

# RESEARCH REPORT



## Whistle Bend Planning Study



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# WHISTLE BEND PLANNING STUDY

Prepared by the City of Whitehorse Planning and Development Services



May 2007

## PREFACE

*“The Porter Creek Bench Charrette brought together experts from Whitehorse and other parts of Canada to work closely with community members to develop a progressive yet practical plan for this new neighbourhood. The forward looking plan that was developed recognizes that Whitehorse will face challenges in the future as fuel prices continue to rise, population grows and ages, land and housing prices continue to escalate and climate change becomes an ever present reality. The plan developed is based firmly on the principles of smart growth including mixed land use, densities to support transit and pedestrians, diverse housing forms, and the protection of green space. This charrette really showed what a group of concerned citizens and professionals can do when they learn openly and work together intensively.”*

*Rob Barrs, Principal, Holland Barrs Planning Group / Chair, Smart Growth BC*

# RESEARCH HIGHLIGHT

November 2007

Technical Series 07-115

## Whistle Bend Planning and Design Charrette -Whitehorse, Yukon

### INTRODUCTION

The City of Whitehorse, Yukon's capital, is a vibrant and modern Northern community with a population of 24,000. Whitehorse is a trading hub for an exceptionally large area and has an array of amenities far beyond what can be found in southern centres of a similar size.

Steady population growth over the past few years resulted in Whitehorse returning to its 1996 all-time peak population in late 2006. The stock of existing residential building lots in Whitehorse is nearly depleted. To ensure that housing remains reasonably affordable as the community continues to grow, the City of Whitehorse has attempted to anticipate future demand for residential building lots with a series of infill proposals. The proposals have been consistently rejected by residents, who cherish the green space that provides a gateway to the Yukon's vast wilderness.



Figure 1 Aerial photo of Whistle Bend

Whitehorse's 2002 Official Community Plan identified Porter Creek Bench (now known as Whistle Bend) as the next logical location for large-scale residential development. To be developed over the next 20 years, for as many as 10,000 new residents, the area will be a legacy project for the City of Whitehorse.

Drawing on lessons learned from public reaction to the infill proposals, the City of Whitehorse chose a charrette to generate an innovative design solution to address multiple objectives and divergent interests, all in the spirit of sustainability.

The Whistle Bend Planning and Design Charrette was held in partnership with Canada Mortgage and Housing Corporation (CMHC) from Nov. 5 to 9, 2006, and attracted 70 participants. The charrette set a new standard for public consultation in Yukon by inspiring broad-based community participation and involvement of multi-disciplinary expertise in development of a smart growth design concept for Whistle Bend. This is the story of how that was done.

### PRE-CHARRETTE ACTIVITIES

The significant amount of effort invested in activities in advance of the Whistle Bend Planning and Design Charrette contributed to its success. The pre-charrette efforts were intended to excite Whitehorse residents about the process and set the stage for a type of consultation not seen before in Whitehorse. Key to raising the standard for public consultation was the building of trust-based relationships with stakeholders, technical specialists and the public at large. City of Whitehorse staff benefited from training provided by the National Charrette Institute and from twice-a-week telephone conferences with CMHC staff.

The Whistle Bend Planning and Design Charrette was launched by the City of Whitehorse and its partners at a public meeting on Sept. 12, seven weeks before the charrette. The City of Whitehorse,

## Research Highlight

Whistle Bend Planning and Design Charrette Whitehorse, Yukon

CMHC and consultants presented preliminary information about infrastructure options, the socio-economic background, the environment, special places and heritage issues. About 65 people attended the meeting.

In addition to demonstrating that this City-led consultation process was going to be different, the kickoff meeting helped uncover issues about the development of Whistle Bend. With an improved sense of community concerns about the development, City staff and the technical specialists were able to think about many of the concerns before the charrette.

Partnerships were also key to the success of the charrette. CMHC provided materials and information and shared experiences from other planning and design charrettes

The other Whistle Bend Charrette partners were:

- Natural Resources Canada
- Government of Yukon
- Northern Climate Exchange
- Yukon Housing Corporation
- Energy Solutions Centre

Whitehorse is home to a diverse array of organizations and individuals. To ensure that the views of these diverse interests were heard, the City of Whitehorse also met with 15 stakeholder groups in the two months leading up to the charrette.

Other advance activities were:

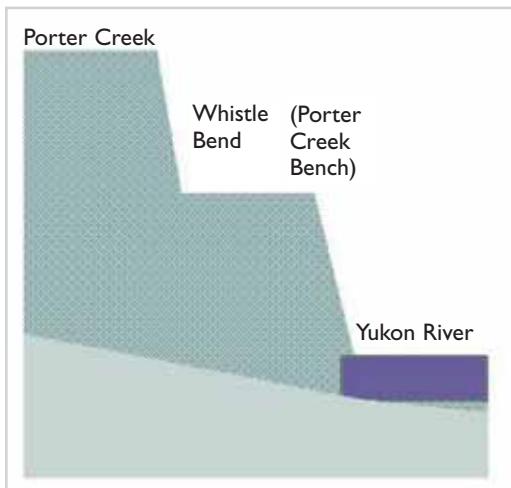


Figure 2 Cross-section of Porter Creek Bench

## Whistle Bend Walking Tour

Close to 20 community members joined City planners and consultants on Sept. 16 to explore trails and identify special places on Whistle Bend. Many special places were identified during the walking tour and subsequent investigations.



Figure 3 Section of trail map

## Community Open House

The Whistle Bend development will be next door to the well-established neighbourhood of Porter Creek. To identify the views and concerns of those most likely to be affected by traffic and increased demand for neighbourhood resources, including green space, the City and the Porter Creek Community Association held an open house at Porter Creek Secondary School on Oct. 24.

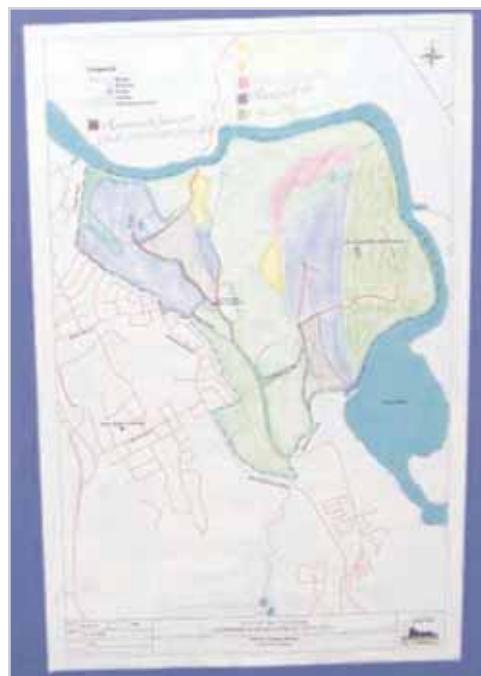


Figure 4 Student input

## Jack Hulland Elementary School

The average age of first-time homebuyers in Canada is between 30 and 40. With the first Whistle Bend building lot expected to go up for lottery in 2009 and the last in 2029, the City of Whitehorse also sought the views of those most likely to be in the market for building lots during the last development phase. Students at Whitehorse's Jack Hulland Elementary School designed posters for the new community and described in words the natural features of the area they would like to see retained and the amenities that should be incorporated into the neighborhood design. The posters were a great inspiration to charrette participants as well as a reminder that true sustainability is multigenerational.



**Figure 5** Yukon River and Whistle Bend

## Charrette Website

A Whistle Bend Design Charrette page was set up on the City of Whitehorse website ([www.whitehorse.ca](http://www.whitehorse.ca)) before the September kickoff. The website was a repository for information generated in advance of the charrette and at the charrette itself. An excellent selection of photos of the Whistle Bend and goings-on at the charrette were also posted on the page.

## THE WHISTLE BEND CHARRETTE

### The Vision

To be as inclusive as possible, the Whistle Bend Charrette was launched at a public visioning session. About 70 people attended the session. The concept of sustainable development was explored and community values for the future neighborhood were identified during the session. While the session did not result in the adoption of a single overall vision statement, several versions were proposed. Many of the ideas suggested were early pointers to themes that would surface later in the charrette and be captured in the final design concept.

Open houses to present the day's ideas and visions were held three nights during the charrette. The open houses provided important feedback between charrette participants and the public.

### Information Sharing

Trained group facilitators led each of the full group and breakout group sessions during the five-day charrette. The facilitators subtly encouraged an attitude of openness. To keep ideas flowing and motivation high, group work was interspersed with presentations by specialist consultants and project partners. The presentations covered:

- Smart growth: Principles and practices for Whitehorse
- Whistle Bend environment and special places report
- Socio-economic background report for the Whistle Bend
- Whistle Bend infrastructure and transportation considerations
- Climate and air quality issues on the Whistle Bend
- Whistle Bend heritage resources

Stakeholders with land ownership interests on the Whistle Bend also made presentations:

- Ta'an Kwäch'än Council (a First Nation with land in the study area)
- Kwanlin Dün First Nation (a First Nation with land adjacent to the study area)
- Mountain View Golf Course
- Yukon Horse and Rider Association
- Heiland Family (Heiland Farm)

Several presentations were also made by project partners:

- Sustainable Community Design (CMHC)
- Canadian Urban Archetypes Project: Results from Whitehorse and Recommendations for the Whistle Bend (Natural Resources Canada and the Northern Climate Exchange)
- Energy and Housing (Yukon Housing Corporation)
- Sustainable Community Design (Energy Solutions Centre)
- Low-impact Housing (CMHC)
- Livable Neighbourhoods (CMHC)

### THE 100-YEAR HORIZON

The multi-disciplinary charrette began with a challenge issued by Doug Pollard of CMHC to “imagine what Whistle Bend could look like 100 years from now.” Seven design teams (red, orange, yellow, green, blue, indigo and violet) were turned loose in the Canada Games Centre to consider the 100-year question. Each team had a balanced range of skills and interests and consisted of planners, engineers, architects, environmentalists, politicians, alternate energy experts, stakeholders and residents. While it was at first intimidating to consider a world so far into the future, the possibilities presented by such a long-time horizon soon became liberating to charrette participants.

#### Emergent Design Principles

As each design team reported back to the full charrette group on its 100-year vision, a variety of common design principles began to emerge. Charrette participants envisioned a design for a new neighbourhood that:

**Uses developable land efficiently** by protecting environmentally significant lands and increasing densities so that green space is maximized.

**Is pedestrian-oriented and focused** by creating a compact community where the pedestrian is the priority and where amenities such as parks, schools, transit stops and neighbourhood commercial services are within a five-minute (400 m [437 yd.]) walk from most homes.

**Offers a range of convenient and reliable transportation choices** so that a less auto-dependent community, supported by pedestrian-friendly street designs and higher density housing, can take root. Transportation choices could include public transit, car pool–car share programs and self-propelled (walk, bike, ski).

**Is progressive from environmental, socio-economic, and cultural perspectives**, and sets a new standard–benchmark for Canadian sustainable development by:

- adopting sustainable building practices, aiming for net-zero energy use and facilitating initial investments in new technology with potential for long term benefits;
- striving to leave the smallest footprint possible through phasing and increased densities; and,
- encouraging growth of a culturally diverse community.

**Attracts a diversity of incomes, household types, lifestyles, activities, ethnicities and backgrounds, as well as a diversity of land uses, architecture and amenities by:**

- Offering a wide variety of dwelling types in the same neighbourhood (and even on the same street);
- Offering a range of housing densities and types at full range of price points to allow people with a variety of income levels to live amongst one another.

**Is unique, has a distinct sense of place and a special identity** through urban design strategies that assist with the creation of a unique community identity. As you enter the area there will be a sense of arrival and a sense that you are somewhere special.

**Is a lasting community, where people want to grow for generations** and where one generation can learn and be heartened by another—a community where parents will want to raise their children and seniors will choose to retire, with an optimal mix of community services.

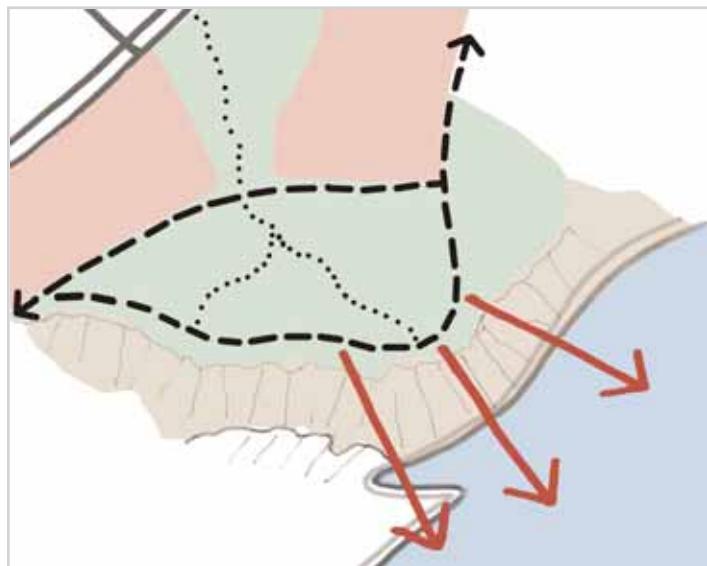
**Is not just connected to nature, but is completely integrated with the natural environment** by creating a community that is connected throughout by green corridors, parks and forests; that minimizes the development footprint and makes pedestrian greenways a priority over roads.

With confirmation through the full group discussions that it was “ok to dream big,” charrette participants regrouped into the seven teams to start putting together their designs. Aptly described by one participant as the “black box” phase of the charrette, all teams were highly focused for two days, drafting workable designs that accurately reflected the envisioned design features.

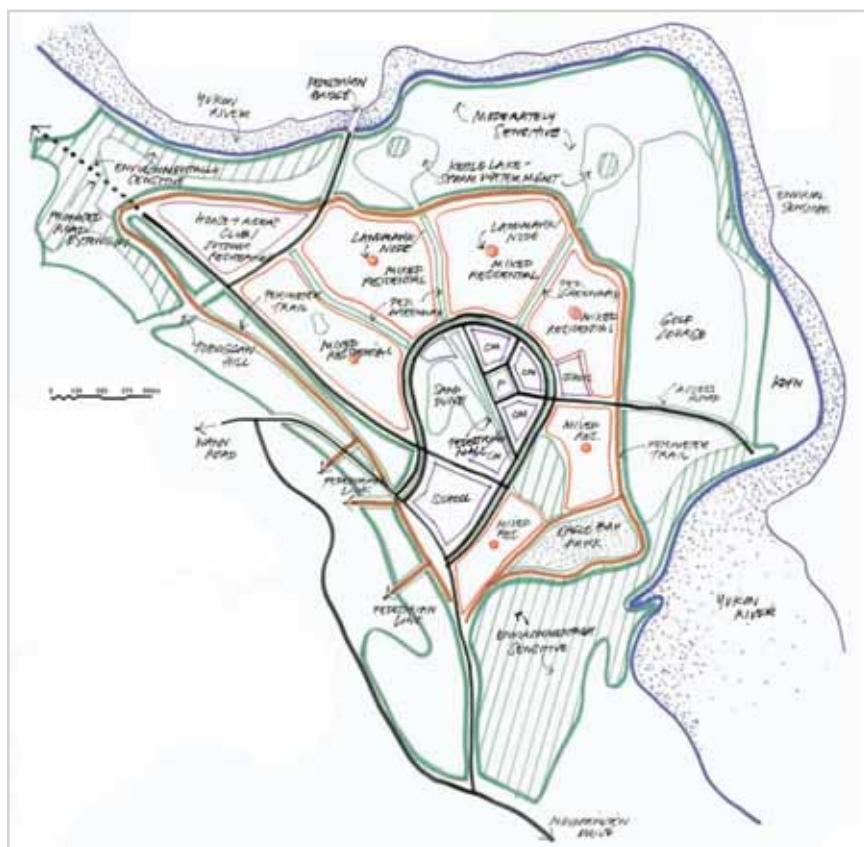


**Figure 6** Public open house participation

For three evenings of the charrette week, the public was invited to learn about what had happened at the charrette that day. All who turned out were encouraged to provide feedback about the day's work, which was placed on display. The just-being-formed designs of each of the seven teams benefited greatly from "sticky-note feedback" from the public.



**Figure 7** Views from Eagle Bay Park



**Figure 8** Amalgamated concept plan

## OUT OF MANY, ONE

At the end of day four something magical happened. Up to that point, there had been a faint undercurrent of competitiveness running between the seven design teams, with each team striving to outdo its new-found design peers. With the presentation of the conceptual designs by each of the seven teams, however, the sense of competition gave way to a realization that a collective wisdom had developed and was ripe for harvesting. It was quickly agreed that a merger of the seven concepts would yield an optimal design. And so, out of many, one design incorporating the best features from each of the seven designs was sketched by an appointed team of architects during the wee hours before the last day of the charrette.

## KEY FEATURES OF THE AMALGAMATED DESIGN

### Green Space

Almost half (334 ha [825 acres] or 46 per cent) of the total land area of 730 ha (1,803 acres) is to be set aside as protected green space encompassing highly and moderately environmentally sensitive areas.

The protected green space identified is in addition to land occupied by the Mountain View Golf Course. Approximately 250 ha (617 acres)—34 per cent of the total land area—was identified as suitable for residential, commercial and community development.

The Whistle Bend Concept provides for:

- a 7.5 km (4.6 mi.) paved trail within a 50-m (160 ft.) wide green corridor which surrounds the developable area;
- designation of non-motorized trails and multi-use trails;
- Eagle Bay Park overlooking the confluence of McIntyre Creek at the Yukon River designed to protect the eroding sandy cliff, to provide a large setback from the creek and to provide views;
- green buffers around the Mountain View Golf Course;
- retention of as much of the existing trail network as possible;
- pedestrian connectors to the existing neighborhood of Porter Creek;
- wide pedestrian natural "greenways" radiating and connecting from a central park.

## Research Highlight

Whistle Bend Planning and Design Charrette Whitehorse, Yukon

### Whistle Bend Boulevard

There would be a looped boulevard to serve as a collector road for cars and public transit. With housing densities in the range of 30 units per hectare near the boulevard, bus service every 15 minutes could be feasible. Raised crosswalks and other traffic calming devices were envisioned as were bioswales to eliminate curbs and gutters and to reduce storm flows.

### Central Market

A central market area containing high density, mixed-use units facing onto a central park would serve as a focal point and gathering place for the community. The central park would encompass a vegetated sand dune and provide additional amenity space to the high density development. The housing units could provide a mix of options, including seniors and affordable housing, and have amenities such as grocery and video stores, a hair salon, coffee shop and health-related services. The buildings would be oriented to the southwest to maximize solar exposure.

### Subdivision Nodes

Six mixed residential subdivision nodes make up the neighbourhood. The design teams put much thought into potential street patterns and neighbourhood structures. The “fused-grid” design presented by CMHC, which maximizes road efficiency, greenbelt access and connectivity, was well-liked by charrette participants. Walkway networks within each node would connect to the natural “greenways” radiating from the central market area. It was also decided that each subdivision node have its own identity and a landmark or a gathering place.



Figure 9 Example of housing variety

### Housing Type Mix

Each subdivision node is to have single-detached housing as well as a mix of higher density housing types, such as duplexes, townhouses and multi-family housing. The range of housing types is to be developed mindful of the five-minute walk principle<sup>1</sup> and public transit

implications. A higher minimum construction standard and guidelines were suggested to ensure energy efficiency, durability and good design.

### Arterial Transportation

Potential options for arterial transportation links between Whistle Bend and roads were identified. Additional work on alternatives will be undertaken as planning moves from the conceptual to engineering phases.

### Energy

Alternative energy options identified at the charrette included ground-source heating, heat recapture, solar power and water turbines in the Yukon River. Charrette participants emphasized the need for energy-efficient standards for appliances and building construction and proposed developing an energy policy.

### Water Supply

Most of the water treated by the City of Whitehorse is used for purposes other than drinking. To reduce the volume of water that needs to be treated, and the associated infrastructure, a dual water system was discussed. An intake line from the Yukon River would provide water for firefighting, gardening and washing. A second, smaller line would be connected to the city drinking water supply. Net-zero consumption of water was suggested as an objective.

### Community Name

Charrette participants strongly supported for the proposed name “Whistle Bend.” Whistle Bend refers to the sharp bend in the Yukon River where river boats would blow their whistles before making the turn. More than 100 riverboats once plied the Yukon River: charrette participants suggested that the names of the riverboats be used as street names.

### Implementation

Government partnerships, leadership, standards, education programs and incentives were suggested to ensure that the plan be implemented as envisioned. The charrette participants thought that many of the features they identified, such as the perimeter trail and public transit, be implemented at the outset of the project.

Participants suggested that the nodes near the northern boulevard entrance be developed first, including the node with the Ta'an Kwäch'an Council lands and the nearest commercial parcel.

<sup>1</sup> The five-minute walk principle brings public transit, shops and other amenities within a five-minute walk of dwellings. Studies show that if it takes more than five minutes to walk somewhere, people will probably drive. For even a small convenience store to be feasible based on people walking five minutes, the streets around it need to contain about 25 dwelling units per hectare (10 dwelling units per acre). This also seems to be the density necessary for a viable transit system.

## CONCLUSION AND NEXT STEPS

The Whistle Bend Charrette was well received by the community of Whitehorse and succeeded in its goal of raising the bar for public consultation in Yukon. A much higher degree of trust has been established between the City and its constituents.

The City of Whitehorse is now moving to implementation of the Whistle Bend Design Concept through finalization of a Planning Study and a Greenspace Map, the next two steps in the subdivision development process. Members of the charrette team have been invited to serve as advisory committee members.

Each of the neighbourhoods will need more detailed planning. This will be carried out phase by phase, with the planning for the first phase schedules for the fall 2007. A design charrette will be held to consider issues such as street configuration, lot size, layout and solar exposure, specific residential densities, pedestrian connections, local parks, green space and neighbourhood nodes.

## PARTICIPANTS

### Stakeholders

Stephanie Brown—Horse and Rider Association  
Vibeke Coates—Horse and Rider Association  
Jaime Hanna—Horse and Rider Association  
Judy Linton—Horse and Rider Association  
Elsie Wain—Horse and Rider Association  
Mick Nychka—Mountainview Golf Course  
Al Heiland—Property owner  
Cam Heiland—Property owner  
Cassandra Heiland—Property owner  
Verda Heiland—Property owner

### Public

Ray Charbonneau  
Ted Dean  
Lawrence Dublenko  
Mike Ivens  
Gail Johnson  
Christian Klein  
Dave Laxton  
Ella LeGresley  
Michael Muller  
Jeff Olson  
Kaori Torigai  
Don White

### Interest Groups

David Black—Association of Yukon Communities  
Don MacDonald—Coldwell Banker Real Estate  
Colin McDowell—Energy Solutions Centre  
Michelle Christensen—Northern Climate Exchange  
Ross Burnett—Recreation and Parks Association of the Yukon  
Jeff Marynowski —Porter Creek Community Association  
Mike Racz—Real Estate Association  
Cameron Eckert —Yukon Bird Club  
Karen Baltgalis—Yukon Conservation Society  
Jean-Paul Pinard—Yukon Conservation Society  
Phil Borgel—Yukon Electric

### First Nations

Gillian McKee—Kwanlin Dün First Nation  
Marian Geary—Ta'an Kwäch'än Council  
Alice McGuire—Ta'an Kwäch'än Council  
John Pattimore—Ta'an Kwäch'än Council

### Consultants

Kirsten Hogan—Aperture Consulting  
Myles Plaunt—EBA Engineering  
Greg Bull—G.J. Bull & Associates  
Kirk Cameron—Gartner Lee  
Shannon Mallory—Gartner Lee  
Emma McKennirey—Gartner Lee  
Heather Mills—Gartner Lee  
Forest Pearson—Gartner Lee  
Rob Barrs—Holland Barrs Planning Group  
Ian Robertson—Inukshuk Planning & Development  
Jack Kobayashi—Kobayashi & Zedda Architects  
Victoria Kruznir—Kobayashi & Zedda Architects  
Tony Zedda—Kobayashi & Zedda Architects  
Rick Savage—Quest Engineering  
Bill Jenkins—UMA Group  
Leah Libsekal—UMA Group  
Paul Kishchuk—Vector Research

### Federal, Yukon Governments

Brian Ritchie—Yukon Community Services  
Diane Gunter—Yukon Environment  
Jerome McIntyre—Yukon Planning  
Ian Church—Yukon Senior Science Advisor  
Juergen Korn—Yukon Housing  
Mike O'Connor—Yukon Housing

## **Research Highlight**

Whistle Bend Planning and Design Charrette Whitehorse, Yukon

Jessica Webster — Natural Resources Canada  
Sandra Marshall—Senior Researcher CMHC  
Doug Pollard—Senior Researcher CMHC

### **City of Whitehorse**

Bev Buckway—Mayor  
Dave Stockdale—Councillor  
Janet Gutsell—Engineering  
Wayne Tuck—Engineering  
Sabine Schweiger—Environmental Services  
Doug Hnatiuk—Parks and Recreation  
Lesley Cabott—Planning  
Mike Ellis—Planning  
Mike Gau—Planning  
Max Kerrigan—Planning  
Kinden Kosick—Planning  
Zoë Morrison—Planning  
Christine O'Connor—Planning

**CMHC Project Manager:** Sandra Marshall

**Consultant:** City of Whitehorse

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# LE POINT EN RECHERCHE

Novembre 2007

Série technique 07-115

## Charrette de conception et de planification de Whistle Bend Whitehorse (Yukon)

### INTRODUCTION

La ville de Whitehorse, capitale du Yukon, est une collectivité dynamique et moderne du Nord comptant 24 000 habitants. Whitehorse est la plaque tournante commerciale d'une immense région et offre une variété de commodités qui dépasse largement ce qu'une ville du Sud de taille semblable peut offrir.

Au cours des dernières années, sa population a augmenté au point de revenir, en 2006, à sa taille record de 1996. Son parc de terrains résidentiels à construire est presque épuisé. Pour s'assurer que le logement demeure abordable malgré la croissance de la population, la Ville de Whitehorse a tenté d'anticiper la demande future de terrains pour la construction résidentielle en proposant une série de projets de terrains intercalaires. Ces projets ont tous été rejetés par les résidents, qui apprécient leurs espaces verts, qui s'ouvrent sur la vaste nature sauvage du Yukon.

À la suite de ce constat, le plan officiel de la collectivité de Whitehorse de 2002 a retenu Porter Creek Bench (appelé désormais Whistle Bend) comme étant l'endroit propice à un aménagement résidentiel de grande envergure. Cet endroit dont l'aménagement s'étalera sur les 20 prochaines années pour accueillir jusqu'à 10 000 nouveaux résidents, est un grand projet que la Ville de Whitehorse entend léguer aux générations futures.

Tirant les leçons de la réaction populaire aux projets d'aménagements intercalaires, la Ville de Whitehorse a choisi d'organiser une charrette pour trouver une solution novatrice qui satisfasse des objectifs multiples et des intérêts divergents, dans un esprit de développement durable.

La Charrette de conception et de planification de Whistle Bend a été organisée en partenariat avec la Société canadienne d'hypothèques et de logement (SCHL) du 5 au 9 novembre 2006 et a attiré 70 participants. La charrette s'est révélée un précédent en termes de consultation publique au Yukon, suscitant une vive participation de la communauté et d'experts de différents domaines dans le but de planifier une saine croissance pour Whistle Bend. Le présent document relate les événements.

### ACTIVITÉS PRÉPARATOIRES EN VUE DE LA CHARRETTE

Les efforts considérables qui ont été investis dans les activités précédant la Charrette de conception et de planification de Whistle Bend ont été garants de son succès. Ils visaient à intéresser les résidents de Whitehorse à cette démarche et à préparer le terrain pour un type de consultation encore jamais vu à Whitehorse. La clé du succès de la consultation publique a été l'établissement de liens de confiance entre les intervenants, les spécialistes techniques et la population en général. Le personnel de la Ville de Whitehorse a bénéficié d'une formation offerte par le National Charrette Institute et de téléconférences bihebdomadaires avec le personnel de la SCHL.



Figure 1 Photo aérienne de Whistle Bend

## Le Point en recherche

### Charrette de conception et de planification de Whistle Bend

La Charrette de conception et de planification de Whistle Bend a été lancée par la Ville de Whitehorse et ses partenaires lors d'une réunion publique tenue le 12 septembre, sept semaines avant la charrette. La Ville de Whitehorse, la SCHL et des consultants ont présenté de l'information préliminaire sur les options d'infrastructure, le contexte socio-économique, l'environnement, les sites spéciaux et les questions de patrimoine. Environ 65 personnes ont assisté à cette réunion.

En plus de démontrer que le processus de consultation municipal allait être du jamais vu, cette réunion de lancement a permis de soulever certaines questions liées à l'aménagement de Porter Creek Bench. Informés des préoccupations de la communauté à l'égard du projet, le personnel de la Ville et les spécialistes techniques ont été en mesure de se pencher sur plusieurs de ces préoccupations avant même le début de la charrette.

Les partenariats ont également joué un rôle clé dans le succès de la charrette. La SCHL a offert du matériel et de l'information, et transmis son expérience tirée d'autres charrettes de planification et de conception.

Les autres partenaires de la charrette de Whistle Bend étaient :

- Ressources naturelles Canada
- le gouvernement du Yukon
- Northern Climate Exchange
- la Société d'habitation du Yukon
- Energy Solutions Centre

Whitehorse accueille des organismes et des personnes de tous horizons. Pour donner une voix à ces divers intérêts, la Ville de Whitehorse a également rencontré 15 groupes d'intervenants au cours des deux mois précédant la charrette.

Les autres activités préparatoires sont décrites ci-dessous.

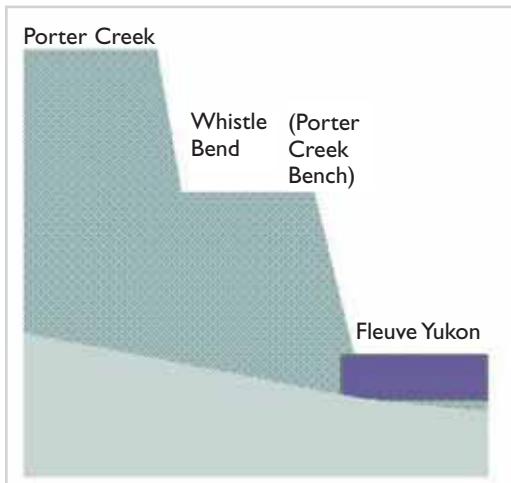


Figure 2 Vue en coupe de Porter Creek Bench

### Marche exploratoire dans Porter Creek Bench

Près de 20 membres de la collectivité se sont joints aux planificateurs municipaux et aux consultants le 16 septembre pour explorer les sentiers et relever les sites spéciaux de Porter Creek Bench. Plusieurs sites spéciaux ont été repérés durant cette marche et lors des recherches subséquentes.



Figure 3 Section de la carte des sentiers

### Portes ouvertes à la communauté

L'aménagement de Whistle Bend sera situé juste à côté de Porter Creek, un quartier bien établi. Afin de recueillir les opinions et les préoccupations des personnes les plus susceptibles d'être touchées par l'augmentation du trafic et l'usage accru des ressources du quartier, y compris les espaces verts, la Ville et la Porter Creek Community Association ont organisé une journée portes ouvertes à l'école secondaire de Porter Creek le 24 octobre.



Figure 4 Proposition des élèves

### École primaire Jack Hulland

L'âge moyen des acheteurs d'une première maison au Canada se situe entre 30 et 40 ans. La vente des terrains de Whistle Bend devant s'étaler entre 2009 et 2029, la Ville de Whitehorse a également cherché à connaître le point de vue des acheteurs potentiels des terrains de la dernière phase du projet. Les élèves de l'école primaire Jack Hulland ont

dessiné des affiches de la nouvelle collectivité et décrit verbalement les attributs naturels de l'endroit qu'ils souhaiteraient conserver ainsi que les commodités à inclure dans le quartier. Les affiches ont été une grande source d'inspiration pour les participants à la charrette, et un rappel que le vrai développement durable est multigénérationnel.



**Figure 5** Fleuve Yukon River et Whistle Bend

### Site Web de la charrette

Une section du site Web de la Ville de Whitehorse ([www.whitehorse.ca](http://www.whitehorse.ca)) a été consacrée à la charrette de Whistle Bend avant le lancement de septembre. Le site Web a été le dépositaire de l'information recueillie avant et pendant la charrette. Une excellente sélection de photos de Porter Creek Bench et le déroulement de la charrette ont été publiés sur ce site.

## LA CHARRETTE DE WHISTLE BEND

### La vision

Pour en faire un événement des plus inclusifs, la charrette de Whistle Bend a été lancée lors d'une séance publique de visualisation. Environ 70 personnes y ont assisté. Les participants à la séance ont exploré le concept de développement durable et fait connaître les valeurs communautaires qu'ils préconisent pour le futur quartier. Bien que la séance n'ait pas abouti à l'adoption d'un unique énoncé de vision globale, plusieurs versions ont été proposées. Bon nombre des idées avancées se sont révélées les prémisses de thèmes qui ont refait surface plus tard, pendant la charrette, et qui ont été inclus dans le concept final.

Trois séances portes ouvertes ont été tenues en soirée durant la charrette afin d'y présenter les idées et les visions issues de la journée. Ces séances ont été un important forum d'échanges entre les participants à la charrette et la population.

### Apport d'information

Des animateurs chevronnés ont dirigé les séances plénières et les ateliers durant les cinq jours de la charrette. Subtilement, ces animateurs ont suscité une attitude d'ouverture. Afin d'attiser la créativité et la motivation, les ateliers par groupes ont été intercalés d'exposés par des consultants spécialisés et des partenaires du projet.

Ces présentations ont couvert les sujets suivants :

- Croissance intelligente : principes et pratiques pour Whitehorse
- Rapport sur l'environnement et les sites spéciaux de Whistle Bend
- Rapport sur le contexte socio-économique de Whistle Bend
- Considérations sur les infrastructures et le transport à Whistle Bend
- Questions sur le climat et la qualité de l'air à Whistle Bend
- Ressources patrimoniales de Whistle Bend

Les intervenants ayant des intérêts sur la propriété des terres de Whistle Bend ont également fait des présentations.

- Conseil Ta'an Kwäch'än (une Première nation possédant des terres sur le territoire du projet à l'étude)
  - Première nation Kwanlin Dün (une Première nation possédant des terres adjacentes au territoire du projet à l'étude)
  - Terrain de golf Mountain View
  - Yukon Horse and Rider Association
  - Famille Heiland (Heiland Farm)
- Plusieurs partenaires du projet ont également présenté des exposés.
- Conception de collectivités durables (SCHL)
  - Projet d'archétypes urbains canadiens : résultats de Whitehorse et recommandations pour Whistle Bend (Ressources naturelles Canada et Northern Climate Exchange)
  - Énergie et logement (Société d'habitation du Yukon)
  - Conception de collectivités durables (Energy Solutions Centre)
  - Habitations à faible incidence sur l'environnement (SCHL)
  - Quartiers axés sur la qualité de vie (SCHL)

## L'HORIZON DE 100 ANS

La charrette multidisciplinaire a commencé par un défi lancé par Doug Pollard, de la SCHL : « Essayez d'imaginer Whistle Bend dans 100 ans ». Sept équipes de conception (rouge, orange, jaune, vert, bleu, indigo et violet) ont eu carte blanche pour étudier la question dans le Centre des Jeux du Canada. Chaque équipe, représentative des multiples compétences et intérêts en jeu, était constituée de planificateurs, d'ingénieurs, d'architectes, d'environnementalistes, de politiciens, d'experts en nouvelles énergies, d'intervenants et de résidents. Bien que l'exercice fût intimidant au départ, les possibilités offertes par un horizon aussi lointain eurent rapidement un effet libérateur sur les participants à la charrette.

### Principes de conception émergents

Alors que chaque équipe faisait rapport de sa vision de 100 ans à l'ensemble des participants à la charrette, certains principes de conception communs ont commencé à émerger. Les participants ont envisagé les caractéristiques de conception suivantes pour le nouveau quartier.

**Utilisation efficace des terres à aménager :** protection des terres d'importance environnementale et densification de manière à maximiser les espaces verts.

**Conception en fonction des piétons :** création d'une collectivité compacte où le piéton a priorité et où les commodités, comme les parcs, les écoles, les arrêts de transport en commun et les commerces de quartier sont à cinq minutes ou moins de marche (400 m [437 verges]) de la plupart des habitations.

**Choix de modes de transport pratiques et fiables :** création d'une collectivité plus dense et moins dépendante de l'automobile, desservie par des rues accueillantes pour les piétons. Les choix de transport suggérés ont été le transport public, le covoiturage, les programmes de partage de véhicule et les modes de transport non motorisés (marche, vélo, ski).

**Innovation sur les plans environnemental, socio-économique et culturel :** création d'une collectivité modèle pour le développement durable au Canada en :

- adoptant des pratiques de construction durables qui ont pour objectif une consommation énergétique nette de zéro et qui favorisent les investissements initiaux dans les nouvelles technologies ayant des avantages à long terme;
- essayant de réduire au minimum les perturbations du milieu naturel par un aménagement progressif et dense;
- favorisant l'évolution d'une communauté multiculturelle.

**Diversité des revenus, des types de ménages, des modes de vie, des activités, des ethnies et des origines, et diversité de l'architecture, des commodités et de l'utilisation des terres :**

- construction d'un vaste éventail de types de logements dans le même quartier (voire sur une même rue);
- variété dans la densité et les types de logements, ainsi que dans le prix des unités, pour permettre à des personnes de revenus différents de vivre ensemble.

**Caractère unique, sentiment d'appartenance et identité :** stratégies de conception urbaine qui contribuent à forger une identité communautaire unique. Les personnes qui pénètrent dans le quartier doivent sentir qu'elles arrivent « quelque part », dans un lieu unique en son genre.

**Communauté enracinée, où les gens souhaitent demeurer de génération en génération :** communauté où les générations apprennent l'une de l'autre et se soutiennent mutuellement, où les parents souhaitent y élever leurs enfants et les aînés souhaitent y passer leur retraite, avec un assortiment optimal de services communautaires.

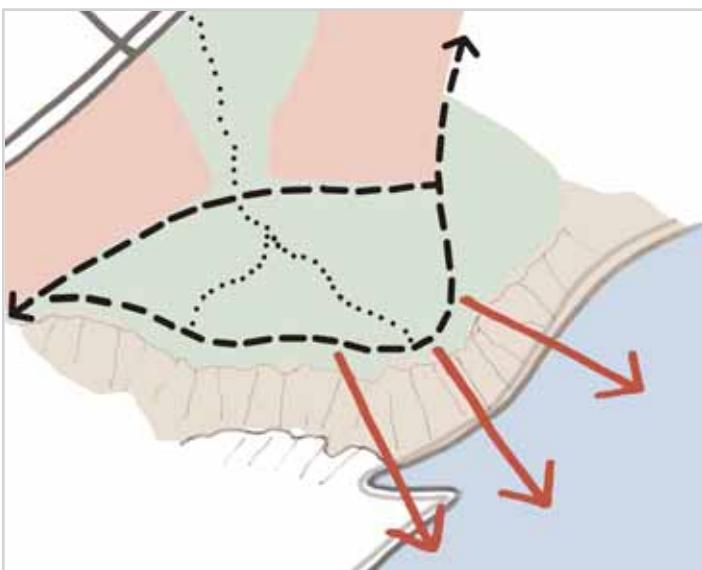
**Plus qu'une « connexion à la nature », mais une intégration complète avec l'environnement naturel :** création d'une communauté interreliée par des corridors verts, des parcs et des boisés, dont les impacts du développement sont réduits au minimum et où les corridors verts piétonniers ont préséance sur les rues.

À la suite des discussions plénières, les participants à la charrette, rassurés qu'il était permis d'avoir des « idées de grandeur », se sont de nouveau séparés en sept équipes pour commencer à concrétiser leurs idées. Durant une période de travail acharné de deux jours décrite avec justesse comme la « boîte noire » de la charrette par un des participants, les équipes ont élaboré des concepts réalisables reflétant fidèlement les caractéristiques de conception visualisées.



Figure 6 Participation du public à la séance portes ouvertes

Trois soirées pendant la charrette, la population a été conviée à prendre connaissance des événements de la charrette cette journée-là. Toutes les personnes qui se sont présentées ont été invitées à formuler des commentaires sur les travaux du jour, qui étaient affichés. Les concepts tout juste sortis de la table à dessin des sept équipes ont été grandement améliorés par les commentaires du public soumis sur des feuillets autocollants.



**Figure 7** Points de vue du parc Eagle Bay

## TOUS POUR UN, ET UN POUR TOUS

À la fin du quatrième jour, un événement extraordinaire s'est produit. Jusqu'à ce jour, on sentait un climat de concurrence entre les sept équipes de conception, chacune essayant de surpasser les autres. Mais après la présentation des concepts, ce sentiment de compétition a cédé

la place à la prise de conscience qu'une sagesse collective avait émergé et que le temps était venu d'y puiser. On a rapidement convenu qu'une fusion des sept concepts mènerait aux meilleurs résultats. On a donc adopté la devise « Tous pour un, et un pour tous ». Un concept incorporant les meilleures idées des sept propositions a été ébauché par une équipe attitrée d'architectes aux petites heures du matin, la veille de la dernière journée de la charrette.

## PRINCIPALES CARACTÉRISTIQUES DU CONCEPT FUSIONNÉ

### Espace vert

Presque la moitié (334 ha ou 825 acres, soit 46 %) de la superficie totale de 730 ha (1 803 acres) sera réservée à des espaces verts protégés englobant des secteurs à l'environnement hautement ou modérément fragile.

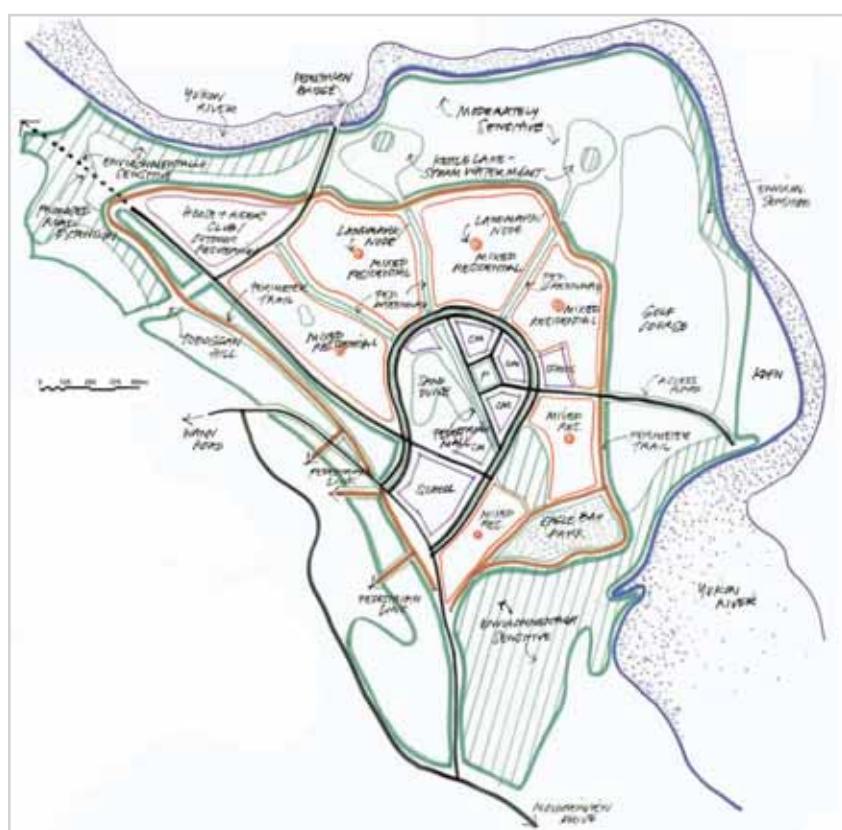
L'espace vert protégé désigné s'ajoute aux terrains occupés par le terrain de golf Mountain View. Environ 250 ha (617 acres), soit 34 % de la superficie totale, ont été désignés convenables pour les aménagements résidentiels, commerciaux et communautaires.

Le concept de Whistle Bend prévoit :

- un sentier asphalté de 7,5 km (4,6 mi) logé dans un corridor vert d'une largeur de 50 m (160 pi) ceinturant les terrains à aménager;
- la désignation de sentiers interdits aux véhicules motorisés et de sentiers multifonctionnels;
- le parc Eagle Bay, surplombant la confluence du ruisseau McIntyre et du fleuve Yukon et conçu pour protéger la falaise sablonneuse en érosion, qui demeurera à bonne distance du ruisseau et offrira des points de vue;
- des zones tampon végétalisées autour du terrain de golf Mountain View;
- la conservation du plus grand nombre possible de sentiers existants;
- des corridors piétonniers vers le quartier actuel de Porter Creek;
- de larges « voies vertes » naturelles pour les piétons rayonnant à partir d'un parc central.

### Boulevard Whistle Bend

Un boulevard en boucle servirait d'artère collectrice pour les véhicules privés et le transport public. Avec une densité d'environ 30 logements par hectare près du boulevard, un service d'autobus aux 15 minutes serait viable. Des passages piétonniers surélevés et d'autres dispositifs de ralentissement du trafic ont été suggérés, de même que des rigoles de drainage biologiques pour éliminer les bordures de chaussée et les caniveaux et réduire le flux des eaux pluviales.



**Figure 8** Plan du concept fusionné

### Marché central

Un marché central constitué de bâtiments multifonctionnels densément réunis et faisant face à un parc central servirait de pôle d'attraction et de lieu de rencontre pour la communauté. Le parc central comprendrait une dune de sable végétalisée et fournirait de l'espace additionnel pour les commodités de ce quartier à haute densité. Les immeubles d'habitation pourraient offrir un éventail d'options, comme des logements pour les aînés et pour les petits budgets, et être dotées de commodités comme une épicerie, un club vidéo, un salon de coiffure, un café et des services de santé. Les bâtiments seraient orientés vers le sud-ouest pour maximiser leur exposition au soleil.

### Carrefours de lotissement

Le quartier est constitué de six carrefours de lotissement résidentielle mixte. Les équipes de concepteurs ont longuement réfléchi aux diverses possibilités de tracés routiers et d'aménagements de quartier. Le concept d'« ilogramme » présenté par la SCHL, qui maximise l'efficacité routière, l'accès par des corridors verts et la connectivité, a été fort bien accueilli par les participants à la charrette. Les voies piétonnières dans chaque carrefour seraient reliées aux « voies vertes » naturelles rayonnant à partir du marché central. Il a également été convenu que chaque carrefour de lotissement aurait son identité propre et un point d'intérêt ou un lieu de rassemblement.



Figure 9 Exemple de diversité des habitations

### Diversité d'habitutions

Chaque lotissement accueillera des maisons individuelles ainsi qu'une variété de types d'habitutions de plus grande densité, comme des duplex, des maisons en rangée et des collectifs d'habitation. Cette diversité sera réalisée dans le respect du principe de proximité à cinq minutes de marche<sup>1</sup> et des implications que cela représente pour le transport public. On a proposé une norme minimale de construction plus élevée et des lignes directrices plus strictes pour assurer l'efficacité énergétique, la durabilité et la bonne conception des bâtiments.

### Transport par les artères principales

Les options de transport par des artères principales reliant Whistle Bend et les autres artères ont été déterminées. Des travaux additionnels sur d'autres options seront entrepris dès que la planification passera du stade conceptuel au stade d'ingénierie.

### Énergie

Les nouvelles sources d'énergie retenues lors de la charrette comprenaient la géothermie, la récupération de chaleur, l'énergie solaire et des turbines sur le fleuve Yukon. Les participants à la charrette ont insisté sur le besoin d'établir des normes d'efficacité énergétique pour les électroménagers et la construction des bâtiments et suggéré l'élaboration d'une politique énergétique.

### Approvisionnement en eau

La plupart de l'eau traitée par la Ville de Whitehorse est utilisée à des fins autres que la consommation d'eau potable. Pour réduire le volume d'eau traitée et les infrastructures connexes, on a discuté d'un système d'eau mixte. Une prise d'eau puisant directement dans le fleuve Yukon fournirait de l'eau pour les services d'incendie, le jardinage et la lessive. Une seconde prise d'eau, plus petite, serait raccordée au réseau municipal d'approvisionnement en eau potable. On a proposé de fixer comme objectif une consommation d'eau nette de zéro.

### Nom de la collectivité

Les participants à la charrette ont fortement appuyé la proposition du nom « Whistle Bend ». Whistle Bend fait référence à la courbe serrée que décrit le fleuve Yukon à cet endroit et où les bateaux à aubes faisaient retentir leur sifflet avant de s'y engager. Plus de 100 bateaux à aubes sillonnaient autrefois le fleuve Yukon : les participants à la charrette ont suggéré de donner aux rues les noms de ces anciens bateaux.

### Mise en œuvre

On a suggéré, comme outils de mise en œuvre du plan, que le gouvernement forme des partenariats, fasse preuve de leadership, établisse des normes, élabore des programmes d'information et offre des incitatifs. Les participants à la charrette estiment qu'un bon nombre des caractéristiques qu'ils ont proposées, comme le sentier périphérique et le transport public, soient instaurées dès le début du projet.

Les participants ont suggéré que les carrefours près de l'entrée nord du boulevard soient aménagés en premier, y compris le raccord avec les terres du Conseil Ta'an Kwächän et la zone commerciale la plus proche.

<sup>1</sup> Selon le principe de proximité à cinq minutes de marche, le transport public, les commerces et d'autres commodités doivent se trouver à cinq minutes de marche ou moins des habitations. Des études ont démontré que si les résidents doivent marcher plus de cinq minutes pour accéder à un endroit, ils auront tendance à utiliser leur véhicule. Pour que même un dépanneur soit viable dans un quartier fondé sur ce principe, les rues environnantes doivent avoir une densité d'environ 25 logements par hectare (ou 10 logements par acre). Cela semble également la densité requise pour que le transport public soit viable.

## CONCLUSION ET PROCHAINES ÉTAPES

La charrette de Whistle Bend a été accueillie favorablement par la collectivité de Whitehorse et a réalisé son objectif de créer un précédent en matière de consultation publique au Yukon. Un lien de confiance inégalé a été établi entre la Ville de Whitehorse et la population.

La Ville de Whitehorse entreprend maintenant la mise en œuvre du concept de Whistle Bend en finalisant les deux prochaines étapes du processus de lotissement du projet, soit une étude de planification et une carte des espaces verts. Les participants à la charrette ont été invités à poursuivre leur engagement à titre de membres d'un comité consultatif.

Chaque subdivision devra faire l'objet d'une planification plus détaillée. Cela s'effectuera par phases successives, la planification de la première phase étant prévue pour l'automne 2007. Une charrette de conception sera tenue pour examiner des questions comme la configuration des rues; la superficie; la disposition et l'exposition au soleil des terrains; les densités résidentielles spécifiques; les corridors piétonniers; les parcs locaux; les espaces verts et les carrefours de quartier.

## PARTICIPANTS

### Intervenants

Stephanie Brown — Horse and Rider Association  
Vibeke Coates — Horse and Rider Association  
Jaime Hanna — Horse and Rider Association  
Judy Linton — Horse and Rider Association  
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Ross Burnett — Recreation and Parks Association of the Yukon  
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Marian Geary — Conseil Ta'an Kwäch'än  
Alice McGuire — Conseil Ta'an Kwäch'än  
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**Recherche sur le logement à la SCHL**

Aux termes de la partie IX de la *Loi nationale sur l'habitation*, le gouvernement du Canada verse des fonds à la SCHL afin de lui permettre de faire de la recherche sur les aspects socio-économiques et techniques du logement et des domaines connexes, et d'en publier et d'en diffuser les résultats.

Le présent feuillet documentaire fait partie d'une série visant à vous informer sur la nature et la portée du programme de recherche de la SCHL.

Pour consulter d'autres feuillets *Le Point en recherche* et pour prendre connaissance d'un large éventail de produits d'information, visitez notre site Web au

**[www.schl.ca](http://www.schl.ca)**

ou communiquez avec la

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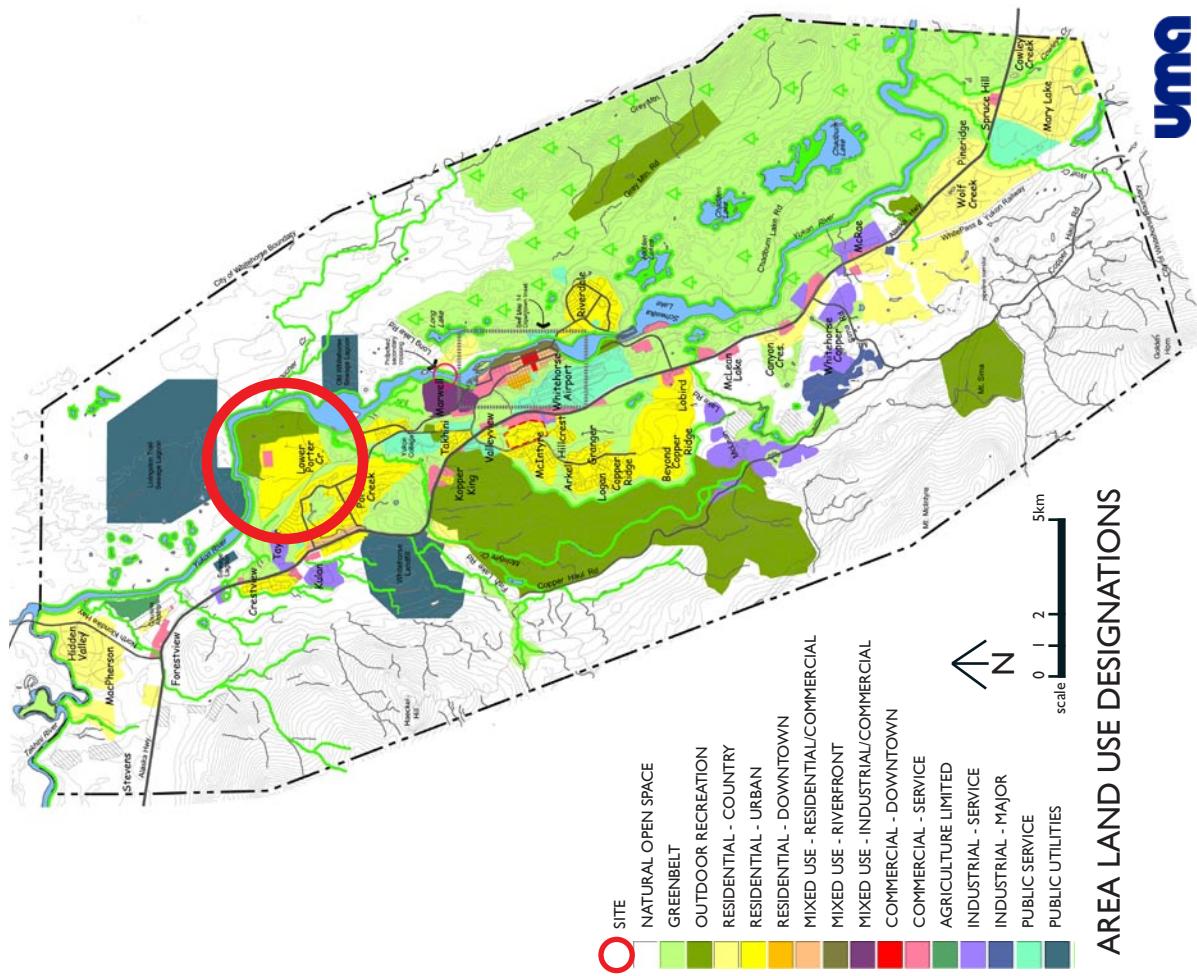
## PREFACE

This planning study has been prepared as per the requirements of Bylaw 2006-11. The bylaw requires that a planning study and a green space map be prepared in the preliminary development process for any new residential development. The planning study and green space map shall capture as well as possible the value and interest placed on the land by residents of neighbourhoods adjacent to the development area.

Porter Creek Bench is identified in the 2002 City of Whitehorse Official Community Plan (OCP) as the next urban residential development and is expected to provide residential lots for the next 20 years. The OCP envisions this area to be a fully serviced neighbourhood including commercial, institutional, residential and public uses. Following the Land Development Protocol between the Yukon Territorial Government and the City of Whitehorse, the City Planning and Development Services Department has been leading the planning for this project with costs to be recovered from the primary property owner, the Yukon Government who is the eventual developer of the proposed community.

The Planning and Development Services Department partnered with Canada Mortgage and Housing Corporation (CMHC) to organize the 5 day collaborative design workshop held at the Canada Games Centre from November 5-9, 2006 that brought together 70 participants.

In preparation for the design charrette the City acquired the services of consultants to complete background reports on the environment, special places, socio-economic conditions, heritage inventory, air quality, transportation and municipal services, geotechnical conditions, and terrain mapping.



# PARTICIPANTS

## PARTICIPANTS

### Stakeholders

Stephanie Brown  
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Source: City of Whitehorse



Source: City of Whitehorse



# PARTICIPANTS

Source: City of Whitehorse



Source: City of Whitehorse



Public	
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Ted Dean	Public
Lawrence Dublenko	Public
Mike Ivens	Public
Gail Johnson	Public
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Ella LeGresley	Public
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Kinden Kosick	City Planning - Planning
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# INTRODUCTION

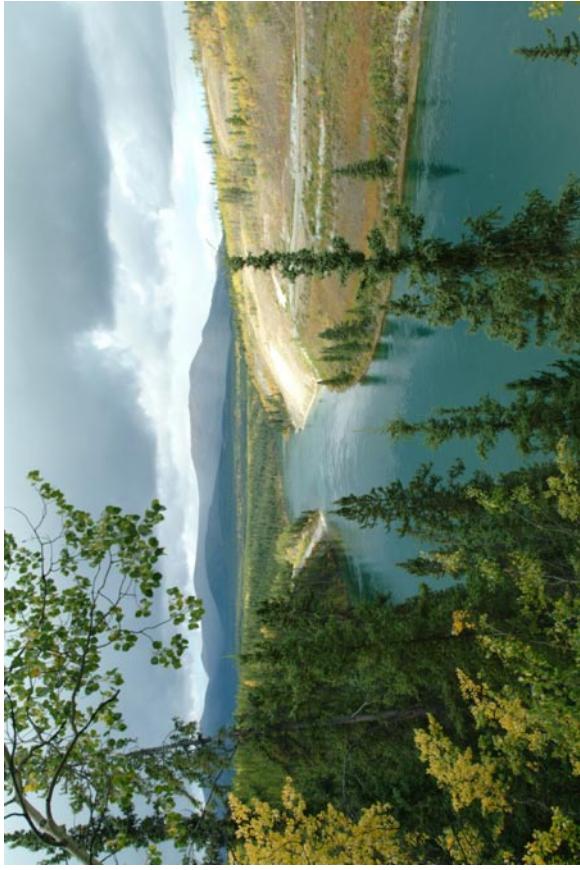
Source: City of Whitehorse



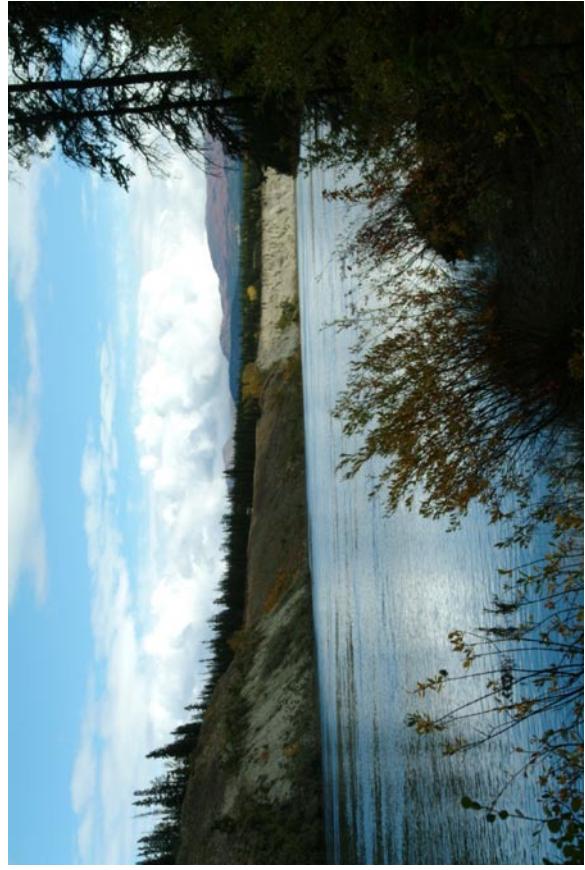
Source: City of Whitehorse



Source: Cathie Archbould



Source: Cathie Archbould



# INTRODUCTION

**INTRODUCTION**  
The Porter Creek Bench Sustainable Community Design Charrette was held from November 5-9<sup>th</sup> 2006. It was conducted as a component of the planning for the development of the Porter Creek Bench area of the City of Whitehorse in the Yukon Territory.

The desired outcome of the charrette was to arrive at a consensus for a recommended development concept for the Porter Creek Bench lands. The lands were designated as the City's next major residential development and will eventually accommodate the City's growth over the next 20 years. The community will be developed through a number of phases, and when completed could accommodate up to 10,000 people.

According to the Brundtland Commission, Sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” To be sustainable, development needs to balance environmental, economic and social concerns.

- The objectives of the charrette were as follows:
- Create a forum for resource sharing between a number of different agencies.
  - To engage local residents, and raise their awareness of sustainable community development planning and building design.
  - To establish a permanent network and resource of key private and government sector professionals who are aware of sustainable northern development issues and who are available to provide information and services for projects.
  - To increase awareness and understanding of new building and development methods that will benefit the north by reducing short and long-term costs, resource use and energy consumption.
  - To provide relevant information for government policy makers and approving agencies and private sector development professionals for the provision of an efficient, equitable and effective approval process for sustainable community development in Canada’s north.
  - To produce a land use concept

Source: City of Whitehorse



This report is designed to show what the intent of the charrette was, how the week unfolded, and what the next steps are. We would like to thank all those who were involved in the charrette, and would like to emphasize our enthusiasm and commitment to this process, and the goals set to achieve not only a new sustainable community for Whitehorse, but a new benchmark for Canadian sustainable community design.

# CONTEXT

**CONTEXT**  
The Porter Creek Bench site is bounded by the Yukon River to the north and east, Kwanlin Dün First Nations (KDFN) settlement lands to the southeast, McIntyre Creek and Mountainview Drive to the south, and the existing neighbourhood of Porter Creek to the west.

The bench covers an approximate area of 700 hectares of primarily forested terrain 50 metres above the Yukon River on a natural plateau. Clay cliffs surround the bench allowing for views of the Yukon River and the mountains beyond.

Access to the site can be gained by Range Road which runs along its western edge connecting eventually to Wann Road. Two smaller roads run off of Range Road onto the bench, one of which is Skookum Road that transects the southern end of the site to provide access to Mountainview Golf Course and the Heiland farm property. The second road gains access to the Horse and Rider Association as well as trails that lead to the buried sewer main at the base of Jet Power toboggan hill. Further access can be gained to the site via the numerous trails that have been forged over time.

Aside from the golf course and the farm, the bench's current uses include a NavCan beacon for incoming aircraft to the Whitehorse Airport, a decommissioned sewage treatment facility, a CBC radio tower as well as Ta'an Kwäch'än settlement lands. Adjacent to the study area below the golf course on a lower bench is a parcel of KDFN settlement land. This parcel, C-43B is 22.4 ha. and includes a parcel, C-43B/D of developed settlement land where a KDFN family has a cabin. As provided for in KDFN's Self-Government Agreement, KDFN will undertake the future planning, zoning and development of this parcel which is intended to include residential

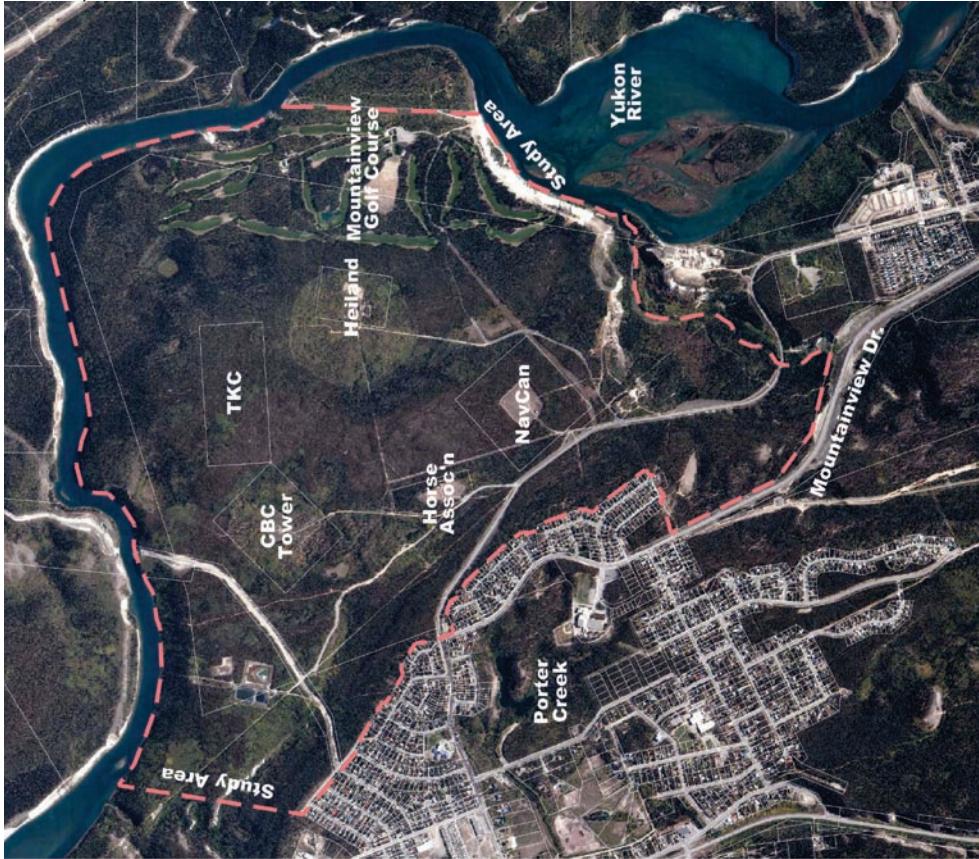
use, commercial use or both.

Within the City of Whitehorse Official Community Plan (OCP), the Porter Creek Bench has been designated as residential-urban development. This location was designated as future residential development in the last three OCPs.

The OCP includes an overall phasing plan for future development to provide direction over the long-term growth. The basis of phasing is to maximize the use of existing utilities so that significant infrastructure investment is delayed as long as possible. To minimize impacts the City aims to use existing utilities and infrastructure in new developments, as is currently the case with such infill projects as Takhini North and the Motorways development. The development of the Porter Creek Bench is being proposed in response to the forecasted growth of Whitehorse over the next 20 years, and is projected to start in 2009. The OCP recognizes current development patterns but proposes a clearer definition to long-term growth areas so to preserve a greater proportion of natural space. In the past, there has been pressure for more country residential use, however this form of development consumes a significantly larger proportion of land per person than denser urban areas. Thus development phasing and a greater emphasis on maximizing use of existing developed areas, and limiting urban expansion to areas within the City's urban boundary represent some of the City's Smart Growth principles.

# CONTEXT

Source: City of Whitehorse



**Porter Creek Bench**

11

Source: City of Whitehorse



**City of Whitehorse**

# CHARRETTE PREPARATION



# CHARRETTE PREPARATION



# CHARRETTE PREPARATION

## CHARRETTE PREPARATION

The City and CMHC began preparing for the charrette in early 2006. At the first public meeting, held in September, the proposed charrette process was presented and the charrette team was introduced. In late September, a walking tour was held, where members of the public were invited to the bench to show city staff the important trails and special places found in the area. In order to get a clear understanding of all the issues and interests in the area, the City held individual interviews with stakeholder groups. This included meetings with land owners, Yukon Government departments, Porter Creek Community Association, Real Estate Association, Whitehorse Chamber of Commerce, Yukon Conservation Society, Klondike Snowmobile Association, Horse and Rider Association, RCMP and Main Street Yukon Society.

These meetings helped both to determine how each stakeholder group would participate in the charrette and to better understand the relevant issues. The City also met with First Nations to identify any concerns arising from their on-site and adjacent land interests and any issues arising from this planned development in their Traditional Territory. The gathering of information during the first round of public meetings and stakeholder interviews was necessary in providing a starting point in the planning process.

A complete site inventory and all relevant background information were also needed to carry out a successful charrette. Prior to the charrette a number of reports were submitted outlining different aspects of the development site. Also provided was a presentation on Smart Growth principles and design recommendations.

## SMART GROWTH

Smart Growth is well-planned development that uses land efficiently, revitalizes communities, keeps housing affordable and provides transportation choices.

Robert Barrs, principal of Holland Barrs Planning Group in Vancouver and Chair of Smart Growth BC emphasized how current development and infrastructure that cater to the automobile have detrimental effects on the environment and human health, as well as undermines neighbourhood cohesion. Implications of increasing population growth on peak oil reserves were discussed in relation to traditional automobile oriented neighbourhood design. Examples of sustainable developments from other jurisdictions were presented highlighting key Smart Growth principals such as the ‘5 minute rule’ that ensures that homes are within a 5 minute (400-500 metre) walking distance to neighbourhood services such as grocery stores and transit. Robert also explained that 32 units/ha has been used as the crucial density target needed to make transit feasible. Finally, he discussed how infrastructure alternatives can protect and utilize existing natural landscapes such as on-site storm water management.

# CHARRETTE PREPARATION

## Smart growth principles

1. Build complete communities with a mix of land uses  
“I can get almost everything I need on a daily basis in my neighbourhood”

- A range of uses, urban village

- Think about how the new neighbourhood relates to adjacent neighbourhoods and the rest of the community

2. Build well-designed, compact neighbourhoods (density with dignity)

“There are lots of buildings but it doesn’t feel too dense”

- Use design guidelines to control design quality of multi-family and commercial

3. Design for pedestrians first

“This place feels like it was designed with pedestrians (not just the car) in mind.”

- 5 minute (approx. 400 metre) walking distance from homes to transit and shops

- Connected streets and trails

- Traffic calming

- Pedestrian oriented street design

- Shops and homes facing the street

4. Provide a variety of transportation choices  
“I don’t have to drive everywhere”

- Make it easy to take a bus or ride to work

- Plan for land use and transportation together

- 12 units per acre (30 units per hectare) is the suggested density target

- Multi-purpose streets – not just for cars but for playing, walking, cycling, sitting, nature, stormwater management
- Get control of parking (on the street and behind buildings)

5. Create diverse housing opportunities

“There is somewhere for my aging parents and my kids to live nearby”

- Houses above shops

- Secondary suites

- Row houses

- Duplexes

- Apartments

- Single Family

Source: trafficalming.net



Pedestrian priority street design

Source: Ralph Fertig



Source: towngreenvillage.com



Housing variety and diversity

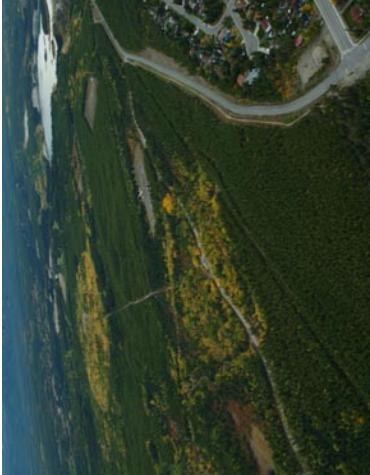
# CHARRETTE PREPARATION

- 6. Preserve greenspace.**  
“This place respects nature”  
- Map out sensitive areas first and try to protect them (set aside as protected areas)  
- Provide buffers (ecosystems sensitive to human activity)

Source: City of Whitehorse



Source: Cathie Archbould



- 7. Foster a unique neighbourhood identity.**  
“This place is worth visiting, I want to come back”  
- Public art  
- Texture - a mix of land uses, densities and architecture  
- Local materials

Source: City of Whitehorse

Source: City of Whitehorse



Source: Cathie Archbould



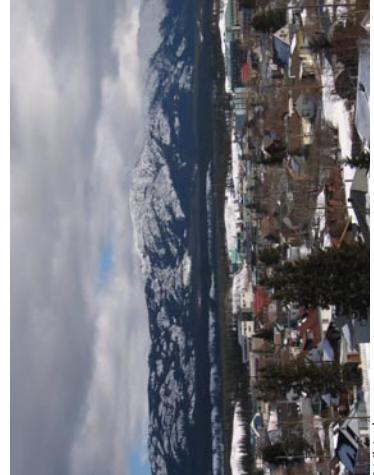
- 8. Create smarter, less expensive infrastructure and green buildings.**  
“This is a progressive community thinking about the challenges of the future”  
- Green spaces used for storm water management (bioswales, rain gardens)  
- District Energy Possibilities  
- Geothermal system  
- Green Buildings (energy efficient - think about solar orientation, water efficient, waste management/recycled, local materials, indoor air quality)

Source: City of Whitehorse

Source: City of Whitehorse



Source: City of Whitehorse



Whitehorse scenes

- 9. Nurture engaged citizens.**  
- Places belong to those who live, work, and play there  
- Engaged citizens participate in community life and decision-making

# CHARRETTE PREPARATION

## BACKGROUND

The following is a compilation of the background reports that were presented during the first couple days of the charrette.

### Environment and Special Places

Gartner Lee Ltd. was hired to complete an Environmental and Special Places Background Report prior to the charrette.

The Porter Creek Bench is a wooded area located on a thick silt and clay glaciolastrine deposit on the banks of the Yukon River. There are pothole depressions in the north end of the study area.

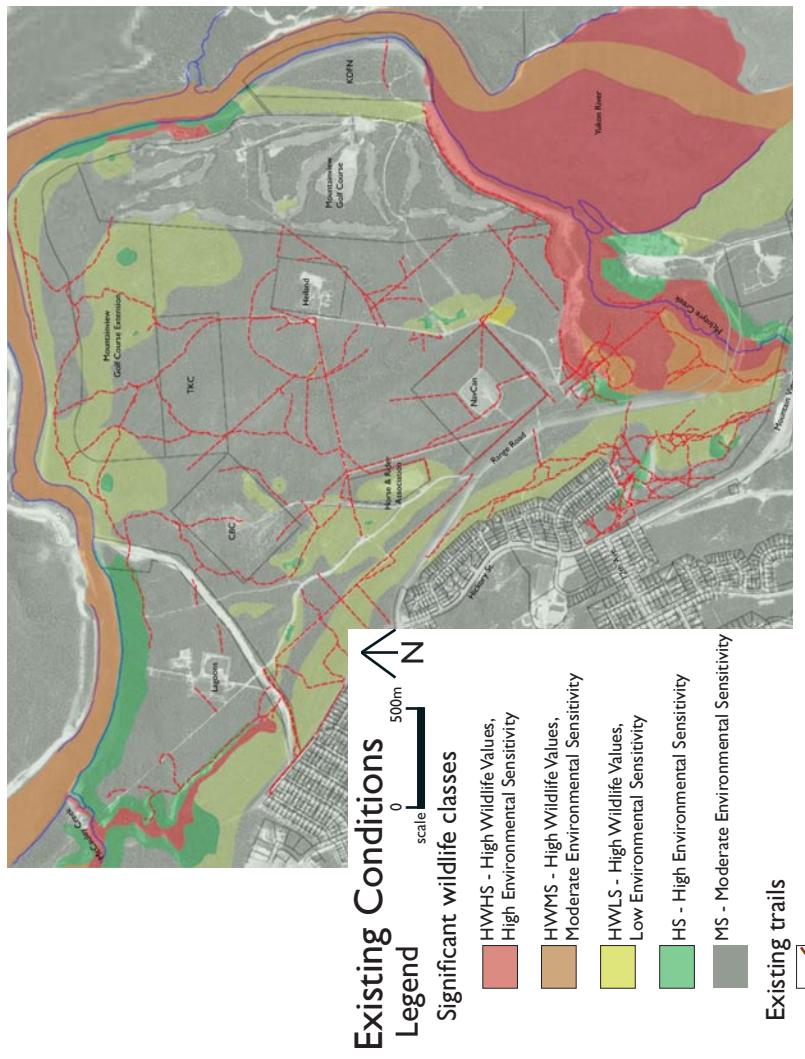
The clay cliffs along much of the Yukon River are subject to erosion, which could be increased if infiltration is increased due to poor planning.

The climate is in keeping with the rest of the City of Whitehorse: dry, often cold, and subject to temperature inversions during the winter months. The predominant wind direction on the bench is southerly, as it is at the Whitehorse Airport, however, wind speeds appear to be lower on the bench than at the airport.

The thick clay deposit underneath the bench precludes large amounts of groundwater flow. Some shallow groundwater movement takes place in a thin sandy layer overlying the clay, and there is a deeper groundwater system in the bedrock, approximately 100 metres below ground surface.

The ecosystems on the bench are similar to those found throughout the City. The forest is spruce-feathermoss,

pine-bearberry and aspen-bearberry. The bench has a few small meadows located in the wetter areas. There are some shrub communities, found often in conjunction with the meadows. There are also two creeks found in the study area. At the south end there is McIntyre Creek and at the north end a small tributary of McCauley Creek. The areas surrounding the creeks and the pothole depressions represent the most diverse ecosystems, and some of the most important habitat areas. In terms of wildlife observed, specifically ungulates, bear and coyotes as well as an array of birds have been reported. McIntyre Creek also provides salmon habitat.



# CHARRETTE PREPARATION

## Socio-Economics

Gartner Lee Ltd. and Vector Research Ltd. were hired to complete a Socio-Economic Background Report prior to the charrette. The report summarizes the trends in population and economics, current trends and the future outlook on housing stock and its characteristics, existing interests and uses in the development area, existing planning and municipal infrastructure and community services such as schools.

There are a number of socio-economic factors worth considering in light of the proposed development. Trends in demographics suggest a shift in the demand for housing from single detached houses towards multiple family and senior dwellings. Economic trends suggest that housing is becoming more affordable as Yukoners' purchasing power has increased, but an increase in housing costs may be impeding this trend. The apparent increase in demand for rental units may arise from the aging population, needs of low-income earners, immigrants, and transient professionals. Current stock of schools in the city appear to be below capacity at this time, suggesting that the immediate impact of the new development on existing schools will be low. The Yukon Government is currently consulting the public and planning for new schools. Enrollment numbers in existing schools could change depending on the location of new schools.

## Transportation

UMA Group was hired to undertake a transportation study to observe the impacts of the proposed development. Following further detail in the design process, a more thorough transportation study will be undertaken.

Following the regional goals, the study will work in conjunction with the City-Wide Transportation Plan for Whitehorse. Goals in this plan include:

1. Community and environmental quality - Provide transportation infrastructure and services that enhance the quality of life as well as the quality of the natural environment.
2. Mobility - Provide for the safe, convenient and accessible movement of people and goods throughout the City for all modes of travel and all people.
3. Transportation Planning - Provide transportation infrastructure and services that support long-term plans and are consistent with current guidelines and standards.
4. Sustainability/Affordability - Provide transportation infrastructure and services in a manner that is efficient and cost-effective, making the best use of available resources.

These transportation goals and objectives are consistent and compatible with the City's OCP. They are also applicable for the sustainable design intent of the Porter Creek Bench.

Development of the Porter Creek Bench will have an impact on all of the City's transportation networks for roadways, walkways, trails and transit. The magnitude

Source: City of Whitehorse



# CHARRETTE PREPARATION

of the impacts will not be unlike those in the West Whitehorse area of McIntyre/Granger/Copper Ridge which is serviced via Hamilton Boulevard. Adjacent main roadways that will potentially be affected by Porter Creek Bench development include Clyde Wann Road, 12th Avenue, Mountain View Drive, Range Road, and Copper/Quartz Road.

## Existing Infrastructure

Quest Engineering was hired to examine the infrastructure requirements for such a development. After further detailed design is completed, Quest will be able to make a comprehensive accounting of what is required. Such details will include the review of off-site and on-site municipal infrastructure requirements for water supply, sewage collection, and storm drainage/control.

Water supply alternatives will include a review of supply options from either Valleyview or Porter Creek reservoirs. The review will examine trunkmain sizing and alignment options, fire protection requirements, on-site supply options and distribution layout and phasing options.

## Climate and Air Quality

G.J. Bull & Associates Inc. was hired to perform a preliminary climate and air quality assessment of the proposed development site which took place between 2003 and 2005.

The major factors in reduced air quality are the Livingston Lagoon and wood smoke. Two major phases of monitoring and assessment were undertaken, and they covered all seasons, and tested over a three year period.

The sewage odour source is primarily the Livingston Lagoons, but the old Whitehorse lagoons and the Crestview Lagoons are also contributors. In the absence of regulations concerning odours and/or H<sub>2</sub>S gas concentrations, the report suggests that governments should consider what concentrations are acceptable for ambient air conditions in residential developments in Whitehorse. 1.5 kilometres is the suggested minimum setback distance for sewage lagoons with a 300 metre minimum.

Possible mitigative measures for odour issues include forest cover, vegetation, wind breaks, odour sinks (vegetative odour traps), and modifications to lagoons, such as mechanical aeration of sources and/or floating covers for lagoon.

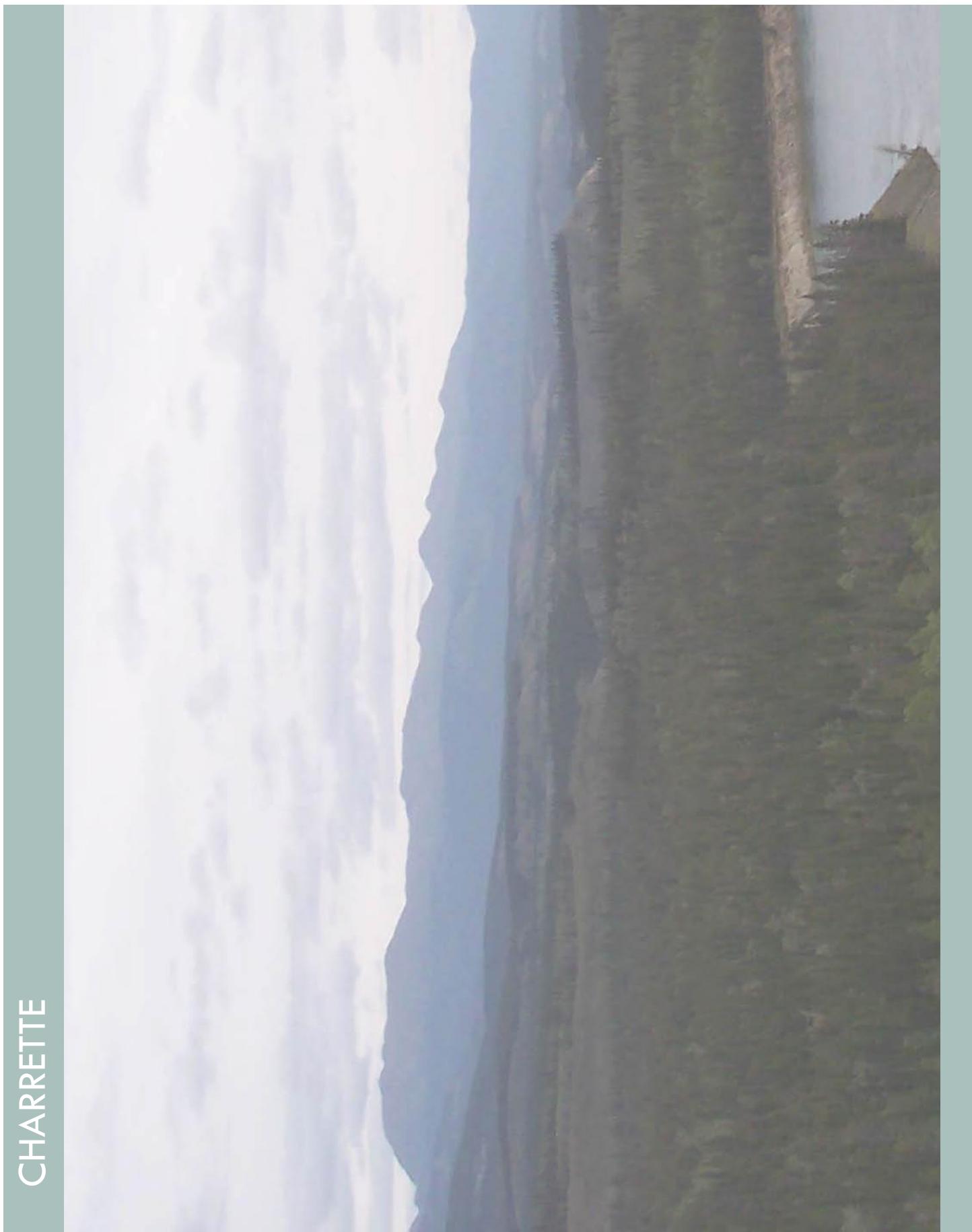
For wood smoke, inversion frequency occurs 90-100% of the wood burning season. Mitigation measures could include limiting burning periods, wind breaks, odour sinks and increasing standards for wood burning equipment.

Source: Environment Canada



Wood smoke over Riverdale

CHARRETTE



# CHARRETTE



# CHARRETTE

## CHARRETTE PROCESS

Seven charrette teams were assembled consisting of planners, engineers, architects, environmentalists, politicians, alternate energy experts, stakeholders, and residents, balanced to provide the range of skills and interests. Each team developed their own concept that was eventually merged with others to capture the best ideas from each group.

**Day 1:** The charrette began with a public visioning session giving those who could not attend during the week a chance to provide input. Introductory and background presentations were given to provide an understanding of the process and the site, followed by a presentation on current sustainability practices in Canada and around the world.

Approximately 70 people attended this workshop that explored local definitions of sustainable development and identified community values and aspirations for the future neighbourhood.

Attendees were then arranged into groups where they were asked to discuss a number of questions and topics that could be used in creating a vision statement for the week. Group work was then presented to all attendees.

**Day 2:** Charrette participants heard presentations on the background information collected to date. Stakeholders who had land interests in the area also made presentations. In the afternoon, seven groups were formed. Teams included professionals from different backgrounds that could facilitate informed discussion through shared expertise.

Charrette teams discussed the core elements that they had heard from the visioning workshop, considerations from the background reports and how Smart Growth might be applied to a development on the Bench. From this discussion each team developed a concept for discussion for the next day.



Weekday open house



Group work

# CHARRETTE

**Day 3:** The morning followed a similar timeline as the previous day. Presentations were given by CMHC, Yukon Housing, Energy Solution Centre and NRCAN regarding energy use in Whitehorse, possible alternative heating and energy resources, options in sustainable housing forms and construction standards that reduce heating requirements. Following the presentations, groups reconvened to continue developing their concepts.

Towards the end of the day, all groups were given the opportunity to present their ideas to the group. The evening included an open house for the public to provide input on the progress.

**Day 4:** Ideas and comments from the previous evening's discussion and open house were distributed to the groups. The groups continued to refine their concepts and finished the day with final presentations. At the end of Day 4 it was apparent that there were enough similarities in all the groups to merge all the concepts into one. The evening again included an open house for the public to provide input on the progress. Kobayashi & Zedda Architects were tasked with combining the efforts into a single plan, overnight (as per P.33).

**Day 5:** On the last day of the charrette, the combined plan was discussed by the whole group. New teams were created to focus on specific themes related to the plan. Topics included phasing, implementation (financing and regulation), alternate energy, transportation, municipal servicing, housing, and the green space map. After more directed discussion on these topics, the new groups reconvened to present their ideas.

A final celebration/open house was held, and the City's Planning Department presented the final concept plan. The final plan shared the common goals and values of all the groups. There were number of community name suggestions given during the charrette, and there was a consensus on the name Whistle Bend. The name is in reference to the steamships that used to travel down the Yukon River and would blow their whistles so to avoid collisions around the bend.

That evening, the public once again had the opportunity to comment and provide input on the final product.



Focus group



Group work



Presentations



Group work

# CHARRETTE

## CHARRETTE RESULTS

### The Vision

Throughout the week, the vision statement helped to guide the design process. All charrette participants had the opportunity to add those elements that were important to them. The following is the vision statement for Whistle Bend.

#### **Our vision for Whistle Bend is to create a community that:**

1. Uses developable land efficiently.
2. Is pedestrian oriented and focused.
3. Offers a range of transportation choices that are viable, reliable, and convenient.
4. Is progressive from environmental, socio-economic, and cultural perspectives, and sets a new standard/benchmark for Canadian sustainable development.
5. Attracts a diversity of incomes, household make-ups, lifestyles, activities, ethnicities and backgrounds, as well as a diversity of land uses, architecture and amenities.
6. Is unique, has a distinct sense of place and a special identity.
7. Is a lasting community, where people want to grow for generations.
8. Is not just connected to nature, but is completely integrated with the natural environment.

- 1. Uses developable land efficiently**
  - Designs with respect to existing environmental conditions.
  - Densities are increased so to maximize periphery green space.
- 2. Is pedestrian oriented and focused**
  - Creation of a community where the pedestrian is the priority.
  - Create a compact community where amenities, such as parks, schools, transit stops and neighbourhood commercial services are within a five minute (400 metre) walk from most homes.

Source: Ann T. Scafide



Respecting environmental conditions

### **3. Offers a range of transportation choices that are viable, reliable, and convenient**

- Through modified street design and using a mix of densities, create a community that is less auto dependent.
- Provide a transit system that proves to be convenient and reliable.
- Strive to provide car pool and/or car share programs.



Source: Sean Ellis

### **4. Is progressive from environmental, socio-economic, and cultural perspectives, and sets a new standard/benchmark for Canadian sustainable development.**

- Use the most effective in sustainable building practices.
- Strive to leave the smallest footprint possible through phasing and increased densities.
- Aim to achieve a net-zero energy-use community.
- Make the initial investment in new technology for the long term benefits.
- Provide the grounds for the growth of a culturally diverse community.

Source: City of Whitehorse



Main Street Whitehorse

Source: City of Whitehorse



# CHARRETTE

**5. Attracts a diversity of incomes, household make-ups, lifestyles, activities, ethnicities and backgrounds, as well as a diversity of land uses, architecture and amenities.**

- Offer a wide variety of dwelling types in the same neighbourhood, and even on the same street to provide for a variety of housing.
- Offering a range of housing densities and types will allow for a range of housing costs which will provide for a variety of income levels to live amongst one another.
- Provide for a mix of family types and allow people to stay within the community as they age and their housing needs change

**7. Is a lasting community, where people want to grow for generations.**

- Having a range of ages within a community binds it together. A successful community is one where new parents want to start a family, while seniors will choose to retire.
- Provide for a wide demographic, as it is vital to the optimal success of the new community, the essential community services must be provided to ensure a wide range of ages and ethnicities.

**8. Is not just connected to nature, but is completely integrated with the natural environment.**

- Create a community that is connected throughout by green corridors, parks and forests.
  - Minimize development footprint.
  - Strive to prioritize pedestrian greenways over roads.
- 6. Is unique, has a distinct sense of place and a special identity**
- Urban design strategies will cater towards creating a unique community identity.
  - As you enter the area there will be a sense of arrival, and a sense that you are somewhere special and unique from other areas.

Source: City of Whitehorse



## GUIDING PRINCIPLES

To ensure that the vision for the community of Whistle Bend would be met, a set of Guiding Principles were created. These principles were extracted from detailed charrette notes.

### NEIGHBOURHOOD

- Create a central hub as a gathering space and a heart to the community.
- Develop a positive and safe sense of place throughout the community. Design to have public spaces and facilities within view of homes, as well as a lighting strategy to ensure safe access on streets and green corridors.
- Create a community that accommodates living, working, learning and playing while contributing to the good of the greater Whitehorse region at the same time.
- Develop at a density that promotes walking while preserving surrounding natural space.
- Build mixed neighbourhoods where people of all backgrounds live amongst one another as opposed to in segregation.
- Design each neighbourhood to have its own character.
- Create a strong sense of place that will provide the grounds for a strong, lasting community.
- Accommodate Yukon lifestyles through the provision of special amenities such as a community storage area for recreational vehicles.

Source: [indtownpaper.com](http://indtownpaper.com)



Source: [www.arch.umanitoba.ca](http://www.arch.umanitoba.ca)



Source: City of Whitehorse



Source: [northwestcrossing.com](http://northwestcrossing.com)



Design options

# CHARRETTE

## LAND USE

Residential – a mix of densities and types built to the highest standard of durability and sustainability

Institutional – Schools centrally located to minimize car use and promote alternate forms of transport such as walking, bicycling or transit

Commercial – Focus on the central hub as a primary service area with a range of uses from light commercial and institutional to denser housing forms. The hub will be a main amenity space that provides the community with a heart that brings with it a strong sense of place and identity. Through phasing, secondary commercial nodes may be needed.

Park / Open Space – Wide green corridors will be integrated with built areas to increase connectivity as well as provide for a “green” setting. Corridors will act as circulatory routes, as well as connections to a greater network of trails starting from the periphery greenbelt. Utility or emergency service access may also be within these corridors.

## INFRASTRUCTURE

- Strive to achieve lighter, greener, cheaper, smarter infrastructure.
- Develop a clear vision and approach to work towards achieving Net Zero Energy Healthy Housing (NZEHH).
- Build roads to right-of-way standards that are cohesive with sustainability goals.
- Minimize impacts of roadways and parking lots.
- Maximize solar access for each unit.
- Strive to extract energy from alternative sources such as the Yukon River and/or waste water.



Source: aspencore.org



Alternative design and infrastructure

Source: Ann T. Scafide



Integration of green/open spaces

## GREENSPACE

Design the development to minimize its footprint. In exchange, this will maximize surrounding green amenity space.

Periphery trail - Create a periphery green belt to provide a buffer from the steep slopes surrounding the site. Within the greenbelt will be a multi-use trail network that links all neighbourhoods of the community as well as to a greater network of regional trails.

Internal connector fabric - In using the “fused grid” block strategy (as per P.40), green linkages would be integral to the success of the design. The green corridors and spaces are part of the connective tissue as opposed to residual space.

Environmental protection - Where required, mitigative measures will be put into place to protect areas that require special attention.

Management - A greenspace management plan should be developed, which should include trail planning, maintenance and monitoring, erosion control, environmental protection, and environmental clean-up as well as recreation opportunities.

## TRANSPORTATION

- Create a safe, reliable, and efficient transit strategy.
- Give incentives to using transit; e.g. -Transit pass included in lot purchase.
- Build so that there is a maximum of 5 minutes walk to transit stops.
- Provide a transit system that proves more convenient than driving.
- Strive to create car sharing programs.
- Provide bike lanes along busier streets.
- Provide connections to existing trails and path systems.
- Minimize impacts of new road connections on existing neighbourhoods.

## PARTNERSHIPS

- Work with land owners to ensure that their needs are met.
- Work with First Nation governments to ensure their land and resource interests are not adversely affected.
- The intentions of the City are to fulfill the aspirations of those involved in the charrette process. The City will need to build a development that is forward-thinking and sustainable. To achieve such a goal it is crucial that partnerships are made.
- Players such as the Territorial and the Federal Government are needed to help in amending guidelines and code to ensure a smart and healthy standard for future developments.

Source: City of Whitehorse



Source: gometro.org



Source: Cathie Archbould



Source: Cathie Archbould



Porter Creek Bench trails

## RESULTS

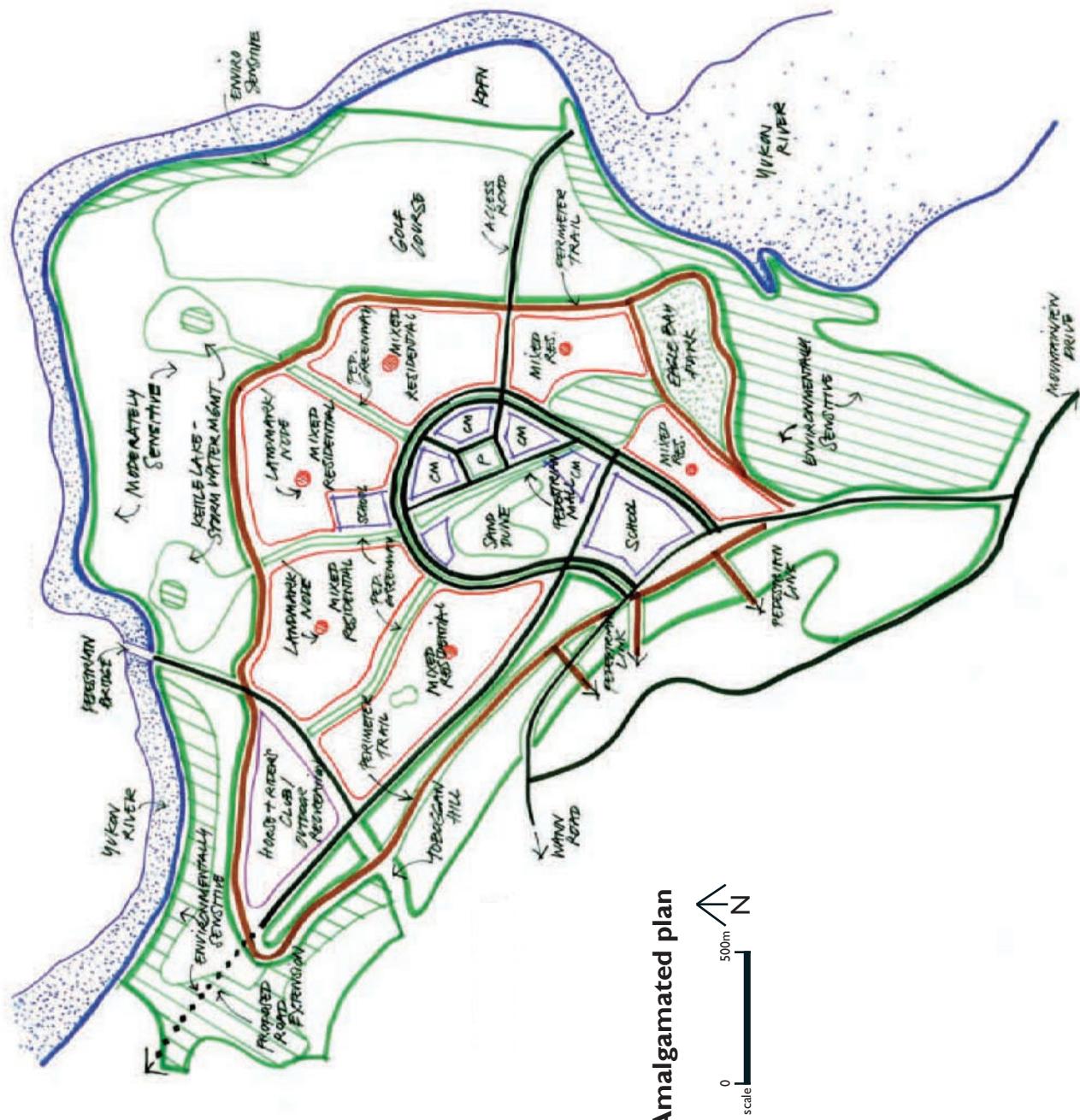


## RESULTS



## RESULTS

Source: City of Whitehorse/Kobayashi Zedda Architects



# RESULTS

## MAIN FEATURES – Amalgamated plan

In keeping with the intentions of the Vision and the Guiding Principles an amalgamated concept plan was reached (previous Page).

The following section breaks down the elements that would be important to achieving a sustainable community

**Main Road** - The boulevard/ring road would act as a collector road and a central public transit loop for the smaller neighbourhoods. The higher density development near the boulevard could make 15 minute bus service feasible. Raised crosswalks and other traffic calming devices may be used wherever the greenways meet the boulevard.

Source: tndtownpaper.com



Source: mapslive.com



A central neighbourhood hub

**Central Core** - Framed by a ring road/curved boulevard that would provide primary access to the neighbourhoods surrounding it, a central node containing higher densities such as duplexes, townhouses, rowhouses, apartment/condominium buildings, and mixed use units. Mixed use units facing onto a central park could be the focal point and gathering place for the community. The mixed units could provide a variety of housing options including senior and affordable units and provide amenities such as grocery and video stores, hair salons, coffee shops and health services within the same buildings. The buildings would be oriented to the south west to maximize solar exposure. The residential units could front on a central plaza and link to the greenways through pedestrian malls while keeping vehicular access designated to rear lanes.

Source: tndtownpaper.com



Shared streets

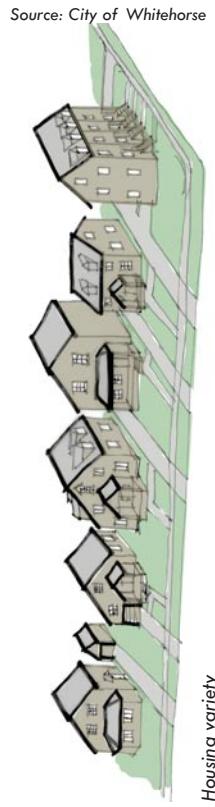
# RESULTS

**Subdivision Nodes** - There could be six mixed residential subdivisions within the neighbourhood. Although the street network detail has not been finalized, much work was put into street patterns and neighbourhood structure. A new “fused-grid” design that was presented by the Canadian Mortgage and Housing Corporation combines a grid and cul-de-sac layout that maximizes the road efficiency, greenbelt access and connectivity of a community.

In keeping with the prominent central core structure it is important that each phase within the neighbourhood have its own identity and central node. This node could be a landmark or a gathering place found in a prominent public space.

**Mix of Housing Types** - Each phase could have single detached housing as well as a mix of higher density housing types such as duplexes, townhouses, rowhouses and apartment/condominium buildings. This range could provide for a density that makes transit feasible and allows more walkable streets. Different housing types provide a number of options that may suit the aging demographic as well as provide for a variety of pricing and affordability.

A higher minimum construction standard would ensure energy efficiency and durability. Design guidelines and/or an architectural code could be required for all multiple housing developments to ensure that they are of a high quality and enhance the neighbourhood.



## Transportation Outside of Neighbourhood -

Preliminary discussions on primary connections to the neighbourhood from existing transportation networks included Wan Road and a new connection to Mountain View Drive with the possibility of adding more lanes. Discussions regarding connections to the Alaska Highway through Taylor Subdivision to the north, and to the south through the area known as Porter Creek “D”, were inconclusive. More work will be carried out on alternatives as part of the Area Development Scheme and preliminary engineering work.



A range of housing types and densities

# RESULTS

Source: City of Whitehorse



Source: City of Whitehorse



**Water Servicing and Wastewater Management** - A dual water system was discussed which would provide one water line for fire fighting directly from the Yukon River and another line from the city drinking water supply. This would allow for smaller water lines within the neighbourhood and decrease the amount of water that needs to be treated. It was suggested that net-zero water consumption be achieved, whereby improvements to the rest of the community's water system would offset the increase in water usage from the new development.

Ways of achieving net-zero consumption could be through the collection and reuse of grey water, ground water collection through stormwater management ponds, retention ponds, and bioswales.

**Air Quality** - Odour issues related to the Livingston Lagoon should be dealt with prior to pre-design. Other air quality issues discussed during the charrette such as prohibiting wood burning appliances should also be investigated.

Source: City of Whitehorse



Yukon River

**Names of Neighbourhood and Streets** – Following the suggested name of the new community, Whistle Bend, a strategy for naming streets was also suggested. Gail Johnson (Whitehorse resident) suggested that the streets within the neighbourhood use the names of the multiple paddleboats that navigated the Yukon River over the years, including such names as Aksala, Casca, Gleaner, Keno, Ruth, Stagit Chief and Thistle. It was also suggested by Gail Johnson to name the streets alphabetically clockwise around the central core, or “paddlewheel hub” as it was coined.

**Energy** - Energy alternatives suggested included district heating compatibility throughout with multi-input potential (biomass, solar, ground source, micro hydro), heat storage, heat recapture from waste incineration and sewer pipes, solar power, and water turbines in the Yukon River. Increased standards for appliances and construction were emphasized and an energy policy was suggested.

# RESULTS

**Greenspace Map** - In Whitehorse, a Greenspace Map and Planning Study are required in the preliminary development process for any new residential development and are intended to capture, as well as possible, the value and interest placed on the land by concerned citizens and residents of neighbourhood adjacent to the development area.

Whistle Bend would be designed to minimize its footprint through increased densities. This in exchange would maximize surrounding greenspace.

Environmentally sensitive areas are designated for protection while providing the opportunity for significant natural environments to be enjoyed.

The entire development would be ringed by a greenbelt. The belt would provide a 3 metre wide paved, as well as an adjacent unpaved horseback and walking trail that would be around 7 kilometres in length. Where needed there would be increased planting and buffering such as adjacent to the golf course.

Pedestrian connections to upper Porter Creek, as well as north and south of the development would be improved and marked.

Natural pedestrian greenways radiating and connecting from a central park to the periphery greenbelt would be a main feature of the development. They would serve as multi-use trails through forested corridors of 100 metres in width linking all neighbourhoods of the community together; as well as to a greater network of regional trails. In using the “fused grid” block strategy, such linkages are integral to the success of the design. The green corridors and spaces that make up these linkages are part of a larger network as opposed to being residual space.

Throughout passive and recreational greenspaces there would be unpaved trails that follow existing trail routes as much as possible. New trails would emphasize significant natural features such as potholes, views, and special ecosystems. The proposed Eagle Bay Park would serve to protect the eroding sandy cliffs to the south, provide a large setback from the McIntryre Creek wildlife corridor and would provide a public space with significant views for the community.

Motorized vehicles would not be able to gain access to much of the greenbelt but would be provided with out and away trail connections.

The northeast area of the development is under lease to the Mountainview Golf Course for possible expansion. If expansion goes ahead, plans should consider high-use trails and significant wildlife areas. If the expansion does not happen this area could be set aside for passive outdoor recreation and environmental protection as it contains highly used trails and old growth forest.

The Horse and Rider Association lands would be relocated to the northern “fin” of the site. Their facilities would be incorporated into a larger multi-use recreational area that could include the rodeo grounds, dog runs, ice surfaces and community gardens.

Source: City of Whitehorse



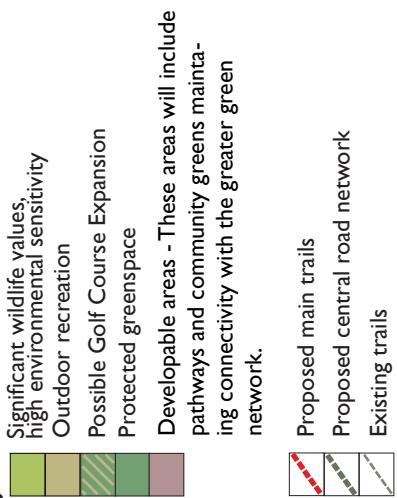
Source: City of Whitehorse



## RESULTS

### Whistle Bend Concept Greenspace

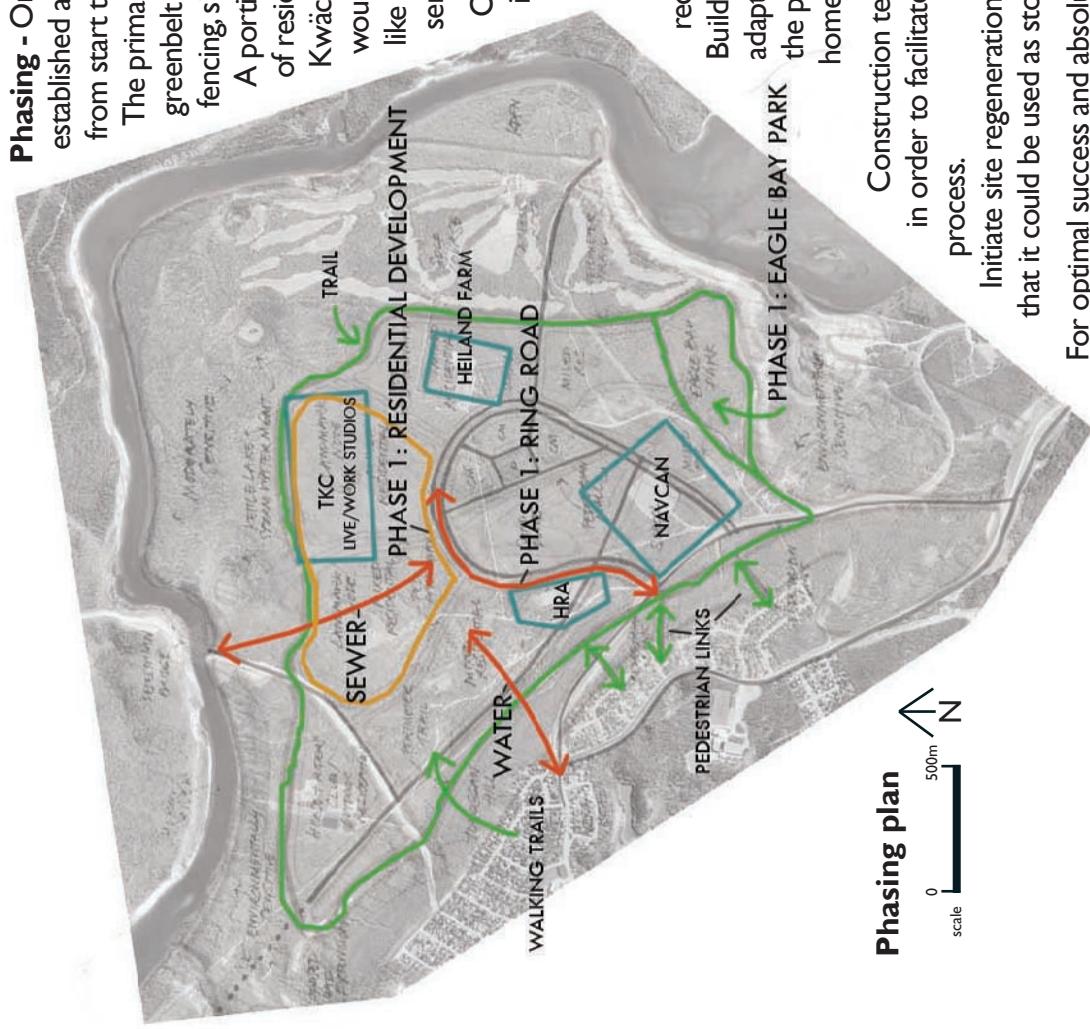
#### Legend



Source: City of Whitehorse



## RESULTS



**Phasing** - Once development has begun, its pattern of development would be established at the outset to ensure that the entire development was cohesive from start to finish.

The primary phases would include the establishment of the periphery greenbelt trail and recreation area through a greenspace plebiscite. All trails, fencing, signage, and Eagle Bay Park would be established.

A portion of the main ring road would be built accessing the first phase of residential development. The first phase would encompass a Ta'an Kwäch'än land parcel, and would sit adjacent to a sewer main. This site would be ideal for the primary phase as the Ta'an Kwäch'än would like to develop their land as soon as possible, and water and sewer servicing is easily accessible.

Once development began, transit access should be implemented immediately so that new residents do not become habituated to driving making it much more difficult to alter their transportation behaviours in later years.

Phasing would continue around the central node. As demand required, commercial servicing would locate in the central node. Buildings would be constructed to be adaptable. Flexibility and adaptability of spaces is important to ensure minimal dead space during the phasing. Adaptable buildings include such uses as live/work and home business.

Construction technique should be to minimize hard infrastructure at each phase in order to facilitate adaptability and resilience during the whole development process.

Initiate site regeneration immediately – locate a nursery in the last development phase so that it could be used as stock for all phases.

For optimal success and absolute community cohesion, a monitoring system must be implemented. Plans must be reviewed at each phase so to be in compliance with current trends in technologies as well as demographic demand.

Source: City of Whitehorse

# RESULTS

**Implementation** - It was recognized that, in order to plan a neighbourhood that is different from existing Whitehorse neighbourhoods, each of the planning, design and engineering phases needs to be carried out with sustainability in mind.

Charrette participants requested that they be used as an advisory body throughout the adoption process to help with detailed design and to ensure Whistle Bend develops as envisioned. An advisory committee has been set up and has already been involved in the development of the Greenspace Map and Planning Study.

The next step for the City is to undertake a more detailed investigation into proposed green infrastructure and sustainable neighbourhood design ideas proposed during the charrette. From these more focused studies, it will be possible to determine which sustainable practices will be effective here in Whitehorse and how these changes will be integrated into the planning of this new neighbourhood.

The City will also look into funding opportunities, government partnerships, new development standards, education programs and incentives to help ensure that the plan is implemented as envisioned.

## Detailed Neighbourhood Planning

Each of the neighbourhoods will need more detailed planning. This will be carried out phase by phase, with the planning for the first phase taking place in fall 2007. A design charrette will be held and issues such as street configuration, lot size, layout and solar exposure, specific residential densities, pedestrian connections, local parks

and greenspace and neighbourhood nodes will be considered. At this time amendments to the Zoning Bylaw, new development regulations and design guidelines will also be drafted to ensure that the neighbourhood is developed as envisioned.

The plan also calls for both existing towers in the area to be moved. CBC's radio tower is located on leased property, their lease with the Yukon Government ends in September 2008 and will not be renewed. The NavCanada tower property is Federally-owned. Once servicing is extended to this area, the increase in value of this property will provide the incentive for NavCanada to find a new location for this tower.

## Greenspace Management Planning

Greenspace in this area is highly valued by the charrette participants. As development gets underway, it will be necessary to work on a greenspace management. This should include trail planning, recreation opportunities, environmental cleanup, erosion control and other aspects of greenspace protection.

Source: City of Whitehorse



# RESULTS

## At a glance

### How Big Is It?

- 730 hectares total study area
- 100 metre wide green corridor surrounding “developable area” – 7.5 kilometre long trail
- 330 hectares “protected green area” outside of green corridor (does not include 87 hectares golf course, 20 hectares KDFN site also outside)
- 250 hectares inside “developable” area – (includes Horse and Rider association, etc.)

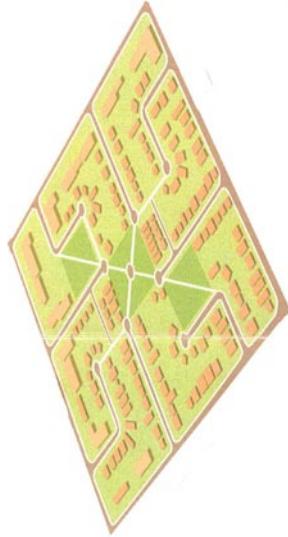
### How Many People Could Live There?

- Block system for residential layout
- 250 hectares = approximately enough room for 12 blocks, but area must be taken out for schools, recreation areas, green corridors etc
- 480 units per block @ 2.6 people/unit = 1250 people per block
- 8 blocks = 10,000 people

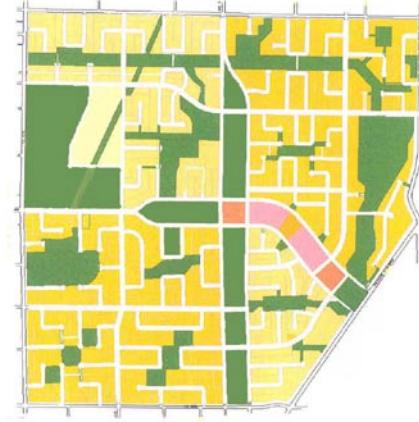
### Density Guidelines for each block:

- 10 units/hectare *minimum* (Based upon 1000m<sup>2</sup> lot (approx. 1/4 acre))
- 30 units/hectare *average* (Based upon density for viable frequent transit service)
- 50 units/hectare *maximum* (Based upon condo building with 1000 sq.ft units, 4 storeys)
- This includes 15% green minimum per grid – found within green corridor connections

These examples demonstrate the fused grid concept that was presented by the Canadian Mortgage and Housing Corporation. The design combines a grid and cul-de-sac layout that maximizes the road efficiency, greenbelt access and connectivity of a community.



Source: CMHC



Examples of the Fused Grid (Not Whistle Bend concepts).

# RESULTS

## CONCLUSIONS & NEXT STEPS

The Porter Creek Bench Sustainable Community Design Charette was a new undertaking for the City of Whitehorse. The result is more than the City could have imagined and making Whistle Bend a reality is very exciting.

Kwanlin Dün First Nation (KDFN) who have settlement land adjacent to the study area and Ta'an Kwäch'än Council which has settlement land in the study area were involved in the process. KDFN is interested in protecting its land and interests in the area, and wants to ensure compatible land use. KDFN will be undertaking its own plans for its parcel in the future. Ta'an Kwäch'än Council participated in the charrette and are planning to work in partnership with the City to carry out residential and commercial development on their settlement land within the study area.

To reach the goal of creating a community that is a leader in sustainable community design and a neighbourhood where people want to live, the City will have to work closely with the charrette advisory committee, the Porter Creek Bench land owners, other governments and partners.

<b>Engineering Pre-Design and Phasing Plan</b> Prepare subdivision pre-design for infrastructure. Refine concept for zoning and subdivision approvals. Includes transportation, water and sewer.	May 07 – Jan 08
<b>Neighbourhood Design Phase I</b> Carry out small charrette to come up with street and lot configuration for first phase of the development. Led by the City Planning Department with engineering consultants.	Oct 07
<b>Complete Area Development Scheme</b> Area Development Scheme will package previous work into supporting document for inclusion in OCP as secondary plan. Summaries required from consultants from previous reports.	Dec 07 – Jan 08
<b>OCP Amendment</b> Adoption of ADS through Council process. Will require public meetings in addition to public hearing.	Jan – Mar 08
<b>Zoning Amendment</b> Legislated bylaw process plus additional public meetings as necessary.	Feb – Apr 08
<b>YESAA process</b> Produce report for submission. Legislated socio-economic and environmental review requirement.	May 08
<b>Subdivision Plan Approval</b>	Jun 08
<b>Next Steps</b> <b>Greenspace Map Plebiscite</b> Vote is held to approve greenspace map produced in charrette.	May 07
<b>Sustainability Studies</b> Carry out studies to implement specific sustainability initiatives identified from the charrette. Focus on issues that are not included in the pre-design. Apply for funding and develop partnerships. (Specific studies could include geothermal, energy efficiency, heat recovery, dual water systems, code requirements, etc.).	May – Oct 07 2008 2009 2010

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