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Planning Study of Native Northern Communities

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Planning Study of Native Northern Communities

Pin Matthews Architects
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Abstract

The study is an evaluation of the success of existing planning and housing practice for Native communities in the western portion of the Northwest Territories, with an emphasis on the relationship between land use / site planning, and social, cultural and environmental factors.

The methodology centres around a core of community input, oral history, interviews, archival research, literature review and mapping of incremental development to date. Workshops and reviews held in the four case study communities—Fort Resolution, Kakisa, Snare Lake and Rae Edzo—generated input from local people regarding future development options.

Key findings include: the uniqueness of each community's history and present needs; the importance of traditional knowledge, heritage and the land; the endurance of kinship groups in traditional communities; and the problems with short-range economics that inhibit long term social benefits. As well, the global application of standard housing and planning options and technical solutions overlooks social, cultural and environmental needs.

Alternative planning models, based on successful areas in the communities studied, are put forward to speculate on how development might occur at permanent settlements to favour local needs rather than conform to external norms.

Recommendations are put forward in order to provide the groundwork for future community developments without repeating the mistakes of the past.

This study will be relevant to all of those parties involved in the development of northern Native communities, including Band Councils and residents, government agencies, builders, architects and planners, not only in the Northwest Territories but across northern Canada.

Executive Summary

The significant and diverse history of housing and building for Native communities in the Northwest Territories presents a range of solutions to the unique problem of housing specific cultures in the North. In some cases, an intuitive response to siting and environmental considerations has prompted an initial settlement cluster. In many cases, however, a standard service grid has dictated the dominant form of the community, its open space and housing.

The prime objective of this study is to evaluate the success of existing planning and housing practice for Native communities. The study looks at the settlement history of cultures and communities in the western portion of the Northwest Territories, to discover what has worked, what has not, and why. Four case study communities are analyzed as examples—Fort Resolution, Kakisa, Snare Lake and Rae Edzo. The criteria for evaluation focus on the relationship between land use / site planning, and social, cultural and environmental factors.

Methodology

We began the study by conducting interviews with key individuals and groups who have been involved in community development. Archival research and a literature review, as well as mapping historical development, charted settlement patterns for each of the four case study communities from Aboriginal times to the present day. Interviews and workshops conducted in the four communities generated a discussion of options and alternatives to current development practice with input from residents.

Key Findings

Based on an historical analysis of community development and on workshop and review results, the following key findings resulted:

- Each community is unique in its history and needs, requiring specific planning and housing solutions rather than globally applied standards.
- For the most part, recent decades of externally-initiated development have neglected the social, cultural and environmental needs of the people, their traditional values and knowledge, while prioritizing functional services.

- Fundamental differences between western and traditional Native knowledge systems have contributed to planning and housing solutions that are ill-suited to northern Native communities, adding to government dependence and social breakdown.
- Kinship groups are enduring social formations that have determined 'intuitive' settlement forms from Aboriginal times to the present in Rae Edzo, Snare Lake and Kakisa. In Fort Resolution, because of its unique history, traditional kinship groups have virtually disintegrated and no longer hold importance for the allocation of land and housing.
- Economic forces which have driven settlement form in the past will play a larger role in the future.
- The global application of housing options and of technological 'advances' in housing by external forces, without due priority given to social and cultural concerns, has created housing that disregards significant user needs.

Recommendations & Alternatives

Comparing various settlement models, past and present, one can see which ones have instead progressed 'intuitively' according to the choices of the people. These models form the basis for speculations on development options, presented as alternatives to past mistakes. These are site-specific alternatives, stemming from the communities' own examples of self-initiated development.

The following key recommendations are based on the findings and alternatives:

- Strive for local and specific, not global, solutions.
- Promote self-initiated projects and community consultation.
- Put community priorities first, such as kinship groupings, the land, traditional knowledge, heritage, open space for gathering, views and self-sufficiency.
- Promote the application of alternative housing and planning models based on traditional knowledge and heritage rather than standard southern norms.

Significance and Further Study

This study arrives at a time when northern Native communities are poised to take on much of their own responsibility for community planning and housing. It is intended to contribute to choices for communities. Further study into the formation of community task forces as well as an education process would help to facilitate this transfer of powers. Subsequent study should merge alternative options with an extensive community consultation process, including an analysis of demographic needs, present social dynamics and cultural priorities. This process would benefit all Dene communities in the western Northwest Territories, and possibly across northern Canada.

It is hoped that this study will provide the groundwork for such a process, to build improved solutions to the physical environment and to contribute to the economic, social, environmental and cultural well-being of northern Native communities.

Résumé

L'histoire importante et diverse de l'habitation et du bâtiment dans les communautés autochtones des Territoires du Nord-Ouest présente un éventail de solutions aux problèmes particuliers de logement auxquels doivent faire face les cultures du Nord. Dans certains cas, une réponse intuitive aux questions d'implantation et d'environnement a incité les premiers arrivants à aménager des grappes d'habitations. Dans bien des cas, toutefois, le réseau public d'électricité standard a dicté la forme dominante de la communauté, ses espaces verts ainsi que ses habitations.

Le but premier de cette étude est d'évaluer le succès des méthodes de planification et d'habitation employées pour les communautés autochtones. L'étude examine les façons dont les cultures et les communautés se sont établies dans la portion ouest des Territoires du Nord-Ouest afin de déterminer ce qui a réussi et ce qui a échoué et d'en expliquer les raisons. Quatre communautés ont fait l'objet d'une étude de cas, soit Fort Resolution, Kakisa, Snare Lake et Rae Edzo. Les critères d'évaluation utilisés sont la relation entre l'utilisation des sols ou l'aménagement des terrains et les facteurs sociaux, culturels et environnementaux.

Méthode

Nous avons amorcé l'étude en interrogeant des personnes et des groupes clés qui ont pris part au développement de la communauté. Une recherche d'archives, une étude documentaire et un relevé de l'histoire du développement ont permis de reconstituer le peuplement de chacune des quatre communautés analysées à partir de l'époque autochtone jusqu'à aujourd'hui. Des entrevues et des ateliers menés dans les quatre communautés ont suscité des possibilités et des solutions de rechange par rapport aux modes d'aménagement actuels avec la participation de la population.

Constatations clés

L'analyse historique du développement communautaire ainsi que l'atelier et l'examen qui ont été menés ont permis de faire les constatations clés suivantes :

- Chaque communauté est unique par son histoire et ses besoins et nécessite des solutions particulières en matière de planification et de logement plutôt que des stratégies uniformes appliquées globalement.
- Dans l'ensemble, les aménagements ont été décidés de l'extérieur pendant les récentes décennies, négligeant par le fait même les besoins sociaux, culturels et environnementaux des gens, de même que leurs valeurs et leurs connaissances traditionnelles, et ont donné la priorité aux services fonctionnels.
- Les différences fondamentales distinguant les systèmes de connaissances occidentaux et ceux, traditionnels, des Autochtones ont contribué à l'application de solutions d'aménagement et de logement mal adaptées aux communautés autochtones du Nord, ajoutant à la dépendance par rapport au gouvernement et à la dégradation sociale.
- Les groupes de parenté sont des formations sociales durables qui ont déterminé les formes d'établissement «intuitives» de l'époque autochtone à aujourd'hui dans les communautés de

Rae Edzo, Snare Lake et Kakisa. À Fort Resolution, à cause de son histoire unique, les groupes de parenté traditionnels se sont pratiquement désintégrés et n'ont plus d'influence sur l'attribution des terrains et des logements.

- Les forces économiques qui ont modelé les formes d'établissement dans le passé joueront un plus grand rôle dans le futur.
- L'application globale des possibilités de logement et des «progrès» technologiques en habitation par des forces externes, sans que la priorité soit accordée comme il se doit aux considérations d'ordre social et culturel, a donné lieu à la création de logements qui ne tiennent pas compte d'importants besoins des utilisateurs.

Recommandations et solutions de rechange

En comparant les divers modèles d'établissement du présent et du passé, on constate lesquels ont plutôt progressé «intuitivement», en conformité avec les choix des gens. Ces modèles forment la base des spéculations sur les possibilités de développement présentées comme des solutions de rechange aux erreurs passées. Ces solutions sont adaptées aux sites; elles sont issues des exemples de développement élaborés par les communautés elles-mêmes.

Les recommandations clés qui suivent sont issues des résultats et des solutions de rechange obtenus :

- Rechercher des solutions locales et particulières et non des solutions globales.
- Promouvoir les projets d'initiative locale et les consultations populaires.
- Faire passer les priorités de la communauté en premier, telles que les groupes de parenté, la terre, le savoir ancestral, le patrimoine, les espaces verts servant aux rassemblements, les points de vue et l'autonomie.
- Promouvoir l'application de nouveaux modèles d'habitation et de planification fondés sur le savoir traditionnel et le patrimoine plutôt que sur les normes du Sud.

Importance de l'étude et recherche plus poussée

Cette étude arrive à un moment où les communautés autochtones du Nord s'apprêtent à assumer une bonne part de leurs propres responsabilités en matière de planification communautaire et d'habitation. Elle vise à contribuer aux choix des communautés. Une recherche plus poussée sur la formation de groupes d'étude communautaires et un processus de formation favoriseraient ce transfert de pouvoirs. Une étude ultérieure devrait faire converger les solutions de rechange avec un vaste processus de consultation populaire qui comprendrait une analyse des besoins démographiques, de la dynamique sociale actuelle et des priorités culturelles. Ce processus serait à l'avantage de toutes les communautés dénées de l'ouest des Territoires du Nord-Ouest et sans doute aussi dans tout le Nord canadien.

Nous espérons que cette étude jettera les bases de ce processus afin de trouver de meilleures solutions pour améliorer le milieu de vie et de contribuer au bien-être économique, social, environnemental et culturel des communautés autochtones du Nord.

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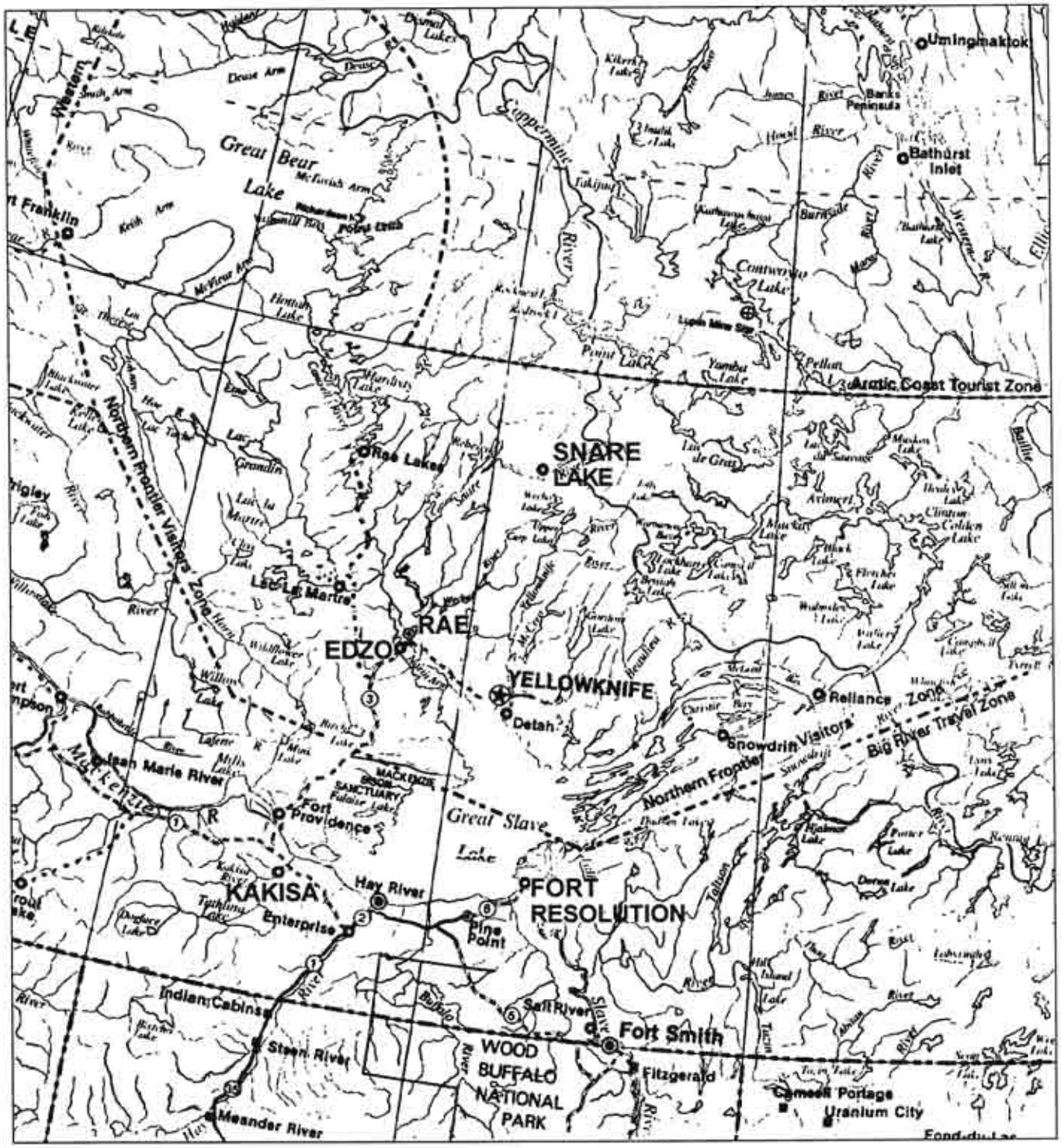


Partial map of the Northwest Territories showing locations of the case study communities.

Introduction

The study is an evaluation of the level of success of existing planning and housing practice for Native communities in the western portion of the Northwest Territories, with an emphasis on the relationship between land use / site planning, and social, cultural and environmental factors.

The significant and diverse history of housing and building for Native communities in the Northwest Territories presents a range of solutions to the unique problem of housing specific cultures in the North. In some cases, an intuitive response to siting and environmental considerations has initiated an initial settlement cluster. In many cases, however, a standard service grid has dictated the form of the community, open space and housing.

Pin/Matthews Architects undertook this study because of a concern that communities have progressed more from government intervention than from collective community input. Development has not always been sensitive to the needs of the people, and has often resulted from a global rather than an individual application of planning and housing principles.

This study reviews previous and current planning and housing practice and consults with the people and groups who have been involved as well as current residents to determine what has worked, what has not, and why. It aims to analyze the history of northern community planning and listen to residents to piece together their vision of how development may have occurred at permanent settlements, had their community evolved based on traditional values, knowledge and priorities rather than on external norms. Recommendations are put forward in order to provide the goundwork for future community developments without repeating the mistakes of the past.

Peoples

Three distinct Native cultural heritages—Dogrib, Slavey and Chipewyan—as well as Metis compose the majority of the populations within the focus area for this study.

Each culture represented in the study is unique in its language and historical influences. Even so, significant differences can exist between and within communities sharing a common ethnic background. Today, individuals and groups follow and interpret tradition to varying degrees. Within a single cultural heritage, people express differences of opinion as to how they want to live their culture today.

The following summaries are meant to provide a brief introduction to the ethnographic groups included in this study, keeping in mind the complex task of singularly defining any Native heritage in the Northwest Territories. For more extensive definitions please consult the *Handbook of North American Indians*, upon which these summaries are based.

Dogrib

The Dogrib are an Athapaskan tribe of the MacKenzie drainage, who traditionally occupied a wide area between Great Slave and Great Bear Lakes.[1] In their own language, Dogrib refer to themselves as Done. Dogrib people make up most of the population at both Snare Lake and Rae Edzo.

Slavey

The term Slavey describes those Athapaskan-speaking people who accept this label, although traditionally they probably never formed a single tribe. According to Michael I. Asch, anthropologist, their region includes "the lands along the west end of Great Slave Lake, an area south and west of the lake bounded by the Hay River to the east and the Liard drainage to the west, and the Mackenzie River valley north to Great Bear River."[2] In their own language they refer to themselves as Dene. Kakisa is a South Slavey settlement.

Chipewyan

According to James G.E. Smith, anthropologist, the Chipewyan are part of the Northeastern Athapaskan dialect group of the Mackenzie-Hudson Bay drainages. Their territory aboriginally encompassed a forest-tundra ecotone from near Hudson Bay to north of the Arctic Circle near the Coppermine River. In historic times, they extended into areas between Great Slave Lake and Lake Athabaska, as well as to areas of the Churchill River drainage.[3] The people of Fort Resolution are largely from Chipewyan descent.

Metis

Metis trading into Fort Resolution who later came to hold significant influence at the settlement, were for the most part of French-Cree heritage. As well, in Rae Metis settled the area known as 'French Point' around the time when the first permanent houses were constructed there.

Notes

1 June Helm, "Dogrib" in *Handbook of North American Indians*, Volume 6: Subarctic, general ed. William C. Sturtevant, volume ed. June Helm (Washington: Smithsonian Institution, 1981), p. 291.

2 Michael I. Asch, "Slavey" in *Handbook of North American Indians*, p. 338.

3 James G.E. Smith, "Chipewyan" in *Handbook of North American Indians*, p. 271.

Snare Lake students with model of their community.

Methodology

The methodology for this study centres around a core of community input, oral history, interviews, archival research and mapping and modelling of historical development. Key information came from local residents. Community participation at workshops provided insights and future community visions.

1. Research in the North

Cultural considerations and territorial standards demand particular requirements for any research conducted in the Northwest Territories. The Aurora Institute regulates research in the western part of the territories through the research licensing process. Other associations such as the Dene Cultural Institute advocate the use of the Participatory Action Research (PAR) process for any research involving Aboriginal people. The lifestyles of the people involved also call for scheduling considerations and interpreter/translator services.

The first step in this study was to review contemporary methods for research practice in the North. We reviewed guidelines and precedents for the PAR process, which strives to accomplish Native self-empowerment, skill-building and community integrated results.

From the start this study could not qualify as a PAR project, because the initiative for the study originated from the outside rather than from within the communities. As well, the budget for this study could not support the expenses that such a project would incur. The PAR process includes training and hiring local personnel to carry through the work. The training component alone can often take months. As well, transportation costs are greater using PAR because of the requirement to present the results in person to the community.

The document, *A Participatory Research Process for Dene/Metis Communities* has published guidelines relating to cultural sensitivity and community self-empowerment. The brochure provides a sample contract which we modified to accommodate community preferences for a more informal arrangement.

Although this study does not use PAR methods verbatim, the methodology employed here shares many intentions of the PAR process, including the following:

- **keeping people informed** through regular communication with contacts
- **participation of locals in the research,** in this case including elementary school and adult education classes
- **including the community as a whole,** accommodating differing languages, age groups, backgrounds and gender
- **respecting community structure, values, standards and practices**
- **making the results accessible to the community**

The unique lifestyles of northern Native communities effected the research schedule. During this study, the schedule remained flexible to allow for community consultations at a time when most residents were available. It adapted to the busy and often spontaneous itineraries of leaders and residents who frequently go out of town.

2. Interviews

We conducted interviews and consultations with those groups and individuals possessing significant knowledge of the history of community formation as well as planning and housing issues. Key agencies contacted were: the Department of Indian and Northern Affairs (DIAND), Municipal and Community Affairs (MACA), the Northwest Territories Housing Corporation (NWTHC), the Prince of Wales Northern Heritage Centre (PWNHC) and the Roman Catholic Diocese.

3. Principal Contacts

We established contacts through a number of associations, including a visit early on to the Dene Nation Assembly. The assembly provided a good opportunity to overview issues and concerns, to hear community leaders voice their opinions about housing, and to introduce the study to Dene leaders.

4. Archival Research and Literature Review

We conducted archival research and a literature review with the assistance of the PWNHC, the Legislative Branch Library, MACA (now in possession of former DIAND records) and the NWTHC, as well as officials and residents in the communities themselves. The research focused on these subject areas:

- housing types and designs
- open space configurations

- the influence of other building types (e.g. church, school, band office)
- the development of built form and land use over time.

Resources included:
- literature, archival photos, air photos, topographical maps, archaeological studies
- oral history and local knowledge from people in the communities

Few historical printed maps exist to show built form for the communities being studied. Air photos show some development but not a complete picture. By contrast, oral history and locally provided information proved to be both valuable and broad in scope. The residents offered their experience, knowledge and stories relating to dates, places, past construction methods, past settlement locations and ways of life.

5. Selection of Case Studies

For practical purposes we chose to look at Native communities in the western Northwest Territories (NWT). For budgetary purposes we limited the scope of the study to four case study communities within a cost-effective travelling distance of Yellowknife that represent a range of planning and housing solutions. We selected the case studies based on the following criteria:
- contacts established
- interest of communities
- travel costs
- cross-section of treaty areas, population sizes, development histories, topographical features and open space relationships

Following the realization that only locals can provide accurate and comprehensive historical information, we were not able to analyze in depth the five other communities originally identified for this study — Jean Marie River, Trout Lake, Rae Lakes, Lutselk'e and Wrigley. We added Snare Lake to the list following several recommendations that its rapid recent development would offer an interesting comparison with the others.

The case study communities are Kakisa, Snare Lake, Rae-Edzo and Fort Resolution.

6. Site Visits to Communities

Site visits occurred in two stages: a first contact visit and a second follow-up visit. The site visits included the following tasks:
- interviews with local leaders, builders, elders and residents
- mapping and/or model-building activities in the schools
- documenting the site and experience of open space and living conditions first-hand
- demonstrating alternate consultation and planning methods
- conducting reviews and/or workshops

We conducted workshops in two out of four communities: Kakisa and Fort Resolution.

In Snare Lake, a review and interview process involving a cross-section of people offered significant information for this study. As well, we led the construction of a scale model of Snare Lake by elementary school students, to be used as a design tool by the Band Council and residents. Because the community is currently deciding on a specific neighbourhood design in conjunction with MACA, we felt that a workshop would best be conducted at a future date, led by MACA (with our involvement if possible).

In Rae, we formed a research partnership with Rae resident John B. Zoe (Chief Negotiator, Dogrib Treaty 11 Council), who co-authored the Rae chapter. Interviews with other long-time residents supplemented Zoe's accounts from Elders, and his alternative community vision. As well, recent archaeological research conducted by the PWNHC with input from Rae Elders provided an historical context to the proposition of how development might have occurred. We attempted to schedule a workshop in Rae as well but because of unforeseen circumstances in the community, no date could be set.

At the workshops in Kakisa and Fort Resolution, following a preliminary discussion of cultural values, housing preferences and concerns, participants tackled interactive maps. In teams armed with markers and plastecine, people created their own community vision, responding to questions like, "What would you change if you could start over?" and "How do you want your community to look in the future?"

We encouraged people to take an open-ended, unrestricted approach and to imagine how development might have occurred if they could do it all over again, according to the wishes of the people. As part of the review process in Snare Lake, we directed questions addressing the same issues and concerns as the workshops towards individuals and small groups. We considered all concerns to be relevant, regardless of the number of people who shared them.

The workshops and reviews included an introduction to the concept of community planning. Much of the Native population is not accustomed to long-term planning because it is a concept foreign to their culture.

7. Documentation

Documentation included:

- summarizing historical literature
- drawing computer maps and models to show the incremental development of each community over time
- compiling maps to show patterns of kinship groups
- compiling photos, diagrams and observations
- documenting workshop results

8. Analysis

First we identified key planning and housing

models. Then we evaluated the models according to the following four criteria:

- The relationship of the siting of housing and other buildings to orientation, pre-existant topography and natural amenities.
- The relationship of open space to built form, functional use and landscaping.
- The relationship of functional services to the lifestyle and culture of communities.
- The level of satisfaction of the residents.

We did not restrict the evaluation to topics related to these criteria only. Instead, we were open to community feedback and needs. Indeed, the opinions of those consulted have greatly influenced the form and content of this study.

9. Recommendations and Alternatives

We identified common conditions for improvement, prioritized these conditions, and made recommendations for alternatives in current planning and housing practice.

10. Presentation to Communities

Following its printing, this report will be distributed to communities, to those involved in its formation and to other interested parties. Where possible, we will present the information in person to individuals from the case study communities.

Planning

This chapter reviews past and current planning practice in terms of the four case study communities. The chapter is divided into the following sections:

Kinship looks at the significant influence of social groups in past and present settlement patterns.

Southern Planning Influences summarizes the influence of external powers in determining community form.

2 Types of Knowledge looks at conflicting values to understand why some planning models have failed and others succeeded.

Current Planning Practice explains the planning process from the point of view of the planner, and identifies the priorities at work in the delivery of services.

Comparative Summaries of Planning Models compares and evaluates the planning models described throughout this document.

Kinship

For centuries, Aboriginal people of the boreal forest region of Canada's western subarctic had lived a stable life, moving with the seasons and living interdependently with the land and its resources. People lived in precise harmony with the natural environment, understanding its bounty and its dangers and the need to be respectful of the power inherent in both.[1] All aspects of human life and the natural environment wove together.

The people depended on animals, plants, land, water and resources to survive, and these natural elements in turn needed the people to remain bountiful and strong. Oral history expresses this mutually beneficial relationship between humans, their way of life, and the land in stories spun around the spiritual powers of each, rich in symbols drawn from the natural surroundings and daily life. The people evoked the spirituality of this relationship in rituals of seasonal change and of going out on the land.

No less important than the interdependence between people and their environment in traditional Aboriginal society was the interdependence between individuals within a social group. People depended on each other and on the group as a whole for survival. Although groups of various sizes came together at different times for different reasons of association, the common bond in all groups was kinship.

Traditional Kinship Groups

Dogrib Social Structure

June Helm, anthropologist, states that the basic building block for all Athapaskan groups is the nuclear family household.[2] From this basic unit a group is built up "link by link through primary relative ties between marital pairs."[3] Helm identifies the following 3 main types of groups for the Dogrib people: the regional band, the task group and the local band.

Regional Band

The regional band, also referred to sometimes as the subgroup, consists of "the maximal socioterritorial division of the Dogrib,"[4] according to June Helm. Typically, Dogribs name the regional band after its region of occupation. As Helm writes, each regional band name refers to: "a locus of operation or area of exploitation in which a substantial number of the group can be found during a significant part of the year."[5] Examples of four regional bands are the subgroups that settled in Rae and that define particular areas of the community today: Dechɬaa Got'ıı̨, Tsǫ̀ti Got'ıı̨, Et'aat'ıı̨ and Tahga Got'ıı̨.[6]

Local Band

The local band, as part of a regional band, consists of "a small group of related nuclear families . . . remaining together for a few or many years as a community body resident in one settlement or, formerly, in a series of relatively compacted camp areas. (Helm 1972:76)."[7] Like the regional band, Dogribs name the local band after the region that its members occupy. The hamlets of Snare Lake and Frank Channel are both examples of local bands, of the Dechɬaa Got'ıı̨ and Becho dǫ subgroups respectively, that branched off from Rae to live in relative independence.

Task Group

The structure of the relatively short-term assemblage of the task group would bring people together for a specific purpose. Helm writes, "Sets of families coalesced or fragmented into larger or smaller units according to the exigencies of the food and fur quest. (Helm 1968a, 1972)"[8]

Slavey Social Structure

For the Slavey people, from precontact times to the 1940's, local bands, regional bands and task groups interacted and lived in mobile settlements according to similar patterns as the Dogrib people. One condition specific to the Slavey people is that they gathered in significantly large numbers once a year. Michael I. Asch, anthropologist, describes these groups and the cycles of their gathering and dispersal:

> *In late precontact times . . . the primary economic and social unit was the local group of perhaps 10 to 20 individuals . . . It is most likely that local groups lived in semi-isolation from each other for most of*

the year, staying within a small geographic zone centred near a fish lake . . . However, some time during the summer when subsistence conditions permitted, local groups came together at a central campground such as at Great Slave Lake where they formed a temporary assemblage of perhaps 200 to 250 people; this assemblage lasted until conditions again necessitated dispersal.[9]

Robert Janes, archaeologist, describes the task group for Mackenzie Athapaskans (including Slavey) and its arrangement in the following passage:

This was a voluntary grouping of people that came together for specific economic purposes. It is exemplified by numerous activities such as the many-family fish camp, the many-family meat camp, and the trapping party. The local band and the task group are similiar entities in their tendency toward shorter duration and in the provision of freedom of choice to affiliate.[10]

Chipewyan Social Structure

The Chipewyan people gathered and dispersed into regional bands and local bands on a yearly cycle, corresponding to the concentration and dispersal of the caribou herds that they depended on.[11] James G.E. Smith, anthropologist, writes:

During the dispersal of the herds in winter and summer, the regional band separated into a number of smaller local bands, although larger aggregations could gather even at these times. . .

The regional band historicaly has consisted of about 200 to 400 or more individuals, occupying a vaguely delimited territory, and adjacent to other such groups to which they were tied by links of kinship and affinity. Band membership was fluid, as bilateral kinship and marriage provided the avenues for new affiliations to meet the requirements of the severe environment, the fluctuating size of foraging ranges of the herds, and other environmental features, as well as social needs. . .

The local bands varied in size from perhaps 25 to over 100 persons, with 50 or 60 perhaps more common.[12]

As late as the 1960's and 1970's, ethnographers recorded local bands consisting of several hunting groups, also affiliated within and between groups by kinship ties. Smith emphasizes the enduring strength of the local band affiliation and says that, "The widely dispersed bilateral kindred provided the basis for cooperation, sharing, and hospitality (J.G.E. Smith 1970, 1975)."[13]

Nature of Groupings

Flexibility and Harmony

Each local band or task group existed as a fragment of the larger regional band. As such, it was possible to simultaneously belong to both a local or regional band and a task group. June Helm writes that for the composition of a single group, "Personnel was not fixed: residential movement from one group to another followed ties by blood or marriage."[14] In the case of all groupings, familial affiliation was the basis for social alliances.

By forming different sized groups — local band, task group, or regional band — at different times of year and at different locations, Dene were able to adjust to varying environmental conditions and availabilities of resources. As well, the flexibility of social structures which seasonally grew larger and smaller enabled the membership of each group to vary from year to year. These groups maintained social order not only in their familial cohesion but also in their flexibility to allow people of differing opinion to separate for periods of time, and for other people to join from one season to the next. Roles of individuals, men, women and children were clearly defined, and the people knew how to handle conflicts as they arose. In this way the Aboriginal social structure maintained harmony and balance not only with the natural environment, but also with the kinship group.

The Endurance of Kinship Ties

Through history, as Aboriginal people adapted their traditional societal structure to a changing way of life and settlement form, the kinship bond remained strong. Even in the face of radically changing circumstances and ways of living, the structure of kinship ties persists. As recently as the 1980's, the Dogrib settlement of Snare Lake and the Slavey settlement of Kakisa have built houses in groups according to kinship relations. (Fig. 1 & 2) Slavey people of the Deh Cho, as well as Dogrib are currently strengthening these bonds to reinforce traditional values and societal foundations such as modes of leadership. In Rae, leaders believe that a restoration of traditional kinship structures in neighbourhoods will help to restore social order within the community. The following summaries trace the kinship bond from pre-contact times to the present.

Pre-Contact

In aboriginal times, Dene lived in mobile rather than permanent settlements. June Helm and David Damas write that amongst the Upper Mackenzie 'bush' Athapaskans, "Aboriginally, the mobile camp was perhaps the temporally and socially dominant type of local grouping."[15]

People lived in social groupings and camped in places that were intertwined with the holistic lifestyle of 'living off the land.' According to James W. Vanstone,

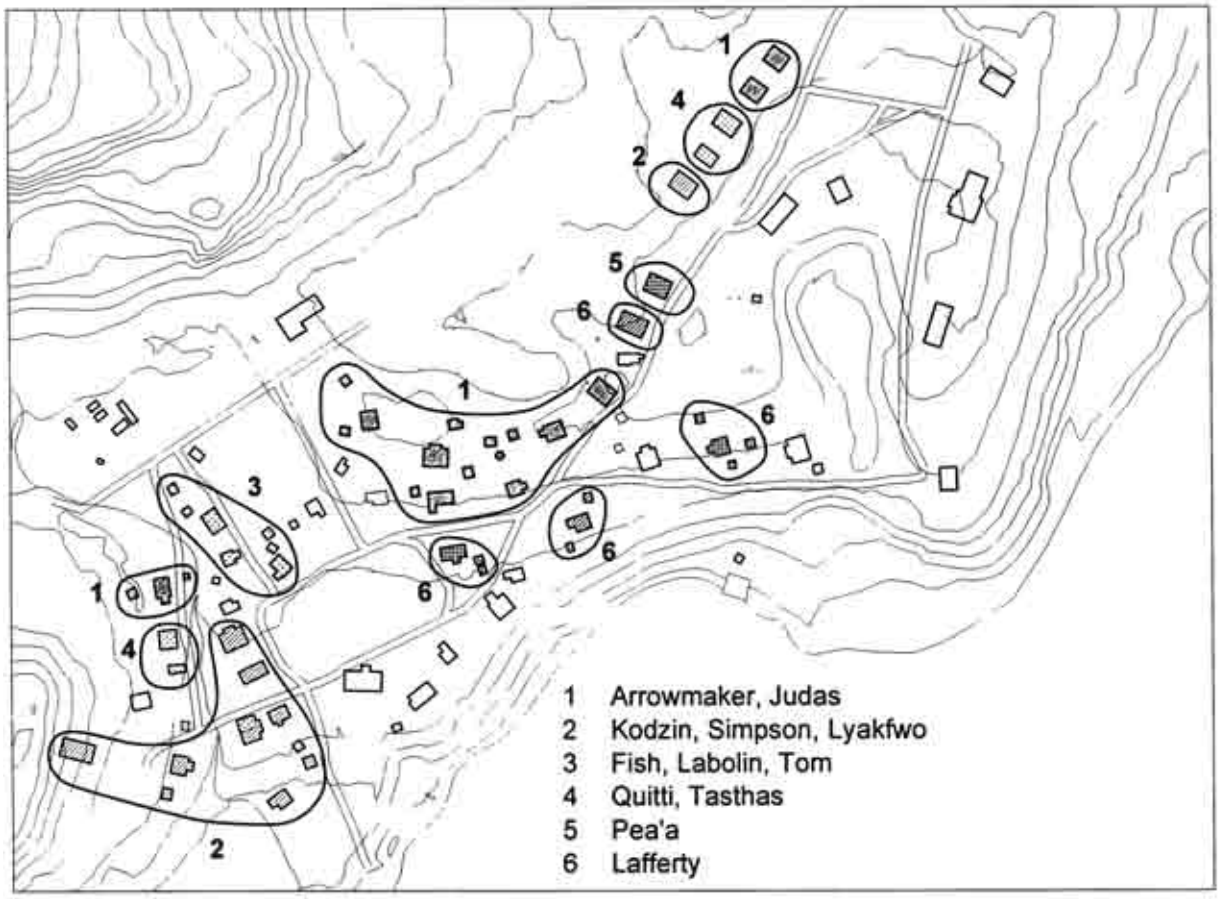


Fig. 1 Map of Snare Lake showing predominant family groupings, 1996

anthropologist, the greatest number of people prior to European contact were restricted wanderers, who had exclusive rights to resources in a given territory. Within a given area, a local group or band of either related or friendly families or a single extended family would make up the population.[16]

At the same time, certain locales supported semi-permanent populations, as Dene revisited them on a recurring basis. One such example is the fall fishery for the Upper Mackenzie Athapaskans, "when large aggregates of people came together for at least several weeks."[17] Helm and Damas explain that, "The overall picture . . . is one of fragmentation and coalescence of groups by family unit, according to season."[18]

These passages point to three main characteristics of settlement form in pre-contact Aboriginal society:

- Groupings by family unit
- Mobility
- Coalescence and fragmentation according to season.

Early Contact

According to James W. Vanstone, goods reached Athapaskan Aboriginals before the traders themselves.[19] From around 1775 to 1800 'free traders' journeyed inland by canoe from their posts to trade with Natives. Beginning in the late 1700's, trading companies began to establish posts within reach of Chipewyan, Yellowknife, Slavey and Dogrib groups. From this time on, the

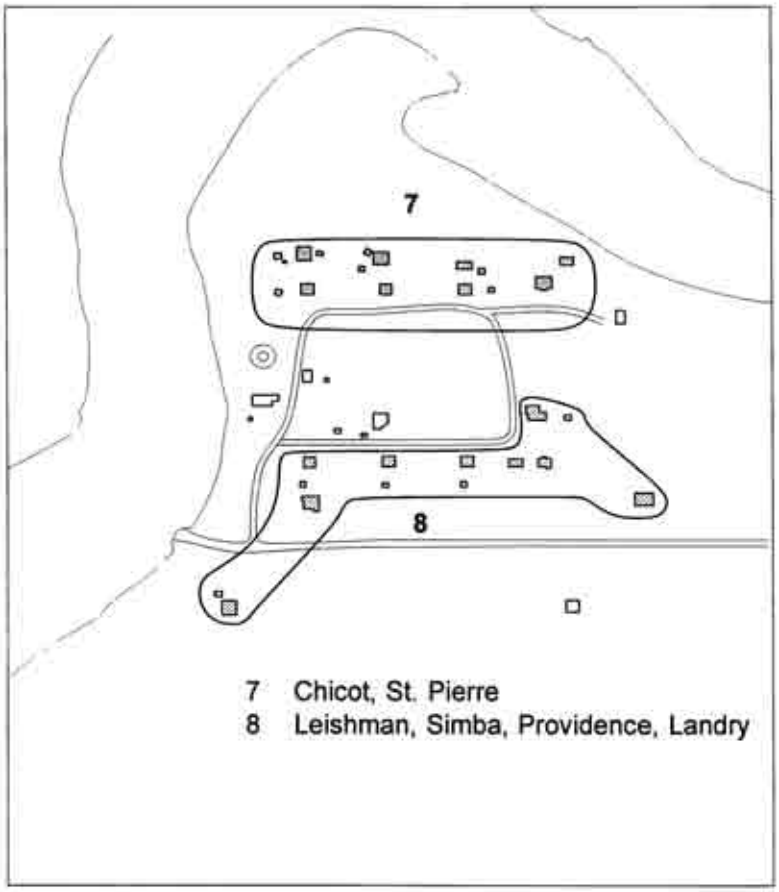


Fig. 2 Map of Kakisa, predominant family groupings, 1996

point-of-trade began to pull Native mobile camps to establish themselves along waterways leading to the posts. Traders introduced new commodities which were available via trade routes, rivers and lakes. The new goods were available at a time and place not necessarily linked to cyclical seasonal patterns of Aboriginal life. Two time-space patterns overlapped during this phase; that of Aboriginal society and that of the trader. Nevertheless, social groupings based on kinship ties, seasonal movement and resource-based subsistence remained stable during the early contact period.

Stabilized Fur Trade & Mission Period

The story of the Slavey people provides a telling example of the persistence of traditional social structures despite radical shifts in locale and way of life. Large scale social groupings such as the summer fishing camp continued to occur at the same time of year but at new locations and for new reasons.

Slavey settlement patterns and social structures remained relatively intact until economic and living conditions persuaded people to change to an alternate way of life. Michael I. Asch describes the Slavey people during the period of initial European contact up to the First World War:

> *The trading post began to replace the lake shore as the summer camping ground; and, after the introduction of a calendrical cycle of feasts by the missionaries, the trading post and mission settlements became the gathering places for the surrounding local groups at midwinter (Christmas-New Year's) and early spring (Easter).*
>
> *Despite such innovations, major aspects of Slavey culture remained fundamentally unaltered or changed only slowly during this period . . .*
>
> *The local group was still the primary economic and social unit . . . In short, survival still required the traditional qualities of self-reliance and mobility set within a stable but flexible social order. . .*
>
> *The period of Slavey autonomy from European influence lasted until the start of the First World War, when a rapid rise in fur prices persuaded most Indians to begin serious trapping for furs (Asch 1969-*

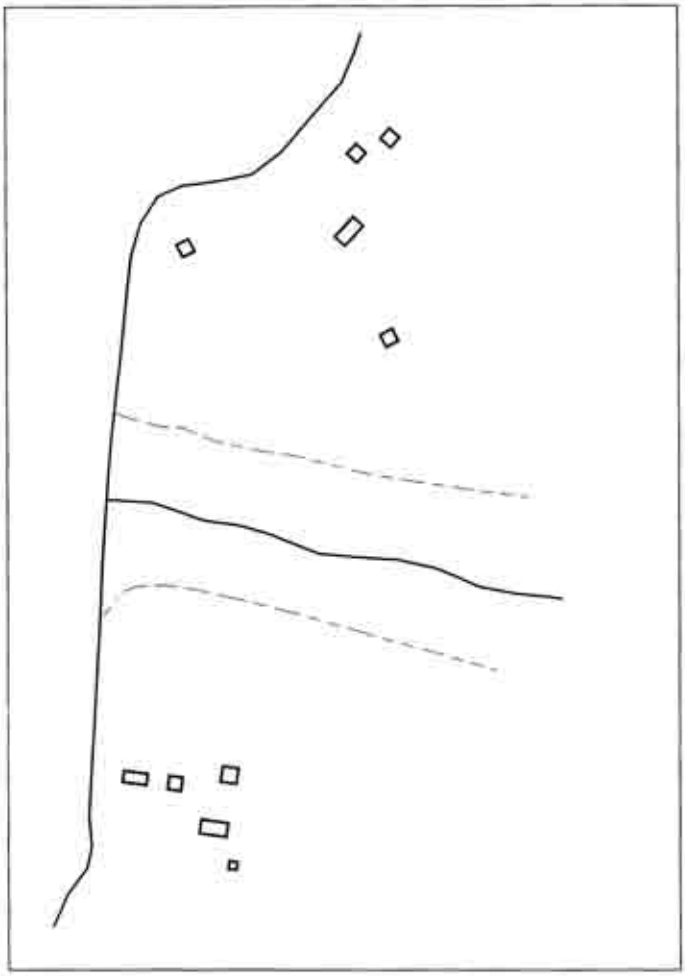


Fig. 3 Dètaʔaa Ts'ahtì

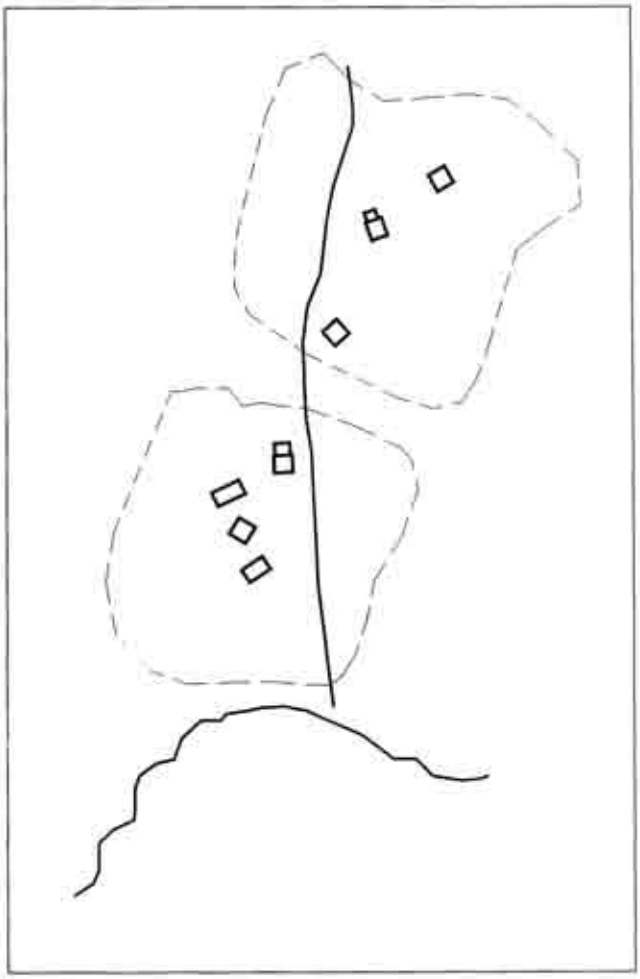


Fig. 4 K'agootì Kǫ̀gòlaa

1970).[20]

Traditional Chipewyan and Dogrib groupings also responded to the new influences of church and government by repeating and modifying past customs in a new context. In Ft. Resolution and Rae, the Easter religious celebration introduced by the missionaries occurred conveniently close to the Spring trapping season. Government treaty hand-outs later added new ceremony to the end of season summer trapping gatherings.

Around WWI onward, for Slavey, Dogrib and Chipewyan populations, first the fur trade and then widespread government services encouraged people to abandon a traditional way of life and come to live permanently in settlements.

Even as trappers, Native people became less independent, no longer living a self-sufficient subsistence lifestyle out on the land, but instead depending increasingly on outsiders and outside goods to survive. All-Native hamlets felt pressures to abandon their bush settlements for "the trading fort or white-focus community where opportunity for wage labor and access to white goods, services and subsidies [were] better."[21] In turn, the traders, church and government each took their strongholds on the people. As dependency increased, the spirit of self-sufficiency and pride of the Aboriginal people became damaged.

The Chipewyan and Metis people trading into Fort Resolution leaned similarly towards autonomy and self-sufficiency.

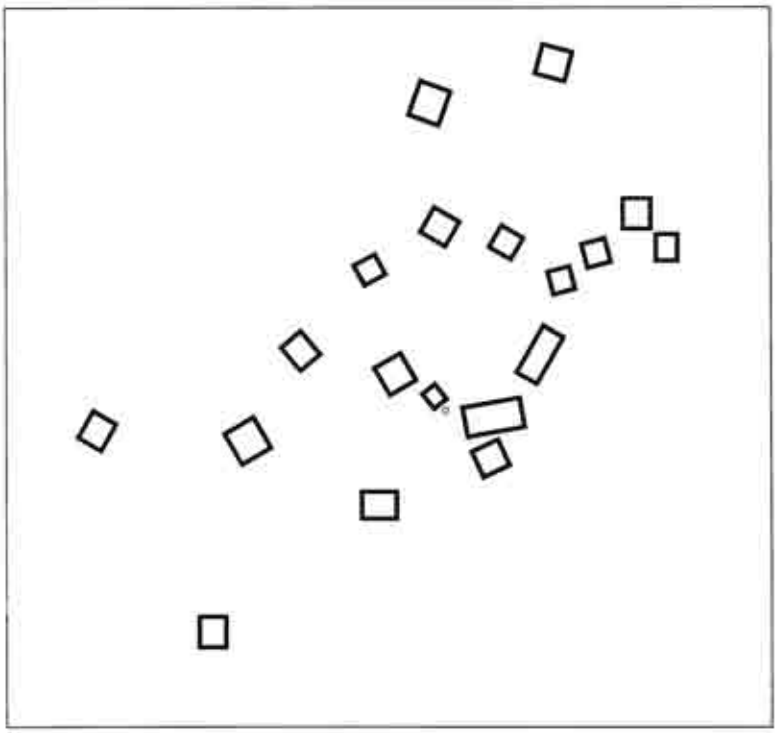


Fig. 5 Nɬdzɣika Kǫ̀gòlaa

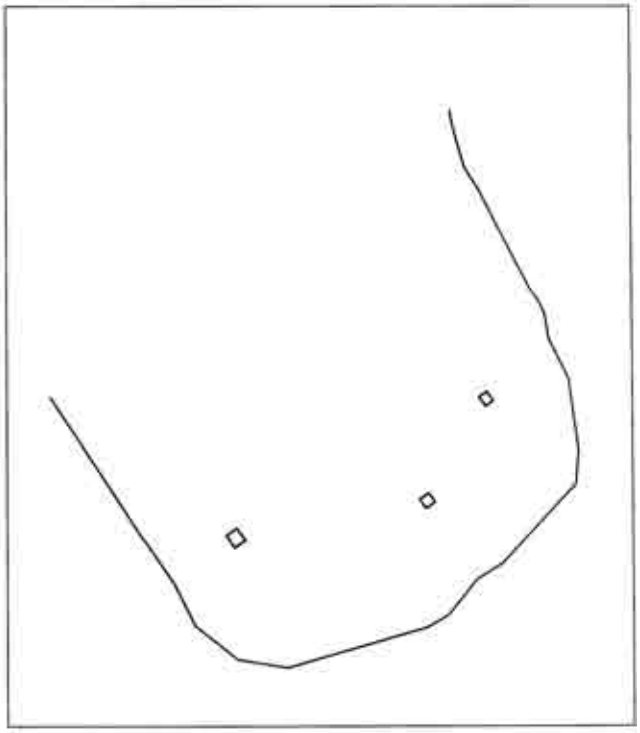


Fig. 6 Xàelɰ Whaèdǫǫ̀ Kǫ̀gòlaa

Between 1895 and 1915, Native and Metis people established log cabin hamlets which they abandoned in the early 1950's only because of serious epidemics and health concerns.[22] People lived by choice in the hamlet of Rocher River, close to Fort Resolution, until the Canadian government gave them no other alternative but to school their children at the fort.

The Dogrib follow a similar history of involvement with first the traders, then missionaries and later the Canadian government. In 1852 Old Fort Rae was established. From roughly 1850 to 1940, Dogrib people maintained a traditional way of life, living in settlements and camps along navigable hunting and trapping routes leading into Fort Rae.

The ɟdaá Trail provides an example of such a route. Recent research conducted by the PWNHC with traditional knowledge input documents in detail the seasonally occupied villages along this route.[23] The research shows that Dogrib log cabin villages (from the contact-traditional period) took on many varied forms at different sites, for different reasons.

In one large abandoned village, some 19 cabins cluster together in an inland clearing. (Fig. 5) At a smaller site, recent builders formed a closely-spaced triangle with 3 cabins. (Fig. 6)

At two other sites, the division of each settlement into two distinct areas suggests that two social groups occupied each place. (Figs. 3 and 4) This speculation would have to

be confirmed by tracing the 'family tree' of those families who have lived in the cabins, a process beyond the scope of this study.

The two sites demonstrate two different settlement forms. One consists of an inland path having two small groupings of cabins separated by trees and dense brush. The other is a shoreline settlement, again with two areas separated by trees and brush, but in this case having two distinct arrangements on either side. On one side, a line of cabins moves inland from the lake. On the other side, a cluster of buildings frames an open space between them.

Each village site is also associated with a nearby cemetary. (In larger, established communities such as Rae and Fort Resolution, the cemetary has constrained expansion.) It is possible that the sacred significance of each site determined the settlement's location. As well, the functional purpose for the settlement would have influenced its form (e.g. fishing camp, winter camp). The intricacies of kinship ties, sacred significance and historical purpose of these archaeological sites lie beyond the scope of this study, although these areas merit further study.

For the Dogrib, Slavey, Chipewyan and Metis people during this period, settlement patterns continued to follow the three main characteristics of the pre-contact period: groupings by family unit; mobility; and coalescence and fragmentation according to season.

1940's & 1950's

In the 1940's the first permanent houses were reportedly built at the new Ft. Rae trading post, followed by government subsidized housing in the late 1950's, built by the hands of their Dogrib owners.

Figure 3 (Rae Edzo chapter) shows a plan of the settlement at Rae in 1933. The plan documents traditional groupings by family unit, proximity to water and varied orientation. These examples point to traditional settlement preferences prior to the widespread introduction of 'southern-based' planning principles.

Contemporary Kinship Groupings

Examples of settlement patterns at Snare Lake, Rae, Frank Channel and Kakisa prove that even today, when given the choice, people frequently live in close kinship groupings.

As part of this study, band council members provided information and school children and adult education students created maps to show the locations of close relations within their communities. These maps clearly demonstrate the general distribution of present-day kinship ties. The authors of the maps chose for themselves who they considered to be a close relation. In this way their choices were not limited to blood ties, but rather were open to anyone, including relations by marriage and adoptions.

In Fort Resolution people generally prefer to live apart from their close relations. Maps produced by school children showing the locations of their relatives support this view. Because of Fort Resolution's historical influences as well as current generational differences, relations tend to spread out within the town. As well, the community has a long history of land ownership by lots. Since the church requested that the Fort Resolution lands be surveyed in the 1890's, the town's land has been available on a lot-by-lot basis. Thus a system of land division prioritizing individual lot ownership over collective or family plots has been in place for generations. (See Fort Resolution chapter for a detailed explanation.)

Conclusions

- Cultural values concerning kinship ties, settlement patterns and the land are interwoven.
- Kinship groups are enduring social formations that have determined 'intuitive' settlement forms from Aboriginal times up to the present.
- In traditional communities, when given the choice, people tend to position themselves in proximity to kinship relations.
- External influences such as the fur trade modified traditional settlement patterns and influenced the locations of permanent settlements, especially Rae and Fort Resolution. Permanent settlement corresponds with an increasing dependence on outside goods to survive (as well as, later, dependence on government services and increased comfort).
- Kinship ties have endured through time, regardless of the spatial context. Traditional gatherings have continued to occur, but under new influences, such as the fur trade, religious celebrations and treaty payments.
- The more traditionally-minded the community, the greater the importance that kinship ties hold. In smaller communities, regardless of the plan, people tend to group themselves close to their relations. Older generations tend to want to stick together more than younger ones.
- In Rae, Snare Lake and Fort Resolution, recent generations tend to live apart from their relations. In Fort Resolution they do so by choice. Elsewhere, people have accepted a house according to whatever location or lot was available at the time.

Recommendations

1. For traditional communities, kinship ties form a central traditional value that should be given priority when designing community plans and housing.
2. Community and housing plans should respect existing social associations and peoples' choices of whether or not to affiliate together. Interior and exterior

spaces need to accommodate these associations at several levels: the family, extended family and in-laws, community gathering, and multi-community gathering.

Notes

1 Gino Pin and Harold Strub, "The Evolution of Permanent Settlements in the Northwest Territories", a paper presented to the Winter Cities Forum (Yellowknife, March 1993).

2 June Helm and David Damas, "The Contact-Traditional All-Native Community of the Canadian North: The Upper Mackenzie Bush Athapaskans and the Igluligmiut" in *Anthropologica* N.S., 5:1 (1963), p.13.

3 Ibid., p. 14.

4 June Helm, "Dogrib" in *Handbook of North American Indians, Volume 6: Subarctic*, general ed. William C. Sturtevant, volume ed. June Helm (Washington: Smithsonian Institution, 1981), p. 295.

5 Ibid.

6 John B. Zoe

7 June Helm, "Dogrib" in *Handbook*, p. 297.

8 Ibid.

9 Michael I. Asch, "Slavey" in *Handbook of North American Indians, Volume 6: Subarctic*, p. 339.
In this passage, Asch uses the term 'local group' for a meaning similar to Helm's 'local band.'

10 Robert R. Janes, *The Arctic Institute of North America Technical Paper No. 28: Archaeological Ethnography Among Mackenzie Basin Dene, Canada* (The University of Calgary: The Arctic Institute of North America, 1983), p. 12.

11 James G.E. Smith, "Chipewyan" in *Handbook of North American Indians, Volume 6: Subarctic*, p. 275.

12 Ibid., p. 276.

13 Ibid.

14 June Helm, "Dogrib" in *Handbook*, p. 297.

15 "Contact-Traditional", p. 11.

16 James W. Vanstone, *Athapaskan Adaptations: Hunters and Fishermen of the Subarctic Forests* (Chicago: Aldine, 1974), pp. 37-42.

17 "Contact-Traditional", p. 11.

18 Ibid.

19 *Athapaskan Adaptations*, p. 91.

20 Michael I. Asch, "Slavey" in *Handbook*, p. 346.

21 "Contact-Traditional", p. 19.

22 David M. Smith, "Fort Resolution, Northwest Territories" in *Handbook of North American Indians, Volume 6: Subarctic*, pp. 691-692.

23 See Thomas D. Andrews and John B. Zoe, "The Îdaà Trail: Archaeology and the Dogrib Cultural Landscape, Northwest Territories, Canada" in George P. Nicholas and Thomas D. Andrews, eds. *At a Crossroads: Archaeology and First Nations in Canada* (Vancouver: Simon Fraser University Press, in press).

Southern Planning Influences

Traders first established many of the permanent Northern settlements, followed by the Church and later the RCMP. For decades during the trading years, most Native people continued to live a mobile life, coming into town at certain times of year and going back out on the land for the rest.

The Canadian government's extension of social, educational and health benefits to the Native people of the North urged their permanent settlement in communities.

Although the precise timing of permanent settlement in the western Northwest Territories, and the peoples' resistance to it, varied from place to place (see case study chapters) the widespread introduction of government services following World War II, including the provision of housing, consistently drew Dene off the land and into sedentary life in communities.

Indian Affairs provided subsidized housing first through the Indian Agent working directly with locals. Later, labour was imported from the South to help build housing. In 1969 the GNWT (Government of the Northwest Territories) was granted authority to take over most housing delivery responsibilities from the federal government. In 1973 the GNWT created the Northwest Territories Housing Corporation (NWTHC) to take on this task.

Housing programs have changed considerably since the formation of the NWTHC. (See Appendix A for a discussion of the relative merits of these programs.)

Over the years as internal and external priorities and leadership have changed, community form has adapted by accepting institutional, recreational and commercial

buildings and open spaces into the housing fabric. Each subsequent addition has prioritized some community functions over others.

The following sections look at planning principles in place since the permanent establishment of communities.

The Bay and Church

For many Northern Native communities, a Hudson's Bay trading post first marked a site for permanent settlement by claiming an area of land on a waterway and strategic trading route. Typically, the Bay took the best land available, often on the highest point with the best view, where they owned a large compound. When the Church moved into these settlement, it typically claimed the next best location, usually by the water at some distance from the Bay, and also with a good view. This pattern of settlement holds true for communities such as Fort Resolution, Fort McPherson, Arctic Red, Fort Good Hope, Fort Norman and Fort Providence.

In each case, the Native and Metis settlers who built cabins in these communities found a suitable piece of land in the areas that the Bay and Church had not claimed. Often these areas sat on lower ground or further inland, with lesser views to the water.

A map of Fort McPherson produced by Jean Michea in the 1950's presents a pointed example of the division between 'white' settlement on higher ground and Native settlement on lower ground.[1]

Today in many of the examples listed above, the land previously occupied by the Bay and Church sits empty or under utilized. For example, a few warehouses or a Northern store have replaced a once important trading post. In these communities, the question of how to reinhabit these prime sites becomes an issue today. The sites would offer stunning views for a gathering place or recreation facility. If housing were built on these sites, then a select few would enjoy prominent locations instead of the community as a whole.

In Fort Resolution, the point of land originally claimed by the Bay has since become occupied by a more diverse range of development, including housing, a seniors housing complex and soon, a mini-mall. In this community, first the Bay, then the Church and next the RCMP claimed three prime waterfront areas which then became the loci for infill development.

In Rae, although the Bay and Church established clusters in the early days of settlement, the strong presence of kinship clusters as well as later infill by more diverse groups (such as co-op housing) distributed Native and 'white' settlers more evenly. It is notable, however, that the Church still occupies one of the highest points of land.

The other two case study communities, Snare Lake and Kakisa, were settled later as an outpost camp and a relocated settlement,

respectively. In both cases, the majority of the first settlers were Native, travelling to Fort Rae and Fort Providence for services provided by external bodies.

Indian Agent

The Indian Agent worked with communities to provide some of the first government-subsidized housing in the 1950's and early 1960's. As the prime contact between Native peoples and DIAND, the Indian Agent's knowledge included first-hand experience of Native life in many areas. The provision of government-subsidized housing at this time varied considerably between communities, with each Indian Agent within each community addressing the challenge independently.

Although newer housing has replaced some of the original houses from this time period, and many of those remaining have been renovated, the original arrangements of houses have endured and have met with continued success. This is true for settlements in Rae, Kakisa and Snare Lake. Having met the test of time, their positive attributes — open space, views, ground conditions, kinship groupings — are still spoken of today. As well, in Rae and Snare Lake the original houses hold particular meaning because Native builders/home owners chose their own sites for these first houses in locations of their preference.

Subsidized Housing in the 70's & 80's

For subsequent government-subsidized housing, freedom of choice was not necessarily the case.

From 1960 to 1990 settlement patterns in Rae Edzo and Fort Resolution have been dominated by external influences. As part of the provision of housing, the federal government introduced to northern communities typical southern planning principles: inland development and equally spaced lots forming a usually rectilinear road pattern.

During the 1970's and 1980's, Rae and Ft. Resolution expanded with new areas of subsidized housing, punctuated by occasional institutional and commercial buildings. In Ft. Resolution during the 1970's development proceeded inland along rectilinear streets, following the street grid initiated by the early trading posts, Mission and RCMP settlers. At this time no process of community consultation existed.

A 1966 air photo of Rae documents the first 5 Indian Affairs houses that were built inland in 1961. By 1975, air photos of Rae show a distinct pattern of identically sized, equally spaced houses situated within a rectilinear street pattern. By 1975 the pattern expands to include 'Government Street,' a row of 10 houses, identical in plan and colour.

Residents in both communities have pointed out the problems from this era. The overt uniformity and lack of individuality, as

well as the grouping together of rental units, have contributed to a lack of peoples' pride in their surroundings. Community spokespeople in Rae say that the splitting up of 'brigades' (local bands) by moving some members inland, away from their traditional areas, has contributed to social problems.

In Kakisa, on the other hand, development since 1960 has consistently followed a subdivision design prepared in the 1960's. Kakisa's small size, relatively slow pace of growth and large lots have enabled stable infill and expansion within the flexibility of the original configuration. People tend to place their new houses in desired locations, pending council approval, regardless of what appears on the 'official' map. The community is quite satisfied with what they have.

In Snare Lake growth looks notably 'organic' until the early 1990's. Major institutional and commercial buildings have taken up positions only in recent years, placed for the most part at the edges of the community, looking inward. Only recently in the 1990's has a strip of four houses been built in a straight line along one street, marking an obvious shift from previous development. All development in Snare Lake goes to council for individual approval. Therefore it tends to develop organically and flexibly rather than according to a rigid master plan.

Since the 1980's in all four case studies, consultations led by planning authorities, with community input, have improved dramatically, and with them, customer satisfaction. Nevertheless, the initial options given stem from southern-style land use principles rather than an indigenous, local sensibility. Today the GNWT is granting local councils increasing autonomy. Some take a proactive approach to planning while others choose from the options given.

Even those settlements that tend to develop organically recognize that community planning provides a necessary vision for community development. If one is to provide adequate infrastructure, servicing and development to depend on in the future, one must plan for it. Experience shows that flexibility in a plan brings superior results.

But a plan ill-suited to its environmental features and cultural framework will cause friction with its users. The mismatch of southern-based planning principles to northern Native communities demonstrates a conflict in types of knowledge between two cultures.

Fundamentally, many tenets of southern-based planning were ill-suited to northern Native applications from the start. Although a general acceptance of southern-based principles has grown as residents have acclimatized to permanent settlement, what are they really accepting? Now that the next generation finds itself in the continuing era of conflicting principles, communities are arriving at a set of predetermined planning solutions without fully understanding why.

The next section discusses the conflict in knowledge inherent in this era, and the problems that have resulted from misapplying southern planning concepts in a culturally foreign context in the North.

Conclusions

- The main reason for people to settle permanently in communities was the government's provision of health, welfare and educational services.
- The influence of southern planning principles has contributed to social problems for the following reasons: the splitting up of the 'brigade'; repetition and inflexibility of a plan; and grouping together rental units.
- Historically, a local approach to planning and housing has created more favourable results than a global approach. Outsiders need to have first-hand experience of the community they are designing for.
- The most successful community plans have been built according to the wishes of the people. When the decision for siting a building is made by the community, residents tend to be satisfied. As well, people take pride in buildings that they have built themselves.

Recommendations

1. Provide large lots to enable stable infill and expansion within the flexibility of an existing configuration.
2. Provide characteristics of individual owners in housing. Avoid uniformity. Respond to the variety of topographical features available at the site.
3. Mix rental units together with home ownership units. Prioritize home ownership.
4. A community plan should be flexible enough to be altered according to changing community wishes and needs.
5. Involve local input as much as possible in the planning, housing design and building processes.

2 Types of Knowledge

Why have people felt 'restless' in settled communities? Permanency upset the rhythms of traditional life, and people have had to learn to live in one place amongst the same neighbours year-round. With each technological advance — multi-roomed dwellings, indoor plumbing, an oil furnace — they have learned to adapt to an imported cultural environment. At the root of the ensuing cultural collision is a conflict of knowledge: empirical versus experiential.

These differences are not unique to northern Aboriginal cultures. The Royal Commission on Aboriginal Peoples points to some of the fundamental differences between western and Aboriginal cultures in the following excerpt from *Aboriginal Peoples in Urban Centres.*

> *In the Judeo-Christian tradition, people are instructed to "have dominion" over "the fish in the sea, the birds of heaven, and every living thing that moves upon the earth." Human beings are considered supreme. In many Aboriginal philosophies, by contrast, "Humankind...[is] the most dependent and least necessary of all the orders." In other words, human beings are only one part of an intricate web of interdependent life.*
>
> *The traditional cultural and social values of many Aboriginal people reflect these different concepts of acceptable behaviour. For instance, Ojibway, or Anishnabe, ceremonies instill values of wisdom, love, respect, bravery, honesty, humility and truth. "A study of the psychological and behavioural patterns of the Sioux identifies several central values for the Dakota People," reported the Aboriginal*

Justice Inquiry in Manitoba, which went on to elaborate on these values. "Conformity with the group and harmony within it; concentration on the present; ability to make personal decisions; reluctance to show emotions; reverence for nature even while using it; and constant awareness of God."

Other studies reveal that Aboriginal cultures embody similar values, such as ethics of non-interference, respect for individual freedom, co-operation and sharing.[2]

The current generation of leadership in communities is well-poised to incorporate both types of knowledge in their decision-making, having benefited from experience in both knowledge systems during their lifetime. To begin to look at how community planning might benefit from both types of knowledge, we will first endeavor to understand the conflict between the two, and how they differ.

Prior to permanent settlement in communities, Dene had chosen where to set up camp based on an intimate knowledge of the land and its resources. Their decisions resulted from, amongst other things: a holistic concept of needs; a cyclical concept of time and place; a philosophy of sharing and interdependence; and a sustainable vision for future generations, all passed on by oral tradition.

The roots of southern-based planning principles lie in the development of urban centres throughout the history of the western world. Fire separations, property divisions and sanitary infrastructure follow from years of empirical experimentation in cities and towns.

At one point in each northern case study's development, usually following the shift from water travel to air and road travel, external government officials moved in to establish community planning principles. Standards of lot division, road access, hydro access, fire separation, delivery of services and short-term economic efficiency started to shape built form.

It is not hard to see where traditional and externally imposed settlement patterns were at odds. The following chart summarizes the conflict of knowledge:

oral tradition • written tradition
holistic (part of environment) • polarized (separate from environment)
mobile • sedentary
sharing • private property
sustainability • progression
cyclical time • linear time
local band (primary social unit) • nuclear family (primary social unit)
ritual • reason

The people living in communities today do not deny that they approve of warm housing with indoor plumbing, and with adequate space to accommodate the number of people living together. Nevertheless,

much valuable tradition and knowledge was put aside when southern planning models were built without regard for culture.

Now, communities are reasserting their own identity by reviving traditional values.

To understand how traditional values may relate to planning and housing issues, we will look at past examples and how they have been viewed locally.

This chapter brings together a review of past settlement form and housing from three directions:

1. By analyzing air photos, archival maps and existing structures.
2. By reviewing literature pertaining to settlement histories and ethno-archaeological work.
3. By seeking out traditional knowledge and local input.

Southern-based Planning Models and the Conflict in Knowledge

The Land

The conflict of knowledge for land use centres around fundamentally differing presumptions and beliefs related to the land and the natural environment, and to Aboriginal social norms of kinship groupings. Planning, housing, and changing cultural values converge on the issue of the land. One does not have to look much farther than the use and meaning of the natural environment to understand the same issues for the built environment.

The ways that Dene perceive and relate to the natural environment — the land, seasons, plants, animals, and water — throughout history expose deeply seated cultural and spiritual values about the land. In order to better understand these relationships the land needs to be considered both historically and in the present in terms of its resource value and its symbolic, habitual and ceremonial use.

Traditionally, Dene lived as part of the natural environment in an interdependent relationship. Housing was temporary, as the people moved with the seasons and with the animals. Before the introduction of trading posts, pipelines or roads, Dene moved within the reference points of natural landmarks, following naturally occurring open spaces such as waterways and paths that followed the topography.

Two Concepts of Space

1. Western Concept of Space

In the western world, people think about space as static and bounded. Western cultures have divided the surface of the earth into fixed territories of land, marking legal survey lines to delineate boundaries between owners. The survey lines correspond first to official plans and documents. They respond secondly, if at all, to the land's natural features and topography.

Survey lines having legal jurisdiction on a 2-dimensional map often bear no resem-

blance to the 3-dimensional characteristics — topographical, experiential and temporal — of the place they represent. The drawn lines rarely correspond to the pre-existent order of the land and water, such as hills, valleys, rock outcroppings, soil conditions, streams, rivers and watersheds.

Each new layer of infrastructure — roads, sewer lines, hydro poles and buildings — in turn reinforces ties to the surveyed plan, rather than ties to the pre-existant landscape. Over time, a community identifies with the built environment, embedding landmarks in its collective memory. For example, in Fort Resolution the town plan grid, now in place for generations, is a given condition in the minds of residents.

In time, a settlement landscape comes to resemble the plan, reflecting the sensibility of the imposed geometric order. For example, in a line of equally spaced houses, home owners erect fences to follow otherwise invisible lot lines in between.

2. Native Concept of Space

Space is something that you move through in time. Spiritual powers surpass the physical limitations of time and space. Tied to narrative story-telling and ritual, legends and memories are retold by elders with every journey through the land.

Going out on the land used to be a ritual, in which you purified yourself. For example, traditionally in passing the boundary from land to water, a person would follow the ritual of 'paying the water' by dropping in something of value.[3]

People marked the act of moving across the land by telling narratives at significant, often sacred places, evoked as a kind of living landmark each time the place was passed. Narratives describe place names which in turn represent a meaningful system of location and navigation, linking place to both tradition and the present experience.

From their work along the ʃdaá Trail, Thomas D. Andrews, Archaeologist at the Prince of Wales Northern Heritage Centre, and John B. Zoe, Chief Negotiator for the Dogrib Treaty 11 Council in Rae, describe the importance of Dogrib traditional knowledge in understanding archaeological findings:

> *As part of a knowledge system, traditional place names serve as memory 'hooks' on which to hang the cultural fabric of a narrative tradition. In this way, physical geography ordered by named places is transformed into a social landscape where culture and topography are symbolically fused (Andrews 1990:8). From the perspective of Dogrib cosmology, neither can exist independently: culture and landscape are inseparable, as stories cannot exist without their physical context.*[4]

For traditional Native culture out on the land, topographical features key into memories and oral traditions. For anyone living within a town, built structures form the basis for memories and stories. Currently, Dene culture seems to find itself somewhere between the two visions, often polarized between an older generation with strong ties to the land, and a younger generation influenced by mainstream education and media in town.

Place names often refer to a specific resource value of a particular location. For example, in Rae, the place to find moss traditionally is named gotìwa t'soà, after the woman who used to gather the moss. Even though a new neighbourhood replaces this area, elders continue to refer to the place by the woman's name.[5]

Another characteristic of the Native concept of space is that the entire territory holds more importance for the people than a specific location, such as a single house or even a single municipality like Rae. For each community consulted during this study, the people requested a larger map than the standard municipal area to consider even the most basic issues of community expansion.

Place names of areas within Rae describe the strong ties that exist today between a regional band or local band and their socio-territorial region. In literal terms, the names create an image of the land itself. As well, a single place name contains many layers of information about a group of people, their ancestral lineage, their traditional territory of occupation and their way of life, and the geography of the land.

Traditionally, when Dogribs would come off the land and stay in Rae, they would stay in the areas of their respective family groups. Three of these areas also correspond to permanent Dogrib communities stationed outside Rae within a larger region: Rae Lakes, Wha Tì and Snare Lake.

Traditional Knowledge

This study just touches on the surface of the potential to apply Dogrib terminology and toponymy to understand the peoples' relationship to their surroundings. An entire culture's worth of traditional knowledge exists, presently at risk of being lost with the passing of the current generation of elders.

Traditional knowledge could potentially play a bigger role in the decision-making for local planning and housing practice. In the *Report of the Traditional Knowledge Working Group* published by the Department of Culture and Communications, Government of the Northwest Territories, on page 1 of the report, the meaning for traditional knowledge is word for word:

> *Traditional knowledge is knowledge that derives from, or is rooted in the traditional way of life of aboriginal people. Traditional knowledge is the accumulated knowledge*

and understanding of the human place in relation to the universe. This encompasses spiritual relationships, relationships with the natural environment and the use of natural resources, relationships between people, and, is reflected in language, social organization, values, institutions and laws.[6]

With respect to interior environments, further study of the existing way of life in interiors could benefit current practice. 'Process patterns'[7] uphold cultural values in spite of spatial limitations and controls, such as layout, flow and sequence of space, and partition wall divisions.

Traditional knowledge research in this area could assist housing designers (including the NWTHC) to accommodate cultural values and to minimize the need for Dene to adapt to inappropriate interior layouts and community plans.

Culture

Culture does not lie dormant. Nor does it disappear with the passing of generations. It persists. It persists in everything that is central to a way of life and a set of values. Everything from the division of labour, familial ties and food preparation to the division of space is linked to cultural values.

These values persist for all cultures. Immigrants to Canada, for example, have social needs specific to their culture, like Aboriginals or any other cultural group.

Immigrants carry their culture with them across oceans and pass on experiential knowledge through generations. In the contemporary multicultural Canadian city, immigrants tend to settle in proximity to known relatives and associates; they form business and political associations based on familial ties from their place of origin. These social associations have been reinforced in neighbourhoods by the corner store and the local club.

Across North America the alienation of suburban developments and the replacement of the corner store by the automobile-accessed mall has displaced the spaces in which community interactions used to occur. The associations themselves have had to find other logical, convenient and comfortable places in which to carry out their business. Subsequent development has thus contributed to making these associations less spatially concentrated and less visible. Where no suitable place exists for them, the associations begin to deteriorate. The same can be said for the case study communities in this study.

Even where the physical surroundings look just like any other household or small town in Canada, Native culture persits in the repetitions of daily life, in the use and allocation of space, and in the social networks of family ties and other associations.

The changes brought upon Aboriginal people by modern technology and intervention have been rapid, widespread and at

times both empowering and debilitating. Changes in the availability of goods, the delivery of education, the technology of housing and exposure to TV and other mainstream media fundamentally reconstruct the field within which culture thrives and sustains itself. Nevertheless a spirit of the intent of traditional values persists in modern Dene life.

Accounts from community leaders at the 1995 Dene Nation Assembly in Ft. Providence attest to the fact that the greatest problems effecting Dene communities today are largely social problems and the loss of cultural identity.

Today the challenge to restore traditional cultural values, for purposes of community planning or any other reason, must address head on the persuasive force of southern cultural infiltration by mainstream media such as TV.

Cultural Collision

The permanent settlement of Aboriginals upset the rhythms of a traditional way of life out on the land, cementing their dependence on imported goods, welfare and health services. Residential schools led to a breakdown of the family structure. Mission schools separated children from their parents. Parents forfeited a traditional life on the land to remain closer to their children.

Although the permanent settlements had long effected Aboriginal subsistence patterns from a distance, the permanent move of Native families to communities broke previous cyclical ties to the land and caused an irreparable rift in Native culture, social structure, and the passing on of traditional knowledge. Furthermore, the abrupt change from a mobile to a sedentary existence would contribute to additional social, sanitary and environmental consequences.

The use of land and the production of waste was no longer spread out over a large migratory area. Habits had to change. For example, in a 'modern' house, spruce boughs no longer provided a renewable fresh floor covering. Permanent settlement also strained natural resources in one small area, such as firewood and in some cases trapping.

With a lack of understanding on the part of the people as to the radical changes being set upon them, and with a lack of consideration on the part of the external forces breaking down traditional cultural values, Dene were left without a strong foothold in either their own or in Canadian culture. Many are still negotiating a cultural collision in all aspects of life.

Abruptly, people shifted from a settlement pattern that was mobile, grouped by family unit and variable in form, to a communal way of life that bore none of these characteristics. People in the newly occupied communities became 'restless,' as they lacked the experiential knowledge of

southerners to live permanently in one place. Socially, the whole notion of 'community,' or of living permanently amongst other kinship groups, was foreign.

Lot Divisions

The superimposition of modern surveying techniques on Aboriginal settlements has introduced foreign land use conventions to Dene communities. Imported conventions introduced imported cultural assumptions. Rectilinear lot divisions as well as mortgage requirements for subsidized housing prioritized private property and individual land ownership over shared resources and a holistic attitude to the land. Single family homes, allocated to single families rather than to collective groups, helped to fragment traditional family structures. Gravel pads and the residual spaces around homes provide little opportunity for either landscaping or efficient outdoor storage.

Traditional knowledge relating to the social structure of Dene communities has been largely ignored in modern planning practice, to the detriment of the communities' social health. Unrelated lot-by-lot housing allocations to nuclear families have dissintegrated traditional spatial distributions of kinship groups. According to several accounts, traditional social structures provided a framework for social harmony. When permanent settlement dispersed kinship groups, the traditional self-policing of the extended family also broke down.

Landscaping

In northern communities a different tradition for managing land resources exists than in the South. Traditionally in the North Aboriginals took building and living materials from the earth, animals and natural surroundings. After departure from a mobile camp, the land healed itself, absorbing over time any residual markings from human activity. By contrast, in southern Canada, traditions of landscaping, gardening and stewardship lead people to shape and maintain the landscape in the form that they envision.

When planning conventions were imposed on northern Native communities, the presumptions of southern landscaping norms, such as growing a lawn around a single family home in the middle of a lot, came with them. However, the gravel foundation of the northern lots would discourage greenery from growing, even if they were in the South.

The gravel base, which must also allow access for water delivery and pick-up trucks and space to store numerous vehicles (skidoos, trucks, boats) leaves little room for natural growth or landscaping of any kind. Even if landscaping were encouraged and budgeted for, the experiential knowledge of the people receiving the lots favours self-healing of the land over maintenance.

Interior Lifestyle

The rapid interiorization of Dene life

reinforces the increasing detachment of Aboriginal people from a traditional way of life and spirituality based on the land.

Over the years since permanent settlements were established in the North, the area of interior floor space has become larger while the area of usable exterior space has become smaller. The reasons are many. Some offers of explanation follow.

First of all, standards in Canadian society have increased the average size of housing in the South. A comparison of a modest post-war house with a recent suburban home in any Canadian city illustrates this trend.

Standards for government subsidized housing have followed suit by increasing floor areas in northern models. Some of the first housing provided in northern communitities was considered 'emergency' housing. When the base model is a 16' x 24' one-room home, it is not difficult to see why subsequent models would be larger.

At the same time, the use of yards for warehouses, smokehouses and storage has resulted in less available exterior space. There is a tendency to keep the old house as a warehouse after a new house has been built behind it. The cumulative effect is increased built area.

Finally, the change in lifestyle that came with a more sedentary way of life involves fewer outdoor chores and activities. As a result, people naturally spend more time indoors rather than outdoors.

Sanitation

In the 1950's and 1960's, sanitation services lagged behind the infrastructure of housing and TB outbreaks commonly occurred. For Fort Resolution in the early 1960's, a 1963 federal government document reports that, "No sewage disposal system exists at the settlement."[8] Permanent settlements were built without the sanitary infrastructure necessary or the knowledge locally available to maintain them. For example, the presence of large numbers of both people and dogs on a seasonal basis in Rae in the 1950's and early 1960's compounded the existing sanitation problem of poor drainage. As well, the TB hospital in Rae at one time released used 'grey water' into Lake Marian not far from the intake pipe for fresh water.

The federal government recognized the crisis in sanitation and reacted with southern expertise to improve conditions. Modern town planning models eventually moved into the North to offer solutions. In the case of Rae, politicians and engineers proposed moving the people of Rae to the new town of Edzo. (See Rae Edzo chapter.) In hindsight, officials see clearly what a mistake they made.

The provision of sanitation services (by way of trucked water and sewer services for the case study communities) has largely determined the form of both housing and community plans in recent decades.

Learning What You Live

The development of permanent communities has progressed along a steep learning curve for both residents and external providers. Outside influences responsible for infrastructure and capital developments reacted first with southern-based solutions, ill-suited to northern conditions. Over time, designers have improved technical aspects and consultation processes considerably. For the most part, increased government involvement in communities has succeeded in lowering the mortality rate and substantially improving health conditions amongst Native people. Nevertheless, government has not addressed cultural considerations as fully. (See housing chapter.)

The residents themselves have been learning to live in permanent communities, finding their way in altered surroundings, socially, spatially and culturally. Story after story describes how people necessarily adapted their new environment, their habits and customs to suit.

One story from Coppermine (outside of the study area) tells of the difficulties that a man experienced when he first moved into a permanent cabin. The story goes that when the first permanent house was built at Coppermine, a worker saw how the home owner lived and he wanted to move into one himself. He inherited the cabin and moved in but he had never known how to live in it. After some time it became too filthy and he could not live in it. In this way, the man's customs of mobile life had not yet adapted to the requirements of permanent residency.

Another story originates from Snare Lake. Today in one brand new 3-bedroom home in Snare Lake, the living room is used for daily work, watching TV, dining and sleeping. Meanwhile the bedrooms have become recepticles for stored goods. This house is lived in almost as though it were a one-room structure.

The complexities of the operation and maintenance of modern plumbing and heating have also taken time to master. Homes with running water need to be heated throughout the winter to prevent the pipes from freezing, even if the owner goes out on the land for a couple of weeks.

Cumulative Effects of Settlement

As Aboriginal communities embrace the conveniences of modern western culture, they need only look to the environmental crises of existing southern communities to determine what development patterns to avoid. The cumulative effects of incremental settlement responses are evident in places like the Okanagan, which is now facing water shortages and a rapid depletion of prime agricultural land.

Highway Strip Development

Elsewhere in the South, the rise in highway strip development, with parking lots for frontage and distances between amenities

based on vehicular travel, has marred previously pastoral landscapes. Neither fully urban nor rural, these landscapes create a nowhere-zone for pedestrians and brief transitory points for vehicles. In Rae, the beginnings of this type of development are already in place on the incoming road. In Ft. Resolution, residential development along the incoming highway could without controls become a commercial strip over time as well.

Piggy-backing

This trend occurs in all four case study communities. The term 'piggy-backing' is used here to refer to the current practice of building a new house behind an old house on the same lot, and then using the old house for storage.

On one hand, the trend naturally answers the desire for people to build a new house while still having a place to live, or to build a house close to an extended family member. When residential lots are large enough (as in Kakisa) they leave room for expansion by kinship groups.

On the other hand, the space allocated by southern planning conventions does not allow this trend to occur comfortably. On smaller lots (as in Rae, Fort Resolution and recently developed lots in Snare Lake) 'piggy-backing' tends to crowd the density of buildings on the lot. In many cases already storage takes up a great proportion of built area on a lot. The people who live in the houses have not complained, although builders have noted that the trend creates a haphazard relationship of the new houses to the road, and increases the risk of fire spread. Nevertheless, 'piggy-backing' is a logical, incremental way to accommodate more than one generation on one property. A planning model that allows space for incremental development adjacent to existing houses would more comfortably accommodate this trend of natural growth.

Ownership

In English we would say "my house" to describe our home, whereas in Dogrib two choices of words exist. The Dogrib language clearly distinguishes between an owned and a rented house with the two terms: xâ sêkǫ̀, my house (fire); and deh t'sǫ̀ kàwo kǫ̀, government's house (fire).[9] Either of these two terms might refer to a person's home, the first term indicating ownership, and the second indicating a loan from the main landlord, the government. These terms underscore the sensibility of ownership that in most communities goes beyond the distinction between owned and rented property.

The attitude of ownership is complex. Legal ownership reads in black and white, but attitudes of pride, self-empowerment, well-being and belonging that nurture caretaking and true 'dwelling' are not given solely through legal title. Since the government first granted subsidized housing, the houses that have instilled the most pride in

the community were built by the local people, in the location of their choice.

In several communities, log cabins were built with logs harvested by the people themselves and constructed largely with local labour, assisted by outsiders. Many of these units still stand today, and people still commend the workmanship of the original builders in the community. Madeline Judas, a resident of Snare Lake says:

> *You can talk to [Alexis] Arrowmaker. The first houses, they were built without measurements. They didn't have a level; they used a bottle of water and put it on the floor. Those houses haven't moved; they never fall apart.*

The most widely praised government housing program in peoples' recent memory is the Homeownership Assistance Program (HAP), which, like the earlier log cabin programs, subsidizes owner-built units. All materials were shipped to the site, paid for by the NWTHC. The new home owner was also granted expert advice and outside help for such systems as electrical and mechanical, and the owner provided the labour. The program gave people the chance to put their own efforts towards the construction of their own house. Usually, others in the community would help as well. The program thus succeeded in training a number of local people in carpentry and related trades in the communities.

Even with community involvement in construction, a good portion of northern housing and other community infrastructure (e.g. arenas, schools) has been given to settlements at no or little cost to the communities. Even the log cabin and HAP programs involved subsidies.

The well-meaning intentions of subsidized housing succeeded in improving overall health conditions, housing standards and community amenities but at the same time has contributed to a condition of dependency. The dependency is not isolated to housing, but is linked to other issues such as social assistance, old age pension and a system of credit that has been in place since the era of the early traders.[10]

The simple act of permanent settlement in communities had a dramatic effect on peoples' lives. Although government services and subsidized housing have increased the 'standard of living' (as measured by southern standards) they have also contributed to diminishing the overall level of morale and esteem of the people they were trying to help. Evidence of the destruction lies in the well-known rise in incidence of social problems during the 1970's and 1980's. The voice and spirit of the people became a whisper in the face of government dependency. More people were surviving, but with less and less to do. A population boom followed in the 1970's and has continued ever since, placing further strain on limited resources.

The impetus towards capital infrastructure has been driven forward while economic sustainability has lagged behind. Once a person becomes a home owner, he may not fully realize that he is fully responsible for repairs. Even with an adequate income to afford repairs, building maintenance is often a low priority.

In the communities it is widely voiced that many people believe that the government will come to their aid for every difficulty, and much government assistance perpetuates this belief. Following this pattern, buildings can become more and more run-down until eventually they qualify for either the Home Improvement Program (HIP), the Emergency Repair Program (ERP) or full replacement.

Traditional knowledge and local craftsmanship find pride of place in communities. Example after example of people 'doing things for themselves' points to the benefits of community empowerment through self-initiated projects. People possess the desire to create their environment as they wish it to be, and many already have the skills available to do so.

Housing supplied through the global allocation of government services tends to look the same irrespective of local conditions, and has been hampered by operation and maintenance problems initiated by climatic and environmental factors. On the other hand building technologies that have been improved through years of cumulative experience in one place, using local knowledge, are more likely to answer to the environmental and cultural needs of a specific site and people. For example, toboggans built by Dogribs in Snare Lake have been perfected through generations to contain heavy loads using an adjustable lightweight tensile structure.[11]

In Snare Lake and Kakisa, the locally constructed warehouses and smokehouses are precise structures suited to their specific location and purpose, an example of traditional knowledge applied in the field of building technology. Owner-built warehouses express a level of pride and excellence in carpentry, workmanship, utility and organization.

Greater efforts need to be made to include traditional knowledge and local experience as a driving force in the delivery of planning, housing and other new buildings. By priorizing the experience of local residents rather than that of outside influences, perhaps an indigenous type of building, specific to place, will develop.

Maps versus Reality

Often a disparity exists between the surveyed lot structures provided to communities by MACA and the reality of what actually gets built according to the wishes of the people. Local knowledge of siting takes precedence over surveyed conventions. For example, in Kakisa a road sits in reality in an entirely different place from

where it appears on the map. A house positioned in relation to the actual road sits directly on what is drawn as a surveyed road on the map.

Regionalization of Services

The current government initiative to regionalize services, including housing and planning, has the potential to bring community form closer to the wishes of the people. Regionalization of services may realize the following benefits:

- Bring the point of delivery and decision-making closer to the people and origin of need.
- Reverse short-term economic policies that overlook long-term social and cultural needs.
- Integrate related services, thus making each service more effective.
- Bring community-based initiatives into the picture and erode patterns of dependency.

Conclusions

- Fundamental differences in western and Native knowledge systems have contributed to the provision of planning and housing solutions that are ill-suited to northern Native communities.
- Permanent settlement in communities contributed to government dependence, social breakdown and an interruption in the passing on of traditional knowledge.
- For the most part, government involvement in community planning and housing has succeeded in lowering the mortality rate and substantially improving health conditions amongst Native people.
- First Nations people are best qualified to determine their own social and cultural needs.

Recommendations

1. Incorporate Native concepts of the land into land use and community planning. (e.g. concepts of natural landmarks, navigation through waterways and paths, spirituality and geography)
2. Traditional knowledge should play a bigger role in establishing needs for local planning and housing practice, and also for analyzing past precedents.
3. Cultural concerns should be given priority in community and housing plans. Ritual and spiritual aspects of places should inform the development process.
4. Allow flexibility for other modes of community living, such as the outpost camp, flexible housing to allow people to go out on the land, etc.
5. Consider alternatives to standard lot divisions, which hold no cultural precedent or significance. Areas could be designated to kinship groups rather than to single families, with room for expansion. With space allotted to kinship groupings it is believed that social

stability will be more readily achievable.

6. Promote a culturally appropriate type of landscaping, i.e. one that will heal itself and allow for outdoor storage and work space.
7. Northern communities should be wary of copying southern planning methods rule for rule without understanding the long-term consequences (e.g. cumulative effects, highway strip development).
8. Community plans should be flexible and spatious enough to accommodate more than one house on a lot, since this type of expansion tends to occur naturally anyways.
9. Residents should continue to be involved in all building that goes on in a community. Communities take pride in buildings that were built by their residents.
10. Community empowerment begins with self-initiated projects.
11. Greater efforts need to be made to include traditional knowledge and local experience as a driving force in the delivery of planning, housing and other new buildings. By priorizing the experience of local residents rather than that of outside influences, perhaps an indigenous type of building, specific to place, will develop.
12. Base maps used for development could convey a range of cultural, environmental and functional information in addition to standard topographical, legal and servicing information.

Notes

1 See Jean Michéa, "Les Chitra-Gottinéké: Essai de monographie d'un groupe Athapascan des montagnes Rocheuses" in *Contributions to Anthropology, 1960 Part II*, Anthropological Series No. 60, National Museum of Canada Bulletin No. 190, (Ottawa: Department of Northern Affairs and National Resources, 1963) pp. 49-93.

2 Royal Commission on Aboriginal Peoples, *Aboriginal Peoples in Urban Centres* (Ottawa: Minister of Supply and Services Canada, 1993), p. 71.

3 Margaret Leishman

4 Andrews, Thomas D. and John B. Zoe, "The ɮdaà Trail: Archaeology and the Dogrib Cultural Landscape, Northwest Territories, Canada" in George P. Nicholas and Thomas D. Andrews, eds. *At a Crossroads: Archaeology and First Nations in Canada* (Vancouver: Simon Fraser University Press, in press), p. 19.

5 John B. Zoe

6 Legat, Allice, ed. *Report of the Traditional Knowledge Working Group* (Yellowknife: Department of Culture and Communications, Government of the Northwest Territories, 1991), pp. 1-2.

7 See Peter C. Dawson, "Unsympathetic Users: An Ethnoarchaeological

Examination of Inuit Responses to the Changing Nature of the Built Environment" in *Arctic*, 48:1 (March 1995), pp. 71-80.

8 R.T. Gajda, "Terrain and Site Analysis (Engineering Data), Fort Resolution, NWT" in *Settlement File, Northern Canada* (Ottawa: Department of Mines and Technical Surveys, Geographical Branch, Research Division, 1963), p. 23.

9 John B. Zoe

10 Today in Rae, even though a co-operative store has been established, elders offer their pension cheque directly to the Hudson's Bay Company to pay for the previous month's credit. A recent community wellness document published by the GNWT emphasizes the importance of interagency collaboration. Refer to: France Benoit, ed., *Working Together for Community Wellness: A Directions Document* (Yellowknife: Department of Health and Social Services, Government of the Northwest Territories, April 1995), pp. 24-30.

11 Observation by Jon van Ostveen

Current Planning Practice

The territorial government leads current planning practice for small communities in the NWT with local input from the communities themselves. Factors which have inhibited more culturally and socially specific housing include: the economic constraints of annual lot-by-lot development; the priority given to efficient servicing; and the lack of a local history for planning a permanent settlement. Increased community consultation in recent years has led to neighbourhood designs that are more sensitive to natural topography, views and communal space.

Nevertheless, the communities which developed 'informally' with little if any basis in southern planning precedents, achieve a high level of integration of environmental amenities, social structure, sense of place and way of life.

The GNWT Department of Municipal and Community Affairs (MACA) provides community planning services to most of the small communities in the NWT. MACA's services branch into two major areas: the provision of lots, which are mainly residential; and land use plans and development control, such as zoning. Tax-based communities such as Yellowknife, Inuvik and Fort Simpson develop their own municipal lots and plans.

Typically MACA develops the plans according to past practices as well as the needs and wishes of the people. The standards of design most often prioritize the provision of water and sewer services and fire separation requirements over cultural, social and environmental concerns. Most residential design in smaller communities (that

is, outside of the tax-based communities) uses the single family home as the basic building block.

Economics have driven past planning practice in the communities, and according to proposed legislation, are likely to drive it even more in the near future. Cost limitations for land development have ensured that the constraints of servicing such as roads, power poles and water delivery take precedence over cultural and social needs, such as requests for larger lots and for plans that accommodate extended family groups over time.

Annual budgets, coupled with a quickly expanding northern population, lead the GNWT to develop land in relatively small parcels to accommodate immediate housing needs. The fact that limited financial resources are serving an urgent demographic need means that longer-visioned development based on kinship groupings and other cultural concerns is typically sacrificed.

In the past, MACA considered the notion of setting aside certain areas for family groups. But while developed land sits idle for 20 years, the developer (MACA) receives no return on the initial money put into developing the land. Again, development costs and short-term economics prevent developed land to be officially set aside for future generations.

In the future, the government dollars for land development will be stretched even more. Over the past 20 to 30 years, MACA has developed lots which today might cost $15,000 to $40,000 to develop, depending on the community. Residents of the community then lease these lots at a rate of $250 per year. Within this arrangement lies a hidden subsidy. As part of a strategy for government cut-backs, MACA plans to move towards a user-pay approach. With the coming transfer of services to the community level, MACA is proposing to cut back the amount of capital put forth by the GNWT. The idea is that the community will raise capital locally through development, recouping costs through lease fees and the sale of land. According to the plan in a few years all land will be developed by the community.

The Formal Planning Process

The notion of a community plan begins with MACA forecasting the residents' needs, 2 to 5 years in advance of actual development. MACA first works with the community council to decide where to put new areas. This process usually starts by posing the question, "Where do you want your community to grow?" Then the issues turn towards the size and shape of the development, which can include a discussion of open space, views, orientation, etc.

In most cases planners and engineers develop the preliminary options and the residents are content to choose from the options given. In some cases a community will already possess a strong vision of what it wants. The ability to anticipate a collective

vision depends in part on who is in place on the Band Council and what other priorities fill the current agenda.

Amongst all of the residents, a great social collective is rarely in place. As with a typical development project anywhere, differing views and opinions of groups and of individuals can create divisions within the body of community consensus.

In general, residents and leaders of small communities place little priority on how things are going to be laid out over time. In some communities the business of the day is simply more pressing, and so the issue of planning for 5 to 10 to 20 years down the road keeps getting put off. Conventional planning as such is a foreign concept to traditional Native culture. In fact, in some places it is seen as bad luck to speculate on (predict) the future. Although leaders generally acknowledge the need to plan years ahead, community planning is not usually a priority.

The Informal Building Process

The lack of 'formal' planning can in the short term lead to results that honestly reflect community desires. Such settlements are said to have 'character' and 'uniqueness.' Often they respond more to topography and the intimacies of the land. Built and positioned by the people for the people, they tend to develop their own sense of place and character, based on local requirements. Some small communities, particularly those with relatively small populations such as Kakisa, with 30 residents, and Snare Lake, with 130, have grown in such an informal way, with the aid of government financial resources but without the constraints of southern planning principles.

People tend to build these settlements incrementally, with one building placed logically in relationship to another, and then the next two relating to the previous ones, in sequence. Such an incremental strategy also has the advantage of being perfected over time as people learn from past experience.

Even more formal plans evolve organically over time when residents modify, upgrade and add to their surroundings in a more informal, ad-hoc way. It takes time to develop character. Most communities in the NWT are barely 50 years old.

When left to develop on their own according to intuitive practice, people tend to disregard the constraints of servicing and instead progress as the needs of the day demand, responding instead to social, cultural and environmental priorities. The early expansion at Snare Lake is one example of such development.

Community Consultation

Although the planning process continues to be initiated from outside the community, over the past 15 years the quality of the GNWT's community consultations has improved. For example, in the early 1990's, MACA used the

process of the interdisciplinary workshop in Rae to arrive at a collective community vision.

The workshop brought together people from different disciplines to come up with future neighbourhood designs. People from the power corporation, telephone company, land development firms, architects, planners, municipal staff, counsellors and community members broke into three groups, with representation from all parties in each group. Within these groups, people designed different neighbourhood options from which one was chosen and is currently being constructed. The design incorporates a large central open space area.

Only after some time has passed have planners and residents felt the full effects of a design. It can take five years just to build an area. In the meantime, the staff who designed the initial plan can change and community priorities can change. When staff move on, the collective memory of the community's needs leaves with them. For this reason, a plan does not always proceed smoothly from concept to post-occupancy evaluation.

Over the years government and community initiatives have improved both housing and planning dramatically. Plans comparing community designs of the past 5 to 10 years with examples from the previous 10 to 20 year period show a dramatic change in planning strategy. Planning practices which at one time, in the worst case, provided a straight row of identical houses of identical colour, have been replaced by design strategies that take into account orientation, views and open space. For example, a recent neighbourhood design in Fort McPherson sits by the water, incorporating a number of view corridors, a large shared open space, and cul de sacs clustering housing together. Residents of the new Fort McPherson neighbourhood have expressed a high level of satisfaction in a recent MACA review.

Several factors account for the overall improvements in northern planning practice today. For one, MACA now has a better realization of some of the methods they have used in the past and how to improve them. For the past 15 years the Director of MACA has promoted care-taking in the design of new areas. As well, fewer language barriers and increased regionalization of services exist today to promote effective consultations with locals. All of these factors have led to increased feedback from communities, and increased community consultation.

In spite of these improvements, servicing and economic forces driven from outside the community tend to control neighbourhood designs more than traditional values. Even the more successful contemporary plans (e.g. Rae, Ft. McPherson) prioritize southern-based principles of land division by lots, car access and suburban-type roads. These planning models originate from southern norms

rather than from the community's own rich cultural heritage. Why? Perhaps the professionals providing the services are still largely non-Native. Alternatively, perhaps Native residents today want the same type of neighbourhoods that they have seen in Yellowknife, elsewhere in southern Canada, or on TV, without a full awareness of design implications.

The next section in this chapter points to some alternatives to the suburban model, culled from the case study examples. Community planners, housing designers and the communities themselves will find the principles of these alternatives to be relevant. This is true particularly in the communities, for it is these people who will be making choices for their future and who will be living with these choices for generations to come.

Conclusions

- Economic forces which have driven settlement form in the past will play a larger role in the future, when MACA's hidden subsidy is removed and communities become responsible for their own land development.
- Many communities consider the notion of planning to be a foreign concept, and place it as a low priority on their agenda.
- Informal building processes have resulted in more organic settlements said to have more 'character' than planned communities.
- In the past 5 to 10 years, increased community consultations, better communication and attention to design have improved the quality of community plans. Even so, economic and servicing requirements continue to drive all community plans, at the expense of cultural, social and environmental concerns.

Recommendations

1. When services are transferred to the local level, communities should seize the opportunity to develop land with a long-term strategy in mind, according to culturally, socially and environmentally relevant models.
2. Communities should aim to be critically aware of the implications of southern-based suburban development that they see in other Canadian cities and on TV, and to consider alternatives.

Comparative Summaries of Planning Models

The summaries of planning models on the following pages respond to the question, "Which planning models best balance the social, cultural, environmental, spatial and servicing needs of the community?"

For each model, an introductory heading summarizes the priority it gives to each of the following five criteria: social and cultural needs; environmental needs; spatial needs; servicing needs; and externally or internally driven development priorities.

S/C Social & Cultural
This criterion looks at the ability of a given settlement form to accommodate the social and cultural needs of the residents, such as: kinship groups, access to land and water, adequate and suitable space to support traditional activities.

ENV Environmental
This criterion looks at the relationship of the siting of housing and other buildings to orientation, pre-existant topography, natural amenities, and other environmental factors.

SPA Spatial
This criterion reviews the relationship of open space to built form, functional use and landscaping. Space is considered not only in quantity, or how much is allotted to each house, but also quality, such as the efficiency of a plan and its ability to support large gatherings as well as space for the individual.

SER Servicing
This criterion measures the priority of functional services in a given plan given the lifestyle and culture of the residents. It also

looks at a plan's flexibility to adapt to services that were not pre-planned.

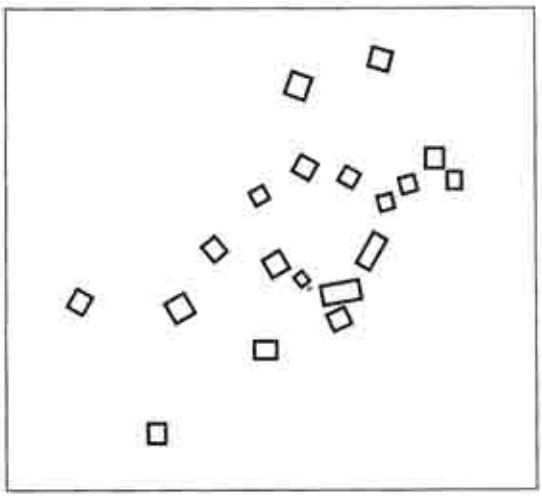
E/I Externally or Internally Driven Development

This heading looks at whether the design and placement of buildings in a plan was driven by the people in the community or by external forces. For the purposes of this summary, development is considered to be external as long as a person or group outside of the community determined the built form, even if the community requested the building(s) in the first place. This issue is discussed with more complexity in other parts of the report.

It should be noted that recent planning models, based on southern (not indigenous) planning norms, tend to be driven mainly by short-term economic criteria, even though this category is not included in the summaries.

Key to symbols

***	very successful
**	partially successful
*	weak
E	externally determined form
I	internally determined form
E/I	collaboratively designed

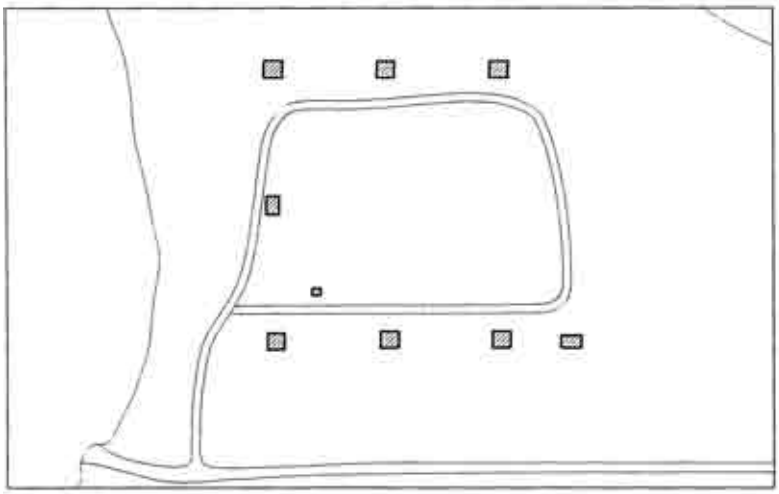


1. Contact-Traditional All-Native Log Cabin Settlement, Nɬdzɬ̨ka Kǫ̀gòlaa

S/C	ENV	SPA	SER	E/I
***	***	***	***	I

Attributes:

- habitation in harmony with the environment and with the way of life
- spaces supported the social structure
- mobility did not strain the environment
- coalescence and fragmentation of groups helped to maintain social harmony
- winter and summer settlement locations were suited to their respective environmental needs
- servicing not necessary; access to water and resources were the requirements for survival

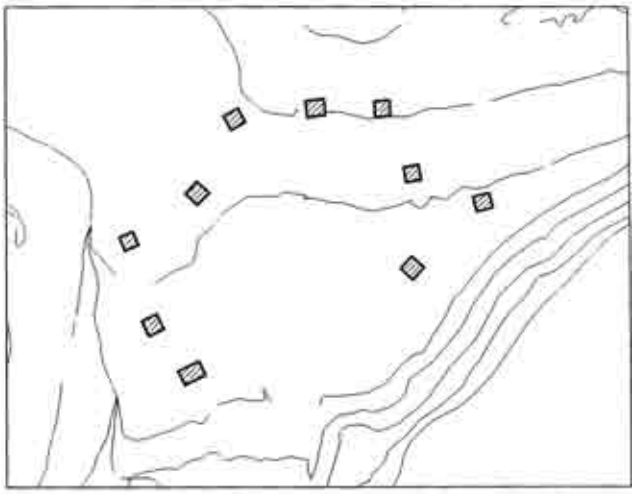


2. Public Square
Kakisa

S/C	ENV	SPA	SER	E/I
***	***	***	***	E

Attributes:

- large lots with flexibility for expansion
- accommodation of kinship groups
- size of community does not strain the environment
- trees provide windbreaks, shelter and add character
- close to traditional fishing areas
- open space well-suited to gatherings
- river front accessible to everyone
- original log cabins, new houses and their spatial arrangement are aesthetically pleasing
- accessible by road
- road structure easily accommodates trucked services
- commercial/industrial area comfortably separate from residential area

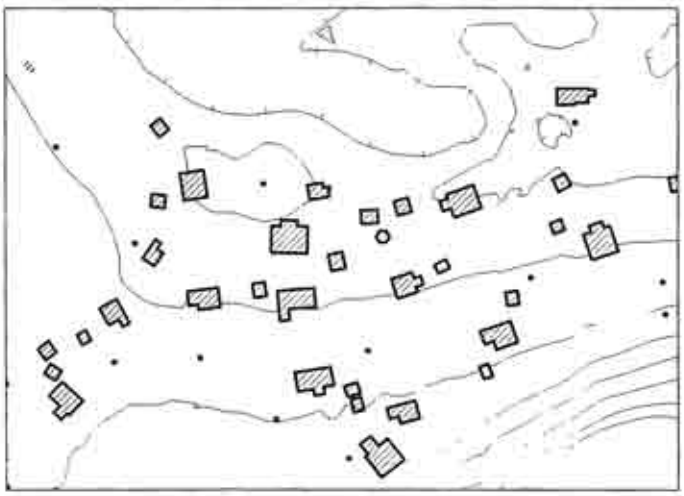


3. Playground and Ring of Houses
Snare Lake

S/C	ENV	SPA	SER	E/I
***	***	***	***	I

Attributes:

- founded as an outpost camp for social and cultural reasons, to live a traditional life
- protected from wind by surrounding rocky enclosure
- everyone enjoys a view to the water
- offers a balance of individual and collective space
- accommodates functional services, fit to suit the existing plan

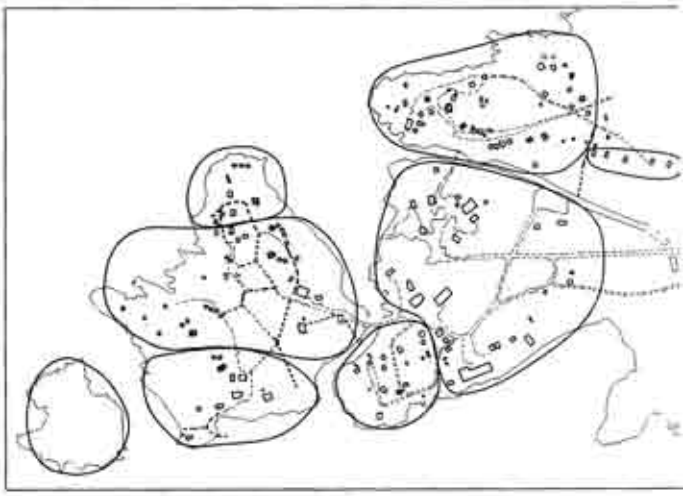


4. Constellations
Snare Lake

S/C	ENV	SPA	SER	E/I
***	***	***	***	I

Attributes:

- enables extended family members to build a house close to their relations
- maintains comfortable distances between houses
- grows as a natural extension from the existing settlement
- Staggered houses maintain views to the lake.
- Spacing between units permits trucked services.
- Roads that run between houses provide adequate width for the size of the community.

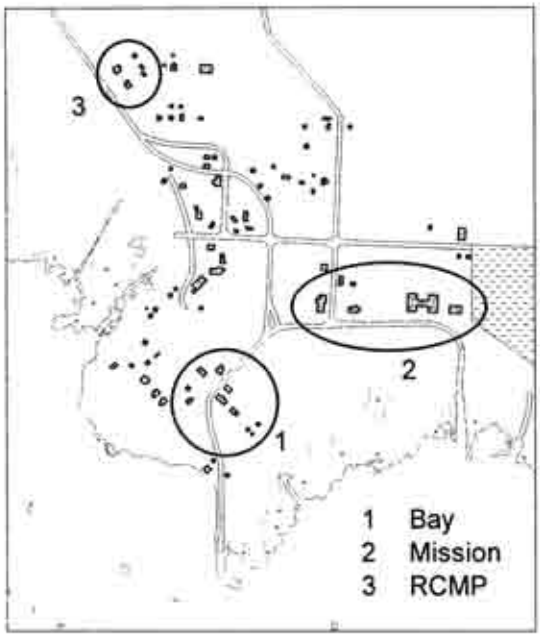


5. Kinship Clusters
Rae

S/C	ENV	SPA	SER	E/I
***	***	***	***	I

Attributes:

- preserves kinship groupings and helps to maintain social order
- Clustered buildings create outdoor shelter in winter, discouraging wind tunnelling.
- Prior to the addition of road 'dams' and an increase in population, the rocky site was environmentally stable and away from mosquitoes in summer.
- Groupings reflect the rocky topography and previous island structure of the land.
- comfortable distances between houses
- Spacing permits trucked services.

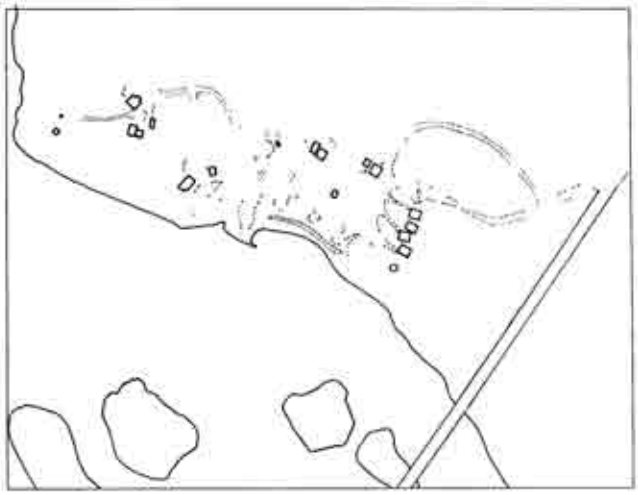


6. Bay Cluster, RCMP Cluster and Mission Line, Fort Resolution

S/C	ENV	SPA	SER	E/I
***	***	***	***	I

Attributes:

- groups together associated people
- both settlement groups relate to the water, as a consequence of the era when they were built
- clustering uses land efficiently, sharing open space in the centre
- RCMP grouping represents both the individual and the collective group
- Mission line introduces formal rectilinear streets
- both configurations conveniently adapt to later functional services: water, sewer (trucked or underground) and hydro

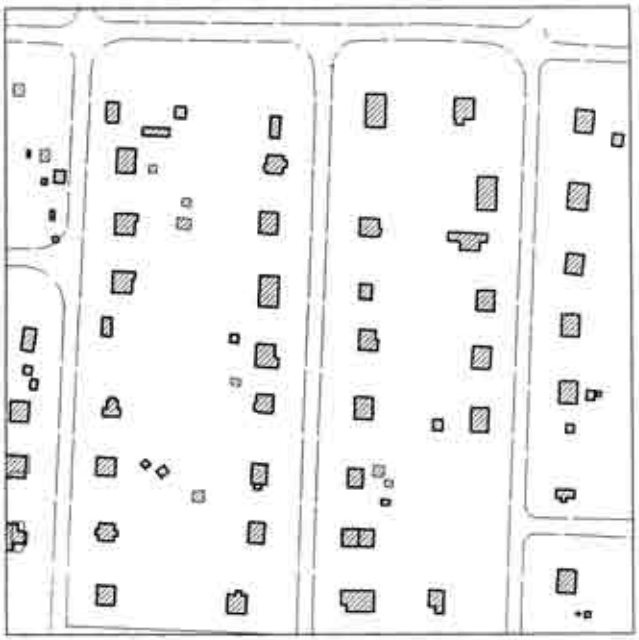


7. Shoreline Settlement
Frank Channel

S/C	ENV	SPA	SER	E/I
***	***	***	**	I

Attributes:

- maintains social order by keeping family unity
- size of community does not strain the environment
- small clusters with out-buildings organize space efficiently, providing defined, shared outdoor areas.
- main focus is the water
- Direct access to water/ice provides a convenient summer/winter mode of transportation.
- comfortable distances between houses, created by choice
- close to highway between Rae and Edzo
- lies outside of municipal servicing boundaries, but is easily accessible by the highway



8. Identical Rows

Rae

S/C	ENV	SPA	SER	E/I
*	*	*	***	E

Attributes:

- prioritizes the basic provision of shelter and convenient, economic servicing
- configuration not related to social kinship groups
- repetitive form and colour not aesthetically pleasing
- bears no relation to topography, wind or sun

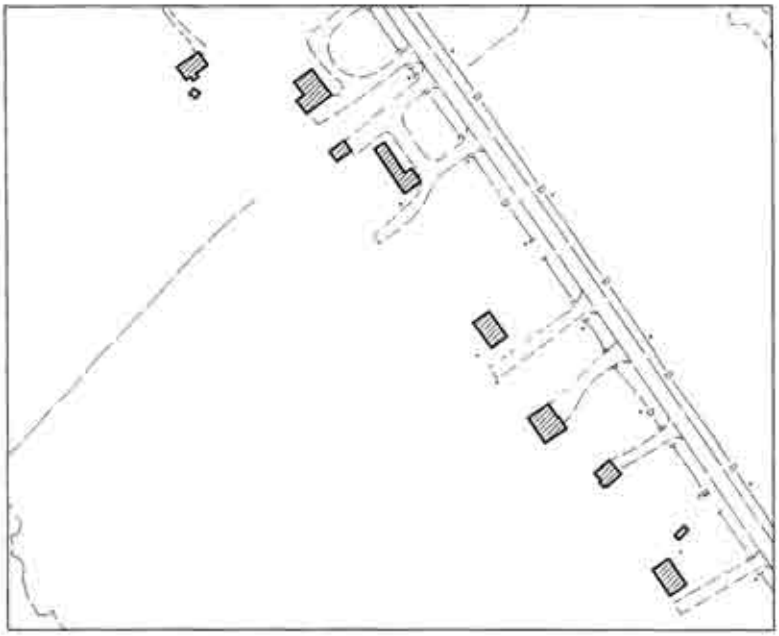
9. Grid Pattern

Fort Resolution

S/C	ENV	SPA	SER	E/I
**	*	*	***	E

Attributes:

- conveniently serviced with hydro poles and trucked deliveries and easily adaptable to future underground services
- adapts well to vehicular traffic and the largely non-traditional lifestyle of the residents
- prioritizes the basic provision of shelter and convenient, economic servicing
- prioritizes the single family home (nuclear family) social structure over the kinship group
- Tracts of land that were at one time agricultural fields remain in places today as sizable pastures, or compounds for dogs. The mixed use areas, although providing variety and open space, cause some friction within the community.
- Open spaces exist by default in abandoned lots, without being planned
- lots not big enough nor flexible enough to comfortably house additional extended family members.
- grid pattern bears no relation to topography, wind or sun

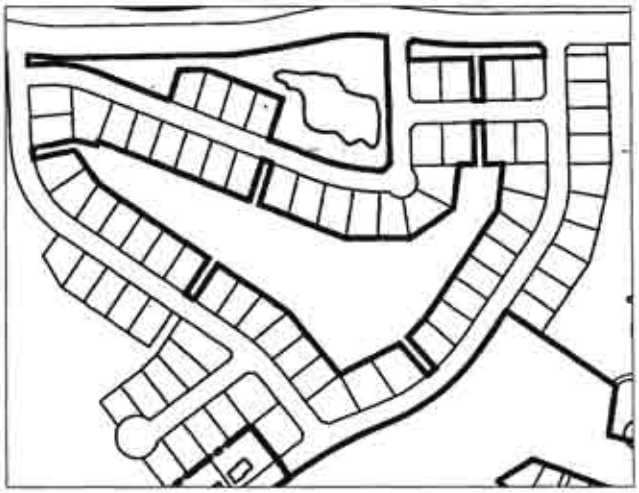


10. Highway Residential
Fort Resolution

S/C	ENV	SPA	SER	E/I
***	*	**	***	I

Attributes:

- People settling here have chosen to live out on their own.
- comfortable distance between houses
- adequate space to build additional houses for relations
- inefficient use of land based on access by vehicles
- spatial configuration offers no collective outdoor space
- added servicing costs because of space between residences



11. Collaborative Design Neighbourhood, Rae

S/C	ENV	SPA	SER	E/I
**	*	**	***	I/E

Attributes:

- A workshop brought together community residents with professional planners, architects, engineers, etc. to arrive at a design solution that balanced all needs.
- relates to topography and natural amenities
- initial staggering of developed lots permits infill in the short term by friends or relations
- configuration of the standard lot limits the outdoor use of the space around a given house
- prioritizes efficient delivery of most services and the legal structure of the lot
- assumes the typology of the single family dwelling

Housing

Aboriginally, housing finds its roots in the earth, built from materials that were harvested from the land and animals, later decomposing into the soil. European traders introduced the first log cabins, a building technology which Dene later adopted as their own. Since Dene settled permanently in communities, the federal and then the territorial government have offered a series of housing ownership and rental programs. Each housing innovation has drawn the occupants further from the earth and closer to a mainstream Canadian lifestyle.

Historical Overview

The purpose of this section is to provide an overview of Aboriginal housing types, with reference to specific examples.

Earth Origins

In Aboriginal times, Dene created the structures and environs of their temporary settlements from natural materials harvested from the land. Following the packing-up of camp, these materials were either left behind, dismantled and carried, or recycled for other uses. The camps left behind a minimal mark on the earth, which healed itself over time. Skins, spruce bows and other refuse quickly decomposed into the acidic soil of the boreal forest region. The mobile lifestyle of the people distributed the impact of their settlements over space and time, so that few cumulative environmental effects were felt in any one particular area.

According to Robert Janes, archaeologist, among Athapaskans of the Mackenzie Valley, a group of people lived together in the traditional shelter of a single-cell structure, whether a teepee, an open camp, a brush shelter or, later, a wall-tent or log cabin. The interior space, although small by modern standards, adequately accommodated a full range of activities, including sleeping, cooking, drying fish and meat, and preparing skins.[1] The single-cell structure, and in particular the teepee with its circular form, evokes a strong symbol for the social unity and cohesion of the local band. In such close quarters, social harmony relied on a fine-tuned understanding of each person's role and accepted behaviour.

All indoor life and most domestic activities traditionally occurred within a single-celled structure, without the boundaries of rooms or other formal spatial divisions. The teepee, for example, had no partitions to divide up its space; nevertheless its inhabitants observed a strict social order that regulated where tasks were performed, and where each family member slept in relation to the fire. Space was allocated for everything, and one area could accommodate different tasks at different times. Unspoken, unmarked boundaries existed through ritual and symbol. This quality made the boundaries even more powerful and culturally ingrained. People had to think about their actions, and how they related to the time of day and the place that they occupied.

For the Athapaskans, the conical skin teepee, made from autumn Barren Ground caribou skins, sewn together, varied in size depending on the availability of skins. Traditionally, the teepee was much larger than it is now, housing up to four families in some cases, with each family occupying a specific area.[2] Teepees were used for travelling, as well as winter and summer residences. Two other variations on single-celled shelters built by Athapaskan (Slavey) Aboriginals were open camps and brush shelters. Robert Janes describes their construction:

The open camp was used while travelling in cold weather. Essentially, it consisted of an area cleared of snow, covered with spruce brush and surrounded on three sides by piles of small trees and boughs facing the fire. These piles not only served as windbreaks but also kept the snow from falling in on the camp. . . . The brush tipis were made by piling brush and snow against the lodge poles in place of a skin covering, and chinking the gaps with moss. The brush huts were generally of an oblong form and covered with spruce branches or moss. A wide space in the middle of the roof was left as an outlet for smoke.[3]

Dene people still use the versatile teepee structure today for a variety of uses.

Pre-Settlement History: Dogrib Structures

The Dogrib built and occupied three primary types of structures prior to the dechịkǫ̀ or log cabin. Their traditional names and descriptions are as follows:

tł'ǫhbàa goèch'oa ewò

The caribou hide teepee took the form of a squat cone. A red ochre line circles the cone, likely delineating the point at which the two rows of skins overlap.[4] One example surviving since that time presently sits at the University of Iowa.

ts'ımǫ̀kǫ̀

The spruce bough teepee in various forms was used as a simple wind-break, a winter house (when banked with snow) and as a menstrual hut.

daèt̨ǫkǫ̀

The third type of structure is the lean-to, a temporary shelter of trees. This term is also used to refer to an A-frame structure.[5]

Log Cabins

Following the influence of the Europeans, building technology began to transform, first with the introduction of axes to harvest logs, then with a transfer of construction knowledge and most recently with the availability of construction materials shipped from elsewhere.

As Dene settlement patterns and building technology changed, the familial structure of the local band remained constant, by choice of the people. In the early days, as long as the people built for themselves, they built single-cell structures and kept the same kinship associations. The form, technology and degree of permanency of the structures progressed from skin or brush shelters (conical or oblong in form) to a rectangular log cabin, in some cases with other house types mediating the change in between.

The log cabin, a European invention, was eventually adopted in varying forms by the Dene, first for shelter at winter camps

and later at permanent settlements and outpost camps. A variation on the log cabin is the wall-tent, used by the Slavey people and others. One Kakisa resident talks about the wall tent as a shelter still in use in the 40's and 50's between more permanent points: "We had our own cabins around the lake. In between points my Dad used to build four logs from the ground up and a tent above."

The MacKenzie Basin Dene did not live in log cabins until after the turn of the century.[6] Janes writes that, "Even in 1975 it was not uncommon to hear Willow Lakers say that they preferred tents to cabins, as 'there was more fresh air in them.' "[7]

In Kakisa, Rae and Snare Lake, when the government first provided subsidized housing, a builder from outside the community assisted locals to build their own houses. Logs were harvested a year in advance, left to dry and brought to the site.

Rental Housing

In Rae and Fort Resolution, rental housing provided by federal and territorial governments in the 1960's and 1970's imported both materials such as plywood as well as hired workers from 'the South.' Settlement occurred quickly and according to the will of outside influences.

Three aspects of government subsidized programs from the 1960's and 1970's led to the rapid deterioration of barely adequate housing:

- poor craftsmanship on the part of construction workers from the South, some with a 'bad attitude' towards the communities;
- the inappropriateness of southern forms to a northern climate; and
- a lack of instruction regarding operations and maintenance.

The problem of maintenance was compounded by a lack of first-hand knowledge of sedentary living on the part of the occupants, who brought a mentality of mobility to their new homes. Basic upkeep involved a completely new way of living.

Lifespan of a House

Under these conditions, the lifespan of a house was extremely reduced, putting added pressure on government housing organizations to meet community demands. Whereas in southern Canada it is not uncommon for a house, if structurally sound, and given proper maintenance, to stand for over 100 years, in the northern communities studied, established some 40 years ago, all currently occupied dwellings are rarely more than 15 years old. Since the 1980's, the NWTHC has stepped up initiatives to repeatedly replace and repair older units in order to bring up to standard rapidly decaying housing.

Lifestyle Adjustments

Over the past 20 years, the GNWT has developed expertise and technical

innovations, and communities have gradually gained operations and maintenance knowledge. Meanwhile, housing has leapt forward in size, quality, comfort and durability. Subsequent changes to the amenities of housing and services provided in communites have continued to keep a rapid pace. People have embraced the conveniences of modern living without stopping to assess their counter influence on traditional values.

Over the past 35 years, the basic shelter of single-celled log cabins has been almost completely replaced by fully modern residences. Each technological change introduced by outside 'experts' has helped to erode another piece of traditional culture, from the introduction of multi-roomed dwellings, to the replacement of wood stoves with furnaces, to the raising of housing above the ground.

Although no person would want to advocate a single-room dwelling today, the introduction of multiple rooms has involved cultural adjustments. Vestiges of a way of life based on a single-cell structure are evident in some contemporary Snare Lake homes, where one unified living-dining area comfortably accommodates multiple functions, including watching TV and preparing dried meat from a large caribou.

Indoor plumbing has also caused difficulties for residents who follow a traditional Native way of life involving extended stays out on the land. When a person would abandon his cabin for a period of time to go out on the land, the wood stove could not heat the house in his absence and the pipes froze. Now the NWTHC installs indoor plumbing only in combination with a fully functioning furnace, and offers other options to accommodate a more traditional lifestyle.

In general, residents prefer combined heating systems with both a furnace and a wood stove. The wood stove provides a back-up heat source in the event that the furnace fails. Also, a wood stove is an essential tool for some traditional activities such as drying meat. In Snare Lake, some elders reportedly went without a place to dry meat indoors when a wood stove was eliminated from new housing designs and replaced by a furnace, primarily because of insurance purposes. Subsequently most of these units have had wood stoves installed.

Conclusions

- Native people have adapted their housing structures and lifestyles to fit changing technology and an increasingly sedentary lifestyle.
- The global application of technological advances by external forces has not given due priority to social and cultural concerns.
- The very comforts and conveniences of culturally imported housing types that are embraced by the residents (e.g. heating and plumbing) have undermined important traditional activities, such as going out on the land and preparing dry meat.

- Each technological 'advance' for housing and each change in materials and form—from locally harvested, seasonally adaptive resources, to locally-harvested logs, to completely imported conventional stick construction materials for multi-roomed dwellings—has led people further away from their earth origins and towards the picture of southern Canadian suburban life that they see on TV.

Recommendations

1. Housing innovations should be locally initiated and provided through a more collaborative means to ensure adequate provision for social and cultural needs.
2. Efforts and research should be put towards construction techniques using local, environmentally sustainable materials, methods and products.

Notes

1 Robert R. Janes, *The Arctic Institute of North America Technical Paper No. 28: Archaeological Ethnography Among Mackenzie Basin Dene, Canada* (The University of Calgary: The Arctic Institute of North America, 1983) pp. 11-12.
2 Ibid., p. 35.
3 Ibid., pp. 11-12.
4 T.J. Brasser, "The Sarsi: Athapaskans on the Northern Plains" in *Arctic Anthropology* 28:1 (University of Wisconsin Press, 1991), pp. 71-72.
5 Thomas D. Andrews, Archaeologist, Prince of Wales Northern Heritage Centre, Yellowknife, NWT.
6 *Archaeological Ethnography*, p. 40.
7. Ibid.

Current Housing Practice

The NWT Housing Corporation meets the challenge of innovating, designing and delivering subsidized housing across the Northwest Territories. The corporation's designers develop housing targeted to owners and to renters. They design the units for two broad categories: above the treeline and below the treeline.

The Housing Corporation's programs cater to a number of different demographic groups, lifestyles, and financing options. Nonetheless, the designs provide blanket solutions within two geographic zones, without being site specific.

The Corporation provides stock models that may be modified to suit sloping lots or, less often, specific client requests. Usually, the flexibility of a design is limited to reversing a plan or moving a door to one of three sides.

Under the pressure of the current NWT population boom, housing allocations are not keeping up with the demand.

Housing & Community Planning

The two disciplines of housing and community planning, although interdependent in practice, share little information during the design process. Neighbourhood designs across the NWT do not seem obvious in terms of wind or landform. In the eyes of housing designers, the community plans do

not possess attributes tied back to culture and the environment.

Both the NWTHC and MACA already have an infrastructure of connections in place in the communities. This network puts them in a good position to work together, particularly once more responsibility for housing and planning is devolved to community leadership.

Typology

The predominant housing form in most communities (including the case studies) is the single family dwelling (SFD). All NWTHC needs studies are based on this assumption. This typology does not address the extended family, nor the pressures of overcrowding due to the population boom. Duplexes and fourplexes such as those in Fort Resolution are available as rental units, but are still modelled on the presumption of the nuclear family as the prime occupants. NWTHC designers are willing to consider alternatives.

Housing Technology

The Northwest Territories currently offers one of the most innovative armatures of northern housing technology in the world. The innovation of building science builds on experience requiring evaluations and post-occupancy surveys.

In practice, many technical problems related to soil conditions and other environmental factors take effect on the construction site. In spite of frequent site visits, the experts for the most part spend their time in a Yellowknife office. In this way, a disparity exists between centrally designed units for global application, and the specific circumstances of individual communities.

The very nature of northern building technology, to outwit the elements in a harsh climate, can result in additional unforeseen problems. For example, gains in the energy efficiency of enclosures, creating airtight envelopes, have been countered by the necessity for electrically-powered mechanical ventilation systems. Also, many heating systems are known to routinely break down under sub -40 degree conditions. Other technical 'improvements' have resulted in losses in convenience and aesthetics.

During this study's review of housing technology issues in the communities, residents raised numerous complaints. The following comments are indicative of the types of technical problems encountered.

- In a new Snare Lake house, drywall was cracking because of differential settlement on unstable ground at the building site.
- A door became stuck last winter in a new Kakisa elder's unit having only one exit, leaving the elder trapped in the house for a time.
- A Fort Resolution builder complained of the poor quality control of 'northern' building supplies which had to be used because of a GNWT northern preference policy. For example, locally made win-

dows do not frame into standard wall depths and locally-made tubs are more expensive to install than other tubs.

The provision of blanket technical solutions to a multitude of differing environmental and site conditions potentially creates more problems than it solves. One example is the issue of raising houses above grade, discussed in the following sections.

Moving Away from the Earth

Over the 40 or so years that governments have been providing housing designed by outsiders for Dene communities, the houses have become progressively larger, more comfortable and more technically sound and modern, but at the same time they have been moving further and further away from the earth. Materially and spatially, housing has transformed from a mode of shelter interdependent with the environment to an inert capsule made from imported materials and elevated above the ground.

This change in housing typifies the problem of sustainable development today whereby it is difficult to be both dependent on consumer goods and to live in an environmentally sustainable way at the same time.

Materials

In Aboriginal times, caribou skins and spruce boughs, harvested locally, were readily available each season. For later housing, people typically harvested logs, also found locally. Now, both the GNWT and communities alike favour stick-built construction. Although all materials are imported from southern destinations (even those assembled in the North typically use raw materials from the South), this technology promotes the involvement of local trades and labourers, building transferable skills in the population.

Height of Housing Above Grade

A population once close to the earth has been raised off the ground on stilts and access stairs, for the sole purpose of insulating the floor and providing services in the space below the house. Houses designed by the NWTHC typically sit at least four feet above grade. For recent construction, this distance is six feet. This design solution cleanly integrates and solves several technical problems at one time, but it also inhibits the lifestyle of the occupants.

Designers typically raise northern houses above the ground to 'insulate and isolate.' Over the years, NWT Housing Corporation designers have been increasing this height above grade. The 'ground floor' of recent models sits 6 feet above the ground for two reasons:

1. to provide a heated crawlspace that encloses mechanical units, offers storage and keeps the floor above warm, and
2. to enclose the sewage and water tank.

Because of the problem of connecting services to a house, designers have determined that the best solution is to hang the service tanks off the side of the house. Designers have learned to treat a house 'like a ship,' with the fuel, water and sewage tanks attached to the body of the house so that the structure and supporting mechanical fixtures, and especially their connections, hold together during inevitable ground movements.

On one hand the raised house type works technically. On the other hand, the solution of raising a house 6 feet off the ground also means that the occupants hike up a significant flight of stairs just to get in.

This housing form also discourages traditional practices which at one time integrated indoor and outdoor life, such as the preparation of country meats harvested from the land. Presumably these activities are increasingly taken into spaces outside the home and therefore outside the core of family life. Such spatial divisions also inhibit the passing down of traditional knowledge from generation to generation.

The raised house creates other inconveniences for a northern lifestyle. Imagine a person working on a skidoo outside, who stores his gear in the elevated porch by the door. He has to run up and down to reach it repeatedly during the course of the work.

Because of such inconveniences, some home owners have modified their units to enclose the space below the porch at grade, creating a useful area for storage.

During the community review process, in answer to a call for general comments about housing issues, several people spoke up to name the height of buildings above grade as a concern.

Alternative solutions exist. One idea offered by NWTHC representatives is to provide split level units.

Open Space to Built Form

Both housing and planning fall into a system of providing lots that relate to a street but whose leftover space surrounding the houses offers little amenity to the dominant lifestyle.

The formation of open space around houses in Kakisa and Snare Lake on the other hand, two communities where the built form has grown incrementally over time, offers good examples of an efficient and accommodating use of space. The configurations of house, smoke house, warehouse, woodpile and other elements tend to contain a courtyard to the front or side of the main house. This human-scaled open space provides a private area for parking, working, or playing. (See the case study chapters for photographs of this condition.)

Newer lot allocations, although aligned for efficient servicing and compactly spaced along a road, restrict the possibilities for such yard configurations because of smaller lot sizes and the limitations imposed by placing a house in the centre of a lot, thereby reducing the usable space all around.

Conclusions

- The SFD assumption limits the potential for housing to respond to an extended family condition.
- Each improvement in housing technology tends to be countered by another problem.
- Recent lots do not allow enough space for exterior elements.
- Raising housing substantially above grade conflicts with several aspects of Native life.

Recommendations

1. Housing and planning services should collaborate more closely together.
2. Alternate and original housing types, other than the SFD, should be considered.
3. Instead of applying global solutions, housing technology needs to respond more closely to the needs of individuals.
4. Alternatives to raising houses above grade should be considered.
5. Land allocations should allow adequate space for exterior elements, such as at Kakisa and Snare Lake.

Deninu Kué, **Fort Resolution History and Background**

Southern Canada's lifestyles and planning tenets have saturated the community of Fort Resolution to the point where traditional life is largely a thing of the past, according to several residents, and the values of modern planning are embraced by the people. Throughout the history of Fort Resolution, outside influences have steered the interests of the local people, shaping the community's physical form to follow conventional planning models rather than traditional Native settlement patterns.

In 1987 the ethnic distribution of Fort Resolution was 42% Dene, 47% Metis and 11% non-Native.[1] The dominant heritage and language is Chipewyan, spoken mostly among the elders now. Other heritages, such as Slavey, Dogrib and Cree, also have influence.[2] In the words of one elder, "In the old days people would speak Chipewyan and a little French. In 1934 the English came. From that time until today everyone speaks English."

The Traders

Chipewyan and Metis people may never have settled in Fort Resolution had it not been for the influence of the traders. Metis people, mostly Red River Metis of French-Cree heritage, joined the early traders, and grew in numbers as the fur trade progressed. The location of the traders urged the gradual movement of Chipewyans toward the Ft. Resolution area. This influence eventually led the Aboriginal people away from their traditional caribou hunting grounds on the barrens and into the boreal forest.[3]

According to David M. Smith, anthropologist, traditional Chipewyan

territories did not regularly extend to Fort Resolution. Smith writes, "The Chipewyans had entered full boreal forest areas as a consequence of their involvement with the fur trade, as traders encouraged their hunting furs in those areas. The lands along the Slave River and westward were therefore new regions for the Chipewyans drawn to trade at Fort Resolution."[4]

When Cuthbert Grant of the North West Trading Company and Laurent Leroux of Gregory, McLeod and Company established the first trading posts in 1786 at the mouth of the Slave River (close to present-day Fort Resolution), they gave new meaning to a junction of land and water. The traders founded a frontier post which, by the hands of European, Native and Metis people, and following the influential voices of first the fur trade, and later the church and government, grew into a permanent settlement.

At this time (pre-1890) the Native people ranging north and east of Fort Resolution still preferred to hunt caribou, a traditional source of food, shelter and clothing, and trade caribou meat and hides for the few trade goods needed, rather than taking furs. David M. Smith states that, "Until the 1890's, the involvement in the fur trade for all peoples trading at Fort Resolution was light."[5]

Yellowknife people traded into Fort Resolution throughout the 19th century, but "gradually lost their distinctive identity and in the early twentieth century had 'disappeared' by virtue of intermarriage and assimilation with Dogribs and Chipewyans." Dogribs were trading at Fort Resolution as early as the 1850s and continued trading into this post until 1930.[6]

Metis in the Fort Resolution area lived as interpreters, fort hunters and fishermen, most of whom, "worked for the traders during the transportation season and hunted and trapped during the winter months, either from the fort itself or with bands of Indians."[7]

The Mission

In 1852 the Roman Catholic Mission, represented by Father Faraud, first visited Ft. Resolution. In 1856 St. Joseph's mission house was built on Moose Deer Island opposite the fort. In 1890 the mission buildings moved to the present-day Ft. Resolution site.[8]

In the late 1800's the Mission requested their lands surveyed. A survey from July 1914 shows lands allocated to the Mission, Hudson's Bay Company, Indians, various family names and the Department of Indian Affairs.

Describing events at the turn of the century, Smith writes, "Improvements in transportation and the competition between traders provided an increased quantity and variety of trade goods. Native peoples responded by becoming more committed to trapping furs for trade."[9]

Fig. 1 View of early Fort Resolution from the water

Fig. 2 Hislop and Nagle trader's post, Fort Resolution, c. 1897

The growth in importance of the fur trade at Fort Resolution in turn affected settlement patterns both for Native people out on the land and for settlers at the fort. Smith states that, "By the turn of the century, Resolution was the foremost fur-trade post on Great Slave Lake..." At around 1903 the Mission constructed a mission school, orphanage and convent. In 1913 the Royal Northwest Mounted Police established a permanent station.[10]

The traders established the first buildings with an 'intuitive' cluster, on a point of land jutting into the delta. (Fig. 1) Here, the term intuitive is used to mean a type of logical building practice learned through personal experience at a particular place. This type of practice is more likely to relate to specific topographical, environmental and social factors, for example: exposure to and protection from sun and wind; provision of views; and proximity to neighbours. The close spacing of buildings helped to create supervised work space as well as shelter from the elements in common outdoor areas. (Fig. 2)

The Mission at this time imprinted on the settlement a formal line of large public buildings facing the water.[11] It was the Mission that brought survey techniques to the fort, and added a rectilinear spatial order to coexist with the intuitive positioning of buildings by the traders.

The Fur Trade Strong Years, Years of Change (1890-1940)

As the settlement at Fort Resolution grew, additional buildings and tents took their place in proximity to the original post structures. Archival photographs and a sketch map from as late as 1940 show their approximate position, on dry stable land, with close access to the water and clustered in small groups.

Changing settlement patterns following 1890 coincide with the increasing reliance of the Native people on the fur trade. At

Fig. 3 Canoe at Rocher River

this time, Native people established log cabin hamlets at points leading to the trading post. David M. Smith describes the reasons for these hamlets in the *Handbook of North American Indians*:

> *The growing commitment of native peoples to trapping is reflected in the establishment, between 1895 and 1915, of native log-cabin hamlets. These hamlets indicate a definite break with the more fully nomadic mode of life characteristic of earlier times (Helm and Damas 1963). They were located at sites that had been major fisheries for years, and most were at the mouths of the major streams that fall into the Lake. They consisted of from two or three families up to 50 people (Canada. Dominion Bureau of the Census 1941). In addition to the proximity of fisheries, the selection of sites for these hamlets was influenced by the quality and accessibility of hunting and trapping in the vicinity and the ease of travel by canoe . . . and dog toboggan to the fort.*
>
> *In the early part of the twentieth century, people stayed in their hamlets for perhaps three weeks or a month in the fall and spring for fishing, and briefly at other times if their food supplies permitted. As fur prices became higher, and as more and more supplemental food stocks were available from the traders, people were able to spend longer periods of time at their hamlets. In some cases by the 1930s men had built additional cabins out on their trap lines to which they took their families during the trapping season.*
>
> *The hamlets closest to Fort Resolution were the first established, and all of these were founded or cofounded by Metis.*[12]

One hamlet that still figures strongly in the memories of Fort Resolution's people is Rocher River. The trading post and settlement at Rocher River significantly influenced the development of Fort Resolution when many people from that settlement moved to the fort after their school burned down. According to one elder:

> *The school burned down, so everyone from Rocher River moved to Fort Resolution. Rocher River used to be a bigger town than Fort Resolution at one time. The people built their own houses with logs, one-storey high houses. Everybody had their own. There were at least 100 people living in Rocher River, with maybe 6 or 7 people in a family, living together in one house. Rocher was a good place to live. Everybody had their own garden. People would grow potatoes, turnips and carrots, and keep*

them through the winter in the basement. There was an old ice house in Rocher River that the people used in summer. The houses were built right along the shoreline. There were also 7 or 8 houses on the little island.

Rocher River reportedly had 3 restaurants. According to Angus Beaulieu, one elder, at one time three stores thrived in Rocher River: the Hudson's Bay Company, a general store, and Pinsky's, a third store. The first owner of the general store had supplied people with goods. According to Beaulieu, the store owner "wouldn't let the welfare go into Rocher River." As a result, people were more independent. Beaulieu says of the old days, "People used to do a lot of sewing for Christmas: moccasins, mitts, gloves, jackets, parkas. There was no welfare. The kids were well dressed, even with as many as 13 in the family. To me it's the welfare that spoiled the people."

Fig. 4 Skin lodge of the Dogrib People in front of the Hudson's Bay Company, Fort Resolution

According to Beaulieu, the public school in Rocher River was built in the 1940's and burned down in 1959. The people had asked the government to rebuild the school. Instead, the government offered the people housing in Fort Resolution.

According to David M. Smith, the period of time from 1916 to 1929 were the boom years in the Fort Resolution fur trade. People out on the land lived one way of life and people in town lived another. Both populations converged for large seasonal gatherings in Fort Resolution. According to Angus Beaulieu, Native people would come in from the land and stay with families or pitch a teepee or a tent. (Fig. 4) Beaulieu says this pattern of life —whereby people would live out on the land and then gather in Fort Resolution at specific times of year— continued during the 40's and 50's, and even into the 60's. After muskrat season in June, people would come in during July, treaty month, when the government would pay out treaty. They would spend July and part of August in Fort Resolution, then head back to the land. In Spring the people brought in muskrat and beaver pelts in exchange for credit from the fur traders. They used to come in for Christmas with dog teams.[13]

During the boom years in the fur trade industry, more Metis people came to Fort Resolution to trade and to assist with the fur activity.[14]

Also during the first part of the century, the Roman Catholic Mission boarding school held a strong position in the community and region, taking in students from Fort Smith, Fort Providence, and other communities.

Fig. 5 Ft. Resolution just before 1900. RC Mission at far right

1940's

In 1938-39 the Roman Catholic Mission built a large TB hospital in Fort Resolution. The TB hospital took in patients from a wide area. Spatially, the large building completed the impressive line of Mission buildings along the shoreline. (Fig. 5) A water intake sluice, still visible jutting into the shoreline today, was dug to provide water access at the eastern side of the hospital.

The Mission also operated a sawmill and from 1911 to 1940 undertook garden trials for the federal Department of Agriculture.[15] Following this date the Mission gardens and livestock continued to hold a strong presence in the community.

Also in the 1940's, during WWII, the federal government organized the construction of an airstrip at Fort Resolution. A federal government report explains, "The Canadian airfields in northwest Canada were expanded and, as part of the Northwest Staging Route, were used for delivery of aircraft to Alaska and Russia."[16] Like the previous trading post and mission buildings, the airport in Fort Resolution was developed by an external initiative for outside interests, not from within the settlement.

During the 1940's sawmill production was strong, with 3 sawmills in the Slave River Delta providing much of the building material for mining development projects in the North.[17]

At this time Fort Resolution still looked to the water as its main focus of shipping activity. Building orientation reflected this attitude, with cabins sitting on high ground close to the water and facing out towards the lake.

1950-60 The Influence of Government

The post-war period saw a tremendous increase in the provision of government services, replacing many services of the

Mission. In 1949 the government built a 2-classroom day school in Fort Resolution.[18] Reportedly the Mission priest was at first adverse to the infiltration of the government school. Eventually, the Mission school was closed.

Health standards improved and the health benefits became a main draw for people to settle in Ft. Resolution.

David M. Smith explains the main reasons that people came to live in Fort Resolution permanently:

> *In addition to a decisive shift in the economy [from an emphasis on the fur trade to an emphasis on the extractive industries] the 1940s saw the beginning of active large-scale government concern for native peoples as the federal family allowance and old age pension programs were initiated . . .*
>
> *There were several reasons people came to live in Fort Resolution permanently. With fur prices relatively low, were it not for government aid in the form of welfare, family allowances, old age pensions and the like, people would have been compelled to lead a poverty-stricken existence in the "bush." Native peoples well knew times were changing and came to live at Resolution so that their children might have schooling to enable them to find wage employment. Since the federal school was a day school, at least one parent had to be home to look after the children when school was out. The older pattern of families living together in the bush was therefore no longer feasible, and trappers were understandably reluctant to stay away from their families in the "bush" for the seven or eight months required for successful trapping. The necessity to pick up periodic family allowance, old age pension, and other checks also held people to the community, and town came to provide the setting for the things that present-day native peoples much desire (for example, warm houses, parties, movies).*
>
> *The most important reason for people deciding to reside in Fort Resolution, however, seems to have been the presence of health-care facilities there. From the 1920s through the 1940s Fort Resolution people saw the deaths of many respected elders from influenza, tuberculosis, and other diseases and watched in anguish as their children died in the "bush." Thus, when it became economically possible, people were often willing to move into the town to stay.*
>
> *Thus, the pressures to abandon the older life were great . . .* [19]

Less than a decade after the first wave of year-round Native settlement, the withdrawal of the Mission from Fort Resolution quickened with the transfer of more of its services to government agencies. In 1957-58 the Mission and hospital were shut down. Since the late 1800's, the Mission had provided leadership in Fort Resolution for many aspects of community life, and so its down-scaling was a considerable loss. Part of the hospital

building remained, converted into a government nursing station.

In 1959, another wave of settlers moved in when the school at Rocher River burned down and was not replaced. People moved into government houses provided for them in Fort Resolution. With the provision of government housing came the straightening of streets and the positioning of rows of government-allocated houses along them. At this time the town planning initiatives of the government effectively replaced the dominant spatial allocation of the Church, the previous external authority. Little opportunity was left for initiatives by the people to settle where they liked, as they had at Rocher River.

In the case of Rocher River, the people moved to Fort Resolution against their initial wishes. Although they would have preferred to stay in Rocher River, they came to accept the government's decision to offer them a school in Ft. Resolution.

In the hamlet of Rocher River people had lived a life of relative isolation in houses built by their own hands. One elder said he had worked on the buildings in Rocher River using mortice and tenon joinery. They used a cross-cut saw. There was no power saw.

People had a sense of independence and self-sufficiency. The layout of the community reflected their own values; with access to church, a school and stores, and with each house close to the water. When faced with no other alternative to schooling their children, the people relocated to Fort Resolution, moving into government housing, fitting into a pre-determined town plan, and participating (some for the first time) in the system of government dependency.

The two settlement types, Rocher River and Fort Resolution, offer an interesting comparison: one was influenced largely by the people and the other influenced largely by outside forces. Both communities had developed from similar historical influences. Before the move, both communities contained a trading post or posts, a church, and a government public school.

In comparing the two settlements, three main differences emerge between the way of life chosen in Rocher River and the way of life offered in Fort Resolution:

Rocher River

- relative isolation and proximity to natural resources and water
- houses lining the shoreline
- log cabins built by the people

Fort Resolution

- greater exposure to outside influences (e.g. RCMP detachment and airport)
- gridded inland roads with houses in rows along the streets
- subsidized government housing

In short, people in Rocher River led a more traditional, land-based lifestyle whereas in Ft. Resolution the lifestyle was moving more rapidly towards southern-based standards of development.

A Walk through Fort Resolution, 1950 to 1996

Ever since Fort Resolution started to gain a larger year-round population, the town has progressively shaped its streets into a grid. This chapter maps the incremental development of the town based on information from historic air photographs and printed and digital maps.

Fig. 6 Indian encampment (waiting payment of treaty money) at Ft. Resolution, 1924

In addition to permanent structures documented in the air photos, we know from historic photos and some personal accounts that groups of people set up teepees in the lowlands close to the shoreline, in front of the Hudson's Bay Company property. (Fig. 6) The estimated area of teepee locations is marked on the 1953 and 1960 maps.

What follows are summaries of changes in development of Ft. Resolution during its history as a permanent settlement.

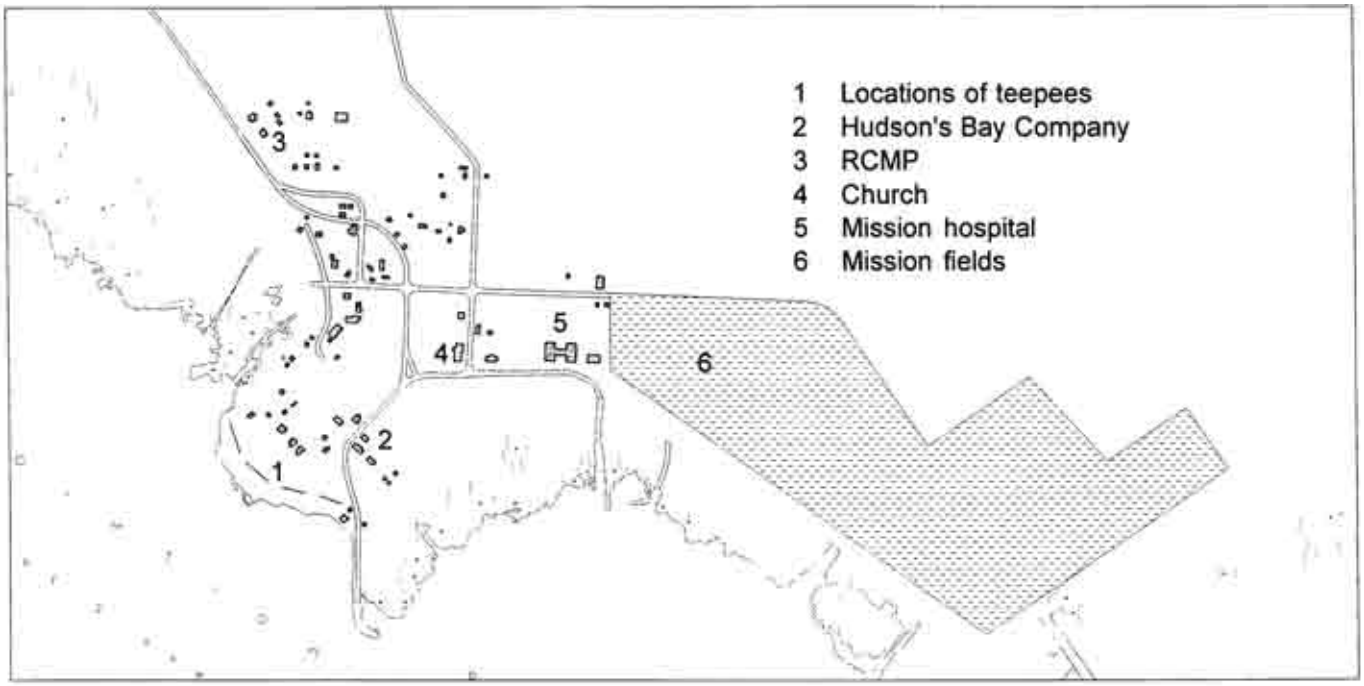


Fig. 7 Fort Resolution, 1953

Up to 1953

Settlers chose building sites on high ground close to the water. Fig. 7 identifies several distinct areas: the Hudson's Bay Company (HBC), the RCMP, the Mission and adjacent Mission fields.

1953-1960

Indian Affairs has added houses along straight roads going inland. Many scattered small shacks have settled close to the shores around the HBC property. The Mission hospital has been torn down by this time and other buildings added to the property adjacent to the North. Settlers have built houses in other areas, infilling other parts of town. The Mission fields still stretch eastward along the shoreline.

The federal government document *Northern Settlements* describes how changes in the shift of power from the church to the government affected the town at the time:

> *Although still called a hospital [the Mission hospital] is, in effect, a nursing station. With the downgrading of the hospital Fort Resolution suffered not only the loss of a major source of employment but also the leadership and guidance provided by the staff. Social assistance was given and the population became increasingly dependent upon it, to the point where such resources as did remain (hunting and trapping) were no longer used to capacity.*[20]

At this time a decreasing demand for furs in the market also made hunting and trapping less worthwhile, and the later government-sponsored addition of a cooperative sawmill in 1964 improved employment opportunities somewhat.[21]

1960-1980

By the early 1970's, the town had taken on a distinct plan of rectangular blocks moving inland from the shoreline, with rows of

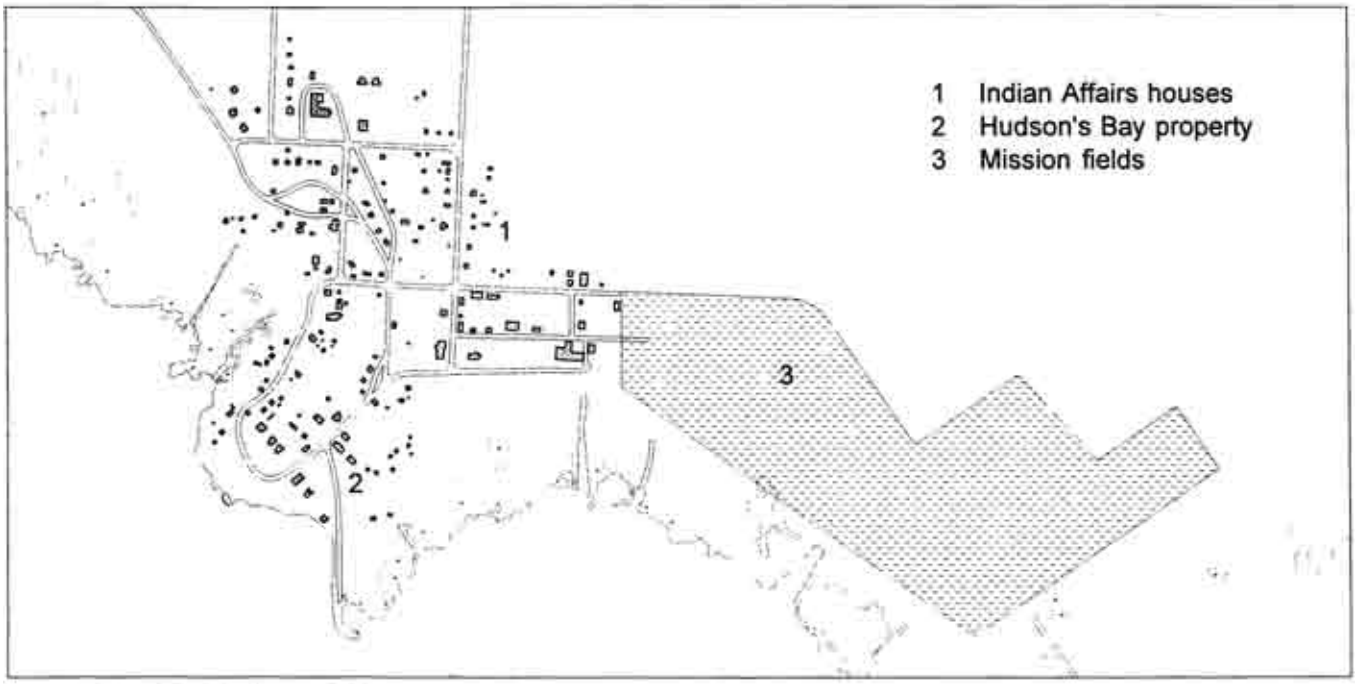


Fig. 8 Fort Resolution, 1960

houses lining the streets. In 1964 a lumbering co-operative sponsored by the government for the benefit of the local people moved into the eastern shoreline property where the Mission fields used to be.

During the early years of house construction, inequities existed for housing the Native, white and Metis groups making up Fort Resolution's population.

According to a 1960 government report, both Native and government houses filled their water tanks and Natives hauled water themselves in winter. No sewage disposal system existed at the settlement. "Buildings occupied by whites are provided with septic tanks . . . Privies and chemical toilets are also used. The Natives use outdoor toilets." Garbage was hauled once a week from whites' houses on a contract basis, whereas garbage that had piled up around Natives' houses was hauled away to a dumping site once a year.[22]

In the *Handbook of North American Indians*, David M. Smith describes housing inequities between Metis and status Indians in Ft. Resolution:

> *Inequities in the treatment of Indian compared to Metis were especially obvious in the realm of government low-cost housing. Construction began in the 1960s, but until 1969 when the territorial government took over the housing program, it was available to treaty Indians only, despite the fact that the need of many nontreaty families was just as great.*[23]

One Metis elder who was interviewed said, "In the old days when I was just a kid the Chiefs gathered on Treaty Day and met with Indian Affairs. The Chief would never go to us because we're not treaty." He pointed out that people belonging to Treaty 8 could decide where they wanted to build their house. Metis had to buy their own lot

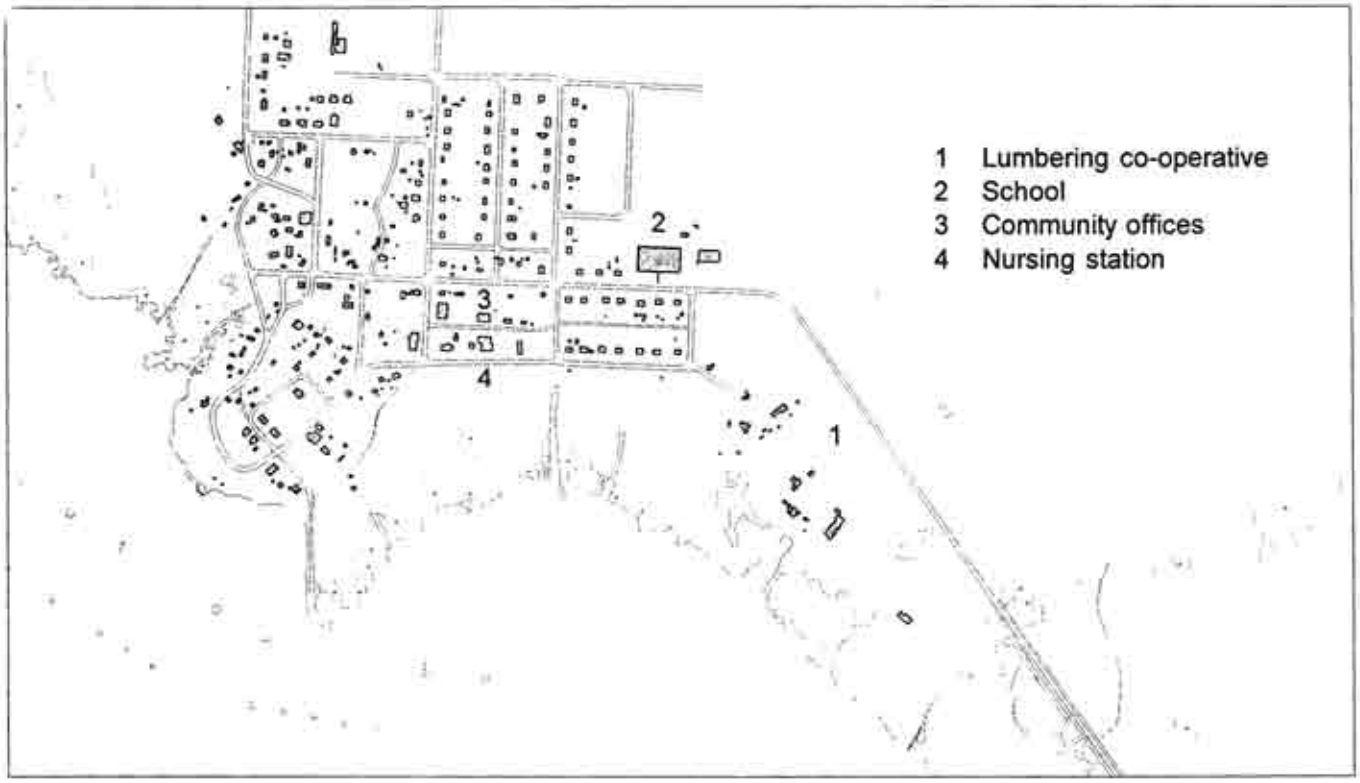


Fig. 9 Fort Resolution, 1980

to do it. According to David M. Smith, anthropologist, "In the early 1930s, some Metis were permitted to 'take Treaty' if they desired."[24]

Since that time, Metis and status Indian relations in Ft. Resolution have improved greatly. In the early 1970's the Indian Brotherhood started. The Dene Nation and the Metis Nation were formed, launching the modern land claims process. According to one elder, "All the leaders and chiefs would gather together and have meetings. Metis and Dene were working together. It was better for the community and for the people too."

1980-1984

At this time, inland development was growing incrementally along the street grid planning model. Residents were beginning to construct houses on acreage-style lots in a line along the highway leading out of town. (Fig. 10)

1984-1995

In 1988 the NWTHC determined that Ft. Resolution needed a significant amount of public housing and home ownership (HAP) units in order to be brought up to standard. Since 1988 the NWTHC has built many duplexes, four-plexes and new homes in Fort Resolution, as well as performed substantial home improvement renovations (HIPs) on many others.

Figure 11 shows several examples of the 'piggyback' condition when an owner builds a new house immediately behind an existing house. The town has developed new roads inland and housing has started to line these streets as well. Today the housing in Ft. Resolution is up to an acceptable standard. The people of Fort Resolution confirm this statement. When asked about current issues in housing, the residents responded with few complaints about housing standards, except for the need for more units for young couples and families

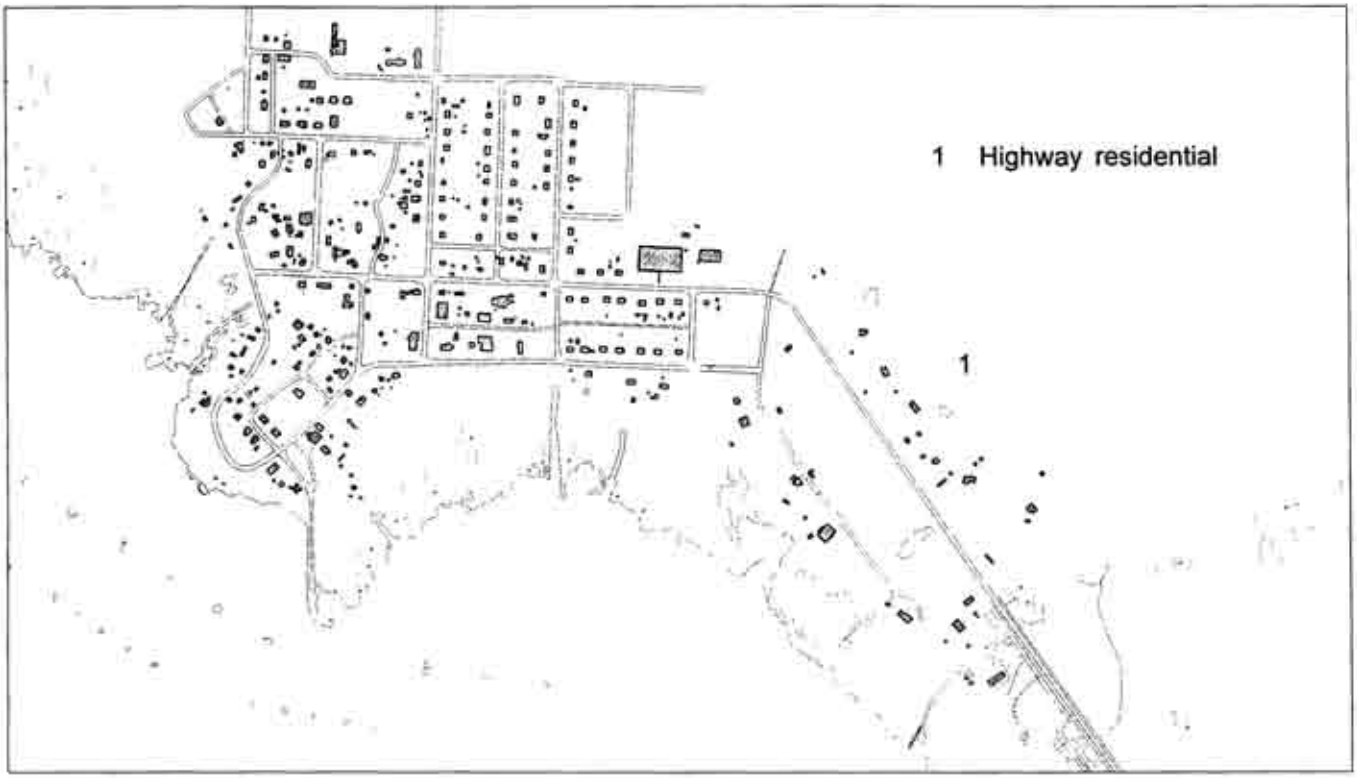


Fig. 10 Fort Resolution, 1984

who no longer wish to live with their parents. At the workshop conducted for this study, when residents were asked to make suggestions to improve housing, they listed mainly luxury items. This response suggests that, at least for those people who were vocal at the workshop, basic housing needs are looked after adequately.

Local economic initiatives currently planned for construction include a bison ranch, mini-mall, and low security correctional facility 'out in the bush.' The Deninu Kué Band's mandate is to promote land-based economic initiatives.

Fort Resolution Today

Kinship Groups

Kinship groups and proximity to family are not important for anybody consulted for this study in Fort Resolution. One elder said, "It doesn't matter to live close to your family. It's your own choice. You don't have to make a living from your parents."

Another person, when questioned about the housing situation in general, replied that the community needs more houses to split up the generations. Adults should not have to live with their parents. It is the older generation that is the bad influence. At the workshop when asked whether close relations should live close together or far apart, the choice was "far apart."

The large number of people coming through Fort Resolution over the years explains the dissolution of traditional clan groups. Intermarriages between Chipewyan, Yellowknife and Metis people since the early days of the fur trade, as well as the influence of the residential school and TB hospital (both drawing in people from a wide region) led to much cross-pollenization between locals and outsiders. Also, for a period of time, migrant (transient) workers coming through town would often leave with a wife.[25]

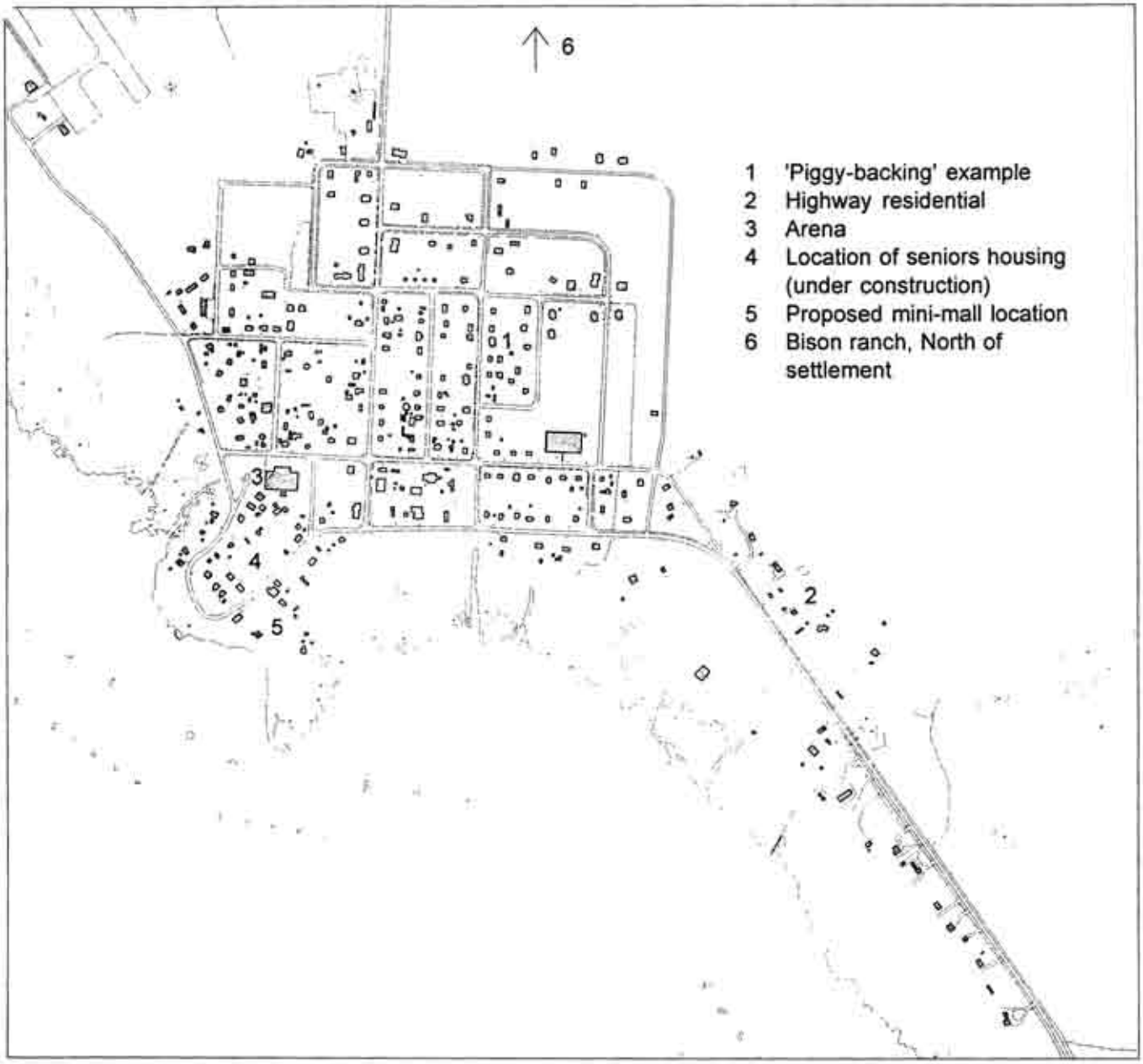


Fig. 11 Fort Resolution, 1995

Cohabitation of generations, for varying reasons, is seen to be a source of social problems in present-day Fort Resolution.

Current Settlement Preferences

Offshoot Community

Today a group of people in Fort Resolution are talking about splitting away from the community and relocating to Rocher River, where they envision educating their children according to a curriculum based on traditional ways. Others describe this idea as a romantic notion and say that there would be nothing for them to do.

Highway Development

Since the 1980's other people have been building houses along the highway into town, modelled after similar acreage-type residential development in Alberta.

Housing for Individuals

Chief Don Ballsillie emphasizes the need to build houses that express characteristics of the individual rather than housing models that all look alike. He would like to see more long-term thinking in terms of the surrounding environment. He says that with self-built units, people are starting to take pride in their housing.

Modern Standards

In general, the residents are accepting of the town plan that they have, and look to places such as Hay River (and previously, Pine Point) for ideas of community improvements and beautification.

One local builder cites the raising of houses above ground as a poorer choice than building foundations. With proper grading and ditches, full foundations could be built. The soil conditions in Fort Resolution would support this type of construction. He would like to see newly designed homes, and no more square boxes. He would like to see Fort Resolution become more modern, with landscaping, paved roads and sidewalks.

Another local builder says that he has watched the town go from a Native community to a community where Natives live. He is concerned with bringing the town's infrastructure up to modern standards. He suggests 5 main areas for improvement:

1. To install underground piped water and sewer service.
2. To provide effective municipal planning services such as:
   - legal surveys
   - street signs & addresses
   - setback regulations to encourage new buildings to line up along a street
3. To provide consistent grading and fill for new houses so that they are matched in height along a street.
4. To improve plans (layouts) for housing, and either improve northern products or do not use them.[26]
5. To improve the aesthetics of housing provided by the NWTHC.

Heritage

While pushing for modern amenities, Fort Resolution is appreciative of its past as the oldest continuously occupied permanent settlement in the Northwest Territories. Chief Don Ballsillie says that there used to be a different style of architecture in town (influenced by the Mission) having screened-in front porches and verandahs. Elements of this style could be revived. He discussed salvaging remaining mortice and tenon log structures, and developing an historical park for tourists at Mission Island. As well, the community's present initiative to restore the church recognizes the value of heritage buildings.

Notes

1 *Northwest Territories Data Book: A Complete Information Guide to the Northwest Territories and its Communities* (Yellowknife: Outcrop, the Northern Publishers, May 1990), p. 148.

2 David M. Smith, "Fort Resolution, Northwest Territories" in *Handbook of North American Indians, Volume 6: Subarctic*, general ed. William C. Sturtevant, volume ed. June Helm (Washington: Smithsonian Institution, 1981), p. 683.

3 Ibid., p. 685.

4 Ibid., p. 683.

5 Ibid., p. 684.
For a more detailed description of Native settlement patterns at this time see David M. Smith, "Fort Resolution, Northwest Territories" in *Handbook of North American Indians, Volume 6: Subarctic.*

6 Ibid., p. 685.

7 Ibid.
For a more detailed description of Metis roles and leadership see David M. Smith, "Fort Resolution, Northwest Territories" in *Handbook of North American Indians, Volume 6: Subarctic.*

8 Ibid, pp.685-686 and "Fort Resolution, District of Mackenzie, File 406" in *Settlement File, Northern Canada* (Ottawa: Department of Mines and Technical Surveys, Geographic Branch, Research Division, 1960).

9 *Handbook*, p. 688.

10 Ibid., pp. 687-688.

11 One Fort Resolution elder describes the buildings in town at this time, saying, "In the old days people painted their houses white using limestone. They used sawdust mixed with flour to plug the holes and cracks, then nailed in to stay."

12 *Handbook*, p. 688.

13 Beaulieu describes the arrival of the people at Christmas:
They used to come for Christmas with dog teams. They came in Christmas Eve for midnight mass. In the 40's and 50's it was very cold, sometimes -60 degrees for 10 days at a time. The people used caribou fur for parkas, and by the time they got here it was all full of ice. They would come right out of the bush and right in to the church to take communion.
Responding to the question of where the people stay when they come into town, Beaulieu continues:
Some houses had as many as 6 families. There were not enough fence posts around for the dogs. In those days the dogs had bells. They wore dog blankets that were all beadwork, with ribbons and a ball of wool at the back of the neck. Some dogs were decorated all fancy with beadwork.

14 *Handbook*, p. 689.

15 *Settlement File.*

16 Ibid.

17 Ibid.

18 Ibid.

19 *Handbook,* p. 692.

20 "Fort Resolution" in *Settlements of the Northwest Territories: Descriptions prepared for the Advisory Commission on the Development of Government in the Northwest Territories,* Book 2 (Ottawa, 1966), p. 83.

21 Ibid., p. 84.

22 R.T. Gajda, *Fort Resolution, N.W.T. Terrain and Site Analysis (Engineering Data)* (Ottawa: Deaprtment of Mines and Technical Surveys, Geographical Branch, Research Division, 1963) p.23-24.

23 *Handbook,* p. 692.

24 Ibid., p. 688.

25 Ibid., p. 692.

26 The local builder has had to fit a hot water heater into a tightly-planned unit, and has run into difficulties installing northern-supplied windows and tubs.

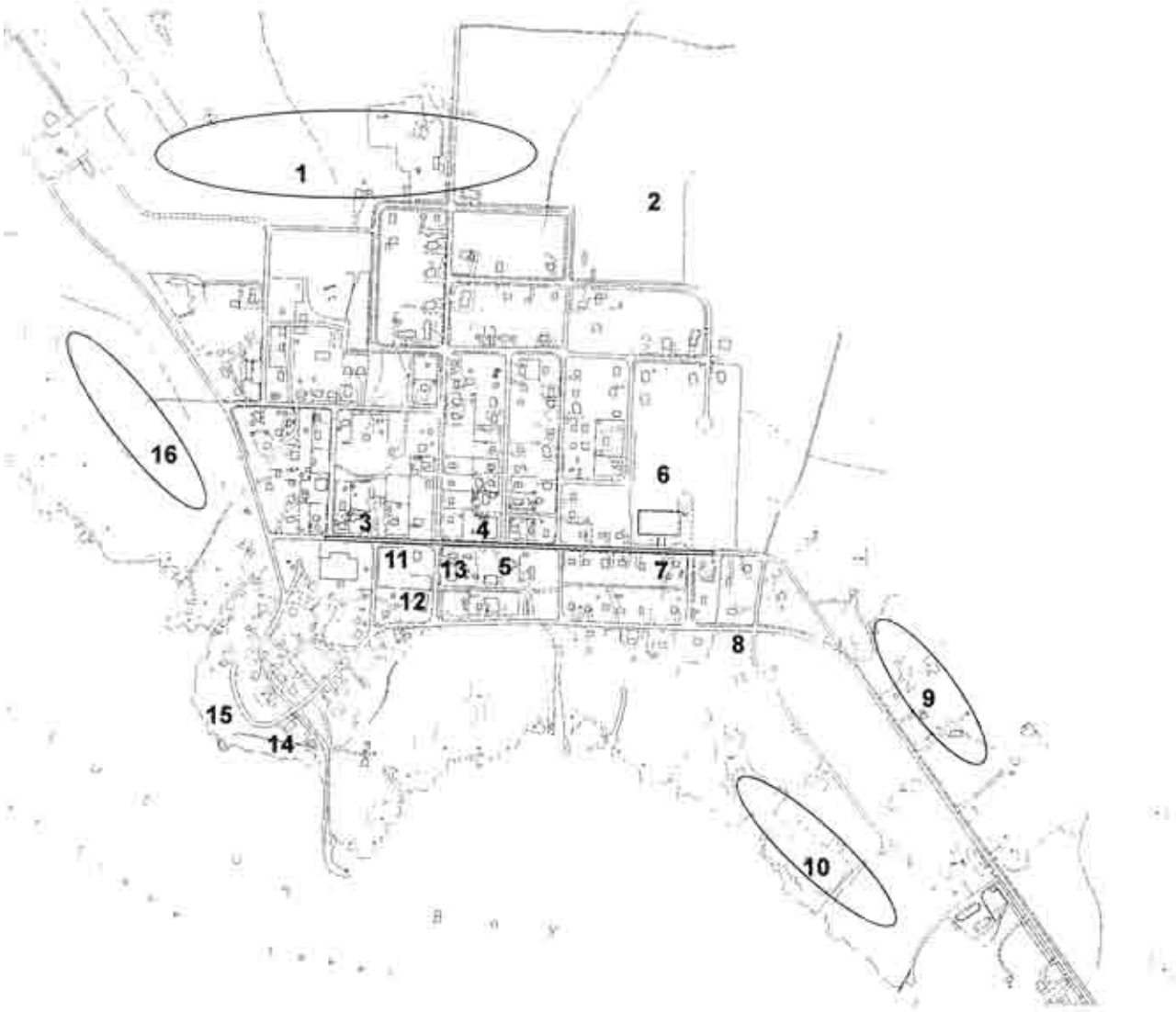
Workshop Results

This section documents the results of the workshop conducted in Fort Resolution on April 23, 1996. First, we led a brainstorm to create 'wish lists' for community planning and housing. Then, anyone who was interested came up to tables having maps of Ft. Resolution and markers and plastecine clay set out, ready for action. Participants were encouraged to work in groups and mark their ideas for community improvements on the maps. For both the list activity and the mapping activity, we urged people to put aside the usual restrictions and come up with ideas for the best possible housing and community improvements that they could imagine. They were encouraged to 'let it flow' and put all of their ideas on paper, without any pre-judgement.

Three groups of 3 to 7 participants each tackled one map, with spectators watching in the background.

We compiled the maps on the following pages from the sketch maps, transcripts, and photographs produced during the workshop. We apologize for any inaccuracies that may have occurred during the transcription of data. Any questions regarding the three groups' schemes can be put directly to the residents of Fort Resolution who participated in the workshop. These people are in the best position to understand their own suggestions and to know what they want in their community.

Group 1



1 Industry commercial zone
2 Hiking trail
3 Stan Hunter Store
4 RCMP, office complex & bingo hall
5 Old Folk's home
6 Track and field
7 Arena
8 Mall, gas station & hotel
9 Keep residential area
10 Nature trails along the waterfront
11 Northern Store
12 Fix up the church
13 Nurse's station
14 Play area
15 2 traditional tents
16 Residential lots to the island

Group 1, Fort Resolution residents

Summary

The people in Group 1 took a visionary approach to redesigning Fort Resolution, and did not hesitate to move existing buildings around. In this scheme, they relocate major public buildings and add a few more to create a 'Main Street' along the main axis coming into town. They reserve a large green area along the lakeshore on the incoming road, where the sawmill presently sits. They confine industry to one inland zone, move power and water facilities away from their prominent waterfront sites, and instead place playgrounds, picnic areas and monuments by the lake. The following transcript provides a more detailed description.

Transcript

"As you come into Res you see the North shore, with nature trails down below the residential area. In town, you have a mall, gas station and hotel. Then you pass the arena, the RCMP, an office complex, and right across the street, the nursing station stays where they are. There would be a bingo hall north, across the street. Over here you have a play area, and a general store across the street.

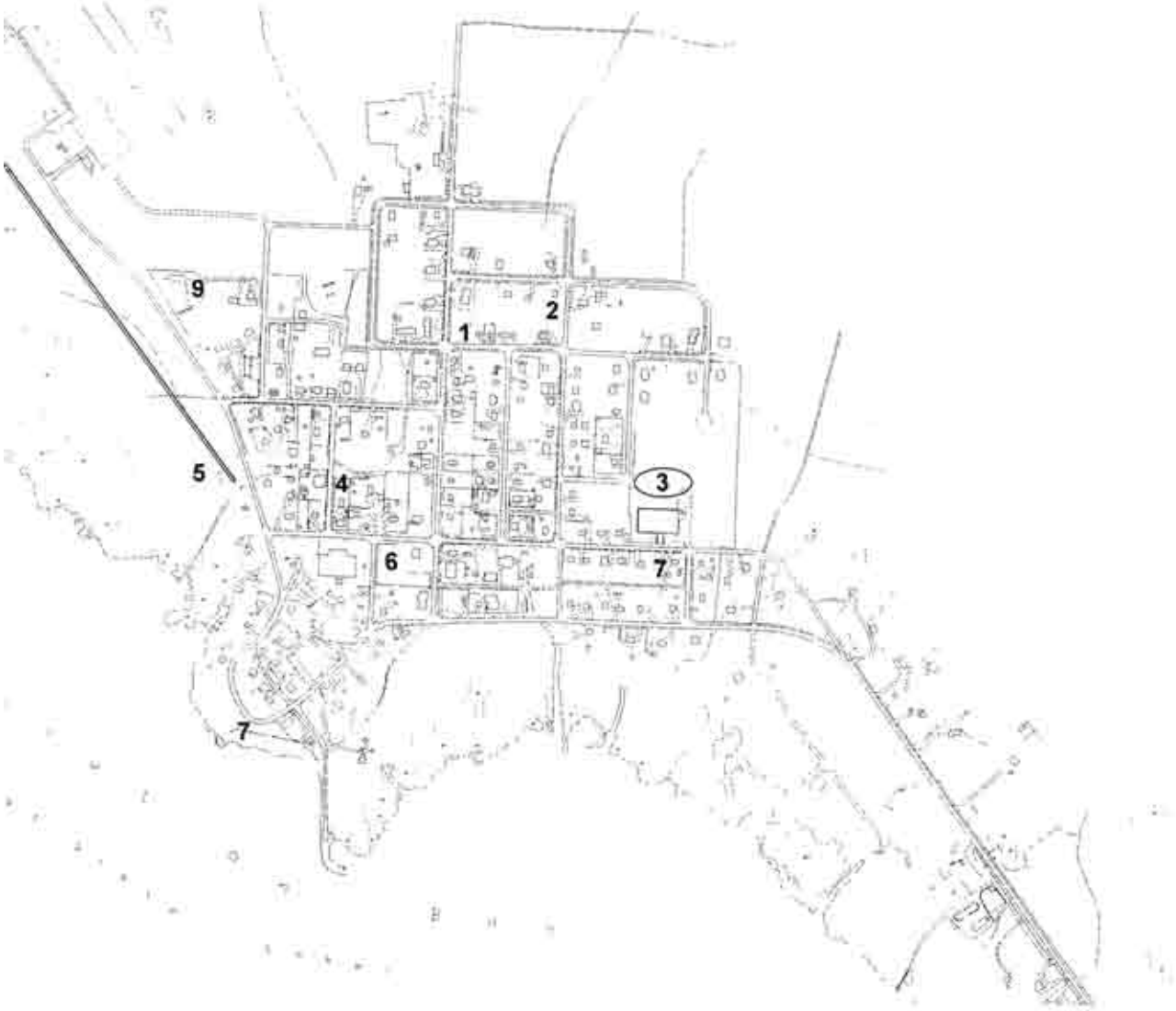
The power plant and water treatment plant are moved way out on the highway, so that we would have cleaner water. There would be no runoff from the community.

In that open field there, maybe we could add a playground there. Maybe a picnic area down by the lake. Track and field by the school, and a swimming pool behind [the] hall. A hiking trail — that old trail where Father Menez used to go skiing outside every year, that old trail would be next to a hiking trail for skiing. We would have trees all over town.

The church —we're already going to be working on it— we want to fix up the church and make it look nice again for our people.

Benches —that's over from the church— we would build shade, and put benches there, so people can sit there in the summertime."

Group 2



1 Playground
2 Swimming Pool
3 Track
4 Curling Rink
5 Ski trail, hiking trail
6 Benches, shade
7 Picnic benches, picnic grounds
8 Trees lining streets (unmarked)
9 Repair cemetary

Group 2, Fort Resolution residents

Summary

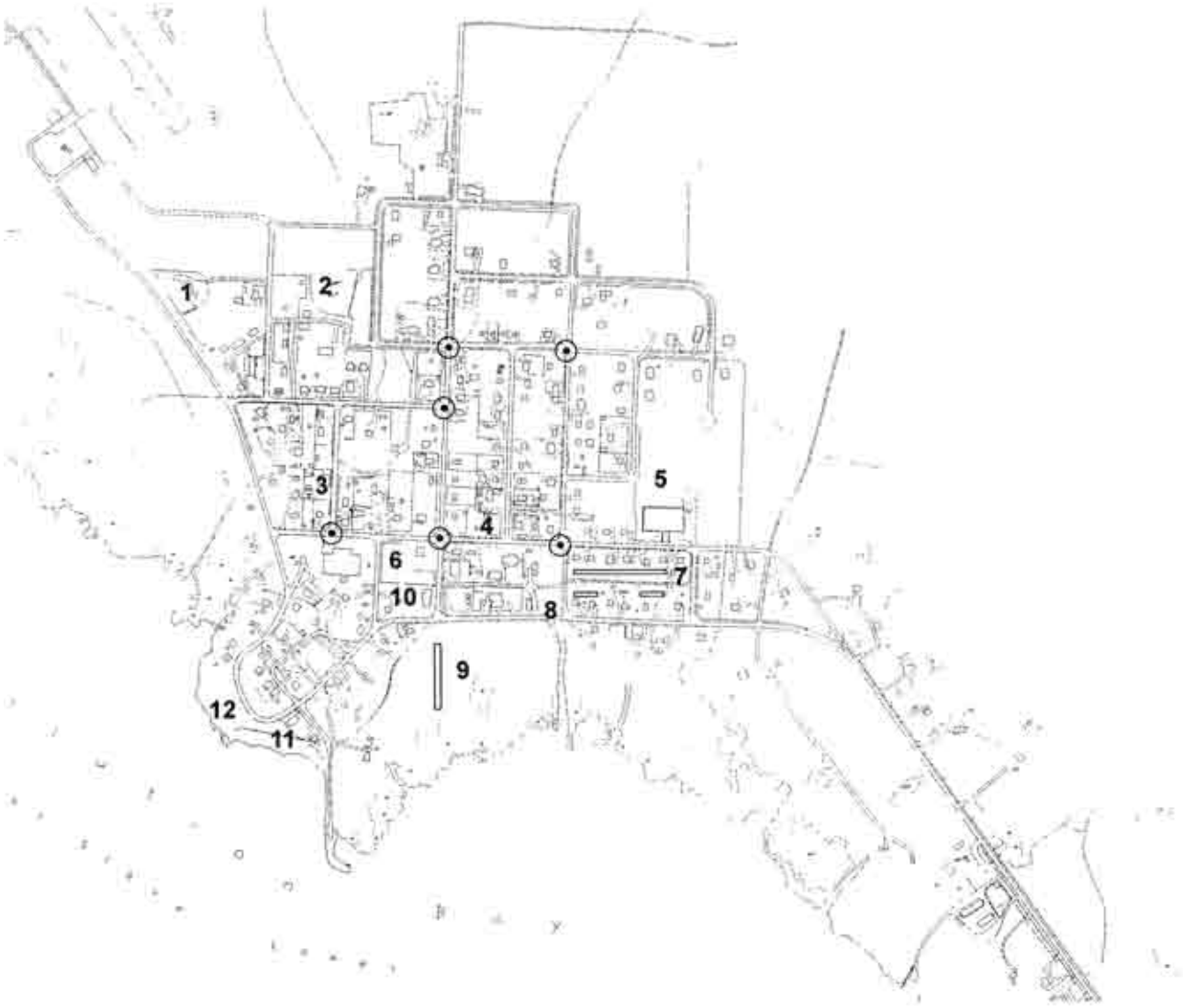
Group 2 targeted specific improvements to certain areas, that could be realistically implemented. The group also suggested having 2-storey houses.

Partial Transcript

"The green dots [on the original map] are trees. We put benches with trees for shade between both stores. Also we would put in a picnic grounds. The cemetary should be enlarged. We agree with the other groups, to restore the church."

Group 2, Fort Resolution residents

Group 3



1 Larger & improved cemetary
2 New bleachers for ball diamond
3 Benches by Hunter's
4 ⊙= Benches by the 4-way stop signs with trees to shade
5 Ski trails
6 Curling rink
7 Housing infill in these blocks
8 Flower gardens around houses
9 Sliding hill
10 One huge Christmas tree
11 Benches by the Bay store
12 Bench by the beach

Group 3, Fort Resolution residents

Summary

Group 3 had many ideas for amenities and facilities to add to the existing community. They suggested a drop-in centre or an arcade for the kids, and a place for the kids to exercise. This group also had the idea to do something with all the chips at the sawmill. They suggested putting them in garden beds and using them along sidewalks, or to fabricate them into boards or siding.

Transcript

"With this one [we planted trees on all the streets] in the community so that there's a lot of treed area . . . On all of the corners of the streets we wanted to put benches and garbage cans and that so that if people want to stop, or if the elders are going somewhere and it's a long way to go they can stop and rest. We talked about putting a curling club in somewhere, maybe near the arena. We wanted to plant a great big Christmas tree by the church that we could decorate annually. We talked about ski trails, maybe behind the school so that when the kids get out it's closer to the school. We wanted a lot of work done on the graveyard, whether it's making it bigger, or rebuilding the fence and fixing the cemetary some. Talked about putting new bleachers on our ball diamond where people could sit down and watch ball games. I think some of the benches there aren't that good. We talked about a shooting range, we don't know where we want to

put a shooting range. Some say we could use the curling facility for that. A mini-golf course, it doesn't have to be a large golf course, but some place where kids could have some fun playing golf. A swimming facility, whether it's winter or summer, some place where they could swim. We know we have the beach front but we don't know how long that's [going to be used] and with the mercury in the fish we don't know how healthy it is for the kids to be swimming down there. There's a section back in here where the houses are spread out, the houses are kind of far apart and there's a back road in there. We figure there should be more houses put in there. And then there's a little site right back here where the grotto used to be. We want to make sure that we can preserve that because, I know in May when I was a kid I used to go back there, and there's a place where they had the blessed Virgin Mary in the rock. We should try to preserve that. And other than that, I think that's it."

Brainstorm Sessions

The two brainstorming lists which were generated at the workshop meeting are included here as an appendix. All of the answers were recorded, without judgement.

Brainstorm: Housing
landscaping
swimming pool
basements
garden
decks
skylight
mansions
verandah, screened-in
guest cottage
energy efficiency
low-E windows
garage
heated bathroom floors
jacuzzi
saunas
hot tub
sewing room
exercise room
R2000 housing
bigger homes
bigger sitting rooms
maids
built-in fireplace

facing the lake
upstairs
nice smokehouse
air conditioning
solarium
central vacuum
hardwood floor
pine ceilings
ceiling fan
wall-to-wall carpeting
built-in waterbed
no drywall; all-wood interiors
wood stove
closets & cupboards
great big play room
security system
sprinkler system
flowers around the house
fountain
apple trees
fish pond

Brainstorm: Community Improvements

Community beautification
Playground
Fencing
Bleachers in the school
Gardens
Restore the church
Fix the wharf
Families far apart
House by the waterfront with a big bay window
Park with benches where people can go for walks
Sidewalks
Paved roads
Picnic areas - part of tourism planning
Tents for our elders
Restaurant
Craft shop
Lawns
something for the elders where they sit in the shade behing the church - benches, etc.
Improve roads to hunting areas
Improvement to the graveyard
Planting trees along the roads
Cut down power poles (put them underground)
Tannery
Get rid of the dogs (move them)

View of Kakisa

Káágee Tu, **Kakisa**
History and Background

Kakisa, like Trout Lake, Jean Marie River and Nahanni Butte, is one of the four small communities of the Deh Cho. In Slavey, Kakisa translates to Káágee Tu, which means, 'between the willows.' Kakisa's logo represents its identity, illustrating all of the features important to the community, including the sun, water, Cameron Hills, trees, grass, animals and people.

Most of the following information was provided by the residents of Kakisa.

Early Settlement

Sara Chicot has lived in the Kakisa area her whole life. She explains the story of the settlement of Kakisa: "In the 1940's people were staying here [at Tahtlina Lake]." At that time there were 9 families staying there. She continues:

There was a big forest fire. Ashes fell in the lake and the fish died. A lot of dogs died, too. So the people moved away from there.

They first moved right across Kakisa Lake; there were cabins there [on the opposite side of the lake]. In '79 or '80 there was a big fire right across and they moved on this side.

On Tahtlina Lake they lived in little shacks with tree bark on them. They took clay and mud and put it all between the logs. People didn't have roofing so they put moss and dirt on top of their roof. The houses were further apart than here. They should choose a solid place where the house wouldn't shift. They maybe stayed there all winter but in summer they would go to Providence for treaty. They also went when they moved here but not anymore.

People lived as well at Dogface Lake.

Original log cabin, Kakisa

People used to all go in the 30's for Spring hunt: muskrats, beavers, stuff like that. They used to paddle all the way down to the MacKenzie River. One person would have to kill no more than 25 beavers, and as many muskrats as you wanted. They would sell them in Providence or Hay River.

In April and May, people were moving around the lake. In summer, the people would travel by canoe. On treaty day they used to go to Ft. Providence from Tahtlina. In winter people used to travel by dogsled on a road between Tahtlina and Fort Providence. The mail would arrive this way.

There was no highway in the 1950's. The gas and oil company would make a road in winter time. You could send a letter with the oil companies to a doctor in Hay River, or catch a ride with them.

They made a house with branches and moss, close to Beaver Lake. People were all over the place.

People moved around a lot before moving to Kakisa. They barred the windows on their cabins and lived in tents to hunt beavers. Sara Chicot describes how the permanent settlement came to be.

In '57 and '58 they cut a lot of logs to build these log houses. The people cut those logs themselves. They peeled all those logs and they left them for a year to build the houses. They had difficulty finding a carpenter to help. There was a guy from [Fort] Smith, Bill Barrins, who came. Then he had another job and went back. After that there was an old guy, Crosby McNott, who came to help the people build the log houses. They started building these houses in 1960 or '61. Just when the houses were complete he drowned in the river. [After that was Jack from Indian Affairs.] A guy called Larry came from Hay River and helped the people finish these log houses.

On September 15th, 1962 they moved into those houses. There was no running water, just a wood stove. There were 8 log houses plus one smaller one originally. Now they are used for storage or as extra places for people to stay.

The people were living here year round. There was commercial fishing, too. In the 80's people started building HAP houses.

They were going to put all the houses on that side but some elders checked and said it was moss there and the houses would sink.

About 23 years after the original 9 houses were built, the recent housing activity started in 1985 when the leadership asked for more housing. In 1985 Kakisa got electrical power. Then the government provided municipal services, water and sewer, and later a school. Before that, the children were

New Alternate unit

sent out to a hostel-type of boarding home for school in Ft. Smith, Ft. Providence, or Ft. Simpson.

The people at West Point (near Hay River) formed an offshoot community from Kakisa. They left in the early 70's.

From 1986 to 1995 ten additional houses were built in Kakisa under the HAP, unilateral and Alternative home ownership assistance programs. In the fall of 1992 the community cleaned out all of the old garbage, including old vehicles.

Current Housing

The older houses, the original log cabins, are generally used for making dry meat and other tasks.

Now, it is mostly elderly people, ages 50 to 98, living in Kakisa. There is little long-term work for the younger people to come back for.

The Indian Agent's old house has been renovated for a drop-in centre and literacy classes, as well as a place for the younger people to hang out. Soon the community will build a walkway alongside the central open space. This summer a new store will be built.

The only other concern right now is to build more housing. Right now a few families want to return. The Band is looking at building more houses in the future for these people. They will probably not be built on the other side of the road (where the garage sits) because the soil is unstable. It has too much water. Closer to the river, where it is cooler in summer, would be a better location for houses.

Housing Concerns

When questioned about her new house, one elder said, "This house is really good. I like it. I can wash clothes inside too." For the same house, the residents requested a second door to be installed because this past winter their only door became stuck while they were inside.

Leadership

The Band Council looks after everything now. To request a house, a person sends a letter to council and from there they make the decisions. Recently, the Indian Act, through DIAND, gave Kakisa's leadership authority over housing and other matters by granting band status.

A Walk Through Kakisa

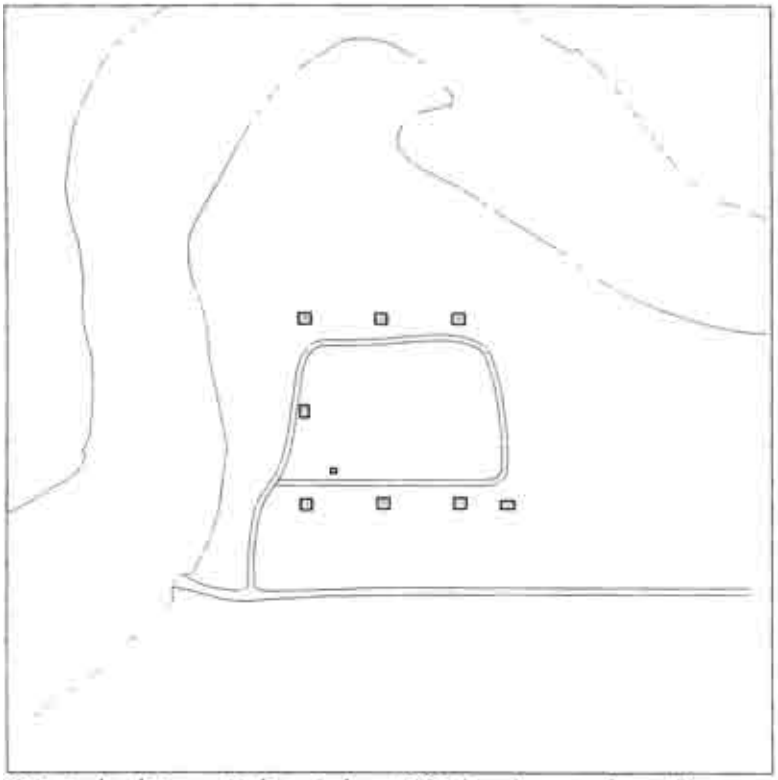
A walk through Kakisa today shares several similarities with a walk 10, 20, or 30 years ago. The original 9 log cabins still line the square, the trees still tower high above, the comforting smell of smoke still fills the air. We have prepared only two incremental maps to document Kakisa's settlement history because its dominant form and its overall character have changed little from the early 60's until today. The original road and lot structure, the access road, the large open space in the centre, the trees and the Kakisa River are dominant forms that have persisted throughout Kakisa's 35 year history as a permanent settlement.

Siting
Kakisa sits on high ground at the mouth of the Kakisa River where it opens onto Kakisa Lake, at the end of a 13 km access road from the MacKenzie Highway. Traditionally the area is an excellent fishing location and a good trapping area. The initial development takes the Kakisa River, a well appreciated natural amenity and still significant resource, as its front view. More recent development has followed the river shoreline to both sides of the original settlement.

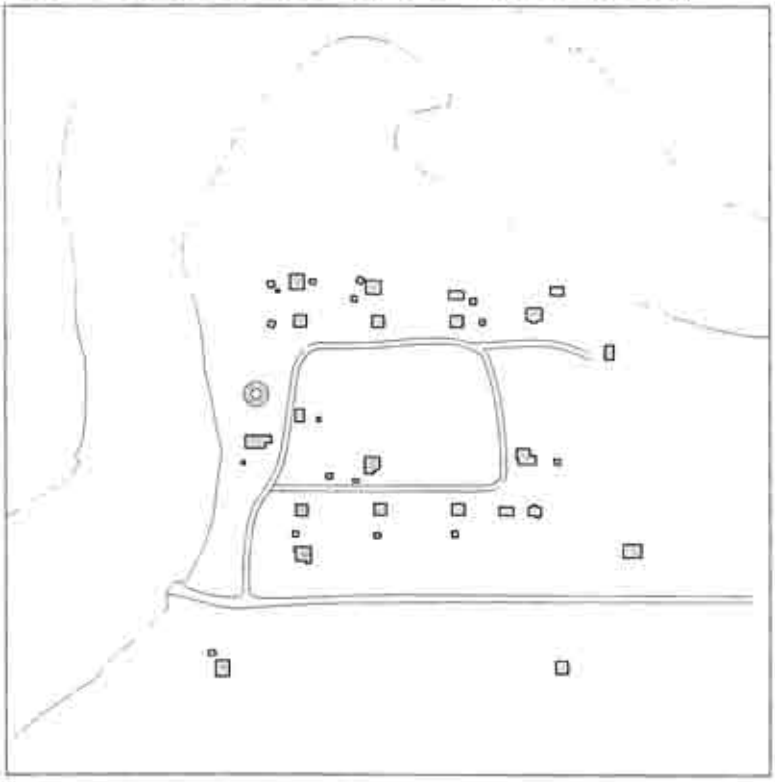
Original Settlement
The initial settlement was built by the people under the guidance of outsiders. Seven original log houses look onto a generous rectangular open space, symmetrically placed with two rows of cabins facing each other from opposite sides, and two other small houses sitting on the edges of the square itself. The open space in the centre sits perpendicular to the shoreline of Kakisa River, with views to the water.

Landscaping
Unlike other communities where the settlement area has been cleared for firewood within a visible radius, in Kakisa tall conifers generously grace all parts of the community. They are a significant natural amenity specific to Kakisa, together with the original log cabins, the river and the smell of smoke houses.

In addition to the tall trees, the rest of the groundcover appears to be controlled wild, natural growth. Tall trees form screens between residential lots and provide spatial



Original cabins at Kakisa Lake, 1962 (road unconfirmed)



Kakisa, 1995

definition. Trees also create a sense of enclosure at the edges of the community and at the river edge.

Gathering Space

The gathering space in the centre of Kakisa would be a pleasant civic square by any southern standards. It rests on the highest ground, is well treed and is defined by buildings on all 4 sides, two sides originally and two sides more recently developed. When used for gatherings, tents are set up on this site. Every resident who was asked about this space agreed that it should remain as it is, that this area should not be built upon. Presently there are three existing buildings within this area. One is an original log cabin now used for storage, another is the former Indian Agent's house and former band office, recently converted to a youth centre, and the third is the new band office and community hall, completed in 1995. The two inhabited buildings are both regarded by residents as gathering places themselves, and so are appropriately sited in the central open space.

Integrity of Plan

The integrity of Kakisa's unique architecture and planning layout is so strong that all subsequent development has adapted within its parameters. Kakisa's growth has largely followed a subdivision plan prepared in the 60's. MACA has been involved for the past 20 years to provide functional and

basic services. In spite of the existing plan, buildings are positioned in the location decided by community consensus. More than once, the opinions of the people have varied from the planners' directions, and the buildings have been placed where the people want them to be. Even so, the community's judgements respect the basic settlement form of a public gathering space surrounded by houses.

A typical lot having 2 houses as well as out buildings framing a courtyard.

Piggy-backing

In Kakisa as in other communities, residents tend to build a new house on the same lot behind a previous house. Here during the 80's, this method became a rule. Most of the seven original log cabins now have a second house built behind. Unlike other communities, this infill has not placed any strain on the overall community plan. The large lots have easily allowed for the expansion, and the newer buildings blend in well in colour and material with the older ones. In most cases, the older cabins are still used but not lived in.

Residential 'Courtyards'

Each household occupies a 'double' lot. Because of their size, the lots have comfortably accommodated the construction of a second house as well as various other small structures for cooking, smoking and storage. The arrangement of house, smoke house and warehouse frames a residential-scaled open space between these elements.

Ownership and Participation

In Kakisa all buildings are owned by the people. Nothing is rented from the housing corporation, although some land is leased. As well, the original buildings, the HAP houses and recent community hall were built by the hands of the people themselves. Julian (Alan) Landry is a journeyman painter/drywaller who has proven his capability to construct housing projects, hiring local labour to help. He is an example of the potential for self-sufficiency in the construction industry, even in a community of this size.

Functional Services

The integration of functional services into Kakisa's existing plan and lifestyle has been relatively smooth. Everybody appreciates

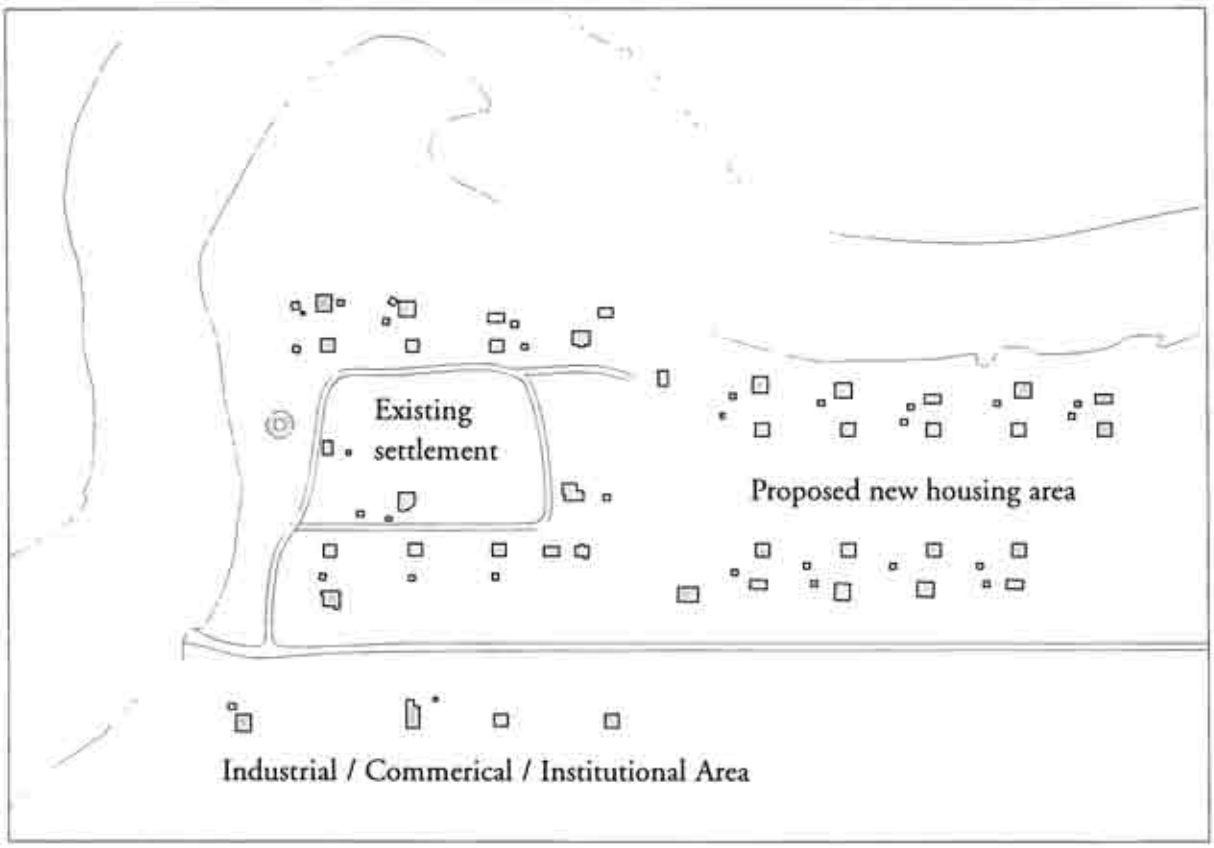
View of road showing trees and hydro poles.

the running water. None of the services seem to have compromised cultural or social values. Utility poles, for example, follow the existing rectilinear road structure and are less prominent because of the presence of tall trees. No generator hums in the background. The wide spacing of units has permitted easy access for vehicles and trucked services. All units built since the 80's contain both a wood stove and a furnace. The wood fire holds significant meaning for the people, reminding them of who they are.

Where the introduction of services has conflicted with community wishes is in the provision of surveyed lots. The roads in reality do not follow the lines indicated on the map provided by MACA. One house, built a reasonable distance from the existing road, on the map appears to sit directly on top of a road. These examples point to the discrepancy between local concensus decisions initiated within the community and planning structures imposed from outside the community.

Regardless of the subdivision plan, the community of Kakisa places new buildings according to community consensus and incremental judgements. Any future plan will have to be flexible.

Clearly, Kakisa's existing plan has served well for development up to this point.



This drawing, compiled from workshop results, indicates the general placement for future development without being specific about the size or number of units.

Workshop

Chief Lloyd Chicot, Ruby Landry and Mervin Simba participated in a workshop on April 3, 1996 to discuss Kakisa's development history, as well as what they envision for the future. A plastecine model of the settlement remains with the Band for future use.

At different times in the past, the community supported a store, skating rink and community garden. Presently, the main concern is to build more housing, and this issue became the focus of the workshop.

Together, these residents arrived at a preferred arrangement for the next houses, already planned to be built somewhere in the area to the East of the current settlement. For the first time, the community will be building a new neighbourhood 'from scratch'. At the time of the workshop, they had not yet chosen a scheme from the options presented by MACA. For this reason, the workshop was well timed to have residents consider alternatives that they may not have thought of before. Their priorities for the development included:

- continuing to build in 2 lines extending from the existing family groups
- building straight roads, for easier servicing now and in the future
- building housing on the river side of the access road, and commercial and industrial development on the other side
- keeping one controlled street entrance to the residential area by the lake, without adding another access point at this time.

Mervin Simba and Lloyd Chicot considering the existing settlement

The proposed arrangement for the new neighbourhood

Dechı Laot'ı, **Snare Lake History and Background**

According to oral history, the area around Snare Lake had been revisited by Dogrib people for generations. An archaeological assessment was carried out in the area of the airstrip in 1992 prior to construction. Several hearths were noted, indicating that temporary hunting camps had taken place in this region over many years for brief periods of time. The hearths range in date from perhaps 250 years old to 50 years old.[1]

Snare Lake had long resisted modern development until the leadership started to request a variety of services in the mid 80's. Since then, development has progressed rapidly. Electricity was introduced to the community in 1989. Today the school has one computer for every 2 students. From their own life experience residents can speak about a traditional way of life.

The community of Snare Lake has developed with relative autonomy from an outpost camp to a community of over 130 people with a range of modern amenities. Residents describe four land and water routes to get from Snare Lake to Rae, including a winter road. As well, the community is accessible by air, originally by float plane, and more recently by aid of an airstrip. There is no access road in summer.

Residents Madeline Judas, Chief Joseph Judas, Alexis Arrowmaker and Charlie Football largely provided the following information about Snare Lake.

Permanent Settlement

Madeline Judas was only 10 years old when they moved but she remembers. According to Madeline, "In 1961 the people stayed in tents here where the community of Snare Lake now sits." She remembers in 1962 they came by boat over 42 portages to Snare Lake. In her words, "Johnny Simpson and Alexis Arrowmaker had decided to do something because the tents were no longer good enough. It was called an outpost camp, and they built log houses. They started building houses to depend on later.

"The reasons why they chose to settle in this particular spot are that it was a good area for trapping, for setting nets in the channel and good hunting ground. The caribou always passed through here every year.

"The original 10 houses were built like a circle with an open space in the middle. This space was good for the kids to play in. Later, because they didn't have a school gym, the kids would use the open space."

"We didn't really settle here at the time when we built the houses," explains Madeline. She continues:

> *We came four times —we spent winters out here— before settling here. In March, at Easter, we would go to Rae, and stay in Rae for Easter. After that we would travel back to Russell Lake or towards the Snare Dam. We would trap for muskrat, beaver. We'd spend May there.*
>
> *In June the men would travel to Rae and sell, then come back. The women would tan hides and all that, then go back to Rae and spend our times there for treaty.*

The 1984 document *Snare Lake Community Plan*, produced by the GNWT Department of Local Government in association with the people of Snare Lake, reports:

> *In the late 1950's some men from Rae sought government funding to construct permanent homes at Snare Lake . . . The first permanent house was constructed at Snare Lake by Johnny Simpson, and had a canvas roof. In 1962 ten houses were built and the following year seven more were constructed. Thus Snare Lake became a permanent settlement.*[2]

When asked about the circular formation of the houses, Alexis Arrowmaker said that the Snare Lake people never planned to build it the way it is. They just built their own houses the way they put the logs.

According to Joseph Judas, at that time people still used to stay in tents as well. People were using dogs, not skidoos. They needed space to tie the dogs near the house. There were always close to 100 people, mostly from Rae, those who travelled this way. By now they have all become old. Now they live in Rae and they don't come anymore.

Why Snare Lake has no trees

According to Joseph Judas, the reason why no trees are left in Snare Lake is that the original settlers wanted to see the lake. It was a good view. Also at that time they were using dogs for travel, and they needed the space to tie them up.

Before Snare Lake was settled permanently, tall trees used to cover the site. When the first buildings were built, there were lots of stumps around. The people didn't like it, because the kids climbed on them.

Leadership Formation

Joseph Judas describes the pace of leadership and development in Snare Lake. He says:

> *Right now the way I see it when I look back at the 70's, the elders were powerful, working all over the land. It was kind of scary to talk to them. Into the 90's in Rae and other places, the younger people were starting to take over things. The same thing was happening here. With the younger guys, no interpretation was needed and everything was going faster than before.*

In the 1980's the community was talking about establishing themselves here. They asked the government for a school. The teacher used to stay in one half of the old band office. Then the community built a building for the school behind the band office. Teachers would come in from Rae Edzo, exchanging every month. In '83 or '84 the first teacher came in for the whole year.

The following year, the people started talking about a settlement. The Snare Lake people started to set up a group working together to deal with the government. In 1985-86 they established the Chief and Council. In '83 Joseph Judas went to Fort Smith [with the Sub-chief and Council] to talk about a school, freezer, garage, roads, etc. Later they talked about a fire truck, water truck, and sewer truck.

Mr. Whane used to be sub-chief, then Alexis. These people were talking about a lot of things to be happening in the community. In '89 Joseph Judas took over. Then, "Everything started moving so fast."

As of December Snare Lake became its own band, no longer a sub-band, having been granted band status. Judas says, "Now we can try to create more things for the people."

Community Planning

The 1984 *Community Plan* states:

> *In 1978 the local people requested that Snare Lake receive settlement status. At that time a Community Land Use Plan was drawn up in order to allocate lands for various uses.*[3]

At the time of the report,

> *Snare is a sub band of the Rae Band . . . There is a Settlement Council organized in*

Snare Lake, the DECHI LAOT'I Snare Lake Council. Generally, Band Council and Settlement Council are composed by the same members in Snare Lake.[4]

Joseph Judas says:

From 5 to 7 years ago, government staff started coming here often [because of] people asking for something. They started talking about community plans, about how it's going to look like. The people are thinking about Rae or somewhere else. These people come here to tell us the community plan, where the buildings should go. From there the people [start to build things].

He explains that before that time, related people stayed close together: "Elders have to stay close, they can't walk that far. The younger people don't have to, they can walk. In the old section, it's getting pretty crowded, which is a concern in case of fire." Joseph says that "People still want to have space here."

He explains the reasons for recent development decisions: "For the hotels we're looking at how other generations are going to survive and benefit from economic development. At the same time, the four communities are talking about claims and development together [Rae Lakes, Wha Ti, Rae and Snare Lake]. For their own people, for future generations, they are looking at a store and hotels."

He explains the community decision-making process for development: "In Snare Lake there is no hamlet council. The Chief and Council run the whole show. Everything goes through the Chief and Council to decide where buildings go. The elders live where they want to, it's up to them. For the younger people, we try to find them a lot."

Future Community Planning

Knowing that housing and planning powers will soon be transferred to his community, Joseph Judas went along with some other Chiefs to look at examples of other communities.

The Chief and Council are supportive of the need for water and sewer access, and the need to be wary of soft soil. "The people have to stay where there is a good spot."

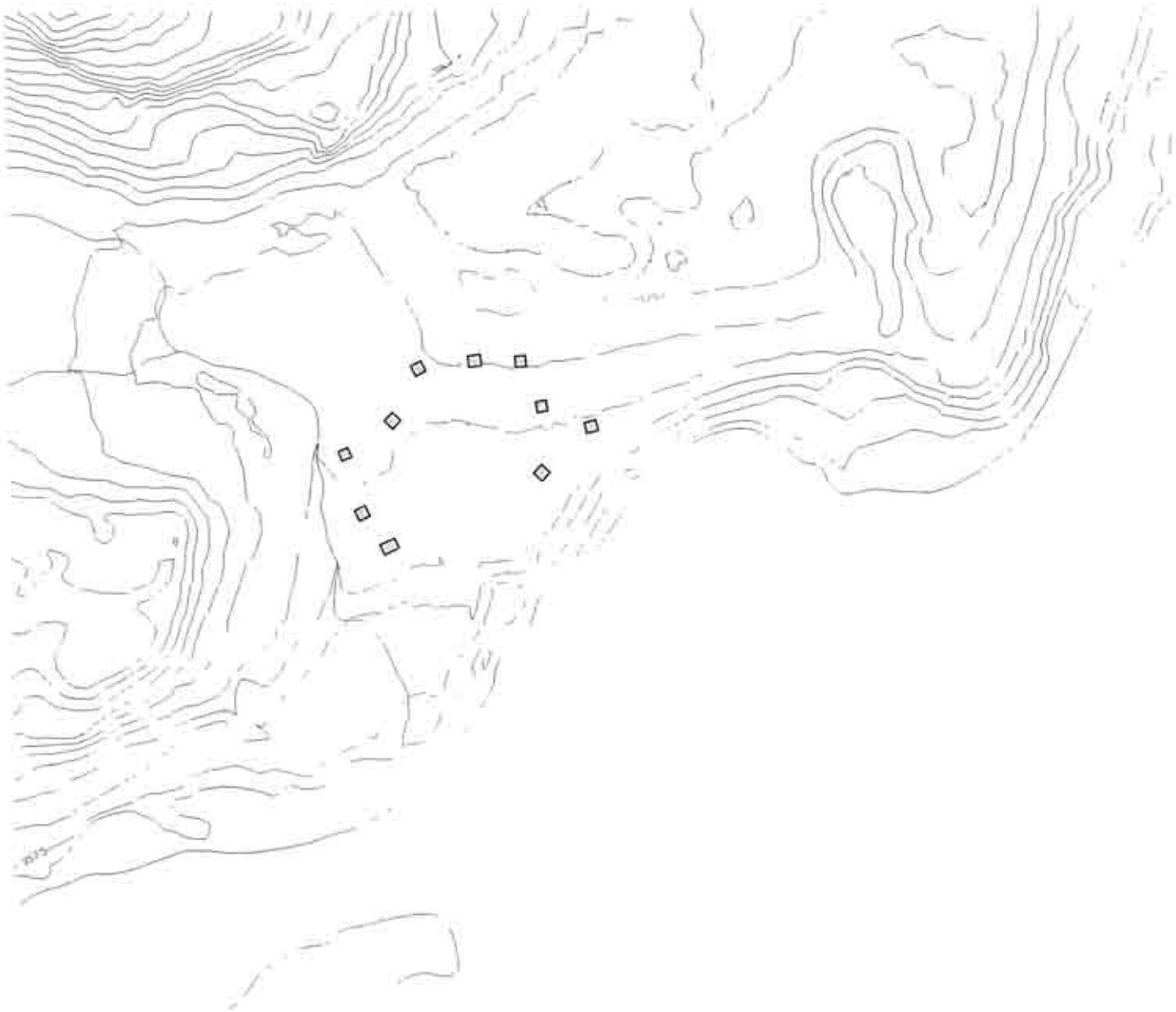
With the chiefs, Joseph went to Kakisa, Rae Lakes and Rae to see what the neighbourhoods are like in these places. He observed that right now in Snare Lake because of the size of the lot people can have 5 warehouses if they want. Right now in Rae the houses are lined up beside each other. They have the highway; they need access for vehicles. In Snare Lake they have only airline access so the need for vehicles is less. In Rae the buildings are 50 to 100 feet apart. They have space for power, and sewer and water truck traffic.

As part of this tour, Joseph was looking at who has a hamlet council and who does not

and how this administration affects the delivery of housing and planning in various communities.

Joseph Judas relates the provision of lots to the construction of a gravel pad. He identifies this type of construction with the communities having a hamlet council. In his words, "In the last 10 to 5 years we didn't want a hamlet [council] or lots. Around 8 years ago the government started to give us 2 to 3 buildings in a year. They had to have some kind of gravel, to put the building on top. The elders were afraid that each building will be for government staff. Once the gravel is there the elders think it is a government building."

According to Joseph Judas, in Snare Lake they want to choose the best way to go. They can make it one way or a different way. In the next 30 years, people might have vehicles or something else going. They are thinking about the next 30 years.



Original settlement cluster at Snare Lake, 1963

A Walk through Snare Lake, 1963 to 1995

The community of Snare Lake settled on the shore of Snare Lake on a gently sloping plane defined by rocky outcroppings. The initial ring of buildings and subsequent development follow the logic of traditional knowledge, existing topography, and orientation to natural amenities. The original builders positioned log houses in the form of a circle, with each house facing a view of the lake where the caribou pass through in April. By contrast, more recently developed lots relate more to the road that they follow, prioritizing access by water and sewer truck.

1963

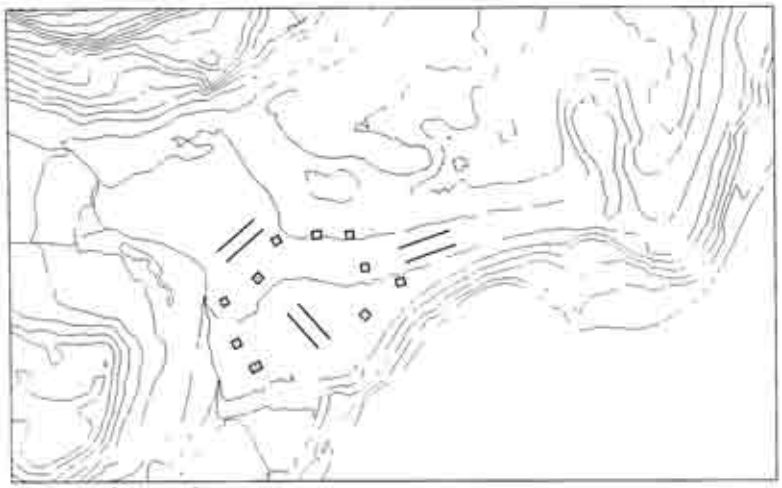
Chekoa nàgozhe k'è

Playground

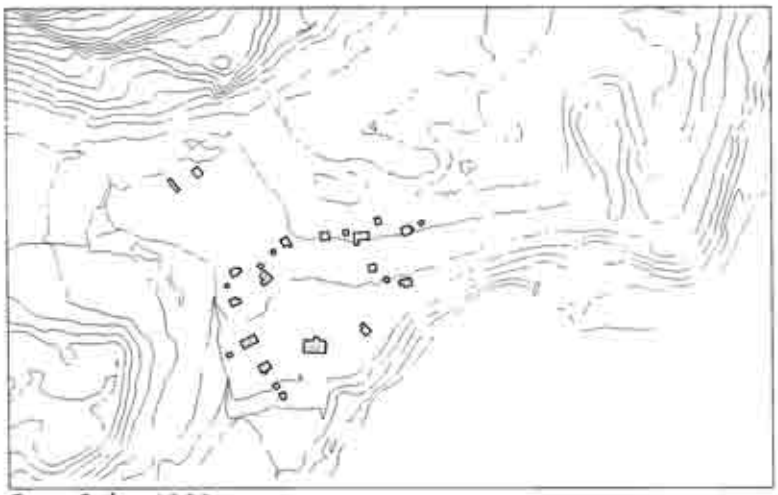
This is the name for the circular compound in the centre of the community of Snare Lake. Nora Simpson's father, John Simpson, decided that this area should never be built upon. It would always be reserved for a playground for the children. The adults in the town do not like the children to play on the outskirts, because they fear the bears (or bushmen) may bring harm to them.[5]

The first builders placed their houses in a ring formation, set on a sandy plain on a high point above the lake, and enclosed on three sides by higher ground and rocky outcroppings. The houses in the original configuration are spaced wide enough apart to leave room in between for a smoke house, warehouse and outdoor storage.

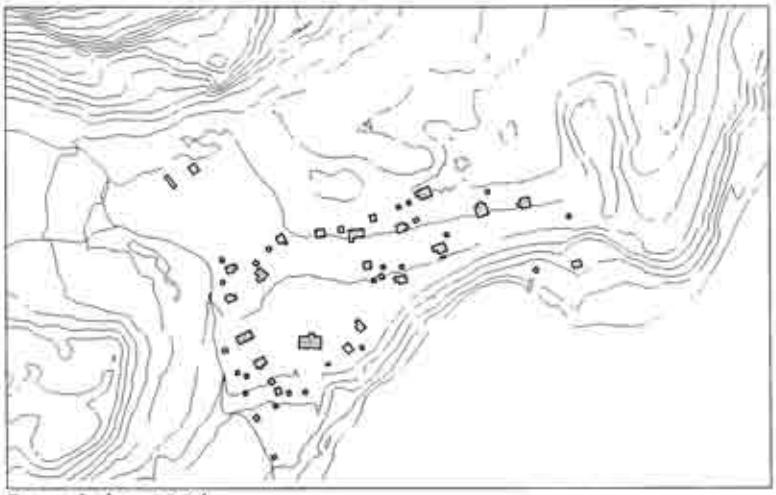
An analysis of the original houses and subsequent 'organic' development close by reveals that any new buildings and additions were placed without obstructing the



Snare Lake, 1963



Snare Lake, 1980



Snare Lake, 1984

views of those who were there before. All of those buildings from the original ring that are still in use have been added to, and residents still inhabit most of these today.

The bars on the 1963 map indicate the approximate location of the tents that were seasonally set up in the Snare Lake area in the early days.

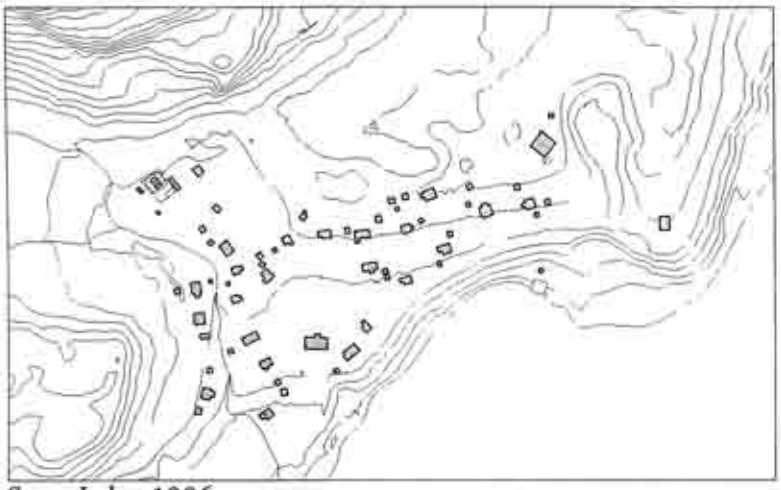
1979-1994

The first addition to the community was a community hall in 1975, followed by other rudimentary amenities such as a community freezer, garage and an addition to the hall for a school classroom. From 1979 to 1984, other houses started to add to the community incrementally. Slowly, development expanded, clustering additional buildings around the original ring, and filling in the gaps. From 1981 onwards the town started to branch out towards the East.

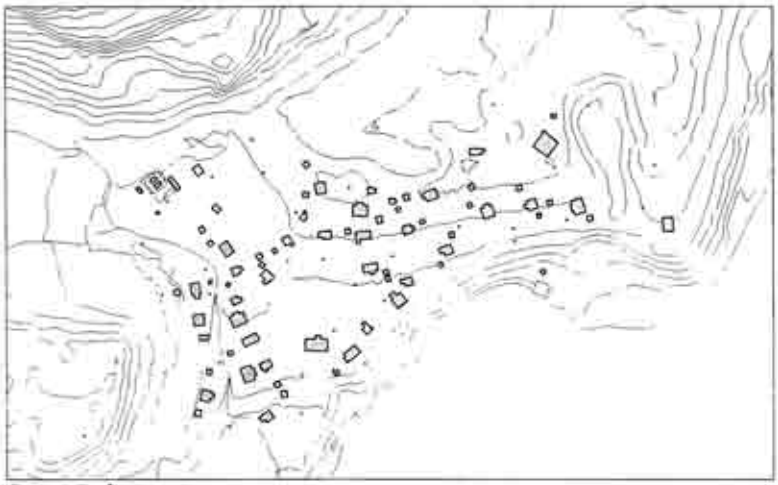
1981-1985

In 1981 Charlie Football built his house at a distance from the community. Charlie Football has lived in Snare Lake since 1980. He says, "At that time there was no skidoo, no TV, no power, no power saw, no bush radio. People still lived off the land. In 1980 everybody still used dog teams."

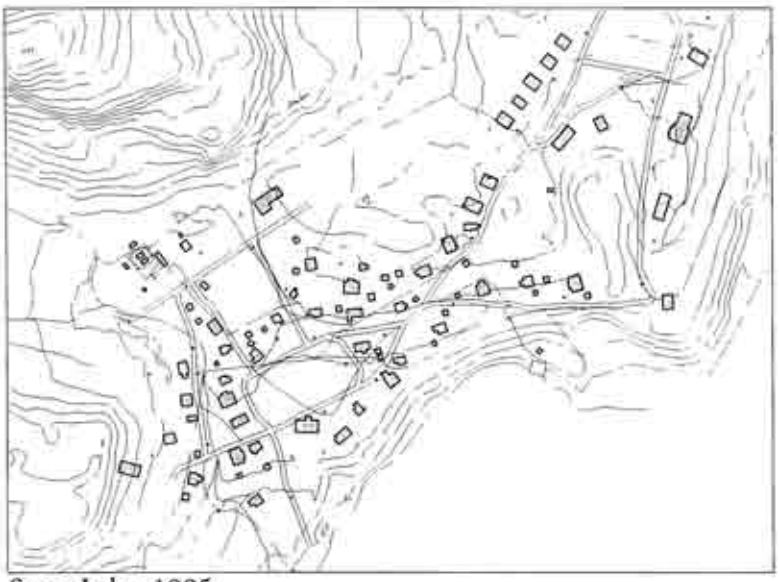
In 1982 a staff house was constructed out on a high point, also at some distance. After 1983, people began to build houses to the west of the creek at the western edge of



Snare Lake, 1986



Snare Lake, 1990



Snare Lake, 1995

the community. In 1985 a log school was built on a high point toward the East, also away from the centre. (This structure burned down in 1993.) By this time, the community had clearly branched out towards the East, still following the shoreline.

1986-1994

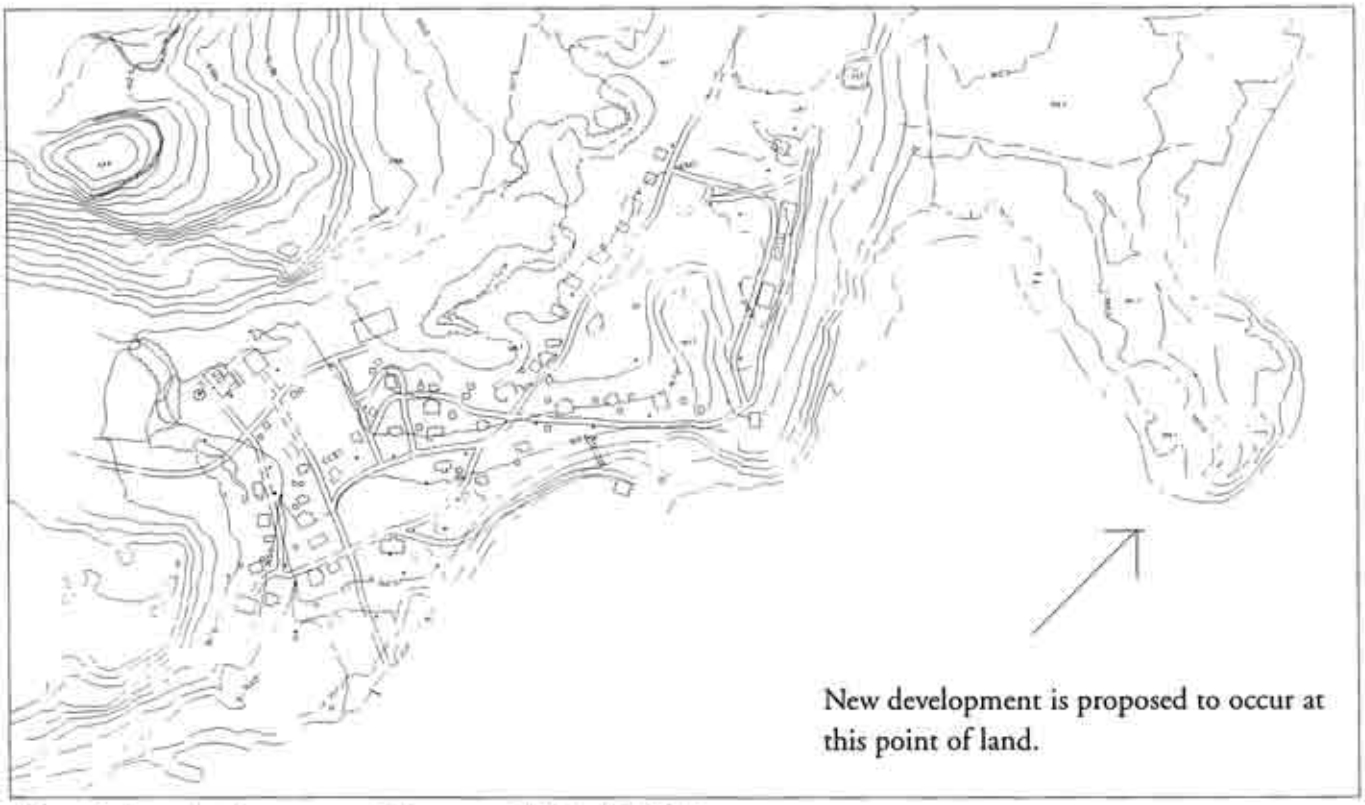
In 1989 power poles were installed to fit to the existing plan. At some point, the roads were also upgraded to accommodate water and sewer delivery trucks. In this way, functional services have been retrofit to suit the existing lifestyle and culture.

1994-1995

In 1994 the town of Snare Lake saw much construction: a new school, a hotel, several houses, the adult education building and an airstrip.

By 1994 recent development had defined a new open space, surrounding the previous log school site. Whereas the first open space, enclosed by the original ring of houses, lies in a low area, as a kind of natural amphitheatre, the second open space surrounds a point of high ground. Currently (in 1996) a new combined band office and health centre is planned to be built in this location.

In 1994 and 1995 houses began to extend along an outgoing road, in a line. When residents talk about 'the new houses' they are referring to the 5 houses built along this road.

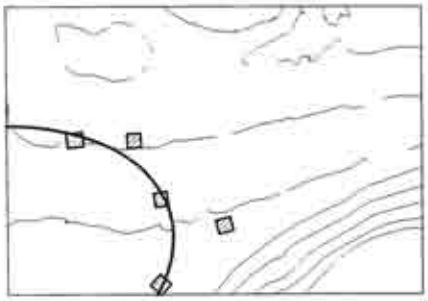


Snare Lake and adjacent area (Map provided by MACA.)

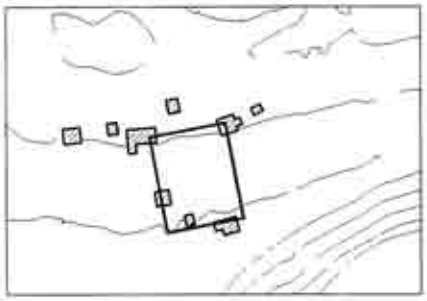
1996 and beyond

"Next we're looking at building down to the point," according to Joseph Judas. MACA and the band council have been discussing the position of a new neighbourhood to be built on the next point of land extending out from the community. Before that time, other improvements will be made within the existing settlement, perhaps righting some current concerns. (See following sections.) A road already exists going out to this point. The locations of the houses and the form of this neighbourhood is presently under discussion.

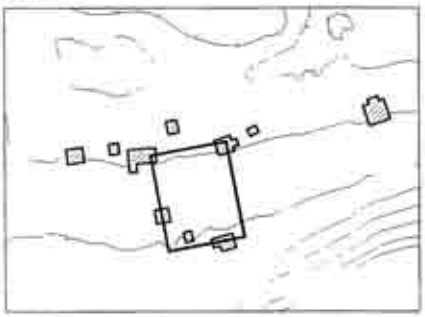
Trends and Patterns



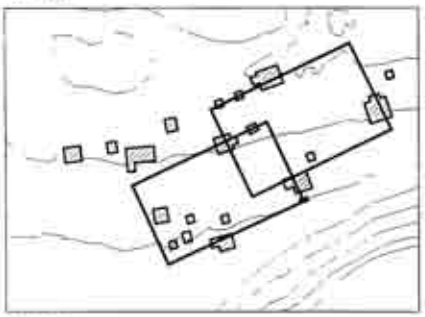
1963



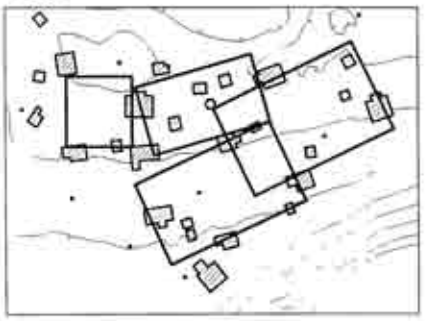
1979



1981

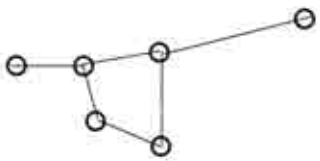


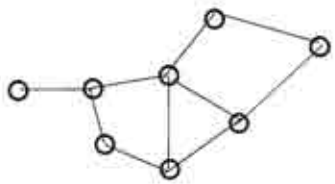
1984

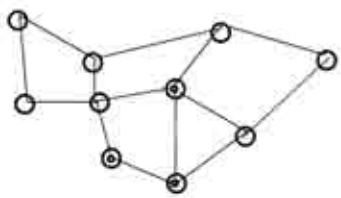


1990

The next several pages look at what can be learned from Snare Lake's 'organic' development. We will look at the reasons why buildings were placed in a certain way, and the logic behind the arrangements.







Constellations

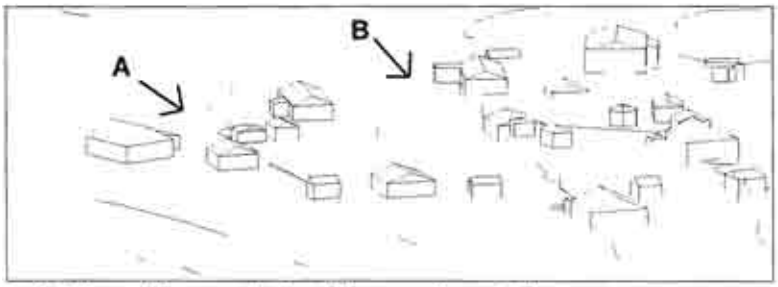
From 1979 to 1984 one branch of Snare Lake developed 'organically' in a formation similar to a constellation of stars. By 1990 two other households had joined the 'constellation.' This cluster developed as the settlement expanded east of the original ring of houses. The row of maps on the left show the open spaces that are defined with each new addition. The diagrams to the right show the roughly equal spacing of buildings over time.

This informal arrangement has permitted a number of conditions to exist.

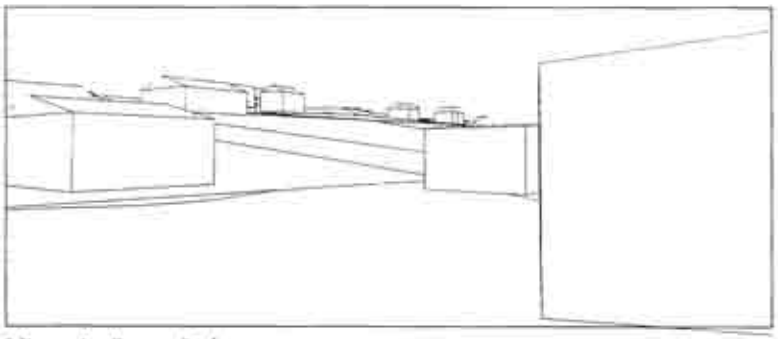
First of all, the houses were built incrementally and spaced at roughly equal distances to each other. They expanded outwards, allowing related family members to settle beside each other in the empty space over a period of time.

Each new house in turn helped to define a newly created open space or 'courtyard,' together with the previous houses. The roughly parallel facades of opposite houses add to the feeling of being in an enclosed

View descending into the 'constellation' cluster, Snare Lake



3-D View of 'constellation' cluster, Snare Lake



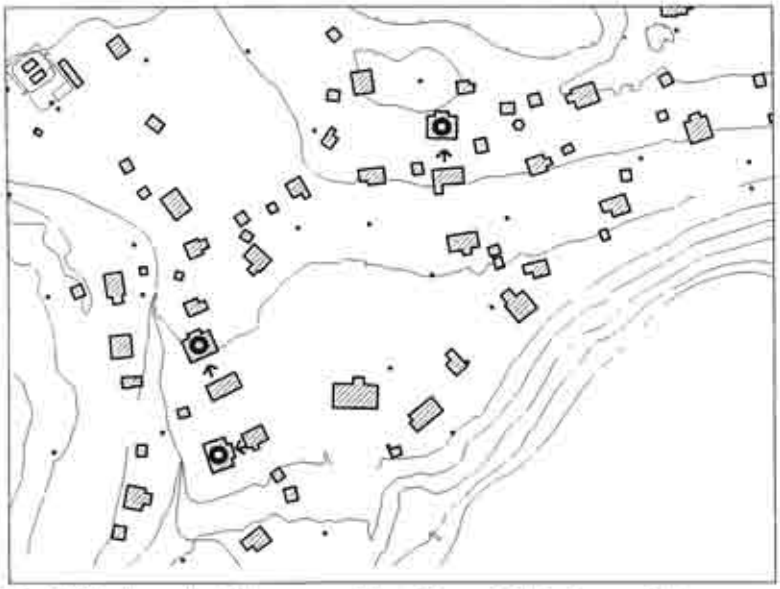
View A, Snare Lake

View B, Snare Lake

outdoor space. The superimposed rectangles on the maps mark the loose boundaries of these 'outdoor rooms.' When walking amongst them, the spaces between these buildings seem to shelter comfortable enclosed areas. The elevation drops as one walks from the new part of town through this cluster to the old part of town. This descent adds to the feeling of enclosure. As well, all of the houses either sit directly on the ground, or have plywood skirts extending to the ground. This characteristic helps to define the public space of the pedestrian from the ground up. Most of the houses are a single storey high, a vertical height that is well-proportioned compared to the horizontal space on the ground that they define. In winter the buildings seem lower because of the added height of snow accumulations on the road.

The open spaces between houses are formed between unrelated neighbours as well as between close relations. Between houses belonging to closely related people, such as grown children and their elder parents, the residents have most often created a shared open area defined by warehouses and smokehouses (such as the Judas-Arrowmaker cluster).[6]

Because the provision of functional services was not a priority when people built the 'constellations,' roads and hydro poles have been retrofit into the existing formation. (Only the house built in 1990 is reportedly difficult to service.) This arrangement,



In 1990 three families expand beside or behind an existing house, Snare Lake.

A house behind a house, Snare Lake

developing first from the wishes of the people, prioritized their own values before those of economic and servicing constraints.

As well, within the constellation formation the residents staggered their houses so that each new one was granted a view to the lake, without interrupting the views of those who had already settled in that area.

Piggybacking

The tendency in Snare Lake, as in other communities, has been for family members to build a new unit behind the original house, where space permits. This is how a second ring of houses came to surround the original ring. As an example, in 1990 three houses were built to 'piggyback' the houses of close relations. (See map, left.)

Houses in rows

Recent development has prioritized the provision of functional services by placing houses on lots along a road, spaced closer together than previous 'organic' development. Economic forces have driven this solution as much as functional ones. The obvious cultural restrictions to this model of development are:

- less space for smoke houses and warehouses
- a missed opportunity to create 'organic' clusters and shared courtyards
- the priority of vehicular access over human-scaled open spaces
- no adjacent empty space for future kinship relations to settle

Some houses in the old part of the settlement sit quite close together, because they were added later. The original layout allowed for this organic expansion, letting close relations to live next to each other as the settlement grew. As well, once skidoo travel replaced dog sleds, people no longer

Personal space defined with exterior elements, Snare Lake

needed the space behind their houses to tie up their dogs. This shift in lifestyle freed up space for buildings.

Open Space

The hinterland surrounding the settlement is the most meaningful open space. Grave sites lie at every point of land along the long lake. The Dogrib people have known this area intimately for centuries and can describe specific areas and regions in detail. This traditional knowledge lies beyond the scope of this study.

Within the settlement, the people of Snare Lake have built three levels of open space that are obvious to a visitor walking through the community. The first is the playground and outdoor gathering space (possibly to be mirrored by another large open space to the East). The smaller outdoor 'enclosures' defined by four or more buildings such as the 'constellations' create the second level of open space. The third level of open space is formed by people occupying the outdoor space just outside of their homes.

Lot lines do not seem to be important for Snare Lake residents. There are no fences. People define their personal space around a house by building smoke houses, warehouses, tables, wood piles, storage and other areas. The out-buildings, usually about eight foot square, tend to enclose a work area or yard. Close family members sometimes share a few of these buildings between adjacent houses. Although each area around a house comfortably flows into the next, and people trace paths freely between most buildings, everybody knows where one household's space ends and the next one begins without having to mark physical boundaries.

Charlie Football has built low-lying buildings to define a comfortably-scaled 'front yard' that supports various outdoor activities from summer to winter. (See photo.)

In Snare Lake, young and old alike still practice many traditions. It is important for future housing to provide adequate space, suitably sized and shaped for people to continue outdoor activities as they wish.

Observations

An orientation to the lake and the original playground emerge as the dominant forms in the geometric order of the community. In both cases, community priorities and concerns have dictated these forms. As such, we recommend that these forms remain priorities and parameters for future development.

Future plans for building in Snare Lake will require a complex interplay of several factors, including: the limited selection of suitable soil; cultural and social concerns; servicing priorities; and economic constraints. We recommend that the Chief and Band Council together with planners consider all the possible options and potential long-term benefits of alternate planning strategies. For example, we recommend that future areas reserve open space for community use, as well as space near to new houses suitable to house family members in the future. Both the ring model and the constellation model, indigenous to Snare Lake, offer benefits that should not be overlooked.

The settlement will have to decide whether vehicular concerns and functional servicing priorities play a major role in their vision for the future.

Notes

1 Thomas D. Andrews, *Archaeological Assessments 1992, Section I: Snare Lake Airport, Final Report* (Prince of Wales Northern Heritage Centre, April 1993), p. 10.

2 The Department of Local Government, Community Planning Division, Government of the Northwest Territories, in association with the people of Snare Lake, *Snare Lake Community Plan* (September 1984).

3 Ibid.

4 Ibid.

5 Susan Horsfall and the Snare Lake Adult Education Class, 1996.

6 According ot Joseph Judas, the Dogrib term for these spaces translates in English to "the space to keep nothing on it." The same term is used to describe people who talk a lot, saying nothing.

Concerns

The following concerns were gathered from informal interviews with a number of residents in Snare Lake. The concerns range in scope from issues related to an individual house through to the placement of public buildings and the importance of the land for future generations.

We consulted a number of residents having different ages and roles in Snare Lake. Many people voiced no complaints or concerns about housing and planning. Most of the concerns listed here came from a few vocal people. Some of these concerns have been addressed already or will be soon by the Housing Corporation and the Snare Lake leadership.

Changes

Joseph Judas says that for some elders, the changes in Snare Lake have been "going so fast they can't quite catch it." Another elder says that he is okay with the things that haved changed. In his words, "It's the way it is."

Wood Stove

One resident raised the concern that she would like to have a wood stove in her new unit. When her furnace fails because of an extremely cold winter day, she has no backup system. Reportedly, some elders who moved into new units without a wood stove had asked for one, stating that they could no longer dry meat above their oil stove or furnace as they used to above their wood stove, because the meat goes bad.

What is important for future generations?

Alexis Arrowmaker says that the future is the land, how it looks. He points to the tearing up of land around town as a major concern. He says, "The hill on one side of

town is torn apart. Workmen are hauling gravel right from the base of the hill." For him, it would be okay to pick up gravel from around the airport road, but not from within the settlement. In Arrowmaker's words, "Now where we're living, it's like living on a job site."

West Airstrip

An area of land to the left of the settlement, beyond the channel, has been damaged to make an airstrip that is now no longer used. At the time of its construction it served the purpose of bringing in supplies during break-up and freeze-up, while the float plane could not land. Several people believe that it should never have been built. Previous to construction, this area was a favourite spot for picnicking. The leadership plans to repair and replant the area to improve it.

Houses raised above ground

Alexis Arrowmaker noted, "When they're building houses these days, they build them way up off the ground. They're better off close to the ground than way off the ground. The floor is very cold even though the heat is on. If it was closer to the ground it would be warmer."

The School

According to Alexis Arrowmaker, when the school was built, it was built too close to the hill. There is too small an area for the kids to play. When Alexis goes out for meetings in Yellowknife and Aklavik, he notes that at the schools in these places, the ground is flat all around and you can walk around the school. In his view, they should have built the Snare Lake school in a location where you can see all around and have a good view.

Individual Housing

Alexis says that his house is expensive to live in. If only there were a house they could live in without gas, a good winterized house, he would like it better.

Since he built his house in 1961 it hasn't been completely repaired. It was repaired once but the work was only half done. The repairman just took off and never came back. The siding is breaking in, the floor cracking up, the shingles are breaking up and leaking with water. Right now out of his own pocket Alexis buys the shingles and ships them by plane to Snare Lake. The cost of freight is expensive.

He says that he's never in Snare Lake at the same time as when the housing people come from Yellowknife. When he goes out they come in; when he comes in they go out. He has had problems with the electrical installers. His main concern is that even though he and his wife have an oven they don't know where to put it. It sits unused. [The plug was installed in the wrong part of the house.] They have a dryer plug but they are missing the hole for the vent. For all of the repair work and installation that was done, the workers did not

ask where Alexis and his wife wanted it. In their view, it is not polite.

New Houses

Recently built houses, raised up above a base of gravel on top of muskeg, have been shifting. Joseph Judas observed that previous houses, built on the ground, did not move. He says, "Those houses are moving, those new houses, over by the rock. They put steel to lift up the house. If you put housing on the ground, the way it was, it didn't move."

Alexis Arrowmaker is concerned about fire spread among the new houses because they are pretty close to each other. When the school burned down in '93, you could still feel the heat at the spot where the new houses have since been built. He has a concern that these houses and their access road are too low to the ground, compared to the adjacent parallel road, which is higher up. He suggests that if there were a road behind them, it would be a better way to access the houses. When the sewage truck goes down the front access road to service the houses sometimes it gets stuck in the ditch and it can't come back up.

In general, the houses are located in a low-lying area on poor soil conditions. Alexis Arrowmaker observes that the new houses are built on low ground. If they had built the houses on higher ground and close to the main road it would be better. They are sitting only on moist ground and gravel. Because of the movement, the drywall inside at least one house is cracking up and sometimes the door will not close. If the house were moved it would be better.

Skills

Charlie Football says that he has done all of the improvements and additions to his house himself, with money out of his own pocket. He has helped with the construction of the log house where the teachers live, and also the log school. He says that people are starting to look to him for help with little projects that come into town because he has carpentry skills. He also has learned electrical and plumbing skills from working on his own house, and wants to get into repair and maintenance. Other residents have gained similar skills from working on construction projects in Snare Lake.

NWTHC Housing

Charlie Football is thinking about tearing down his existing house and building a new one in its place. Right now there are 7 people living in the house, and it's only a 3 bedroom. This house is low to the ground, sitting just a few steps above grade. The next one will be low also. The next house will have an upstairs too. He is looking for a different design. He says of the housing corporation house designs: "You don't like it but once you get the blueprint you have to follow the blueprint. That's your boss."

Behchokǫ̀, Edzanèk'è, **Rae Edzo**
History and Background

Co-authored by John B. Zoe

This chapter is intended to read as a series of stories, a composite history of Rae from different points of view or 'snapshots,' charting one progression.

Pre-Contact Settlement

From oral history we know that the Dogrib people occupied a large territory of land for centuries, following a traditional way of life. The three main characteristics of settlement form in pre-contact Aboriginal society, identified earlier, also apply to the Dogrib. These were:

- Groupings by family unit
- Mobility
- Coalescence and fragmentation according to season

Early Contact Settlement

According to June Helm, anthropologist:

> *The founding of Fort Rae in 1852 and the entry of the first Roman Catholic missionary into the Dogrib region in 1859 marked the inception of a way of life that was to endure for 100 years. Now the bulk of the Dogrib nation had a single point of trade that became the focus of tribal rendezvous at Christmas-New Year's, at Easter time, and in June after the Spring beaver hunt.*[1]

Contact-Traditional Dogrib Settlement

Prior to the arrival of the Europeans, the Dogrib People did not build the log cabin as we know it today, although they did use some logs in structures such as lean-to's. Because of their mobile lifestyle, it was more practical to build shelters using hides. Following contact with the traders, Dogrib settlement patterns eventually gravitated towards the point-of-trade. Once the people

gained access to axes and saws and were influenced by the structures that they saw at the trading post, they began to construct log cabins for themselves at winter camp sites that they had traditionally occupied for generations.

The Dogrib people built summer camps close to the water, open to the breezes. Summer camps were usually built on rocks. In winter, settlement followed a reverse pattern. People preferred an inland camp, away from the wind, within the trees, for both protection from the elements and for access to firewood. In summer the people abandoned these settlements to live in tents.[2]

The kinship group approach to living was carried from the tent structures to the more permanent structures in established communities. Each unit took care of their own. Since the 1970's that sensibility in Rae 'went out the window' when people moved into public housing, fragmenting social groups and disrupting the unity of the kinship group.

During the late 19th century and the first part of the 20th century, Dogribs built log cabins at winter camp sites along several routes, including the hunting and trapping corridor from Rae Lakes to the trading post at Rae. A more permanent building type than the tent, the log cabins at these camps were used on a seasonal basis on more than one occasion.

The ɮdaà *Trail*, a collaborative project between the Prince of Wales Northern Heritage Centre (PWNHC) and the communities of Rae Lakes and Rae, documents several archaeologically and culturally significant sites on a route between Great Slave and Great Bear Lakes that Dogribs traditionally travelled. One such site is Nɬdzɻka Kǫ̀gòlaa, an abandoned village of significant size, thought to be a winter camp. Archaeological surveys from this site conducted by the PWNHC and based on local traditional knowledge input document remnants of stone chimneys still standing where the log structures that once enclosed them are gone, having long since been salvaged for firewood.

John B. Zoe, co-researcher on the project, describes Nɬdzɻka Kǫ̀gòlaa as situated on a sandy area about 2,000 feet away from the water. The stone chimneys sit about 200 to 300 feet apart.

Zoe and archaeologist Thomas D. Andrews describe the village in the following excerpt from their article, "The ɮdaà Trail: Archaeology and the Dogrib Cultural Landscape, Northwest Territories, Canada":

> Nɬdzɻka Kǫ̀gòlaa
> *The village of* Nɬdzɻka Kǫ̀gòlaa, *the largest of four abandoned villages on the trail*, is located on Faber Lake. All four villages were abandoned shortly after the winter of 1928/29, following an influenza epidemic which began the previous summer and had decimated the village populations. Associated with an important historical figure known today as* K'aàwɬdaà *("for the*

trader"), the village was first established sometime during the last quarter of the nineteenth century. The foundations of sixteen log structures can be seen at the site. At least twelve of these were probably cabins as evidenced by the remains of large stone fireplaces associated with them . . . Four cabins, dating to later occupations of the site still stand, though in an advanced state of decay and in threat of collapse. The villages were used primarily in the winter and occasionally in other seasons.[3]

The Following Years

In 1921 representatives of the Dogribs are said to have 'signed' Treaty No. 11 with 'His Majesty's Commissioner.'[4] (According to the 1995/96 Dene Nation Annual Report, "There is evidence that some of the signatures on the treaty may have been forgeries."[5]) June Helm writes about the Dogrib lifestyle from this era:

In the early 1940s, most Dogribs lived a life comparable to that of their ancestors 50 or more years earlier: they were largely monolingual, with no formal schooling, receiving little or no modern medical services, and with . . . [a small amount of income] gained by the trapping of furs. Trapping was conjoined with hunting and fishing for subsistence throughout the year, as parties moved about the land from one station to another according to season.[6]

Following the Second World War, the government extended health and social services to Dogribs. In the 1950's and 1960's the government began to offer the first subsidized housing. Dogrib people began to stay in Rae more or less full time starting in 1965 or 1970.

The Beginnings of Rae

Background

According to oral history, at the time when Old Fort Rae was the point of trade for the Dogrib People, they camped with their families at present day Rae and continued on to Old Fort Rae for the purposes of trade, as Old Fort Rae was exposed to the elements and firewood was not readily available.

Present day Rae provided a good source of fish and game and an abundance of wood as well as a good camping area. The first log building on the peoples' side was put up by Ewagho, the father of Chief Monphwi. It was Monphwi who later took treaty on behalf of the Dogrib people in 1921. Later on the Free Traders (behcho dǫ), recognizing the opportunity, established the first trading post, hence the name Behchokǫ̀ in Dogrib for present day Rae.

In the earlier years, when the sub groups came into the community to trade their winter harvested furs, they located themselves around their respective kinship leaders. Eventually when more permanent

structures were built they developed around these areas, thus creating sections that are still visible today.

Around 1960 the first subsidized housing was introduced by the Federal Government. The logs were harvested by the potential home owners, brought in over the winter ice by an independent contractor, squared off, and left on the shore of the community. The participants selected the area where they wanted to build their homes, and located around their respective kinship areas.

There are presently about five kinship areas:

1. Dechɪla gotɪ'ɪ
   This group presently are the majority in the community of Snare Lake.
2. Ts'ǫ̀tì gotɪ'ɪ
   This group presently are the majority in the community of Wha Tì.
3. Et'aat'ɪɬ
   This group presently are the majority in the community of Rae Lakes.
4. Tahga gotɪ'ɪ
   This group presently live in the community of Rae-Edzo.
5. Mola t'a
   This group are descendents of those who came with the traders, church, etc.

There were 13 units built at the time. All were square log construction. Figure 2 shows the five major group sections with 13 log units keyed by letters to captions below.

The following list provides a snapshot of the Dogrib people who built the 13 log units in the 1950's For privacy, no names are mentioned

a. Person 'a' belonging to **group 4** built his unit and later turned it over to a person of **group 4** by private arrangement after he received a new unit in the late 60's, which is located in the same area He has recently moved into a seniors access, and the man's oldest daughter now presently occupies the building

b. Person 'b' belonging to **group 4** built his unit in this section and later turned it over by private arrangement to another man, belonging to **group 3** The original owner was offered a new house in a new section

c. Person 'c' belonging to **group 3** built his unit in this section He presently occupies this unit and will be moving to a new seniors access across the street There does not seem to be any intention to dismantle the old unit and it may most likely be turned over to his immediate family members

d. Person 'd' belonging to **group 3** built his unit in this section He has moved into a new seniors access next to his old unit He has not dismantled his old unit and will most likely turn it over to an immediate family member

e. Person 'e' belonging to **group 2** built his unit in this section He presently resides in Wha Tì in a seniors access unit His old unit was torn down to make way for his son to build a new HAP house in the original location

f. Person 'f' belonging to **group 5** built his unit in this section, referred to as *Mola t'a* He moved into a rental unit in the 70's in the new section of the community The old unit was torn down in the 80's for road access, and the new owner at the time received a new HAP unit across the street

g. Person 'g' of **group 1** built his unit in this

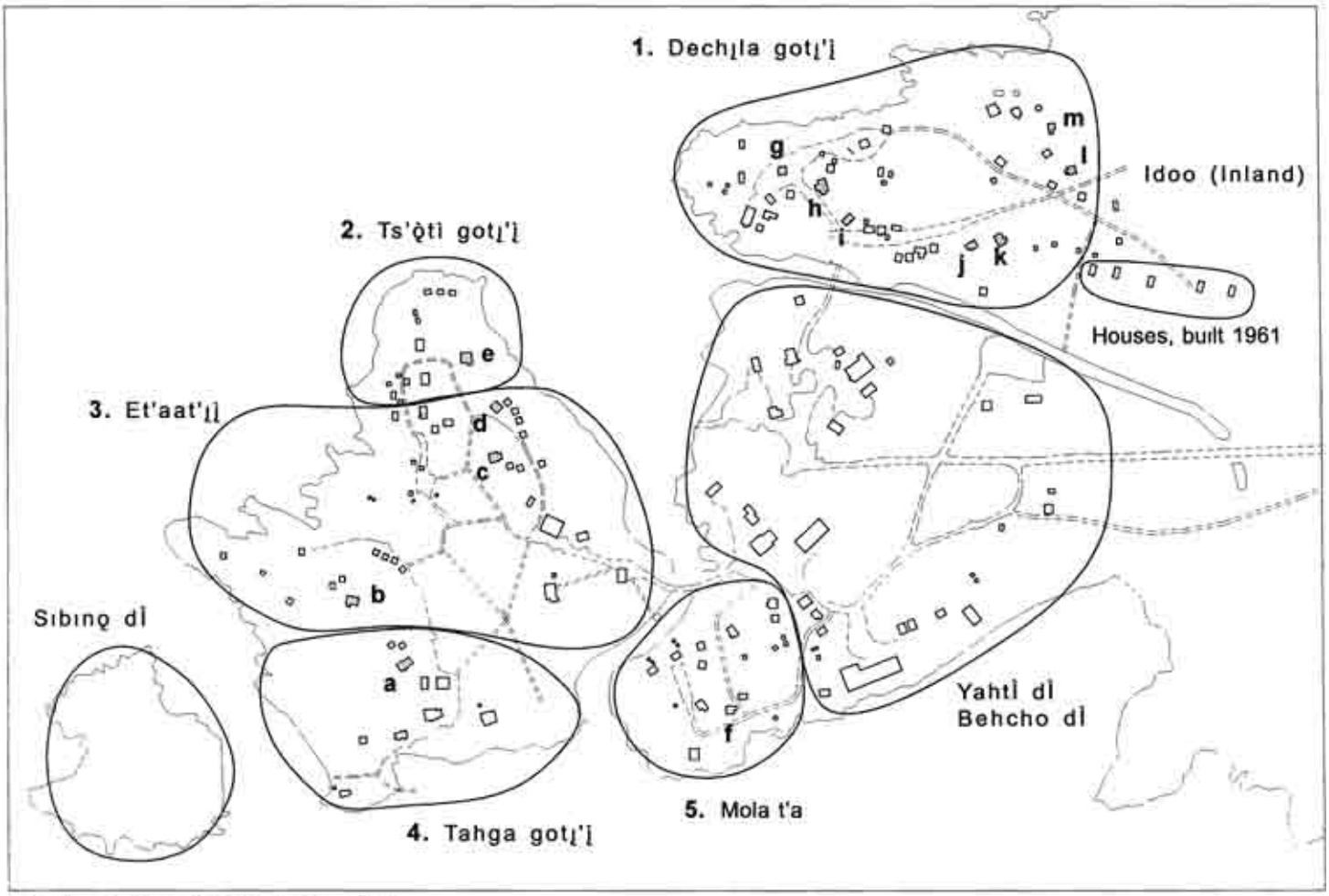


Fig. 2 Rae Sub Group Areas, 1962

section He sold his unit to private industry in the late 60's, when he was offered a new house in the new section, which presently is listed as rental The surviving family members still reside in this rental unit paying a monthly fee

h. Person 'h' of **group 1** built his unit in this section He occupied this unit until 1995 when it was dismatled to make way for a new access unit for him on the same location

i. Person 'i' of **group 1** built his unit in this section. He occupied it until the late 60's, when he was offered a unit in the new section He presently resides in a rental unit paying a monthly fee

j. Person 'j's father-in-law of **group 1** built his unit in this section He occupied it until the late 60's when he was offered a unit in the new section He presently resides in a rental unit paying a monthly fee

k. Person 'k' belonging to **group 1** built his unit in this section He occupied it until the late 60's when he was offered a rental unit in the new section He presently resides in the seniors home

l. Person 'l' belongs to **group 1** and built his unit in this section. He occupied this unit until his death, and the surviving family members presently reside in Snare Lake The house is presently boarded up

m. Person 'm' belongs to **group 1** and built his unit in this section He occupied it until he moved back to the community of Snare Lake. The unit was torn down recently to make way for a new house by the present owner

For any of the units after this era, the tenants did not seem to have a choice on location.

Life in Rae, 1950's to 1970's

Father Pochat describes what it used to be like to live in Rae:

> *In 1957, there were 16 Dogrib people in Rae during Springtime. It was rat [muskrat] season, and everybody was out in the bush. In Rae, only the translators and law enforcement officials remained. The rest were all in the bush. People would come in to Rae four times a year: at Easter; in July for Treaty; around November 1st, the last trip before freeze-up; and at Christmas.*
>
> *After around 1965 or 1970, people stayed in Rae year round. The reasons to stay year-round were that fur prices had gone down, and the school, housing and other government services were provided in town. It was a change of life; there was no reason to be in the bush any longer. Life in the bush is pretty hard.*[7]

A government settlements report from 1966 describes seasonal variations in the population in Rae in the early 60's, as well as their housing conditions:

> *In 1961 a total of 522 persons inhabited Rae of which 469 were classified as Indians and 53 as whites. Present population of Rae is estimated at 500. The year round population of the Dogrib Band of Rae is 450 people. They are joined in the spring by 600 additional Dogrib Indians from several smaller settlements within a 125 mile radius. These visitors come to Rae for treaty money after the winter trapping season and remain until the fall when they depart by canoe for their trap lines.*
>
> . . .
>
> *Most of the summer population at Fort Rae sleep in tents and teepees — with all daytime living, cooking and eating carried on outside. The permanent population lives in various forms of frame construction which, although they are inadequate, overcrowded, and substandard, supplement the log cabins.*
>
> *A small number of new houses are being built by Indian Affairs. Currently eleven units are nearing completion. The recipients of these are joined in a co-operative labour venture to assist in their construction. They are each paid for their efforts on the premise that they cannot fish to feed their families and build houses at the same time.*[8]

The houses described in the previous passage are the first houses that were built inland, away from the water. All new development away from the traditional areas is referred to in Dogrib as ıdoo, in English as inland.[9]

Early Subsidized Housing

A long-time Rae resident talks about the influence of early subsidized housing in the following transcript:

> *Before Edzo, the government constructed many houses in Rae. Around 1964 some 20 houses were built. At that time there was no selection in the type of house you got. A crew came in from the South to build the houses together with one or two locals. The workmen who were brought in were not good role models. They brought with them poor social and moral attitudes, leading to problems and friction in the community. Then for 12 years or so, no houses were built at all. There were 3 or 4 families in a house at that time, traditional extended families. That would add up to 14-15 people in an 850 square foot area house.*
>
> *In the 1970's, after people were better educated and stronger leadership developed in Rae, the people complained. The dire housing conditions caught the attention of the rest of the nation through the rural native housing program. Then the government began to build houses in Rae again.*

The Story of Edzo

The settlement of Rae sits on outcrops of precambrian granite and granite gneiss. In the area of the Mission the rock reportedly extends at least as far as 700 feet underground.[10] Dips and depressions in the rocky site form watertight containers for spring runoff. Melting snow in Spring pools in the low points, with nowhere else to go.

Unsanitary conditions at Rae in the 1950's and 60's urged the government to move the population to a more suitable site. Many factors contributed to these conditions. More than one epidemic causing loss of life alerted government officials to take action.

In 1959 the community of Rae reportedly lost 12 babies. Pregnant women sufferred from diarrhea in the late term. As a result their babies became dehydrated and died. At that time there was reportedly no sanitation at all. As well, some 550 sled dogs were kept in Rae, adding to the problem.[11] As of 1970 there were reportedly over 650 dogs tethered in the community and more than 100 ran loose.[12] A paper written by Mary Ann Hilleke in 1973 states that, "Garbage and sewage from residences and dog manure mixed with runoff water ... The polluted runoff water either runs directly into the water surrounding the settlement or remains in the yards where children play, dogs are tied and people walk."[13]

A severe outbreak of gastroentenitis broke out again in January 1970. Hilleke writes:

> *The unsanitary conditions of the native households (and the entire area of Ft. Rae) result in frequent intestinal sicknesses and occasional epidemics of gastroenteritis*

(which can loosely be defined as severe diarrhea.) As far back as 1936, the Department of National Health and Welfare has criticized living conditions at the settlement. Six reports dating from 1959 contain recommendations to prevent any increase in population.[14]

These reports describe dismally unsanitary conditions. However, the nature of government initiated development at the early Rae site contributed to these conditions. For one thing, the construction of silt roads on bare rock blocked off natural drainage, essentially acting like dams to create greater water pooling problems. As well, the existing sewage plant in the early 70's was not satisfactory. Hilleke's 1973 paper states that, "The effluent from the sewage plant runs into a channel in the middle of the settlement. This creates a dangerous problem of pollution in a water course where many people will continue to obtain water and where children play."[15]

In the 60's, the Dogrib people of Rae were still adapting from a mobile life out on the land to sedentary community living. The cautionary steps needed to maintain sanitary living in one place were new to them. Subsequent development and healthy living since the Rae building freeze was lifted in 1976 demonstrates that the problem has not been the site itself, but rather the way that sanitary services (or the lack thereof) provided by outside 'experts' have been handled in the settlement.

Taking all of these facts into consideration, it can be concluded that sanitary problems at Rae resulted not just from the existing site conditions but were augmented by faulty infrastructure and planning in the settlement. Subsequent improvements at Rae have improved conditions to an acceptable standard.

Stepping back to 1966, officials chose a different solution. Hilleke's paper describes how this decision came to be:

The government asked [a group of town planning consultants] to investigate all aspects of the community and decide whether to 'move or improve.' Health officials, engineers, town planners and architects were unanimous: The topography of the land does not allow for the location of major buildings such as a school and dormitory and could not provide adequate playgrounds, parks or the area needed for residential expansion. In addition to the unsanitary soil condition, the water system is unsatisfactory and the entire area is heavily polluted. Additional development would compound the problem and not provide a solution or relief from unsanitary conditions. The community of Rae would have to be moved.[16]

A 1966 government settlements report describes the new town site in this passage:

. . . the West Channel [Edzo] was recommended as the future school and community area for the following reasons:

1. indications are that ground conditions are good for foundations and buried utilities,

2. topography of the site will permit relatively easy development of utilities and drainage as well as adequate building area and playground,

3. the site has sufficient area in its full scope to permit a much larger development including, if necessary, the entire settlement of Rae,

4. access to the site exists,

5. the water supply is much superior to that at Rae,

6. sewage disposal by buried pipeline or pit privy can be provided.[17]

This excerpt points to the overt priority that was given at the time to functional concerns, rather than the concerns of the people.

In the late 19th century, modern town planning developed in Europe and North America following a crisis in sanitation caused by the influx of people into cities because of the industrial revolution. A similar crisis of poor sanitation in Rae triggered the reaction of officials and planners. In this case the disregard for the wishes of the people resulted in undue expense and hardship in the construction of Edzo.

Why the people did not move to Edzo

The people did not want to move. In an effort to encourage the move, a development freeze was imposed on Rae. Since the freeze was lifted in the 1970's, Rae's development has outpaced Edzo's.

Rae and Edzo have been built in two distinct areas known to the Dogrib people.

According to the Dogrib place naming system, four general types of land substance exist in relation to water and are universal. These types are rock, clay, muskeg and sand/gravel.

Towards Edzo and beyond yet another type of land substance begins, also associated with water. It is called èlè ti. The old people summarized their opinion like this: "The tea does not taste good over there."

The West Channel or Nǫǫndı t'ąıı̨ı̨ is the dividing point of the two geographical areas. It was on the Nǫǫndı side that Edzo was being built.

When an all-weather road was built in 1961 it came from the area of Edzo and beyond, linking this geographical area for the first time in the Rae region.

During the late 1990's when the Dogrib people sat down with the Federal/Territorial Government representatives to negotiate land claims, the Dogrib Elders advised that the government negotiators face them from whence they came. This example shows the importance of the distinct areas.

Don Gamble, the on-site engineer during the construction of Edzo, writes

critically of the new town project in his 1986 paper, "Crushing of Cultures: Western Applied Science in Northern Societies." Quoted in detail below, Gamble's account of the formation of Edzo, the refusal of Rae residents to move, and the subsequent development at Rae, eloquently points to applied science's blatant disregard for the peoples' wishes, and with that, its disregard for heritage and culture. Gamble writes:

> *The decision to abandon Rae and to create a new town was based, to a large extent, on the advice of fellow applied scientists.*
>
> *As a young engineer I viewed my involvement in that project as the opportunity of a lifetime. It was a technological challenge for the obvious 'betterment' of a northern society. I plunged into the task with great zeal. Two years later, when the town was complete, I began to recognize that a mistake had been made. Looking back several years after that, I realized the applied-science approach to the issue was a large part of the problem and that it stood in the way of a decent solution to the concerns of the people who made Rae their home and in whose name the project was originally undertaken.*[19]

Gamble describes the numerous visits by engineers to the site, the meetings between officials in Yellowknife and Ottawa, and the detailed notation of costs:

> *Through all this, the Chief, the band council, and the people of Rae were subjected to countless meetings as federal and territorial officials and their consultants and specialists came and went. The people at Rae remained concerned about the health problems, but to that original concern was added a new one — the moving of the whole town. They quietly pointed out the need to stay near their fishing nets on the lake. They said that* they *didn't need to be near the highway. They talked of the value and meaning of their community in a geographical and historical context. They repeatedly spoke of who they were as a people. This was all done quietly and repeated many times. It was clear that the people didn't want to move . . . The Chief said that if all these outsiders really wanted to build the town so much, to go ahead, but the people from Rae probably wouldn't move. This was taken to be local endorsement for the project . . . [When Edzo was complete] as the Chief had always maintained, the majority of people refused to move to Edzo.*
>
> *Since leaving Edzo, I have tallied up the costs and, with the considerable benefit of hindsight, I have concluded that the public health and other technically related problems in Rae could have been solved within that community at a substantially lower cost than that required to build Edzo. In fact, that has happened anyway. Today, the government has abandoned its hope of*

moving Rae. Huge new investments in infrastructure have been made in the old town. Edzo was a colossal error in technological, financial, and human terms.[20]

While Edzo was being constructed, the Church, following the wishes of the people, refused to move from Rae to Edzo. The residents of Rae remained as well even though the government refused to build houses in Rae for around a 10 year period. During this time, the people refused to accept government housing being offerred in Edzo. Finally the government realized that if the people were to have adequate housing, it would have to be built in Rae.

Today, over 30 years after Edzo was planned, significant new neighbourhoods and community buildings continue to be constructed in Rae.

A Walk Through Rae Edzo Life and Leadership, 1933 to 1996

Co-authored by John B. Zoe

This chapter maps Rae Edzo's development, looking at historical maps through the lens of leadership.

Leadership and Life in Rae Edzo

Why did Rae Edzo take the shape that it now has? Over the years, different eras of leadership have influenced community development.

The early leadership influenced the people who moved to Rae in the 1950's to set up their structures according to their respective groups. With the introduction of outside influences and other models of leadership, a more southern approach to community layout influenced the direction of development towards what is existing today.

In a lot of cases, the original settlement forms that bounded traditional social structures were ignored, leading to a type of community layout which contributed to social breakdown.

Pre-Contact to the Fur Trade

From pre-contact Aboriginal days until the 1970's, the Dogrib People selected their leaders by consensual agreement. Variations occurred in the roles and reasons for leaders. For example, traditionally, people would follow a great hunter. Each regional band or major subgroup had a Native-recognized leader, called done ya kawo (boss for a people). During the fur trade a new type of leader emerged, called done k'awı (the peoples' trader), a spokesman / middleman who maintained good relations with the Hudson's Bay manager. When the free-traders upset the Hudson's Bay monopoly, the people would gather around one of a number of nae dı do, or Native entrepreneurs (buy-and-sell men).[21]

Treaty

In the 1920's the government required an official head chief for treaty signing, called g atı or g atı de (big chief). Monphwi had been designated prime chief of the Rae

Dogribs by trading chief Ekawi Jimi, his predecessor. The Canadian government formalized the recognition of a single chief with the signing of Treaty No. 11 in 1921, and so Monphwi became the first g'atı-de (official head chief). From this time until the 1970's, successive chiefs were chosen by consensual agreement, following pretreaty tradition.[22]

Rae, 1933

Influence of the First Settlers

The map of Rae from 1933 (Fig. 3) shows how the early island form of the community has influenced the shape of the settlement. The water level rose higher at that time, creating three islands which have since joined the mainland. The island form of the land offers many water edges for settlement. In this way, the topography encourages close clustering on adjacent island shores rather than a straight string of structures along a single shoreline. As well, the rocky site presumably offered a mosquito-free summer location at that time.

The smaller structures on the map could represent either cabins or tents. Their form on the air photograph used to generate this map was not clear. The structures form clustered groups, each facing a water's edge, and corresponding to areas defined by the island topography. The largest building, located roughly in the centre of the map, is the church, still standing today.

Several clusters take on a 'constellation' settlement form, also characteristic of Snare Lake. (See Snare Lake chapter.) This form offsets the buildings at equal distances so that each is granted a view of the lake and together with 3 or 4 of the adjacent structures their parallel facades define courtyards between them.

The photograph entitled, 'Roman Catholic Mission at Ft. Rae,' dating from 1924, shows the scale of the buildings and settlement at that time, giving an idea of what it felt like to walk through Rae.

Government and Private Developers

Following World War II, the federal government took on a progressively larger involvement in the development of Rae, with the newly formed GNWT continuing many of its powers after 1967. Government sponsored development has resulted in subsidized housing, schools, recreation facilities, seniors housing, health centres, and other community structures.

Private development in Rae has been responsible for most of the retail, commercial, hotel, restaurant and highway gas station development. Community-rooted projects such as the Friendship Centre and recently completed co-op store also fall in this category.

1960's

According to June Helm,

> *In the 1960s for the Rae Dog Rib Band there were 7 councillors* (guratıa) *plus the*

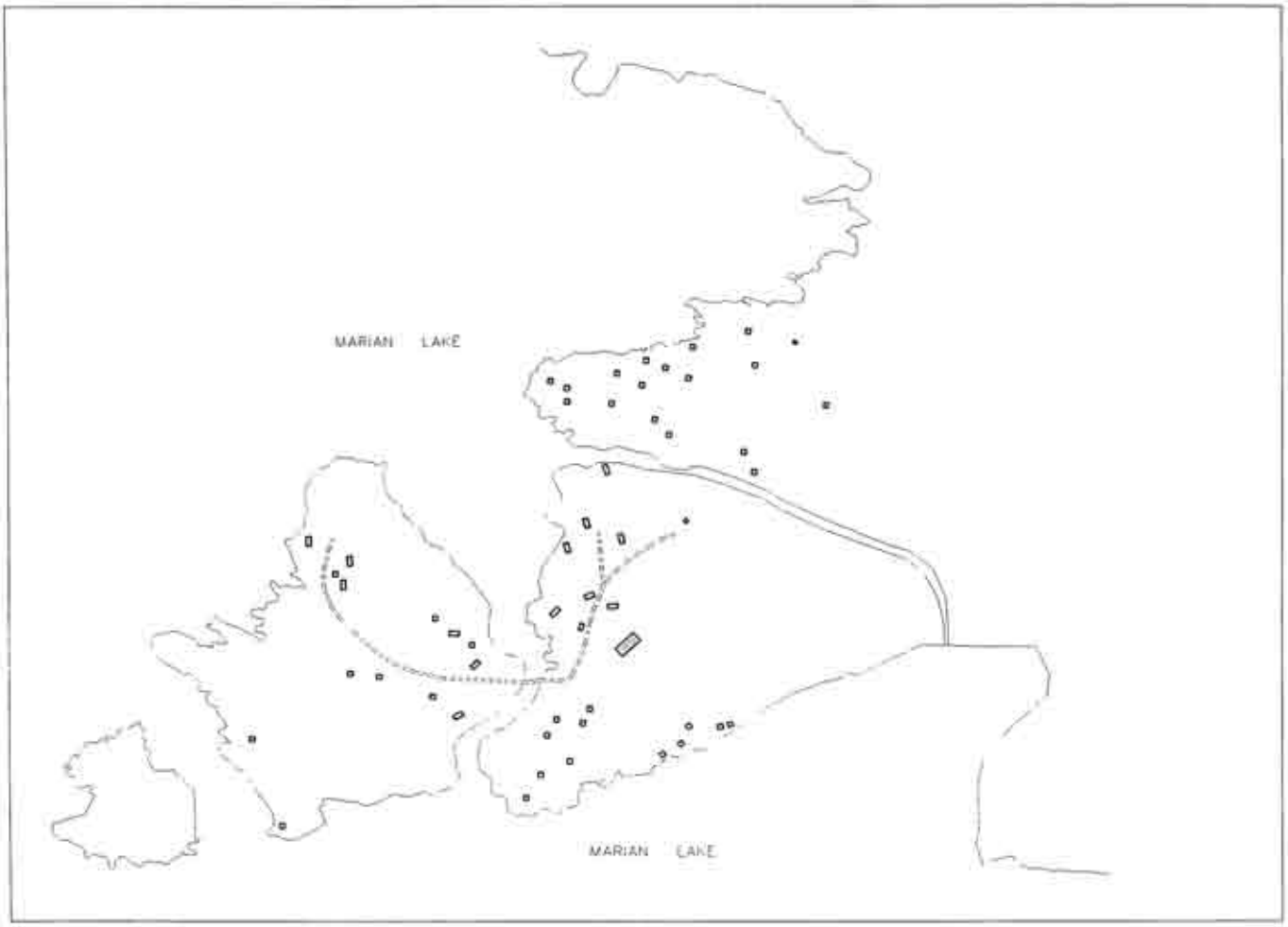


Fig. 3 Rae, 1933


Fig. 4 Roman Catholic Mission at Ft. Rae, 1924

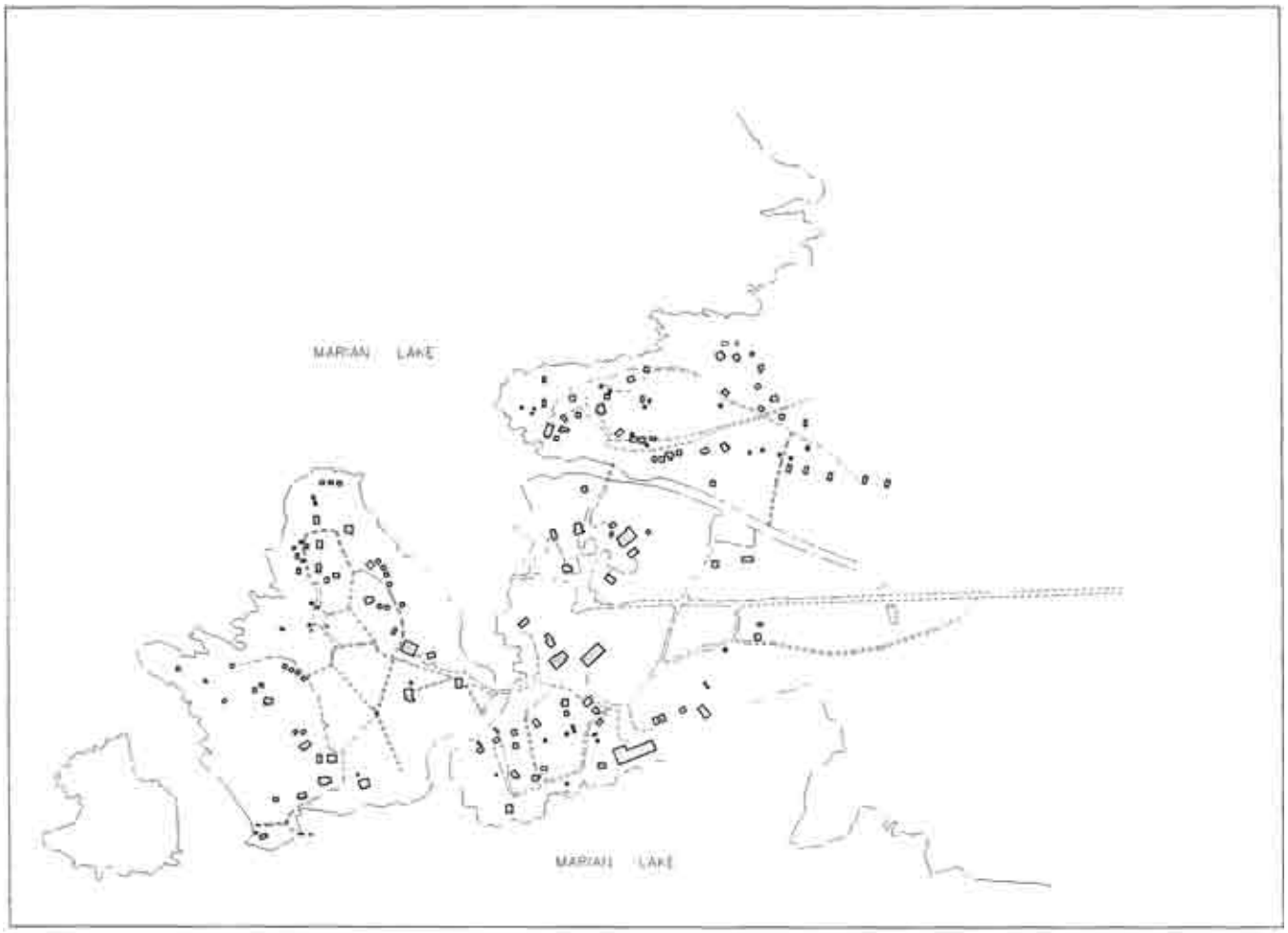


Fig. 5 Rae, 1962

head chief (gurat'ındeh) . . . *The councillors or "little chiefs" represented a codified and rigified version of the regional and subregional band leaders of pretreaty times.*[23]

Rae, 1962

Figure 5 shows Rae during its early development, shortly after the first federally subsidized housing, 13 square log houses, were built in the late 1950's to early 1960's. Like those before them, these houses were placed exactly where the Dogrib settlers wanted them to be. In this way, the areas that these houses defined represent a building initiative rooted in the wishes of the community.

By this time, the access road has broken (dammed) the channel previously dividing one island from the mainland. Other structures have started to fill in the original clustered areas.

Here, the groups of clustered structures clearly correspond to the sub groups defined by John B. Zoe. (See previous section.) A mission building now stands beside the church. As well, the mission has constructed a large TB hospital at the southern edge of the community. At this time the island and mainland shore lines continue to draw settlement along their edges.

A line of five houses built by the government in the summer of 1961 indicates the

preferred direction for subsequent subsidized housing, that is, ıdoo or inland.

Pan-Indian Movement

June Helm explains:

> *In the last half of the 1960s youths began to return from government and Roman Catholic boarding schools with full fluency in English and with knowledge of and commitment to Euro-Canadian living standards. This generation began to provide leadership in pan-Indian and Indian rights movements.*[24]

This new knowledge introduced an era of political awareness and Indian activism. Indian rights began to be argued using southern tactics, which eventually led to the adoption of the electorial process for selecting Dogrib leadership in the early 1970's.

According to the *1995/96 Dene Nation Annual Report*, in 1968 two key Aboriginal political groups were formed:

> *The Status and Treaty Aboriginal groups formed the National Indian Brotherhood (NIB), while the Non-Status and Metis groups (the Metis also eventually formed the Metis Council) remained united and formed the Native Council of Canada (NCC), which now is known as the Congress of Aboriginal People.*[25]

It was also around this time, in 1969, that government-initiated construction began for the new Edzo town site.

Hamlet Council

In 1970 the GNWT introduced a Hamlet Council to the community of Rae-Edzo. The elected mayor and council have decision-making powers on the basis of one vote per person. They are a consultative body, having an advisory role within a municipal boundary, to make recommendations to the minister regarding the maintenance of roads, airports, water and sewage. The area office also contains a mapping department to implement GNWT decisions regarding planning and lands.

Dene Nation

The political body known as the *Dene Nation* began under the name of the *Indian Brotherhood of the NWT*, officially changing its name to *Dene Nation* in 1978. As stated in the *1995/96 Dene Nation Annual Report*, in 1970 "The Indian Brotherhood of the NWT was incorporated to protect the rights and interests of the Dene under Treaty."[26] In the Dene Nation Constitution, the Mission Statement says: "The purpose of the Dene Nation is to retain sovereignty by strengthening the Dene spiritual beliefs and cultural values in Denendeh."[27] Its membership by-law states, "All descendents of the Dene who are residents of the Northwest Territories are eligible for membership in the Dene Nation."[28]

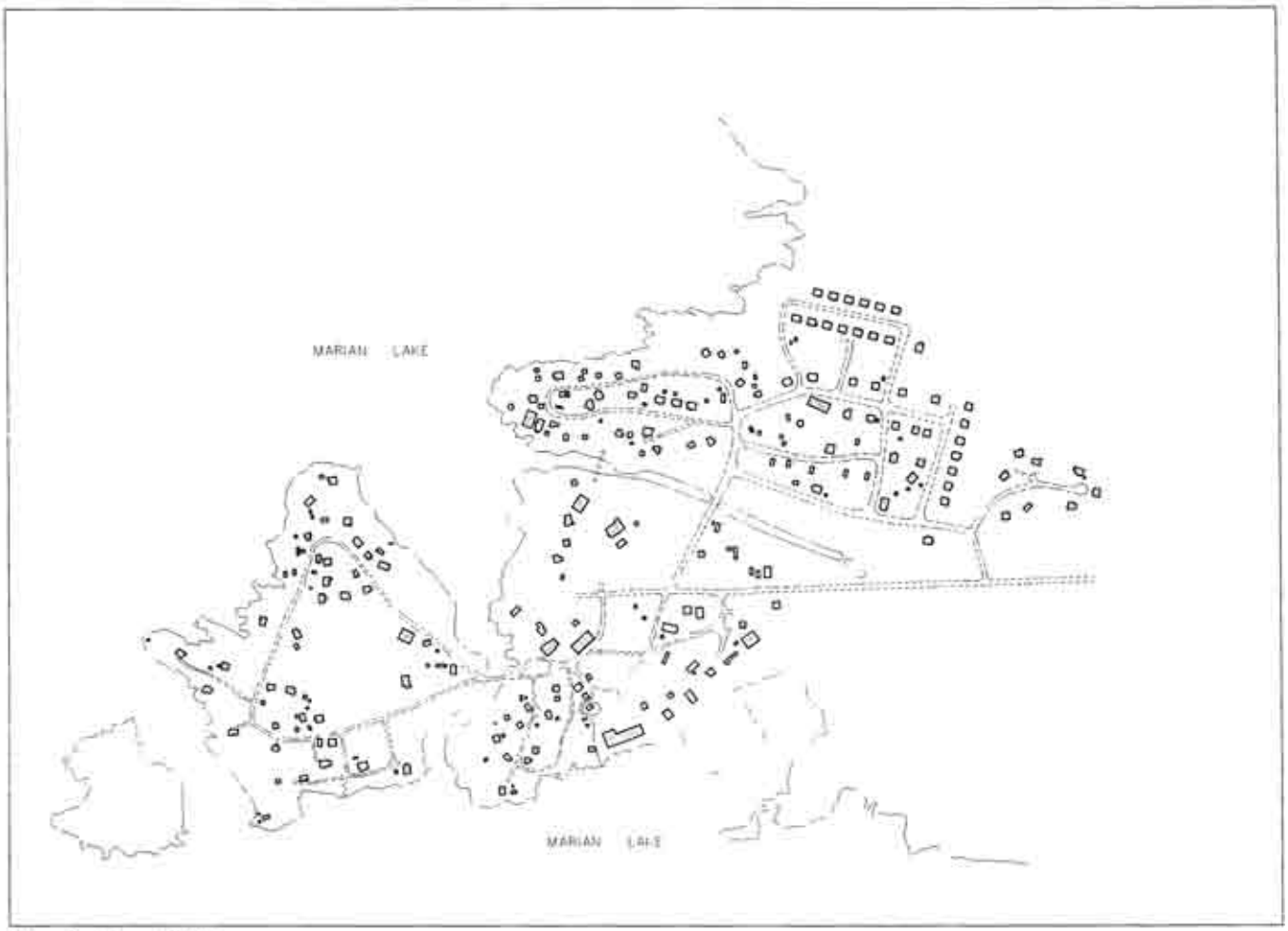


Fig. 6 Rae, 1975

Since its inception, the *Dene Nation* has included leaders from the Deh Cho, Dogrib and South Slave regions, amongst others. It has provided a political coalition of leadership to protect Aboriginal rights and to tackle such issues as the MacKenzie Valley Pipeline.

In 1993 "the Gwich'in, Sahtu and Dogrib regions withdraw their membership" although membership would always be "open to those individuals and communities who wish to remain with the organization."[29]

Rae, 1975

A building freeze in Rae halted all development for a number of years. The reason for the freeze was to encourage people to abandon Rae in favour of Edzo, originally conceived as a replacement for Rae. The freeze was lifted in the mid 1970's.

Figure 6 shows Rae during its building freeze. Inland development begins to shape a dominant rectilinear form in the community. Much of the inland development, in the form of rows of government subsidized housing, sprouted up in the late 1960's. The town has also added a sewage lagoon, seen as a rectangular extension from the shore close to the TB hospital. This map could equally represent the Rae's settlement during the early 1970's, changed little from the late 1960's.

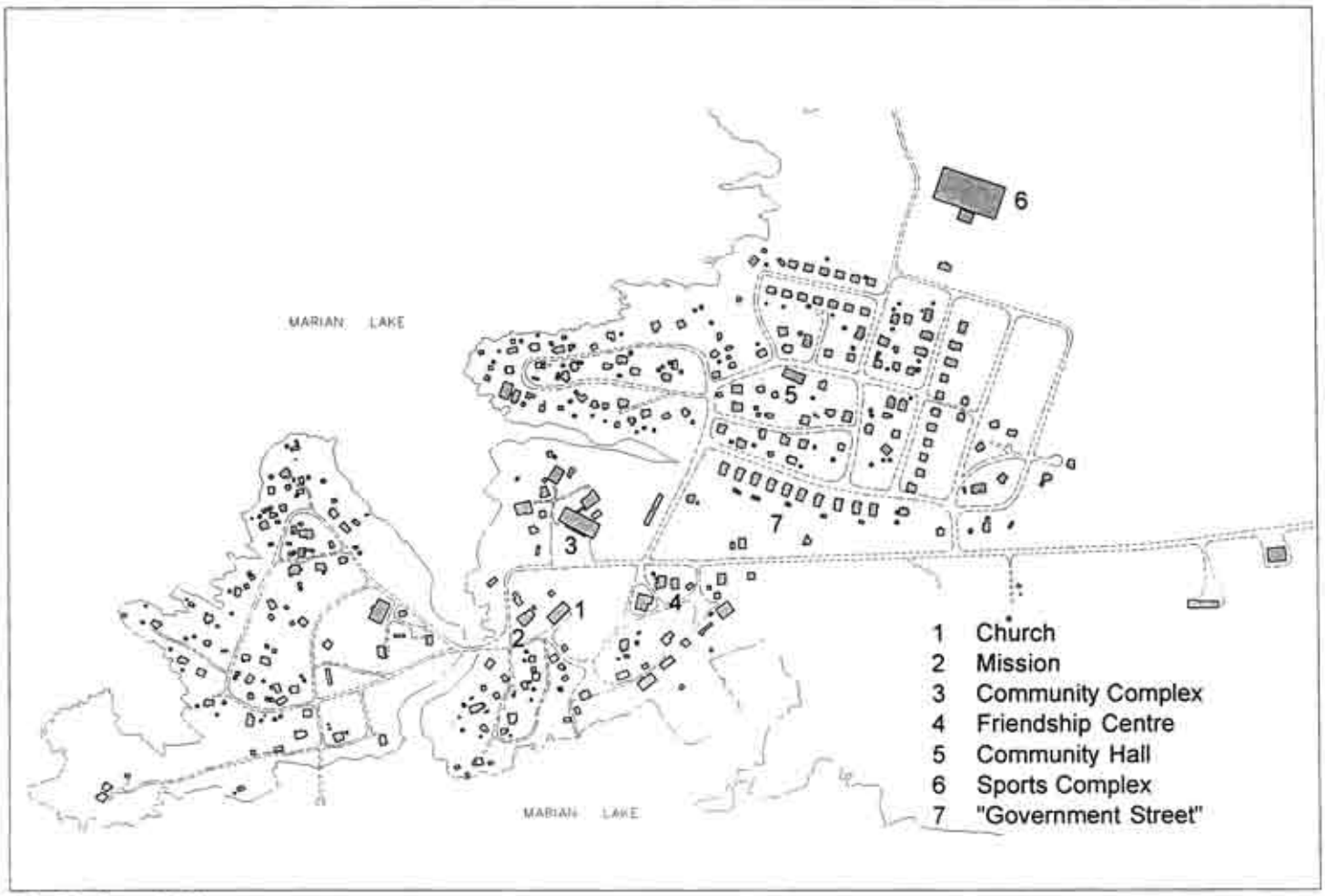


Fig. 7 Rae, 1984

In general, new buildings have continued to fill in the existing sub group areas, but now with a greater importance placed on road access. More recent buildings in the established areas begin to follow the road structure rather than the shore line.

Around this time, social problems were brewing, particularly in the newer sections of subsidized housing. One street built between 1975 and 1979 (see fig. 7), characteristic of government development at the time, is a straight row of identically-sized, identically-coloured rental houses. Briefly, the identification for these units was known locally as 'Government Street.'

Rae, 1984

By the mid 1980's, construction of the 'inland' neighbourhood has continued along rectilinear roads. The plan clearly shows the uniform replication of a single house type along a street. Up until this time, the government took a uniform, global approach to providing housing and services. No established community consultation process existed for most of the development, and consequently, lines of cookie-cutter housing along straight roads resulted mainly from the government's high priority on functionality.

By 1984, some additional community structures have planted their large footprints

on the town, such as the community complex and sports complex. (Fig. 7)

Influences of Leadership on Development, 1970 to 1990

In the early years, prior to external influences on the layout of the community, and because of the mobile lifestyle of the people, it made more sense for the people to hold cultural activities either outside or at the homes of the traditional leadership, on occasions of celebration.

When the people eventually settled in Rae on a more permanent basis, a new community hall was built. It was readily accepted by the people as the place for housing traditional activities because at the time no modern-day activities were practised (e.g. no volleyball, basketball, etc.).

With the introduction of new structures of leadership, different from the old type of leadership, the mandate for recreational activities became geared towards southern standards of recreation. Eventually, larger structures were built with the intention to house these new activities. At the time, consideration was not made for traditional activities.

In the later 1980's with the help of the Dogrib Elders in Rae, a new Cultural Centre was built to try to salvage the original intent of cultural activities.

Housing in the 1980's

Owner-built housing programs such as HAP gave people an opportunity to place their houses where they wished them to be. One long-time Rae resident endorsed the HAP program because people had to work on the houses themselves.

> *Because of the involvement of local labour in construction projects in Rae, there are a lot of fairly skilled tradesmen in town. Skills such as carpentry, cement work, and electrical work were all made possible because of the housing industry, but it's not sustainable given that capital projects are winding up. Housing has provided one of the main training grounds for trades. Others have gained skills in steel construction from working on the Edzo school and sportsplex.*
>
> *Now, there are too many skilled labourers for the amount of work available locally. The majority of people in the North are unwilling to leave their own community to work elsewhere.*

Leadership in the 1990's

The social 'healing' of the people in recent years has initiated a turn towards traditional ways. To gain back a sense of independence and self-reliance, communities are being re-educated by Elders on more spiritual, holistic traditions for survival out on the land. The currently elected Chief and Council support these issues.

With the move towards government powers being regionalized, it is possible that

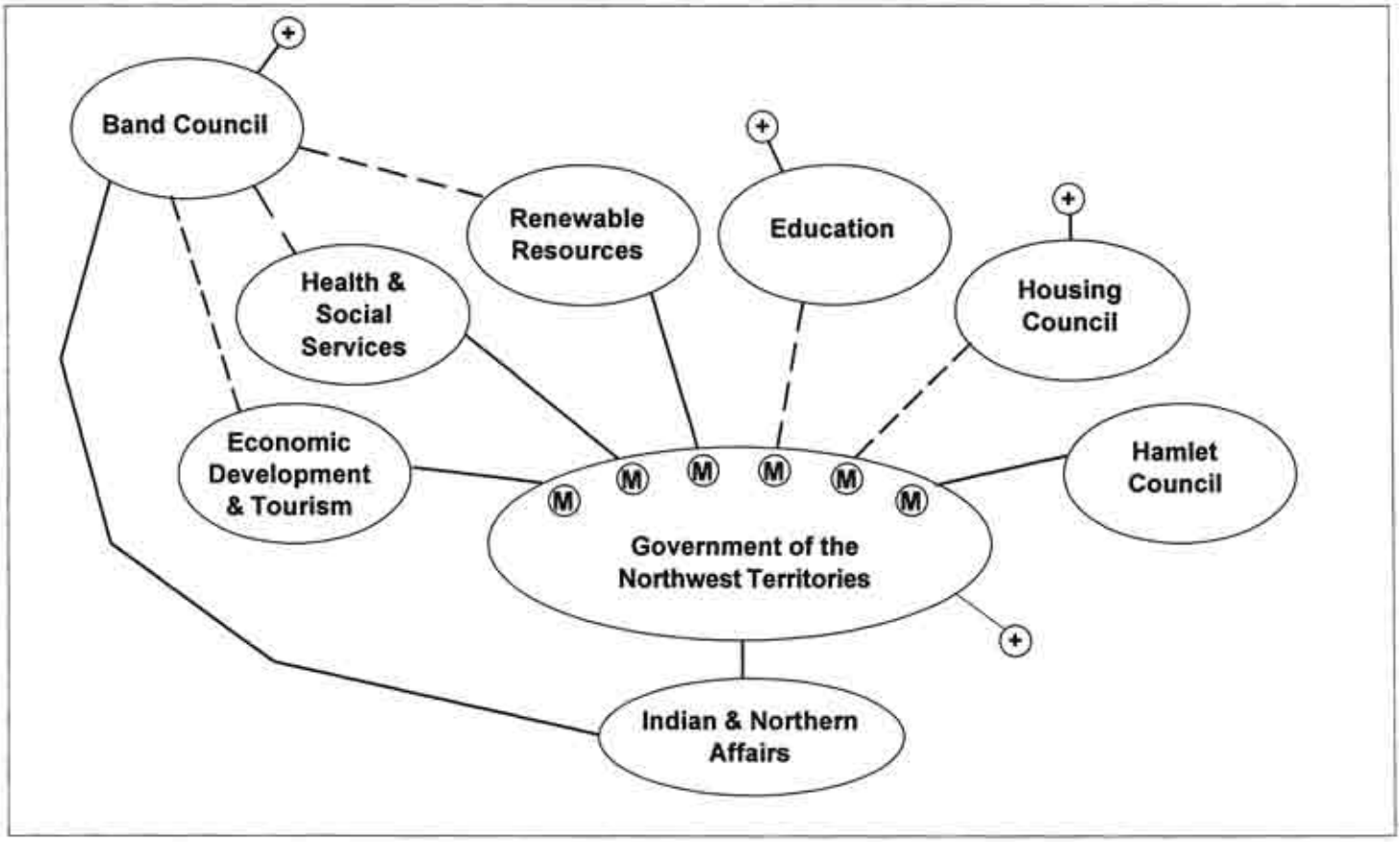


Fig. 8 Rae Edzo Political Organization, 1995

Legend

——— Direct recommendations, no consultation

— — — Recommendations made based on the vote of a council

\+ One vote per person

M Minister

This diagram of Rae Edzo's political organization provides a snapshot from 1995 The structure may have changed since then through the government initiated community empowerment program

Band Council

The Band Council acts as a 'referee' between the other parties It is a lobbying voice, but has no recognizable voice in the Legislative Assembly

Economic Development and Tourism, Health and Social Services, Renewable Resources

No formal consultation process exists between these bodies and the residents of the community or the Band Council These bodies make direct recommendations to the appropriate Minister of the Legislative Assembly

Education Council, Hamlet Council

These are consultation bodies that make recommendations to the Minister They are elected councils having one vote per person The Hamlet Council has an advisory role within a municipal boundary It is responsible for public works, including the maintenance of roads, airports, water and sewage The Hamlet Coucil also has an Area Office, containing a mapping department

Housing Authority

This Authority advises the Minister of Housing regarding NWTHC housing allocations in Rae and Edzo This was an elected council at one time, however, a recent process has put the Band Council in place to take over to a degree Decisions are based on community needs

Reading the diagram

From the diagram it is evident that the Band Council, the voice most representative of the wishes of all the people, has no authority over and no official advisory role toward planning and housing issues A recent devolvement of power has handed the housing/planning process over to the Band Council, but without taking into consideration the layout and structure of the entire diagram, which still need to be fundamentally improved

the demands for the spatial accommodation of a newly 'traditionalized lifestyle' will fall to the local Band Council. (This study endeavors to lay the groundwork for the road ahead by identifying the issues to be considered and common ground shared between current planning practice and community desires.)

Figure 8 provides an overview of the leadership in place in 1995 to administer planning and housing in Rae Edzo. At the time of the diagram, all housing and planning issues were decided by elected councils, independent from the Band Council. With the recent takeover of the allocation of planning and housing by the Band Council, there is some hope that most issues decided in the future might lead towards a way of accommodating traditional issues.

Rae, 1994

By this time, Rae is expanding at a fast pace. By far, more new construction has occurred in Rae rather than Edzo. Community consultation forms a significant part of Rae's development process now. The government has sponsored the construction of several new buildings and complexes to add to the town's core. (Fig. 9)

For example, the seniors housing, designed by Gino Pin and built in 1985, places Rae's elders close to the church and community complex. The unique form of the housing creates a group living facility for the seniors, built in family group clusters. The complex also provides smoke houses and other amenities suited to a traditional lifestyle. A health centre and hotel also add needed community facilities to the town centre core.

A new school was constructed in an inland location that will bridge the existing community to future neighbourhood areas.

Privately-funded retail development has infilled areas in the town centre as well as lined the road leading into the community.

In 1992 the renovation of an existing building into a community-funded cultural centre was completed. This facility also adds to the vitality and efficient siting of major public buildings in the community core. The central siting of so many community structures places them close to the elders' homes, not only for those who live in the seniors housing complex but also for many others who prefer to reside in the traditional sub group areas.

By this time, building density in the established sub group areas has reached maximum capacity. Much of this infill has resulted from extended family members settling close to their relations.

No examples of 'piggy-backing', one form of extended family settlement prevalent in other communities, are evident in the inland areas, probably because the compact lot sizes do not easily accommodate expansion.

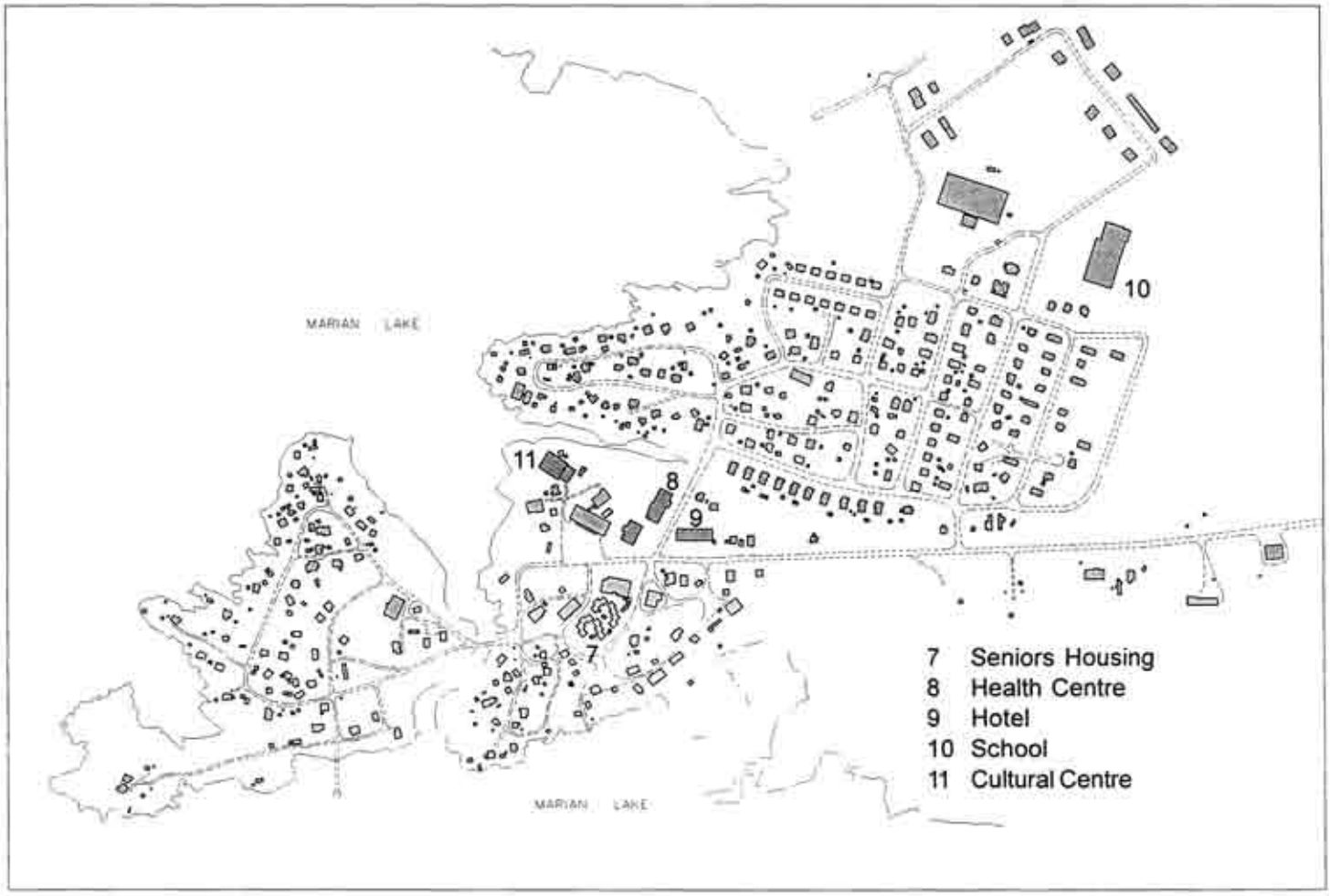


Fig. 9 Rae, 1994

Current Trends

Collaborative Neighbourhood Design

In the early 1990's a collaborative team of design professionals and community residents worked together to design a neighbourhood now being constructed. (Fig. 10) The neighbourhood features a rock outcropping open space in the centre. (See the Current Planning Practice chapter for a description of the design process.)

Frank Channel

The late elder Joe Beaulieu talks about the settlement at Frank Channel in the following excerpt from a story he told in 1992:

When I first started to become aware as a child, we were living at Old Fort Rae. There were a total of six buildings, and my mother and I were staying at Sheɔe's *house. It must have been just after my father died. It was the fall time, because there was a lot of fishing going on, and they were putting stickfish up for the winter.*

I remember our move to Franks Channel to my grandfather's, who was my uncle Zoɔa's *father. His name was* Ek'wıcho, *and he had just built the first cabin at Franks Channel. It had a stone fireplace in the corner and they did their cooking over the fire by hanging fish or meat on a hook, and it sure tasted good.*

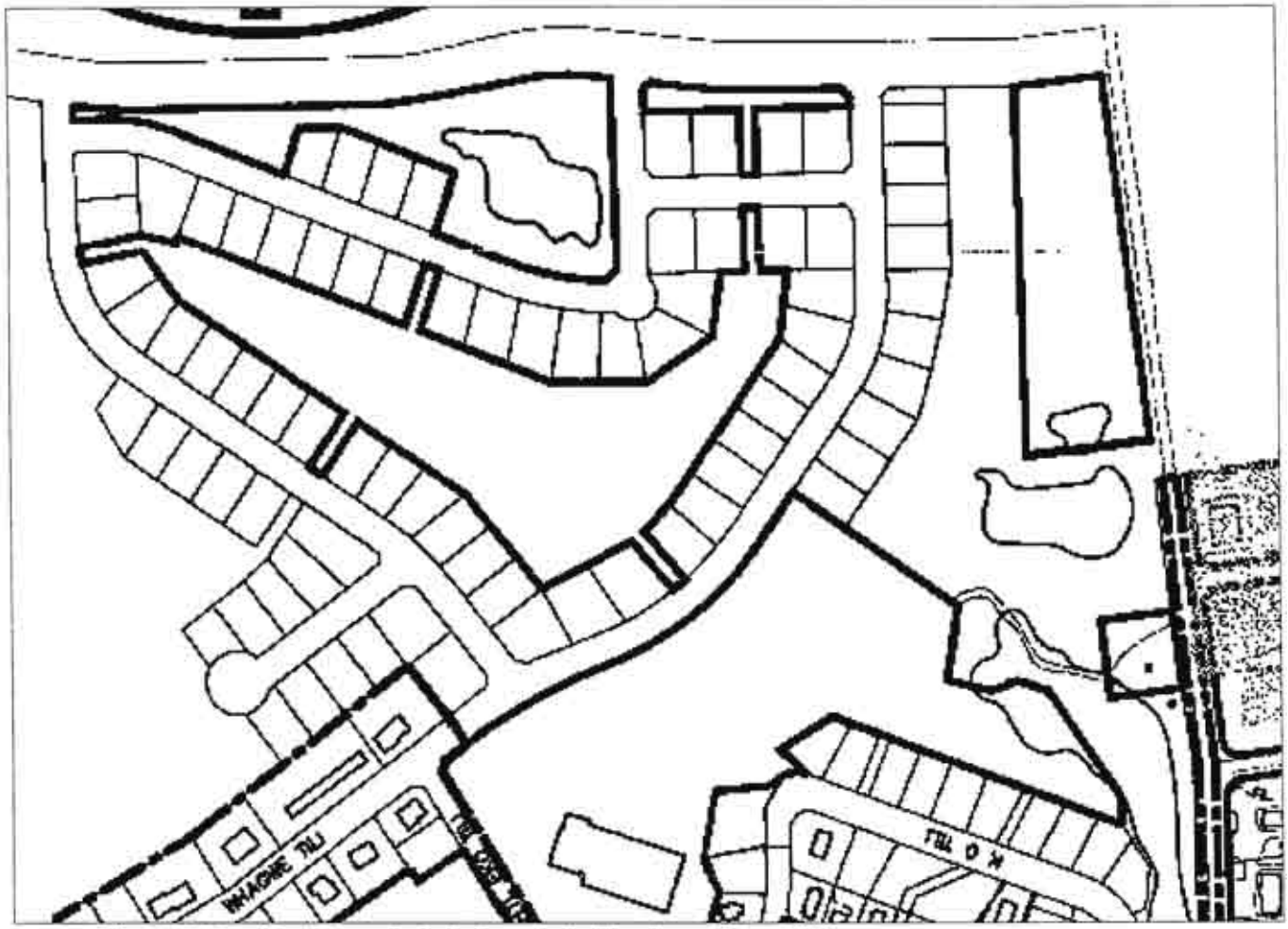


Fig. 10 Map of collaboratively designed neighbourhood, Rae, 1996.

The next summer, Philip Tinqui's father built his cabin there on a flat rock near my grandfather's. After that, Joe Gon's father built a cabin there too. Later on, when I was a little older, my mother remarried. My uncle Jean Tinqui built a cabin, where Nick Zoe's house is presently sitting. I remember there being only four cabins.[30]

Another Rae resident explains that at Frank Channel there are 4 or 5 houses arranged together as a small village and that some Elders live there. (Fig. 11) They reportedly keep better social control in the village than the general population does in Rae.

Concept for a Transition Building

In reviewing the oral stories and history of the people as well as the progression of shelter as influenced by outside forces, the basic principle of home as defined by fire endures. This principle reflects the warmth and continuance of a healthy society or people.

It is important to design for this modern day and age. The concept for a transition building would reflect the progression of Dogrib shelter in a traditional setting, or at a place known for its traditional value.

The structure should be designed to house a family of people as a community in spiritual, cultural and social terms. The building should be simple and financially feasible. It would

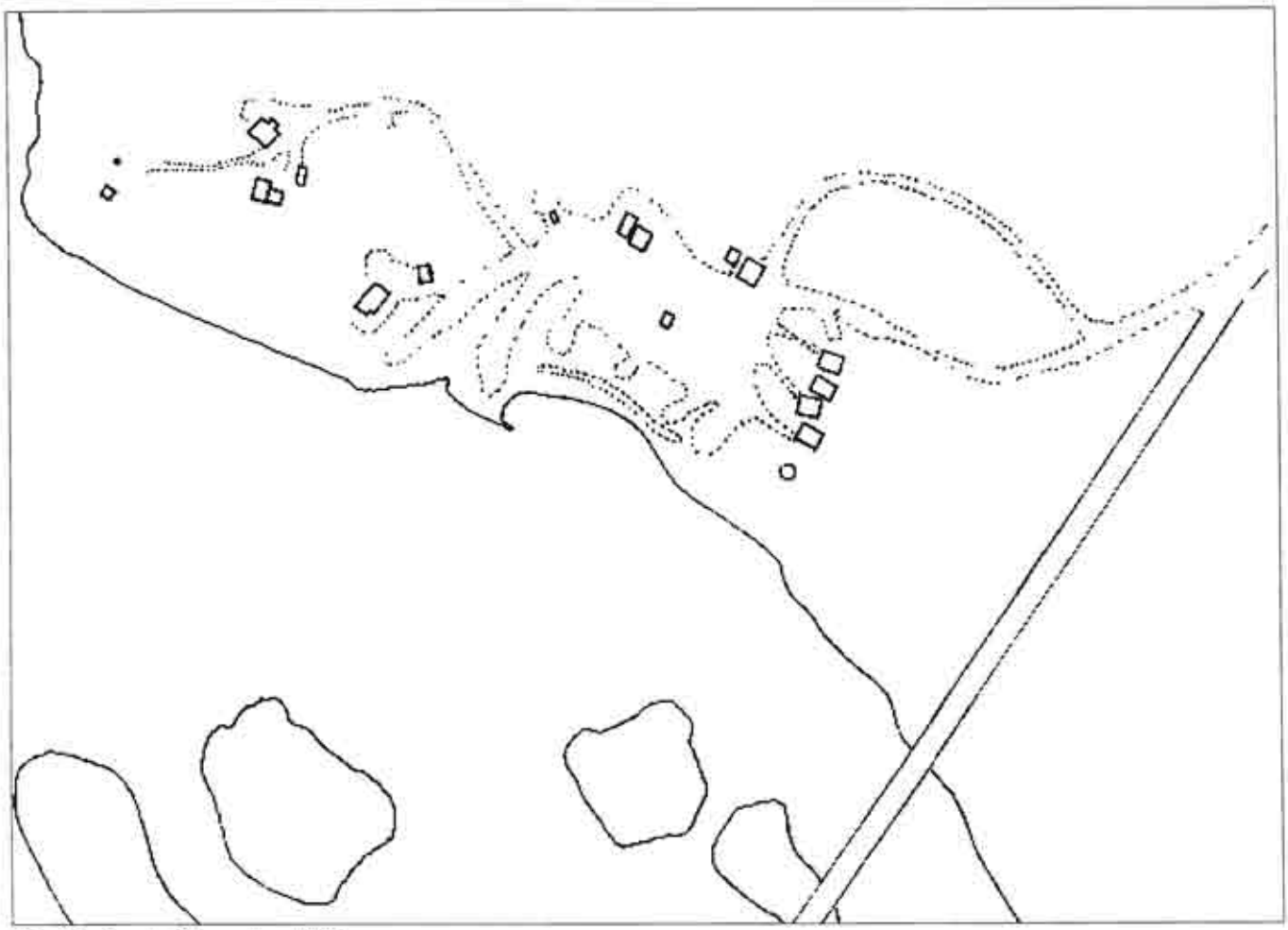


Fig. 11 Frank Channel, c. 1985.

offer all of the elements and qualities of the earlier structures, but include modern facilities as well. The modern elements would be necessary to maintain health standards, given the density of present-day northern communities.

The late Elder Joe Beaulieu best describes the concept in his story where he talks about the healthy lifestyle, the kinship, the activities and the preparation of food based on the original concept of fire. As the Elders would say today, "To be healthy, you must cook over the open fire." Even though today, the open fire has generally been replaced by a stove element, the Elders advocate cooking over an open fire at least once in awhile.

The original concept of housing, described as fire, represents the continuity of warmth, the gathering of kinship and community, and the nourishment of mind and body towards an uncertain future.

Notes

1 June Helm, "Dogrib" in *Handbook of North American Indians, Volume 6: Subarctic*, general ed. William C. Sturtevant, volume ed. June Helm (Washington: Smithsonian Institiution, 1981), p. 299.
2 John B. Zoe
3 Thomas D. Andrews and John B. Zoe, "The ɮdaà Trail: Archaeology and the Dogrib Cultural Landscape, Northwest Territories, Canada" in George P. Nicholas and Thomas D. Andrews, eds. *At a Crossroads: Archaeology and First Nations in Canada* (Vancouver: Simon Fraser University Press, in press). Footnote from text:
"The other villages are K'agooti Kǫ̀gòlaa, located on the northern end of Hislop Lake, Dètaʔaa Ts'ahti Kǫ̀gòlaa, on a small lake approximately 45 kilometres north of Rae, and Xàelıı Whaèdǫǫ̀ Kǫ̀gòlaa, located on the northern end of Marian Lake. The modern seasonal fishing village, known as Xàelıı, is located nearby.
4 *Handbook*, p. 295.
5 *1995/96 Dene Nation Annual Report* (Yellowknife: Denendeh National Office, 1996), p. 75.
6 Ibid., p. 291.
7 Father Pochat-Cotilloux
8 "Rae" in *Settlements of the Northwest Territories: Descriptions prepared for the Advisory Commission on the Development of Government in the Northwest Territories*, Volume 4. (Ottawa, 1966).
9 John B. Zoe
10 *Settlements*
11 Father Pochat-Cotilloux
12 Mary Ann Hilleke, *From Rae to Edzo: Why the Move?* (Research paper on file at the Arctic Institute, 1973), p. 5.
13 Ibid.
14 Ibid., p.4
15 Ibid., p. 6
16 Ibid., pp.7-8
17 *Settlements*
18 A short description of the 'White Paper' appears in the list of "Important Dates in Dene History" in *1995/96 Dene Nation Annual Report* (Yellowknife: Denendeh National Office, 1996), p. 79. The report states:
[In 1969] the government of Canada presents the "White Paper", which proposes to change the relationship between the government and Indian people, essentially, a design to transfer responsibility for Indian Affairs to provincial government by creating municipalities, etc. This would abolish the constitutional responsibilities of the government to the Indians, and is contrary to British Common Law.
19 Donald J. Gamble, "Crushing of Cultures: Western Applied Science in Northern Societies" in *Arctic* 39:1 (March 1986), p. 20.
20 Ibid., p.21.
21 *Handbook*, p.298.
22 Ibid.
23 June Helm, *Prophecy and Power Among*

the Dogrib Indians: Studies in the Anthropology of North American Indians, eds. Raymond J. DeMallie and Douglas R. Parks (Lincoln and London: University of Nebraska Press in cooperation with Bloomington: American Indian Studies Research Institute, Indiana University 1994), p. 155.

24 *Handbook*, p.292.

25 *1995/96 Dene Nation Annual Report*, p. 79.

26 Ibid.

27 Ibid., p. 101.

28 Ibid.

29 Ibid., p. 90.

30 Excerpt from story by Joe Beaulieu, February 20, 1992, Rae, NWT. Translated by John B. Zoe.

Conclusions & Recommendations

Above all, the research points to the need for specific rather than global solutions for each community. Kinship, the land, heritage, self-sufficiency, open space, views, and flexibility, amongst other things, are priority areas for future development. The southern-based principles used to design permanent communities for northern Native peoples have not taken all of these needs into account in the past. By restoring connections to kinship groups and to the land, and by prioritizing the experience of local residents rather than that of outside influences, perhaps an indigenous type of building, specific to place, will develop.

This chapter is divided into the following seven sections.

- Conclusions from Workshops and Interviews
- Summary of Conclusions
- Summary of Recommendations
- Prioritized Common Areas for Improvement
- Alternatives & Speculations
- Possible Follow-up Projects
- Overview

Conclusions from Case Study Workshops & Interviews

Workshops and interviews in the four case study communities provided an arena for community input. Findings that were consistent in all of the communities include: the importance of kinship groups, of the land, of difference, and of heritage; the social effectiveness of smaller communities; the need for gathering spaces and views; and the need to change dependency.

1. *Importance of family / kinship groups*
   Three out of the four case study communities expressed the desire to maintain strong kinship ties and to build community plans with these ties in mind. Fort Resolution was the exception. (See chapter, Fort Resolution.)
2. *Every community requested a larger map.*
   This request points to the importance of the land and land-based activities. As well, people talked about many trails and recreation areas close to their settlement (e.g. ski trials, hunting areas, berry-picking areas, sliding hills, skating ponds, skidoo trails). These areas are well-known by locals. A large community map documenting all of these areas of past and present community use would aid external consultants in the future to gain an understanding of the area.
3. *Importance of difference, between and within communities*
   Cultural, social and traditional lifestyle concerns vary between and within communities. In the past, global 'master plan' solutions have undermined the needs of communities for flexibility and changing lifestyles. As well, communities appreciate site-specific solutions that make the most of available topography, water amenities and views.
4. *Importance of heritage*
   All communities were interested in looking to past traditions, past settlement practices, successful designs within their own and other communities, as well as preferred historical building influences to inspire new development.
5. *Smaller communities effective for social control*
   Those communities which are smaller tend to be more effective for social control. Some which began as offshoots of established communities were settled for the purpose of achieving greater autonomy and social harmony. (Note that the relationship between size and social control should not be taken as a general rule.)

6. *Need for spaces to gather and spaces for children to play*
   Every community expressed these needs when describing the various functions that occur throughout the year.
7. *Wish for views*
   Views were appreciated in each community. For example, in Snare Lake, it is important to see the lake and caribou migrations. In Kakisa, because of the community plan, from each house one can see every other house.
8. *Need to change dependency*
   Increasing community input in the planning and building process increases satisfaction and creates places more in tune with user needs. People hold greater pride in structures that they have built themselves. Learning about maintenance of home ownership units will also improve self-sufficiency over time.

Summary of Conclusions

Kinship

1. Kinship groups are enduring social formations that have determined 'intuitive' settlement forms from Aboriginal times up to the present.

Southern Planning Influences

2. The main reason for people to settle permanently in communities was the government's provision of health, welfare and educational services.
3. The influence of southern planning principles has contributed to social problems for the following reasons: the splitting up of the 'brigade' (local band); repetition and inflexibility of a plan; and grouping together rental units.
4. Historically, a local approach to planning and housing has created more favourable results than a global approach. Outsiders need to have first-hand experience of the community they are designing for.

Southern-based planning models and the conflict in knowledge

5. Fundamental differences in western and Native knowledge systems have contributed to the provision of planning and housing solutions that are ill-suited to northern Native communities.
6. Permanent settlement in communities contributed to government dependence, social breakdown and an interruption in the passing on of traditional knowledge.
7. First Nations people are best qualified to determine their own social and cultural needs.

Current Planning Practice

8. Economic forces which have driven settlement form in the past will play a larger role in the future, when MACA's hidden subsidy is removed and communities become responsible for their own land development.

Historical Overview of Housing

9. The very comforts and conveniences of culturally imported housing types that are embraced by the residents (e.g. heating and plumbing) have undermined important traditional activities, such as going out on the land and preparing dry meat.
10. Each technological 'advance' for housing and each change in materials and form has led people further away from their earth origins and towards the picture of southern Canadian suburban life that they see on TV.

Current Housing Practice

11. The SFD assumption limits the potential for housing to respond to an extended family condition.
12. Each improvement in housing technology tends to be countered by another problem.
13. Recent lots do not allow enough space for exterior elements.

Summary of Recommendations

Kinship

1. For traditional communities, kinship ties form a central traditional value that should be given priority when designing community plans and housing.
2. Community and housing plans should respect existing social associations and peoples' choices of whether or not to affiliate together. Interior and exterior spaces need to accommodate these associations at several levels: the family, extended family and in-laws, community gathering, and multi-community gathering.

Southern Planning Influences

3. Provide large lots to enable stable infill and expansion within the flexibility of an existing configuration.
4. Provide characteristics of individual owners in housing. Avoid uniformity. Respond to the variety of topographical features available at the site.
5. Mix rental units together with home ownership units. Prioritize home ownership.
6. A community plan should be flexible enough to be altered according to changing community wishes and needs.
7. Involve local input as much as possible in the planning and housing design and build processes.

Southern-based planning models and the conflict in knowledge

8. Allow flexibility for other modes of community living, such as the outpost camp, flexible housing to allow people to go out on the land, etc.
9. Consider alternatives to standard lot divisions, which hold no cultural precedent or significance. Areas could be designated to kinship groups rather than to single families, with room for expansion. With space allotted to kinship groupings it is believed that social stability will be more readily achievable.
10. Northern communities should be wary of copying southern planning methods rule for rule without understanding the long-term consequences (e.g. cumulative effects, highway strip development).
11. Community plans should be flexible and spatious enough to accommodate more than one house on a lot, since this type of expansion tends to occur naturally anyways.
12. Residents should continue to be involved in all building that goes on in a community. Communities take pride in buildings that were built by their residents.
13. Community empowerment begins with self-initiated projects.
14. Greater efforts need to be made to

include traditional knowledge and local experience as a driving force in the delivery of planning, housing and other new buildings. By prioritizing the experience of local residents rather than that of outside influences, perhaps an indigenous type of building, specific to place, will develop.

15. Base maps used for development could convey a range of cultural, environmental and functional information in addition to standard topographical, legal and servicing information.

Current Planning Practice

16. Communities should aim to be critically aware of the implications of southern-based suburban development that they see in other Canadian cities and on TV, and to consider alternatives.

Historical Overview of Housing

17. Housing innovations should be locally initiated, or provided through a more collaborative means.

Current Housing Practice

18. Housing and planning services should collaborate more closely together.
19. Alternate and original housing types, other than the single family dwelling, should be considered.
20. Instead of applying global solutions, housing technology needs to respond more closely to the needs of individuals.
21. Alternatives to raising houses above grade should be considered.
22. Land allocations should allow adequate space for exterior elements, such as at Kakisa and Snare Lake.

Prioritized Common Areas for Improvement

From the preceding recommendations, we have identified six high priority areas for improvement, common to all four case study communities.

1. Encourage housing and planning initiatives from within community, to work towards a locally-driven, indigenous building type.
2. Prioritize social, cultural and environmental needs in building communities. Emphasize effective community consultation. Address the differences in needs both within and between communities.
3. Create flexible plans with space to allow infill / expansion by extended family members near to existing houses.
4. Adapt current construction technology to build houses closer to the ground.
5. Minimize the effect of development on the land.
6. Accommodate the need for small settlements to pull apart and regroup in other areas.
7. Integrate housing and planning concerns with related issues (e.g. economic development; health and social services), as an integral part of community living.

Alternatives & Speculations

This section addresses the question, "What would a community plan look like if a totally local, Native population had built it according to its own planning sensibility, taking into account current technology (power requirements, transportation corridors, etc.)?" How would it be different from what has been built?

We know from research conducted by the PWNHC with traditional knowledge input from Rae Elders, that Dogrib log cabin villages took on many different spatial forms, which appear to respond to topographical features as well as social associations. These forms range from a cluster of associated cabins surrounding a large boulder, to two groups of cabins on either side of a teeline, to a string of cabins extending inland from the water. The initial settlements at the case study communities also demonstrate a number of different solutions, including clusters of buildings out on a point (as at Rae and Fort Resolution), and a circle of cabins sheltered ina bowl-like area facing a lake (Snare Lake).

Given the wide range of these all-Native precedents, to speculate on how development might have occurred without outside intervention would be next to impossible. Still, it seems worthwhile to highlight the differences that would most likely exist, as well as the successful existing solutions. The intent is that some combinations of these solutions might find an appropriate use in a contemporary community design.

The following points discuss how different the completely Native-managed alternative communities might be.

1. Areas would be allocated to kinship groups, with adequate space for expansion. The funding structure would allow more money in the first year to put in an access road, an equal amount to develop land for immediate needs, and less in the future to infill units adjacent to the existing access road. These areas would be at least the size of a double lot in Kakisa, but could be larger to consist of eventually 8 to 10 houses. The communities would choose whether to allocate lots or to hold land jointly. In this way the plan would be flexible, leaving room on adjacent land for extended family members to move into.

2. The alternative community would develop much the way that Snare Lake has developed: incrementally, with attention to social associations. Houses could be staggered as at Snare Lake, where this arrangement maintains a comfortable distance, shares courtyard space, and maintains views to the water.

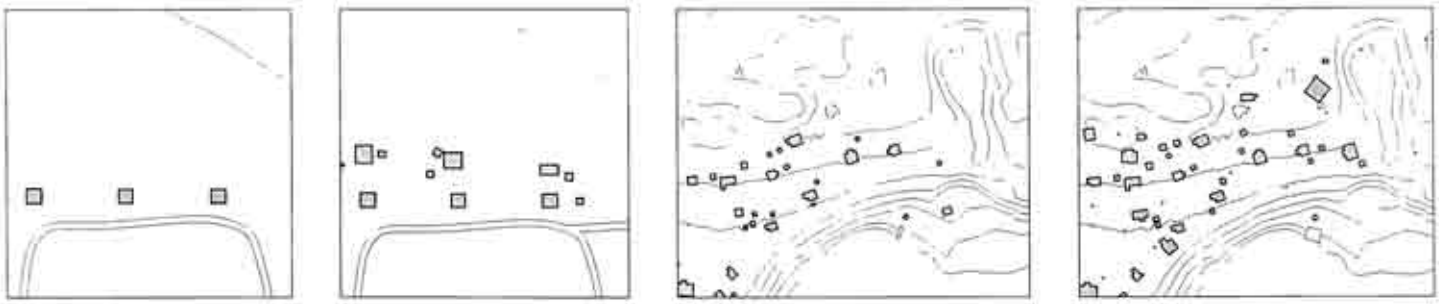
3. Open space would be provided at three levels: for individual and shared household use; for playgrounds; and for multi-community gatherings. The first type of open space would be provided by

courtyards within each kinship group area. The second and third types would be land set aside within the community as a whole.

4. The land, the way it looks, as well as natural amenities would be important. A gravel bed, which inhibits outdoor use for anything except parking, would be avoided.Current construction technology would be adapted to build on suitable soil or on bedrock.

5. Smaller, more independent communities would be the norm. People tend towards smaller social groups, as seen by the history of all-Native log-cabin villages, and the offshoot communities such as Snare Lake, Frank Channel, and Rocher River.

6. Different housing types would be mixed as each kinship area grew over time, reflecting changes in family sizes and demographics. As an alternative to separate houses, some people might choose duplex units designed to accommodate an extended family, including some shared common indoor space. Owner-built housing and the use of locally available materials would be encouraged.



The diagrams show development over time at Kakisa, left, and Snare Lake, right. In Kakisa, double-sized lots with trees and shrubs between allow for incremental growth. In Snare Lake, associated family members settled close together in 'constellations,' expanding from an original cluster and framing courtyards between neighbouring houses. The houses are spaced at equal distances from each other. The owners positioned their new houses to respect the existing residents' views to the water. Both areas adapt to natural topography and minimize changes to the land. Both Kakisa and Snare Lake also provide larger gathering spaces elsewhere. These solutions are site-specific and should in no way be used globally. Nevertheless, it is hoped that their successful attributes will inspire alternative all-Native solutions in other communities.

Possible Follow-up Projects

1. Design and build a neighbourhood modelled on the results of this study, and using traditional knowledge input, community priorities and an in depth community consultation process.
2. Develop community task force groups that will oversee the coming shift of power for housing and planning to local authorities.
3. Develop an educational package on the theme of planning and development issues and guidelines. This package would aim to work with locals on pertinent issues and guidelines for planning, housing and development in their communities, thus helping them to meet their needs and to ready them for the transfer of these services to the community level.

Overview

Specificity of site, kinship ties and circumstances have determined the original settlement form in northern Native communities. When external influences have held influence (e.g. the Church, RCMP, government), these builders have shaped the settlement according to their own priorities before those of the other residents. When the initiatives of Aboriginal settlers have driven development, their cultural, social and environmental needs have intuitively shaped the community to suit their lifestyle.

In those places where people chose where their houses would go, such as in all-Native log cabin settlements, in the original clusters at Rae and in the outpost camp at Snare Lake, the relationship between topography, natural amenities, kinship ties and settlement form is clear. In Kakisa, in spite of the fact that the settlement was configured by an external 'authority' (Indian Affairs agent), the plan still addresses these attributes. In Fort Resolution, external influences over a long history have produced a southern-based plan that satisfies the residents, who are no longer influenced by kinship group ties.

All-Native log cabin settlements were built uniquely to suit their site, social affiliations and functional purpose. Recent archaeological work conducted by the Prince of Wales Northern Heritage Centre in collaboration with Dogrib Elders supports this view. The sacred significance, topographical features, and natural amenities and resources of a site, as well as the social associations of kinship ties, influenced the varied forms of these settlements. In one village, evidence of two distinct clusters of cabins, separated by trees and brush, suggests that social and kinship associations strongly influenced its form. Further study of these villages and their social associations could lead to a stronger affirmation of traditional settlement patterns in present planning practice.[1]

In Fort Resolution, external 'authorities' such as the traders, the RCMP and the Mission held a strong position during the early days of the settlement's establishment as a trading post. These groups claimed the best sites for themselves, on high ground, facing the water. The rest of the settlers were left to take up residence in whatever land was leftover.

Fort Resolution is unique out of the four case study communities because land division into privately-owned lots took effect early on when the Church had their land surveyed in the late 1800's. In Rae, by contrast, some residents did not have to address the issue of private land ownership until the mid 1980's, when they were required to prove title in order to receive government housing repair benefits.[2]

In both Fort Resolution and Rae, the overwhelming reason for permanent settlement following World War II was reportedly that many people living out on the land were dying of influenza and other illnesses.[3] They moved into town, seeking

health care offered by the government, as well as social benefits and education.

Outside Rae, populations living out on the land in Dogrib log cabin settlements such as Nıdzıı̨ka Kǫ̀gòlaa, eventually no longer had the numbers to sustain themselves. For this reason in the 1950's, several distinct Dogrib groups came together at Fort Rae and set up cabins on the islands adjacent to the trading post and Mission. The settlement pattern here is naturally formed by clusters of distinct family groups. (See Rae Edzo chapter.)

In Fort Resolution, however, any kinship groupings have long since disintegrated. Air photos up until 1960 show that some clustering did occur; however by 1980, a grid system of roads had resturctured the town's form, obliterating any 'organic' settlement that had previously occurred inland. (The restructuring is less dramatic on Hudson's Bay Point, where the road follows the form of the land, leaving some clusters to remain in the middle.)

Repeated historical influences by different peoples and groups wove not only the physical town fabric of Fort Resolution but also its social fabric, thus promoting cross-pollenization amongst many different peoples. The settlement drew many outsiders to its shores throughout its history, initially because of the fur trade and later because of a residential school, TB hospital and various industries (e.g. saw mill; house building). Today, residents place a low priority on kinship ties and different family generations prefer to live far apart from each other.

Kakisa has followed a stable, predictable expansion since its initial settlement. Two rows of houses on large lots, facing each other across a wide field, have naturally expanded with infill and additional buildings added to each 'line'. Two distinct family groups continue to occupy each row.

The community's small size, gradual growth and flexible plan have promoted its comfortable expansion along traditional kinship lines. Participants at the community workshop held in Kakisa proposed to continue future expansion along the two distinct lines.

The plan provides the security of a panoptic view, in which each cabin can see all the others from its spot. At the same time, tall trees and brush between lots as well as in the central field contribute to privacy.

Snare Lake's original ring cluster clearly expresses its origins as a unified outpost camp. Wanting to break away from the modernization and social problems in Rae, a group led by Alexis Arrowmaker crossed 42 portages and built a log cabin settlement on the shore of Snare Lake. Settled by a single group with a unified purpose, the cabins form a ring with an open space 'playground' in the middle. As Snare Lake grew, people maintained small clusters of close kinship associations adjacent to the larger group.

Subsequent incremental, gradual development shows how the people placed each successive building or addition in a way that maintained views to the lake from existing houses. As well, prior to the priorities of trucked services and road access, the people created interconnected courtyards between their humanly-scaled groups of houses. Much could be learned by further study of this organic development (e.g. specific family ties; distances between houses, etc.)

Only the more recent, rapid development in Snare Lake has taken a new, more conventional course, with housing built in straight lines along inland roads. Presently, the next wave of houses are proposed to occur along a point, at some distance from the original settlement.

Spatially, this 'neighbourhood' represents another 'outpost', distinct from the original, now crowded area. However, like other recently built autonomous areas, the social formation of this area is likely to be a mosaic of younger people, rather than one cohesive group. If provided with a flexible plan and large lots, this area could accommodate future incremental expansion by extended family members.

Across the case study areas, people have expressed the need to build their own settlements, according to their own wishes, and with whom they want, by establishing offshoot communities. These offshoots generally begin when a group of people wish to break away from a larger, established community. The smaller settlements are said to maintain social stability more effectively than their larger 'parent' communities. Snare Lake, Rae Lakes, and Frank Channel are three examples of 'offshoots' from Rae. In the 1970's, a group left Kakisa to establish themselves at West Point. Presently in Fort Resolution, one group of people is talking about re-establishing themselves at Rocher River.

This natural tendency to break apart and regroup finds its origins in Aboriginal times, when mobile kinship groups would come together, re-form, and break apart at different times of year. We recommend that current planning practice recognize and accommodate this need.

Current discourse in several disciplines underscores the direct relationship between traditional practices, cultural distinction and autonomy, and social well-being. Present intiatives in many areas of Aboriginal management support social 'repair' through the re-establishment of traditional ways and culture. The building/planning industry has been moving towards these ends with initiatives such as owner-built and 'sweat equity' home construction and community consultation processes.

Nevertheless, the results of this study show that several fundamental principles of current planning and housing practice run contrary to traditional Aboriginal culture. For example, the provision of lots on a first-come, first-

served basis negates a more 'intuitive' or 'organic' approach in which people place houses together in kinship groups.

Planning and housing solutions well-suited to their social, cultural and environmental contexts have occurred moreso in those communities where development followed the wishes of the people, rather than being imposed from outside. At this time, the influential power of mainstream media such as TV is so strong that 'reverse education' is needed to convince community residents that their own knowledge regarding their specific environment could be more locally relevant than the examples of suburban development seen on TV.

Traditionally, Native people constructed precisely 'engineered' shelters for specific purposes. As the way of life has changed and as housing and building technology has progressed, the people have welcomed the improved comfort of each new progression. Mobile camps led to permanent log cabin settlements, first with stone chimneys, and later steel stoves. Today, furnaces and running water are much appreciated. By no means do people want a lesser standard of housing. However, one recurring problem is that the housing technology in many cases continues to fall short of the peoples' needs (e.g. too high above the ground; doors sticking; drywall cracking). As well, the technology is for the most part dependent on imported materials. Therefore, even though local talent provides much of the labour and maintenance, the communities continue to be dependent on sourthern Canada for materials.

This study held workshops or reviews in four case study communities to get feedback from residents on how to improve the community plan. The results of the workshops demonstrate that when given an open set of options, residents have a clear idea of the community improvements they envision. In Kakisa and Rae in particular, social affiliations and kinship ties play an important role in community planning.

In Snare Lake the leaders question the need for car access and gravel-pad lots. The people are open to consider alternatives. In Fort Resolution, the residents like the idea of a more southern-style town, but at the same time they want to preserve many features of their heritage (e.g. restoring the church; improving the cemetary; reviving mission-style screened porches on homes).

This research has demonstrated that kinship ties have been central to settlement form. Other considerations, such as the sacredness of a site, hold possibly equal or greater importance. Although not specifically addressed in this report, this issue merits greater weight in the planning process, and is best addressed by the communities themselves, since the information is not normally open to outsiders.

We strongly recommend that communities look at past successes, initiated by their own intuitive building sense, to give direction for the future. Challenges ahead for communities

include revamping conventional planning practice to suit local needs, as well as developing local skills.

It is intended that the results of this study will shed light on alternatives and options for community leaders and residents, government agencies, planners, architects and builders.

Notes

1 See the Prince of Wales Northern Heritage Centre for more in-depth research in these areas.

2 Matthew Sanger. *A Community of Rae: A New Home on the Horizon* (A report prepared as part of background information for the Rae Community Plan. Fort Smith: Department of Local Government, 1985), p. 53.

3 Between 1872 and 1928, 80% of the aboriginal population in the MacKenzie Valley died of influenza and other illnesses. (Cited by Tom D. Andrews, Prince of Wales Northern Heritage Centre)

Appendix A
Overview of Government Housing Programs

The following section reviews the operational aspects of all of the housing programs offered since the government began providing subsidized housing in the NWT.

Home Ownership Programs

SSHAG (Small Settlement Home Assistance Grant)

Around 1951-52 the federal government started the SSHAG program, with grants up to $7000 initially. With this program, the client brings in the logs to the site and the government provides the stove, shingles, windows, etc. The client builds the house. The first subsidized houses constructed in Rae, Kakisa and Snare Lake were probably SSHAG units.

The SSHAG program was available until 1983, when it was replaced by the territorial housing corporation's HAP program. The main difference between the two programs lies in the technology. The SSHAG units were log houses whereas the HAP houses were stick built (wood frame construction). According to one housing official, the HAP program was launched in Fort Smith when Henry Beaver wanted frame construction. He was given a HAP house. Then when people saw it everybody wanted HAP.

The reason for the policy change from log construction to stick built construction is twofold: first, to obtain a more energy efficient house and secondly, to build local skills in stick-built construction. To achieve adequate insulation R-values in a northern environment with log construction the logs have to be thicker than what is readily available. As well, log construction is quite sophisticated, right from the first step of selecting the logs. Not every home owner had adequate knowledge of log construction, and as a result some houses were well-built, and some not.

Overall the program was seen as

successful because people realized they could do something for themselves.

HAP (Homeownership Assistance Program)

The HAP program was the next major home ownership program delivered in the Northwest Territories. Many of the newer (1980's and later) housing units now inhabited in the four case study communities were built under this program. With the understanding that the client will supply his or her own labour to build the house, the NWTHC provides a kit of materials, shipped to the client's lot, as well as money for an electrician, the construction of a gravel pad, $4000 in specialized labour (e.g. framing, foundation, plumbing) and supervision for it to be built well.

The HAP program succeeded in improving overall housing standards for home owners, in encouraging people to do things for themselves, and in developing specialized labour skills within communities.

One problem with HAP was that no maximum income was established to take advantage of the program. The GNWT dissolved and replaced the HAP program because it was too expensive.

Owner Build, Lease to Purchase & Alternate

The GNWT essentially replaced the HAP program with two different home ownership programs: the Owner Build and the Lease to Purchase. The Owner Build Program assists clients wishing to participate in building their own home by providing a reduction in the cost of the house in exchange for labour received. The client purchases the house from the NWTHC and repays the cost according to household income over a 15 year period. The Lease to Purchase Program is a turnkey operation in which the NWTHC builds the house and the client repays the Corporation according to household income over a 15 year period. The client leases the house for a minimum trial period of two years during which they take on the responsibilities of home ownership.

'Special Projects' was a program that was operational before it became official. Later it became the Alternate Program. The Alternative Housing Program is for those clients who do not fit within the other categories, for example, seniors or low income people who still want to live a simple, traditional lifestyle.

Public (Rental) Housing

Various rental housing programs have been in place since the Canadian government first became involved in providing housing. The distribution of owned and rented housing varies considerably amongst the case study communities. In Snare Lake and Kakisa, all homes are owned. By contrast, for Rae and Fort Resolution, NWTHC records show a significant amount of rental housing.

Since their beginnings, northern rental housing programs have been based on a minimum standard of accommodation and rent geared to income, later with an option to buy.

Now there are no more public housing units being built because of the operation and maintenance costs. Under the rent supplement program, buildings are leased instead of being built by the NWTHC. On a small scale in Ft. Providence rent supplement projects are being constructed as design-build projects. The band builds the unit and the Housing Corporation rents it from them. The Housing Corporation rents the unit from the developer for around $1200 a month, then rents it to the occupant for $32 a month or so. This stretches the Housing Corporation's budget so that in the short term it can build more units.

Changes in programming from year to year, as well as differences in development processes between public housing and home ownership assistance programs have resulted in inconsistencies in the scale, street elevations, and appearance of the built environment within a given community. For example, in Ft. Resolution public housing had more capital money to spend so it went towards fill, resulting in differing elevations (heights above a datum line) of the houses on a given street from lot to lot. The fill in turn affects water drainage, creating pooling in some lots and dry areas in others.

Skills Development through Housing Programs

Building Skills

Ft. Providence offers a success story of how the initial skills developed through HAP have evolved into a local, skilled building industry. The HAP program developed skills for tradesmen within the community when an owner as well as his friends were involved in building a HAP unit. Then, with the assistance of a training program, the same group of people built 8 houses in one year. Local people worked full time from start to finish, demonstrating their ability to perform a successful bid and completion. This experience enabled them to compete with credibility for future project bids.

Soon a development corporation called DIGAA Enterprises, a division of the band in Ft. Providence which was already in charge of things like highways and ferries, was bidding competitively on construction work as well. Since then, the Legislative Assembly of the NWT introduced the business incentive program (BIP), which calls for 100% local involvement, allowing DIGAA to hold a monopoly on the bids for construction. Without competition the price has gone up. Currently the Legislative Assembly is reviewing the Business Incentive Program.

Nevertheless, it is a success story that from the HAP program, combined with various government-sponsored training

programs, the communities now have journeymen tradespeople. Now in Ft. Providence locals complete all the construction work.

In Kakisa, locals were involved in construction from day one. During the 1980's and 1990's the band and client were given block funding by a Housing Corporation arrangement for log manufactured projects in the North. Today a journeyman painter/drywaller from this community has work in both Ft. Providence and Kakisa.

Journal

During the delivery of the HAP program from the Hay River office, additional project management skills were developed using a 'journal.' In summary, the journal was an organizational framework set up by the NWTHC to enable clients, who normally possessed no previous project management skills, to keep track of a given project. The journal succeeded in training clients in project management techniques and also increased the number of units completed on schedule. Even those clients without literacy skills were able to read a calendar, and so could benefit from understanding the bar-graph project schedule. Each client had a binder where he/she kept weekly reports, updated on a daily basis. Reportedly, using this system there was a higher completion of HAP units. As well, the system built local infrastructure and skills and enabled more accountability.

Now that housing infrastructure is in place, the Housing Corporation is concentrating on developing operating and maintenance skills, and investing in people.

Appendix B
List of Abbreviations

DIAND	Department of Indian and Northern Affairs
GNWT	Government of the Northwest Territories
HAP	Homeownership Assistance Program
MACA	Municipal and Community Affairs
NWT	Northwest Territories
NWTHC	Northwest Territories Housing Corporation
PAR	Participatory Action Research
PWNHC	Prince of Wales Northern Heritage Centre
RCMP	Royal Canadian Mounted Police
SFD	Single family dwelling
SSHAG	Small Settlement Home Assistance Grant

Credits

Maps

Introduction
Orientation map courtesy of the Department of Economic Development and Tourism, GNWT.

Kinship
Diagrams of Dogrib villages Dèta?aa Ts'ahti, K'agooti Kǫ̀gòlaa, Nɻdzɻ̀ka Kǫ̀gòlaa, and Xàelɻɻ Whaèdǫǫ̀ Kǫ̀gòlaa courtesy of Rae Elders, Thomas D. Andrews, John B. Zoe and the Prince of Wales Northern Heritage Centre.

Comparison Chart: Planning Models
Diagram of Dogrib villages Nɻdzɻ̀ka Kǫ̀gòlaa courtesy of Rae Elders, Thomas D. Andrews, John B. Zoe and the Prince of Wales Northern Heritage Centre.

All other maps produced by Donna Diakun and Simon Taylor.

Note
None of the maps are to scale. Digital maps were prepared based on information from personal accounts, air photos and digital base maps (provided by the Department of Municipal and Community Affairs, GNWT). Because of the condition of the source materials, some errors may have occurred. We apologize for any inaccuracies.

Photos

Denınu Kué, **Fort Resolution, History and Background**
Fig. 1 Photo courtesy of Angus Beaulieu
Fig. 2 Photo by C.W. Mathers. Provincial Archives of Alberta
Fig. 3 Photo courtesy of Angus Beaulieu
Fig. 4 Photo by C.W. Mathers. National Archives
Fig. 5 Photo by Alma Guest
Fig. 6 Geological Survey of Canada

A Walk Through Rae Edzo, Life and Leadership, 1933 to 1996
Fig. 4 Geological Survey of Canada

All other photos by Donna Diakun.

Bibliography

Andrews, Thomas D. *Archaeological Assessments 1992, Section I: Snare Lake Airport, Final Report* (Prince of Wales Northern Heritage Centre, April 1993).

Andrews, Thomas D. and John B. Zoe. "The ɮdaà Trail: Archaeology and the Dogrib Cultural Landscape, Northwest Territories, Canada" in George P. Nicholas and Thomas D. Andrews, eds. *At a Crossroads: Archaeology and First Nations in Canada* (Vancouver: Simon Fraser University Press, in press).

Arbour, Daniel and Consultants. *Fort George Relocation Study* (November 1976).

Benoit, France, ed. *Working Together for Community Wellness: A Directions Document* (Yellowknife: Department of Health and Social Services, Government of the Northwest Territories, April 1995).

Bone, Robert M. and Roman T. Gajda. "Rae, N.W.T. Terrain and Site Analysis" in *Settlement File, Northern Canada* (Ottawa: Department of Mines and Technical Surveys, Geographic Branch, February 1963).

Brasser, T.J. "The Sarsi: Athapaskans on the Northern Plains" in *Arctic Anthropology* 28:1 (University of Wisconsin Press, 1991), pp. 71-72.

Dawson, Peter C. "Unsympathetic Users: An Ethnoarchaeological Examination of Inuit Responses to the Changing Nature of the Built Environment" in *Arctic*, 48:1 (March 1995), pp. 71-80.

The Department of Local Government, Community Planning Division, Government of the Northwest Territories, in association with the people of Snare Lake. *Snare Lake Community Plan, Northwest Territories, Fort Smith Region* (Government of the Northwest Territories, September 1984).

Elders' Housing - The Challenge North of Sixty, Conference Proceedings, May 28-31 1990, Yellowknife (Canada Mortgage and Housing Corporation and the Northwest Territories Housing Corporation, 1991).

"Fort Resolution, District of Mackenzie, File 406" in *Settlement File, Northern Canada* (Ottawa: Department of Mines and Technical Surveys, Geographic Branch, Research Division, 1960).

Gajda, R.T. "Terrain and Site Analysis (Engineering Data), Fort Resolution, NWT" in *Settlement File, Northern Canada* (Ottawa: Department of Mines and Technical Surveys, Geographical Branch, Research Division, 1963).

Gamble, Donald J. "Crushing of Cultures: Western Applied Science in Northern Societies," in *Arctic* 39:1 (March 1986): 20-23.

Gerein, H.J.F. *Community Planning and Development in Canada's Northwest Territories* (The Government of the Northwest Territories in co-operation with the Canada Mortgage and Housing

Corporation and the Department of Indian and Northern Affairs, Government of Canada, March 1980).

Helm, June and David Damas. "The Contact-Traditional All-Native Community of the Canadian North: The Upper Mackenzie 'Bush Athapaskans and the Igluligmiut" in *Anthropologica* N.S., 5:1 (1963).

Helm, June. *Prophecy and Power Among the Dogrib Indians: Studies in the Anthropology of North American Indians,* eds. Raymond J. DeMallie and Douglas R. Parks (Lincoln and London: University of Nebraska Press in cooperation with Bloomington: American Indian Studies Research Institute, Indiana University 1994).

Hilleke, Mary Ann. *From Rae to Edzo: Why the Move?* (Research paper on file at the Arctic Institute, 1973).

Janes, Robert R. *The Arctic Institute of North America Technical Paper No. 28: Archaeological Ethnography Among Mackenzie Basin Dene, Canada* (The University of Calgary: The Arctic Institute of North America, 1983).

Janes, Robert R. *Preserving Diversity: Ethnoarchaeological Perspectives on Culture Change in the Western Canadian Subarctic* (New York: Garland, 1991).

Legat, Allice, ed. *Report of the Traditional Knowledge Working Group* (Yellowknife: Department of Culture and Communications, Government of the Northwest Territories, 1991).

Logsdon, Hal and Debbie Seto. *Housing and Northern Lifestyles: An Historical Overview* (N.W.T. Housing Corporation, 1990).

Masuzumi, Barney and Susan Quirk. *A participatory Research Process for Dene / Metis Communities: Exploring Community-Based Research Concerns for Aboriginal Northerners* (Sombak'e: Dene Tracking, September 1993).

Michéa, Jean. "Les Chitra-Gottinéké: Essai de monographie d'un groupe Athapascan des montagnes Rocheuses" in *Contributions to Anthropology, 1960 Part II*, Anthropological Series No. 60, National Museum of Canada Bulletin No. 190, (Ottawa: Department of Northern Affairs and National Resources, 1963) pp. 49-93.

Northwest Territories Data Book: A Complete Information Guide to the Northwest Territories and is Communities (Yellowknife: Outcrop, the Northern Publishers, May 1990).

NWT Housing Corporation. *1993-1994 Annual Report*

Northwest Territories Housing Corporation. *Housing Needs Survey 1992* (Yellowknife: Northwest Territories Housing Corporation Community and Program Services, August, 1992).

Northwest Territories Housing Corporation. *Northern Housing Identification Guide* (November 1994).

Northwest Territories Housing Corporation. *Western Arctic & Mackenzie Housing Conference, Hay River, N.W.T.* (December 4-8, 1978).

Northwest Territories Renewable Resources. *Response by the Government of the Northwest Territories to the Report of the Traditional Knowledge Working Group* (1993).

Pin, Gino and Harold Strub. "The Evolution of Permanent Settlements in the Northwest Territories", a paper presented to the Winter Cities Forum (Yellowknife, March 1993).

"Rae, District of Mackenzie, File 406" in *Settlement File, Northern Canada* (Ottawa: Department of Mines and Technical Surveys, Geographic Branch, Research Division, 1960).

Robson, Robert. *Selected Sources on Northern Housing and Related Community Infrastructure: An Annotated Bibliography.* (University of Winnipeg: Institute of Urban Studies, 1989).

Rowe, Peter G. *Modernity and Housing.* (Cambridge, Massachusetts: The MIT Press, 1993).

Royal Commission on Aboriginal Peoples. *Aboriginal Peoples in Urban Centres* (Minister of Supply and Services Canada, 1993).

Russell, Frank. *Explorations in the Far North* (New York, N.Y.: AMS Press Inc. [University of Iowa 1898] 1976): 160-161.

Settlements of the Northwest Territories: Descriptions prepared for the Advisory Commission on the Development of Government in the Northwest Territories, Books 2, 3 and 4 (Ottawa, 1966).

Simon, J.C., R.R. Forster, T. Alcose, E.A. Brabec, F. Ndubisi. *A Culturally Sensitive Approach to Planning and Design with Native Canadians* (August 1984).

Strub, Harold. *Bare Poles: Building design for high latitudes* (Carleton University Press, 1996).

Sturtevant, William C., general ed. and June Helm, volume ed. *Handbook of North American Indians, Volume 6: Subarctic* (Washington: Smithsonian Institution, 1981).

Vanstone, James W. *Athapaskan Adaptations: Hunters and Fishermen of the Subarctic Forests* (Chicago: Aldine, 1974).