pump installation and up to 2 million dollars for yearly maintenance. Such costs make any significant pumping unfeasible.

3.5 Implications

The findings of the site assessment have major implications for the development of a mining theme park. Any development programme must recognize the serious constraints of the pit slopes and adjacent uplands. As well, the on-going water infill of the pits which are a primary attraction and means of interpretation suggests that long term ability to interpret the mining theme may be compromised. Further, on-site mining features have been removed, thereby reducing the ability to interpret the site.

3.5.1 Steep Rock

Steep Rock has a higher potential for interpretation because of the following factors:

- it has dramatic views
- it has a number of abandoned pits
- it has good road access directly from Atikokan
- it provides controlled stable views of the pits

3.5.2 Caland

Caland is not as well-suited to on-site development for mining theme interpretation due to:

- it is used by non-theme users
- it is difficult to access view points of the pit
- it is accessible only by a drive out of town on Highway 807

3.5.3 Preferred Mine Site

Given the foregoing considerations, it is recommended that any on-site development or interpretation focus upon the Steep Rock Site so that an interesting and appealing theme can be developed without distraction of adjacent existing uses. Even so, the significant Caland story must also be told as part of an integrated interpretive programme, including some on-site Caland access for public purposes.

4. REGIONAL ANALYSIS

While the primary focus of this study was site and municipal centred, consideration was also given to the role that the region might play in impacting a mining theme and the provision of services and facilities.

4.1 Tourism Development

Existing tourism development provides the basis for an initial network of support facilities and services.

4.1.1 Atikokan

Atikokan has a population of 4,092 (1988). It has a wide range of facilities and services (Figure 2).

(a) Essential Services

Atikokan has all services essential for a role as a major tourism centre. For instance, it has 5 major hotels or motels offering a total of 106 rooms. Of those 5 facilities, 2 are rated as 3 star motels. In addition, there are 12 restaurants in town offering a variety of food types at a variety of costs. There are 9 automobile fuel and/or repair shops, a local OPP detachment and good health care services including a hospital and clinic.

(b) Desired Services

In addition to the aforementioned essential services, there are a number of other services which tourists find useful. They include food stores, liquor stores, drug stores, gift shop and a variety of community recreation facilities.

Figure 2

Tourist Services and Facilities

Essential	Number of Establishments
Accommodation	6
Restaurants	12
Repairs/Fuel	9
Desired	
Food Stores	7
Liquor Stores	1
Drug Stores	1
Hardware Stores	4
Gift Shops	1
Hospital	1
Clinics	2
Police	Yes
Golf	Yes
Recreation Centre	Yes
Campground	Yes

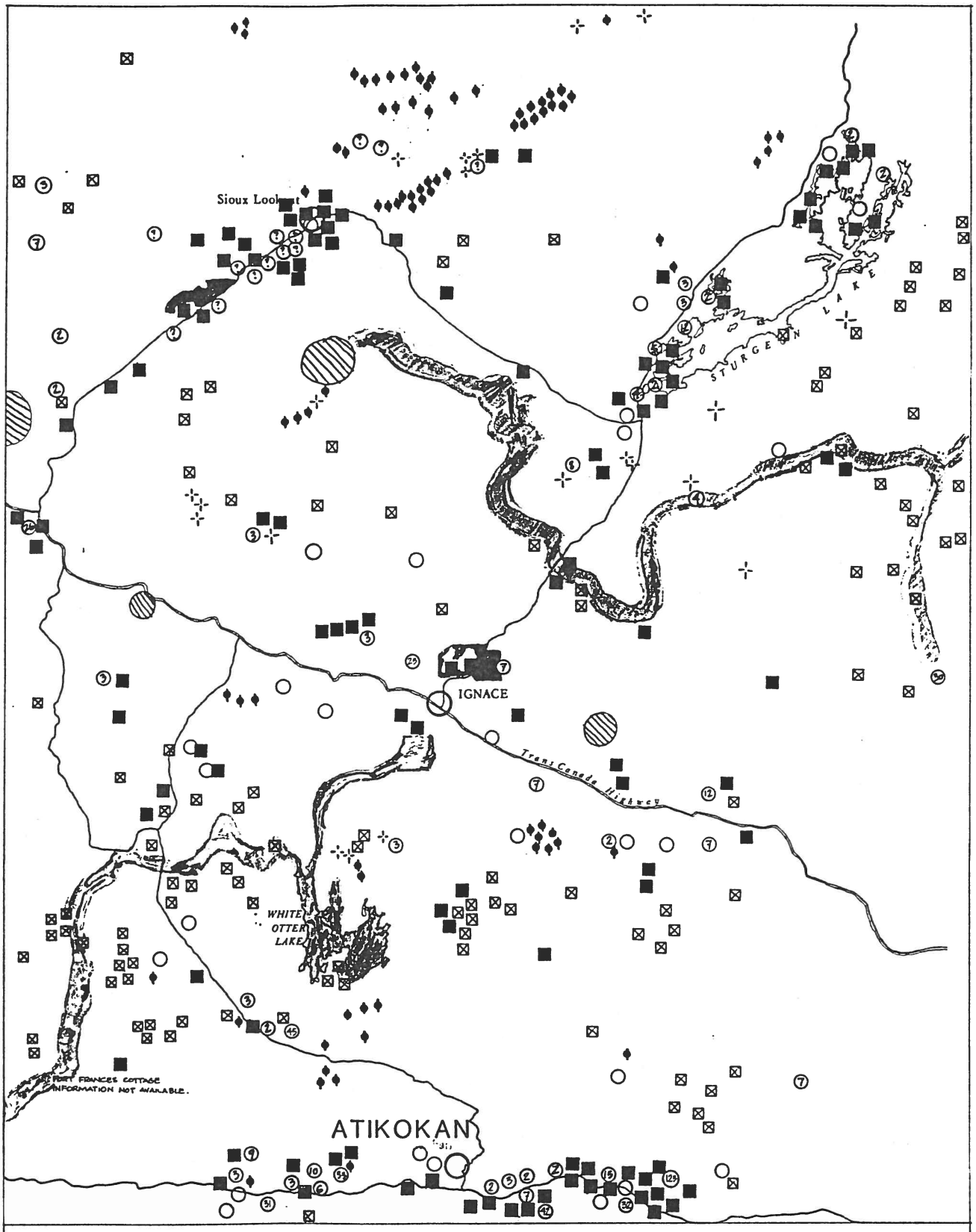
4.1.2 **Region** (Map 6)

Atikokan is centred in a major tourism destination region where the scenic shield country, sport fishing, sport hunting and Quetico Provincial Park draws visitors from across central North America. There are a number of tourism facilities and services that could provide an important component of any Atikokan tourism initiative. For instance, a large number of lodges/camps/resorts exist within a half hour drive of the community. These provide a range of accommodation types and services, with a total of 119 units. These facilities are primarily geared to sport fishing and hunting markets. Several also offer prime camping facilities, beaches and scenic settings. One accommodation facility has a 4 star rating.

The region is highly rated for outdoor recreation pursuits. For instance, the immediate area around Atikokan is recognized as having a high landscape attractivity rating on a national scale of comparison (Canada's Special Resource Lands, 1979).

4.2 Mining Development in the Atikokan Region

As outlined in Section 2.1, mining activity in the Steep Rock area had a historical background which dated back into the nineteenth century. Some of the more important personalities involved in the Steep Rock discovery and development have been mentioned. A review of other relevant mining sites in Northwestern Ontario is provided below.



MAP 6 REGIONAL ANALYSIS

4.2.1 Personalities and Sites

Some of those already mentioned had a role to play in the post-1860 mining history of Northwestern Ontario. The Cross family, for example, had an influence on such important mine sites as those at Silver Islet, Lake Shebandowan and Steep Rock. A brief review of some of the most important regional mining developments in the region is provided below.

4.2.2 Regional Mining Developments

Atikokan Area

Steep Rock Mines (1939-79)

Caland Iron Mines (1949-1979)

Canadian Charleston Iron Mine (Former Concentrator Site) (1956-1965)

Atikokan Iron Range (Atikokan River East, Sapawe Area) (1882-1914)

Sapawe Gold Mine, McCaul Twp. (1961-)

Lake Shebandowan - Kashbowie Area

Huronia Gold Mine (1871-1885)(1928-1936)

Tip Top Copper Mine Zone (1870s)

Nickel Properties (INCO)(1935-)

Upper Seine River Gold Mines

Harold Lake Mine (Baker Twp.)(1895-1900)

Elizabeth Mine, Modred Lake (Freeborn Twp.)(1902-1914)

Hammond Reef Mine, Northeast end of Sawbill Lake (1897-1900)

Sawbill Mines, Northeast end of Sawbill Lake (1897-1899)(Marmion Lake)

Lower Seine River Gold Mines (Mine Centre Area)

Foley Mine, Shoal Lake (1897-1898)

Preston Gold Mining Co., West end of Little Turtle Lake (1897-1900)

Other mine names in this area included: The Olive; Veriac Mine on Bad Vermillion Lake; The Decca Mine; the Alice A. Mine; the Gold Bug; Mayflower; Fighting Chance; Independence; Gold Eagle; Lucky Loon; Swede Boy; Fergusson; Manhatten; Hidden Treasure; Emperor

Mine Centre Town. North Shore of Shoal Lake. This was the main settlement and supply area for the regional mines. 1897-1905. Bell City was a nearby and related community.

Port Arthur Copper Mine. c. 5 kilometres west of Mine Centre (1916-18)(1955-)

Rainy Lake Area

Reef Point Iron Formation (Commissioner's Bay and Rocky Inlet). Undeveloped

Lake of the Woods - Upper Manitou Lake Gold Area

A gold mining landscape first noted in 1878, but dating, in terms of development, from the 1890s period. Gold Rock on upper Manitou Lake has been identified by the Province of Ontario as an area of historic interest.

Red Lake Gold Field

This field is the major success story in north central and northwestern Ontario with respect to gold mining, and it was developed after 1925. The field was designated as a provincial historic site in 1962. By the mid-1960s, twelve mines had come into operation in the field, five of which were then active.

Sturgeon Lake Area

Some gold operations were successfully mounted around this lake north of Ignace in the years between 1890 and 1910. Base metals were worked in the years after 1969 and after 1974 open pit operations were commenced by Falconbridge at Mattabi Lake Mines.

McNamara Lake Area

This area, south of Ignace, was actively staked but not very productive.

Raleigh Lake Area

This area, west of Ignace, was studied and staked, but did not actively produce minerals.

Silver Mountain Area

This region, south of Kakabeka Falls, contained several mines during the period 1882-1910, worked mainly for silver. Some of these were the Rabitt Mountain Mine, the Badger, the Beaver and the Porcupine Mine.

4.3 Themes

Several general organizing themes can be identified around which to structure the various kinds of local and regional resources focused on mining and environmental adaptation. A large number of sub-themes can be developed under each of these headings, sufficient to deal with most specific topics of interest to the site and its history.

1. Prehistoric and Historic Native use of the Mineral Heritage
2. Nineteenth Century Geological Appraisal of the Shield Country
3. Development of a Mining Frontier west of Thunder Bay, 1860-1940
4. World War II and the Crisis in Iron Ore Supply
5. Post-War Developments in the Continental Iron Industry
6. The Rise of Environmental Management after 1960

4.4 Other Attractions

Since Atikokan lies within a nationally recognized landscape, it is not surprising to discover several major other attractions of which Quetico Provincial Park ranks of paramount significance. Quetico is one of Canada's foremost canoe water areas. It covers 475,783 hectares and lies immediately adjacent to equally famous Boundary Water Canoe Area of the northern United States. Although Atikokan is the main Canadian centre serving that vast region, there are only three entry points available and only one road access campground to the Park.

In addition, White Otter Lake and the Turtle River are part of the Turtle River Provincial Waterway Park which was set aside in 1968 as a Park Reserve. This area of 40,052 hectares covers what is described by the Park Background Information Document as "a significant natural resource with unique biophysical, recreational and cultural/historical attributes".

A number of historic and cultural points of interest can also be found in the region. These include White Otter Castle, a number of abandoned lumber camps and their associated works, abandoned prisoner of war camps and pictograph sites. All of these features further create an area of interest for visitors to the region.

As well, the region displays several interesting geological and geomorphological features including the "green stone" belt of Early Precambrian age which includes some of the world's oldest known rocks and fossils, dating back to 2.9 billion years. As well, a variety of rock types and scenic glacial-laid uplands dominate.

5. EXISTING MINING THEME DEVELOPMENTS

This section examines the variety of mining theme developments that exist across North America.

5.1 Mining Theme Park Locations

Information has been obtained on 22 museums, visitor information centres in northern (9 developments) and southern (1) Ontario, four other Canadian provinces (6), and two American states (6), which either wholly or partially use a mining theme in their displays/programming.

This section provides information on the themes/displays, associated programming, and attendance/market associated with each.

5.1.1 Northwest Ontario Region

Several mine-related (amethyst mine) tourist attractions are located between 60 and 70 km east of Thunder Bay, approximately 270 km southeast of Atikokan. Table 5-1 sets out information on the services/programs and attendance/markets associated with each project. Visitors are allowed to pick their own amethyst from open pits accessible to the public.

5.1.2 Other Ontario Locations

Cobalt: Northern Ontario Mining Museum (85 km north of North Bay)

The Museum, open from May through September, contains seven rooms of displays and exhibits concerning general and early silver mining history of the Cobalt area. It also contains a reference library and video room. The Museum's associated Heritage Silver Trail provides a self-guided driving tour itinerary, including ore outcroppings and mining equipment, through a silver mining camp.

Table 5.1: Northwest Ontario Region: Mining-Theme Tourist Attractions

Name of Attraction*	Hands-on Exhibits	Special Events	Tours: Guided	Tours: Self Guided	Total Attendance (1986)	Origin of Visitors (%): Region	Origin of Visitors (%): Other Ontario	Origin of Visitors (%): U.S.	Origin of Visitors (%): Other Foreign	Visitor Market Segments (%): Adults/ Families	Visitor Market Segments (%): School Students	Visitor Market Segments (%): School Groups	Visitor Market Segments (%): Seniors
Amethyst Mine Panorama	Yes	Yes	Yes	Yes	35,000	30%	20%	40%	10%	65%	0%	15%	20%
Ontario Gem Company	Yes	No	No	Yes	55,000	12	4	80	4	30	5	5	60
Pearl Mountain	No	No	Yes	Yes	N/A	25	15	20	40	N/A	N/A	N/A	N/A
Diamond Willows Mine	Yes	No	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dorian Amethyst Mine	N/A	N/A	N/A	N/A	20,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*all attractions are located in the Thunder Bay area
N/A - information not available from this source

Source: Atikokan Mining Theme Park Study, Pannell et al., May, 1988

Average annual attendance at the Museum is 3,500 to 4,000; attendance on the Trail averages 7,500 to 8,000 per year.

Table 5.2 shows the market breakdown (origins and age groups) for the Cobalt Museum and other mine-theme centres in Ontario.

Elliot Lake: Mining and Nuclear Museum (180 km west of Sudbury)

The Museum, open year-round, includes a Mining Section, which depicts the mining and milling of uranium ore. Other sections provide displays on wildlife, logging, nuclear energy and local/area history. Average attendance is 10,000 persons per year.

Kirkland Lake: Museum of Northern History (160 km north of North Bay)

The Museum, located in the original Kirkland Lake home of Sir Harry Oakes, opened in its present location in 1982. Two of its six display rooms present local historical and technical information on gold mining. Average attendance is 10,000 persons per year.

Oil Springs: Oil Museum of Canada (40 km southeast of Sarnia); Petrolia: The Petrolia Discovery Oil Field (10 km north of Oil Springs)

The Museum, open year-round, attracts 10,000 visitors per year; approximately 6,500 persons visit the historic Petrolia Discovery Field annually.

The Museum is located on the site of the first commercial oil well in North America, and includes displays/exhibits on the local history, past and present technology, and international character of the oil industry. It includes an archives and reference library, and an "honour roll" of prominent figures in the history of the industry. An "oil heritage" driving tour of Oil Springs provides a planned historical itinerary around Oil Springs (see Appendix 1).

Table 5.2: Ontario: Market Breakdown, Mine-Theme Attractions

Attraction	Average Annual Attendance	Origin of Visitors (%)			Visitor Market Segments (%)			
		Ontario	U.S.A.	Other Foreign	Adults/ Families	Students	Student Groups	Seniors
Northern Ontario Mining Museum (Cobalt)	4,000 (Museum) 8,000 (Trail)	60%	20%	20%	60%	5%	15%	20%
Mining and Nuclear Museum (Elliot Lake)	10,000	80	20	-	N/A	N/A	N/A	N/A
Museum of Northern History (Kirkland Lake)	10,000	90 (est).	10 (est.)		-	N/A	N/A	30%
Oil Museum (Oil Springs)	10,000	70	15	15	25	10	15	50
Petrolia Discovery Field	7,000	60	20	20	25	5	15	55
Big Nickel Mine (Sudbury)	67,000	65	15	5	75	-	10	15
Path of Discovery (Sudbury)	6,000	65	15	5	60	-	-	20

Sources: Atikokan Study, Pannell et. al.
Telephone Survey

The Petrolia Discovery Field (60 acres) began operation in the late 1860s, and is still producing oil. It is open to the public from May through September. The visitor centre provides exhibits and a film on the history of oil exploration and production in the area. It attracts 7,000 visitors annually.

Sudbury: Big Nickel Mine (located at Science North Science Centre)

The mining section of Science North allows visitors to visit underground a formerly working nickel mine. It is open from May through mid-October, and attracts 68,000 visitors annually. The Path of Discovery bus tour takes visitors to the site of what was once the deepest open-pit mine in Canada. It attracts 6,000 visitors annually.

5.1.3 Other Canadian Locations

Victoria, British Columbia: Royal British Columbia Museum

British Columbia's natural and human history museum, one of Victoria's major tourist attractions, includes exhibits/displays in sections which depict oil and natural gas geology, exploration and extraction, and an historical representation of a small working mine of the last century. These displays contribute less than ten percent of the Museum's total public exhibit area.

Barkerville, British Columbia (90 km southeast of Prince George)

Barkerville's restored 1870's gold rush town is open year-round, and attracts 120,000 visitors annually. Appendix 1 shows the layout of buildings and other points of interest in the townsite. A nearby provincial historic park (Cottonwood House) and a series of points of interest on the Gold Rush Trail, the 45-km driving tour from Quesnel to Barkerville, complement the historic theme and character of the town.

Key attractions within Barkerville are: historically authentic shops and service establishments (such as a blacksmith); demonstrations of how gold was mined 100 years ago; street "scenarios" (dramatic recreations of daily life); and a musical comedy shown in the local theatre, in the style residents would have seen it in the 1870s.

Britannia Beach, British Columbia: British Columbia Museum of Mining (35 km north of Vancouver)

The Museum, open July through Labour Day, is located at the site of what was the largest copper mine in the British Empire. It provides visitors with the following information areas: underground working displays (train, mucker, drills); ore concentrator building; and the Mining House and Britannia visitor centres (artifacts and displays).

Petit Rocher, New Brunswick: New Brunswick Mining Interpretive Centre (10 km north of Bathurst)

The Centre opened in 1986, at a total cost of $2 million (of which $1 million was spent by the Government of Canada (75%) and New Brunswick under a joint development agreement). Industry funding for artifacts and displays has also been received. It is open from May until mid-September, and attracts 12,000 visitors annually. Retired miners assist in staffing the Centre, and provide guided tours.

Glace Bay, Nova Scotia: Mining Museum (20 km east of Sydney)

The Museum, open year-round, attracts 30,000 visitors annually; in comparison, nearby attractions are Louisbourg National Historic Park (120,000 visitors per year) and the Marconi Interpretive Centre (20,000 annual visitors). The museum is located on a 15-acre, oceanfront site; its principal facilities are: a 150 seat film theatre; Ocean Deeps Colliery, Miners Village and Museum Building.

Malartic, Quebec: Regional Mine Museum (50 km east of Rouyn-Noranda)

The Museum is open year-round, and attracts 13,000 people per year. Besides displays and exhibits, the Museum provides a simulated descent into and a brief visit to, an underground gold mine.

5.1.4 Locations in the United States

Denver, Colorado: Colorado School of Mines Geology Museum

The Museum, located at the College, attracts 15,000 visitors each year. It has received funding assistance from major Corporations for displays, and from mineral clubs in Colorado.

Leadville, Colorado: National Mining Hall of Fame and Museum (130 km west of Denver)

The Museum opened in 1987. Its total capital cost of $2.5 million will be financed through a ten-year corporate and foundation fund-raising program. It is open year-round, and forecasts 1990 attendance of 25,000. Leadville (population 3,900) was a silver mining boom town. Its 100 year-old schoolhouse now contains the Museum.

Besides displays, exhibits and audio-visual material, the Museum offers a library and conference centre for historical research (professional and amateur). Also, fifty prominent American leaders in the mining industry have been admitted into the Hall of Fame located in the Museum. They are honoured through murals, engraved photos and plaques.

Appendix 2 provides information on the Museum's objectives and layout.

Calumet, Minnesota: Hill Annex Mine (150 km northwest of Duluth)

The former open-pit iron mine is the location of a state park which offers bus tours of the former mine's main service buildings, the 500 foot-deep pit and mining equipment.

Visible fossils in the pit are also shown to visitors. The Visitor Centre's displays also highlight the immigration/settlement history of the region.

It attracts 25,000 visitors per year, of whom 75% are from Minnesota, 15% from other states, and 10% from other countries, including Canada.

Chisholm, Minnesota: Ironworld USA (former Iron Range Interpretive Centre) 160 km northwest of Duluth)

Ironworld USA was reopened in 1986, in order to increase the tourist appeal and resulting attendance enjoyed by the original centre. The Centre's maximum attendance prior to 1986 was 120,000. Projections for annual visits in 1990 are 125,000 persons. Because an estimated two million visitors pass through Duluth each year, the Chisholm area promotes local tourism to this potential market. To date, market breakdowns are as follows:

- adults: 82%; children: 18% (couples with children: 10%); seniors: 25%
- origin of visitors:
  - Iron Range: 20%
  - day visitors to region: 40%
  - overnight visitors: 40%
- repeat visitors: 57%
- Ironworld as most important reason for visit to Iron Range: 53%

Appendix 3 provides information on Ironworld's main attractions; layout of its Hall of Geology; events schedule; and special programs for school groups.

Duluth, Minnesota: S/S William A. Irvin

The former Great Lakes iron ore carrier is located within a few minutes' walk of downtown Duluth. It is open to visitors from May to mid-October.

Tours of the ship, oral histories presented by retired seamen, information media on Lake Superior and deluxe restaurant service are offered to visitors.

Hibbing, Minnesota: Hull-Rus Mine (170 km northwest of Duluth)

The iron mine site contains a large number of working and non-working pits. Its visitor centre offers pictorial displays on past and present iron mining in the area.

It attracts 65,000 visitors each year, 60% from Minnesota and 40% from other states.

5.2 Common Facilities and Features

This section reviews the facilities and features which are usually found in the aforementioned sites.

5.2.1 Themes/Storylines

The following common elements are found in the themes and storylines applied at many or most of the attractions described in Section 5.1:

- reliance, where possible, on specific local/area mining history: mineral(s) extracted; equipment/technology used; engineering techniques;
- connection with social/immigration history of region: origin of mines; ethnic diversity; and relationship to other economic activities (such as forestry, railroads, manufacturing, etc.); and
- use of the theme of settler /early miners overcoming physical hardships (gruelling physical labour; danger; isolation).

5.2.2 Services/Facilities

The attractions surveyed and reviewed tend to offer the following common services and facilities:

- special materials for use by school groups (such as quizzes);
- generators of additional revenue and employment: food/beverage services and gift/souvenir shops; guided tours;
- research/educational facilities: reference libraries; archives, oral history collections, and meeting/conference space (potential use of theatre areas); and
- regional tourism: cross-marketing and joint promotion with other attractions (such as events), including use of common brochures, highway signage, and development of driving tour itineraries (brochures, logos and signage).

Many attractions are becoming more dependent on special programs and events, including entertainment (examples are Barkerville and Ironworld) to attract more visitors and obtain more revenue per visitor.

5.2.3 Marketing

Marketing techniques and strategies common to m ny or most attractions surveyed include:

- regional tourism marketing (see 5.2.2 above); including maximum use of provincial/state and regional tourism promotion programs (brochures, maps, advertising);
- emphasis on closest urban/tourist destination markets with respect to limited promotion/advertising budgets; and
- development of special events; including live entertainment (see 5.2.2), sometimes in collaboration with other regional attractions.

5.2.4 Displays

The attractions surveyed and reviewed have tended to develop the following common approaches in the displays/exhibits which they employ:

- heavy use of authentic buildings, equipment, tools, ore samples, and other artifacts representing the region's mining experience, past and present;
- use of taped oral histories and film/photo stock, when available, in audio-visual displays;
- guided tours into real or simulated open-pit or underground mines, to provide visitors with a "feel" for mining as an occupation;
- development of interactive interpretive materials, such as mini-quizzes for members of visiting school groups; and
- development of walking or driving tour itineraries (on-site and over a wider area).

5.3 Operational Considerations

Operational considerations relate primarily to staffing, clientele and costs.

5.3.1 Staffing

Most attractions are located in areas whose highly seasonal tourism industries preclude year-round operation (or necessitate limited operations in off-peak periods). Therefore:

- financial viability necessitates that permanent and salaried staff be kept to an absolute minimum;
- many depend strongly on volunteer staff, including reception/gift shop employees, and retired miners serving as guides; and
- many facilities seek to "borrow" cleaning, maintenance and repair services from parks, municipal and other sources.

5.3.2 Clientele

The following market segments are important actual or potential sub-markets to the attractions surveyed:

- families: adults with children constitute the major source of visitors in the peak tourism/visit period, late June to Labour Day (an attraction may receive 75 to 90 percent of its visitors during this period);
- school groups: bus tours of school children aged eleven to sixteen will travel up to 200 km for day-trips, especially in the period from Easter to early June; and
- seniors: often travelling in organized bus tour groups, seniors and "empty nesters" are the most important sub-market during non-peak "shoulder" months (late April to mid-June and mid-September to mid-November).

5.3.3 Costs

The following operating cost factors should be noted:

- payroll costs are minimized where possible (see Section 5.3.1);
- low attendance in winter months may preclude expenditure on full space heating;
- efforts to "borrow" maintenance and cleaning services reflect the need to minimize these costs, and the seasonal nature of many attractions' operations; and
- corporate/individual donations of artifacts and exhibit materials, including major pieces of equipment, are an important source of "funding in kind".

5.4 Implications for an Atikokan Mining Tourist Attraction

Information obtained on other mining-theme tourist attractions in Canada and the United States leads to the following preliminary conclusions:

- with the exception of Barkerville, British Columbia, a restored turn-of-the-century "gold rush" town, attractions with a preponderant mining theme are not major primary tourist attractions;
- however, projects which recount the history and present state of a local/area mining industry in an interesting way, provided that they can be developed and operated in keeping with the area's ability to pay and to raise funds, can provide a positive secondary attraction to visitors and to tourists passing through the area;
- the highly seasonal (June to Labour Day) nature of tourism in northwest Ontario, as for many of the regions where the attractions surveyed are located, indicates that seasonal (May through September) operation of an attraction may be desirable for the points of view of economic feasibility, at least in early years of operation; and
- a facility which includes in its themes/storylines the personal and social history of the Atikokan area, and involves retired miners and other residents in telling the story of Atikokan (through recorded oral histories and guided tours), would enhance the interest of the visitors to the attraction.

6. MARKET ASSESSMENT

Through a review of visitation to other mi[illegible] patterns, a projection of potential use is forecast [illegible].

6.1 Regional Population Base

Market/attendance information obtained from other mining-theme attractions indicates that most of these attractions depend strongly on visitor/tourist markets which originate in the province/state and immediate (250 km radius) region in which they are located. The proposed Atikokan's immediate regional population within this radius is broken down as follows:

- the 1986 population of the Northwest Ontario region (from Thunder Bay to the Manitoba border) is estimated by Statistics Canada at 363,200 persons (124,800 households);
- an additional 40,000 residents in the north central Ontario region (within a 150 km radius east and northeast of Thunder Bay) also form part of the proposed Atikokan attraction's immediate regional market; and
- the portions of Minnesota and Wisconsin located within a 250 km radius of Atikokan provide a potential market population of approximately 550,000 persons; this region includes the following important urban centres: Duluth/Superior (population 130,000); Hibbing (21,500); Bemidji (11,000); Virginia (11,000); Ashland (9,200); and Thief River Falls (9,100).

Therefore, a total population of 950,000 is within 250km of Atikokan. Within a radius of 500 kilometres (one days drive), there is a population of 2-1/2 million.

6.2 Visitation Patterns

Visitation patterns for Northern Ontario and Sunset Country are examined in the following two sub-sections.

6.2.1 Northern Ontario Visitor Patterns

In 1985, Northern Ontario attracted 2.6 million person-visits (9.6% of total person-visits and 16.7% of overnight visits in Ontario in that year); in 1985, Northern Ontario was the main destination of 1.3 million visitors to Ontario (14.3% of all visitors to the province). Table 6.1 shows the percentage of tourist nights spent in northwest Ontario in 1985 compared to other regions.

The 1985 Ontario Ministry of Tourism and Recreation survey of tourism in Northern Ontario (based upon 1982 data) indicated that:

- 71% of the same-day and overnight travellers within the region are residents of the region;
- 90% of same-day person-trips within the region originate from a distance of within 160 km; and
- while same-day trips within the region are fairly well distributed over the entire year, overnight visits within the region are strongly concentrated in the June to Labour Day period (see Table 6.2).

Table 6.1
Nights Spent in Each Region in Ontario, 1985

TAR Regions	Total Nights in Region # ('000)	%	Average Nights Among Overnight Visitors
1. Southwestern Ontario	3,653	8.4	2.82
2. Niagara and Mid-Western Ontario	5,548	12.7	2.86
3. Grey/Bruce/Huronia/Muskoka	2,498	5.7	6.17
4. Metropolitan Toronto	13,465	30.9	4.5
5. Central Ontario	2,725	6.2	5.08
6. Eastern Ontario	7,693	17.6	3.87
7-12. Northern Ontario	8,058	18.5	5.37
TROR Regions			
1. Southwestern Ontario	4,848	11.1	3.16
2. Central Ontario	21,780	49.9	4.39
3. Eastern Ontario	9,182	21	4.07
4. Northeastern Ontario	4,016	9.2	5.24
5. Northwestern Ontario	3,814	8.7	4.26
Total person nights ('000)	44,165		

Source: Ontario Ministry of Tourism and Recreation

Table 6.2: Northern Ontario: Seasonality of Tourism

Quarter	Same-Day Travellers (%)	Overnight Travellers (%)
January to March	20%	13%
April to June	25	21
July to September	31	47
October to December	25	20
	101%	101%

Source: Ontario Ministry of Tourism and Recreation

Other survey data obtained by the Ministry show that:

- approximately 40% of overnight visitors to northern Ontario are in professional/executive occupations, and 26%, skilled labour;
- visitors who stay at least one night in northern Ontario are distributed fairly evenly across age categories; however, they are on average significantly older than the Canadian population as a whole (42.5% are over 45 years of age versus 34%, respectively);
- 69% of northern Ontario visitors have annual household incomes above $30,000 (34%, above $50,000), compared to 56% for the overall Canadian population;
- automobile travel accounts for 90 percent of all visitation traffic;
- Michigan and Minnesota contribute the largest proportion of American overnight visitors to northern Ontario; and Manitoba is the most important Canadian source of Canadian visitors from outside Ontario (see Table 6.3).

Table 6.3
Origin of Overnight Visitors to Northern Ontario (1985)

Origin	Region		Province	
	# ('000)	%	# ('000)	%
Total U.S.A.	752	58	5,313	58.6
Michigan	169	13.1	1,321	14.5
New York	39	3	1,074	11.8
Ohio	63	4.9	533	5.9
Pennsylvania	30	2.3	476	5.2
Illinois	63	4.9	243	2.7
Minnesota	162	12.5	214	2.4
Wisconsin	53	4.1	132	1.5
Indiana	40	3.1	114	1.3
Other U.S.A.	133	10.3	1,206	13.3
Total Canada	528	40.7	3,391	37.2
Maritimes	30	2.3	487	5.3
Quebec	96	7.4	1,827	20.1
Manitoba	320	24.7	523	5.7
Saskatchewan	28	2.2	84	0.9
Alberta	22	1.7	223	2.5
British Columbia	25	1.9	217	2.4
Others	7	0.6	30	0.3
Total All Other Countries	17	1.3	398	4.4
United Kingdom	7	0.5	106	1.2
Total Base	1,297 person trips	100	9,100 person trips	100

Source: Ontario Ministry of Tourism and Recreation

6.2.2 Sunset Country Patterns

The following discussion is from a 1987 study by the Ontario Tourism Research Section of the 1985 Ontario Exit Survey. A total of 805,000 travellers visited Ontario's Sunset Country during 1985 or about three percent of the total number of travellers to Ontario. Seventy-seven percent were overnight visitors or 620,000. Of that total, 48 percent are residents of Manitoba and 14 percent are residents of Minnesota. Therefore, Manitoba and Minnesota predominate in out-of-province visitation. The vast majority (76%) of travellers visited the region for recreation or pleasure purposes.

The most popular activities for visitors to the region were outdoor or sporting activities (57%) and sightseeing or touring (41%). This suggests a strong market affinity for the potential snowmobile market.

Average expenditure per person trip for same-day visitors was $15.13 and for overnight visitors was $112.20 (1985). Of these totals, 36.5 percent was spent on accommodation, 22.3 percent on food and beverage, 14.4 percent on recreation and 13.1 percent on automobile expenses.

6.2.3 Highway Use

Statistics obtained in 1986 (July and August) at Atikokan's tourist information booth indicate the importance of immediate region residents to tourism in the area.

Origin	Percentage of Booth Visitors
Ontario	33%
Minnesota	18
Manitoba	11
Wisconsin	5
Other U.S.	18
Other Canada	6
Non-U.S. Foreign	2

Customs crossing statistics for Fort Frances and Rainy River indicate that:

- 70% of annual entries take place in the period from May 1 through September;
- the annual levels of U.S. incoming autos and passengers at these two border entry points (the closest major crossings to Atikokan) in recent years have fallen at Fort Frances, and increased at Rainy River in recent years:

Border Crossings - Entries

	Fort Frances		Rainy River	
	Vehicles	Passengers	Vehicles	Passengers
1989:	154,109	369,970	29,426	69,223
1988:	166,954	401,787	not available	
1987:	172,524	422,810	22,594	59,634
1986:	180,495	437,703	22,494	56,930

The Pigeon River border crossing south of Thunder Bay annually admits approximately 61,000 American vehicles, of which one-third enter between June 1 and Labour Day.

The Atikokan area's major existing tourist attraction, Quetico Provincial Park (average annual visits: 120,000) is a facility geared to peak-season tourism; its Visitors' Pavilion is open from July 1 to Labour day. It is noted that up to 95% of its visitors are Americans, especially Minnesotans. Because the Park's main road entrance is located only 25 km east of Atikokan and because at least 30,000 Park visitors use this entrance every year, the Park would provide a key potential market for visitors to a mining-theme attraction from late June to early September.

Finally, highway traffic volumes in the region around Atikokan peak during summer months, when average daily traffic exceeds volumes during winter by 30 per cent. The summer daily average volume in 1987 on Highway #11 was 940 vehicles (of which 13% was commercial). It is also projected that average daily summer volumes on Highway

#807, which connects Highways #11 and #17, will reach 400 vehicles in future years. As the Trans Canada continues to experience rapid growth in commercial truck traffic, Highway 11 may very likely receive greater volumes of non-commercial travel.

6.2.4 Lodge Visitation

A review of the number and use of lodges in the Ignace and Atikokan Districts suggests that lodge visitation could generate substantial opportunity to attract visitors to Atikokan and a mining theme park. For instance, 76 lodge beds near Ignace and 89 near Atikokan provide a significant potential visitation base of 165 non-resident beds or a potential total of (Number of beds x 70 percent occupancy x 60 days) 7,000 visitors. Of this total, it is estimated that likely one third (2,300) would visit the mining theme if properly promoted.

6.2.5 Activities Sought

Table 6.4 lists the types of activities pursued by visitors to Ontario and also specifically to the Sunset Country of Ontario. Visitors from the U.S. to Ontario participated in sightseeing/touring (41.8%), shopping (36.3%), and eating in a restaurant (52.7%). Canadian visitors emphasis on participation differed. Activities sought by Canadians include shopping (48.9%), visiting friends/relatives (42.0%), and eating in a restaurant (48.9%).

Canadian visitors to "Sunset Country" tended to pursue outdoor/sporting activities (50%) and sightseeing/touring activities (50.6%). American visitors participate largely in outdoor/sporting activities (68.5%) when visiting Ontario's Sunset Country. The Sunset Country activity patterns differed dramatically from Ontario as a whole and indicate the

Table 6.4
Activities Participated in at Main Destination

	DESTINATION				DESTINATION			
	Sunset Country				Ontario			
	Cdn Origin #('000)	USA Origin #('000)	Cdn Origin %	USA Origin %	Cdn Origin #('000)	USA Origin #('000)	Cdn Origin %	USA Origin %
General Activities								
Outdoor/Sporting Activities	195	238	50	68.5	1,314	3,414	21	19.1
Sightseeing/Touring	198	107	50.6	30.9	1,734	7,467	27.7	41.8
Shopping	154	90	39.4	25.8	3,060	6,481	48.9	36.3
Eating in a Restaurant	132	135	33.7	38.8	2,495	9,414	39.9	52.7
Visiting Friends/Relatives	141	31	36.2	8.8	2,629	2,743	42	15.4
Specific Activities								
Went on a Boat/Rail Tour	34	36	8.7	10.3	309	978	4.9	5.5
Went to Historical Sites	21	22	5.4	6.3	727	1,674	11.6	9.4
Went to Sporting Events	7	14	1.8	4	295	461	4.7	2.6
Went to Museums/Galleries	9	11	2.3	3.2	444	1,054	7.1	5.9
Went to Exhibitions/Fairs/ Special Events	2	4	0.5	1.2	435	713	7	4
Went to Attractions/Zoos/ Amusement Parks	11	4	2.8	1.2	637	1,680	10.2	9.4
Went to Live Theatre/Dance/ Music Concerts	7		1.8		194	397	3.1	2.2
Business								
Personal Business	11	9	2.8	2.7	1,033	1,669	16.5	9.3
Business Conventions	2	9	0.6	2.7	703	332	11.2	1.9
Other								
Other Activities	27	16	6.9	4.5	600	1,588	9.6	8.9
None of these/stated		2		0.4	241	328	3.8	1.8
Total	951	728			16,850	40,393		
Base person trips ('000)	391	348			6,257	17,846		
Average no. of activities per person trip	2.43	2.09			2.69	2.26		

Source: 1985 Ontario Exit Survey-Travel Association Region 12: Ontario's Sunset Country; Volume VIIF, March, 1987.

overwhelming importance of outdoor/sporting activities. Between Canadian and American participants, the most significant contrast related to the Canadian participation in sightseeing in the Sunset Country compared to the American preference for sightseeing in Ontario as a whole (Table 6.4).

A review of specific activities indicates that Sunset Country visitors do not participate in activities at the same rate as visitors to Ontario. For instance, almost twice as many visitors to Sunset Country went on boat/rail tours. Historical site and museum/gallery visitation was lower in Sunset Country, likely because of fewer available sites in Sunset Country. Visits to exhibitions, fairs, special events, attractions also was lower in Sunset Country. Both suggest opportunity to fill a market void. As well, the Ontario average may be a suitable target for maximizing visitation to a Mining Theme Park.

This suggests that, of the 391,000 Canadian visitors and 348,000 United States visitors to Sunset Country, a total of 45,356 Canadians and 32,712 Americans would visit Sunset Country historic sites if Ontario trends prevailed. This represents total increase of 35,000 visitors to such sites over current levels. A Provincial Park Day User Survey completed in 1984 for 13 Provincial Parks, including 3 in the northwestern Region, found that 12.2 percent of day users attended historical displays. This was the eleventh most participated-in activity out of 19 activities. For instance, it ranked ahead of motor boating (3.6 percent), fishing (8.5 percent). As well, recent evidence from the Nestor Falls Archaeological Dig indicates high interest by out of province visitors, particularly Americans. Therefore, there appears to be a significant latent demand for more historic/interpretive theme sites.

6.2.6 Seasonality

Overnight visitors to northern Ontario largely visit in the summer months, July/August/September. Table 6.5 shows that 60.7 percent of overnight visitors travel to the region in the summer. The months of April/May/June account for another 22.6 percent. The remaining 6 percent of overnight visitors make their visits from October to March. During the off-season (October to March), visitation is primarily same day and not oriented to longer term stays. Such visitation, in terms of number of visitors, compares favourably with the April to September period and indicates a large volume of traffic that could be targeted for capture by a mining theme park.

Table 6.5

Seasonality of Visiting Northern Ontario

	Same Day		Overnight	
Season	#('000)	%	#('000)	%
Jan/Feb/Mar	164	21.8	113	8.7
Apr/May/June	118	15.6	293	22.6
Jul/Aug/Sept	279	37	787	60.7
Oct/Nov/Dec	193	25.6	104	8
Total Base	753	100	1,297	100
	Person Trips		Person Trips	

Source: 1985 Ontario Exit Survey, Travel Association Regions 7-12; Northern Ontario, Volume VIII; January, 1987.

6.3 Visitor Profile: Market Segments

Information obtained on markets/attendance associated with other mining-theme attractions indicates that the following market segments would be most important for a similar attraction in Atikokan:

- vacation families: adults accompanied by children still constitute the largest tourism sub-market in the most important tourism time period (late June to Labour Day) in North America; their contribution to total attendance over a twelve-month period, assuming year-round operation of an Atikokan attraction, would be as follows:

	Contribution to Total Attendance	
Time Period	Origin within 150 km radius	Origin beyond 150 km radius
June 15 to Labour Day	high	high
Labour Day to Christmas		
- weekday	low	very low
- weekends	high	very low
Christmas to New Year's Day	high	low
January 1 to Easter		
- weekday	very low	very low
- weekend	high	very low
Easter Weekend	high	low
mid-April to mid-June		
- weekday	low	very low
- weekend	high	low

- unaccompanied adults: this market segment includes young, childless couples (many of whom travel in off-peak periods, such as the "shoulder" months: April through June, and Labour Day to late October); "empty nesters", pre-retirement couples who possess the time and discretionary income to travel frequently; and seniors, who travel in the peak and "shoulder" months in northern North America in ever-increasing numbers, often as part of a larger group using bus package tours; and

- school groups: late primary and secondary school students travelling by bus in groups, especially those within a 200 km radius of Atikokan, would provide a major portion of weekday attendance, especially between Easter and mid-June.

6.4 Use of Other Mining Theme Park Sites

Successful mining-theme attractions seek to engage visitors in a range of activities/experiences:

- provision of food and beverage services can increase the length of stay of visitors at the attraction, and average expenditure per visitor/group;
- provision of guided tours (including those given by former miners) will increase the educational value, and "personalize" the storyline presented by the attraction;
- new technologies which provide visitors with simulations of the sounds, and other sensations, of mining, and videotaped oral histories, enrich the overall experience of visitors;
- brochures and signage which provide visitors with walking or driving (self-guided) tour itineraries within and beyond the attraction's immediate site area can serve to broaden the historical interest and the diversity of the attraction, and can stimulate the complementary tourism/economic potential of the attraction and the community in which it is located (historical walking/driving tours stimulate shopping, meal purchases, and attendance at neighbouring attractions); and
- attractions such as Barkerville and Ironworld, USA are using entertainment media (street "dramas", theatrical productions, ethnic festivals, and major concerts) to broaden the appeal of their attractions. In the case of Ironworld, its summer events schedule seeks to attract region residents and summer tourists to the facility who probably would not have visited the attraction just because of its mining theme.

6.5 Projections of Use

Based upon information obtained on other attractions in North America, and on tourism patterns in northwest Ontario, and assuming that an Atikokan attraction will operate year-round (seven days per week from June 1 to Labour Day, and on weekends and by appointment between early September and late May), preliminary attendance projections for the facility in its first three years of operation are as follows:

	Person Visits								
	Families			Adults			School Groups		
Time Period	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
peak (June 1 - Labour Day)	15,000	20,000	22,000	3,000	5,000	6,000	500	1,000	1,000
non-peak (September through May)	3,000	3,000	4,000	1,000	2,000	3,000	1,000	2,000	2,000
Sub-Total	18,000	23,000	26,000	4,000	7,000	9,000	1,500	3,000	3,000

Therefore, preliminary total attendance projected for years 1 through 3 is:

Year 1	23,500 persons
Year 2	33,000 persons
Year 3	38,000 persons

These projections relate assumed demand/use patterns for key market segments and as vacation families, unaccompanied adults and school groups (see Section 6.2) to existing tourism patterns and levels in northwest Ontario, and to the attendance levels and patterns (seasonality, market segments, etc.) experienced by comparable attractions elsewhere in North America.

It is noted, for example, that peak (summer) attendance is projected to comprise approximately 77% of total annual attendance; thus projection of very high dependence on attendance by summer visitors to the region reflects the highly seasonal nature of

tourism in northwest Ontario, including the Atikokan area. Comparable attractions also are very dependent on summer visitors.

The attendance levels projected for the first three years of the proposed Atikokan attraction's operation also assume that a level of capital spending and programming are committed to the attraction which correspond to the quality of the attractions described in Section 5.1; this desired level of expenditure and quality of attraction would be reflected in a multi-nodal attraction as described in Section 7.2.2, including at least moderate development at the highway and in-town facility locations (see Section 7.3.4). Facility and program development reflecting lower levels of capital spending and visitor programs could be expected to attract a mainly local market, and would be of limited interest to visitors to the area, especially visitors from out-of-province.

7. EVALUATION OF THEMATIC STRATEGIES

The richness of the hard rock mining story, sprinkled with a host of personalities, crises and international events, calls out for a medium which will convey the sense of history and intrigue. Over the years, particularly since the closing of the mines in the late 1970s, efforts have been directed at the telling of that story. For instance, past studies have explored the development of a mining theme park.

This evaluation will examine thematic strategies including a mining theme park as one vehicle for the presentation of that story.

7.1 Opportunities and Constraints

This section examines the opportunities and constraints of the preceding analysis and provides direction for the definition of appropriate alternative development strategies.

7.1.1 Historic Development and Use

a. Opportunities

- the story of Atikokan is very well documented in photographic, written and archival form
- the story of Steep Rock is a major international event that commands national attention
- the variety, number and roles of the personalities involved at Steep Rock create numerous storyline opportunities
- many of the personalities have been recorded on tapes or are alive today
- the hard rock mining theme remains largely untold in Canada, although it has contributed significantly to the country's wealth
- numerous complementary other mine sites in North America in general and the region of northern Minnesota in particular offer possibilities for linkage of themes and stories

- Steep Rock offers a variety of alternative means of focusing upon growing environmental education interests
- storyline potential could stimulate Provincial or National Historic Park/Site designation

b. Constraints

- mining theme parks traditionally have not captured the imagination of the public through historic development efforts
- in the past, provincial and national agencies have not identified hard rock modern iron mining as a significant component in the history of Canada
- the numerous other mining interpretive efforts could detrimentally compete with the apparent limited public interest in mining
- the massive environmental impacts resulting from the diversion and pumping could be perceived to be a negative image for Atikokan.

7.1.2 Site Assessment

a. Opportunities

- the dramatic steep pits of the Steep Rock Mine provide excellent viewing potential for the telling of the mining story and for stimulation of visitor interest
- exposure of a variety of rock types creates excellent rock hounding opportunities of a provincial scale of significance
- the mine waste materials provide potential access to the lower pit elevations at Steep Rock
- the road access into the Steep Rock site is still in fair condition

b. Constraints

- much of the site contains unstable pit slopes which are a hazard to public access

- the abandoned pits are quickly filling with water, limiting long-term (+20 year) development of lower elevations
- water infill with steep slopes is creating severe slumping and erosion of pit walls
- pumping of water is extremely expensive
- virtually all of the site has been salvaged, leaving very few standing artifacts

7.1.3 Existing and Past Use

a. Opportunities

- the open pits provide a dramatic backdrop to the interpretation of the iron mine story
- the major natural rehabilitation of the site could present environmental education possibilities
- the Crown controls land use at the site

b. Constraints

- most buildings, associated infrastructure and equipment have been removed, leaving the site barren and devoid of many storyline opportunities
- abandoned tunnels, shafts and pipes could create potential liability problems
- commitments have been made to other uses for some sites, particularly at Caland
- major natural rehabilitation could disrupt the interpretation of the mine story

7.1.4 Regional Analysis

a. Opportunities

- Atikokan contains essential services for tourism
- the surrounding region contains numerous seasonal resorts/camps which cater to a wide cross-section of tourists
- Quetico Park, a significant national recreation resource, lies in close proximity to Atikokan
- mining theme parks in Minnesota provide opportunity to link themes and storylines
- the numerous local and regional mining personalities and developments provide excellent opportunity to link storylines in the region and enhance Atikokan's theme
- no competing hard rock mining theme exists on the Canadian side

b. Constraints

- the existing mining themes in Minnesota provide major potential competition
- Atikokan does not possess any 4 or 5 star accommodation facilities

7.2 Alternative Development Options

This section examines the potential development options that appear appropriate for the mining theme story. It considers the preliminary concept previously recommended for the site: The On-Site Theme Park and also an alternative concept: A Multi-Nodal Theme Park. Both concepts recommend Steep Rock as the focus for on-site development (see Section 3.5).

7.2.1 On-Site Theme Park

This concept was proposed in a consulting study undertaken in 1988. It recommended the development of an Atikokan Mining Attraction centring on the Steep Rock area. That

concept suggested capital costs could range between $1.6 million and $8.8 million. This cost did not include the estimated $+1 million required to put in place pump water from the pits. Visitation was projected to be 30,000 new tourists by the fifth year of operation. Total overall visitation to the attraction (new and existing) was estimated to be 47,000 by year five. Of that total, 42 percent were estimated to originate from the region and 58 percent from outside the region. Operating costs were projected to be $650,000 per year with projected annual operating losses of $300,000.

7.2.2 Multi-Nodal Theme Park

This concept would promote the establishment of several nodes where the mining theme would be promoted. A multi-nodal development concept would provide an alternative to the on-site theme park by reducing the amount of single focus upon the mining site. In this way, several interrelated thematic sites would tell the mining story. No one single attraction would be developed. Development at the mine site would be more closely related to site assessment findings and identified limitations.

The multi-nodal theme identifies three focal points. These are: an orientation centre on Highway 11 at the junction to the entrance to Atikokan; an interpretive centre in Atikokan; and some selected on-site development at Steep Rock mine.

7.2.3 Evaluation

A number of criteria have been identified for purposes of evaluating the two development options.

a. Criteria

The criteria include the following items which give direction to a preferred development option.

(i) Development flexibility: the ability to adapt to changing markets; to stimulate new interest.

(ii) Development Cost (Capital): amount of dollars required to "get started".

(iii) Potential for Thematic Linkage: potential to complement similar regional development.

(iv) Reliance upon Artifacts: degree to which concept needs on-site artifacts.

(v) Site Fit: amount of reliance upon sensitive site conditions.

(vi) Potential for Exposure: potential to create overall visitor awareness.

(vii) Potential for Creativity: ability to develop new and stimulating interpretation/storylines

(viii) Programme Uniqueness: ability to market unique theme/storyline.

b. Assessment

Each of the two theme strategies has been evaluated to identify that theme worthy of further exploration (Figure 3). It is clear that the multi-nodal theme offers considerable advantage from a development flexibility, thematic linkage, site fit and exposure to visitors' point of view. Therefore, the multi-nodal concept will be examined in more detail.

7.3 Alternative Multi-Nodal Theme Parks

The concept of a multi-nodal theme park is based primarily upon the development of several complementary sites which will address the proposed theme.

Figure 3

Assessment of Preferred Theme Strategy

	On-Site Theme Park	Multi-Nodal Theme Park
Development Flexibility	L	H
Development Cost	L	M
Operation Cost	L	M
Potential for Thematic Linkage	L	H
Reliance upon Artifacts	L	M
Site Fit	L	H
Potential for Exposure	L	H
Potential for Creativity	M	H
Programme Uniqueness	M	H
Fit With Mission Statement	L	H
Overall Fit	Low	High

Degree of Fit
H - High
M - Moderate
L - Low

7.3.1 Alternative Sites

The multi-nodal site is premised upon the integrated development of several sites - in this case, three sites - each selected to address specific market needs and thematic opportunities.

a. Highway Site

A highway site is recommended to specifically attract passing tourists who otherwise might by-pass Atikokan. This site requires an attraction/thematic link to the mining theme so that it becomes more than a local tourist information centre. As a result, it should be viewed as a "window" on Atikokan in general and the mining theme in particular. This site requires direct access to Highway 11.

b. In-Town Site

An in-town site is proposed so that tourists actually stop in Atikokan and, in so doing, are tempted to spend additional time in town. As a result, spending should increase. The in-town site also provides opportunity to develop a significant attraction/facility without the burden of dealing with the difficulties identified at the mine site. This in-town site will also permit opportunity to better integrate the town with the theme, make use of town resources and facilities and provide a strong focal point for the town's future development.

c. Mine Site

The mine site is an obvious potential development site for the theme. It offers on-site interpretive opportunities and potential for significant views of the mining operation.

7.3.2 Proposed Theme

The proposed theme will promote the commemoration and presentation for Steep Rock Iron Ore Mine and Caland Iron Ore Mine in an exciting, interesting and captivating manner so that visitors to the area will stop in Atikokan to seek an enjoyable attraction which is market-driven and linked to other mining theme parks. The proposed focus of that theme will be upon the personalities, events, methods and impacts of the Steep Rock Iron Ore Mine in particular and the Caland Iron Ore Mine and the relationship of those sites to mining in Canada and the region. This theme identifies the international and national significance of the site and the opportunity to develop storylines which have a strong human element to them.

7.3.3 Site Alternatives

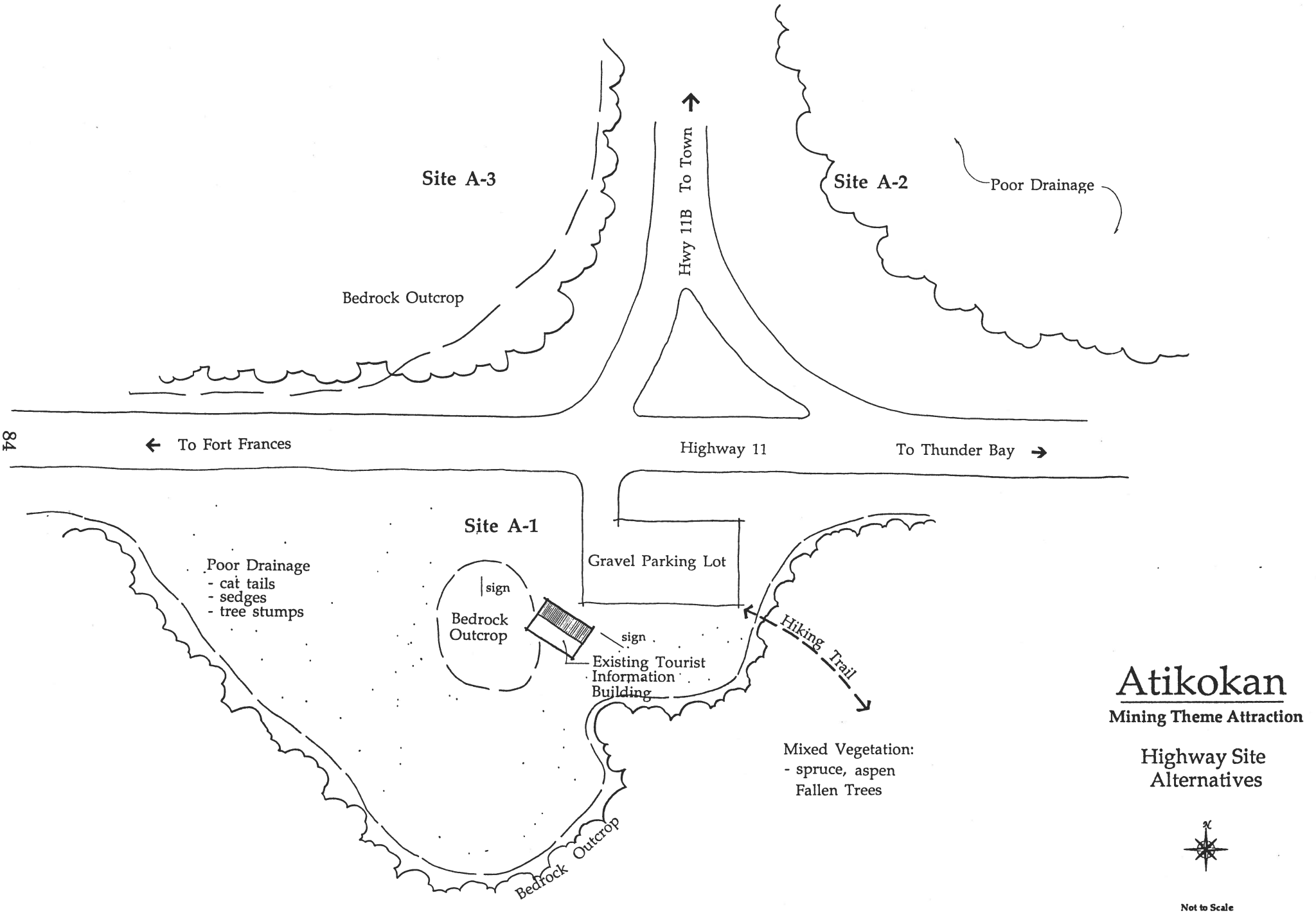
The following examines alternative sites suitable for development of the three development nodes.

a. Highway Site

The preferred location for the highway attraction is at the intersection of Highway 11 and 11B. This location will allow for the capture of vehicles travelling on both Highway 11 and Highway 807. Also, vehicles from this location can be directed easily into town and to the other two development sites.

A sketch map of the highway intersection area is shown (Map 7). The Township of Atikokan owns a 9.6 acre parcel of land on the south side of the intersection at location A.1. The existing tourist information building is located on this site. The building is a wood frame structure with a floor area of approximately 400 sq. ft. Other development on site includes a gravel parking lot and hiking trail.

Most of this site, other than the land surrounding the tourist information building, is poorly drained. This wet area is covered with cattails, sedges and other wetland


Site A-3
Site A-2
Poor Drainage
Hwy 11B To Town
Bedrock Outcrop
To Fort Frances
Highway 11
To Thunder Bay
Site A-1
Poor Drainage
- cat tails
- sedges
- tree stumps
Gravel Parking Lot
sign
Bedrock Outcrop
sign
Existing Tourist Information Building
Hiking Trail
Mixed Vegetation:
- spruce, aspen
Fallen Trees
Bedrock Outcrop
Atikokan
Mining Theme Attraction
Highway Site Alternatives
N
Not to Scale

vegetation and the stumps of dead trees. A beaver dam and lodge occupy the wet area. The land south of the wet area is primarily steep rock slopes supporting a mixed cover dominated by spruce and poplar. A bedrock outcrop about 8 feet in height above the surrounding grade is located beside the tourist information building.

The area to the northeast (Site A-2) of the intersection is generally low-lying and poorly drained. Vegetation near the road consists mostly of deciduous shrubs with mature spruce trees on bedrock outcrops located further from the roadway.

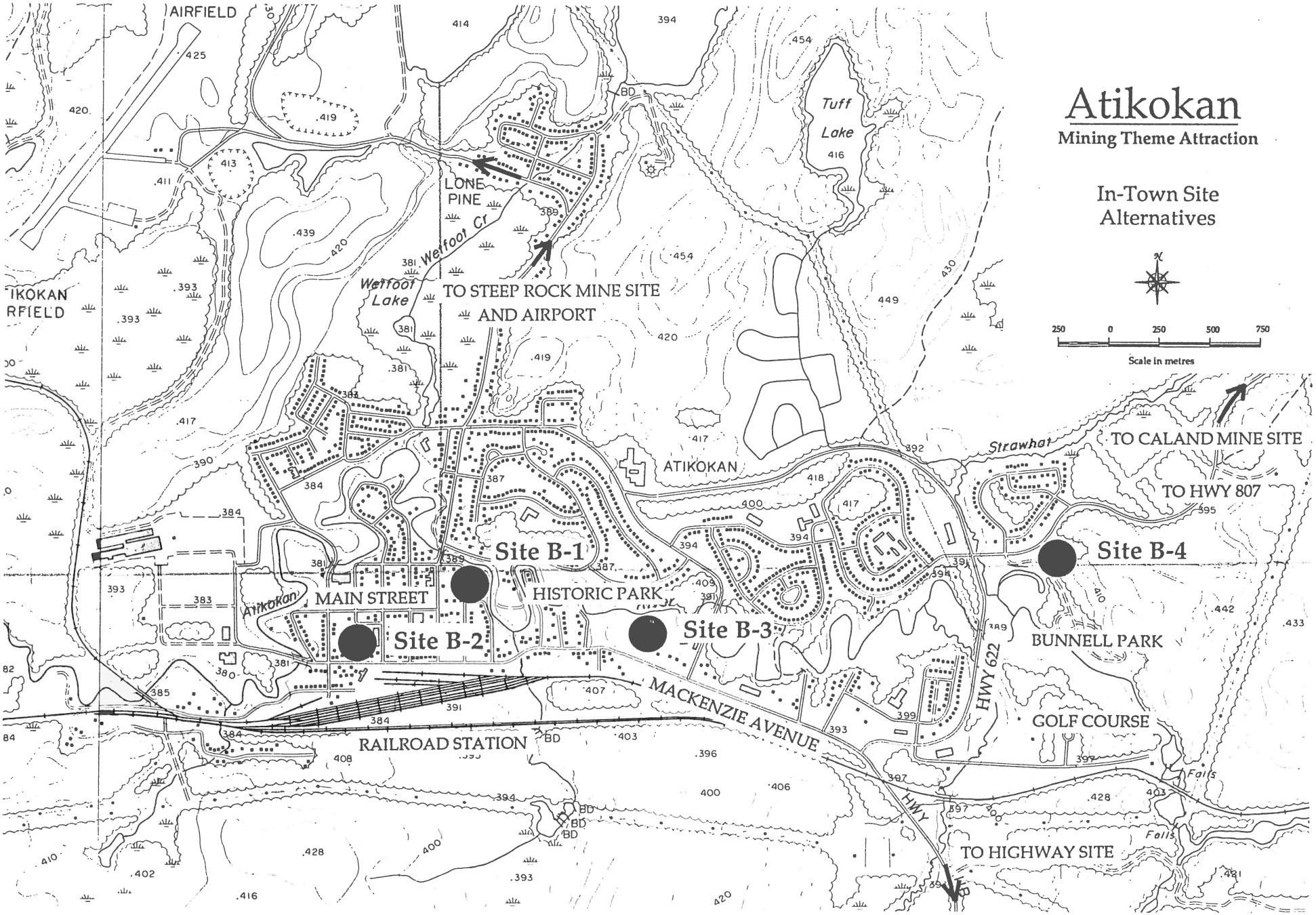
The land on the northwest corner of the intersection (Site A-3) consists of steeply sloping bedrock with a thick cover of coniferous trees. A portion of this area is patented land.

Of the three alternative sites, Site A-1 appears to have the best potential for site development. The location on the south side of the highway is very visible and is convenient for vehicles travelling in all 3 directions. Although poor drainage limits the area of the site which can be easily developed, the limitations are less than at the other two sites. The area available for buildings, parking and other intensive use could be increased by additional filling and drainage improvements. The remainder of the wetland and bedrock areas could provide an attractive backdrop with seeding, planting and selective clearing.

b. In-Town Site

Four possible locations for in-town development were examined (Map 8).

Site B-1 is the area in the vicinity of the existing museum/library. This location has good access to the main commercial district and is close to the existing museum outdoor display area on Armstrong Point. The location next to the Atikokan River is attractive and has potential for outdoor activities and displays. Most existing uses are compatible


Atikokan
Mining Theme Attraction
In-Town Site Alternatives
250 0 250 500 750
Scale in metres
AIRFIELD
LONE PINE
Wetfoot Cr
Wetfoot Lake
TO STEEP ROCK MINE SITE AND AIRPORT
Tuff Lake
ATIKOKAN
Strawhat
TO CALAND MINE SITE
TO HWY 807
Site B-1
Site B-2
Site B-3
Site B-4
MAIN STREET
HISTORIC PARK
Atikokan
BUNNELL PARK
GOLF COURSE
HWY 622
MACKENZIE AVENUE
RAILROAD STATION
HWY
TO HIGHWAY SITE
Falls

with both the theme and function of the building and include the library, seniors drop-in centre (Pioneer Centre), post office, newspaper office and Rockton Hotel.

There are several parcels of land which may be available for construction of a new building, including part of the Rockton Hotel and Steep Rock Inn parking lots or the Atikokan Progress site. The municipal office building has been vacated for several months and may not be re-occupied. As a result, the building and/or site may be available for development of an interpretive centre/museum. Alternately, a museum/interpretive centre could be built as an addition or renovation to an existing building. For example, an addition to the existing museum/library building could be built to provide two linked but independent functions under one roof. The Rockton Hotel, which has been recently purchased by a local resident, may also have potential.

Site B-2 is in the vicinity of the Mark Street Community Service Centre, the current location of the municipal offices. The principal advantage of this site is the presence of the Township offices. Linking the two functions could be beneficial to the year-round operation of the museum/interpretive centre. It would also enable visitor services and information to be provided at one location. The site is close to the main commercial area.

Site B-3 is located on MacKenzie Avenue with a view of the Atikokan River. This parcel of land is currently being used for industrial use but is available for purchase from the Township. A cemetery is located to the west of the site. The principal advantages of this site are the quantity of vacant land available for development and good access from Highway 11B. The principal disadvantages are the distance from the central commercial area and adjacent industrial use.

Site B-4 is at Burnell Park, located east of Highway 622 near the Atikokan River. Redevelopment plans for this park include development of a swimming beach, day use areas and campgrounds. The principal advantages of this site are the proposed recreation

development and access from Highway 622. The principal disadvantage is the distance from the central commercial area.

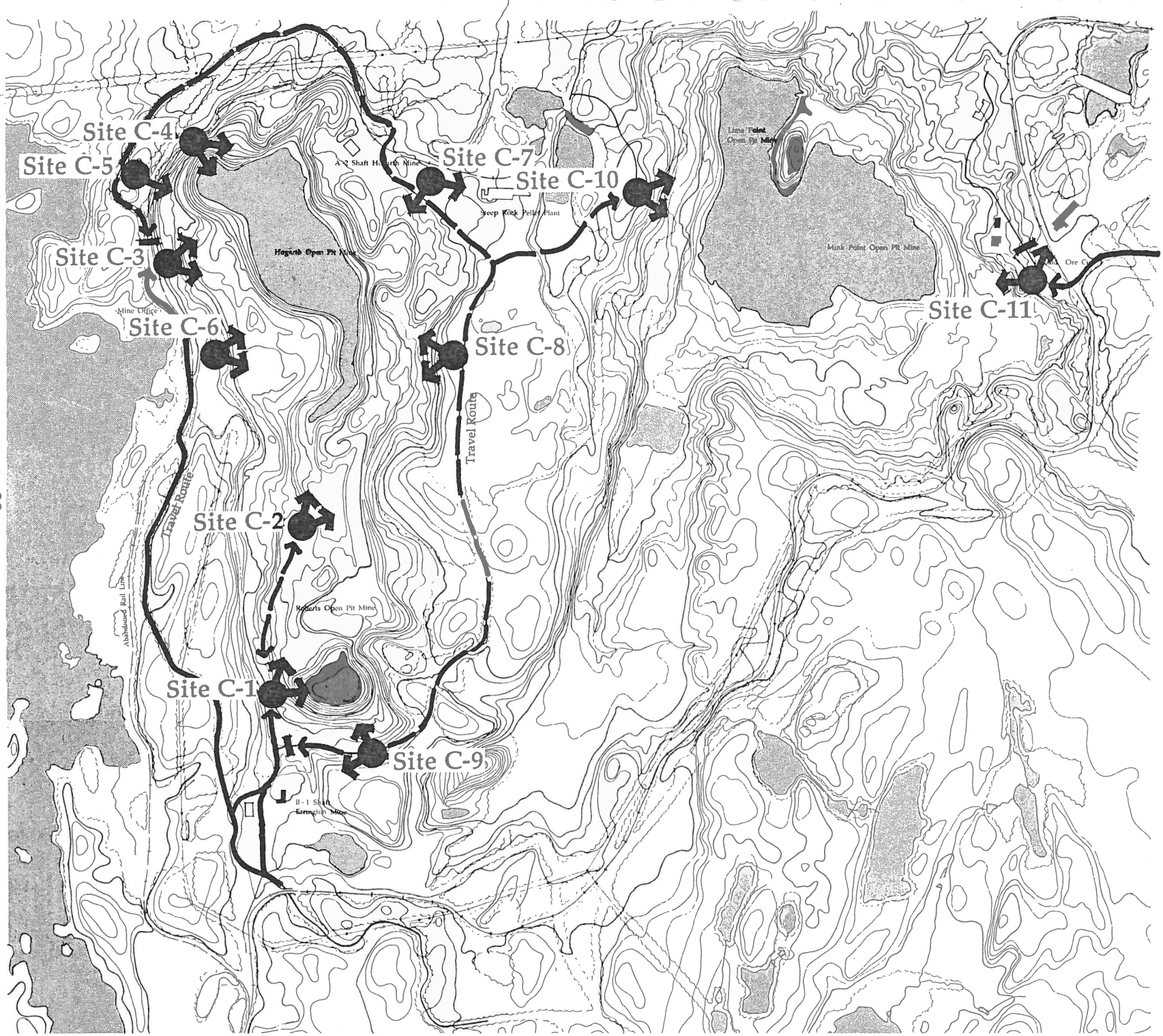
c. Mine Site

The preliminary geotechnical investigation of the Steep Rock and Caland mines identified serious problems for public access due to the instability of pit slopes. The challenge for site development then is to find ways that visitors can view and explore safely the pits. Overlaying the map of the hazardous areas on the visitor opportunities map reveals a number of potential viewpoints and access routes which may be suitable for public access.

Two types of visitation should be considered: guided tours and independent visits. For both types of visits, controls are required which direct visitors away from hazardous areas to designated routes and view points. In the case of guided tours, this control is provided primarily by the trained guide and by travelling along designated routes. More controls are required, however, for visitation to the site without a guide. These controls may include vehicle and pedestrian barriers, signage and designated travel routes. There appear to be several possibilities for development of the Mine site.

Site C-1 is a potential road access point and lookout at the south end of the Steep Rock pit. A gravel road leads to this point past the old headframe building. The access route provides the visitor with a sequence of views. The road would terminate at a level area adjacent to the south end of the Roberts Pit. This location provides good use of the pit slopes and backfill slopes and long distance views into the Roberts Pit. Barriers and signage would be required to limit access further into the pit or along the pit edge.

Site C-2 is located further into the Roberts open pit. The site is accessed by a steep roadway which terminates at about this location. Travel is along the base of steep rock and backfill slopes which are most likely unstable. This site appears to be the only



Atikokan

Mining Theme Attraction

Mine Site Alternatives

N

500 0 500 1000 1500

Scale in metres

location where it is relatively safe for site visitors to enter one of the pits. Although this is of some interest to the visitor, the views from this location are no better and in some aspects are inferior to views from the top of the pit.

The most dramatic views on the entire mine site are to be found at the north end of the Hogarth Open Pit. The height and steepness of the pit slopes at this location are very impressive. The colours of the cliffs provide an attractive contrast with the blue water at the bottom of the pit.

Perhaps the best view is obtained at Site C-4, located on the old rail bed at the entrance to the abandoned tunnel. At this location, the visitor is perched at the top of a high and very steep slope which falls directly to the water below. The site is reached by walking along the old rail bed. This walk provides the visitor with a progression of views and a sense of anticipation. Unfortunately, both the rail bed and viewpoint are within a potential hazard zone and may not be suitable for public access.

Sites C-3 and C-5 are possible alternative viewpoints to C-4 as they are located on the edge of the potential hazard zone. The view from Site C-3 could be enhanced by construction of a viewing platform. A suitable site for vehicle parking is located on the west side of the road at the site of the old mine office. Site C-5 may also require a viewing platform to enhance the view. A short access road and parking area would need to be developed.

Site C-5 is another alternative location for viewing the Hogarth Pit. This site is further removed from the edge of the potential hazard zone and therefore may be safer. The site is easily accessible from the existing road by a clearing through the trees. Views from this site are somewhat less dramatic than from the more northerly viewpoints.

All of these viewpoints, with the probable exception of Site C-2, have potential for unguided site visitation. Visitors could travel by private vehicle along existing roadways

to designated parking areas. The location and alignment of the existing roadway and the predominantly steep, rocky and wooded character of the adjacent terrain help to confine vehicle movement to the designated route. Further access from this route could be controlled by vehicle barriers at strategic locations.

Controlling non-guided vehicles on the remainder of the site would be more difficult. Although a circuit road around the east side of the Steep Rock pits could be developed to connect back to Site C-1, extensive fencing and barriers would be required to confine vehicles to this route.

There are a number of sites and features on the east side with potential interest for the visitor. Site C-7 is the location of the Steep Rock pellet plant and Hogarth Mine Shaft. Site C-8 is a good location for showing site reforestation, both natural and planted. There are also good views into the pit from this point. Site C-9 provides good views of the pit and the mine waste materials. The principal interest of these three sites relates more to mining operations themes than scenic values. Consequently, more effort will be required to provide facilities and/or programs to explain these themes and make them interesting for visitors. Given the need to control access and provide information to visitors guided tours may be the most appropriate way to allow visitation to this part of the site.

Site C-10 is a potential viewing point for the Caland pits. This location, at the west side of the pit, would allow visitors to view the site of the Caland operations as part of a circuit tour of the Steep Rock site. Access would have to be developed by upgrading an old mining trail or developing a new trail.

Site C-11 is the existing viewpoint to the Caland pits. The site is easily accessible, but is removed from all of the other viewpoints. The site would also provide opportunities for viewing some of the few building structures which remain from mine operations. The

viewing potential of these buildings is limited by potential safety hazard in the case of the pellet plant and existing building use in the case of the mine offices and shops.

7.3.4 Alternative Development Programme

A number of key programme elements have been identified in the following discussion. These elements may vary depending upon the degree of effort (capital resources, human resources, site resources) required. The key programme areas are:

- site development
- interpretation/displays
- facilities

Each has been grouped under the three site headings. Various combinations of the alternative programmes are possible, depending on market and other assessments. Minor, moderate and major classifications relate investment size appropriate for the site given previous analysis.

a. Highway Site

(i) Site Development

Highway Orientation Minor Development

- direct highway access
- small parking lot

Highway Orientation Moderate Development

- direct highway access
- large parking lot

- site displays including an attraction that will stimulate visitor interest
- picnic area, children's playground

(ii) Interpretation

Highway Orientation Minor Development

- minor displays using panels/boards/artifacts

Highway Orientation Moderate Development

- interior and exterior displays including a major attraction that will capture visitor interest

(iii) Facilities

Highway Orientation Minor Development

- small seasonal facility, unstaffed
- pit privy

Highway Orientation Moderate Development

- regional orientation seasonal facility
- staffed
- thematic displays
- washrooms

b. In-Town Site

(i) Site Development

In-Town Facility Moderate Development

- pedestrian and vehicle access (main road)
- central location
- fully serviced (telephone, sewer, water, gas)

In-Town Facility Major Development

- pedestrian and vehicle access (main road)
- central location
- fully serviced (telephone, sewer, water, gas)
- significant interpretation features, displays, including significant attraction which will stimulate visitor use and interest

(ii) Facilities

In-Town Facility Moderate Development

- addition to existing building or building renovation
- seasonal use

In-Town Facility Major Development

- major addition to existing building or major building renovation or new moderate building
- multi-use function for year round use
- major research centre and library
- thematic architectural style

(iii) Interpretation

In-Town Facility Moderate Development

- static displays
- minor outdoor displays

In-Town Facility Major Development

- variety of displays and interpretive features (indoor/outdoor)
- significant emphasis upon personalities and events
- working tours of town with thematic streetscaping including artifacts

c. On-Site Mine Site

(i) Site Development

On-Site Minor Development

- limited vehicle access
- limited on-site development including one major viewpoint and one minor display area

On-Site Moderate Development

- public transit access
- several major viewpoints
- one major display area/interpretation feature
- on-site walking tours
- open-air amphitheatre

(ii) Facilities

On-Site Minor Development

- no facilities

On-Site Moderate Development

- privies
- covered open-air interpretive displays

(iii) Interpretation

On-Site Minor Development

- one minor display

On-Site Moderate Development

- one major display area/interpretive feature with artifacts, working model of operation
- walking tours
- group tours, presentations
- several display points

d. Programme Ideas

There are also a variety of potential programme ideas that are suitable for the sites.

(i) Highway Development

- restored machinery
- thematic design for facilities

(ii) In-Town Development

- live theatre
- video/interactive displays/games
- hall of fame
- wall of miners
- working model simulation

(iii) On-Site Development

- rock hounding
- working model simulation
- film pits
- listening posts
- telescopes
- environmental education
- laser light show

(iv) General

- apply for National Historic Site or Provincial Heritage Site designation
- export audio/visual package

7.3.5 Preliminary Cost Analysis

A preliminary Class "D" cost analysis provides an estimate of expected capital costs to undertake the alternative development scenarios. These costs are listed below:

Development Costs - Class "D"

1.	In Townsite	
1.1	Major Development Scenario	
	- Building 2,600 sq. ft. x $150/sq. ft.	$390,000
	- Interpretive Components	200,000
	- Furnishings/Equipment	50,000
	- Site Development and Displays	100,000
	- Building Demolition	17,500
	Sub-total	**$757,500**
1.2	Moderate Development Scenario	
	- Building 1,800 sq. ft. x $150/sq. ft.	$270,000
	- Interpretive Components	75,000
	- Furnishings/Equipment	30,000
	- Site Development and Displays	150,000
	- Building Demolition	17,500
	Sub-total	**$542,500**
2.	Mining Site	
2.1	Moderate Development Scenario	
	(a) Caland Site	
	- Access/Parking	$ 50,000
	- Displays	25,000
	- Walkway	15,000
		$90,000
	(b) Roberts Mine	
	- Access/Parking	$ 80,000
	- Display	25,000
		$105,000
	(c) Roberts/Errington	
	- Access/Parking/Site Development	$100,000
	- Display	50,000
	- Washroom (privies)	10,000
		$160,000

(d) Hogarth	
- Access/Parking	$ 50,000
- Walkway/Overlook	100,000
- Display	25,000
	$175,000
Sub-total	**$530,000**
2.2 Minimal Development Scenario	
(a) Caland Site	
- Access/Parking	$ 50,000
- Displays	25,000
- Walkway	15,000
	$90,000
(b) Hogarth	
- Access/Parking	$ 50,000
- Walkway/Overlook	100,000
- Display	25,000
	$175,000
Sub-total	**$265,000**
3. Highway	
3.1 Moderate Development Scenario	
- Building Renovation 800 sq. ft. x $50/sq. ft.	$ 40,000
- Servicing	20,000
- Access/Site Development	100,000
- Interpretive Components	40,000
- Furnishings/Equipment	15,000
Sub-total	**$215,000**
3.2 Minimal Development Scenario	
- Access/Site Development	$ 50,000
- Interpretive Components	25,000
	$ 75,000

These costs will be refined following more detailed analysis in Section 8.

7.3.6 Evaluation of Alternatives

The alternatives are evaluated using criteria developed by the Steering Committee and the Consultant. The Steering Committee identified the secondary criteria.

a. Primary Criteria

There were ten primary criteria used to evaluate the alternative components. Each was given a weighting of 2. The preferred components are: In-town major, Highway moderate and Mine Site minimal development options.

b. Secondary Criteria

A total of seven secondary criteria were applied to the alternative components resulting in a preference for: In-town major, Highway moderate and Mine Site minimal.

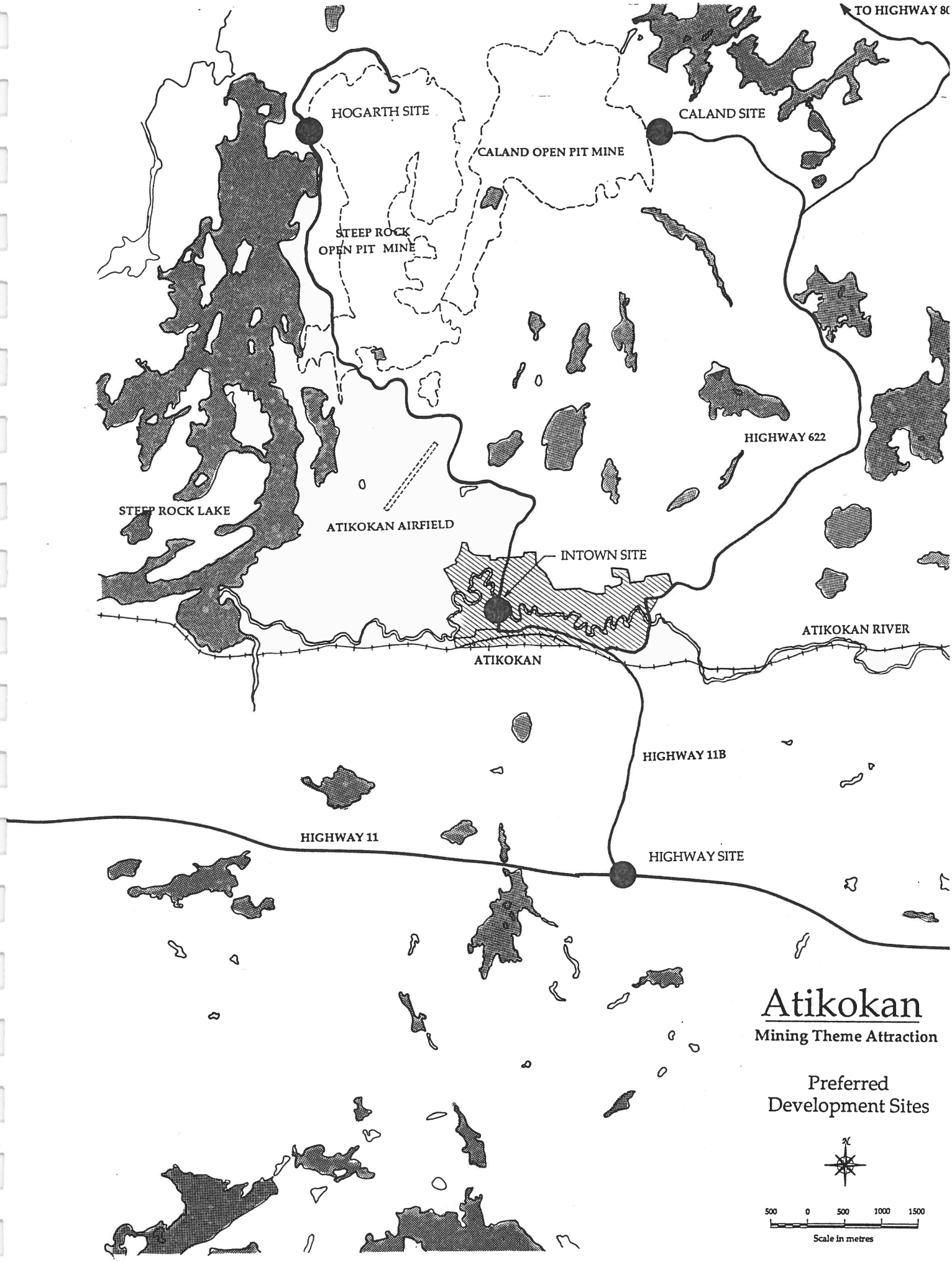
Therefore, the application of primary and secondary criteria resulted in similar results. he recommended multi-node development plan consists of:

- **In-Town Major Visitor Centre Development**
- **Highway Moderate Tourist Information Centre**
- **Mine Site Minimal Interpretive Development**

7.3.7 Public Open House

A public open house was held from 3:00 p.m. to 8:00 p.m. on June 5th, 1990, in Atikokan to review the preceding concepts. As well, the concepts were displayed at the Atikokan Chamber of Commerce trade show during the week of May 28th, 1990 where several hundred people examined the plans.

At the public open house, a total of 12 residents examined the detailed displays. All comments but one were fully supportive. The one dissenting comment related to the proposed separation of the Visitor Reception Centre from the summer museum. The consultants made a commitment to examine that issue (see following sub-section).


TO HIGHWAY 8(
HOGARTH SITE
CALAND SITE
CALAND OPEN PIT MINE
STEEP ROCK
OPEN PIT MINE
HIGHWAY 622
STEEP ROCK LAKE
ATIKOKAN AIRFIELD
INTOWN SITE
ATIKOKAN RIVER
ATIKOKAN
HIGHWAY 11B
HIGHWAY 11
HIGHWAY SITE
Atikokan
Mining Theme Attraction
Preferred
Development Sites
500 0 500 1000 1500
Scale in metres

Matrix Evaluation: Mining Theme Park Components

Criteria (Weighted)	In-Town Major	In-Town Minimal	Highway Moderate	Highway Minimal	Mine Site Moderate	Mine Site Minimal
Primary (x2)						
- Liability	H 2	H 2	H 2	H 2	L -2	H 2
- Visitation Generation Potential	H 2	M 0	M 0	L -2	M 0	M 0
- Private Sector Opportunities	M 0	M 0	M 0	L -2	M 0	H 2
- Capital Cost Estimate	M 0	M 0	M 0	H 2	L -2	H 2
- O & M Cost Estimate	L -2	M 0	M 0	H 2	M 0	H 2
- Funding Potential	M 0	M 0	H 2	L -2	L -2	M 0
- Multiple Use Potential	H 2	L -2	M 0	L -2	L -2	L -2
- Potential Linkage Between Sites	H 2	M 0	H 2	L -2	H 2	M 0
- Employment Generation Potential	M 0	M 0	M 0	L -2	L -2	L -2
- Regional Linkage Potential	H 2	M 0	H 2	L -2	M 0	L -2
- Marketing Potential	H 2	M 0	M 0	L -2	H 2	M 0
- Mission Statement	H 2	M 0	M 0	L -2	H 2	M 0
Sub-total	12	0	8	-12	-4	2
Secondary (x1)						
- Type of Artifact Needed	H 1	M 0	M 0	H 1	L -1	H 1
- Relationship with other uses	H 1	M 0	M 0	L -1	M 0	M 0
- Functional Use	H 1	H 1	H 1	M 0	H 1	M 0
- Best Use of Archives	H 1	M 0	H 1	M 0	H 1	M 0
- Locals feel welcome	H 1	H 1	H 1	L -1	M 0	M 0
- Balance with all sites	M 0	M 0	M 0	L -1	M 0	M 0
- Minimize Vandalism	M 1	M 0	M 0	M 0	L -1	M 0
Sub-total	6	2	3	-2	0	1
Total	18	0	9	-12	-4	3
Preferred Alternative	*		*			*

a. Issue Arising

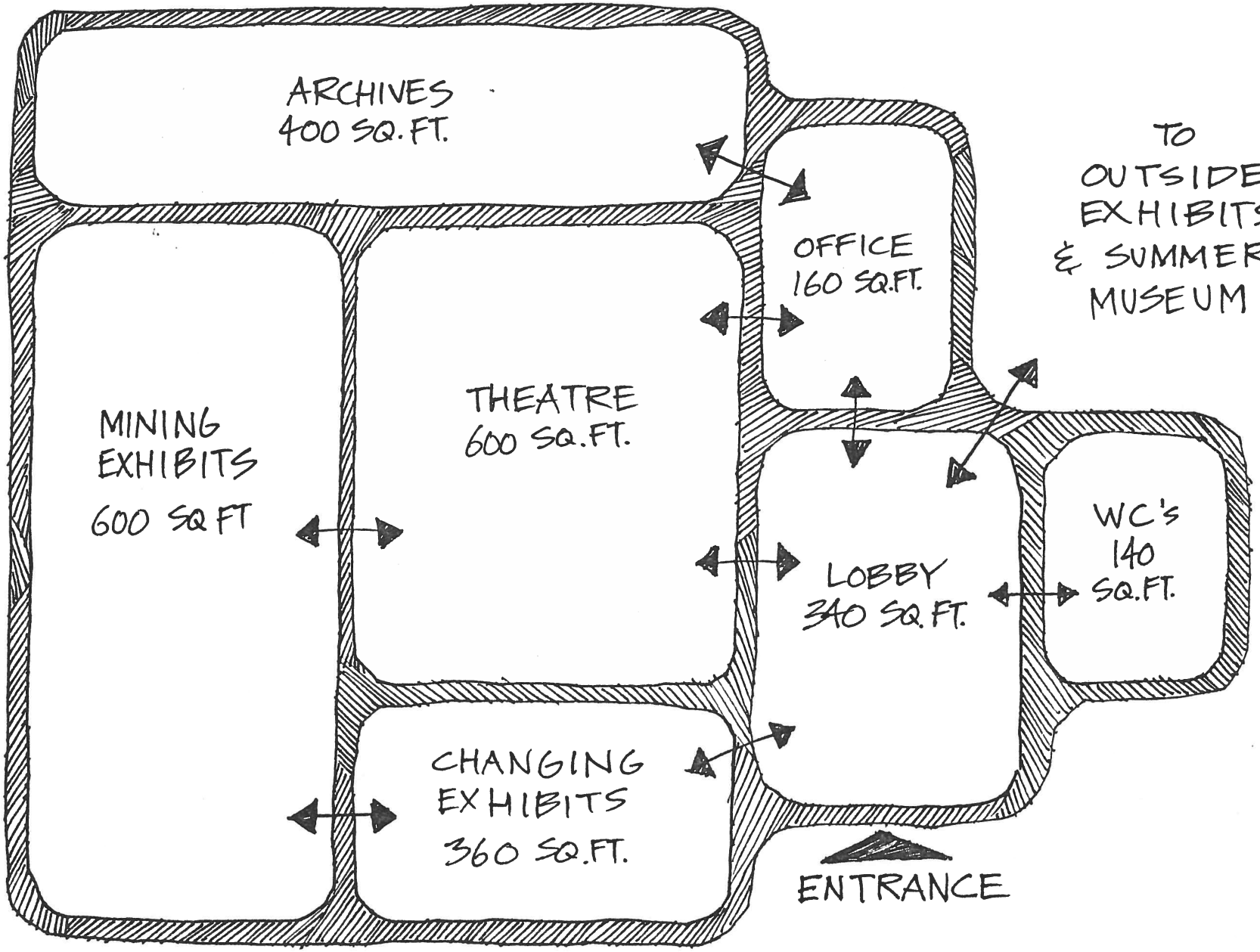
The recommendation by one public open house attendee to continue both the Visitor Reception Centre and summer museum on one site at Armstrong Point was made with considerable knowledge and insight. As a result, the consultants examined that option. The findings are outlined below:

Advantages	Disadvantages
- combined supervision potential	- mixed use area
- existing municipal office site available for parking	- difficult access
- separated from town core (visual)	- smaller overall site available (i.e., marina impact)
	- less direct link to Main Street (economic)
	- mixture of themes and storylines
	- potential more costly servicing

Based upon the preceding, the in-town Visitor Reception Centre is recommended to remain at the former municipal office site.

7.4 Preferred Alternatives

The preferred alternatives consist of the 2,600 square foot Visitor Reception Centre in town, the refurbished Information Centre on Highway 11 and selected display points at the mining site.



VISITOR CENTRE CONCEPT 2600 SQ.FT.

7.4.1 In-Town Visitor Reception Centre (VCR)

The in-town Visitor Reception Centre was proposed initially as a 2,600 square foot building with theatre space, archival space, and display space (see attached VRC layout concept). The site is located within the downtown adjacent to the Atikokan River and Armstrong Point where the Museum and associated outdoor displays are currently found (see attached site concept).

7.4.2 Highway Orientation Centre

The existing information centre would be redeveloped and refurbished on its existing site to provide an orientation function to the mine site, Atikokan and regional tourist services (see attached drawing).

7.4.3 Mine Site

A number of potential display sites were evaluated and three are recommended as the preferred alternative. These are the Roberts Pit Viewpoint and Steep Rock Orientation Point, the Hogarth Viewpoint and Caland Orientation Point (see attached drawing).

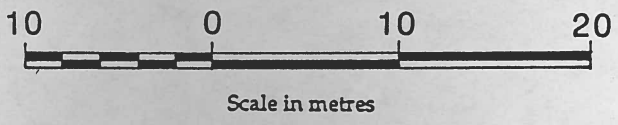
7.5 Summary

The Atikokan Mining Theme Park should be located at 3 sites to better convey the Mining Theme story, attract tourists and reduce costs. Section 8 examines the details of developing those 3 sites.

Atikokan

Mining Theme Attraction

Visitor Centre Preliminary Development Plan



Parking

Parking

Street

Post Office

Drop-off

Outdoor Display Area

Visitor Centre

Bus Zone

Potential Linkage

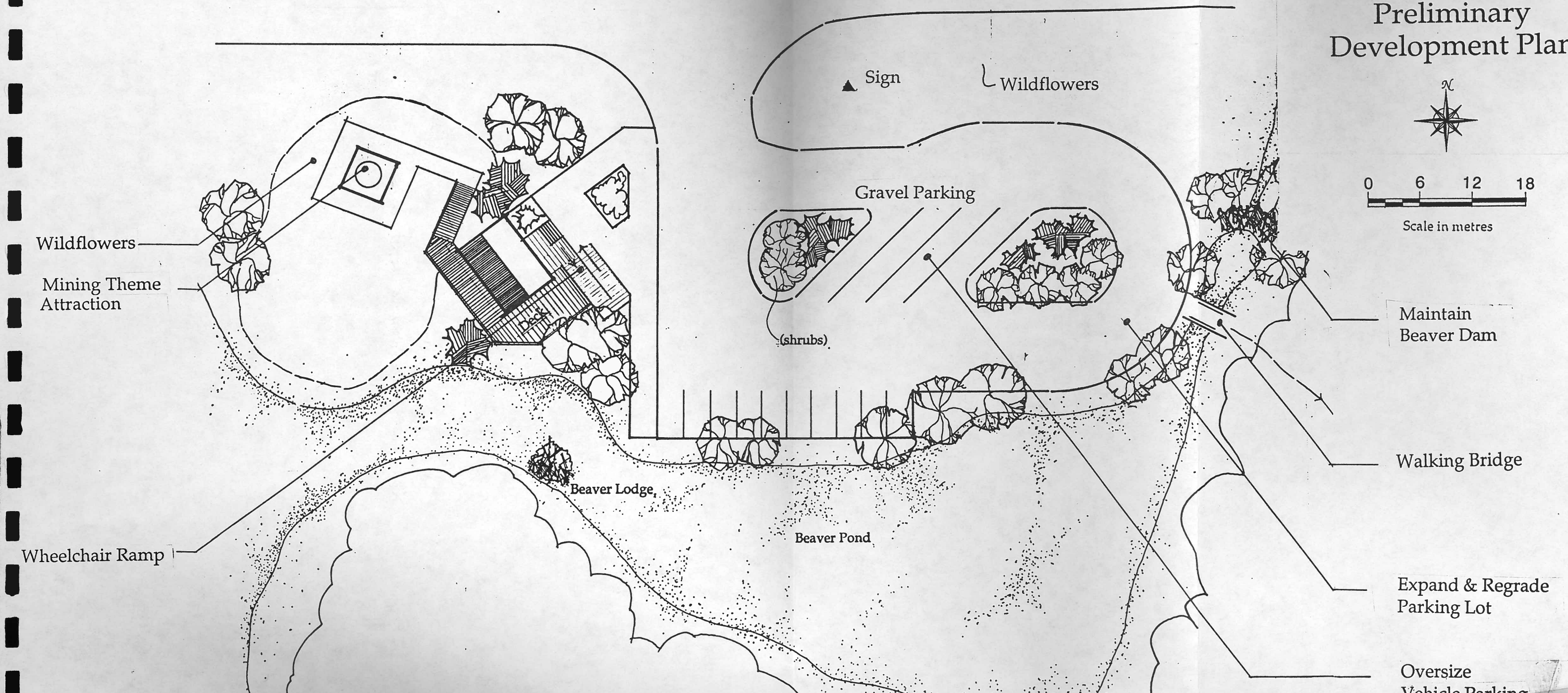
Main Street

Atikokan

Mining Theme Attraction

Highway Site Preliminary Development Plan

HIGHWAY 11



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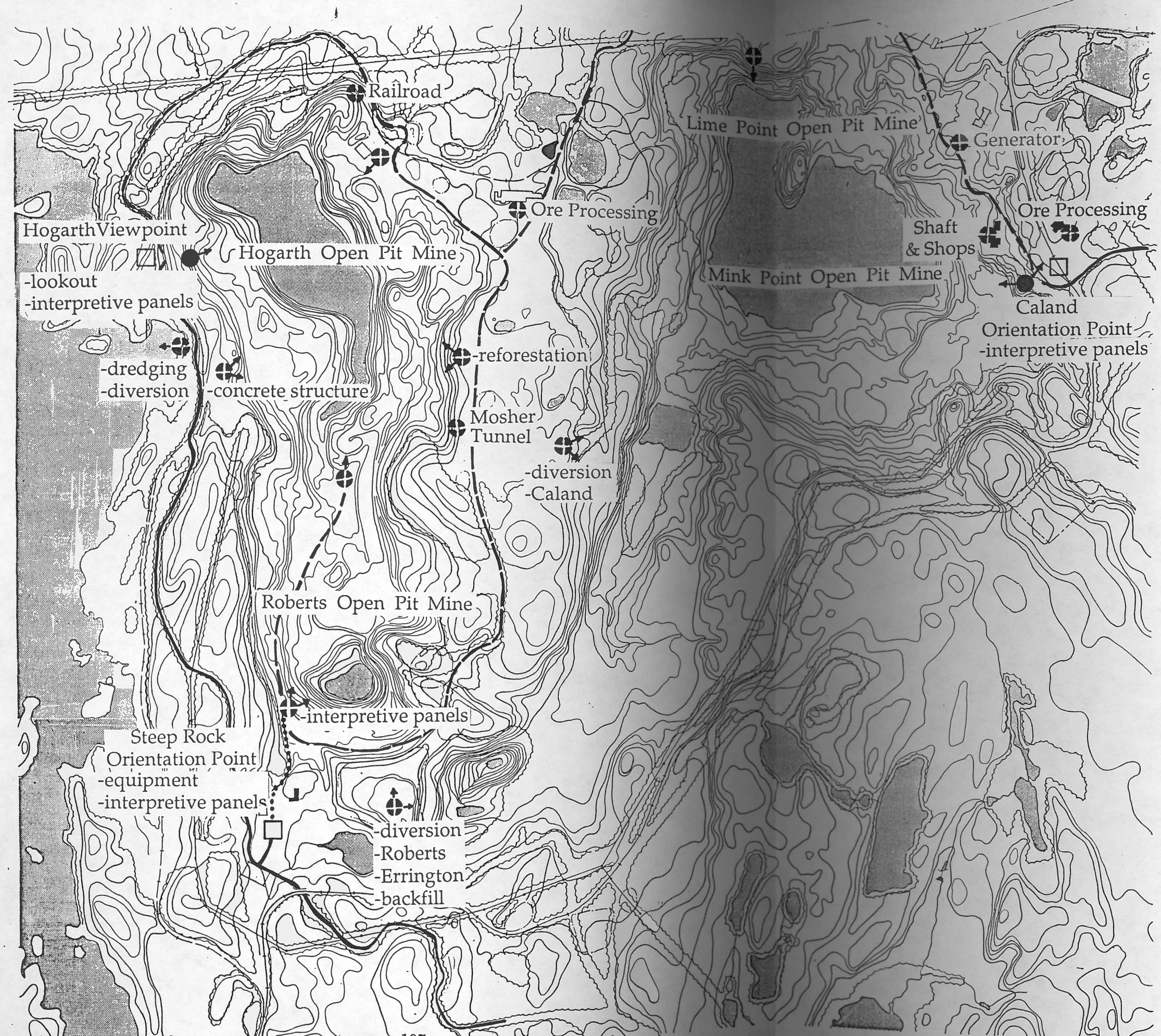
Scale in metres

Atikokan

Mining Theme Attraction

Mine Site Preliminary Development Plan



Legend

- Non-Resident Public Access Viewpoints
- Upgraded Access Road
- Walk In Trail
- Parking
- Guided Tour Sites

8. PROPOSED DEVELOPMENT PLAN

This section examines the detailing of the preferred alternatives and develops specific recommendations for interpretation, physical development, servicing, management and financial aspects.

8.1 Development Concept

The Atikokan Mining Theme Concept departs substantially from the initial concept developed in 1988. The new concept promotes the development of three physically separate but thematically linked sites. The proposed concept integrates the Town of Atikokan into the development theme. This approach enlivens the plan and establishes a clear role for the town. It also generates interest for passing tourist traffic. In addition, the recommended plan recognizes the potential limitations of the mine site.

8.1.1 Theme

The proposed Mining Theme is centred upon the role of Atikokan and the Steep Rock and Caland mining ventures in the provision of iron ore during difficult times when North American iron ore sustained the Allied forces during the second world war. That story is filled with significant events, major engineering feats and colourful personalities. As well, much of the proposed theme examines mining in its broader context of social and economic impact upon the region of northwestern Ontario, Ontario and Canada.

8.1.2 Development Nodes

Three development nodes are proposed for the conveyance of the theme. These nodes are: the abandoned mine site, the existing highway tourist information centre and an in-town visitor reception centre. Each of these nods is proposed to be linked to the other through thematic displays, storylines, landscaping and signage. The in-town visitor reception centre is the largest node with substantial investment of capital dollars, operation commitment and interpretive displays. The highway site will be a seasonal node with less capital investment and a narrower interpretive focus. Likewise, the mine site will be substantially scaled down to reflect limitations of unstable slopes and associated risk concerns.

8.1.3 Linkage

Linkage between the nodes will take several forms including signage, landscaping, storylines and thematic displays.

a. Highway Orientation Site to Visitor Reception Centre (VRC)

Selected major mining artifact pieces are proposed for the link between the Highway Orientation Centre and the Visitor Reception Centre. These pieces should be placed in prominent viewscapes primarily for impact upon visitors entering town. There are several locations worthy of artifact display. These displays will fall at the edge of the highway right-of-way and will require Ministry of Transportation approval. At each site, artifacts will need to be carefully situated and site improvements, including landscaping, will need to be undertaken. The attached sketch illustrates a typical site.

At the entrance sign welcoming visitors to Atikokan, special site improvements in association with a mine artifact will need to be completed. In all cases, special care must

be undertaken to provide interesting high quality and well maintained artifacts with a suitable identifying sign legible from the highway.

In addition, the entrance to town could be upgraded by better controlling advertising and by seeding wild flower mix in specific locations.

Colourful thematic banners mounted on hydro poles could also act as thematic linkages to the Visitor Reception Centre, especially in the developed part of town (see attached sketch).

b. Visitor Reception Centre and Downtown Linkage

In order to better stimulate tourist interest in the Atikokan story, the mining theme should be expanded to include Main Street. Along Main Street the following thematic possibilities exist:

- promote a storefront and streetscape improvement programme to a mythical mid-1950's period;
- establish a mining theme streetscape by locating select high quality mine equipment pieces at key locations on Main Street;
- utilize photographs and interpretive panels along Main Street to convey historic images; and
- encourage shops, stores and restaurants to display historic photographs of the mines inside their buildings.

Such a focus beyond the Visitor Reception Centre in the downtown will create a much stronger mining theme identity for the entity for the entire town and give recognition to the significant role the mines played in the social and economic life of Atikokan.

c. Visitor Reception Centre to Mine Site Linkage

Given the proposed limited visitor linkage between the Centre and the mine site, only minor thematic linkage is required. As a result, banners are proposed as the primary links with one major equipment display at the junction of the mine site access road and the airport.

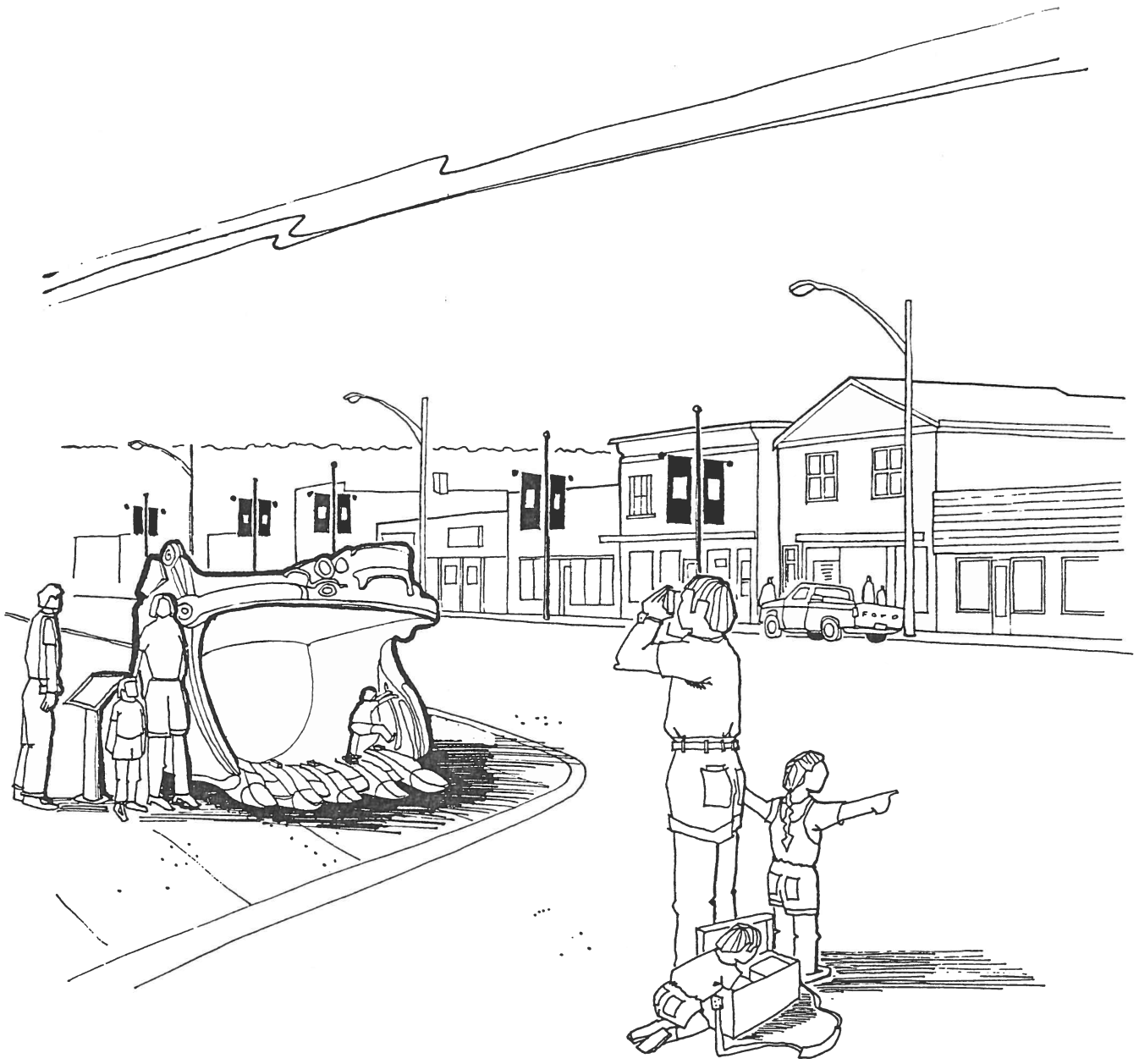
8.1.4 Visitor Programme Highlights

The primary intent of the proposed development concept is to stimulate significant visitor interest in Atikokan as a destination. Therefore, emphasis needs to be placed upon the creation of a substantial visitor programme. The following examines highlights of the recommended visitor programme.

a. Mine Site

- provision of excellent viewpoints over-looking the abandoned Steep Rock and Caland sites with dramatic photographic prints and interesting text
- provision of high quality on-site interpretive displays and brochures
- access for non-residents via tour operator from visitor centre
- promotion of guided rock-hounding

Banner & Artifact Display on O'Brien Street



existing highway site

b. Highway Orientation Centre

- major highway visual attraction
- refurbished information centre with working model of the former mines
- high quality outdoor display panels of the mine site, Atikokan, Visitor Reception Centre and the mining story
- interpretation of granite rock and examples of regional rock samples by location along Highway 11
- retention of beaver pond and associated interpretive overlook

c. Townsite Visitor Centre

- interactive displays
- high quality exhibits/three dimensional displays
- high quality video/slide presentations in a permanent theatre
- indoor/outdoor display area
- Mining Wall of Honour with biographies and photographs of major personalities as well as names of all employees who worked at Steep Rock and Caland
- inviting building design
- primary orientation to mine site
- sale of iron ore chunks
- presentation of a live theatre play or high quality film of the "story"
- tour operator base for trips to mine site and regional geological tour (Bending Lake)
- extension of theme out of building onto Main Street and commercial district.

These programme highlights will be developed in more detail in Section 8.2.

8.1.5 Preliminary Interpretive Statement

The following document sets out a basic proposal for display development and related interpretive strategies at the Atikokan Mining Theme Park.

a. Themes

In review, the **Themes** for the Interpretive Program are as follows:

1. Early Native use of Metals and Artistic Expression in the Shield Country west of Lake Superior.
2. Early Exploration and Geological Surveys of the Country along the Dawson Route.
3. Early History of Iron Prospecting and Utilization in the Atikokan Area and the Lake Superior Basin: 1880 - 1914.
4. Discovery of the Steep Rock Ore Body and the Birth of Steep Rock Iron Mines Ltd.: 1925 - 1939.
5. World War II and the Capturing of the Ore.
6. The Post-War Development of Steep Rock Iron Mines Ltd. and the Caland Ore Company.
7. The Steep Rock Lake as a Chapter in Modern Environmental History and Management.
8. Candidates for the Canadian Mining Hall of Fame and Atikokan Wall of Honour.

These themes will be presented at a combination of the three development nodes.

b. Major Objectives

The following objectives have been set for the Mining Theme Park:

1. To present images of early native resource use, mining history, land management, the prospectors art, geological investigation and human-environmental relationships of a general nature, fundamental to the telling of the Steep Rock story.
2. To enhance highway travellers' and residents' awareness of regional mining history and other tourism opportunities with special emphasis on the development of iron mining.
3. To encourage awareness of, and visits to, local and regional sites that are associated with the themes presented at the Atikokan Mining Theme Park.
4. To encourage research on the History of the Steep Rock mine sites through use of the Atikokan Mining Theme Park Archives and Visual Materials.
5. To encourage visitation to selected Steep Rock Lake Mine sites in accordance with the recommended access strategy.
6. To encourage specialized student and visitor use of the Steep Rock Mine sites, in accordance with the recommended access strategy (e.g., Rock Hounding Expeditions, Environmental Studies Classes, etc.).
7. To encourage development of a town-based interpretive program which is highly **experiential** and self-directed in terms of visitor use. The programme is to be carried out through the use of: film, slide-tapes shows, and interactive video; photographic exhibit panels; artifacts and three-dimensional display; and self-directed or school directed research.

These objectives provide direction for the following interpretive principles.

c. General Principles Guiding the Development of the Interpretive Proposals

(i) Town of Atikokan: Visitor Centre

1. The above themes are capable of detailed elaboration. The general approach taken in this interpretive plan is to reduce much of the potential message material to a few main messages for each theme. Different strategies and media can then be matched to each sub-story in order to establish the most effective way of message presentation.

2. The contents of any one display need not be one-dimensional. For example, in a potential proposal for a three-dimensional display or diorama, themes of vegetation types, rock faces, material culture, dress, and wildlife, may all be involved. A brief copy text in proximity to the diorama may be added as an aid to understanding, but the overall appeal of the diorama should be largely experiential and capable of posing questions in the visitors' mind about its contents and the Atikokan area. Sound could accompany such a diorama either by way of a listening post or in a low key general recording which is not obtrusive on the rest of the display area. Similarly, the allocation of space in the centre, or elsewhere, is not considered to be always one-dimensional in functional terms. All treatments in the centre should have strong visual or interpretive appeal. While certain areas of the building must, of necessity, be given over to clear functions such as formal educative or didactic display or visitor orientation, it is suggested that interpretive touches be spread throughout the building in order to reinforce the general theme.

3. The treatments in the Centre should tend to stress orientation of visitors towards the mine sites and regional opportunities. Where outdoor opportunities, in terms of a specific sub-theme, are limited, a more comprehensive treatment will be given to the centre.

4. High quality visual images and three dimensional displays, in a limited number, should control the interpretive approach within the centre. With the potential for the centre to be a "busy" place, physical display should be limited to a few high quality items rather than an "over-kill" approach which might cause congestion or reduced attention span. The audio-visual facility developed in the centre will give much flexibility in interpretive programming. For example, specific slide shows could be produced in future years dealing with specialized topics which will be of local, regional or national interest.

5. Secondary interpretive items in the form of brochures, booklets, slide packets, etc. should be developed as supplements to the interpretive displays, as sales items and as reinforcements for tourist and school visits. Some of these will be suitable as sales items.

6. The Iron Mining Theme should be developed in the centre and in the outdoor areas. Congesting the interpretive experience with quite unrelated (even if worthy) stories should be avoided. The key to a successful specialized visitor centre lies in the coherence of themes and their interconnection.

7. The Mining Exhibit. The complexities of mining suggest that audio-visual treatments and/or three-dimensional displays are an excellent way to interpret sites which are far removed in space from the visitor, and for explaining geological relationships. The long-term production of such shows for use in the centre's audio-visual section should be a priority. The possession of a major mining photo collection by the Town of Atikokan will greatly assist the producers of such shows. Within the centre, a well reproduced geological map, adapted from the original Geological Survey Maps, or based on currently available colour maps from the Ontario Geological Branch, along with mine sites, would provide general orientation to the region and also to the Steep Rock Lake Mine sites. Ore and host rock sample kits may be feasible as sales items.

d. General Messages for Promotion by the Theme Park

In the Centre

Several types of display approach are proposed for the centre:

(a) Pure Visualizations with or without textual copy

(b) Three Dimensional Displays, including dioramas and artifacts

(c) Self-activated audio-visual units or interactive units

(d) Publications and other print materials for sale or give-away

(e) Formal Audio-Visual productions for use in the theatre

e. Proposed General Theme Messages

Theme 1 - Early Native use of Metals and Artistic Expression in the Shield Country west of Lake Superior.

(a) Review of the phenomena of Native Mining in the Lake Superior Basin

(b) The use of Red Ochre in Native Rock Painting on the Lakes of the Atikokan Region and the Quetico

Theme 2 - Early Exploration, Mining, and Geological Surveys of the Country along the Dawson Route

(a) Role of the Early Fur traders in establishing travel routes west of Thunder Bay.

(b) The importance of the Dawson and Hind Expedition: 1858

(c) Silver Islet and the Early Mining Frontier west of Thunder Bay after 1868

(d) The Work of the Canadian Geological Survey: 1880-1900

Theme 3 - Early History of Iron Prospecting and Utilization in the Atikokan Area and the Lake Superior Basin: 1880-1914

(a) The Work of the Ontario Bureau of Mines Surveyors on the Atikokan Iron Range: 1892-1914

(b) The development of iron mines in the Atikokan area after 1900

(c) Failure of the Atikokan Iron Range: 1914

Theme 4 - Discovery of the Steep Rock Ore Body and the Birth of Steep Rock Iron Mines Ltd.: 1925-1939

(a) Julian Cross of Silver Islet Landing: The Faith of a Prospector

(b) Documenting the Ore Body Beneath Steep Rock Lake and the First Commercial Iron Mining Ventures

Theme 5 - World War II and the Capturing of the Ore

(a) The Crisis of Iron Ore Supply in Allied Europe

(b) The Role of the United States Government and Capital in Development of Steep Rock Mines Ltd.

(c) The Technological Achievement: Water Diversion and Environmental Engineering

Theme 6 - The Post-War Development of Steep Rock Iron Mines Ltd. and the Caland Ore Company

(a) Opening up new ore bodies: the Lease to Caland Ore Company

(b) Atikokan: The history of a mining town: 1945-1978

Theme 7 - The Steep Rock Lake Site as a Chapter in Modern Environmental History and Management

(a) Assumptions Concerning Environment and Economy in the years between World War I and World War II

(b) Murky Waters: the Rainy Lake Reference to the International Joint Commission

(c) Environmental Management in the 1960's, 1970's, Today and Tomorrow

Theme 8 - Candidates for the Canadian Mining Hall of Fame and the Atikokan Wall of Honour

Mining Hall of Fame

(a) Julian S. Cross, Josephy Farrington, Major Hogarth, Pop Fotheringham, Sydney Hancock

Wall of Honour

(a) All Miners and Workers Associated with the Mine Sites 1939-1978)

(b) Nominations for Outstanding Achievements, Heroism etc.

Themes 4, 5 and 6 are proposed as the primary interpretive themes with the majority of emphasis at all three sites.

8.2 Development Plans

There are 3 development modes proposed for the Atikokan Mining Theme Park. This section examines each in detail. All costs are 1990 dollars.

8.2.1 Highway Orientation Site

Along Highway 11 there are few modern tourist information facilities between Thunder Bay and Rainy River. In the Atikokan region, a seasonal tourist information facility provides some limited tourist information. At the same time, Atikokan lies several kilometres north of Highway 11 and, as a result, is not visible from the highway. Therefore, any focus upon a tourist attraction in Atikokan requires a co-comittant consideration of promotion at the junction of Highway 11 and the entrance to Atikokan (Highway 11B).

The proposed Highway Orientation Facility will attract passing tourists by creating an exciting and interesting thematic development which provides linkage to Atikokan, the Mining Theme Visitor Reception Centre and tourism opportunities in the region.

a. Programme Description

The Highway Orientation site will include:

- a seasonal tourism reception and information facility;
- a NOTICE-type[2] tourist information and rest area;
- a major striking outdoor display that creates interest in the Highway 11 travelling public and establishes a landmark for the highway traffic;
- an interesting indoor and outdoor display promoting the Mining Theme;
- a revamped site to accommodate tour buses, mobile campers and visitors; and
- incorporation of the existing beaver pond in a boardwalk and display.

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[2] NOTICE was the successful tourist information centre programme undertaken by the Ministries of Tourism and Recreation and Transportation. These facilities were required to meet specific standards in order to receive funding. Atikokan declined to participate in that previous programme.

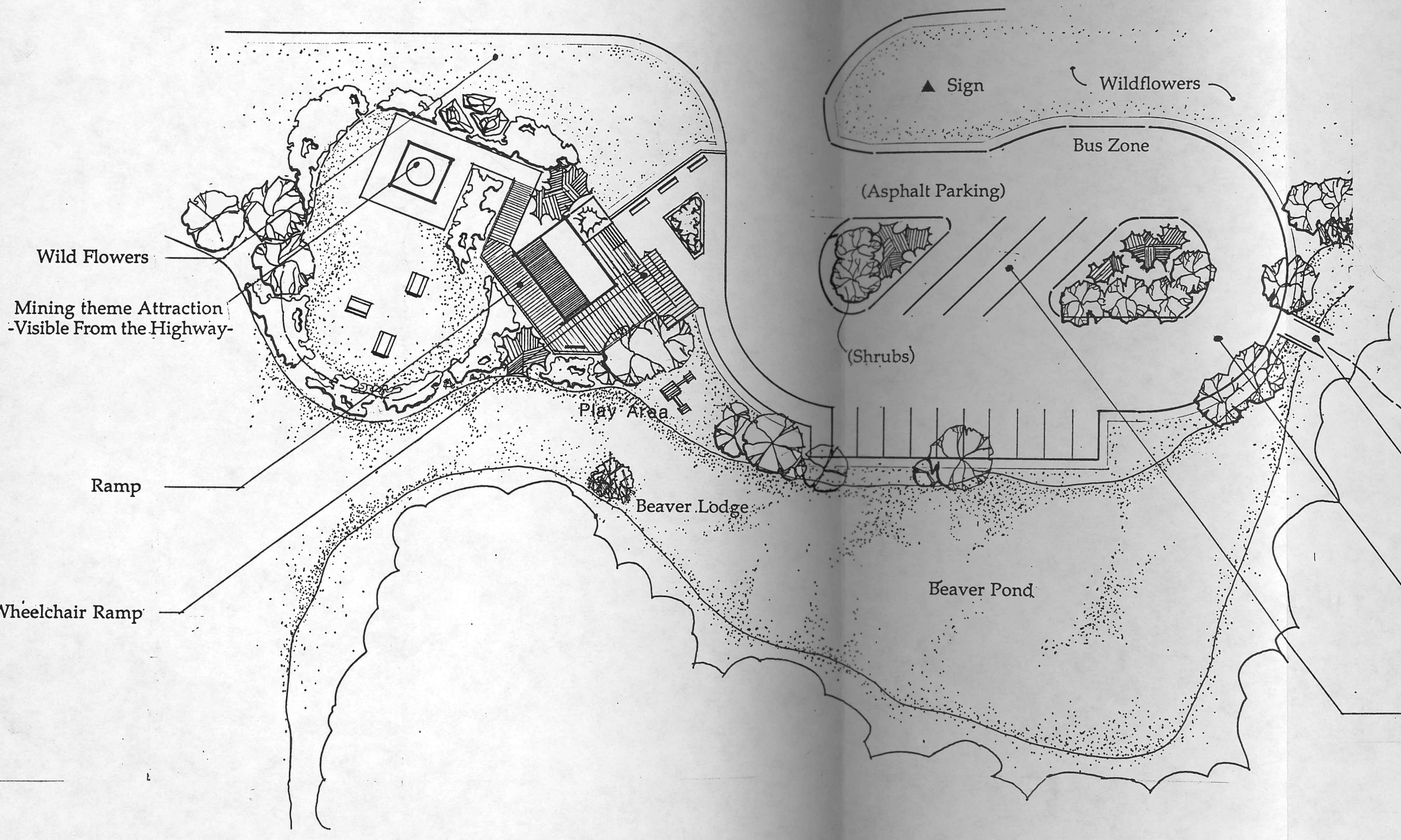
The prime objective of this programme is to attract travellers using Highway 11 who otherwise would not stop and convince them that their trip would be incomplete without a visit to Atikokan.

abandoned municipal site

Atikokan

Mining Theme Attraction

Highway Site Development Plan



N

0 6 12 18

Scale in metres

b. Access and Parking

The existing access off Highway 11 will be retained. The existing parking lot will be expanded to accommodate bus and large camper traffic to NOTICE standards by increasing parking lot size, providing pressure treated curbing and raising the parking lot and surfacing with asphalt. Disabled access is required.

c. Building Development

The existing seasonal tourist information centre will continue to be used. It will require the following refurbishment:

i) Exterior

- replace canopy over entrance
- replace front steps and rebuild with access ramp
- replace roof shingles (bright red)
- replace sewer line to holding tanks
- replace loose siding battens and boards
- patch holes in siding
- re-level footings and place existing wood footings on concrete pads
- stain siding and paint trim and windows
- straighten sagging shutters
- straighten roof framing
- remove oil tank and wood cribbing not in use
- remove existing water line
- install new water holding tank and pressure pump
- install concrete footings under wood cribbing foundations
- install skirting around foundation of building

ii) Interior

- replace wood ceiling with drywall and paint
- refinish wood walls
- refinish flooring
- install new plumbing fixtures in washroom
- paint windows and trim
- install new track lighting in display areas

d. Servicing

Servicing requirements relate primarily to upgrading current servicing short falls. These include:

- drilling a well and providing potable water
- continuation of sewage holding tank and pump-out system

e. Interpretive Plan

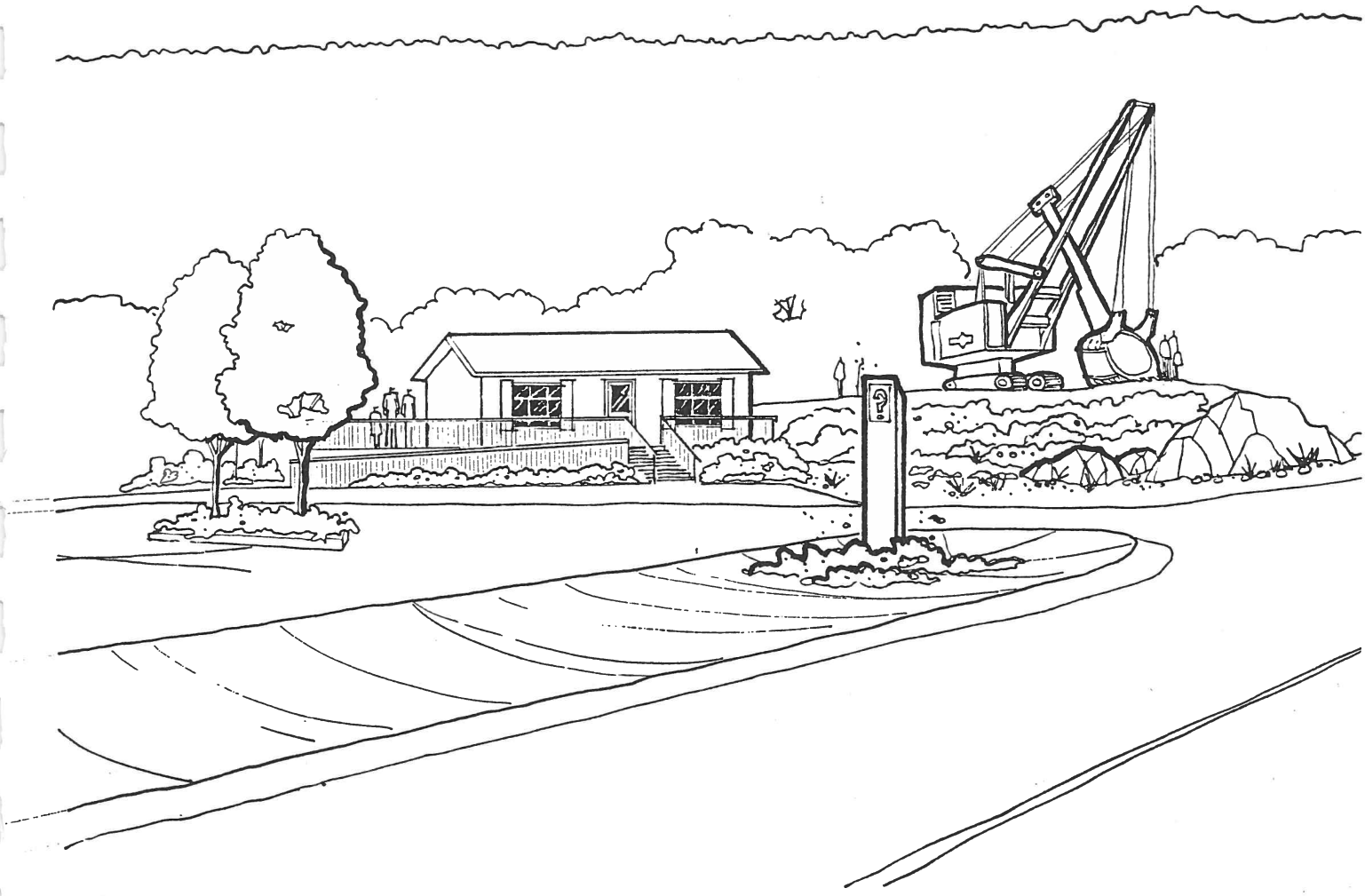
There is an outdoor and indoor set of interpretive requirements at the Highway Orientation Centre. The Outdoor requirement is for the presentation of a striking image to those travelling the highway sufficient to induce a significant percentage to stop and inquire into the meaning of the image (see attached sketch).

The indoor requirement is for a brief introduction to the significance of the outdoor presentation and the provision of relevant information about additional opportunities in Atikokan and at the Mine sites.

i) Outdoor Treatment

The outdoor treatment could take a number of forms, but all alternatives should be tending towards the 'monumental' in scope. This will be required if it is to register

Highway Site Attraction



on the occupants of rapidly travelling vehicle traffic. This suggests an abstraction of the basics of the Steep Rock Site: a lake, a submerged ore body, and a prospector poised above the lake attempting to fathom the mystery of its location. Another version might be conceived where the focus is on a large sculptured diamond drill poised above the lake. In each case, the images would be compelling and not easily ignored. A high quality of execution in fabrication and sculptural terms should be enforced in such a production.

ii) Indoor Treatment

Flowing out of the outdoor treatment, one or two panels of interpretive information combined with a well-executed scale model of the Steep Rock Lake Site would provide good visitor orientation. A model with considerable depth, similar to a model of a Nickel lode (see attached graphic) would be effective. Information on the work and personality of Julian Cross could provide the other essential storyline for travellers who have stopped in response to the outdoor display.

iii) Storylines

At this site, the emphasis will be on practical orientation of travellers to regional opportunities, with an emphasis on gaining an insight into the major environmental and mining story surrounding the history of Atikokan.

The interpretive programme emphasis at the Highway 11 orientation centre will focus on the following:

- Theme 4(a) Julian Cross of Silver Islet landing: The Faith of a Prospector
- Theme 4(b) Documenting the ore body beneath Steep Rock Lake and the first Commercial mining ventures.

- Theme 5(c) The Technological Achievement: Water Diversion and Environmental Engineering.

f. Adjacent Use Consideration

No conflicting adjacent uses exist.

g. Special Considerations

The role of the Highway Orientation Site as a visitor information centre remains a priority. To this end, and in recognition of the significant "Canadian Gateway" of Atikokan to Quetico Park, the facility will continue to promote regional tourism opportunities as well as Atikokan's Mining Theme.

h. Development Costs

The following development costs are class "C" costs.

i) Construction/Renovation

a)	Building Renovations	$40,000.00
b)	Servicing	10,000.00
c)	Site Improvement	40,000.00
d)	Interpretive Displays	20,000.00
e)	Outdoor Sculpture	25,000.00
	Sub Total	$135,000.00
	10% contingency	$13,500.00
	Total Construction	$148,500.00

ii) Fees

Architectural 10% of a	4,000.00
Engineering 10% of b	1,000.00
Site Design 12% of c	6,000.00
Interpretive design - 10% of d & e	4,500.00
Travel Extras	500.00
Subtotal	16,000.00
TOTAL ALL COSTS	$164,500.00

iii) Land

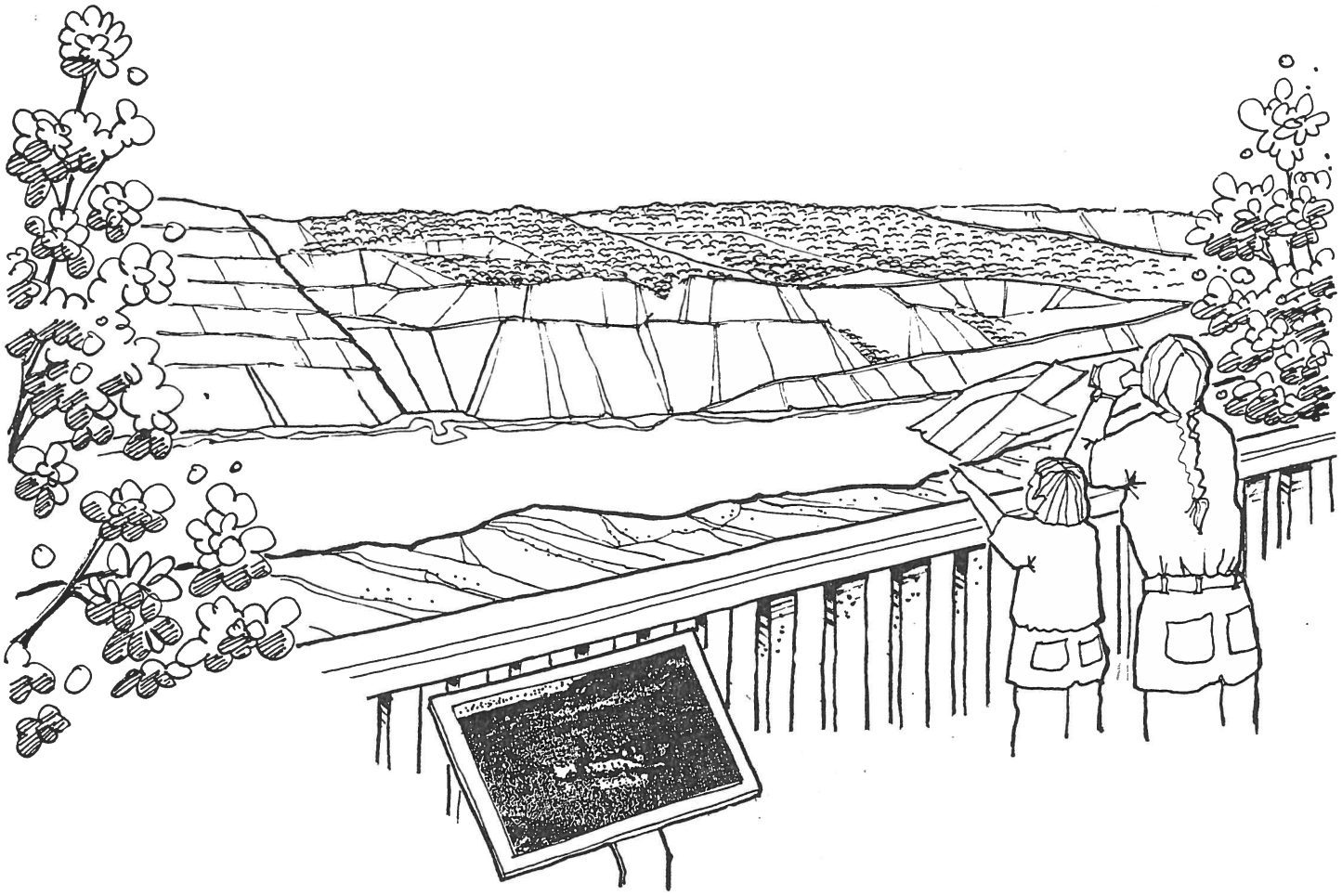
No cost. Owned by Township

8.2.2 Mine Display Site

The mine display site provides an opportunity to introduce visitors to the actual drama and impact of the mine operation. While several similar open pit mines have been interpreted in adjoining Minnesota , none exist in northwestern Ontario. Therefore, the significant after-operation open pits offer a considerable storyline opportunity.

The open pits will create a visually stimulating experience for visitors to Atikokan by providing on-site interpretation and viewpoints which will complement the storylines of the Visitor Reception Centre located in Atikokan.

Sketch of Boardwalk Hogarth



a. Programme Description

The proposed formal development at the abandoned mine sites will consist primarily of access to two overlooks one each at the Caland and Steep Rock sites. In addition, informal tours and rock hounding expeditions over a much greater expanse of the pit could occur through coordination by local tour guides and operators.

The focus of the formal programme will be interpretive displays and brochures. In the future, as interest grows, additional sites could be developed.

b. Access and Parking

For nonresidents, access will be limited to existing roads at the Caland site and the paved road at the Steep Rock site. Pedestrian board walks will provide access to the actual viewpoints.

c. Building Development

Although buildings are proposed, roofed displays are recommended to protect panels and visitors from inclement weather.

d. Servicing

No new servicing is required.

e. Interpretive Plan

There are two principal sites for interpretation: (1) an overlook of the Hogarth Pit and (2) the overlook at the Caland Mine site. At both, development will be limited to quality durable interpretive signage in the short term.

i) Hogarth Pit

The display should provide the viewer with a good "then and now" type of orientation contour map with significant features on an accompanying historic mine map identified, in some cases by means of in-set photos. The details of the overall drainage scheme should also be included in this display, keyed to a few prominent landmarks which the visitor can see from the lookout. The displays should be centralized in an open but covered display shelter.

ii) Caland Ore Company Overlook

For some time there has been a good display at this site which has now fallen into disrepair. The essential content of the existing display is appropriate and a new treatment in contemporary durable materials should now be put in place. Some new display materials should be added giving a brief history of the Caland Ore Company and an orientation to the visible landmarks in the current landscape. This site would also be excellent for purposes of discussing the question of water-rise in the old mine pits and the nature of the local diversions and dams. The above treatments can be contained on three or four panels and centralized under an open, but covered display shelter. The shelter will give more authority to the display area and offer needed protection from sunlight falling on the displays.

iii) Storylines

Owing to visitor safety issues, site development in the near future will be limited. Two main sites are keyed for development or upgrading:

1. The existing Caland Lookout Site
2. The Hogarth Pit Lookout Site.

The interpretive emphasis at both of these sites will generally focus on the following:

- Theme 5(c) the Technological Achievement: Water Diversion and Environmental Engineering
- Theme 6(a) Opening Up New Ore Bodies: the lease to Caland Ore Company
- Theme 7(a) Assumptions Concerning Environment and Economy in the Years Between World War I and II.
- Theme 7(b) Murky Waters: The Rainy Lake Reference to the IJC
- Theme 7(c) Environmental Management in the 1960's and 1970's.

f. Adjacent Use Considerations

As discussed in previous sections, the mine site has been abandoned and transferred to the Ministry of Natural Resources. That Ministry is allocating land use permits. It is imperative that such permits do not detrimentally impact viewscapes and storylines of the proposed and future mine site interpretive points.

g. Special Considerations

The Hogarth site warrants consideration as a Provincial Historic Site commemorating the important role played by the Steep Rock exploration and development program. Such a designation would establish legitimate recognition of that significance.

h. Development Costs

The following Class C development costs are proposed:

Construction

(i) Caland Site		
- Parking		$4,000
- Site Improvement		5,000
- Site Interpretation		12,500
	Subtotal	$21,500
(ii) Hogarth Site		
- Access		
railway bridge road repair		$7,500
other road repair		40,000
- Parking		6,000
- Boardwalk and trail		50,000
- Timber overlook		30,000
- Displays		12,500
	Subtotal	$146,000
Total Construction		$167,500
Fees		
- Architectural		none
- Engineering 10%		$5,750
- Site Design 12%		10,200
- Interpretive Designer		2,500
	Subtotal	$18,450
TOTAL ALL ITEMS		$185,950

8.2.3 In-Town Visitor Reception Centre

The Visitor Reception Centre provides the primary focus for the presentation and interpretation of the Atikokan Mining Story. Here, a central integrated programme will be coordinated by full time year round staff.

The primary objective of the Centre is to provide a central, accessible high quality attraction and interpretive facility which tells the vast and interesting story of mining in Atikokan in particular and the region in general. The building design is not thematic to a 1950's motif or mine site appearance. The Visitor Centre should reflect its main purpose, appeal to visitors and be synonymous with modern interpretation rather than a poor replica of something else.

a. Programme Description

There is both an interior and exterior component to the Centre.

i) Interior

The purpose of the Centre is to provide very high quality attractive interpretation of Atikokan's mining history in particular and Canadian mining in general. The programme will be exciting, interactive and appealing to a cross section of interests and backgrounds. The building will provide space for audio-visual presentations, permanent displays, travelling exhibits, some curatorial function and information on services and facilities in Atikokan.

ii) Exterior

The exterior space will provide complementary displays and artifacts adjacent to the building with a river view. Across the Atikokan River, the existing museum will provide seasonal presentation of other interesting storylines such as timber harvesting in the region.

b. Access and Parking

There is limited available on-site parking given the location of the proposed site. Parking directly adjacent to the Centre will be provided for 1 tour bus, disabled parking and 5 private vehicles and 2 camper units. Additional parking could be created off site as well as on Main Street. Access will be directly off Main Street.

c. Building Development

A total gross floor area of 3100 square feet has been allocated for the Centre. This is slightly larger than the preliminary concept. The Centre will be designed and developed to house:

- a 600 square foot theatre
- a 600 square foot permanent mining exhibit
- 360 square feet for changing exhibits
- 340 square feet for a lobby/entrance/tourism information display
- 400 square foot archives
- a 160 square foot office
- 350 square feet for mechanical and washrooms.

The details of each component are noted below.

i) Theatre

The theatre will provide fixed seating for 40 people and standing room for an additional 40. Here, major high quality interpretive programmes will be held. As well, wall space will be used effectively for displays when the theatre is not in programmed use. The stage will be fixed in place.

This space could also be rented out to the community.

ii) Permanent Mining Exhibit

This exhibit will house artifacts and materials pertinent to the Atikokan story and will contain diorama and other display techniques.

iii) Changing Exhibit Space

This space will provide opportunity to better accommodate touring displays that may or may not be related to the overall theme.

iv) Lobby/Entrance/Tourism Information

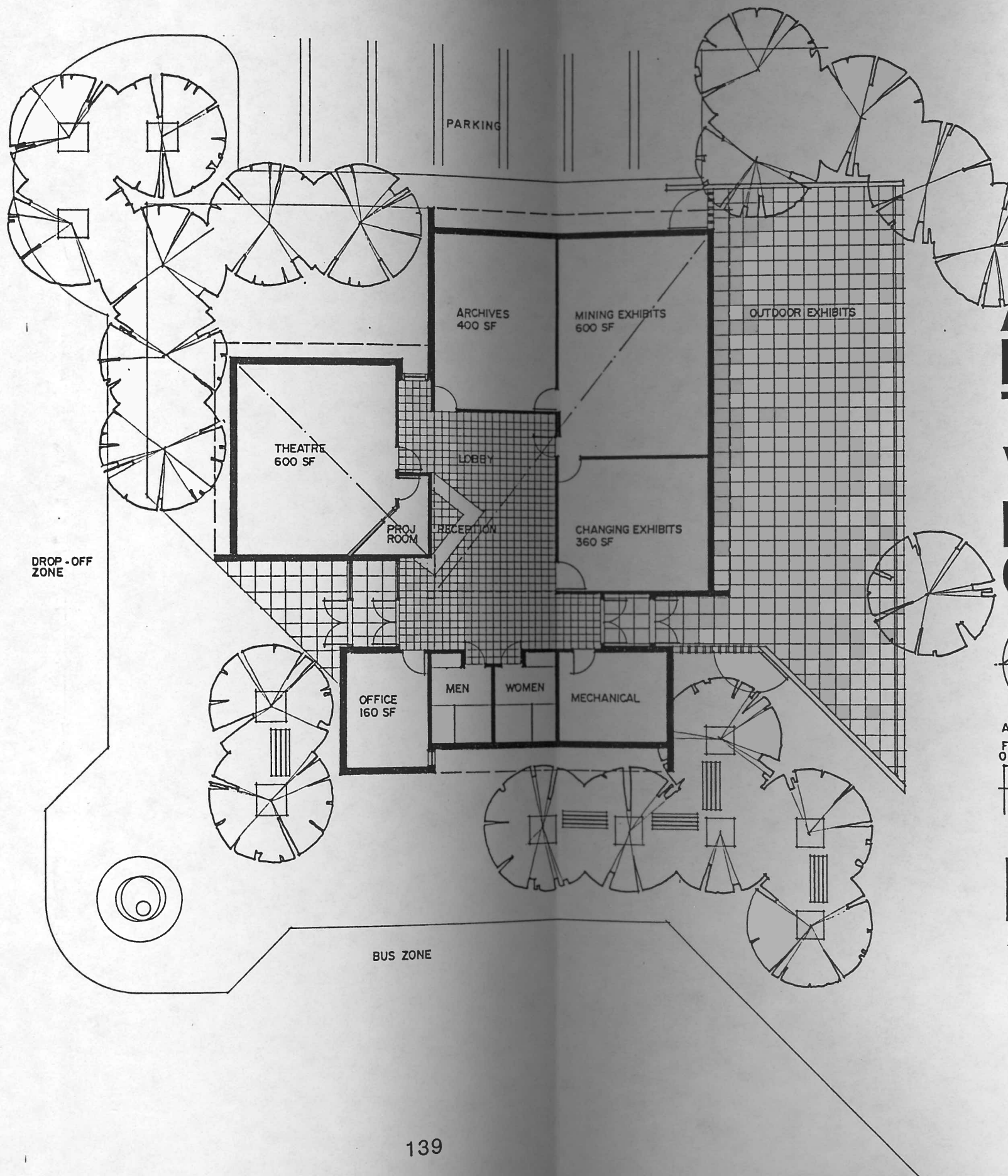
This multi-function space will create a dynamic place where visitors are first introduced to the Centre and where they can meet, browse and receive orientation to town, shopping and facilities and services in Atikokan and the region.

v) Archives

The archival area will house important materials currently contained in the museum and scattered around town (less important materials should be stored at the new town office or another central location).

vi) Office

The office provides space for the full time curatorial and VRC management staff.



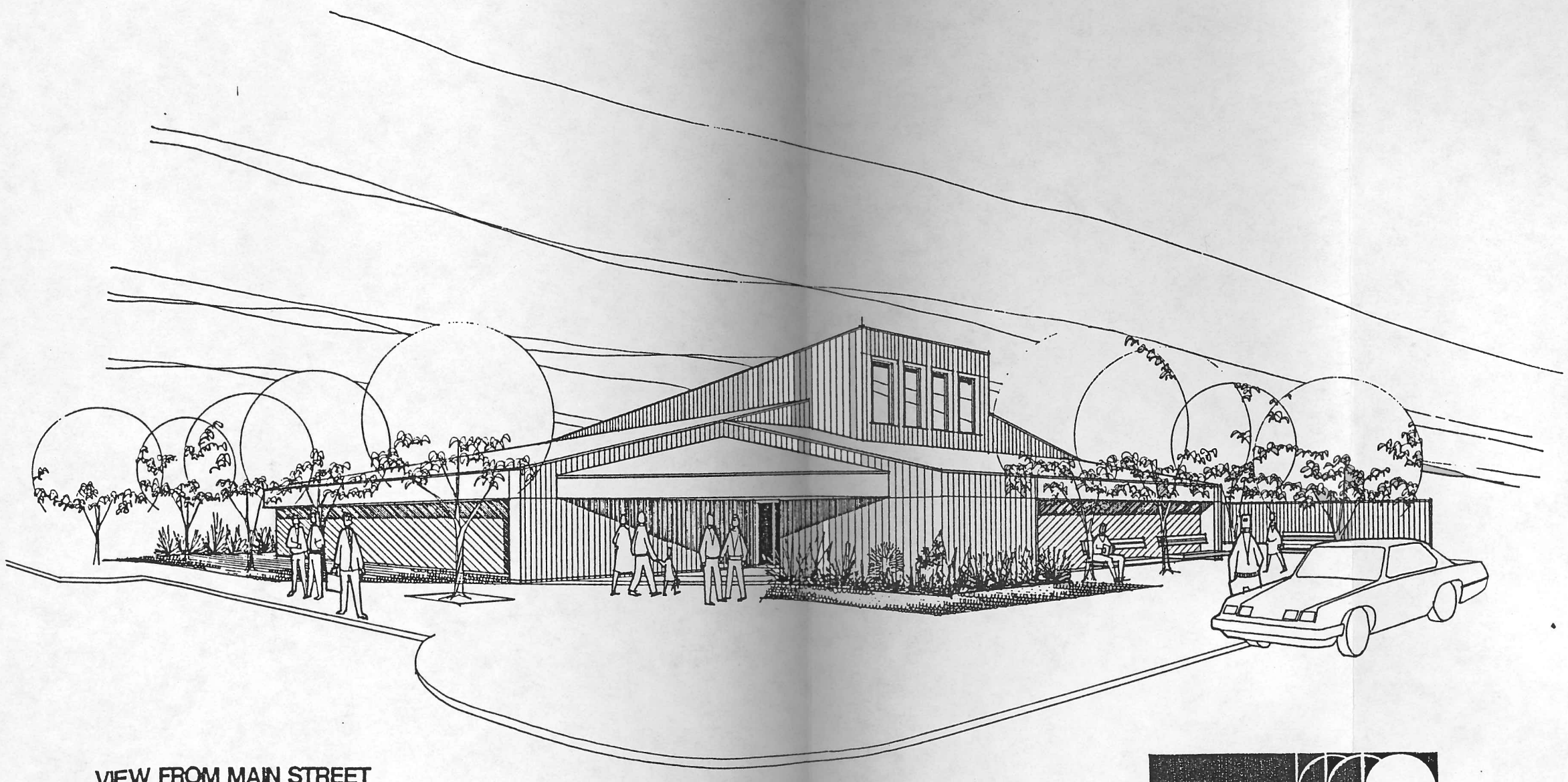
ATIKOKAN MINING THEME VISITOR RECEPTION CENTRE

N

AUGUST 27 1990

FEET
0 5 10 20 35

NUMBER TEN ARCHITECTURAL GROUP
310-115 BANNATYNE AVENUE, WINNIPEG, MB. R3B 0R3 (204) 942-0981



VIEW FROM MAIN STREET

ATIKOKAN MINING THEME VISITOR RECEPTION CENTRE

NUMBER TEN ARCHITECTURAL GROUP
310-115 BANNATYNE AVENUE, WINNIPEG, MB. R3B 0R3 (204) 942-0981

vii) Servicing

Servicing for the Centre will be relatively inexpensive because it is adjacent to existing servicings. For instance, the following is required:

- sewer service currently runs from south of site to in front of the Post Office. A new connection will be required.
- 150 mm main line runs north/south on Burns Street. The site is connected to that system but will likely require upgrading.
- single phase, 200 amp currently services site. Three phase connection is available east side of site.
- 100 mm natural gas line runs north/south of Burns Street.
- existing street lighting surrounds the site.

Therefore, only minor service upgrading will be required.

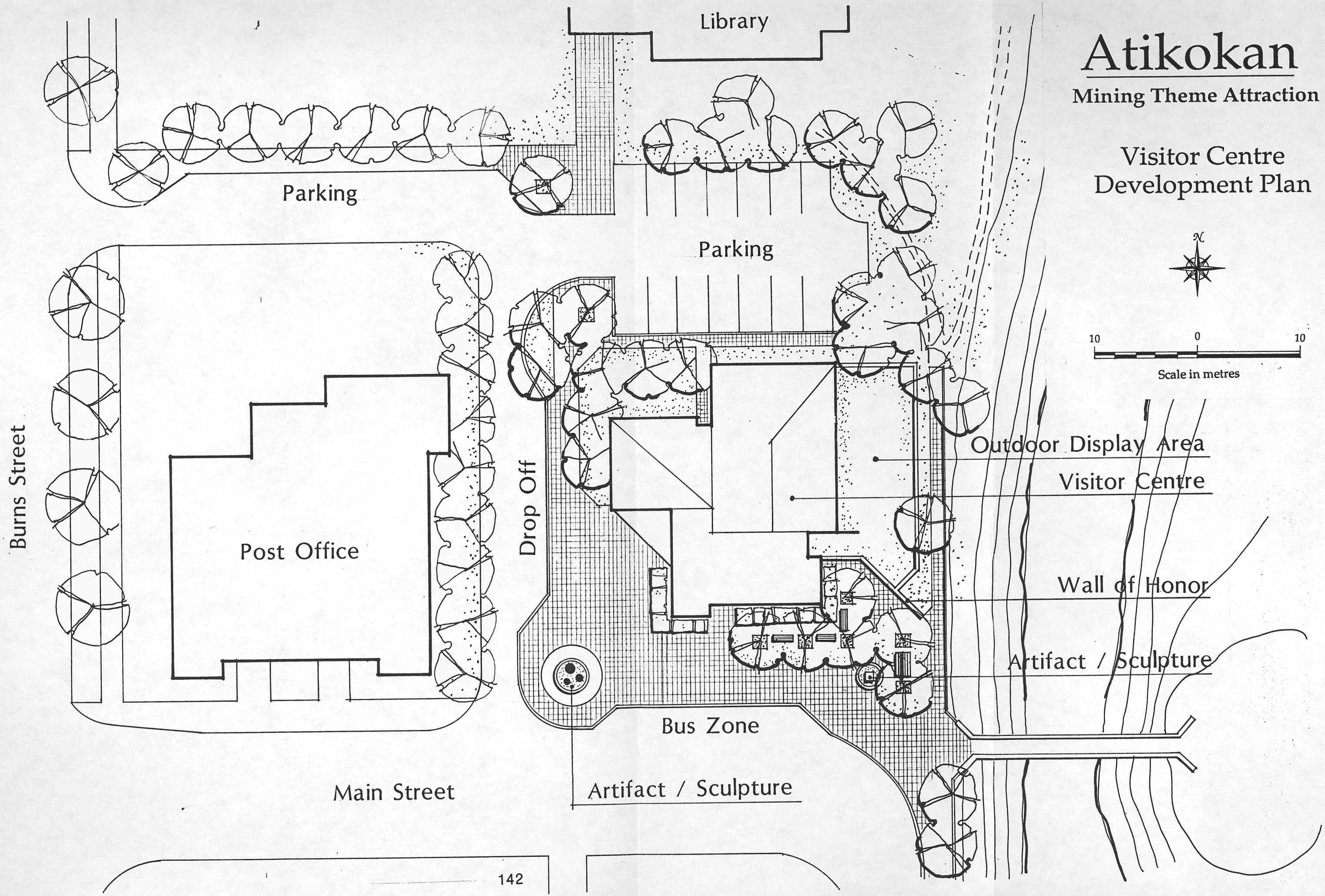
e. Interpretive Plan

Four general strategies are proposed for the town of Atikokan which will act to support the Mining Theme Park.

Atikokan

Mining Theme Attraction

Visitor Centre Development Plan



a) A mining artifact distribution programme (indoor and outdoor) on public and private lands.

b) An architectural motif programme which will encourage preservation of existing building facades to the 1950's period. (Earlier structures should be respected). Contemporary street "motif" signage should be avoided for new signage.

c) Home and Site Plaque Commemoration Programme, in the context of a walking/driving tour of the town.

d) Orientation Map/Guide to the Town which outlines the key sites and a walking tour route. (Publication and one or two mounted display maps in the downtown area).

Several types of display approach are proposed for the centre.

a) Pure Visualizations with or without textual copy, including possible simulation of interior of display area walls as iron-ore pit walls;
b) Three Dimensional Displays, including dioramas, and artifacts
c) Self-activated audio-visual units or interactive units
d) Publications and other print materials for sale or give-away
e) Formal A-V productions for use in the theatre.

i) Storylines

The suggested themes and sub-themes for the centre have been outlined in Section 8.15. The accompanying schematic suggests an approximation of a balanced treatment for

those themes in the Indoor Display areas and in the outdoor Garden/Wall of Fame Area. In summary these are:

Theme 1. Early Native use of metals and artistic expression in the Shield country west of Lake Superior

Theme 2. Early Exploration, Mining and Geological Surveys of the Country along the Dawson Route.

Theme 3. Early History of Iron Prospecting and Utilization in the Atikokan area and the Lake Superior Basin: 1880-1914

Theme 4. Discovery of Steep Rock Ore Body and the Birth of Steep Rock Iron Mines Ltd. 1925-1939

Theme 5. World War II and the Capturing of the Ore

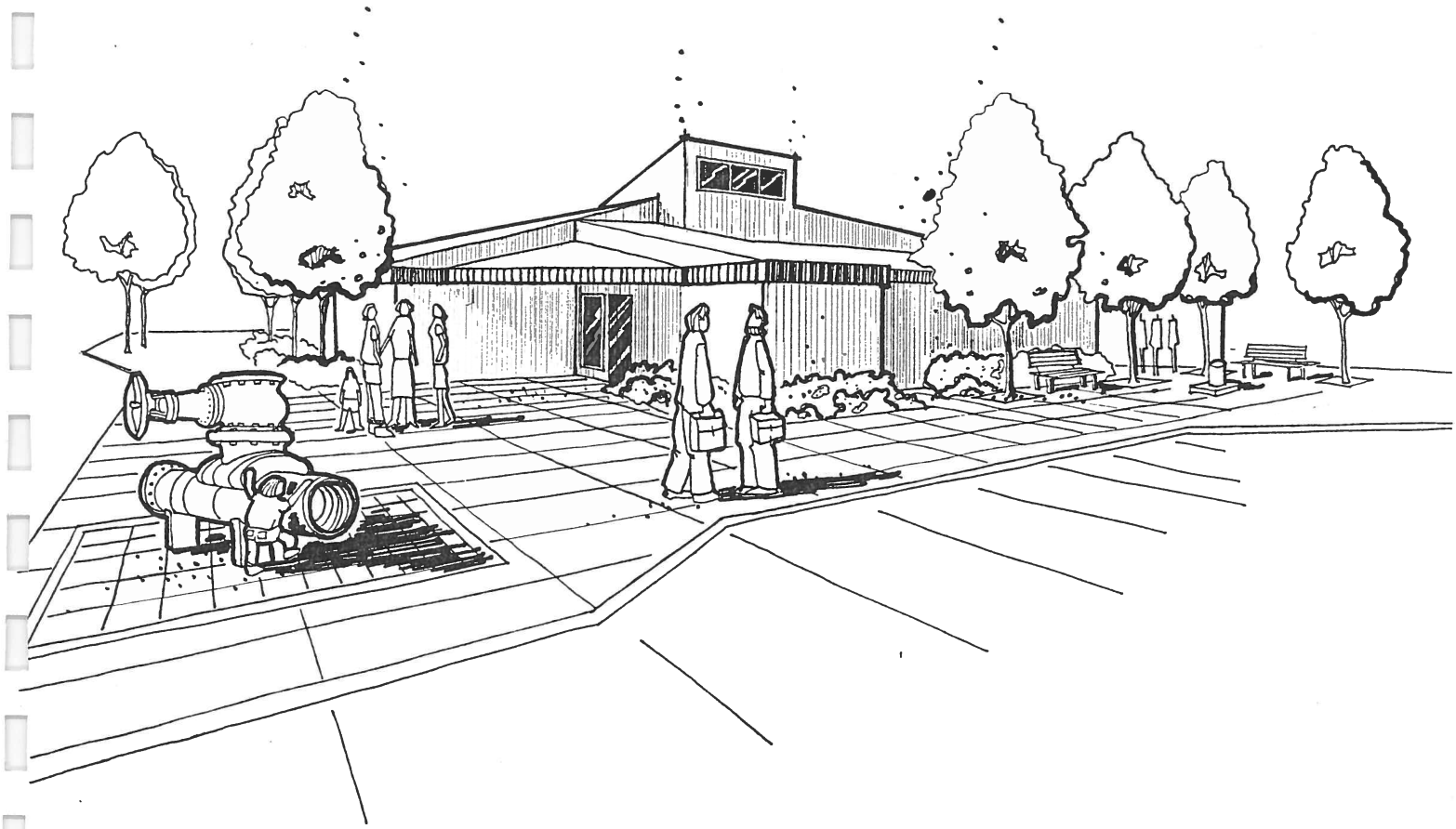
Theme 6. Post-War Development of Steep Rock Iron Mines Ltd. and the Caland Ore Company.

Theme 7. The Steep Rock Lake Sites as a Chapter in the Modern Environmental History and Management

Theme 8. Candidates for the Canadian Mining Hall of Fame and the Atikokan Wall of Fame.

The extent to which these themes and identified sub-themes are treated will be a function of space and the extent to which audio-visual productions used in the theatre "cover off" significant aspects of these stories. The accompanying diagram should be considered highly preliminary therefore, and by no means final.

Sketch of Building



ii) Display

A. Diorama. A scale three dimensional model depicting a section of one of the pits during the time of dredging. Focus on details of a dredge and the texture of the soil and rock materials being cleared, plus the relative height of the pit.
Display can be related to other displays and maps which outline the larger context of diversion.

B. Display Case. Manikin of Miner in typical mining garb and coated in the typical red ore dust.

C. Comparative Ore Display. Samples of various grades of iron ore from around North America, keyed to their source locations. Map of Lake Superior basin iron ranges should accompany this display. Ore samples should be exposed if possible so people can touch, but not remove.

D. Geographical Model of the Seine River - Steep Rock Lake region demonstrating the key locations of the diversion activity and the ore bodies. May be geared for display of different information through electric devices. e.g. small bulbs lighting up key water flow areas, dam sites, etc. Different information can be called up by visitors.

E. The Steep Rock Story. Brief Overview of the Development. Photos of key personalities and events.

F. The Way from Thunder Bay: The Cross Family of Silver Islet

G. Changes in the technology of Open Pit Mining at Steep Rock.

iii) Changing Mining Exhibit Area

In this wing, a yearly-scheduled cycle of exhibits could be programmed focusing on specific social history themes for which there is background information available. This would include key developments in the history of the Town of Atikokan, special events in local history, the role of key individuals or groups (e.g. Office Support Staff in the Early Days of Steep Rock, etc.) The photo archives would provide a continuing source of visual support for such displays, as would student work from the local schools or special projects mounted by students at Thunder Bay or elsewhere.

Another approach for this wing would be to focus, through display cabinet approaches, on special displays of mining gear, tools, etc.

iv) Theatre Area

As space allows, there may be room for permanent displays in this area.

Area O

This display is conceived as a roughed-in simulated wall of shield stone with treatments of Native Pictographs reproduced, based on the work of Dewdney and others. Some depiction of other natural elements at the base and edges of the wall could make for a striking mural. In the darkened setting of the theatre, subdued lighting could be controlled with special lighting focused on the mural. Attention would then be focused on the mural for purposes of a recorded or direct interpretive talk.

Area K,L,M,N

These are display panels, either standard or composed of backlit materials, which could be highlighted from stage or Projection booth for specific instructional purposes. These will deal with special topics not treated elsewhere in an in-depth way. These panels should focus on topics which will have a steady and recurring visitor or educational interest.

When the theatre is not is use, these displays along with the Simulated Shield Wall can remain lit with visitors walking around the theatre at will.

Area P. (Lobby)

This is an acknowledgements Panel dealing with all aspects of the Visitor Centre, including artistic sources and credits.

Area Q. Mining Hall of Fame and Atikokan Wall of Fame.

This outdoor area, conceived as a garden and commemoration area, will acknowledge present or future additions to the Canadian Mining Hall of Fame of personalities from the Northwestern Ontario area, and the special contributions made by all of those involved with the development of the Steep Rock Lake Mines.

f. Adjacent Use Considerations

Because of the central location of the Visitor Reception Centre in the downtown of Atikokan, there are several substantial adjacent land use considerations which must be examined and incorporated into a new building.

i) Existing Summer Museum (Historic Park)

Located on Armstrong Point, the Museum provides an important seasonal interpretive programme for Atikokan. The Museum operation will need to be incorporated with that of the Centre so that services and storylines are complementary. There exist potential strong linkages, thematically and physically, between the two sites.

ii) Museum and Library Building

The Museum also houses the museum director, travelling exhibits and curatorial function. In the future, it will be able to return primarily to a library function or other community activity. Parking for the library (major use in winter) and Centre (major use in summer) could be shared.

iii) Senior's Centre

The proximity of the seniors' centre and Armstrong Point residence provides and excellent opportunity to utilize the knowledge of seniors in providing VRC volunteer staff and tour leaders.

iv) Commercial area

The within-easy-walking-distance commercial centre of Atikokan could create excellent potential for direct spin off benefit from tourists who are visiting the Centre. With this in mind, a thematic "1950's" streetscape is proposed for Main Street to capture the flavour of the mine development period and stimulate artifact location in and near commercial operations. This would be a long term effort so that existing business viability is not detrimentally affected.

This work could be completed under a community improvement area designation.

g. Special Consideration

The development of a broader townscape mining theme role could present Atikokan with a unique opportunity to tie directly into the Centre, its storylines and the visitors to it. This will differ considerably from most theme parks or Centre's which are located at the site rather than in town.

Therefore, some thought should be given to the exploration, promotion and development of a compatible streetscape tenure for Main Street. At the same time, a common thematic linkage through selected high quality signage and artifact placement could establish an interesting entrance to Atikokan and the Visitor Reception Centre.

h. Development Costs

The following Class C development costs are based upon conceptual building drawings.

a. Building 3100 square feet	$	%
- substructure	10,000.00	3
- structure	40,800.00	12
- exterior walls and cladding	102,000.00	30
- interior partitions and doors	13,600.00	4
- interior finishes	20,400.00	6
- electrical	34,000.00	10
- mechanical	70,000.00	20
- overhead and profit	34,000.00	10
- designing contingency	15,000.00	5
Subtotal	340,000.00	100

	- construction contingency	15,000.00	5
	Total Cost July 1990	355,000.00	
	Additional Construction Factor		1.25
	TOTAL BUILDING COST	$445,000.00	
b.	Interior Interpretation Component	200,000.00	
c.	Site Development	100,000.00	
d.	Exterior Interpretation Display	50,000.00	
e.	Building Demolition	17,500.00	
f.	Servicing	25,000.00	
g.	Furnishings	30,000.00	
	Subtotal Building	$867,500.00	
	10% Building contingency	87,000.00	
	Total Building	$954,500.00	
	Fees		
	Architectural 10% of a	45,600.00	
	Engineering 10% of e & f	4,250.00	
	Site Design 12% of c	12,000.00	
	Interpretative Design - 10% of b & d	25,000.00	
	Subtotal Fees	86,850.00	
	TOTAL ALL COSTS	$1,041,350.00	

8.2.4 Other Development

As part of the successful promotion of the Centre and Atikokan as a destination area, several additional development requirements will be needed. These include:

- brochures and pamphlets to market the theme and link the 3 sites
- linkage between sites using signage and artifacts and landscaping
- establishing visual record of site
- Main Street streetscape improvements, landscaping, storefront improvements, wall murals and artifact placement.

These items will likely have costs attached to them in the order of the Class C costs noted below:

- brochures, pamphlets (design and production)	
- general promotion	$20,000.00
- mining site	10,000.00
- Visitor Reception Centre	20,000.00
Total	$50,000.00
- visual record	$20,000.00
- townsite improvements	
- thematic signage	$10,000.00
- entry displays	10,000.00
- Main St. enhancement	200,000.00
Subtotal	120,000.00
- Design fees	25,000.00
Total	245,000.00
TOTAL OTHER ITEMS	$315,000.00

8.3 Summary Capital Costs

The total for all proposed development is:

- Highway Orientation Centre	$164,500.00
- Visitor Reception Centre	1,041,350.00
- Mine Site Interpretive Sites	185,950.00
- Other Development Items	315,000.00
Grand Total	$1,706,800.00

No provision has been made for the impacts (+ or -) of the Goods and Services Tax.

8.4 Preliminary Financial Assessment

8.4.1 Preliminary Operating Statements

A five year pro forma operating statement of revenues and expenses is set out in Table 8.1.A. Revenue and expense projections in the table have been developed from actual financial results of comparable facilities, and on the basis of the following assumptions:

- hours of operation of the Visitor Centre (in Atikokan) would be:
    - May long weekend to Labour Day: 8 am to 8 pm, seven days per week;
    - Labour Day to May long weekend: 10 am to 4 pm, five days per week (possibly Wednesday through Sunday);
- hours of operation of the Highway Building would be:
    - May long weekend to Labour Day: 8 am to 8 pm, seven days per week;
    - Labour Day to May long weekend: closed

- staffing of the two facilities would be as follows:
    - Visitor Centre:
        - Manager
        - Curator
        - half-time secretary
        - summer: two employee[3] per shift (one floating guide, and one shop/ secretary/ security/ admission);
        - winter: volunteers
    - Highway Site:
        - summer: one employee per shift
    - weighted admissions prices (to account for group discounts) would be:
        - adults: $4.00

[3]assume 50% volunteers & 50% summer students

Table 8.1.A Five Year Pro Forma Operating Statement, Visitor Centre and Highway Building

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues:					
Admissions:[1]	$69,900	$88,200	$106,200	$119,500	$132,000
Gift/book shop profit	25,000	30,000	36,000	40,000	45,000
Theatre rental:	2,000	2,000	2,000	2,000	2,000
	$96,900	$120,200	$144,200	$161,500	$179,000
Expenses:					
Salaries: - Permanent:	$61,000	$64,300	$67,500	$71,200	$75,100
- Seasonal:[2]	39,000	40,900	42,900	45,100	47,400
Janitorial Service:	3,400	3,600	3,800	4,000	4,200
Repairs/Maintenance:	3,000	4,000	6,000	8,000	10,000
Utilities:	7,500	7,900	8,300	8,700	9,100
Telephones:[3]	3,000	3,200	3,400	3,500	3,600
Insurance:[4]	2,400	2,500	2,600	2,700	2,800
Legal, audit fees:	2,500	2,600	2,700	2,800	2,900
Office Supplies:	3,000	3,100	3,300	3,400	3,500
Promotion and advertising:	10,000	10,000	10,000	10,000	10,000
Manager's Travel:	5,000	5,000	5,000	5,000	5,000
Museum Exchange (shipping):	5,000	5,000	5,000	5,000	5,000
A/V Equipment Service:	3,000	3,300	3,500	3,600	3,700
Museum Consulting:	4,000	5,000	6,000	6,000	6,000
Board Meetings, Expenses:	1,500	1,500	1,500	1,500	1,500
	153,300	161,900	171,500	180,500	189,800
Operating Surplus (Deficit):	(56,400)	(41,700)	(27,300)	(19,000)	(10,800)

[1] based upon attendance projections in section 6.5; assume families are 50% adults, 50% children; assume one-quarter of adults are senior.

[2] assume that 50% of summer students' wages (@$6.00 per hour) are funded under SEED Program.

[3] including telephone at Highway Building during summer months.

[4] property, theft and liability insurance for Visitor Centre and Highway Building

- children (under 12): $2.00
- seniors: $3.00

- the Visitor Centre theatre will be rented for meetings, etc., fifty times per year;
- the Visitor Centre will maintain an active museum exchange program (videotapes, artifacts and displays) with other mining -theme facilities in Canada and the United States;
- janitorial/cleaning services will be provided for the Visitor Centre by other local agencies on a per-hour basis, at cost; and
- cleanup services at the Caland and Hogarth mine sites will be provided by volunteers or the Town.

No provision for depreciation of the facilities, or for the possible impact of the Federal Goods and Services Tax, has been made in the operating statement.

Table 8.1.B sets out equivalent revenue and expenditure projections based upon full seasonal staffing of the Visitor Centre by volunteers. In this case, admission prices could be reduced to $3.00 for adults, $1.50 for children and $2.00 for seniors.

8.4.2 Preliminary Cash Flow Statement

As noted in Section 6.4, it is projected that peak (summer) attendance will comprise approximately 80% of total annual attendance; therefore, approximately 80% of total annual attendance; therefore, approximately 80% of admission and shop revenues are projected to be earned between late May and Labour Day. Also, other than seasonal employee salaries and Highway Building utilities, the projected expenses in Table 8.1 will be incurred on a fairly constant basis throughout the year. Table 8.2 sets out projected

cash flow for six month periods (May through October and November through April) over the first five years of operation of the Visitor Centre and Highway Building. It is assumed, for purposes of cash-flow projections, that the project's annual operating deficits are funded annually, and that no deficits incurred are carried forward to future years or capitalized through additional senior government funding.

Table 8.1.B Five Year Pro Forma Operating Statement, Visitor Centre and Highway Building (full seasonal staffing of Visitor Centre by Volunteers)

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues:					
Admissions:[1]	$53,700	$76,200	$87,800	$98,700	$108,600
Gift/book shop profit	25,000	30,000	36,000	40,000	45,000
Theatre rental:	2,000	2,000	2,000	2,000	2,000
	$80,700	$108,200	$125,800	$140,700	$155,600
Expenses:					
Salaries: - Permanent:	$61,000	$64,300	$67,500	$71,200	$75,100
- Seasonal:[2]	13,000	13,600	14,300	15,000	15,800
Janitorial Service:	3,400	3,600	3,800	4,000	4,200
Repairs/Maintenance:	3,000	4,000	6,000	8,000	10,000
Utilities:	7,500	7,900	8,300	8,700	9,100
Telephones:[3]	3,000	3,200	3,400	3,500	3,600
Insurance:[4]	2,400	2,500	2,600	2,700	2,800
Legal, audit fees:	2,500	2,600	2,700	2,800	2,900
Office Supplies:	3,000	3,100	3,300	3,400	3,500
Promotion and advertising:	10,000	10,000	10,000	10,000	10,000
Manager's Travel:	5,000	5,000	5,000	5,000	5,000
Museum Exchange (shipping):	5,000	5,000	5,000	5,000	5,000
A/V Equipment Service:	3,000	3,300	3,500	3,600	3,700
Museum Consulting:	4,000	5,000	6,000	6,000	6,000
Board Meetings, Expenses:	1,500	1,500	1,500	1,500	1,500
	127,300	134,600	142,900	150,400	158,200
Operating Surplus (Deficit):	($46,600)	($26,400)	($17,100)	($9,700)	($2,600)

Note: This reduces the operating shortfall from $155,100 over 5 years to $101,800.

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[1] based upon attendance projections in section 6.5; assume families are 50% adults, 50% children; assume one-quarter of adults are senior.

[2] assume that 50% of summer students' wages (@$6.00 per hour) are funded under SEED Program.

[3] including telephone at Highway Building during summer months.

[4] property, theft and liability insurance for Visitor Centre and Highway Building

TABLE 8.2

CASH FLOW STATEMENT, VISITOR CENTRE & HIGHWAY BUILDING

	Year 1		Year 2		Year 3	
	May-Oct	Nov-Apr	May-Oct	Nov-Apr	May-Oct	Nov-Apr
Cash Sources:	80,700	16,200	100,200	20,000	120,100	24,100
Cash Applications:	96,000	57,300	101,500	60,400	107,100	64,400
Excess of Sources Over Applications:	(15,300)	(41,100)	(1,300)	(40,400)	13,000	(40,300)
Cash Balance, Beginning of Period	00,000	(15,300)	00,000	(1,300)	00,000	13,000
Cash Balance, End of Period	(15,300)	(56,400)	(1,300)	(41,700)	13,000	(27,300)

	Year 4		Year 5	
	May-Oct	Nov-Apr	May-Oct	Nov-Apr
Cash Sources:	134,500	27,000	149,100	29,900
Cash Applications:	112,900	67,600	118,800	71,000
Excess of Sources Over Applications:	21,600	(40,600)	30,300	(41,100)
Cash Balance, Beginning of Period:	00,000	21,600	00,000	30,300
Cash Balance, End of Period:	21,600	(19,000)	30,300	(10,800)

8.4.3 Potential Funding Sources

It is recommended that a foundation be incorporated to participate in the fund-raising program for the project (see section 8.9.5), and that a fund raiser be hired to work with the foundation and with regard to potential major funding sources set out below.

Potential sources of funding for the three components of the project are:

- Caland and Hogarth mine sites: should provincial historic site designation be obtained, capital costs associated with road, parking and lookout improvements could be funded through applicable provincial programs. Alternatively, funding could be directed from Ministry of Culture and Communication ($185,000).
- Highway Building: this component would be eligible for funding under the provincial NOTICE program; 75% of capital costs ($123,000) could be covered through provincial funding, and the remaining $41,000 would be funded through local (municipal and business) sources.
- Visitor Centre: the estimated $1.05 million capital cost of the in-town interpretive centre could be financed as follows:

- foundation/fund raiser:	- corporations:	$100,000.
	- other foundations:	250,000.
	- other private:	50,000.
	- local area:	10,000.
- Northern Ontario Heritage Fund:		200,000.
- Ministry of Northern Development and Mines:		200,000.
- Community Futures Program		200,000.
- Township of Atikokan		50,000.
		$1,060,000.

Also, funding assistance to reduce portions of project construction labour costs could be available under Unemployment Insurance Act programs.

Future townscape improvements and site linkages could be eligible for full funding under the Ministry of Municipal Affairs' PRIDE program, and project coordinator funding assistance could be available through MNDM.

In addition, funding will be required for capitalization of the first five years of operating losses ($155,100), project coordination and management before start-up ($72,000), brochures ($50,000) and other costs ($10,000) or a total of $287,100. Sources for these costs will need to be identified.

This funding package proposes that federal government sources contribute $200,000 or 11 percent and provincial government sources contribute $968,000 or 57 percent of all capital costs (excluding capitalized initial deficits and other start up costs) and that the Township of Atikokan, through the fund raising action of the non-profit corporation, contribute $410,000 or 25 percent and, through the tax base contribute $91,000 or 7 percent for a total of 32 percent of all capital development costs.

8.4.4 Total Funding Requirement

The total funding required for the project can be divided into essential funding and desired funding.

a. Essential Funding

Essential funding relates to the funding needed to complete all essential elements of the project. These are:

- all construction	$1,270,500.
- all design	121,300.
- interim project coordination	12,000.
- manager and fund raising	60,000.
- other costs (brochures visuals)	80,000.
- capitalization of operating deficit	155,100.
	$1,698,900.

b. Desired Funding

Desired funding relates to the funding needed to complete associated non-essential desired elements which will add to the projects completeness. These are:

- linkage improvements	$25,000.
- Main Street improvements	220,000.
	$245,000.

c. Total Essential and Desired Costs

The total essential and desired costs for all development is $1,943,900.

8.5 Assessment of Economic Benefits

8.5.1 Projection of Employment Impact

Based upon the estimate that between 50% and 60% of the total projected capital cost ($1.6 million) of the project, including townscape improvements, would be for local/regional labour, the construction employment impact of the project over the period of construction would be between 26.25 and 31.5 person-years of employment. Direct operations employment, assuming that staffing levels would be maintained at the levels shown in Section 8.4.1, would be approximately 3.5 person-years of permanent and seasonal employment.

Induced employment created by additional levels of tourism , measured in visitor-days and dollars spent, would be from 14 person-years in year 1 of operation to 27 person-years in year 5 (see Section 8.5.3).

8.5.2 Projection of Investment Impact

Previous studies have estimated that between 40% and 50% of total construction costs (materials, labour, equipment rented/purchase, etc.) are retained in the region in which construction takes place. Therefore, the estimated region retention of capital spending will be between $786,900 and $944,280. It is forecast that a very high proportion of construction and related activities will be carried out by firms and individuals located in the region, using local/area labour.

8.5.3 Projection of Spending Impact

It is assumed that 90% of visitors to the visitor centre and mine sites during the peak summer (late May to Labour Day) period will be tourists/visitors travelling to or through Atikokan, and 75%, during the rest of the year. Therefore, the total estimated number of tourist visitors to the facility (excluding school groups) will be:

Year 1: 20,400

Year 2: 28,700

Year 3: 33,000

Year 4: 37,100

Year 5: 41,100

The impact of the facility will be to increase the number of tourist visits to Atikokan, and average length of stay (and, accordingly, per-person spending) by both day and overnight visitors to Atikokan area. It is assumed, based upon tourism statistics for northern Ontario, that 75% of visitors will be day-visitors and 25% will spend at least

one night in the Atikokan area, and that approximately 50% of the day and overnight tourists would not have stopped to visit Atikokan were it not for the presence of the mining-theme attraction.

Therefore, projected the tourist spending impact, including the induced impact generated by a (conservative) tourism multiplier of 1.4, would increase from $571,200 in Year 1 to $1,340,640 in Year 5 of the facility's operation.[5]

8.5.4 Tax Revenue Impacts

Assuming that approximately 75% of tourist expenditures are non-auto/fuel related, and based on estimates used in previous studies of the impacts of tourism in northwestern Ontario, it is estimated that annual tourism spending in the Atikokan area caused or stimulated by the proposed mining-theme facility ($1.34 million by year 5) would generate annual revenues to governments of approximately $80,000 - Municipal; $120,000 - Provincial; $240,000 - Federal.

8.5.5 Private Sector Opportunities

The following business opportunities will arise as a result of the development of the mining-theme attraction:

- provision of driver and vehicle for guided motor tours of the Caland and Hogarth sites, and of other attractions in the Atikokan area;
- manufacture/distribution of souvenir/craft products which could be sold in the visitor centre gift shop;

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[5]assuming spending by day-visitors per person of $20, and per person by overnight visitors of $50 (average stay two nights).

- expansion/alteration of existing retail establishments for increase revenues from tourists/visitors; and
- airplane tours of the mine sites and other attractions in the area.

Generally, tourist spending will spread fairly evenly across the area's business sector, including hotels/motels, tourist camps/campgrounds, restaurants, gas stations/garages and shops.

Also, future themed townscape improvements have the potential to strengthen Atikokan's role as a shopping/service centre, by attracting stops by pass-through traffic and extending the average length of stay of persons from within and outside the region patronizing local businesses.

8.6 MATERIAL ACQUISITION PLAN

8.6.1 Material Needs

a) Highway Orientation Site: base funding - $40,000.00

- Commissioned Outdoor Sculpture or Original Three Dimensional Display on a monumental scale. $25,000
- Three dimensional indoor model of ore body beneath Steep Rock Lake. $15,000
- Indoor display signage. $5,000

b) Mining Display Site: Base Funding - $25,000

i) Hogarth Site: Shelter and Base Materials: $3,000
Displays - Outdoor. $9,500

ii) Caland Site: Shelter and Base Materials: $3,000
Displays - Outdoor. $9,500

c) Visitor/Reception Centre: Base Funding - $200,000

i) Audio-Visual Equipment - 40,000

ii) Displays - 70,000

iii) Audio Visual Productions - 50,000

iv) Display Cases/Wall - 20,000

v) Artifact Acquisition - 10,000

vi) Discretionary - 10,000

8.6.2 Material Availability

A range of equipment previously recorded with Steep Rock Resources and Caland Mine is reproduced in Appendix 1 of this report. The actual availability of many of these items will have to be confirmed, but this list is useful with respect to giving descriptions and dimensions of equipment actually in use.

In addition, the Ignace Economic Development Committee's Mining Theme Sub-Committee has provided a useful list of items and contact persons who may be useful in any artifact acquisition programme.

8.6.3 Long Term Display Requirements

Large artifacts should be slated for acquisition only in the context of a detailed interpretive plan for the Theme Park and its components. Potential sites for such artifacts include:

- Grounds of the Visitor Centre
- Inside the Visitor Centre
- At the Mine Sites
- At the Highway 11 Site

- Throughout the town according to a Townsite Theme Plan on public and private property.
- At the Outdoor Museum Site in Atikokan.

8.6.4 Long Term Acquisition

A review of actual availability of mine-related artifacts should become the concern of a special committee struck for documentation and interim acquisition. Suitable storage at low or no-cost should be sought in or around Atikokan with a view to possible future use as required. Acquisition dollars should be used only for high quality items which have an identified role to play in the general interpretive plan or for the restoration of important items.

A long-term reconstruction project of a major item such as a dredge, a fundamental element of the Steep Rock Story, would provide a focus for a material acquisition committee. The long-term goal of a reconstructed working dredge at the actual mine site, and in a location where its environmental context could be appreciated, would represent a major contribution the Theme Park's educational and tourism attraction potential.

8.7 Plan Evaluation

The following briefly examines the implications of the proposed development upon a set of general evaluation standards.

8.7.1 Programme Evaluation

The proposed development programme provides the following advantages:

- it is divided into separate discrete components, each capable of development without the other. Therefore it is flexible.

- it is achievable financially due to the variety of available funding sources and likely interest by foundations and corporations and former residents. Therefore it is doable.
- it is based upon modern innovative interpretive media. Therefore it is exciting and attractive.

8.7.2 Economic Evaluation

The proposed investment of $1.7 million provides potential returns of $900,000 in regional construction spending and $1.1 million by year 5 in visitor expenditure. The design of the project creates a manageable operation and maintenance expenditure balanced by reasonable admission fees. With volunteer effort increased, these numbers improve even further. Therefore, the project is economically viable.

8.7.3 Environmental Evaluation

The three sites provide for continues use of previously non-impacted sites. Therefore, the environmental impacts are marginal.

8.7.4 Municipal Tax Impact

By capitalizing the initial operating short fall through senior government, the municipality will be required to fund $91,000 of the entire budget from its municipal tax base. This will have a negligible impact upon the existing mill rate. 9 mills

8.8 Business Plan

8.8.1 Organization/Operation Plan

It is recommended that the three components of the mining-theme facility (the Visitor Centre in Atikokan, the Highway Visitor Information Building, and the Caland/Hogarth mine sites) be owned and operated by an incorporated non-profit organization.

The Board of Directors of the corporation (for purposes of this section, named Atikokan Mining Centre, Inc.) would have up to nine members, and could include one or two non-local persons whose presence on the Board would enhance the financial feasibility and profile of the project. It is recommended that the Board establish the following committees:

- a small Executive Committee, including the President, Vice-President (Development) and Vice-President (Finance and Marketing);
- a Development Committee, including the Vice-President (Development) and four to five local and non-resident appointees (both Directors and other persons, local and non-resident), and representation from the recommended foundation;
- a Local Museum Committee, including significant representation from the members of the present Museum Board, (the Curator could continue to report to this Committee); and
- a Marketing/Promotion Committee, including the Vice-President (Finance and Marketing) and up to four local members.

Board and committee members could be appointed for various terms.

Once financial packaging and fund-raising has been successfully completed, and the facility is operating, the Development Committee may decide to cease activity. However, it might continue to work for future expansion of the facility, or for associated development projects in the Atikokan area.

The Centre manager should be hired one year prior to construction to assist in fund raising.

The Visitor Centre Manager and other employees would report to the Board through the Executive. The Curator would maintain a direct reporting relationship to the Local Museum Committee of the Board.

8.8.2 Marketing and Promotion Plan

It is recommended (section 8.3.1) that $50,000 be budgeted for production and printing of up to three high-quality brochures. The other budgetary components of the facility's marketing/promotion program (section 8.4.1) are:

- annual spending of up to $10,000 for advertising and other promotion activities;
- $5,000 annually for the Manager's travel expenses; and
- $5,000 in annual budget for museum exchanges (video cassettes, displays and artifacts).

Key priorities for successful marketing and promotion of the facility will be:

- distribution/exchange of brochures and other information material with other mining-theme attractions in northern Ontario and Minnesota;
- maximum use of existing regional and provincial tourism promotion programs and materials (the facility should become an active member of all appropriate regional tourism organizations, such as the North of Superior and Sunset Country Travel Associations, City of Thunder Bay Tourism Bureau, and the Ontario Museum Association);
- active and aggressive promotion of the facility, commencing three months prior to its opening, by the Visitor Centre Manager and the Marketing/Promotion Committee, through speeches to service clubs in northern Ontario and northern Minnesota; media visits/appearances; distribution of a sequence of media kits in Ontario, Manitoba and Minnesota; visits to school board officials in northwestern Ontario; and, where possible, visits to managers of other mining-theme and historical/cultural attractions in northern Ontario and northern Minnesota;

- active efforts by the Manager, early in the facility's operation, to initiate a program of audio-visual/display exchanges with other mining-theme attractions; and
- effective training/orientation by the Manager of volunteers and summer students who will be working each summer at the Highway and in-town centres, and of volunteers who will welcome and guide visitors to the Visitor Centre throughout the year.

Production of a ten-to-fifteen-minute video cassette on the history behind the facility, its components and objectives will provide a valuable tool for fund-raising, promotion and employee orientation.

8.8.3 Assessment of Liability

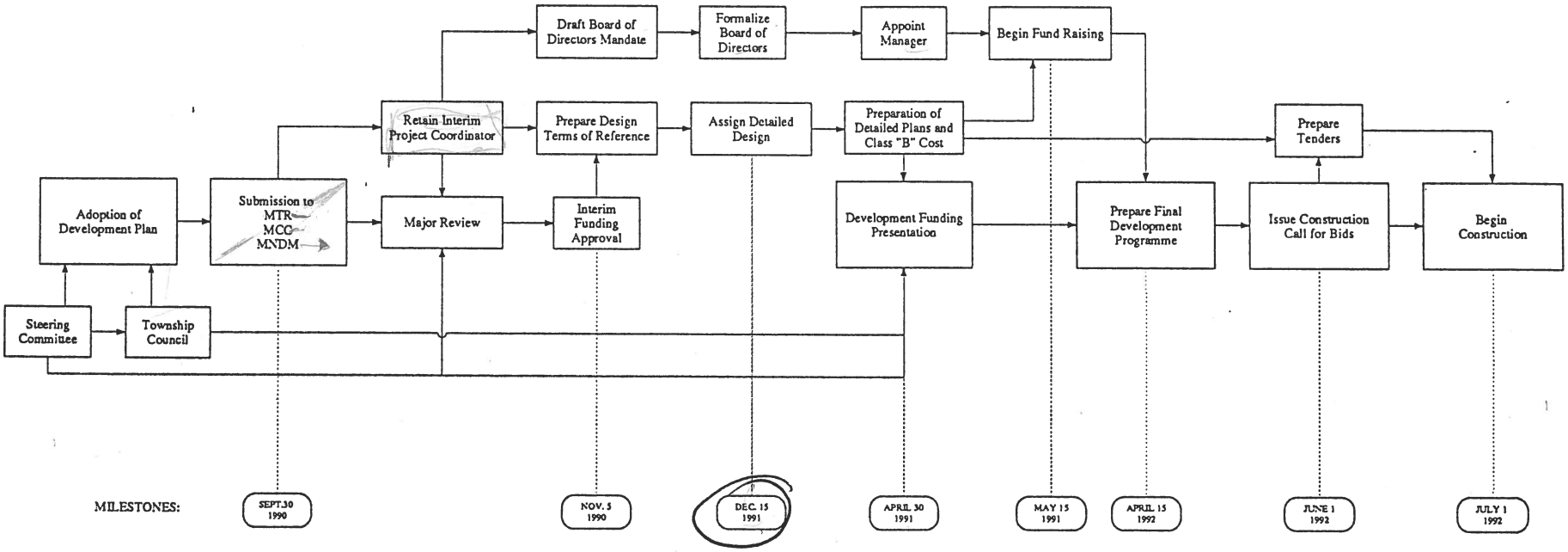
By reducing the flow of visitors to the site and directing the majority to the Visitor Centre, the concern for liability is reduced. As well, the mine site will remain in the Crown and therefore with proper posting, and the provision of a non-profit incorporation liability will be further deflected. Even so, as in all enterprises, some liability and exposure always exists, therefore liability insurance should be retained for the Visitor Centre and Highway Site which will be owned by the municipality.

8.9 Action Plan

This action plan sets out the required steps to implement this development plan.

8.9.1 Implementation Phases

Several very short-term and long-term implementation steps are proposed for the development. These are summarized on the attached flow chart.



Atikokan Mining Theme Attraction Implementation Steps

The steps indicate that capital funding is required in three phases. The first step relates to the need to retain design services and an interim project manager. This will require the following initial budget:

Phase one (complete by April 30, 1991)	
- interim project coordinator	
six months @ $2000/month	12,000.
- retention of design team	95,000.
- retain manager	60,000.
- other costs	10,000.
Total Initial Costs	$177,000.
Phase Two (complete by May 1993)	
- completion of design team work	26,000.
- construction	1,270,500.
- other (brochures,visuals, etc.)	70,000.
Total Phase Two	1,346,500.
Phase Three (complete by 1995)	
- completion of linkages, streetscaping	245,000.
TOTAL ALL COSTS	$1,788,500.
(exclusive of operating deficit capitalization)	

8.9.2 Start-Up Requirements

In order for the project to be properly coordinated, funding submissions completed and fund raising started, two start-up requirement must occur. One start-up requirement is the need to retain a project manager, or coordinator, for the first year of the project. The second requirement is to activate the Board of Directors and related committees.

8.9.3 Management Structure

The recommended corporate, Board and committee structure for the facility is set out in section 8.8.1. Sale of memberships in the non-profit corporation to local residents and interested persons outside the immediate Atikokan area would provide a base from which Board members could be elected, the forum for annual reporting on the facility's operation, and a source of "grass roots" community support: fund-raising, volunteer service, etc.

The facility's employees would report to the Manager, who would report directly to the Executive Committee of the Board. Should the existing museum committee evolve into a committee of the Board, the Curator could maintain a reporting relationship to that committee.

8.9.4 Fund-Raising Plan

It is recommended that a foundation be formed as a special fund-raising vehicle. The foundation should include, on its list of directors, members of the facility's Board Executive and a small number of high-profile mining industry (active or retired) notables whose participation in fund-raising would provide valuable "entrée" to major potential corporate and private sources of financial assistance, and assist the Board Executive in obtaining government funding.

The foundation should seek to obtain eligible non-profit status from Revenue Canada, in order that private/corporate donations could be tax-deductible. In cases where other foundations do not, as a matter of policy, provide funding to another foundation, their contributions could be made directly to the non-profit corporation.

The foundation will require a dedicated staff person/coordinator, preferably an experienced fund raiser, for the duration of its initial fund-raising program (at least one year). The fund raiser's salary and expenses should be paid for out of the proceeds raised by the foundation, as should the foundation's members' expenses.

Primary responsibility for seeking and obtaining government funding assistance should remain with the Board Executive. The foundation's members and staff person could provide assistance, as required.

9. CONCLUSION

The proposed development plan offers an exciting and carefully crafted integration of tourism promotion, tourist attraction and community identity. It sets out a realistic and financially viable development programme which can be phased over time, if necessary.

The mining theme and proposed storylines will provide exciting appeal to tourists who will generate up to $1.1 million in spending. That spending will benefit and strengthen existing businesses and the tax base of all three levels of government.

APPENDIX 1

SOURCES OF MINING EQUIPMENT

Source: Steep Rock Resources and Caland Mine

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CALAND MINE EQUIPMENT LIST

TYPE OF EQUIPMENT	QUANTITY		
Shovels	1	1600 P&H Electric	10 yards
"	3	150-B Bucyrus-Erie	10 yards
"	1	1400 P&H	10 yards
"	1	51B Diesel	4 yards
Trucks	13	45 Ton Euclid	
"	5	32 Ton Haulpak	
"	3	75 Ton Haulpak	
"	3	75 Ton LeTourneau Westinghouse	
"	9	65 Ton Terex	
"	11	85 Ton Euclid	
Rotary Drills	2	40-R Bucyrus-Erie	
" "	1	Reich	
" "	1	Ingersoll-Rand Crawler	
Graders	1	Caterpillar Model 14	
"	1	Wabco 777B	
Tractors	2	D-7	
"	2	D-8	
"	1	D-9	
"	1	Model 31 Fiat Allis	
"	2	Caterpillar 824B Rubber Tired	
"	1	Clark 22 Bobcat	
"	1	Melroe Model 500 Bobcat	
Front End Loaders	2	Hough - H 400B	
" " "	2	Hough - H 400C	
Cranes	1	Manitowac 100 ton	
"	1	30B Bucyrus-Erie Mobile	
"	1	Forklift FG35	
"	1	Pay Loader H 25	
		Numerous Overhead Shop Cranes	
Crushers	1	Traylor-Bulldog 42" x 48" Jaw Crusher	
"	1	Secondary Hydrocone Crusher	
Dryers	1	13'6" Diameter x 110' Long Rotary Dryer	
Stacker	1	Traveling Pivoted Boom Stacker with Hopper, 36" Belt Feeder Unit Capable of Building Stockpile 200' Wide at Crest and 40' High.	
Indurating Machine	1	Dravo-Lurgi Continuous Traveling Grate, 320' Long, 3,000 TPH.	
Ball Mills	2	11'6" Diameter x 18' Long, Peripheral Discharge	
" "	1	9'6" x 13' Long, Central Peripheral Discharge Mill	