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HISTORICAL RESEARCH SECTION

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THE REPRESENTATION AND INTERPRETATION OF MAN'S USE
OF PLANTS AT THE JUNCTION OF THE ASSINIBOINE AND RED RIVERS
- A FEASIBILITY STUDY

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Introduction

This report is a study of one development option for a 13.5 acre site at the junction of the Red and Assiniboine Rivers, commonly referred to as "the Forks" (see Figure 1). The site has been declared of national historic significance and has recently been purchased by Parks Canada for conservation and possible development. The historical importance of the Forks is undeniable, for over time it has played many roles including prehistoric encampment, fur trade post, experimental farm, and railway yard.

The use of the Forks can be reasonably confirmed to date back over 2500 years, and it undoubtedly was an important location in pre-historic trade systems. As many as ten historic aboriginal archaeological sites may be found during future archaeological investigations. The importance of the site carried over into the period of the Fur Trade and European colonization, as the location was occupied by several posts including LaVerendreye's Ft. Rouge, Forts Gibraltar I and II and finally Upper Fort Garry. Since the Upper Fort's destruction in the 1880's, the site has been clearly undervalued, with little attention being paid to the resources of this very important location. The use of the site as a railway storage yard underlines this point.

This study examines the feasibility of a development option which represents and interprets the evolution of man's use of plants on or near the site. The general concept is described and analysed in terms of:

- a) The inherent philosophy
- b) the information required to proceed with this option

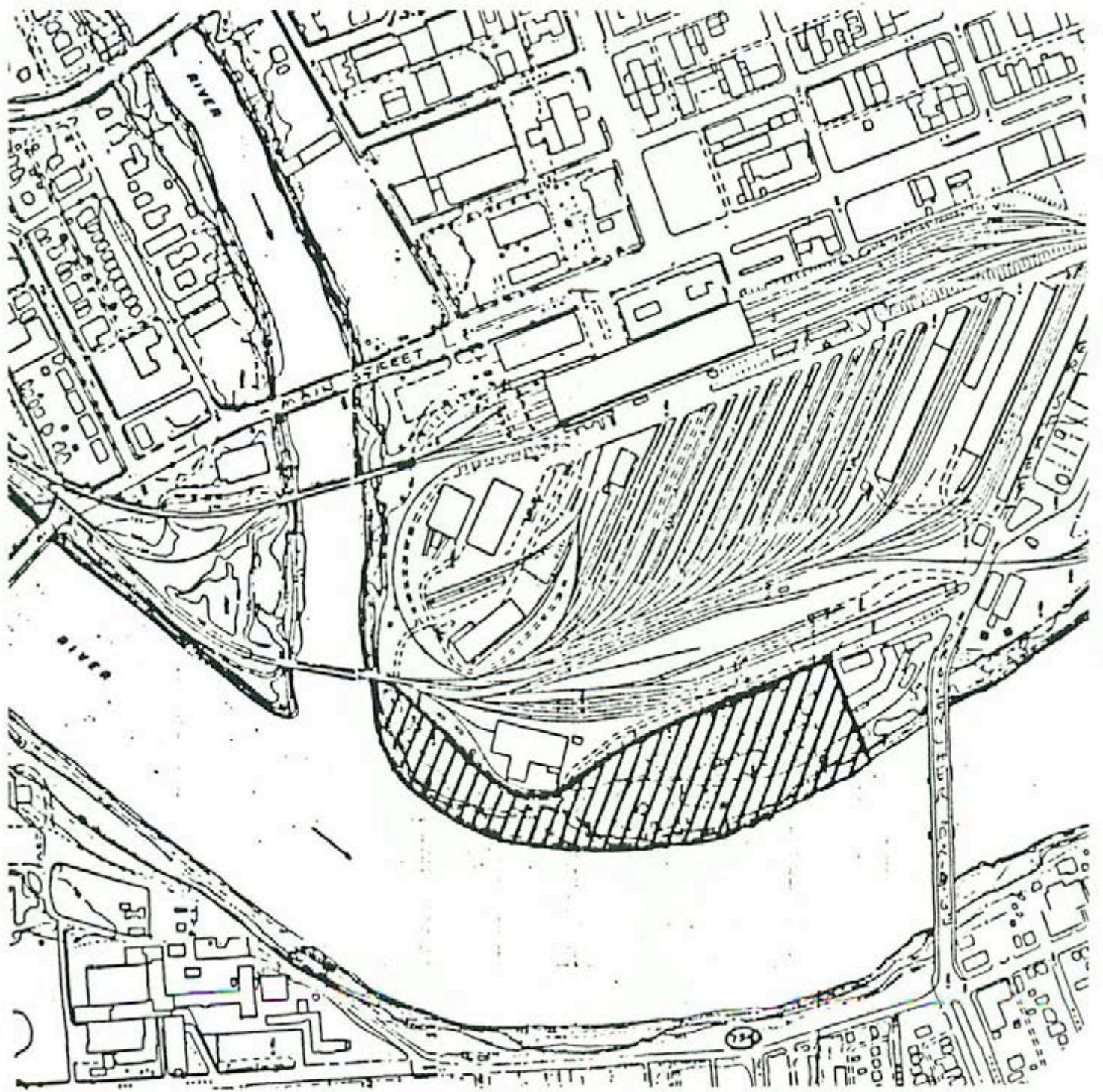


Figure 1.

- c) the availability of such information within reasonable limits
- d) the potential of the option to protect the historic resources of the park
- e) the potential of the option to generate visitation
- f) the potential for successful interpretation
- g) the conflict, if any, with Park Canada policy
- h) the resources required to both implement and maintain such a scheme
- i) the off site and contextural considerations of development.

Finally, and most importantly, an assessment of the overall appropriateness of such a development scheme is given. It is the primary intention of this report to examine the potential of the option for improving the recognition, utilization and enjoyment of the resources of this unique place.

General Site Description:

The physiography of the Forks is important in many respects. Not only is it the confluence of two long and important rivers, but within two hundred miles are five major ecotypes: (see figure 2)

- a) true prairie
- b) Parkland - Savanna
- c) Deciduous Forest
- d) Conifer-Deciduous Forest
- e) Boreal Forest.

The subsurface geology of the area is precambrian rock, overlain by oceanic deposits. The bedrock typically lies 50-60 feet below the surface. Over this, the surficial geology consists of unconsolidated till and glacial drift covered by lacustrine deposits of clay laid down by glacial Lake Agassiz. Over these are found the alluvial deposits of silty clays and some organics; the result of repetitive flooding. These silty clays, although often poorly drained are exceedingly fertile and therefore attractive to agriculturalists.

The climate is typically continental with a wide separation of temperature extremes. (Average daily temperatures range from -20°C in January to 20°C in July). Precipitation falls mainly as rainfall but is nearly matched by snowfall equivalents. Precipitation, although hardly lavish at twenty inches per year, is fairly evenly distributed throughout the growing season, and, notwithstanding occasional droughts, is adequate for agriculture.

This combination of good productive soils, relatively acceptable climate, and fortuitous geographical position, made the Forks and nearby

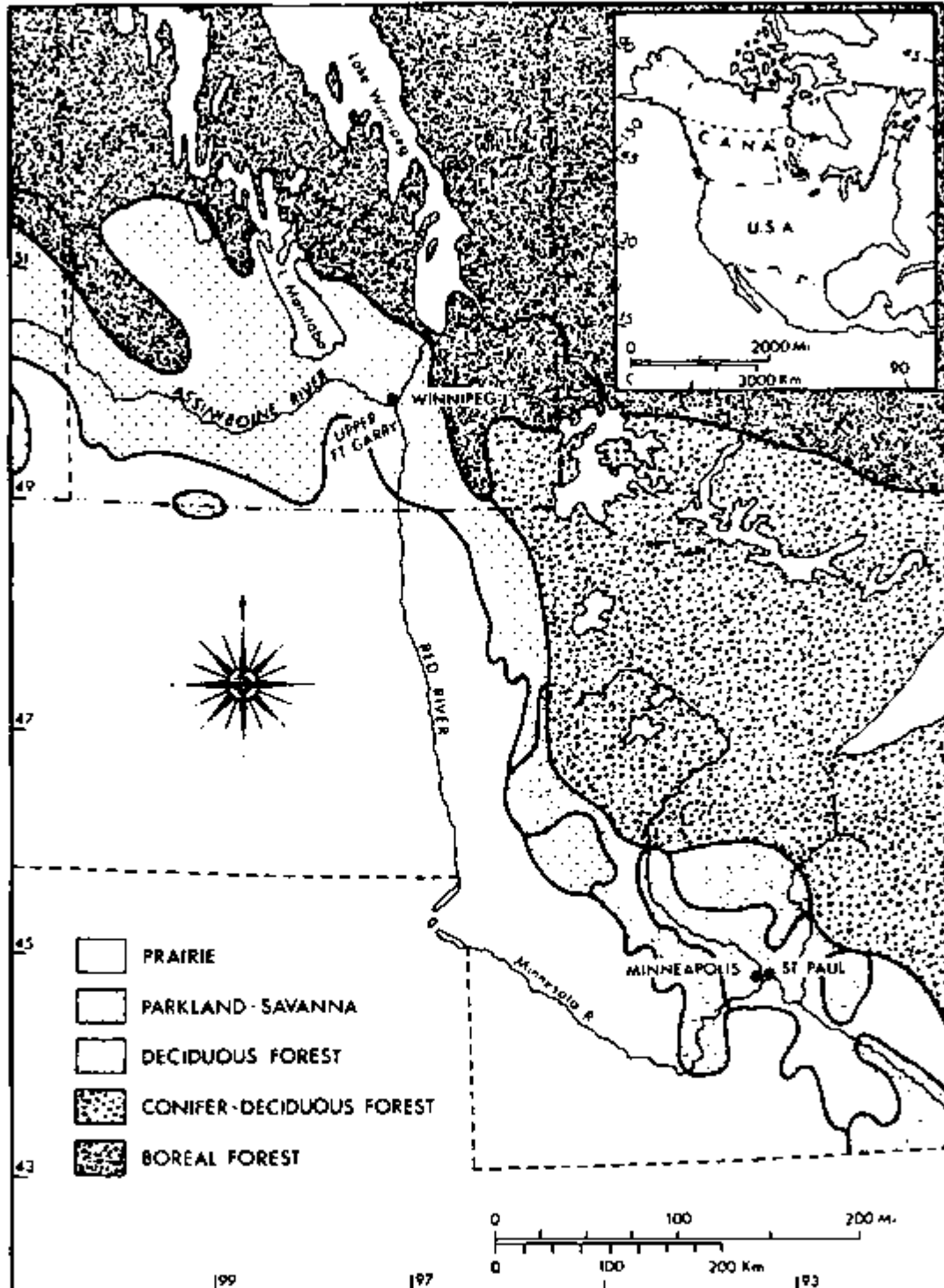


Figure 2 Upper Fort Garry and the surrounding region. Vegetation boundaries for the U.S.A. after Kuchler (1964) and for Canada, Rowe (1972). Map by Caroline Trotter.

areas especially attractive to hunters and gatherers in prehistoric times, and subsequently to the fur traders, settlers and farmers.

The modern environment at the Forks is significantly different from the natural landscape that once occurred there. As indicated in the previous progress report, both landform and vegetation has been altered by a variety of natural and human processes. Flooding, ice scouring and land filling, combined with extensive building construction (in both time and space), have resulted in a landscape that has little resemblance to its past state.

Presently most of the site is barren and open and although good river bottom stands exist, they are present only on a very narrow fringe along the river, and are no where near the extent described by early visitors. The most significant topographic changes to the site has been the addition of 15,000 cubic yards of fill material by the Northern Pacific Railway in 1880.

Description of Proposed Project

It is the intention of this proposal to evaluate the option of representing and subsequently interpreting the development of man's use of plants on or near the site. I stress near, as the resources on site and the documentation to date, offer solid evidence of plant use for only some of the periods of site habitation.

It is proposed that the site be developed as a dynamic living outdoor museum in which various stages of man's use of plants in the area can be displayed in an authentic manner. The stages to be represented will be:

1. Prehistoric Aboriginal Hunters and Gatherers

2. Fur Trade Agriculture
3. Colonial-Settler Agriculture including the Experimental Farm of 1836.

Each stage will be represented on a clearly delineated section of the site. A facimile of the type of use will be recreated and will be dispersed throughout the site so that each is visually complete and self contained. Historically appropriate tools, crops, methods of cultivation and harvest, will be employed to ensure an accurate representation of what may have occurred. A detailed account of each type follows.

Prehistoric Aboriginal Hunters and Gatherers

The knowledge of aboriginal use of the Forks is very scanty although there appear to be more prehistoric resources than were originally anticipated. Several encampments have been noted in the vicinity of the Forks. As the Indian agriculture did not take place in Manitoba until the 1800's when, using seed supplied by fur traders and local settlers, gardens were established, emphasis will be placed on the gathering and use of naturally occurring plants.

It is suggested that the river bank area from the point directly opposite the cathedral to the junction of the Main Street bridge, with an average width of approximately 50 meters, be managed as a river bottom forest typical of what may have occurred on the site a thousand years ago. The forest vegetation will be manipulated in order to establish a preponderance of those plants which would have been utilized by aboriginal peoples. In effect, a model of the hunter gatherer environment will be created and the relationship between the aboriginal society and that environment will be explored.

Some of the questions that can be examined in such a model are:

- "1. What factors influence the subsistence decisions of hunter-gathers?
2. What variations in these decisions are necessary in response to specific changes in the natural and human ecosystem?
3. How are these behaviors manifest in the archaeological evidence?
4. What are the effects of resource seasonality, diversity, stability and abundance on human subsistence and settlement?"¹⁴

Such a model may help in the interpretation of the function of the archaeological sites. The model would be dynamic, both in the sense of ecological succession, and in its modification as new information came to light from the archaeological investigations.

A hard paved pedestrian pathway, 6 feet wide, would pass through the model forest/ecotype to delineate a hard edge which would encourage visitors to stay on the pathway, thereby reducing damage by compaction. Similarly, a hard edge around the forest on the north and west edges would be constructed. It is the intent of this approach to create a model which at least approximates the conditions of the past and to set this off visually as a living display. Accuracy in the representation of presettlement conditions in terms of diversity and density would be emphasized.

Rationale

1. Ecological/Environmental Factors: The central argument is that native plants are adapted to their surroundings and therefore, in general, are easier to establish and maintain than similar groupings of non native or exotic species. Ecologically speaking, they are more appropriate.

2. Economy: Energy demands are often less for native groupings as fertilizer, mowing and irrigation requirements are less than for exotic plantations. As natural processes will be allowed to take place, subsequent savings may be realized through natural seeding and vegetative spreading. The stand composition will be dynamic and the interventions will be of a different nature than those related to maintaining static compositions. Intervention will be required however, and will relate to eliminating or suppressing highly competitive non native species. Plants and seeds will have to be introduced as many of the species that would have been present in the past, are no longer. Once the community is established, on going maintenance will be required to suppress invasion by exotic material in order to retain the presettlement plant communities.
3. Educational: A modern forest is often a good analogy for the past and the educational value of a natural model which combines both human and vegetative ecology is substantial. A variety of interpretive programs could be mounted with the emphasis varying as to the wishes of the visitor. services staff.
4. Aesthetic: A native forest in the heart of the city would provide a counterpoint to the urban structure, thereby increasing the importance of both. The position of the site affords a commanding view of the skyline of downtown Winnipeg and the contrast to a native forest model would emphasize the

distinction of this historic place. In addition, the diversity and variety of the native planting would add positively to the experience of the place, and would underline the context of the events that took place at the Forks.

Information Required

The information required to accurately create a model of the pre-historic hunter gatherer environment must include the following:

1. A knowledge of the environmental conditions during the period under consideration.
2. A knowledge of the basic resources available at the time.
3. An assessment of the technology available.
4. An estimate of the nutritional and raw material needs of the people.

In addition to the above, the following is required to understand the vegetative characteristics:

1. Species composition and distribution
2. Community dynamics.

To create an exact copy of a particular point in time with precise accuracy, is simply not possible at this time. Archaeological evidence of prehistoric settlement is scanty at best and little information is available to delineate actual vegetative cover in terms of either composition, density, or area. However a thorough site and ecological analysis of the area can yield what probably occurred on such a river bottom site. In addition, a reasonably accurate supposition of species composition and distribution can be created. The field study of existing remnant stands in the region will be a major source of information.

Archaeobotanical and ethnobotanical investigations have yet to be carried out at the Forks for the prehistoric period. Hopefully, when these studies are undertaken, hard evidence will be provided for noting what plants the natives were utilizing on that particular site. Accounts such as that by John Tanner of Objibway use of various plant species, will have to be consulted. Early explorer Journals such as those by LaVerendrye, Harmon and Henry give some indication of species composition (and use) near the site. An example is the description by Daniel Harmon of the site.: The Forks had "a richer soil than at any other place I have observed in this part of the World - and is covered with Oak, Basswood, Elm, Poplar and Birch etc., also are here Red Plumbs and Grapes etc."

Henry notes: "The banks are covered on both sides with willows, which grow so thick and close as scarcely to admit going through; adjoining these is commonly a second bank of no great height. This is covered with very large wood such as liard, bois blanc, elm, ash and oak; some of these trees are of enormous size."

It is therefore reasonable to assume that the information gathered from a rigorous ecological, archaeobotanical and historical investigation combined with existing knowledge of aboriginal use of plants in the area, would be sufficient to allow construction of a model typical of the area.

Fur Trade Agriculture to 1820

Agriculture was a significant activity at almost every fur trade Fort and the produce formed an integral part of their provisions. Most year round forts eventually took on an agricultural component. At most

forts the horticultural production of vegetables and greens was all that was attempted. Despite the small scale of operations, it was the fur traders who experimented with virtually all the principal crops of northwestern Europe. These included vegetables, greens, herbs, as well as experiments with both spring and autumn planting of most of the staple grains of Europe. Although faced with a variety of hardships, eg. floods, insects and drought, as well as a shortage of labour to devote to agriculture, the fur traders realized the necessity of providing their own fresh garden produce.

Fur trade agriculture at the Forks has not been well documented but we do know that gardens totalling 2.0 acres were reported at the Forks in 1818 and that the plough was in use by 1823. (Henry was using the plough at Pembina in 1808 and it is probable that it was in use at the Red River Settlement before 1823). Wheat was sown at the Forks in 1818 and corn was tried in 1821.

I've not found any indication of agriculture at Fort Gibraltar but there is a very good likelihood that it occurred, considering the proximity of the forts at Pembina and Portage La Prairie, both of which had substantial gardens. Alexander Henry noted bringing seed from Portage La Prairie to Pembina. He was travelling back and forth to those forts and often passed the Forks but there is no mention of any garden there. Due to the lack of concrete, site specific information, two options are possible:

1. Await further archaeological/archaeobotanical investigations to determine the precise location of the garden (or gardens, as most fur trade forts had small scattered gardens; some inside the pallisade, others outside) and only then attempt a reconstruction.

2. Attempt a period construction of a typical fur trade garden of the time, based upon information available from other sites. This option could be implemented and updated as more detailed information becomes available. The advantage of this option is a continuity in the development of the park theme.

The following information is required in order to proceed with either option:

1. Extent of Agriculture
2. Species grown
3. Seed Sources
4. Tools and implements and cultivation methodology.

As noted previously there is no evidence to indicate the location of gardens at the Forks. If a precise reconstruction is desired, there is no choice, we must await further delineation.

However, if a period reconstruction of a typical fur trade post garden in the region is acceptable, then a substantial amount of the information needed is available, and the project could proceed. Available data includes:

1. Size and Location of most fur trade posts - generally small gardens 1-2 acres and fragmented.
2. Species grown - There are detailed accounts by Henry of the gardens at the Pembina Post as well as the Portage La Prairie Post. The following is an example of the level of information. Other sources are listed in the appendix.

"In the middle of October the vegetables were taken from the garden and included: 300 cabbages, 8 bushels carrots, 16 bushels

onions, with turnips, beets, parsnips etc. and 420 bushels of potatoes.

Other sources of information on species grown includes seed lists of imports by the Hudson's Bay Company. Such a list is included in the appendix.

3. Seed Sources - Seed sources for the Hudson's Bay Company were most often in London. The supplier to the H.B.C. was the firm of Gordon and Forsythe and Company and more detailed information may be available in the company records. Seed for the Northwest Company came from Montreal although there is some indication of trading with the Hudson's Bay Company for seed. By 1825 the colony was not only self sufficient in seed but were selling it.
4. Tools, Implements and Farming Methods - The traders tilled their gardens using traditional European peasant methods. Axes, spades, hoes, rakes, sickles etc. were employed. Typical examples of these implements are in local museums. It was not until 1823 that the plough was introduced and therefore does not apply to this period.

The gardens associated with the fur trade posts were considered an integral part of the overall provisioning of the posts. Gardening gave the posts a "wider and more secure position base"¹³ and was a buffer against possible failures in the hunt or gaps in the supplies from the east. The gardens provided the fur traders with a varied diet and probably contributed significantly to their health and ability to carry out their business. It is therefore an important interpretive theme to pursue.

In the absence of any hard site specific evidence, it is recommended that a small (typically 2-3 acre) garden be constructed in the vicinity

of Fort Gibraltar, with the clear indication that this is not what occurred on site. Should evidence arise later in the research, the garden can be adjusted. The importance of such an approach is that continuity would be provided for the overall theme.

This approach does somewhat broach the Parks Canada policy which states "National historic parks will be presented, wherever possible, as they actually existed, rather than as "typical" examples."

The Experimental Farm and Colonial Agriculture

Colonial agriculture commenced in Red River in 1812-1814 with the arrival of the Selkirk Settlers but there are no agricultural records until 1827, the year of the first comprehensive census. The amount under cultivation at the forks is not reported until 1818, when it stood at 2.0 acres. Despite the arrival of the Selkirk Settlers, agriculture still played a small, albeit significant, role in the colony and it wasn't until the late 1820's that successful agriculture was practiced on a large scale. The settlers were met with very harsh conditions which placed severe restrictions on their agricultural activities. Hunting and fishing were still the mainstay of the colony and the settler who didn't provide a good portion of his provisions through some hunting, was rare. By 1827 there were 1103 acres under cultivation in Red River but an air of uncertainty remained.

It was in the context of this climate, that the Hudson's Bay Company established the first experimental farm "The Hayfields". The farm was located about two miles up the Assiniboine from the forks at some natural haymeadows of exceptional quality. The intent of the company was to try to establish agricultural activity to the point that

it could satisfy the colonies staple markets as well as initiate an export trade. The products most aggressively pursued were wool, tallow, hemp and flax. Markets were analysed and considerable capital expended. Despite a sizeable investment on the first farm, it failed, due mostly to lack of experienced farmers. The company lost over three thousand five hundred pounds.

In 1836, Governor Simpson established the second experimental farm in the colony, at the Forks. The effort was directed to the establishment of an export trade in flax and hemp. In correspondence with the London committee, Governor Simpson writes

"It is highly desirable to establish an Export trade from the settlement, as a source of revenue from England, and as the country appears to be well adapted for rearing sheep and Black cattle, and for the growth of flax and hemp...we have therefore determined on establishing a farm on a large scale."

Captain George Marcus Cary and a number of experienced farm workers were sent out to the colony and established the farm. After five years of operation Governor Simpson notes:

"The Experimental Farm which has not been productive of the benefits that were expected when it was established, although attended with considerable outlay, has been abandoned. Mr. Cary and the servants have been permitted to retire."

The failure of the farm was due to several factors not the least of which was the isolation of the settlement in terms of the development of trade. The skill of the farmers was again questioned and it appears that the operation was far from effective. The farm was also viewed with a certain amount of distrust by local farmers who felt the company was attempting to displace their share of the local market. This appears

not to have been true and there is evidence to support this. In fact one of the motives in establishing the farm was to provide a model of modern agricultural practices that would help local agriculturalists bolster their economic position. This was not the local perception however, and Alexander Ross makes this quite clear.

"Was such a project then, we may ask, calculated to the benefit of the settlers, who themselves had similiar articles for sale, - nay, taking the aggregate, had them in ten times the profession required to apply the limited market. We trownot. Rather, it was shutting up so far, if it had succeeded, the only market that existed for colonial produce. Every ounce or shillings worth supplied to the Company by their own experimental farm, would lessen the settlers market: It still may be argued as beneficial to the settlement in the way of example; for had not the influence of system, the rotation of crops, and the general working of the plan, a good effect on the farmers of Red River? We answer, no!"

This attempt at an experimental farm cost the company well over 5500 pounds and it proved to be the last such effort. Yet the attempt to promote an export trade as well as improve agricultural methods in the colony was important. The farm was also the most ambitious agricultural undertaking at the Forks. For these reasons its interpretation is important.

It is suggested that the open and cleared area north of the round house building be regraded slightly (so as not to disturb the original (pre 1889) topography, and covered in a mantle of soil. Tree lined enclosures of about 3-4 acres in size should be created and the crops of the experimental farm should be cultivated in the authentic fashion of the time. The workings of the experimental farm could be interpreted within this context.

Information Required and Availability:

To proceed with this option the following information is required:

1. Location of the farm - A rough legal description of the Experimental farm is provided in the lease document (in appendix). Although this notes a farm of some size, evidence suggests that little more than twenty acres was actually cultivated and the precise location of these fields is unclear at this time.
2. Description of the farm - The most thorough description available at present is contained in Alexander Ross's account of the farm (in Appendix C). Governor Simpson's letter to George Cary describes in good detail what he wanted to be built on site and speaks of the quality of some of the produce (in Appendix H). In addition he asks for a full report from Cary on the operations of the farm. I've not been able to locate this and it maybe held in the London H.B.C. Archives. This should be pursued if the option is adopted. The location of some of the buildings is noted on a "Rough chart of the Red River Settlement showing the unoccupied land in the vicinity of Ft. Garry" by Edward M. Hopkins, prepared in March 1848.
3. Mode of Agriculture - Alexander Ross gives an account of some of the procedures both at the farm and more generally, in the colony. He speaks of stubble management for water conservation, experimenting with manure fertilizing, the creation of small enclosed "parks" to catch the snow etc. This last point is useful as it allows a rationale for developing small enclosures on the site where various crops and methods could be interpreted in discreet areas. Barry Kaye at the University of Manitoba, Dept. of Geography has been working on agricultural development in Red River and has produced

an MA and a Ph.D. on the topic. Although too detailed to describe here they are an exceedingly valuable documents, and further researchers should consult them. As previously stated reports to the H.B.C. from George Carey should be pursued. The Carey papers are in the provincial archives, while others are in the possession of:

Arthur E. Cary
R.R. 5, London
Ontario

They contain an inventory of the farm (in the London collection) and should be further researched.

Further archaeological research should reveal the location of buildings and perhaps fields. Contextural research is required to identify in greater detail, the local agricultural methodology. Generally speaking it would be possible to proceed with construction of the "type" of activity that would have occurred somewhere on the site. An accurate reconstruction would only be possible if more information came to light and the original grades were restored.

Off Site Considerations

Contextural considerations are important in a development proposal such as this. A major new park should be strongly linked to the community. To further contextural linkages the following off site development is proposed.

1. The native forest and accompanying trail should be extended to the Main Street Bridge allowing for greater pedestrian access from the community.
2. A link to the north with the riverbank park should be made.
3. The South point of the Assiniboine should be purchased and could be

developed along the same theme, as early maps indicate agricultural fields on that location. This would protect the possible site of Ft. Rouge. It has the added advantage of being visually and physically very separate from the city and could provide an appropriate setting for interpretation. Access to the point would be across the present railway bridge.

4. The railway round house building, presently just off site, should be acquired to act as the Visitor Reception Centre. This would help integrate the park into what is obviously a railway environment. The building appears in good shape and could serve as interpretive centre and display area as well as providing washroom and restaurant facilities (perhaps serving some of the produce of the farm). This would help protect the resource as no further excavation would be required.

Advantages of the Agricultural Theme Option

1. The development of Agriculture has been of great importance in the development of Western Canada but hasn't received much attention by National Parks. This option would help rectify that.
2. The potential for interpretation of a wide variety of agricultural/hunter gatherer themes exist. Programs could therefore be changed frequently encouraging repeat visitation.
3. No structures are required thereby minimizing subsurface disturbance.
4. Only minimal surface disturbance is required to remove concrete pads. This is the most important advantage of the option. The historic resource is preserved in the ground.

5. The option allows for great flexibility in the future. As new information surfaces changes can be made. In the mean time, the resource is protected and the site can be used and enjoyed.
6. This option can (and should be) combined with other themes.

Disadvantages

1. This is a limited option. Much more occurred on the site than agriculture (which in fact played a minor role).
2. Accurate depiction of period land form is not possible without significant disturbance and the accompanying possibility of resource destruction.
3. Great gaps exist in the information and may not be filled in.
4. The option provides "typical" rather than site specific interpretation.

Parks Canada Commitment Required

1. Extensive research contracts in the historical, ecological, archaeological and archaeobotanical areas are required.
2. Heavy staffing would be required for maintenance and interpretation.
3. Additional land and building purchases would be required.
4. Initial installation may be costly.

Conclusion:

The Forks of the Assiniboine and Red Rivers have been described by some as the most important historical site in Canada. While this is open to argument, the site is clearly valuable and has been less than fairly treated in the past. The time has come for design solutions to be implemented that redress this situation. The option presented in this paper, while having many interesting advantages, is too limited in its scope for serious consideration. The ideas however, are sound, and if treated in conjunction with other options, such as an on going archaeological dig, have a place in future development. It must be stressed, in closing, that this report is only an overview of the situation. Much more research is required if a solution is to be developed that adequately addresses the issues of resource protection, accuracy of information, visitor education, and the economic viability of the park, as well as local community concerns.

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APPENDICES

APPENDIX A

Summary of Available Information

SOURCE	INFORMATION	FURTHER INFO. or RESEARCH REQ'D	DATE
<u>LANDFORM</u>			
<u>Topography</u>			
1. Parks Canada Archaeology	- Bank Profile/Section		1984
2. 1:500 Parks Canada Topo. Sheet	- slopes, aspect, elevation		1984
3. Contour Map of Winnipeg	- slopes, aspects, elevation		1948
4. City of Winnipeg Survey Dept For N.P.R. changes in 1886 see man-made alteration section	- Topographical Survey Information (-contours not plotted) Survey notes may be available.		1914
5. George McPhillips plan of Winnipeg	- Indicates sections at the Forks had two levels of banks		1881
6. John Fair's plan of Winnipeg	- Shows pre-railway site - no contours given		1874
7. H.Y. Hind's topo map of Red River Settlement	- Section of Red River. Section across Red River Valley Section of Assiniboine R. Gives flood level lines on plan. Some vegetation indicated, occasional elevations but little detail for the forks.		1858
8. Alexander Henry's Journals	- general description of the area. Note: C.N. Bell's review indicates a grave yard at the fork and Saulteaux dog defense trenches		1800-1808
<u>Soils</u>			
1. Manitoba Soil Survey	- only very general information on the Red River Association. Indicates texture, infiltration organic content, erosion susceptibility, structure of original undisturbed soils (based on adjacent samples). Will indicate possible vegetation it could have supported. Also surficial deposits and nature		

SOURCE	INFORMATION	FURTHER INFO, RESEARCH REQ'D	DATE
10. The Manuscript Journals of Alexander Henry	<ul style="list-style-type: none"> - Informative description of type, location - good general description of Forks & south bank. Notes natural types only no cultivation at this entry	.....	1800
11. Miles MacDonnells Diary cited in A.S. Norton A History of the Canadian to 1870-71	<ul style="list-style-type: none"> - Gives a description of general area and its extension to the forks. No species mentioned. Actual diaries must be consulted in further research	.....	1836
12. Letters from the Governor and Committee of the, M.B.C. to George Simpson. MBGA.	<ul style="list-style-type: none"> - Indicates desire to establish an experimental farm in the Red River to produce Wool, Tallow, Flax, Hemp and shows company will apre little expense in its establishment. Also indicates preference for location (general)	.....	1837
13. As in #12	<ul style="list-style-type: none"> - reiterates #12 and indicates desire of committee to obtain return on investment	.....	1838
14. Alex Christie (Chief Factor of the H.B.C. signed letter of Authorization	<ul style="list-style-type: none"> - Authorizes Mr. Cary to occupy lands of the Experimental Farm and gives a crude legal description of same. Notes location of lands at forks and at lower fort.	.....	renewed in 1839
15. M.B.C. Report of 1841	<ul style="list-style-type: none"> - Indicates farm unsuccessful and that the manager and workers have been allowed to "retire". Indicates lease of lands to Cary as well as sale of implements to him.	.....	1841
16. Alexander Ross	<ul style="list-style-type: none"> - Indicates lack of success of farm and small scale of operation despite the fact that it was well equipped. Detailed account of farm see Appendix G	.....	1856
17. "Henry's Journals" papers presented by C.N. Bell to Manitoba Historical Society. 1889	<ul style="list-style-type: none"> - Lists species raised at Pembina (type & quantity) - speaks of hunting and the gathering of wild fruits nuts etc. and notes the species and abundance of native fruits and nuts at the forks p. 7 act. 2. - Notes garden produce and success of some species at Portage la Prairie in contrast to those at Pembina. p. 15 Article 3. - Introduction of poultry to Red River	.....	1800-1808
1808			

SOURCE	INFORMATION	FURTHER INFO or RESEARCH REQ'D	DATE
18. Tom Shay - Research Paper Plants & Ancient Man.	- Settlements use of vegetation circa 1850		1846-1882
19. Cary Papers	<ul style="list-style-type: none"> - Inventory of Experimental Farm Equipment - description by Simpson of desired buildings and activities 		1841
20. H.B.C.A. (London)	- Cary reports to Simpson on farm activities		
21. Daniel Harmon	- Description of site (includes soil and vegetation) brief. Also gives Ojibway use of plants		1805
22. Barry Kaye	- M.A. & Ph.D thesis. Very detailed accounts of agriculture from Fur Trade on in the Red River.		
<u>Natural Processes</u>			
1. Clarke, R.H. Notes on Red River Floods Dept. of Mines & Nat. Res.	<ul style="list-style-type: none"> - year and water level of floods from 1826-1950 - with some general indication of floods in the 1700's. - in depth appendix including first hand accounts of the floods dealing with impacts to the land as well as settlers. - photographic accounts of 1950 Flood including aerial view of the forks site under water. - map of area of flooding on site. 		1950
2. City Engineers Office Water Resources Division	- Will have later flood data to 1984		
3. Forestry, Water Resources Newspaper	- Degree of impact of floods after 1950 on vegetation and banks at the forks (ice damage) (deposition)		
4. Parks Canada	- Bank profile will give evidence of hydrologic process		1984

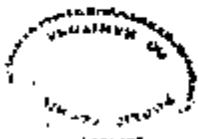
SOURCE	INFORMATION	MORE INFO & RESEARCH	DATE
5. R. Graham's thesis M.L.A.	<ul style="list-style-type: none"> - Wet/dry cycles giving indication of good growing seasons, flood years etc. Climatic relationships to account for existing stand of vegetation in terms of size, age, extent of cover - relate growth rings of trees to climate data 		1986
6. Notes from Jennifer Shay	<ul style="list-style-type: none"> - General vegetative succession which occurs on river banks in this area. Physiognomic profiles with reference to aspect, climate soils to indicate potential vegetative growth on site. 		1983
7. Canadian Geographer Vol. XXVII No. 2 Summer 1984. Edward J. Hildein	<ul style="list-style-type: none"> - General information on vegetation and river channel dynamics. 		

The George Marcus Cary Papers
includes: - table of contents
- address of London, Ontario Papers
- George Simpson to Carey
- Inventory at Ft. Cary

APPENDIX B

The George Marquis Gary Papers
in the possession of

Arthur R. Gary,
R.H. B. London,
Ontario.



MG 2
C 3

See Also 2nd Edition of Canadian Land Force

George Marcus Galt, born 1795, Ireland, served at the battle of Salamanca as a volunteer, commissioned lieutenant in the 95th regiment, 2 October 1812, served with 5th battalion on the Rifle Brigade at Vittoria, Pyrenees, Nivelle, Nice, Orthe, and Toulouse, awarded war medal with six clasps, reduced and placed on half pay 25 December 1818, sold his commission 1834. (His brother Arthur fell at the storming of Badajos.) Resident some time in France in the early thirties, engaged by Hudson's Bay Company to conduct the second experimental farm at Lower Fort Garry 1836. Member of the council of Assiniboia 1845, removed to London, Canada West, 1847 or 1848, homesteading on the 5th concession, London township, on property still farmed by his descendants, died 4 February 1858, buried in St. John's churchyard, London township.

X Received

1. Petition to the House of Commons of John Pritchard of Red River, 1819. (Printed)

2. Ducol Ste. Colombe to "Mon Cher Monsieur," 4 Juillet 1819.

3. Edward Boyd to G.M. Cary, London, January 25, 1838. On his engagement by the H.B. Co..

4. George Simpson to G.M. Cary, London, February 1838. News of mutual friends, Canada, "the Lincolnshire farmers."

5. Richard Clifford to G.M. Cary, Tours, 14 May 1838. News of Irish colony in France, "I hope the inhabitants of your colony are not disposed to follow the example of the Canadians."

6. Richard Lane (?) to G.M. Cary, "Private", Fort Vancouver, 10 March 1849.

7. Andrew McDermot to G.M. Cary, Red River, 24 July 1848.

8. Andrew McDermot to G.M. Cary, Red River, 15 June 1850. News of the settlement, "Red River will never amount to anything."

9. "Inventory of sundry property of the Hon. H.B. Co. at the experimental farm this 1st day of June 1841." 8 pp. Foolscap, ms..

X 10. Minutes of a council of the Governor and council or
Assemblies held at Fort Garry on the 16th day of June
1845. 8 pp. Facsimile

11. Idem., 16th day of June 1845. 8 pp. Facsimile.

12. Pelly Simpson & Co. to G.M. Garry, (and widow). Statements
or account, 1840-1850.

13. Memorial to the Duke of Cambridge, Mrs. G.M. Garry, 1861.

Xerographic copies of 4, 6, 7, 8, 10, enclosed. # 1, 2, 3, 4, 5 are
not parts

Officing
Geo. Simpson
19 March 1878

George Henry Coy
Red River Settlement

MG2
C3





Geo: Cary Esq:
Dear Sir.

Hudsons Bay House.
London 1st March 1838.

My last advices from you were up to the middle of August, when the appearance of the crops was much more favourable than in the early part of the season, and I shall be happy to learn you have had a plentiful harvest, and that the sheep and cattle got through the winter well.

Sheep Farming on a large scale with the view to the production of wool, as an article of Export from Red River Settlement, was the principal object of the Governor and Committee in forming the Establishment, that has been placed under your charge, and economical & systematic management is absolutely necessary to its success. Towards that end it will be necessary in the first instance to direct your attention, particularly to the growth of grain &c of various kinds for the support of your Establishment, and a sufficient number of cattle, hogs and live stock, should be raised for the same object so that no utility may be occasioned by the maintenance of the people employed; and it will likewise be necessary to raise a sufficient quantity of grain, mangel-worms, turneps, carrots, &c for the winter provision of the same, in order to give a large return of wool, in the sheep and cattle, as it will be impossible to keep them in good condition during a long harsh American winter in any other way.

The Governor and Committee are desirous that the people should be well fed and comfortably lodged and that the terms of their engagements should be fulfilled to the letter. In housing them it will be well to study Economy in regard to fuel as much as possible by having the houses sufficiently large to contain 10 or 12 families each, so constructed or partitioned off that each family may have a sleeping room with one large kitchen, or cooking room, and a mess room for the whole by which means two fire places i.e. one open fire place and a large stove might be sufficient for each house, and as wooden buildings require annual repairs it is desirable you should erect houses of brick or stone as soon as you can through the labours of your people collect the materials.

A certain quantity of Tea and Sugar has been promised the women which must be given in kind, and the promise that has been made to the men of a little beer during the Steamboating season and other busy times should be fulfilled. As it is intended that these Farming operations shall be on a large scale I think it will be necessary to have two Establishments instead of one, i.e. one at the Forks and the other at the Stone Fort and in constructing both Establishments it will be proper that they be so placed as to be defensible or secure from attack from Indians and others; to that end, the buildings at the Forks

should be erected so close to the New Fort, as to admit of their being embraced within the walls of that Establishment, and protected by its Bastions: and let the lower Fort the new buildings should form one side of the Quadrangle or square of which the main house and the stores already form two sides, and the River the third so that the whole square may be walled round and protected by Bastions.

In proceeding with the buildings of the lower Fort, security against attacks from without, should be ~~still~~ particularly in view and the square should be of such extent as to become the strong hold of the settlement for a large body of people if necessary. For various reasons I think that ~~it will in due time~~ become the principal farming Establishment as the pasture is more rich and abundant in that neighbourhood than any where else, with dry ridges that may with little labour be cleared of the willow and underwood so as to become peculiarly well adapted for sheep-walks.

The wool that has been sent home is of fair quality but is by no means clean or in a fit state for market, which is owing to the careless manner in which the sheep have been kept by the Scotch Shepherds. Now that your stock is so much increased it is desirable that particular attention should be paid to the improvement of the breed by selling and selling off the old Ewes and Rams and not allowing the Rams have access to the Ewes until they are about eighteen months old so as to bring forth at the proper season after the Spring grass makes its appearance. Sometimes in order to obtain a rapid increase of stock the lambs in the Spring are allowed to take the Rams the next Fall when, not more than six to seven months old which destroys and degenerates the breed; but now that we have got stock we must direct our attention to its improvement.

I notice what you say about forming an Establishment at Shoal Lake but think it may be better to defer that until after I have had an opportunity of conferring with you on the subject at Red River next year in the meantime I think the lower Fort for a variety of reasons ought to be the Principal Farming Establishment and after the ensuing winter I think it is probable it may become your new head quarters.

When you have stock to sell it will be better to dispose of them in small lots as offers may be made throughout the season, than wait until the Fall of Year when there is a scarcity of Provedure which will prevent combinations among the settlers to keep down the Prices, and in order to remove the apprehension that our agricultural operations will deprive the settlers of a market for their surplus produce you may assure them that our intention is merely to raise sufficient grain and other produce for the maintenance of the Farming Establishment, and that our chief and only objects to open an Export Trade to England principally for their own benefit. Should it be necessary for you to discharge any more of the Farm servants let the parties be sent home and not allowed

to go free in the Country on any consideration; but no one ought to be discharged unless you can make out a very strong case, and that the party is inexcusable.

The Governor and Committee are desirous of increasing the number of English servants gradually, a few families will accordingly be sent, by every ship, probably half a dozen by the next ship for whom you will provide accommodation.

From your Report of the appearance of the Flax I am in hopes it has turned out well, but it is an article that requires so much manual labour (which is expensive at present at Red River) that I am doubtful the people will not generally direct their attention to it.

We must nevertheless persevere and if Mr. Logan's Flax mill is in operation I hope you will be able to send home a specimen of the produce of the Colony in that article.

Have the goodness to favour me with a full Report on the affairs under your management for the purpose of being laid before the Governor and Committee, and let any articles you may require for the Farm be regularly indentured for from time to time: those applied for last year will be sent out by the York ship of this season.

With Esteem

I remain

Dear Sir

Your mo: obedt: Servt

As. Leckie

P.S. Since writing this Letter your valued favor of 16th October has come to hand which has been replied to through Mr. Secretary Smith and I think it will be well to read that letter to the people in order that they may see the Governor & Committee are aware of their conduct and are determined on keeping them to their duty. I approve your suggestion of disposing of all the old & useless Ewes & Rams Lambs not required for stock.

Have the goodness to send home a few hundred weights of your cleanest and best wool in order that its quality and value in the market may be ascertained.

APPENDIX C

Seed List from York Factory

Kitchen Garden Seeds

4 Lbs. Prospan Blue Beans

9 Lbs. Anaxia Beans

2 Lbs. Dwarf Marrowfitt. Beans

4 Lbs. Windsor Beans

1 Qt. Long Pod Beans

1 Qt. Spunked Dwarf Beans

1 Qt. White Dwarf Beans

1 lb. Prickled Spinach

1/2 lb. White Round Spinach

1 lb. Early Outside Turnip

1 lb. White Round Turnip

1 lb. Orange Carrots

1 lb. Parsnip

1/2 lb. Deptford Onion

1/2 lb. Turnip Raddish

1/2 lb. Short-top Raddish

2 oz. Salmon Raddish

1/4 lb. Green Kale

1/4 lb. Brown Kale

4 oz. Early York Cabbage

4 oz. Green Savoy

4 oz. Green Coss Lettuce

4 oz. Mustard

6 oz. Cress

1 oz. White Celery

Flower Seeds

1/2 oz. Mignonette

1/2 oz. China Asters

1/2 oz. White Stocks

1/2 oz. Sweet-Williams

1/2 oz. Wallflowers 1/2 oz. Celandines 1/2 oz. Polyanthus

Bulbous Roots

1 lb. Tacijus Sicut Dov, 1 lb. Jonquills

1 lb. mixed Anemones, 1/4 lb. Ranunculus

1/4 lb. Double Snowdrops, 1/2 lb. Mariage de neu jelle tulips



APPENDIX D

Seed Varieties Imported into Rupert's Land
by the Hudson's Bay Company

compiled by: Barry Kaye - Unpublished Ph.d thesis

Source: HBCA A24/34-39

Appendix C. Seed Varieties Imported into Rupert's Land
by the Hudson's Bay Company, 1823-1830

Cabbage	Spinach	Lettuce (cont'd.)	Balm
Early York Cabbage	Prickly Spinach	Green Cos Lettuce	Moldavian Balm
Sugar Loaf Cabbage	Round Spinach	Hardy Hammersmith Lettuce	Basil
Battersea Cabbage	Turnips	Red Beet	Sage
Drum Cabbage	Early Dutch Turnip	Carrot	Marjoram
Red Cabbage	Yellow Dutch Turnip	Orange Carrot	Sweet Marjoram
Early Dwarf Cabbage	Swedish Turnip	Cucumber	Pot Marjoram
Winter Savoy Cabbage	Yellow Stone Turnip	Early French Cucumber	Marigold
Green Savoy Cabbage	White Turnip	Melon	Celery
Dwarf Curled Savoy Cabbage	Lapland Turnip	Beans	Leek
Kale	White Stone Turnip	Dwarf French Beans	Hops
Scotch Kale	Dutch Turnip	Scarlet Runner Beans	Clover
Curled Kale	Yellow Scotch Turnip	White Beans	Red Clover
Broccoli	Mangel-Wurzel	Mazagan Beans	White Clover
Purple Broccoli	Radish	Mustard	Grass
White Broccoli	Black Radish	Cress	Rough Cocksfoot
Onions	Turnip Radish	Parsley	Meadow Foxtail
Welsh Onion	Salmon Radish	Thyme	Peas
Deptford Onion	Cup Radish	Savory	Russian Peas
Dutch Onion	Mustard Radish		Early White Peas
Strasbourg Onion	White Turnip Radish		Early Green Peas
Cauliflower	Black Spanish Radish		
Parsnip	Lettuce		
	Green Cap Lettuce		
	White Cap Lettuce		
	Green Lettuce		
	Marseilles Lettuce		

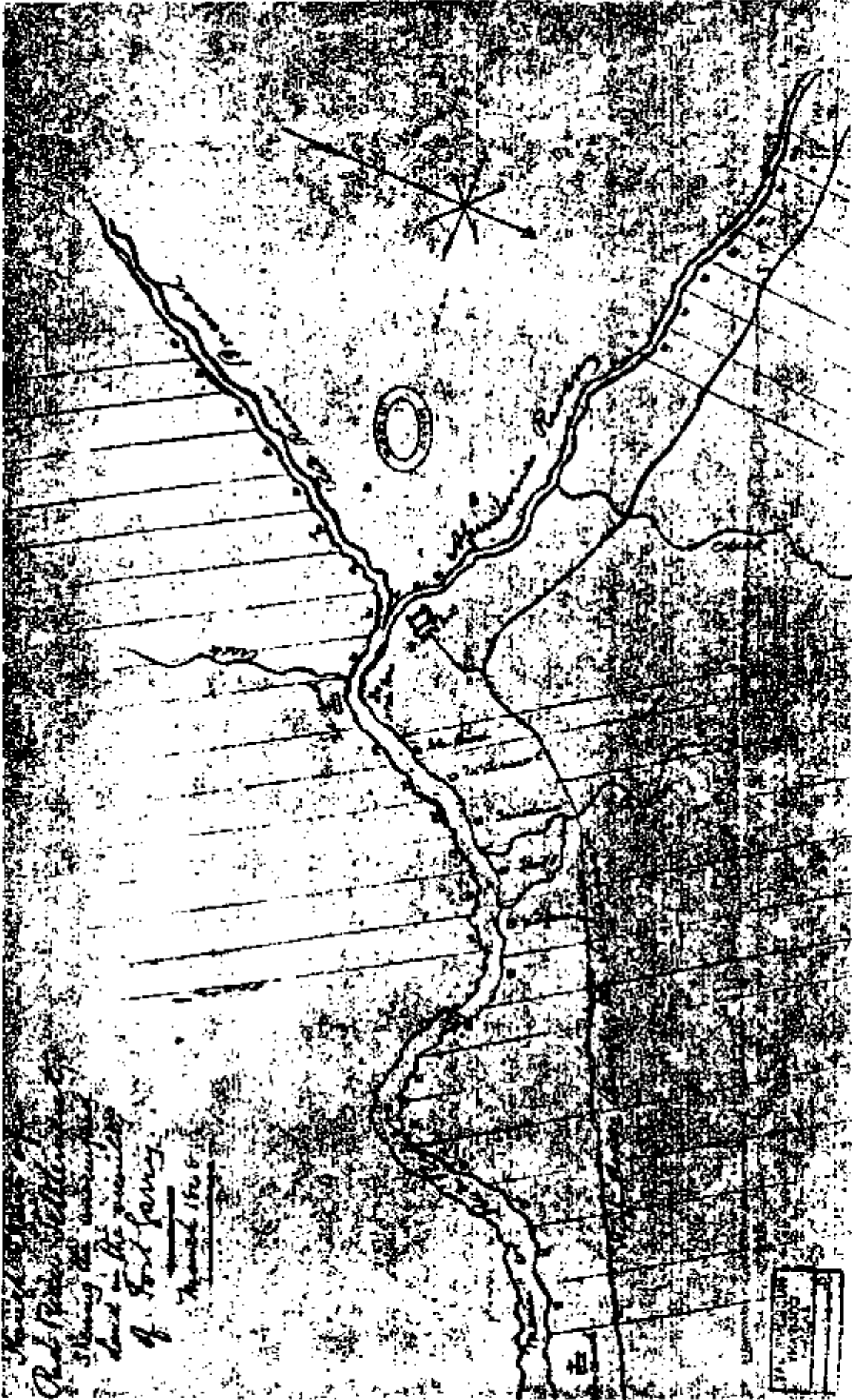
Source: H.B.C., A24/34-39. Invoice Books of Shipments to Hudson Bay, 1823-1830.

COPYED BY: GARY KAYE

APPENDIX E

Rough Chart of Red River Settlement showing the
Unoccupied land in the vicinity of Ft. Garry by
Edward Hopkins 1948 - indicates location of
Farm Buildings

Source; H.B.C.A. G.1/320



Sketch of
Pond & River System
showing the
land in the immediate
vicinity of
Fort Samt.
March 1866

APPENDIX F

Legal description of Experimental Farm

There are to certify that the following
extent of land has this day been transferred by the
Honble Madras's Army Company, for the use of the Experimental
farm under the charge of Captain George Bagnall -

Lot. 1st Old Fort Geary - From the west Bank of the Assiniboine
River, immediately below George Thorne, North 3rd East, one
hundred and fifty Chains or there by, and then South 65th East
down South Birds upper line to the West River, from thence
round the shores of the West and Assiniboine Rivers to the
place of beginning, & some and except the ground occupied ^{by} or
required for ~~the~~ ~~Fort~~ Upper Fort Geary.

2nd From Bracomie to St. Donalds - By Parallel line
running from the Assiniboine River North 3rd East till
they strike South Birds upper line, with a frontage of
sixty three Chains along said River.

3rd From James Flatts to the first House above Stingers bank -
By Parallel line running the same course as above
to the distance of four Miles from the Bank of the
Assiniboine River with a frontage of one hundred and
sixty four Chains -

Given under my hand at Upper Fort Garry, that this
Settlements this Tenth day of June One Thousand
Eight Hundred and Thirty Eight -
(Signed) Albert Charles Chief Factor
Hornby's Hudson's Bay Company



There are to certify that Captain Garry is authorized
to ^{occupy} ~~occupy~~ all the level land west for ~~the lower Fort Garry~~
Fort Garry, for the use of the Experimental farm, which
extends to the division lines on each side of the buildings,
being One Mile of frontage on both sides of the River

Given as above some date -

Authorized for the
to be occupied by
Captain Garry for the
by J. J. J. J.
June 24th 1839 -

APPENDIX G

Alexander Ross's Account of
the Experimental Farm

Source:

The Red River Settlement, Its Rise, Progress
and Present State

To conclude this somewhat lengthened chapter, although we dwell on the outskirts of Christian civilization on the one hand, and gross darkness on the other, we live in all moderation and good fellowship, our semi-barbarous and semi-civilized state, expressions used by my fellow-traveller when we reached the Forks, may be taken as a fair representation of the state of society amongst us, viewed at its best. "I have," said he, "travelled much in my time, and I have seen many beautiful spots; but, under all circumstances, I have seen no part of the world where the poor man enjoys so many privileges, and is more happy than independent than in Red River, and I regret I cannot prolong my stay to discern myself a little better on the subject of your laws and institutions; but judging from what I have seen, you seem, said he to me, "to live almost without laws, and yet enjoy in that primeval condition more real happiness, comfort, and contentment, than any other people I ever saw; but I must hasten in my departure, and take my leave of you, assuring you, and all my friends behind, that whatever Providence may destine my lot, I shall always cherish with fond recollection the kind and hospitable people of this colony. My friend and I then parted.

Wm. G. Lusk
John G. Lusk

CHAPTER XVII.

Another experienced settler—Remarks—Where the people at home—Comparisons—The half-pay officer—What promises—Small performances—The first experiment—The grand operations—Stock—How far the benefits of Red River—Quality of the hands—The hay stacks—Cattle—Results of the undertaking—Anecdote—The Providence—Government—Civilization—The Scotch and their attempts—The two exiles—Viewing things through a false medium—Lecture—Observations—Change of system—New law—Judge's opinion in Red River—Opinions of the people—Mr. Simpson, of the Arctic expedition—Subjects considered—His death—Fourth American half-breed—Remarks—Subject concluded.

Having arrived at the commencement of the year 1838, we propose to conduct the reader through the operations of another experimental farm, set on foot with the same desirable object in view as the former one, namely, the benefit of the settlement. We have often before remarked, that the people of Red River delight in novelty, and however great may be their failures and disappointments, they soon take courage again, and are ready for a new enterprise. It is not likely that our readers have forgotten the experiments already made under this familiar name; nor do we think they will

easily forget the one of which we are about to give some account; for each of them has had its characteristic mark. In Red River these farming huddles have been designated the "three unfortunate sisters," in allusion to their results.

The difficulties to be overcome in a first experiment are usually much greater than in a second, or a third, of the same kind. In the present instance, however, we derived little or no advantage from past experience, since the plan was now dictated by a committee in London, some 4,000 miles from the scene of operations, whose orders had to be implicitly followed. To prevent, as they thought, a repetition of the ruinous results of the former experimental farm, the London committee, in place of appointing a fur trader to the office of manager, sent out from England, at a high salary, a half-pay officer of the army, who was accompanied by people of little, if any, experience in agricultural pursuits.

Behold, then, Captain George Marcus Cary, the gentleman alluded to, and his experimental squad, some twenty in number, men and women, commencing operations on that point of rich alluvial soil where the Assiniboine enters the Red River, adjoining the site of old Fort Garry! Here a grand establishment was got up, and a full supply of the most costly implements imported on a scale far beyond anything we had yet seen in the colony. In short, nothing was wanted that money could procure. The new comers delighted to expatiate on the advantages of skill and systematic combined together, the prodigies contemplated, the experiments to be made, and the results that were

follow, compared with our manner of doing things in the settlement hitherto. The interest excited, made all listen in silent admiration, with eyes and ears open. A new era was about to commence; and the Captain himself, full of theory, and big with projects, raised expectation to its highest pitch, so that there was but one opinion, "The Company have hit upon it at last!" Nevertheless, though men and implements were set to work, two years had passed by before twenty acres of shallow soil were under cultivation; for at the end of two years more had this grand farming establishment reached another zero! The whole farm enclosed did not touch a single eighth acre, and a fourth part of that was never under cultivation.

On this contracted spot, Captain Cary and his associates exercised their agricultural talents in raising wheat, barley, potatoes, and turnips—articles which every one in Red River had for sale, and for which there was a ready market. In this manner they kept going round and round, like the blind horse in the mill, always treading themselves, in the evening, where they had started in the morning; till the spot was ruined, and themselves bewildered with the painful result. They had no spare produce to return to the Company.

The only benefit the settlers derived from the example of the experimental farmers, and what they had not learned of themselves before, was to sow down their grain with the scythe, in place of cutting it with the sickle; and to gather it with rakes in lieu of putting it into sheaves. With this practice, by the way,

we had little reason to quarrel—the model farmers were really playing our game; because what was left or lost by the slovenly process on the fields, required no experiment. This was the first, the last, and the only experiment they exhibited for our benefit; and because we would not follow their example, they swore they would show us no more; and they kept their words. The dairy served to keep the Governor's ten-tables in milk; but his butter and cheese were still furnished by the settlers: this part of the experiment proved a complete failure. For a year or two, a few quarters of flax seed were cultivated; but, as in the former experiment, it grew up only to rot without further notice. Hemp was equally a dead letter. During a year or two, a flock of some two or three hundred sheep were attached to the farm, but they soon dribbled into the hands of the settlers; and the wool which was not allowed to rot, got also into their hands, at a shilling the pound. A herd of swine was also kept up; but these poor creatures were generally so famished, as to render it prudent in the wayfarer to keep at a respectable distance from them. Geese, hens, and turkeys, also adorned the princely farm during the days of its sunshine.

All this profusion of good things was consumed at the farm establishment. Was such a project then, we may ask, calculated to benefit the settlers, who had themselves similar articles for sale—say, taking their aggregate, had them in ten times the profusion required to supply the limited market. We trow not. Rather, it was shutting up so far, if it had succeeded, the only

market that existed for colonial produce. Every cent's worth of shilling's worth supplied to the Company by their experimental farm, would lessen the settlers' market. It will may be argued as beneficial to the settlement in the way of example; for had not the influence of systems, the rotation of crops, and the general working of the farm, a good effect on the farmers of Red River? We answer, no!

Had as the system or want of system in the colony, they have been, it was in every respect superior and better adapted to the country than the experimental, and also methods. The settlers had always the best crops, both in quantity and quality. The most ordinary farmer in the place sowed as well, ploughed as well, and sowed two times as much work, and kept his fields, his gardens, and his cattle in better order, than was the case at the experimental farm; much of this, however, depended on the quality of the hands employed; they were forward, ignorant, and stubborn. The farmer's five hundred points of good husbandry, were not yet to learn, and they also forgot they were at Red River; for they could neither work nor do otherwise than bear out at their lips; they slowly turned round of the bell. Before six in the morning, the sun in the evening, they would scarcely, but the sun would have been on fire about their ears. Seed was sown at harvest time, summer and winter, was all out of the soil; it is not with the good or bad qualities of the soil, but servants that we have to deal; and badly they would serve them to show, that had they come to the benefit of the colony, the good derived from that

conduct, and exertions, would have been small indeed. Take the following as an example:—

The article of hay was very scarce one year in the neighbourhood, so that the Captain had a place examined some ten miles off, where it was to be had in abundance. To this spot the settlers, in years of scarcity, generally resort, for the same purpose as was the case this year, and hither our moral farmer despatched seven of his best mowers, provisioned for a month. Of course, these pampered gentlemen were not disposed to go hay-making, as the settlers do, with a piece of dry pemican for their food, the swamp water their only beverage. No, indeed, they must have their douceurs, their tit-bits, their dainties; and the Captain being an indulgent master, fitted them out with all the luxuries of a more favoured country—their beef, their mutton, their butter, their cheese, tea, coffee, and something stronger into the bargain, with all the apparatus and cattle necessary for carrying on their work to the best advantage. After some days' preparation the hay party, along with a squad of the settlers, took its departure; it was a Monday morning, as we recollect. The latter got to the ground at 9 o'clock in the forenoon, and before night had averaged five loads a-piece of cut hay, while the experimental boys, who only reached the field of their labours at 1 o'clock in the afternoon, spent the rest of the day in putting up their tents, and making themselves comfortable. Tuesday, they spent the day in gossip, and boasting what they could do. On Wednesday, they did not like their encampment, shifted to another, and prepared for the following day.

Thursday they commenced work. Friday their oxen were packed away, and they spent the day in getting them ready for the journey. Saturday, they turned their faces towards settlement, and resolved on home! Two of them remained late in the evening; but the other five made out the hear-drops, where the mortified Captain had sent work to find them out, and only got them home on the following Tuesday. Various were the reports they made to their disappointed master; but when the truth became known, the seven experimental lads had, during the week they were absent, cut the enormous quantity of ten loads of hay!

Captain Cary, the chief manager of the experimental party, was a person of active business habits, shrewd, intelligent, and prepossessing in his manners; he was a sportsman of amiable qualities; but his agricultural knowledge consisted in theory alone—the practical qualifications were wanting. He had read a good deal, and was possessed of much general information; that was, in point of fact, more of a florist than an agriculturalist. After dragging on for about ten years, without advancing a step, or doing a farthing's worth of good to the colony, the prodigal experiment was wound up; and the stock, implements, &c., being sold off, left the experimenters minus 5,500*l.* The zealous Captain was disgusted with the whole affair, that he left the colony as a pet, and removed with his family to Canada. The object of the Company was probably not very clear to themselves; but if we may judge from circumstances, it was far from a sincere purpose towards the settlement. Captain Cary often remarked on this point

to the writer, in terms which we may here quote: "When I left London," said he, "the Committee had out the fairest prospects; and so deeply did that hope appear to be interested and sincere in the success of their plan, that I was promised, in addition to my salary a certain share in the profits; but when I came to Red River, the feeling about its success, among the Company's officers, seemed to be the very reverse; cold water was thrown on the whole project, and all plans and movements were fettered, as if the officials were perfectly indifferent about its success." It has been stated, but whether true or false we know not, that \$5,000,000 had been laid aside for the speculation, and the feeling was, the sooner it was got out of hand the better; that, at least according to this story, was all the Company cared about it. If this statement be true, there must have been a *total estrangement* or mystery in some quarter. We have already noticed in our experience of things here, that the Company in London and the Company in Red River are two different things; and here we have before us a practical illustration of the fact. This we know, that Captain Cary and the Company in Red River seldom pulled together. He always said, he was entitled to a tenth share of the profits. "If," said he, "the business has failed, it is the fault of the Company, not mine." On repeating this one day, the writer observed to him, he had better hold his tongue, and say nothing on that head, or he might be brought in for a corresponding share of the loss. One thing we know—his appointment proved a profitable sinecure to him.

Before taking leave of the Captain, we might mention the following anecdote. On the arrival of his party in the colony, I happened to join the Captain as he stepped ashore, and as we walked along, we had to cross a ploughed field, on seeing which, the Captain stopped abruptly, and turning suddenly round to me exclaimed, "What! the people of Red River know how to plough!" "Yes," said I, "we do a little in that way, and now and then a ploughed field astonished the Captain, his remark had surprised me; as it showed how little he knew of the country."

We have stated over and over again, and in most circumstances proved by a variety of circumstances, that this is not the other experimental farms could have been designed for the benefit of the settlers. A mistake then arises, if not for the benefit of the country, for whose benefit were they? And what could have been the Company's motives for their introduction? It might not have been, at least in a pecuniary point of view, for the Company's own benefit. At first view it may be justly confessed, a subject that might appear to many as mysterious as the "handwriting on the wall;" but those who penetrate a little below the surface of things, and weigh impartially the state of affairs in this country, will find the Company's motives for making such a venture, as this venture proved, are not absolutely unaccountable. It is a common saying here, "When the Company deal in furs, they work for money; but when they deal in farms, they work for fame!" Now, as success in farming the experimental farm would have done and would have embarrassed the limited market here, everything

RED-ASSINIBOINE JUNCTION SITE DEVELOPMENT:

Preservation and Interpretation
of the Current Landform and Vegetation

by Cheryl Oakden

Done in Partial Fulfillment of the Course Requirements of

Landscape Models 31-709

Presented at the University of Manitoba, Faculty of Architecture

Department of Landscape Architecture

to Susan Buggey

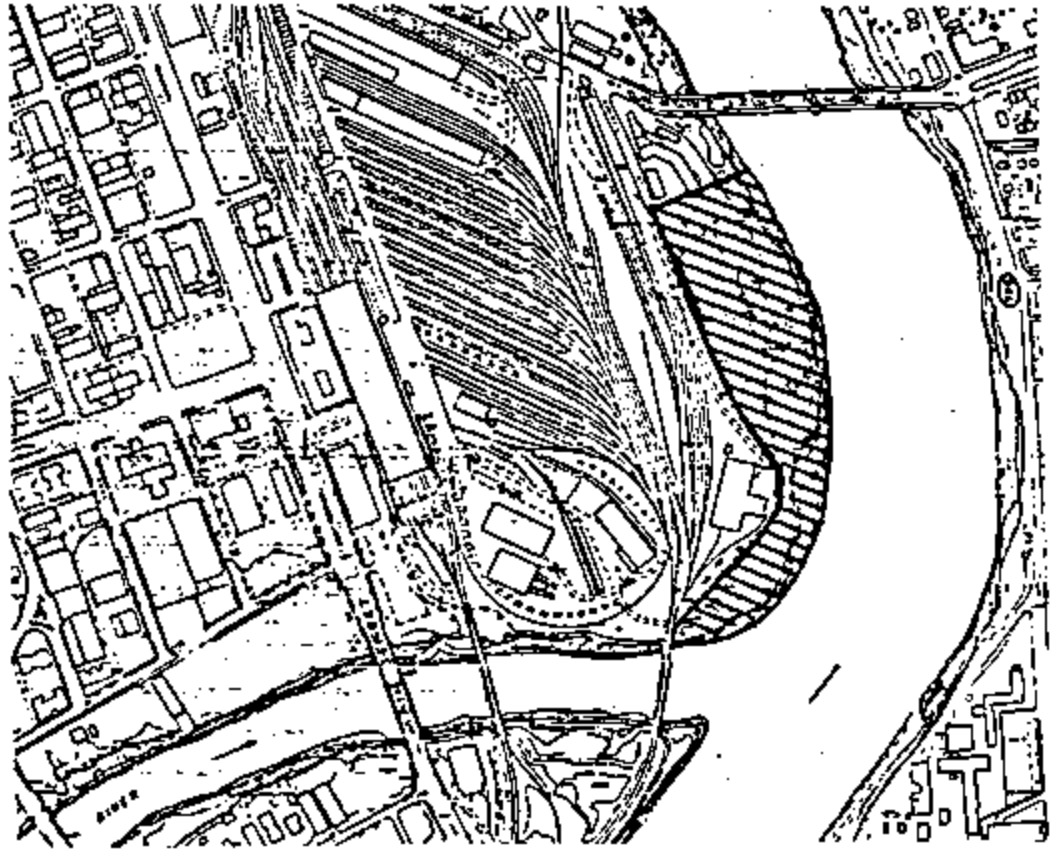
April 8, 1985



Introduction

At the junction of the Red and Assiniboine Rivers, 13.5 acres in the CN East Yards have been chosen as the development site for Parks Canada and the study area for this historic park planning project. (Figure 1) The site, commonly referred to as the Forks, has been declared of national historic significance due to its primary role in the development of transportation, communication, and commerce in the Northwest. This site forms part of the Canada-Manitoba Agreement for Recreation and Conservation of the Red River Corridor (ARC), which hopes to eventually own land extending from St. Norbert north to Netley Creek. The ARC Program represents a coordinated approach toward natural, historical and heritage resource conservation with the provision of recreational, educational and cultural opportunities along the Red River Corridor. The essence of ARC is to develop the corridor as a multimodal circulation system providing access to interrelated educational and recreational experiences. The Forks development and interpretation is seen as the focal point for this entire system.

The initial evaluation of the site involved historical research to be undertaken in the specified areas of: landform and vegetation, archeological remains, and settlement patterns; prehistoric-1821, 1821-1870, 1870-present. The primary goal of the preliminary study was to uncover evidence which would establish a basis for decision making with regard to future master planning activities for the site. This information, in conjunction with site



/// CN Lands To Be Transferred
To Parks Canada

Figure 1 Site Acquired by Parks Canada at the junction of the Red and Assiniboine Rivers. source: Parks Canada

visits, were analyzed outlining six alternative methods for future site development. These options include:

1. On-going Archaeological Excavation Site
2. Urban Green Space: Agricultural Theme
3. Urban Green Space: 'Meeting Place' Theme
4. Urban Green Space: Preservation and Interpretation of the Current Landform and Vegetation
5. Urban Green Space: Riverfront Park with Historical Element
6. Urban Green Space: Riverfront Park with Contemporary Focus

The research also determined limitations for development by inappropriate levels of intervention due to a lack of an historical base (i.e. landscape features, or historical data). These were defined as: restoration, reconstruction, reconstitution, and conservation. The results from this initial work should not be thought of as being of sufficient depth to allow future development to proceed without undertaking additional research.

Given the initial analysis, the alternative for development to be elaborated on in this study is the preservation and interpretation of the current landform and vegetation. It is these natural features which form the fundamental components of the landscape, creating the contextual setting upon which man interacts. An integrated relationship must be established between ecologic, economic, aesthetic and educational factors to cooperate with nature. In doing so we gain opportunities available for richer more diverse environments.

Description of Assigned Option

In order to understand the implications of the alternative to site development, a definition of the terms of reference is required. In the strictest sense preservation implies stasis. Preservation involves maintaining the site essentially as it is, neither upgrading nor permitting deterioration. However, this level of intervention is not possible. Practical or desirable when dealing with organic, living artifacts which develop and change over time. Therefore, an intervention more responsive to site conditions is required. According to Lisa Kunst and Patrick O'Donnell in their article "Historic Landscape Preservation Deserves a Broader Meaning," 'conservation' is defined as a passive process of preservation, protecting historic landscapes from loss or infringement of incongruent uses. Basically conservation is stewardship of the site. This concept can be appropriately applied to the development alternative being pursued. Within the parameters set by such a definition, decisions can be made as to the nature of disruption and its level of reversibility.

In terms of the 'interpretation' of the resources, Kunst and O'Donnell state that

interpretation involves the retention of original landscape form with integration to accommodate new uses, needs, and contemporary conditions. It reinforces historic integrity while integrating a contemporary site program'

' Lisa Kunst and Patrick O'Donnell, "Historic Landscape Preservation Deserves a Broader Meaning," Landscape Architecture, (January, 1963), p.55.

providing a comprehensive understanding of the site in its historic and present day context. Such a concept of interpretation will be applied to the development alternative as a basis for decision making.

To validate an intervention of conservation and interpretation of the natural environment a development plan must emphasize the role which the vegetation and landform played in making the 'Forks' a significant site in terms of settlement, transportation, and commerce. To do so, one must utilize the existing natural features on the site from the past to the present, inclusively. In dealing with the natural environment we must also acknowledge and understand the processes and changes within that environment which have, and continue to, contribute to the site's significance.

In dealing with dynamic processes of the environment and man's interventions we cannot attempt to make the site 'static' as suggested in the term preservation. Therefore, we must conserve the site. Conservation of the site is an opportunity to utilize nature within its own laws of growth and decay. Consequently, this approach will compliment the site's history, an aggregate of past events continually evolving in a place due to the fourth dimension of time.

The principles of ecological succession bear importantly on the relationships between man and nature and time.(Figure 2) Nature is seen as process, responsive to laws having limiting factors which



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Figure 2 Parkland Forest source: J.M. Shay

exhibit opportunities and constraints for human use. The place, and plants, animals and men upon it are only comprehensible in terms of the physical and biological evolution which establishes the contextual setting, or environment, within which these living organisms evolve. Man has manipulated his environment to serve his changing needs for survival, settlement, transportation, communication, and commerce. Over time, this development has evolved dramatically and has constantly altered due to changing needs and technology, representing processes occurring on the site. The concept of process reflects the 'essence' of the 'Forks' as a cultural landscape, an integrated composite of overlapping and intersecting elements and qualities which are constantly altered by natural and human forces. Therefore, in developing the site's natural features we cannot ignore the integral role man has played in shaping this landscape.

The conservation and interpretation of the landform and vegetation must reflect man's use of the landscape over a period of time and the evolution of cultural values, norms, and attitudes toward the land. These are exhibited through different phenomena of man's lasting impact on the land and his future use of it. The layering of activities, environmental and cultural, represent the site's 'image' and must, therefore be interpreted as layers or processes. The site is located within the nexus of a complex system of forces, economic, cultural, and artistic. A new manmade environment has almost completely supplanted the preexisting natural environment of the site and its continual deterioration be-

comes a prime concern. Any plan to raise the environmental quality of areas within the central-city must, therefore, manipulate not only meteorological, geographical, and botanical factors but also social, cultural, physiological, and psychological factors.

The essence and image of the 'Forks' must be reflected in the development of the site. Consequently, the reason for its significance as a location for settlement based upon a series of events which began during prehistoric occupation and continues to the present day must be incorporated. The focus of the development must be on the entire landscape: its elements, components, resources, qualities and potentials. There must be an understanding of the landscape as a whole and of the synergistic relationships that make it what it is. These relationships define the 'total' landscape.

The significance of the landscape as a system best demonstrates how a culture responds to its natural setting and how it manipulates and molds the environment to suit its needs. Therefore, interpretation and conservation of the site must be based upon processes of both natural and cultural elements, not a moment in time. In addition development must acknowledge that the site will continue to evolve and must allow for this evolution to occur.

Goals for Site Development

Within the parameters set by the development description, several goals for development have been established to conserve and interpret the landscape as history, habitat, artifact, system, and

ideology. These are all aimed toward ultimately responding to and viewing the landscape as place.⁷ The following six goals represent a basis for the development strategy, its philosophy and parameters for design decisions and ultimately directions for implementation:

1. to interpret the present condition of the site's natural features and how they relate to specific events of the past: identity of the landscape.
Essential to interpretation is an understanding of the accumulation of adaptations which have produced the given forms and of the values, governing ideas, and underlying philosophies of the culture. The landscape represents a translation of the philosophies into tangible features. Some of these features include: encroaching transportation links, changes in drainage and elevations, erosion, and structures. The goal will attempt to reveal the causality of Winnipeg's development stressing the historical significance of the Forks in terms of geographic position and use of vegetation (Winnipeg's *raison d'être*). In addition, there should be an attempt to postulate the future evolution of the site in cultural and ecological terms.
2. to educate the public of the site's history through an understanding of natural and human processes and their alterations to the landscape which have created the present en-

⁷ refer to D.W. Meinig in his article, "The Beholding Eye: Ten Versions of the Same Scene," Landscape Architecture, (January, 1976), pp.47-54.

vironment, recognizing changes over time.

In order to conserve and interpret the present landform and vegetation there must be an understanding of natural processes and human alterations responsible for affecting, maintaining, or changing the character of the environment. These processes may include flooding, excavations or fills, and vegetative succession.

3. to develop a design which reflects process and change where no permanent or temporary impact alters the historical integrity of the landscape.

To accomplish this goal a flexible design of continually changing interpretation programs and natural evolving environments must be developed. Functional requirements such as parking, pedestrian circulation, and lighting will be provided but must be designed with sensitivity to reduce their impact on the landscape.

4. to ensure the integrity of the historical resource, any development which affects or impacts the subsurface archaeological resources shall be coordinated with an archaeologist. As well, any clean up will be closely monitored by both archaeologist and ecologist.

5. to conserve the natural setting a biological classification and management approach with respect to the environments sensitivity to human intrusion will be carried out.

This inventory will determine a basis for use regulation in terms of site sensitivity due to topography, plant material, surrounding views and vistas and their historic con-

tents and integrity. The classifications may range from highly sensitive areas requiring restricted and controlled access to areas which can support diverse activity with unrestricted access. Some sensitive areas may include erodive or unstable banks and young plant material in regenerating areas.

6. to rejuvenate the site aesthetically, ecologically, and economically by establishing future interpretation and management strategies based upon ecological principles. Within these programs there will be an attempt to seek a valid basis for aesthetics whose roots are in urban ecology while retaining something of the natural diversity of the 'original' plant communities once established on the site.

Urban Ecology

All of these goals reinforce an attempt to establish an urban ecological park on the site, a natural system within the city to provide educational and recreational opportunities. The isolation of nature within the urban region represents irreplaceable links between natural and urban processes. Such a site is important as an historic and educational resource for nature in cities. An ecologically based learning program about nature in cities, the urbanization process (development of Winnipeg) and its impact on natural processes is invaluable to young students and adults. Some of the opportunities of such a program include the observation and understanding of plants and animals, community dynamics,

interactions of urban and natural processes, trends within ecosystems, food chains and webs, diversity and succession, and nutrient cycling. These trends may be shown in relation to human and urban ecology to attempt to challenge and change attitudes toward urban environments.

Development of the site would represent an ecologically based design as an alternative to past interventions which have rendered the current site derelict. Establishing a 'naturalised' landscape on the site involves managed succession where the site will be allowed to continue to evolve. For a more detailed description of managed succession refer to Appendix A. This aspect of site development is essential to the theme of the park and includes a reforestation study program and a modified mowing regime. The new landscape will represent a radical departure from conventional practice on the part of a public organization expressing a new approach to the urban environment which, over time, will become low-maintenance, economical, and self-sustaining.

Faced with the difficulty of sustaining a program of development and ongoing maintenance due to rising costs in energy, equipment and manpower, the National Capital Commission has initiated an experimental naturalisation program for its parkway corridors in Ottawa. Such a program has provided some of the necessary practical experience required to establish a similar park system in Winnipeg. Some of the research undertaken through a series of test plots was directed toward providing relevant information for the success of such a project. The plots were established to test:

1. the proportions of various species through the successional range of plants suited to the soils and climate of the region. Four relatively simple groupings of plants were selected related to well and poorly drained sites:
2. the most effective types of site preparation techniques relative to cost factors; manpower, competition and speed of plant establishment;
3. the most effective planting techniques with respect to spacing, initial maintenance and speed of establishment;
4. the best methods of controlling competing plants such as grasses and damage by rodents;
5. the types of mangement required up to the establishment of woodland (canopy closure) and subsequent management of the evolving woodland (thinning of stands in relation to long-range objectives).

The results from this work should be acquired to assist with development of the site. Some of the programs carried out in Ottawa are listed in Appendix B.

In addition to generating a 'naturalised' landscape, an urban ecological park can also be used as an educational center for public schools and universities to augment studies in urban ecology, and urban wildlife conservation. This would be complimented by instruction in the historic development of the site's natural features. Understanding the processes of nature and human intervention in the familiar surroundings of the city may be a most effective way of ensuring a knowledgeable and informed concern for the larger environment.

¹ Michael Hough, City Form and Natural Process, (Croom Helm Ltd., Australia, 1984), p.139.

Resources Required for Development

Based upon the conceptual framework for an urban ecological park and educational center, certain significant elements must be manipulated to realize the final site design. These elements include: vegetation, landform and the tangible artifacts (historical elements of human intervention) reflecting the site's urban situation. In addition, integrated interpretation, education, and maintenance programs must be established to support activity on the site.

In order to interpret the site's history and to establish a naturalized landscape, an extensive inventory of the vegetation and landform is required to determine present and past vegetative cover and landform conditions. This will enable a comparison between past and present landscapes to establish some of the alterations which have occurred. To discover these changes one must also undertake research of the natural and manmade processes which have had an impact on the site.

Alteration of the landscape may occur incrementally or drastically. The former implies a gradual modification of the landscape as would be the case with sedimentary deposition or vegetative succession. The latter, by contrast, suggests a sudden alteration attributable to nature, as in the case of floods, or to culture, as in the case of the ^{National} Pacific Railway fill. While an inventory of the site is being undertaken, references to, and therefore knowledge of changes must be integral to the process and to future interpretation.

Such an ecological inventory and analysis would:

1. identify the type, relative abundance and spatial distribution of plants and animals.
2. identify and explain processes in the historical landscape which are responsible for the character of the existing environment,
3. identify the natural processes' limiting factors, attributions of value and indicators of healthy and unhealthy environments which indicate the degrees of permissiveness or resistance to change implicit in natural processes.

In addition to the site inventory, several information sources including cartography, survey and archival records, photography, explorer's journals and present day mapping must be examined. Some of these references have been investigated and are summarized in Appendix C. However, further research is still required in several areas as indicated in the Appendix. Information gathered to date provides a basis for understanding the significant elements of the landscape, namely: landform, vegetation, and natural and manmade alterations.

Landform

A thorough understanding of site geomorphology including topography and soils and the changes to these over time will be needed. Sources for existing topography and soil information include recent work by Park's Canada. A map at 1:500 m indicates present topography and the archaeological digs have given some evidence of

old river bank locations and soil profiles. However, more information will be required to provide accurate descriptions of both the river bank and the soil profiles.

Earlier topography is available in mapped form for the year of 1948, but any earlier information becomes unreliable due to scale and cannot provide detailed site descriptions. McPhillips plan of 1881 (Figure J) indicates the presence of a two level bank still in existence which helps to delineate the extent of the single most significant change to the topography, namely the National Pacific Railway fill of 1889. During this year 15,000 cubic yards of earth and coal debris were piled onto the site. Survey records and plans are likely located in the MPR collection in Minnesota. Only general accounts in newspapers and letters are available in Winnipeg.

The Manitoba Soils Survey gives a general description of the physical characteristics of the Red River Association soils and indicates that vegetation undisturbed soils would support. This information would be helpful in determining the character of the environment prior to the MPR fill.

Vegetation

Early European settlers of Manitoba were undoubtedly attracted to river valleys where necessities of life were close at hand. River bottom forests provided fuel and building material while the pasture on the adjacent uplands supported farming requirements.



Figure 3 Portion of McPhillip's Map of Winnipeg, 1895.

source: National Map Collection

Later, when steamboats ran on the Red and Assiniboine the forests provided fuel for their engines. The typical native plant composition of river bottom forests in Manitoba is listed in Appendix D.

At present, existing vegetation has been mapped by a variety of methods including air photos and the Winnipeg Forest Inventory. These provide detailed accounts of the area which could be complemented by site inventories and analysis. In terms of the historical vegetative cover sources include both visual and written documents. Several bird's eye views covering the period 1880-1884, and early cartography (H.Y. Hind 1858, John Arrowsmith 1816) display discrepancies in the extent of cover. (Figures 4 and 5) These sources are not extensive or accurate to extrapolate type, condition, abundance, or distribution of plants, therefore, they are unreliable for inventory purposes emphasizing the need for archaeology and site surveys to determine vegetative cover of earlier periods.

Journals, diaries and letters of early explorers and settlers, in particular those of Alexander Henry, La Verendrye, and Miles Macdonnell, provide descriptive evidence of the landscape during the period from 1800-1837. Henry reveals some of the vegetation which existed on the banks of the Red River in his journals of 1800:

The banks are covered on both sides with willows, which grow so thick and close as scarcely to admit going through; adjoining these is commonly a second bank of no great height. This is covered with very large wood such as liard, bois blanc, elm, ash, and oak; some of these

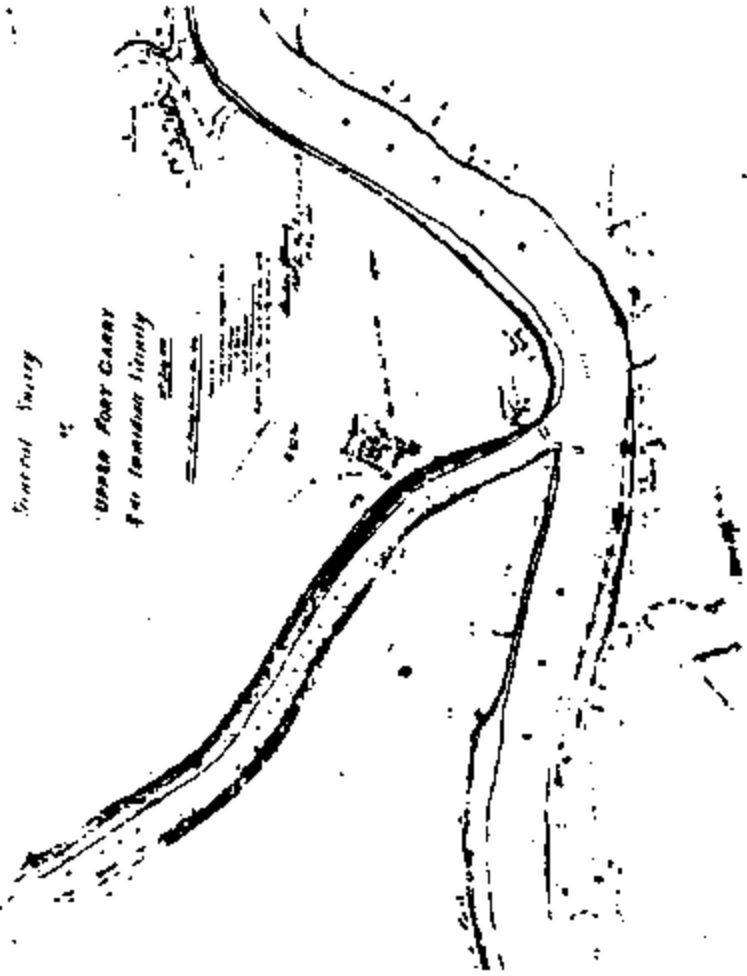


Figure 4 General Survey of Upper Fort Garry and vicinity by Captain Aumplem Moody, Royal Engineers, 1817. source: Provincial Archives of Manitoba.

PLATE
 OF THE SETTLEMENT ON
 RED RIVER,
 as it was in 1816.

1816

This map is taken from the original survey of the settlement on the Red River, made by the late Major-General R. B. Meade, in the year 1816. It shows the position of the settlement at that time, and the extent of the land which was then owned by the Government.

Notes: The river is shown by a wavy line, and the settlements are marked by small squares. The land which was then owned by the Government is shaded with diagonal lines. The land which was then owned by private individuals is marked with a cross-hatch pattern.

The settlement on the Red River was founded in the year 1816, and was at that time the largest settlement on the river. It was situated on the west bank of the river, and was surrounded by a stockade. The settlement was founded by Major-General R. B. Meade, and was named in his honor.



Figure 5 Plan of Settlement on the Red River June 1816 by Peter Fidler. source: National Map Collection N3/540.

trees are of enormous size.⁴

Additional research into the journals of Alexander Henry, La Verendrye and Miles Macdonnell may prove helpful in giving indications of clearing for protection around the forts, species abundance and an idea of the atmosphere and environment on the site during these early periods. Such information would contribute to archaeological evidence and surveys to be undertaken.

Evidence of an experimental farm between 1838-1841 can be explored through plant succession and archaeology. Drawing information from existing stands of vegetation will be limited due to the dramatic alterations which occurred on the site since 1841, therefore reliance must be placed on archaeology. The location of the farm is important to give a clearer understanding of cultural adaptations which occurred on the site however if extensive research is required this feature will not be pursued in this report. (Refer to Doug Olson's report on the Agricultural Theme)

Additional information on vegetation can be generated by establishing correlations between:

- 1) vegetation of another similar but relatively undisturbed site in close proximity noting especially the topography, aspect of slope and soils.

⁴ Alexander Henry, The Manuscript Journals of Alexander Henry, Fur Trader of the North West Company and of David Thompson, Official Geographer of the Same Company, 1759-1814, Ed. Elliott Coues, (Minneapolis, Ross Hays Co., 1965), p.48

2) soils on site and kinds of vegetation under which such soils have developed in Southern Manitoba.

Tangible evidence from fossil remains, archaeology and soil surveys could aid in establishing relationships between a culture, its geographic siting and its use of vegetation. Tom Shay, a professor at the University of Manitoba in the Department of Archaeology, has undertaken such studies at ^{Upper Fort Garry} ~~Lower Fort Garry~~ and could possibly provide guidance and assistance for similar work to be carried out at the 'Forks'. This work may include pollen analysis which involves extracting pollen from river beds, outhouses, etc. and identifying them through microscopic examination. (Figure 6) However, information of existing vegetation will have to be acquired first so that evidence is not lost in the process of carrying out archaeological digs.

Manmade and Natural Alterations

Manmade and natural processes affect the site both directly and indirectly causing immediate and dramatic change or slow incremental changes. An extensive alteration of grades occurred on the site in 1889 in conjunction with the NPR construction which disturbed the site dramatically. This action has largely disrupted the original site vegetation and landform making archaeology necessary for establishing the character of the previous environment. Site structures namely: Fort Gibraltar I and II, have been documented and substantiated by evidence from archaeological digs done during the summer of 1984. However, more investigation is re-

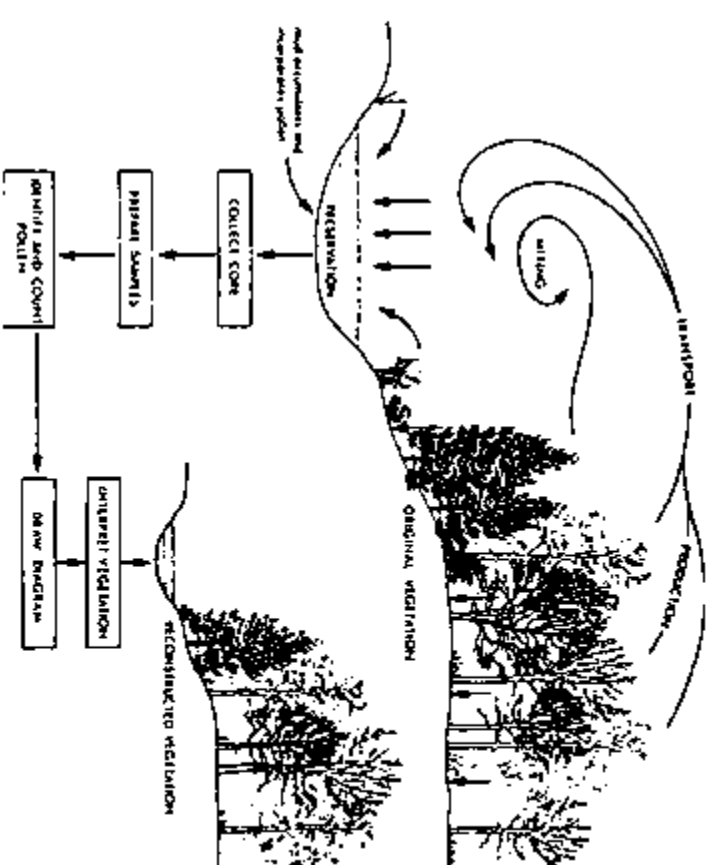


Figure 6 Reading the past through pollen analysis.

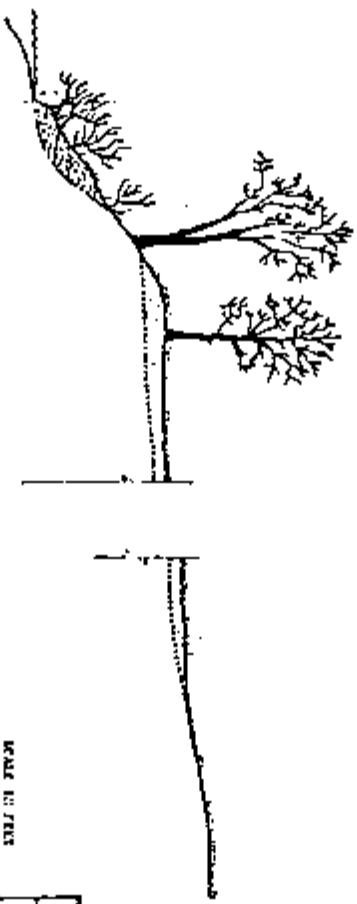
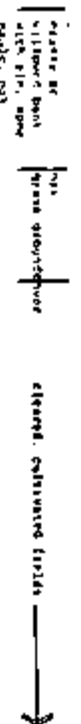
The top diagram shows pollen production, transport, and deposition in a shallow lake. The lower diagram illustrates the steps involved in analyzing the pollen. The resulting reconstruction of vegetation is imprecise due to variation in production, dispersal, and preservation of pollen among plant species. Although imprecise, these summaries can be used to estimate the nature of past climates and environments. Source: The Natural Heritage of Manitoba

the characteristics of the existing stands and the processes which have acted upon them.

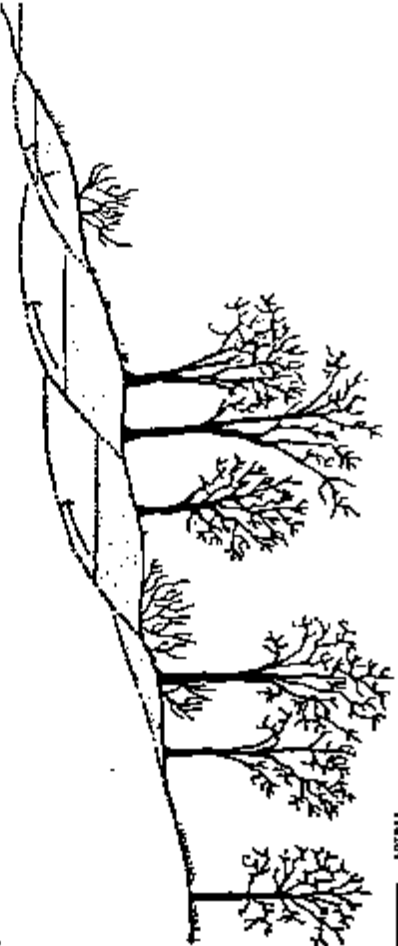
The process of vegetative succession on river banks and river channel dynamics must be thoroughly understood. Therefore, specialists in the fields of ecology and hydrology will be consulted. By combining all areas of study, physiognomic profiles can be generated showing bank vegetation with reference to aspect, climate, and soils indicating the potential vegetative growth or decline on site aided by typology studies. (Figures 8 and 9) These typology studies have already been undertaken by Jack Ross and Hilderman and Assoc. for the Provincial Department of Tourism, Recreation and Cultural Affairs. This information is documented in the reports, "The Red and Assiniboine Rivers Tourism and Recreation Study," volumes 1 through 4.

River stream dynamics will be monitored and documented to determine effects on bank stability and vegetative cover. Vegetative succession will be allowed to dominate the site therefore the majority of the concrete residue from Genstar occupation must be removed while certain areas may only require a layer of soil for plant regeneration to occur. This will be determined by the planting that is to take place and the extent of the concrete base.

Deterioration of the landscape occurred mainly due to urban pressures. (Figure 10) Urbanisation of the surrounding watershed alters stream erosion processes, sedimentation patterns, nutrient



2
STEEP CLAY BANK



3
GENTLY SLOPING, SLUMPING CLAY BANK

Figures 8 and 9 River Bank Typologies occurring on the banks of the Forks source: The Red and Assiniboine Rivers Tourism and Recreation Study

flows and water quality. It creates changes to drainage patterns, soil chemistry, vegetation and animal communities. Therefore, crucial management objectives must intersect the influence of the surrounding city with dynamics of a changed but evolving ecosystem under urban conditions. An understanding and documentation of natural processes (floods, wet/dry cycles, succession) can provide a basis of interpretation of interaction between human settlement and environment. This will aid in establishing future management strategies. Archeology, paleontology and soil surveys will dominate the initial investigations to contribute necessary information concerning historic plant communities and landform changes. Prior to this work, an extensive survey of the existing conditions have to be documented. The activities of: 1) site preparation; research, inventory, and analysis, and of: 2) site regeneration; clean-up, planting, maintenance, etc. will be incorporated into interpretation and education programs.

Strategy for Interpretation and Education

A strategy for interpretation must focus upon process rather than artifact, public awareness of the relationships between man and nature will establish a better appreciation for the immediate environment. The greater the span of history to be interpreted on the site will ultimately affect how its future evolution will be allowed to be carried out. Preserving history will forsake any natural evolution and hinder the sites natural progression. To protect and express the historical integrity of the site, interpretive features will include:



Figure 10 Existing Condition of the Site

1. exposed but protected digs of Fort Gibraltar 1 and 11 indicating information of aboriginal fish encampments, soil depositions, and other pertinent artifacts uncovered beneath and in the immediate vicinity of the forts' locations.
2. archaeological dig of the river bank topographies indicating extent of flood depositions and the MPR fill.
3. proposed direction and implementation of site regeneration program which would incorporate activities into educational programming.

A compilation of initial research should provide a basis of interpretive information which expresses an understanding of a society's abilities to utilize the potentials provided by the natural components of the site. This will enable interpretation of the site as:

1. an aboriginal fish encampment
2. the Northwest and Hudson Bay Companies' Fort Location
3. a center for water transportation
4. derelict due to railway construction and urbanization
5. a 'naturalised' landscape

Each of these cultural landscapes are evident in the layers uncovered by archaeological investigations and will be evaluated and interpreted according to their overall landscape organization. (Figures 11, 12 and 13) The majority of the archeological information will be rotated in an interpretive and educational

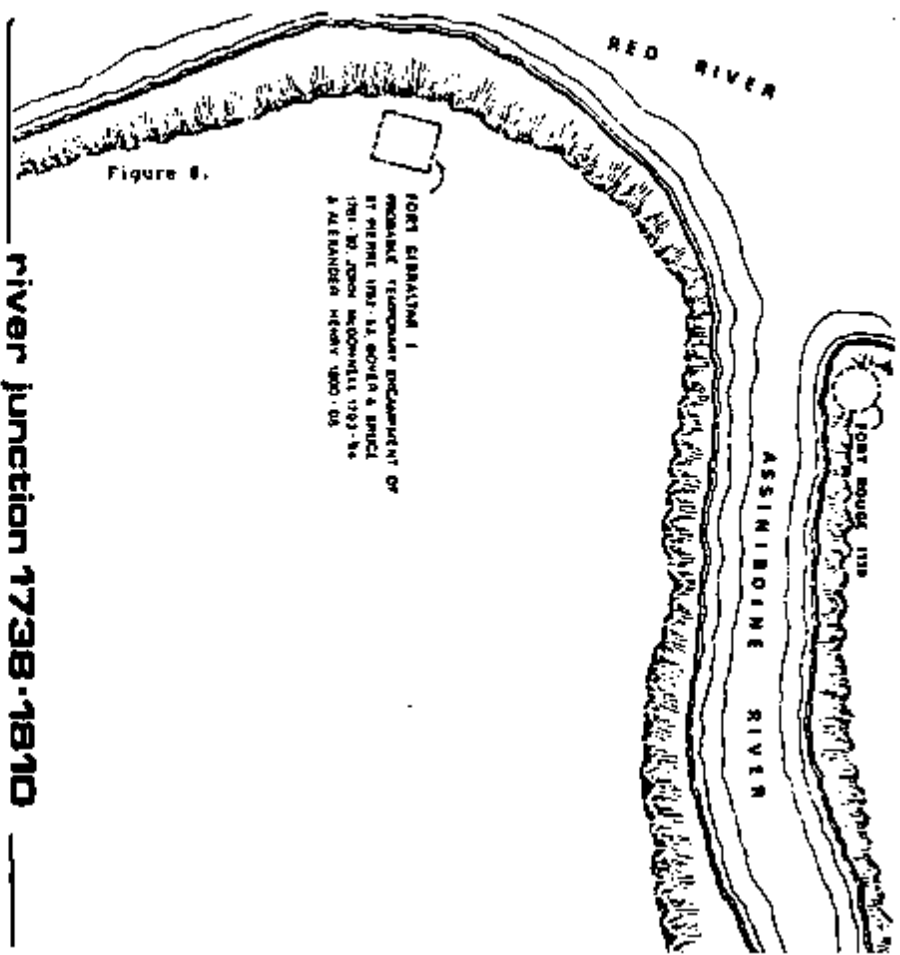
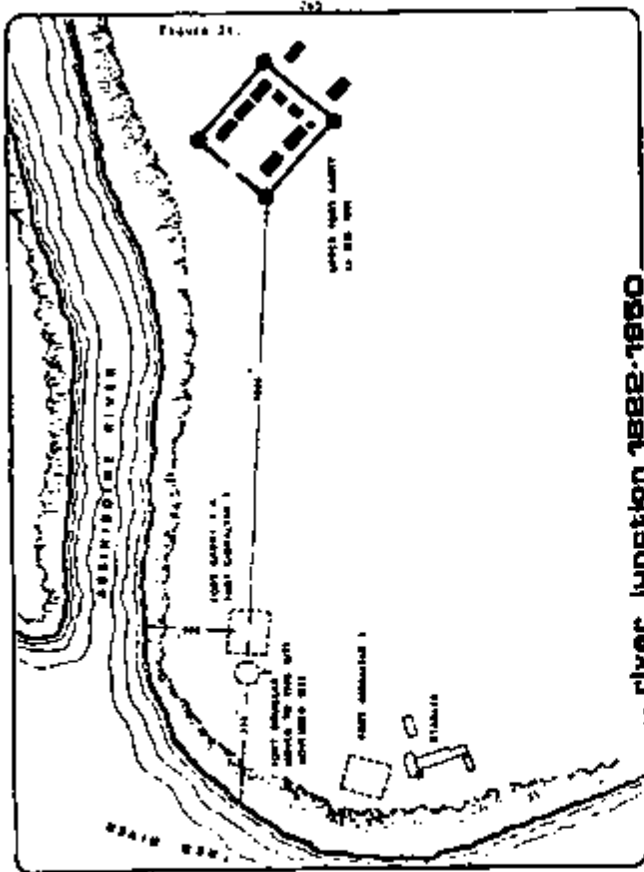


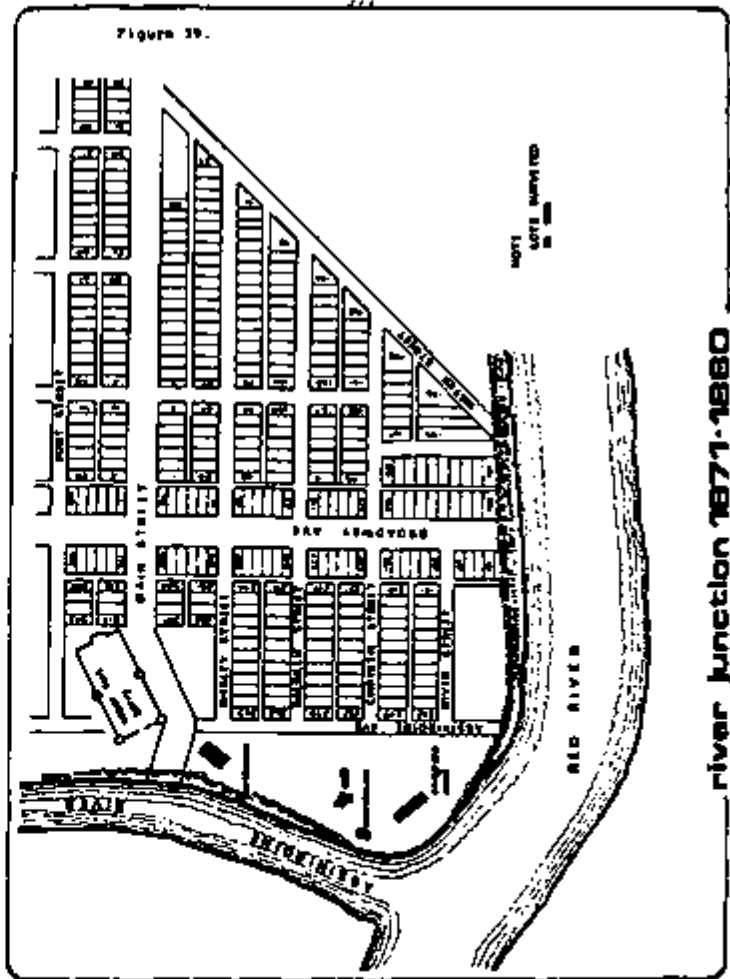
Figure 11 Presumed landscape organization between 1738-1810

river junction 1738-1810



river junction 1822-1850

Figure 12 Presumed landscape organization between 1822-1850



river junction 1871-1880

Figure 13 Presumed landscape organization between 1871-1880
 Figures 11, 12 and 13 from Parks Canada

building on the site. This information documented in written, mapped and photographic form will give a basis for development of interpretation and education programs where the archaeological process will be a direct educational experience for students at the university level.

It would be beneficial to acquire the existing engine shop and roundhouse building of 1889 as a center for the site.(Figure 14) By utilizing this building a balanced relationship between the site and its immediate surroundings will be created. The CN Yards will appear related to the site activities and may not act as such a strong division between the site and its urban environment. Although renovations will be required, the building could house lecture rooms, storage for tools, greenhouse and nursery activities, public services and tourist information pertaining to the entire corridor program (ARC). By locating the tourist center at the forks, its position as focal point for the Corridor Interpretation, Recreation and Conservation Program will be strengthened.

The essence of environmental education in the city is providing an understanding of the bio-physical systems that influence it and are influenced by it. Educational programs will be incorporated into the regeneration process, involving students and teachers from both public schools and universities. The park will be run by a trained ecologist throughout the year who will establish programs which provide interaction and participation to teach environmental and social messages. Regenerating the site through the



Figure 14 Rail Yards indicating roundhouse and engine shop of 1889.

source: National Map Collection

fundamentals of urban ecology will require an understanding of urban dynamics and their affects upon the natural environment. Urban ecology provides an opportunity for alternative ways of using nature in the city. A naturalized plant community is a valued resource where plants are an evolving community not individual phenomena. The communities should be conserved and the ecological concept and processes they represent should be expressed and reflected through educational programs on the site which in turn improve the physical, aesthetic and economic condition of the landscape.

Maintenance

Traditionally, landscape design has been based upon the concept of stasis which runs counter to the living processes of growth and decay. They assume careful and continued maintenance at an expensive hence aristocratic enterprise. Due to the nature of landscapes, forms are tied to their geographic and historic contexts. Parameters of landscape architectural design are conceptually organized around abstract, internalized norms where theory and practice pay little attention to regional dimensions of botany, climate, or history. In contrast, a site development based on ecological and urban processes incorporates maintenance as a process of integrated management based on ecological parameters. An ecological management program assures us of tools for maintaining productive and self sustaining landscapes while providing the greatest diversity possible, fitting many situations and needs.

The objectives of such a program are economic, social, and environmental where management is integrated with education, recreation, conservation, maintenance and interpretation programs.

Within a program of ecologically sensitive management, planting would be established to achieve a perpetuating adaptive landscape of self regulating communities. This would create diverse plant associations that are in harmony with the sites soils, topography, climate, and related environmental conditions. The objectives of this system are to enhance: social, educational, and aesthetic values; ecological and environmental productivity; environmental, social, and aesthetic diversity; and overall economy in energy, materials, and manpower. In the long term this approach to site management and maintenance will rehabilitate the site which has degenerated over time through soil compaction, and the reduction of soil productivity and nutrients. To be successful, managed succession must be monitored by a trained ecologist throughout its development and maintenance.

Feasibility

The budget for the site development proposal will be significant for the initial inventories, investigations, and site preparations while site development and maintenance will not be as substantial. The preliminary work requires more time and staff on the part of Parks Canada in the fields of archaeology, history, paleontology, ecology and construction. These activities can be

carried out in conjunction with educational programs reducing the costs to some extent. The Provincial Departments of Tourism, Recreation and Education can contribute funding to the development of the site and the educational programs. Having the site's activities affiliated with the Universities may provide opportunities for grants and bursaries. This aspect of funding should be investigated.

The programing of the site substantially reduces costs for long term maintenance relying on natural regenerating properties of the plants. Budget requirements will be increased in relation to the historical conservation being undertaken. Since some continuing archeology will be required costs must be allocated accordingly. In retrospect, the project should not be considered outrageous when one considers the improvements which will take place on the derelict site mainly through natural succession.

Desireability and Appropriateness of Development

The development will create a resource for play, historical and environmental education providing a study center for schools of all levels for research in urban ecology, urban wildlife, plants and animals and their adaptations to city processes, and community dynamics, offers a landscape of diversity and variety within the city. Such a site has the potential to attract students, educators, historians, tourists and the surrounding community. Development of the site as an urban ecological park with






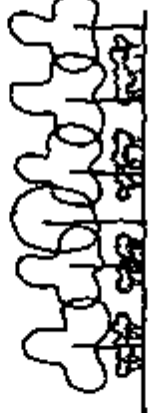

elements referencing its historical significance and programs allowing its continued evolution will enhance the natural features (vegetation and landform) of the landscape. The present condition of the site will be dramatically improved through managed 'natural' processes which have a high potential to protect the historical features due to the reversibility of the development.

The philosophy of this approach to site design challenges our existing use of plants providing an alternative where nature within the city may create irreplaceable links between the human and natural environments. The opportunity exists for understanding natural and urban processes and for utilizing history and education as a resource for nature in the city. The resources and expertise are at hand for such a development to occur allowing the evolution of a new landscape. However, because this type of development is unique within Winnipeg it may be difficult to get the design approved by both political and public realm. New problems and situations will arise that have not been met before making the development a risk. Intense research and testing may be required before development actually occurs leaving the site in its derelict condition. Any attempt toward introducing new ideas and approaches in landscape design which are rich and diverse like an urban ecological park should be carried out. The urban environment and communities will benefit through acquiring education and a new way of viewing and appreciating urban landscapes.

Conclusion

The integrity of the site and its environmental frame require that we cannot embalm or hold it in a state of museological stasis. Change is inevitable in both artifact and context, but the rate and nature of change can be controlled. Therefore, we must formulate and apply policies of environmental management which will guarantee growth and change congruent with historic, artistic, economic, and ecological requirements. This must form the basis for site development within the alternative: Urban Green Space: Conservation and Interpretation of the Current Landform and Vegetation.

Appendix A: Description of Managed Succession
 Source: M. Hough, City Farm and Natural Process p. 138.

Managed Succession	Natural Regeneration
<p>Stage 1. Establishment - pioneer and climax species mixed</p>  <p>Typical Plant Species</p> <ul style="list-style-type: none"> Poplar Alder Maple Basswood Hemlock 	<p>Stage 1. Existing conditions</p>  <p>mown turf</p> <p>existing woodland</p>
<p>Stage 2. Canopy closure and thinning</p> 	<p>Stage 2. prevailing wind</p>  <p>Abandon mowing</p> 
<p>Stage 3 onward. Mature climax woodland development</p>  <p>understorey planting</p>	<p>Stage 3. Regeneration</p>  <p>edge regeneration</p> <p>meadow community development</p> <p>woodland regeneration</p>

General reforestation categories

Plantation involves the planting of predominantly similar species where the final woodland composition is determined by the initial planting. This is the normal procedure of forestry practice and is based primarily on commercial objectives. Managed succession developed in the Netherlands and Britain is based on the principle of natural succession and assisted through management. The initial and final composition, character and uses of the woodland will be quite different as it evolves. The nurse crop functions to ameliorate soil drainage, fix nitrogen, stimulate soil micro-organisms and create a micro-climatic environment suited to the development of climax species. This approach is, therefore, concerned primarily with the rehabilitation of derelict landscapes, rather than with commercial objectives. Arguments on the advantages and disadvantages of native versus non-native plant species may be less important than considerations of structure, wildlife habitat, adaptability to soils, local climate, air pollution, drainage, and so on. Natural regeneration involves discontinuing mowing regimes in areas where a woodland seed source is available. In the absence of disturbance a woodland landscape is re-established naturally over time.

Appendix B: Testing of Planting Techniques in Ottawa, Ontario
Source: M. Hough, City Fore and Natural Process pp. 140-44.

Soil preparation alternatives

Prescription	Planting Procedure	Comments
<p>Alternative 1</p> <ul style="list-style-type: none"> - mechanical cultivation - cultivation of planting area prior to planting (fall to till ground vegetation) - manual cultivation regularly during growing season (monthly) 		<ul style="list-style-type: none"> - labour intensive - application to smaller or awkwardly shaped areas - application to closely spaced planting where fast canopy closure is a high priority - consistent maintenance required during growing seasons
<p>Alternative 2</p> <ul style="list-style-type: none"> - application of Round-up or equivalent herbicide to kill ground vegetation (fall) - mechanical cultivation of tree 7-10 days following chemical application - application of Simazine or equivalent herbicide (spring prior to planting) in diagonal pattern around tree locations 		<ul style="list-style-type: none"> - greatly reduced labour requirements, since only one application required per year (depending on rate of application) - applicable in small or awkwardly shaped areas and to closely spaced planting - chemical treatment in urban areas may present problems of health and public acceptance

Alternative 3

All mechanical cultivation

- mechanical cultivation of area prior to planting (fall to till ground vegetation)
- mechanical cultivation between rows done regularly during growing season

<p>Alternative 4</p> <ul style="list-style-type: none"> - application of Round-up or equivalent herbicide to kill ground vegetation (fall) - mechanical cultivation of area 7-10 days following chemical application between rows - application of Simazine or equivalent herbicide (spring prior to planting) by mechanical spray between rows 	
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Soil preparation is a crucial factor in woodland establishment. It is necessary to reduce competition from herbaceous plants and rodent damage until the tree canopy closes and competing ground flora are naturally suppressed. The table shows a number of alternative approaches under study by the National Capital Commission

Planting techniques

Prescription	Year	Visual	Provision	Comments
<p>Alternative 1</p> <ul style="list-style-type: none"> - 100% pioneer species planted, followed by climax species after canopy closure <p>(managed succession category)</p>	1		<ul style="list-style-type: none"> - species planted at random or in rows - pioneer species mixture - aspen, alder, white pine, etc. - after canopy closure, thin proportion of pioneer species 	<ul style="list-style-type: none"> - pioneer mixture can vary and include pine, black locust, etc. - spacing may be close, 1.0 to 1.5m for quick closure or on some 3.0 m apart for mechanical cultivation - slower canopy closure involves less thinning later
<p>Alternative 2</p> <ul style="list-style-type: none"> - pioneer and climax species planted at the same time <p>(managed succession category)</p>	3, 5		<ul style="list-style-type: none"> - plant intermediate/climax species, maple, birch, basswood, hickory, etc. - pioneer species planted at random or in rows - poplar, aspen, alder, white pine, etc. with intermediate and climax species of red maple, birch, basswood, hickory, sugar maple, etc. 	<ul style="list-style-type: none"> - plant mixture varies relative to site type - spacing as in Alternative 1
<p>Alternative 3</p> <ul style="list-style-type: none"> - pioneer and climax species planted at the same time <p>(managed succession category)</p>	3		<ul style="list-style-type: none"> - after canopy closure, thin competing pioneer species but retain partial shade 	

The layout and spacing of plant materials depends on a number of interrelated factors that require investigation, for instance the balance between closely spaced plants that achieve fast canopy closure but involve costly hand cultivation versus widely spaced plants that achieve slower closure but involve cheaper mechanical cultivation. The relative merits of an overall 100 per cent pioneer planting versus mixing fast and slow growing species together.

Prescription

Edge treatment along walls and adjacent to housing

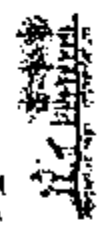
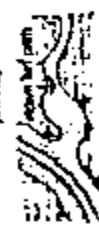


- regular edge planting for woodland protection may become part of management plan
- after canopy closure meadow community may be allowed to develop in association with shrub edge
- some mown turf adjacent to walls and housing should be maintained for visual and recreational purposes

- Objectives**
- protection from casual access
 - mowing and fill colour
 - attraction to wildlife
 - maintenance of visual quality
 - mown turf creates planting stands and wild rodent control

Introduction of man-made design elements

- incorporate viewing areas where appropriate



- incorporate picnic, sitting and sunning places or relaxation areas requiring mown turf

- under certain conditions mown turf pathways may be included where traffic is light

- replacement of naturalisation impact

Introduction of interpretive panels

Design Considerations
 Public involvement and acceptance of urban forestry is critical to its successful establishment. The design and layout of woodlands require very careful consideration to emphasize the fact that this alternative landscape may be as representative of quality and care and civic pride as the horticultural landscape it replaces. The object is to give a sense of purpose and intent when man-made elements are placed in association with naturalized areas. Design criteria include some of the following:
 Variety: A variety of plants is required for different site types (poorly drained, well drained, slopes, flat areas, etc.). This refers to the characteristics of the location. In addition the aim should be ultimately to achieve an urbanized woodland that is diverse in species composition.
 Turf edges: The usage of turf is perhaps more apparent in urban areas where edges are poorly considered. Turf is to grow long adjacent to human activity needs to improve abandonment of responsibility. Naturalized turf or new planting close to walls and housing collects litter, which involves higher maintenance costs. The opportunity is lost for positive activities (mowing, weeding, scrubbing, etc.) that require short turf. Naturalized turf encourages emigration of rodents in initial stages of woodland establishment. Thus, the establishment of well-maintained turf edges is important in functional and visual terms.
 Planting edges: The development of woodland edges over time creates a more natural woodland encourages wildlife such as songbirds, adds colour with flowering trees and shrubs, and could in initial establishment stages, provide buffering and physical protection to the new planting in public areas that may be vulnerable to damage.
 Structural elements: Integrating man-made elements into existing foliage or existing habitats is an accepted design practice that both protects

Appendix C: List of Resources Acquired to Date

* Indicates additional research required

SOURCE	INFORMATION	DATE
<u>LANDFORM</u>		
<u>TOPOGRAPHY</u>		
* 1. Puleo-Lundell Archaeology	- Bank Profile / section	1904
2. 1:50,000 Puleo-Lundell Topo. sheet.	- Slopes, aspect, elevation	1904
3. Contour Map of Winnipeg	- slopes, aspect, elevation	1910
* 4. City of Winnipeg Survey Dept. for N.P.R. changes in 1880 see plan: made elevation section	- Topographical Survey information (- contours not plotted) Survey notes may be available.	1914
5. George McPhillips plan of Winnipeg	- Indicates sections at the forks had two levels of banks.	1901
6. John Hurr's plan of Winnipeg	- Shows pre-railway site - no contours given	1874
7. H. Y. Hurd's 1880 map of Red River Settlement	- SECTION OF RED RIVER. SECTION ACROSS RED RIVER VALLEY. SECTION OF NORTHWINDING R. THIS FLOOD LEVEL CORRESPONDS PLAN. SOME INFORMATION INDICATED, OCCASIONAL UNUSUAL but little detail for the fork.	1880
* 8. Alexander Henry's journals	- general description of the area. Begins much more earlier. Note: C.A. Pells (Hurd) indicates a grave yard at the fork and "Saulteaux dug up some graves."	1800-1808

SOILS

* 1. Manitoba Soil Survey

- Only very general information on the Red River area.
- Includes texture, infiltration, organic content, erosion susceptibility, structure.
- Original undisturbed soils (based on adjacent samples). Will indicate possible vegetation it could have supported. No artificial deposits or nature.

* 2. Parker-Lanada Arch Digs

- Profile of site (section of bank) would yield soil type, forest distribution. N.P.R. Fall.
- Topsoil is deep and full. Info. unavailable at this time because soil cores may be required.

* 3. Quarterly of Alexander Henry

- Brief description of gumbo soil at the site

VEGETATION

1. Parker-Lanada Topo Map

- Extent of present tree cover - no species

* 2. Air Photo Library

- Extent of present and past vegetation. Photography available to H
- Present

* 3. Winnipeg Forest Inventory

- Shows no trees at all on site (small scale, poor reliability)

4. Bird's Eye View of Wipog

- Shows no trees again (some correlation with above)

5. Bird's Eye View of Wipog

- Shows no trees again (some correlation with above)

1904

1800

1904

1904

1804

1800

6. Mavis Steen Fire-Scar	1872	<ul style="list-style-type: none"> Published in 1922. title: <i>Location and Abundance of buildings in the village of Winnipeg 1872</i>. Gives indication of vegetation in the area of the forks (no type). Building footprints, timber camp shown. larger scale than #5.
7. Hinder Topo Map	1850	<ul style="list-style-type: none"> Location of vegetation and marsh areas (off site) - small scale. Sketches showing typical vegetation.
8. Anonymus Map (Historical Atlas)	1836	<ul style="list-style-type: none"> Shows very broad vegetation cover - no vegetation shown on site - poor reliability. Drawn in 1863 of 1836.
9. Anon. Smiths Map	1816	<ul style="list-style-type: none"> Indicates some vegetation along the banks - brief description on map. Drawn in 1819.
10. The Manuscript Journals of Alexander Henry (the page 20 includes trees)	1800	<ul style="list-style-type: none"> Informative description of type, location - good general description of forests & marshes. Notes natural types only - no cultivation at this early.
11. Miles Macdonnell's Diary (see in A. 5 or on A History of the Canadian West to 1870-71)	1836	<ul style="list-style-type: none"> Give a description of general area and its location to the forks. No species mentioned. Several diseases must be included in further research.
12. Letters from the Governor and Committee of the N.D.C. to George Simpson. 1822.		<ul style="list-style-type: none"> Indicates desire to establish an experimental farm on the Red River to produce wool, tallow, flax, hemp and other things which will require little expense in its establishment. Also indicates preference for location (general)
* 13. Tom Shuy Cap. 1815	1805	<ul style="list-style-type: none"> Settlements - use of vegetation from work undertaken at Lewis & Clark.
* 14. National Commission	1805	<ul style="list-style-type: none"> Information and results from testing done at Ottawa on their managed succession on right-of-way and park conditions.

SOURCE	INFORMATION	DATE
<u>MINI-MADE ADAPTATIONS</u> 1. On site survey	<ul style="list-style-type: none"> ⇒ Jernster's concrete mix operations. Addition of fill and concrete platforms, drainage channel to river, truck washings etc. 	1979
2. Water Resources Division * Jennifer Study	<ul style="list-style-type: none"> ⇒ Red River Floodway reduced flood water inundation and soil deposition. Growth throughout Winnipeg but may affect vegetation in long run - unanticipated 	1985
3. Water Resources Division T. J. Study	<ul style="list-style-type: none"> ⇒ Long-term water control structure causes higher summer levels and quick & drastic changes in the fall. The effect on lake stability should be examined 	1989
4. Northern Pacific Railway Special Collection # D1	<ul style="list-style-type: none"> ⇒ Located in Manitoba this collection promises to contain the best information on grade changes made by the railway in 1909 (brakes, illustrations, plans ???) 	1888
5. Quebec Bridge to William Armit H.C.A.	<ul style="list-style-type: none"> ⇒ States the railway planned to raise the area by 4 feet 	1909
6. Manitoba Free Press	<ul style="list-style-type: none"> ⇒ States one hundred men were leveling the grade with gravel from 100 Railway cars 	1909

NATURAL PROCESSES

1. Blake, R. H.
Notes on Red River Floods
Dept. of Mun. & Nat. Res.

- year and water level of floods from 1876-1950 with some general indication of floods in the 1700's
- = in depth appendix including print hand accounts of the floods' linking with impacts to be read as well as letters.
- = photographic accounts of 1950 flood, including aerial view of the forks site under water
- = map of site of flooding on site.
- = will have later flood data to 1984

1950

2. City Engineers Office
Water Resources Division

- Degree of impact of floods after 1950 on vegetation & banks at the forks (see average) (approx.)

3. Prairie Canada

- Bank profile will give evidence of hydrologic process.

1984

4. R. Graham's Thesis
M.L.S.

- Wet/dry cycles - giving indication of good growing seasons, frost years etc. Demstrate relationships to risk of for existing stands of vegetation in terms of age, size, extent of cover
- Plant growth rings of trees to climate data

1984

5. Notes from Jennifer Bay

- general vegetative succession which occurs on river banks in this area. Synecumic profiles with reference to slope, climate, soils & windable plants. vegetative growth on site.

1987

6. Canadian Geographer
Vol. XXVII no. 2 Summer
1984. Edward J. Hicken

- = general information on vegetation and river channel dynamics. Note: only portions apply to this area.

Appendix D: List of Plants Typical to the Parklands and Deciduous Forests
 Source: Teller, Natural Heritage of Manitoba p. 100.

PARKLANDS AND DECIDUOUS FORESTS

Aspen Groves and Forests

Aspen *Populus tremuloides*
 Balsam poplar *Populus balsamifera*
 Bur oak *Quercus macrocarpa*
 Saskatoon berry *Amenanchier alnifolia*
 Hazel *Corylus* spp.
 Wild cherry *Prunus* spp.
 Wild rose *Rosa* spp.
 Wild red raspberry *Rubus idaeus*
 Red-osier dogwood *Cornus stolonifera*
 Willow *Salix* spp.
 Sarsaparilla *Aralia nudicaulis*
 False Solomon's-seal *Smilacina stellata*
 Pale vetchling *Lathyrus ochroleucus*

Riverbottom Forests

American elm *Ulmus americana*
 Green ash *Fraxinus pennsylvanica*
 Manitoba maple *Acer negundo*
 Peach-leaved willow *Salix amygdaloides*
 Cottonwood *Populus deltoides*
 Red-osier dogwood *Cornus stolonifera*
 Woad nettle *Laportea canadensis*
 Virginia creeper *Parthenocissus* spp.
 Ostrich fern *Matteuccia struthiopteris*
 Moonseed *Menispermum canadense*
 Poison ivy *Rhus radicans*

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landscape development
of "the forks"

LANDSCAPE DEVELOPMENT OF "THE FORKS".

31.709 Modality 11

Landscape Models.

Major Assignment

1984/85.

Peter Jordan.

INTRODUCTION

The purpose of this study is to examine the potential landscape development of a 13.5 acre site at the junction of the Red and Assiniboine Rivers - commonly referred to as "The Forks".

The Forks has played a key role in the evolution of Winnipeg. It has been of major significance in the communication, transportation and commercial developments of Western Canada, and as a result it has been declared a site of national historic significance and has been purchased by Parks Canada for conservation and possible development - see Figure 1 for Existing Site Location Plan.

Since the onset of human habitation and travel, The Forks has been a meeting place of special significance. The historical importance of The Forks is undeniable because over time it has served various societies and cultures - as a trading rendezvous, temporary encampment, garden plot, experimental farm, railway terminal facilities and marshalling yard, and concrete batching plant. As a consequence, the landscape has undergone considerable natural change, accompanied by adaptations initiated by the site occupants of the time. Much of the natural change has been focussed on the riverbank where frequent spring flooding and

accompanying ice erosion, followed by a rapid decline of water levels, have caused large pieces of the riverbank to fall away. The landscape development proposal for The Forks would enhance the recognition and utilization of the resources of this presently undervalued and unique location.

To assist in the identification of ways in which the site may be treated, an examination of the available historical information has been completed by individuals within the class. Various components of the site investigated included landform and vegetation, archaeological remains, historic elements and settlement patterns. Using this information, a number of development alternatives were examined and discussed, in terms of implications of the design philosophy and approach, and appropriateness to the site.

The research undertaken to this date has revealed a lack of existing historic base of significant landscape features and/or historical data to work from. As a consequence, the approaches to historic landscapes, of restoration, reconstitution, reconstruction and conservation, have been eliminated.

Six themes or options have been selected upon which to base a proposal for the landscape development of this historically significant site:

-
1. Archaeological dig site: on going.
 2. Urban green space: experimental farm theme in the contemporary context/form e.g. allotment gardens or other agricultural or testing use.
 3. Urban green space: theme of a "meeting place", including an interpretive vehicle to accompany a visitor reception centre on site.
 4. Urban green space: natural vegetation based on historical and contemporary evidence.
 5. Urban green space: preservation and interpretation of current land form and vegetation.
 6. Urban green space: riverfront park connecting Bonnycastle Park west of Main Street and Core Area Initiatives north of Water Street.

This paper focusses on option 3, the development of The Forks as an urban green space, with an overlying theme of a "meeting place". However, my proposal includes features common to a number of the above listed themes. To examine this proposal, I have presented my report using the following guidelines:

-
1. Option: Urban green space - "meeting place" theme. A description of the assigned option.
 2. Availability of information to proceed with the assigned option.
 3. Potential for protecting historic resources and/or interpreting the historic past to visitors.
 4. Attraction potential of the site.
 5. Resource requirements for implementation and maintenance.
 6. Recommendations as to the feasibility and desirability of the assigned option.

OPTION 3: URBAN GREEN SPACE - "MEETING PLACE" THEME.

The theme which has repeatedly arisen in the history of The Forks is that of a "meeting place". I define the term "meeting place" to be a space or a facility which enables and encourages the gathering of people who are attracted by an activity occurring at that location. This is exemplified in history, as The Forks was a meeting place for Indian tribes, a resting place and rendezvous point for the early explorers and fur traders, a disembarkation point for immigrants and travellers to Western Canada both on the railway and on water

transport, and a meeting place for the Red and Assiniboine Rivers.

Prior to 1736 the junction was a much sought-after site by the Assiniboine, Western Cree, the Ojibwa and Sioux indians, with no one tribe maintaining possession. Archaeological research has demonstrated that aboriginal occupation of The Forks may have commenced up to 2500 to 3500 years ago.

Between 1736 when Fort Rouge, a small fur-trade post, was constructed by Monsieur de Louvière, until 1885 when the Hudson Bay Company abandoned and demolished their forts, the site was a prominent meeting and business place for fur traders and local settlers.

With the completion of the direct rail service between St. Paul, Minnesota and Winnipeg in 1878, and in 1885 the completion of the Canadian Pacific Railway, Western Canada was opened to large-scale settlement and development. Winnipeg was the logical focus to branch lines feeding the main transcontinental railway, and so was thus the key city in east-west trade. Up to the 1880's, river transportation, arriving and departing from The Forks, was significant. Only after the railway connection was made did the use of the river facility decline.

Between the 1870's and 1910's, the population of Winnipeg increased dramatically due to the arrival of immigrants. Sheds were constructed at The Forks to accommodate this influx, as the majority of immigrants arrived by rail or water transport.

As can be derived from this historical data, The Forks has always been a focus or "meeting place" of the people. It is my intention to develop the site as an urban green space with a similar theme, by providing facilities which will allow or encourage activities to attract visitors both during summer and winter, thereby injecting the life and vitality which the site experienced during the developing days of Winnipeg.

The Forks forms part of the current Canada-Manitoba agreement for Recreation and Conservation on the Red River Corridor (1978). A Master Development Plan (1981) prepared for the Red River Corridor, proposes the construction of a Visitor Interpretation Centre and Riverbank Park at The Forks.

"...The ARC program is intended to re-open the land at The Forks and to make The Forks a gateway to our history and to the scenic and recreational opportunities of the Red River Corridor." ¹

¹ A.R.C. Management Board, Red River Corridor. Master Development Plan (Winnipeg: A.R.C. Management Board, 1981), p.12.

The proposal for this site included in Red River Corridor. Master Development Plan, see figure 2, is an excellent one as it encompasses the general theme of the "meeting place" whilst paying attention to relevant historic detail on the site through archaeological investigation and display. The central location of The Forks is excellent for visitors to this city. The Interpretive Centre would not only serve to inform the visitors of the historical significance of The Forks site, but it would direct them to other areas of interest within the Winnipeg/Manitoba area, for example, Lower Fort Garry, York Factory, Churchill etc. The urban park and river promenade should greatly enhance the area, and also provide the potential for a linking of nearby parks and thus facilitate a river park corridor system.

My proposal for the landscape development of The Forks has a similar basis to the ARC proposal, but carries the theme further through the provision of more activities for public use, and the inclusion of an on-going archaeological investigation program on the site. The park should be open for public use 24 hours per day, thus allowing activities at any time which will attract potential users. The proposed Visitor Reception/Interpretive Centre and archaeological digs would have restricted access.

Prior to the development of this site, it is imperative that a thorough archaeological and historical investigation be initiated so that all sites of potential significance are identified. The Visitor Reception/Interpretive Centre, other associated permanent structures and paths would then be located to avoid these sites. This would enable on-going archaeological investigations to be carried out, both for educational and historical purposes, without disrupting other activities within the park. It would also almost guarantee the safety of these sites from potential decimation due to construction work.

The following structures, features and activities are included in this urban green space proposal:

1. Visitor Reception/Interpretive Centre.

This facility would function as the primary "meeting place" or Information/Interpretive Centre for visitors to and local residents of Winnipeg. As proposed in the ARC project, a major Interpretive Centre at The Forks would serve as the focal point for the entire interpretive system of the ARC project - refer to figure 2. The objective would be...

"...to provide a major interpretive facility to relate to the role of The Forks in the opening of the Canadian West and to orient visitors to the resources and opportunities within the Red River Corridor." ²

² A.R.C. Management Board, Red River Corridor. Master Development Plan (Winnipeg: A.R.C. Management Board, 1981), p.12.

In effect, what is proposed is a facility which will attract people to the site, to obtain a better understanding of The Forks and surrounding areas of interest in Winnipeg and outlying districts, and so according to my interpretation, it will be "meeting place". Included in this component of the site development will be - see figure 4-

- a. an auditorium for audio-visual presentations of the historical "meeting place" activities occurring at the site and other Manitoba locations.
- b. a classroom/laboratory for instruction to students of the history and archaeological investigations being undertaken at The Forks. Simple experiments may be performed on archaeological findings and archaeological techniques could be demonstrated to visitors. This will further reinforce the history and thus the "meeting place" concept for the site.
- c. tourist information should be available for those visitors to the site who want to learn more of the tourist features in the Winnipeg vicinity.
- d. a gallery/historical museum should display items uncovered during archaeological investigations on the site, and other items of historical significance to The Forks. This would be another attraction, and hence, another reason for people to come to the site - the "meeting place" theme would again be translated to the site user.

e. a dining room is necessary where many people are to gather. Also, it serves as an ideal "meeting place" for visitors to the site. The facility could be designed to allow for flexibility in peoples behaviour, yet promote interaction and "meeting"opportunities for the users.

f. washrooms.

These facilities ideally would be located to make optimum use of the rivers and the views they offer. The structures should be designed in a manner sympathetic to the site, without necessarily having any historical reference. The existing CNR roundhouse, located outside the boundary but adjacent to The Forks site, has great potential for conversion to a Reception/Interpretive facility, and so investigations should be carried out to determine the feasibility of its acquisition by Parks Canada. However, for the purposes of this report, this possibility has not been considered.

2. Amphitheatre.

An outdoor theatre for potential summer use by local theatrical, musical and other community groups, would further reinforce the "meeting place" theme for the site. It is proposed that part of the Red River bank be terraced, thus making use of the natural slope. A stage could be located within the Red River or on its bank. User groups and

individuals would have great flexibility in the use of such a facility, and so the potential for it to attract people, and so function as a "meeting place", is great.

3. Bicycle/Pedestrian Path.

It is proposed that a bicycle/pedestrian path be used to physically link the proposed park corridor along the banks of the Red and Assiniboine Rivers. This path would pass through The Forks, and would enable access to downtown Winnipeg from surrounding residential areas. It would lead potential users of the site to the "meeting place".

4. River Wall/Water Edge Stabilization.

Within the boundaries of The Forks, the water edge should be stabilized or protected, with either a timber or rock retaining wall. This would allow more heavy public traffic without increasing the erosion potential of the riverbank, whilst providing possibilities for boat mooring, fishing etc. Boating on the rivers should be encouraged. The Forks is an ideal location for a tourist boat departure point. The development of a Water Taxi service should also be encouraged, and The Forks is an excellent downtown destination or "meeting place". By using the river and its bank as a circulation corridor through The Forks, we would be reinforcing and replicating some of the historical "meeting place" concepts for this site.

5. Archaeological Sites.

It is proposed that the site be grassed and planted, with commemorative plaques located in those places most likely to be the sites of forts, and other historic structures. When financial resources become available, and when knowledge of the site improves, these sites may be excavated. As part of the site interpretation program, a sequence of archaeological digs should be conducted, and be accessible for public observation and education. At the very least, valuable grassed parkland would be provided.

The incorporation of archaeological dig sites and the archaeological interpretive program will promote the "meeting place" theme through the uncovering of the layers of history that exist on the site. As has been discussed, the site's history has been one of a "meeting place" and so the archaeological component of this proposal will reinforce the theme.

6. Other Features.

Parkland and picnic facilities provided on the site will give site users a reason to be there. These facilities will attract users and thus provide a venue for "meeting" or gathering.

Site furniture such as lighting standards, seating units, picnic facilities, signage and litter bins must also be considered during the design phases. It is essential that these details be consistent throughout The Forks, and along the proposed bicycle/pedestrian path, for a sense of unity and continuity. Furthermore, the grouping of such furnishings and activities should encourage the gathering of site users, and therefore reinforce the "meeting place" theme.

During winter, skating should be encouraged on the Red River, conditions permitting.

Carparking must be provided for visitors to The Forks.

Refer to figure 5 - Proposed Design Concept.

AVAILABILITY OF INFORMATION TO PROCEED WITH THE ASSIGNED OPTION.

Although the historic resources available, including archaeological findings and other documentation, are of significance, many aspects of the site's history and development remain unanswered. The most significant compilation of existing information on the site is the report prepared in 1980 by Rodger Guinn for Parks Canada, titled "The Red-Assiniboine Junction, A Land Use and Structural

History, 1770-1980". A broad understanding exists of the activities and most probable types and locations of structures on the site. However, there is a distinct lack of detail, but this may be supplemented through further archaeological and historical investigation.

The archaeological investigations carried out by Parks Canada during 1984 have yielded much new material. However, further investigations are necessary to expand upon our current understanding of this historic site, especially in the context of a "meeting place". The exact locations of sites of potential archaeological value must be determined to mitigate the potential of disturbance to them during the construction of the park and facilities. These can only be determined following more extensive historical and preliminary archaeological investigations. Once again, these investigations would be of value in understanding further the "meeting place" activities which have occurred at the site.

Very little documentation is available concerning early plant species on the site. An inventory of existing vegetation should be carried out immediately, in conjunction with historical research into the vegetation types and patterns at The Forks.

Acquisition of land to create the river park corridor system is necessary before the proposed scheme may be implemented. Ideally, it should be possible for the bicycle/pedestrian path to link these green spaces without encountering major traffic hazards. In conjunction with this, conversion of the existing CN railway bridge into a bicycle/pedestrian bridge is essential to link the north and south sides of the junction. Of course, this component of the proposal requires close liaison and co-operation with the City of Winnipeg, the Canadian National Railway and the ARC Management Board. Their attitudes to the proposals must be ascertained before developing the concept any further.

Although activities which utilize the river during summer and winter have been proposed, investigations must be carried out to determine if the river is capable of accommodating those activities. For example, are the ice conditions on the Red or the Assiniboine Rivers suitable for ice skating during winter? Is the river safe for boating?

Geotechnical information concerning the condition of the river bank must be determined before implementation of the river bank retaining wall proposal.

POTENTIAL FOR PROTECTING HISTORIC RESOURCES AND/OR
INTERPRETING THE HISTORIC PAST TO VISITORS.

Recognition of the archaeological significance of the site, and the implementation of an on-going archaeological investigation program, are important to protecting the historic resources and in interpreting the historic past to the visitor.

The approach of using archaeological excavation as part of the site interpretation program is essentially a dynamic one as the archaeologists will be continually unearthing new material for display and interpretation. The problems associated with this approach are that the open pits must be protected from floods and rains, and they must be offered some form of security protection. In addition, the interpretation program would have to be periodically updated, but this can only create the opportunity for repeat visitation.

Assuming that further research can shed more light upon the locations of sites of archaeological significance, then the careful placement of new structures and pavements on the site will enable access to and interpretation of those sites in the future.

The education of the public to the work of the archaeologist, through the presentation and promotion of their work, is considered an important way in which the historic past of The Forks may be interpreted to visitors.

By encouraging the use of this site in the 1980's as a "meeting place" we are recognizing and, in a subtle manner, interpreting the historic past to visitors. The "meeting place" concept of the past use of The Forks is strong and would be reinforced should this proposed option be implemented.

The historic past, both of The Forks and for Winnipeg and surrounding areas, can be interpreted to visitors within the Reception/Interpretive Centre. Audio-visual presentations, lectures, classroom/laboratory sessions, static displays and art displays within the gallery, would be available for the public to enjoy and participate in. Furthermore, one of the functions of this facility is that of an Information Centre to direct visitors to nearby sites if significance.

Apart from the exposed archaeological diggings and known locations of structures on The Forks site, both of which may be interpreted by the use of plaques at those locations, and the interpretation media within the

Reception/Interpretive Centre, it is proposed that the historical significance of The Forks not be recognized. Plant types and formations would not be interpreted on site, but could be referred to inside the Interpretive Centre.

ATTRACTION POTENTIAL OF THE SITE.

The location of The Forks in the heart of the City of Winnipeg creates an excellent opportunity for the development of an open-space park in downtown Winnipeg. For visitors to the Winnipeg area, it is ideally situated for a facility which can function as a "meeting place" and information centre from which the scenic, historic and recreational opportunities of Winnipeg and environs can be explained. The development of a linear riverbank park which is easily accessible from the office and factory areas in the downtown core area would be a tremendous asset to the City of Winnipeg.

"...Approximately 27,000 people live and work within a one mile radius of The Forks, and 19,000 within a fifteen minute walk of the proposed park development...Using the river as a circulation system, by encouraging the development of an urban Boat Bus or water taxi system and the development of bicycle trails along the waters edge, will open up, the scenic beauty of the riverscape to move people and further enhance the attractiveness of the downtown urban environment."

3

³ A.R.C. Management Board, Red River Corridor. Master Development Plan (Winnipeg: A.R.C. Management Board, 1981), p.8.

The educational aspects of this proposed development, the Interpretive Centre and the on-going archaeological digs, would attract and interest not only students, but visitors of all ages. The classroom presentations, archaeology testing laboratory, audio-visual presentations and on-site inspections of the archaeological digs, would be of benefit to all who visit the site to obtain an understanding of the layering of history of The Forks. In addition, visitors would learn more of the functions and techniques of the archaeologist. This would contribute to the visitors understanding of the on-going essence of change in the history of this site.

The proposed development is a multi-functional and multi-seasonal facility. In broad terms there would be visitor information services, historical interpretive materials, passive and active recreation opportunities, summer and winter activities, and day and night use. In effect, there is great potential to attract people of all ages, interests and backgrounds to the "meeting place" of The Forks at all times of the year.

NATURE OF RESOURCES REQUIRED TO IMPLEMENT AND TO MAINTAIN
ONCE IMPLEMENTATION WORK HAS BEEN CARRIED OUT.

The services of the following professional disciplines will be required during the design and implementation phases of this project:

- * Landscape Architects
- * Historians
- * Archaeologists
- * Architects
- * Engineers
- * Interpretors

In addition to Parks Canada, the following bodies should be consulted and encouraged to contribute to The Forks project:

- * ARC Management Board
- * City of Winnipeg
- * Canadian National Railway
- * Winnipeg Core Area Initiative Commission

As previously discussed, the input of historians and archaeologists is imperative at this early stage in the design process. Without further knowledge of the history of the site, and the exact locations of significant elements

within the site, there exists the potential of irreversible damage to these elements during the implementation of the design proposal.

Security requirements for the site would be limited to the on-going archaeological dig sites and to the Reception/Interpretive Centre. All other areas would be accessible to the public.

Interpretive staff would be required to conduct visits to the dig sites, and also to supervise activities within the Reception/Interpretive Centre. In addition, staff would be necessary to operate the Reception/Information component of the facility, along with the dining and service accommodations.

With the exception of the archaeological sites which would demand a high level of maintenance, the maintenance requirements for The Forks would be similar to most metropolitan parks. The materials used and detailing methods implemented could be selected to minimize on-going maintenance requirements. This proposal does not require restoration or integration of historical elements within the design, and so current day techniques would be utilized.

RECOMMENDATIONS AS TO THE FEASIBILITY AND DESIRABILITY OF THE ASSIGNED OPTION.

A major determinant in the feasibility of this project is cost. There is a great deal of construction work involved in the proposal, and hence Capital funding is required. Although no costing exercise has been undertaken, the Capital costs for construction and the Operating costs for operations and maintenance, must be met by Parks Canada with the potential assistance of a number of other organizations previously mentioned. The only opportunity for revenue within this scheme is from the dining facilities. Hence, the financing arrangements for this project would be a major consideration in determining the projects feasibility.

Although the provision of a classroom/laboratory for the demonstration of archaeological testing procedures etc. is desirable, it may not be feasible due to cost. Also, Parks Canada currently has access to at least two other such facilities in Winnipeg, and so the construction of a third may be difficult to justify.

A report on the existing situation and potential tourism opportunities for Winnipeg has been completed for Destination Manitoba by the IBI Group. On the basis of their preliminary assessment, the Consultants suggested that four

attractions be carried forward for more detailed concept development and assessment. Two of these attractions -

- a. multi-use river front attractions at The Forks
- b. historical rail and paddlewheel steamer along the Red River between downtown Winnipeg and Lower Fort Garry,

- have direct relationships to The Forks. Obviously the Consultants consider this site as highly desirable for tourism to the Winnipeg area. Further information regarding their study should be obtained to assess the feasibility of the integration of the proposed Forks landscape concept with the objectives of the study.

The "meeting place" concept for the landscape development of The Forks recognizes the lack of accessibility of the riverbank to the public and attempts to maximize the potential of a currently under-utilized resource...

"...While a substantial amount of riverbank land in the City of Winnipeg is now in public ownership, opportunities to walk, ski or cycle along the riverbank are restricted by the discontinuous and under-developed nature of much of the public land. Boat access is also severely limited..."⁴

⁴ A.R.C. Management Board, Red River Corridor, Master Development Plan (Winnipeg: A.R.C. Management Board, 1981), p.8.

The proposed project is definitely feasible and I consider it necessary to upgrade one of the most prominent and historically significant sites in Winnipeg and thus save it from total self-destruction. The concensus and co-operation of all previously listed interested parties is paramount to the successful implementation of the "meeting place" proposal.

As a visitor to Winnipeg, I can see that a facility, such as that proposed, would be patronized very well at all times of the year. The information facility would be invaluable to a tourist, and especially so if it is located at a site of historical significance. The provision of a central agency to synthesize and interpret the sites of historical importance in the Winnipeg area is definitely needed.

Finally, I consider that The Forks development would be a welcome extension of public facilities for a developing city.

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APPENDIX.

Figure 1 - Existing Site Location Plan.

Figure 2 - Red River Corridor. Master Development Plan.

Figure 3 - "Meeting Place" Design Concept Components.

Figure 4 - Visitor Reception/Interpretive Centre Components.

Figure 5 - Proposed Design Concept.

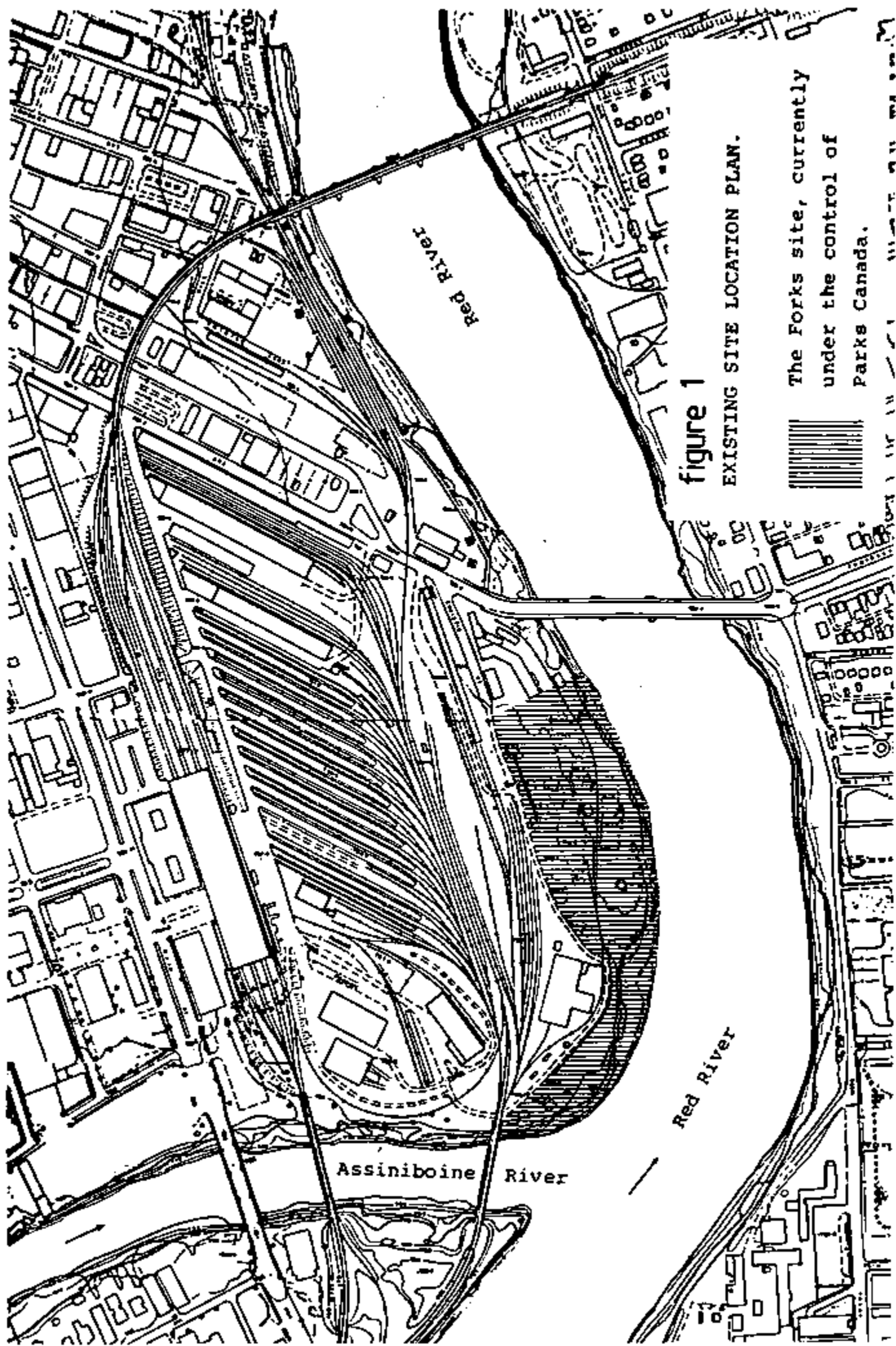


figure 1

EXISTING SITE LOCATION PLAN.



The Forks site, currently under the control of Parks Canada.

MASTER DEVELOPMENT PLAN

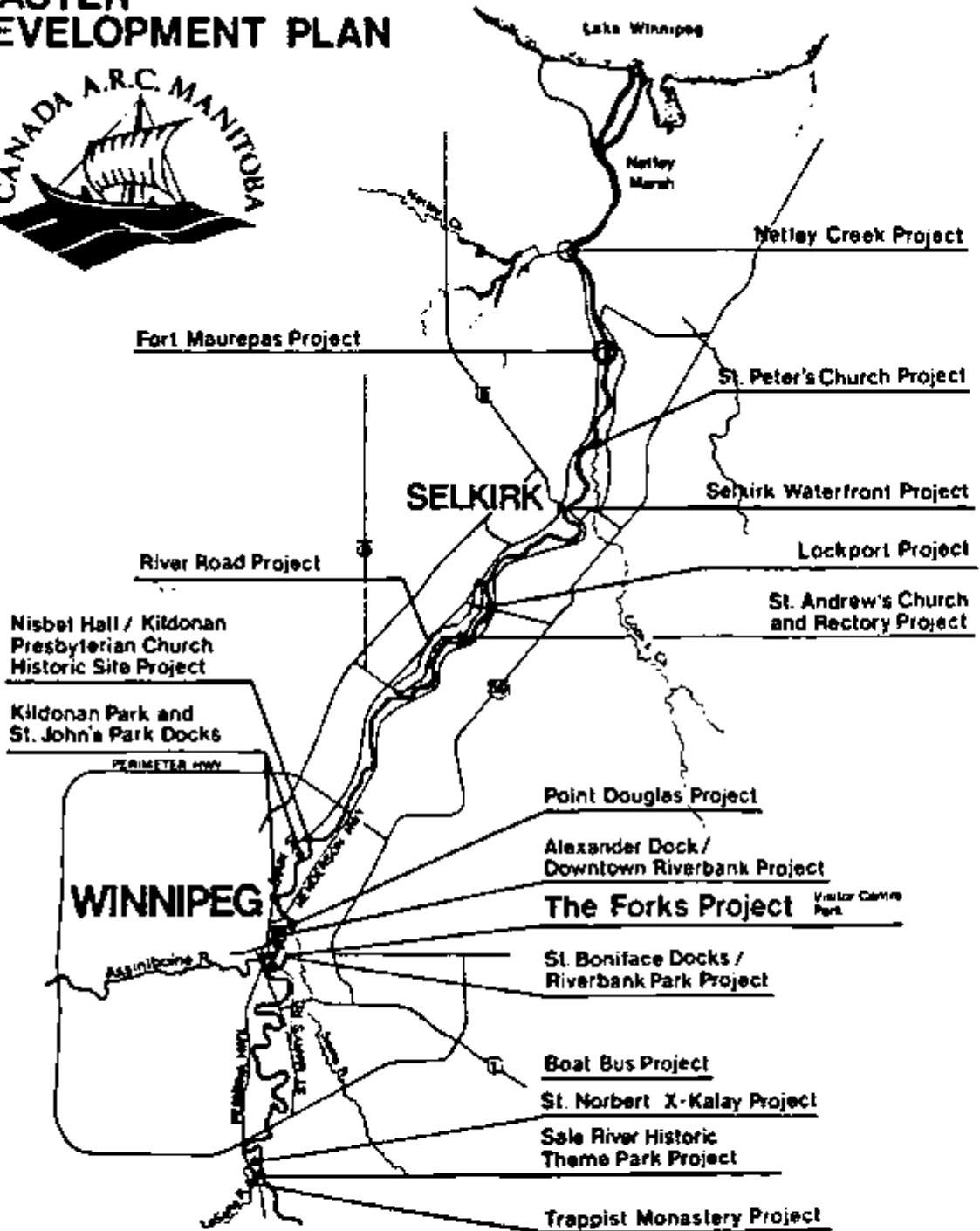


figure 2

RED RIVER CORRIDOR. MASTER DEVELOPMENT PLAN.

Reference: A.R.C. Management Board, Red Red River Corridor. Master Development Plan. (Winnipeg. A.R.C. Management Board, 1981).

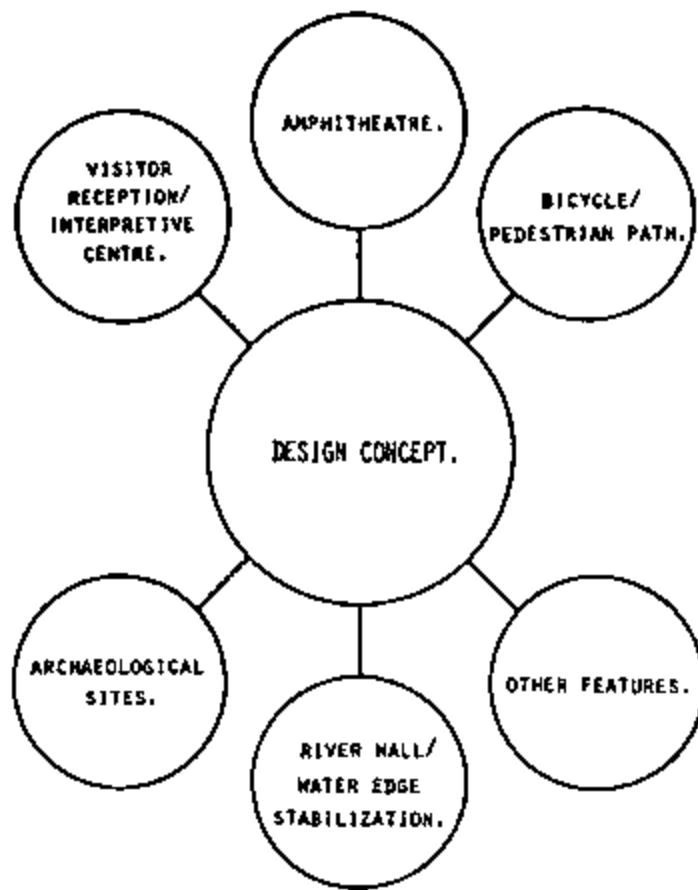


figure 3
 "MEETING PLACE"
 DESIGN CONCEPT
 COMPONENTS.

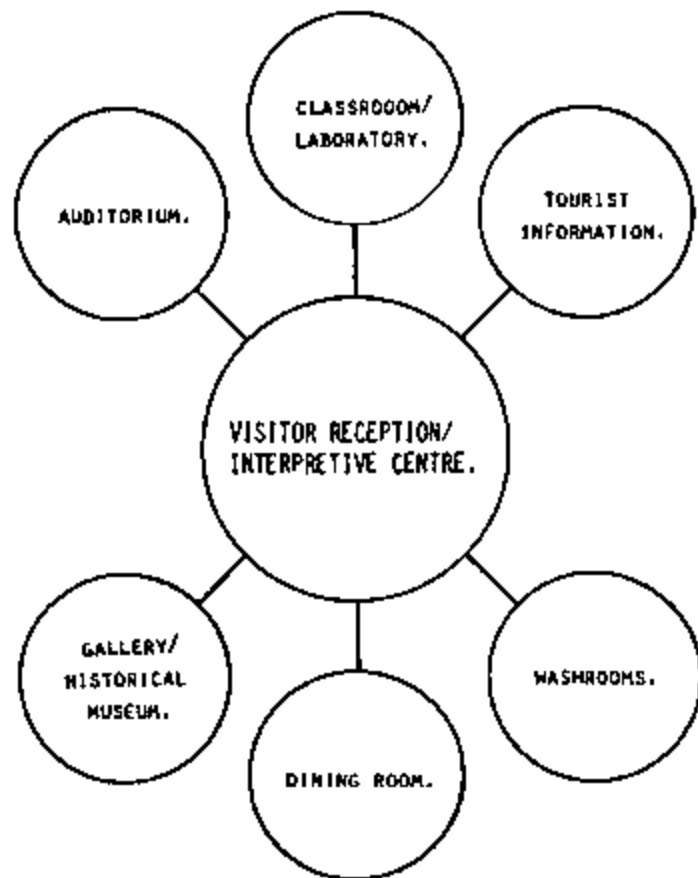


figure 4
 VISITOR RECEPTION/
 INTERPRETIVE CENTRE
 COMPONENTS.

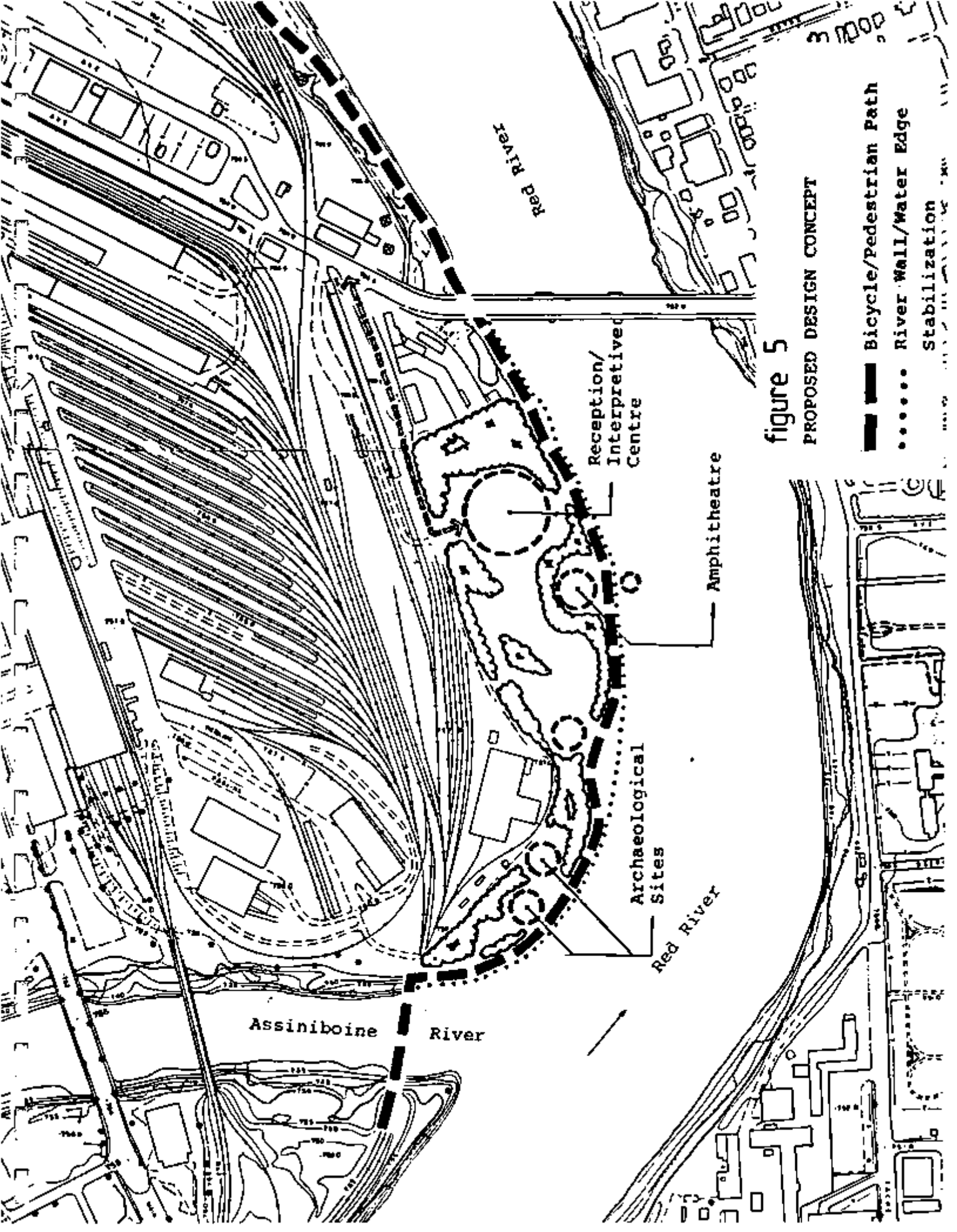


figure 5

PROPOSED DESIGN CONCEPT

- Bicycle/Pedestrian Path
- River Wall/Water Edge Stabilization

Reception/
Interpretive
Centre

Amphitheatre

Archaeological
Sites

Red River

Assiniboine River

Red River

URBAN GREEN SPACE:

RIVERFRONT PARKS WITH HISTORICAL ELEMENTS

DONE IN PARTIAL FULFILLMENT FOR

LANDSCAPE MODELS 31.709

HISTORIC LANDSCAPE PRESERVATION

PRESENTED TO: Susan ~~Bugey~~ BUGEY

PRESENTED BY: Heather Anderson

April, 1985

Landscape models, 31.709. an advanced history seminar course, has over a two term period explored concepts and practices relevant to historical park planning. As a practical assignment six class members explored various potential historical park development for the junction of the Red and Assiniboine Rivers in Winnipeg, known as The Forks. Referring to Rodger Quinn's document "The Red - Assiniboine Junction, A Land Use and Structural History 1770-1980", each class member gained a general knowledge of the forks historical past. A greater depth of research followed after each member chose one specific time period to research further.

Accumulating the groups research information, six development options were suggested to be explored during the second term of work. One of the six options involves exploring the potential development of the forks as an "Urban Green Space", a river front park connecting into Bonneycastle park south and downtown river front park north. Historic elements were to be considered as a part of the park development.

From the various approaches to historical park planning, reconstitution, reconstruction, restoration and conservation have been eliminated. The lack of existing historic base of significant landscape features and/or historical data serves the four above options unsuitable for future park development. Hence, park development will proceed through preservation and/or rehabilitation.

Approaching the forks future site development within the context of an urban open space development, while at the same time expressing historical elements through preservation and/or rehabilitation presents specific cultural, economic,

land use and historical importance questions. Decisions about each of the four areas must be made before specific park development can begin. The development options outlined in the remainder of this paper, rests on one set of decisions made about the following questions.

- Cultural:** Will one specific culture take precedence in historical interpretation?
- OR Will there be a cross-section of cultural experience built into park interpretation?
- Economic** Will the park be built, maintained, and managed on government funds?
- OR Will the park aim towards self-sufficiency through private business and economic income generated through park use?
- Land Use** Will the ensuing park development encourage an active rejuvenation of the historic liveliness the site has known involving, business, people, transportation etc.?
- OR Will the natural evolution of the park site be continued? Can it be left in a state of peaceful rest as a quiet scenic spot within the urban core?
- Historic Elements** Will there be further archeological investigation to uncover information about historical essence of the site?
- OR Will future park development begin immediately, using the existing information uncovered about historical elements?

One solution explored in this paper rests on a set of decisions made from these questions. However, before outlining the development decisions made it should be outlined that a more extensive discussion about Parks Canada objectives in light of economic decisions may alter any decision made about the future park development. Presently, objectives stated in the Canada A.R.C. Manitoba, Red River Corridor Master Revelopment Plan²¹ "The development of The Forks Riverbank Park Project is intended to create a scenic recreational area that will complement the Visitor Interpretive Center, provide access to the corridor and create the City's urban edge onto the River."

The major park development will be funded by ARC monies as a decision of Federal-Provincial-Municipal employees representing a voice for the desires of Winnipeg residents at large. It should be considered and encouraged that any future park development for the forks be set in place with support, encouragement and feedback from the people who will be using the site. One of the objectives in developing the Forks is to reverse the negative impressions presently felt about the site. This should be encouraged through greater public awareness, participation and certainly enthusiasm of Winnipeg residents throughout development. Designing a wonderful park, hidden along the urban fringe of Winnipeg's core has tremendous potential for the city as a whole. But creating a "White Elephant" costing the taxpayers money to support is the mistake which must be avoided. Successful development and

future survival of any development at the Forks site will depend on the people who do or don't use it. On the subject of Historical Preservation Finch states "Today modern technology has greatly extended our capacity to rescue old artifacts. But how much money, how much expertise, are to be expended...will depend upon the artistic or cultural value assigned to it by society."

Hence this development proposal will look at not only A.R.C. objectives of the site, but also what is a pretentious assumption about society, particularly Winnipeg Manitoban residents as a whole. (Use an economical, pragmatic view of park development.)

Recreationally, The Forks site offers specific park qualities which are highly desirable to Winnipeg residents. Economically, to function as a viable park site there must be a source of economic resource complementing park development. Culturally, there is a significant past which provides the basic for Winnipeg's heritage. Idealistically to span the years of historical cultural importance would serve best ^{to} ~~information~~ and interest ~~to~~ all park users.

Hence as one development proposal for the historical park planning of the Forks site, it will be assumed that:

Culturally, we will try to present a cross section of various practices and peoples, associated with the historic past.
Economically, we will try to structure self-sufficiency, generating potential income source to maintain the park.
Land Use will be directed towards rejuvenation of the vibrant liveliness, heavy use, and progressive development encouraging

people use.

Historic Elements will be expressed as present knowledge and information stands.

It must at this point be reiterated that each of these decisions have been made from a pragmatic, economic point of view. From here we will see what effect such decisions could have on historical park development.

DESCRIPTION OF DEVELOPMENT OPTION

Over the past 150 years the Forks has risen to glory and fallen into decline from aboriginal occupation up to the advent of the rail in 1875, the junction has been important due to it's location in a water transport system. The extensive historical past outlined by Rodger Quinn's report outlines the expanse of specific site uses such as experimental farming, trade posts, immigrant sheds etc the list goes on. The one use which transposes the cultures and decades revolves around the water, specifically its use for transportation.

The historical essence of the forks as a water transportation center has the potential for re-development in a recreational motif. As a very broad concept, developing (rather redeveloping) the Forks to physically support the use of a full range of service/recreational crafts which had at one time accessed the site, developing a prairie boat museum¹¹ displaying and using the historic watercraft ~~the transportation route~~ become important for.

Melding the broader concept of a boat museum into the general objectives of A.R.C. and the assumed concerns of taxpaying residents, a proposal for future site development should include these objectives:

1. There is a unique, vibrant experience developed for park users.
2. The park development responds to the needs of urban core offering a relaxing, open green space available for recreational use of various natures.
3. The park is self-sufficient and economically viable to operate.
4. The essence of the historical past is captured within the modern park development.
5. The Forks park site links into adjacent parks: Bonneycastle Park, Downtown Riverbank park, The South Point, and St boniface River Bank Development.
6. The development co-ordinates ^{with} ~~the~~ developments along the Red River Corridor system.

Suggested specific developments which would fulfil the stated objectives are as follows:

1. Development ^{of} major docking facilities to access water craft such as barges, paddle boats, cruise ships, sailing craft, canoes, etc.
2. Developing a dry dock display of historic crafts.
3. Offering a meeting place with food, drink and interpretive information including model displays, graphic displays and other relevant messaging to express the past heritage of the site.
4. Open green space developments for park users.
5. Bank redevelopment to a two level bank at the water's edge. Bank stabilization along the water's edge.
6. A water feature to enhance the site development, attract people to the area and alleviate hot summer conditions.

7. A site parking facility (to be hidden from view).
8. Vista developments to enhance views of historical elements i.e. St Boniface Basillica, the ^{C.N.} station.
9. Bicycle and foot paths linking the Forks site to adjacent parks.
10. Signage along Main Street to indicate park activities.
11. Future access developed thru the CN station, allowing Broadway to extend across the east yards down to the waters edge.

The remaining body of this paper will examine various implications involved in developing the described urban Waterfront Park at the historical Forks site. The following questions will be addressed:

1. Identification of the types of information available to proceed with development and ~~wether~~ ^{whether} this information is or could be made available.
2. Assessment of the potential for protecting historic resources and/or interpreting the historic past to visitors.
3. Examination of the potential to attract people to the area.
4. Assessment of the nature of resources required to implement and maintain the park development.
5. Recommendations as to wether the assigned option is feasible and desirable within the above criteria.

Specific information will be required to pursue the development proposal outlined. Specific development statements for various aspects of the proposed park will serve to establish exactly what information will be required.

First, a breakdown of the land developments proposed. Then a general list of information required to fulfil the plan.

A.1. CORRIDOR DESCRIPTION

The Red River Parkway System stretching from the Netley Creek in the North to the Salle River South of Winnipeg, will be developed in 17 locations of historical, recreational and cultural significance. The Forks site located at the junction of the Red and Assiniboine Rivers, approximately one quarter of the distance of the corridor from the south, will be developed as the focal point tying the historical importance of the corridor together.

Recreational travel including boating, cycling, walking, and cross-country skiing, will be developed through|on the Forks site in keeping with the essence of the ARC recreational objectives.

Scenic resources through development of vistas along the length of the corridor, will be continued through the Forks site to improve the visual quality of the urban river bank. Corridor continuity will be enhanced through consistent but unique riverbank enhancements.

The Forks will be developed as the "hub" or Key element for the corridor interpretation. Central interpretive feature will be designed into the plan to accommodate this objective. Site landscape developments will express the multifaceted historical use of the site.

A.2. LOCATION WITHIN WINNIPEG

At the Confluence of the Red and Assiniboine Rivers, within the heart of downtown Winnipeg the historical Forks site sits as the industrial backlands of the CN station. On the north-west bank of the river junction, this park site is isolated from the urban core by the present ^{0.1 m} above grade.

Downtown riverbank park north of the Alexander Bridge will be linked into the system. This will be reinforced as the Banatyne Park and the Old Market Square district connection, it will serve as an important access into the Forks Site.

On the south, following the riverbank Bonneycastle Park, will be linked into the riverbank system. Linkage to this present park area is clearly desirable to increase park use on both sites.

On the east, the Assiniboine River separates the Forks from St Boniface and the historically important St. Boniface Basilica. Visual connection to the site is important and will be enhanced thru the development of a vista on the Forks riverbank.

BRIDGES IN
SOUTH

The CNR bridge will be pedestrianized to link the Forks with "Southpoint". From the Provencher Bridge vehicular access shall be accommodated thru the development of a vehicular turning approach and the eventually removal of large bridge structures obstructing the view as one approaches the Forks site from over the bridge.

ROAD
CONNECTION

Direct downtown connection through a formal future access, through the union station, has potential for development pending the relocation of the CN East Yards and rail lines.

-- ENTRY NOTICE

-- CIRCULATION

-- VISTA DEVELOPMENT

ENTRY

1. From downtown Winnipeg, at water and Main Street as well as Assiniboine and Main Street, there will be Park signage and/or indicators allowing recognition of streets which access public into the historical Forks Park Site. This messaging should not be inconsistent with that proposed at Bannatyne and Main leading people towards downtown riverbank park. Future development would encourage the use of the CN Station as a formal entrance into the park.

2. A higher level of welcome or formal entry will welcome visitors as they enter the actual park site ground.

Transition from downtown core to natural riverbank park land is crucial to developing a positive attitude. Entry right up to parkland must be well groomed, tidy and very structured to reverse the present image of the area being the industrial

backlands of the Union Station.

CIRCULATION

Three specific "Welcome Mats" should be incorporated in the Forks site plan.

- One will accent pedestrian travel, found at the end of the proposed Food Bridge.
- One will accent nautical travel, found at River Bank Edge in the form of a major dock facility.
- One will accent automobile travel, found at the end of Christie Road.
- Future formal entry thru the CN station will be developed as a major focal drawing in the form of a water feature. Approach from the Provencher Bridge will also focus on this feature.

Circulation

- Two major Car Park lots should be developed on the site, one at Cristie Road and one off Assiniboine East before the Foot Bridge.

Circulation thru the site should be two way, continuous to allow a loop to be formed thru the site. Cars should be kept at a minimum, close to the CN tracks, the urban edge of the park.)

Pedestrian circulation should allow access to all site features, but not damage historical artifacts. Walkways should be developed around found artifacts and what archeologists believe may be artifacts. Walkways should not be paved to reduce potential of irreversible below ground damage. Pedestrians will be encouraged to walk along boardwalk and

docks at the River's edge.

VISTA SIGHTLINES

Vistas to historically significant areas will include:

- The Rail Yards.
- Union Station.
- St. Boniface Basilica.
- The River and Docks.
- The two level bank.
- Historical Building Locations.
- Upper Fort Garry Gate.

Vistas development should allow historical elements to be viewed at specific points but not from all areas of the site. This will allow an interpretation of singular elements rather than conjuncture of many elements.

-- DOCKS

-- CLUBHOUSE

Docking service for a variety of craft should be developed on site in one or two locations.

Smaller one man craft such as canoe, windsurfer, kayaks at one site along the Assiniboine, and larger power operation vessels such as power boats and cruise boats at a second location along the Red River. Sailing vessels docking along Boardwalk for greater viewing opportunity from the park back drop.

Winter storage, gas service, boat launching, and other adjunct operations should be evaluated for economic suitability after initial dock operations have stabilized.

Guided tours or instruction may be integrated as an economic benefit and ^{mode} of historical interpretation.

CLUB HOUSE

Clubhouse should be developed as a self-sufficient operation offering modern attractions of restaurant, lounge, bar, dance floor, hotel rooms, pool (optional), interpretative display.

Decor should integrate historical past into atmosphere thru views, interpretative display room, ^{and} wall displays.

VEGETATION

Approaches for vehicles should be developed with formal, urban, ordered vegetation plans. Upon entry into the Park vegetation patterns will "loosen up" to take on natural growth and succession patterns.

Buffer vegetation will conceal CN East yard tracks from the park development as well as other "Off site", unsightly landforms and developments.

(Buffer car lots also.)

Vegetation will be removed from Riverbank where:

- Pedestrian paths will be developed.
- The second level bank will be re-established.
- Where docking facilities will be developed.
- Where vista to St. boniface will be enhanced.

General ground cover will not be imported grasses, but at minimum native grasses and ground cover which has been established to grow on natural river bank terrain. Preferably maintenance free. Definitely not manicured.

Vegetation similar to Downtown River Bank Park and Bonneycastle Park will enhance the continuity and linkage of the Riverbank Corridor system.

LINKAGE - -

IDENTIFICATION OF INFORMATION

INFORMATION REQUIRED	SOURCE
Land Ownership of - South Point - Land under Bridges - Food Bridge to South Point	- CN Railway and City of Wpg - City of Winnipeg - CN Railway
Ability to attain permission for development or purchase land not owned by Parks Canada or gain access thru it.	- Technical Steering Committee Co. for the Forks involving CN, City of Wpg, and Urban Affairs.
Possibility of Developing Bicycle and Walking Trails beneath bridges - Safety - Clearance - Noise.	- Ian Dickson of Manitoba A.R.C.
Type of Path system used in adjacent parks - path development.	- Lombard North Group and Site Visits.

INFORMATION REQUIREDSOURCE

Future estimations for re-
building Provencher Bridge.

- City of Winnipeg
Environmental Planning
Chuck Brook.

How to make construction
recommendations for future
construction.

- City Council

ENTRANCE

Symbol and Signage Restrictions
or requirements for Main street
at Water and Assiniboine.

- Environmental Planning
CNR Properties

Ability of CN Station to traffic
site visitors.

- CNR

Cooperation of CN to allow usage
of CN Station for future entrance.

- CNR

Signage used or proposed along
Bannatyne to attract people to
downtown Riverbank Park.

- Ken Kelly
Historic Projects Coordinator
- Design Control by law for
City of Wpg. Warehouse
District.

CIRCULATION

Expected visitor capacity to
scale parking lots.

- Parks Canada Planning Study

Location of Known artifacts

- Peter Preiss, Parks Canada

Location and suspected
location.

INFORMATION REQUIRED	SOURCE
Ability to secure Boardwalk along the Riverbank.	- Engineering
Requirements for Boat Launch Facility.	
Lighting appropriate for various circulation modes.	- Health & Safety Requirements, Provincial and Municipal
Material found on foot paths in downtown Riverbank Park and Bonnycastle Park.	- Site Visits
<u>VISTA DEVELOPMENT</u>	
Where are the best site lines to reveal historical elements	- Site Visits Study of Map Location Air Photo Study
- St. Boniface Basillica	
- Union Station	
- CN Rail Yards	
- Upper Fort Garry Gate	
- The second level Bank.	
- Boat Docks.	
Appropriate Interpretation of historical elements.	- ARC Authorities - Review methods used along the corridor.
DYK <u>BGC DEVELOPMENT</u>	
Physical requirements for docking various crafts.	- Water Services Board Provincial Gov't of Man.
Cruise Ship	
Power Boat	
Canoe	727-1917

INFORMATION REQUIRED	SOURCE
Dingy	- Manitoba Water Commission
Windsurfers	945-4482
	- Public Works Canada Marine
	949-3142
	- Inland Waters
	Water Resource Branch
	949-5000
Safety Requirements for Docking Facilities.	- Small Craft Safety Red Cross Society - Allan Shaw
	Water Resource Division
	- Gov't of Canada
	Boat Safety - 949-6315
Projected dock usage in numbers of crafts expected.	- Parks Canada Planning Study
Ability to enhance or interest Riverboat cruise vessels to dock, and/or use facilities.	- River Rouge - SS. Selkirk - Paddle Wheel Queen - Keenora 'Management
Service facilities associated with dock development i.e. washrooms, gas.	
Permit for inland dock development	

INFORMATION REQUIRED	SOURCE
<u>CLUBHOUSE</u>	
Projected number of users per day.	- Parks Canada Planning Study
Adjunct/Internal uses	- Architectural Consultation
Washrooms	
Lobby	
Bar/Lounge	
Restaurant	
Fine Dining	
Hotel	
Balcony	
Development of interior decor to express forks site heritage. Must know design of building required display space.	- Architect proposal consultation with Graphic Artist and Interior Designer.
Stress load which bank can withstand to hold structure.	- Soil Engineer.
Ensure there are no underground artifacts destroyed.	- Peter Priess, Parks Canada
Appropriate location for siting structure i.e. view, winds, access.	- Site Visit.
<u>TOPOGRAPHY</u>	
Elevation alternations due to railway fill and cement Co. fill.	- Parks Canada Archeological Digs - NPR Special Collection #81 1889 - HBCA Charles Bridges to William Armit 1888

INFORMATION REQUIREDSOURCE

Existing Elevations.
 Problems for circulation
 Advantages for view.
 Flood Plain level.

- Manitoba Free Press 1889.
- City of Winnipeg -
Topological Survey
- Site visit.
- Wpg. Interim Flood Risk
Plan #M-10

Profile of Historic two
 level bank.

- George McPhillips Plan of
Wpg. 1881

Possibility of Removing fill
 to establish a two level
 bank.

- Greg McCollough
Fresh Water Institute
949-5203

Bank Erosion Problems

- Greg McCollough
Fresh Water Institute
949-5203

Methods of Bank
 stabilization.

- US Core of Engineers
Beach Erosion Board
Waves, Beaches and Shoreline
Protection Manual

VEGETATION

Soil Type

- Manitoba Soil Survey 1984
Soil Engineers

Present Vegetation

- Wpg Forestry Inventory
- Wpg Air Photo Collection

Past Vegetation Importance

- Birds Eye View 1884, 1880
- Manitoba Free Press 1872
- Hinds Topo Map 1858
- Historical Atlas of Man. 1836
- Arrowsmiths Map 1816

INFORMATION REQUIRED	SOURCE
Natural vegetation typical to similar riverbank conditions.	<ul style="list-style-type: none"> - Miles MacDonnells Diary 1870/71 - Jennifer Shay, Dept of botany, U of M - Robert Graham's Thesis, U of M 1984
Wind Direction	- Site Visit
Zones to Buffer.	- Site Visit, Review Master Plan
Site lines to Open.	- Site Visit, Review Master Plan

Assessing the potential for protecting historic resources and/or interpreting the historic past to Visitas.

Landscape development must be sensitive to the historical artifacts which have been uncovered through archeological investigation. Specifically, all circulation paths should work around these sites, not directly over. Before future park development commences test archeological digs should be undertaken where new buildings will be located. Building of roads, docks and buildings must be sensitively sited to ensure heavy use areas do not coincide with known underground artifacts. These artifacts underground will be stored in preservation until new archeological techniques, and/or economic funding makes it feasible to continue research.

Expressing the found historic resources without exposing them to the elements of air and wind, can be done in a symbolic manor. Berming can trace out sites of historic buildings or land sites. New buildings can be erected in place of historical ones, not in replication of them but in abstract representation

that there once was a specific historic building on the same site. All buildings and berms would be valuable as historical landmark indicators. To make them economically feasible such developments should be built into functional use required for park use. i.e. the buildings may perform functional use of offering restaurant and related facilities.

OR

Berming may be built to enhance seating or specific views to lookout points.

The major historic interpretation would be developed through displays in the boat or dock museum. The specific cultural heritage: ~~it will display~~ should serve as a medium for all of the cultural groups involved with the Forks historic past. Specific historic interpretation programs would be designed to accompany such a development.

POTENTIAL TO ATTRACT PEOPLE

The general landscape concept presented offers potential elements of unique attraction to park users.

- A large, scenic green space within the core downtown Winnipeg. A riverview quality supporting natural vegetation allowing the water element to enhance the park.
- A new view of downtown Winnipeg, providing new interpretations in a sheltered, noise free, (from traffic) atmosphere.
- Major boat docking, clubhouse and associated facilities. A unique water element where boating can be observed from both the outdoor park back drop or inside the relaxing clubhouse atmosphere.

- A major public dock development within the Wpg core allowing winter storage, refuelling etc. (Not before publicly available within the city core.,
- Scenic boardwalk conditions within the pedestrian path linking Bonnycastle Park and Downtown Riverbank Park with the Forks site.
- Winter and summer recreational facilities operated and/or organized from administrative offices within the clubhouse.
- Attraction of Riverboat docking, providing a city central port for entering and leaving tour boats.
- Free inner city parking for park users.
- A display of cultural past through the boat museum and associated displays.

8504 85 870 880 890 900 910 920

Various resources are required to implement the landscape concept presented. These range as follows:

- | | |
|----------------------------|--------------------------------------------------------------------|
| 1. Engineers | - Bank Stability - Soil Engineer. |
| 2. Architect | - Clubhouse Design. |
| 3. Landscape Architect | - Site Analysis, Master Plan, Vegetation Plan, Topography Changes. |
| 4. Graphic Artist | - |
| 5. Interior Designer | - Historical Interpretation |
| 6. Interpretive Consultant | - |
| 7. Construction Crews | - Construction of Site Developments. |

- | | | | |
|-----|---------------------------|---|------------------------------------------------|
| 8. | Feasability Analyst | - | Economic Viability |
| 9. | Planner | - | Development within city context. |
| 10. | Marketing Analyst | - | Projected use. |
| 11. | Transportation consultant | - | Integration into infrastructure. |
| 12. | Hydrological Consultant | - | Bank Stability, Dock Development. |
| 13. | Soils Analyst | - | Site Conditions. |
| 14. | Private Business Leases | - | Restaurant & Boat Rentals & Guides. |
| 15. | Water Safety Consultant | - | Regulations for Design capacity. |
| 16. | Archeologists | - | Pre building Dig under proposed building site. |

+ = 1st CONTACTS

O = 2nd STAGE CONTACTS

= 3rd STAGE CONTACTS

Once implementation work has been carried out various resources are required to maintain the landscape development.

On a daily basis:

1. Park security (day & night).
2. Park maintenance i.e. garbage pick-up
cleaning.
3. Park guides for crafts, and craft rentals attendant.
4. Boat Launch operation.

On a yearly basis:

1. Dock repair.
2. Dock removal/winter storage.
3. Signage repair.
4. Lighting standard repair.
5. Vegetation pruning/winterizing.
6. Bank restabilization and repair.

Evaluating the feasibility and desirability of this option as a historical park of national significance.

ADVANTAGES

The park provides a relaxing green space along riverfront property open to all public use. There is a new view of the downtown area, seclusion from noise of wind and perhaps the most exciting of all a new harbourfront alive with excitement of life of recreational water travel.

The historical essence of the Firks - a center for water transport is continued through the modern dock development prepared to handle a variety of craft. The continual theme has been important for over 4000 years.

Historical resources intended to be used include:

1. Saint Boniface Basilica
2. A Two Level Bank.
3. Docking Facilities.
4. CN Station and East Yards.

Current technology for park planning, development and construction will allow the most cost efficient means for Park development. The introduction of private business within the park site will aid in the economic self-sufficiency of the total operation.

Perceived users will attend the park for the natural green space along the river, the view of the ships and boats^{for use} of the restaurant and bar. Educational use can be built into the interpretative display within the clubhouse and boat museum.

DISADVANTAGES

One major concern will be the connection of the Forks site to the downtown core of Winnipeg. The present CN East Yards create a major barrier forcing park users to enter the park from the periphery. This overcasts a feeling of backdoor entrance rather than a formal front door welcome which may potentially be developed with the removal of the CN East Yards.

The site grounds will require major clean up, regrading and bank stabilization. Simple economics for development may be overwhelming.

Historical interpretation is confined to displays within the clubhouse and boat museum. Not all of the Forks history can be included. Important events such as the two year experimental farm effort in 1838 and the market gardens may not be expressed fully. Two suggestions to consider:

1. Change the clubhouse display periodically.
2. Make available an illustrated history of the Forks site to be sold from the clubhouse (subsidized by Parks Canada).

Information about original landform and vegetation is minimal. Re-establishing a two level bank will create a historically imperfect bank. But at the same time it is representative of the era up to 1875. The bank regrading and dock development should taken on a very modern texture and atmosphere to avoid being confused as an exact duplication of the historical element it is intended to represent.