



Corporate Report

NO: R194

COUNCIL DATE: JULY 26, 2007

REGULAR COUNCIL

TO: **Mayor & Council** DATE: **July 25, 2007**
FROM: **Acting General Manager, Planning and Development** FILE: **6520-20** (Grandview Heights NCP #2)
SUBJECT: **Grandview Heights Neighbourhood #2 - Stage 1 Land Use Concept**

RECOMMENDATION

It is recommended that Council:

1. Receive this report as information;
2. Approve the Stage 1 Land Use Concept for Grandview Heights Neighbourhood Concept Plan ("NCP") #2 as described in this report and attached as Appendix I; and
3. Authorize staff to undertake the Stage 2 component of the Plan on the basis of the Stage 1 Land Use Concept, including:
 - The resolution of outstanding land use issues identified in this report;
 - The development of a series of "place-making" guidelines that are to be applied to each development in the NCP area at the development and/or subdivision stage and to the design of public parks and open spaces and public facilities; and
 - The completion of an engineering servicing strategy and a comprehensive financial plan that will provide adequate funding for servicing infrastructure, phasing of development and the provision of community amenities.

INTENT

The purpose of this report is to:

- Provide a synopsis of the results of the public open house held on June 21, 2007, regarding the Draft Preferred Land Use Concept;
- Identify measures to address the comments and concerns received through the public consultation process; and
- Provide an overview and seek Council's approval of the Stage 1 Land Use Concept component of the Plan, as the basis for more detailed planning necessary to complete the Stage 2 component of the Plan, including a summary of the outstanding issues to be addressed in Stage 2.

BACKGROUND

On April 4, 2005, Council received Corporate Report No. R067 and authorized staff to prepare a Terms of Reference for NCP #2 in Grandview Heights. A start-up community meeting was held on September 29, 2005, and a Citizens' Advisory Committee ("CAC") was formed, that has met on a regular basis to guide the development of the Plan. Recently, Council received and commented on the following reports related to NCP #2:

- On November 20, 2006, Council received Corporate Report No. R241 and authorized three draft options for the Plan area, to be reviewed at a public open house;
- On April 2, 2007, Council-in-Committee received Corporate Report No. C004, which described the feedback received at the December 2006 open house, as well as the key elements of the Draft Preferred Land Use Concept. At that meeting, Council raised a number of questions related to the character of the area, and directed staff to bring back a further report, with modifications based on comments made by Council during the discussion on the report; and
- On May 28, 2007, Council-in-Committee received Corporate Report No. C012 responding to Council's questions and authorized staff to hold an open house in order to obtain feedback on a Draft Preferred Land Use Concept.

This most recent open house was held on June 21, 2007. Feedback from the open house has now been reviewed and a Stage 1 Land Use Concept refined for Council's consideration.

At its July 23, 2007 Regular Meeting, Council considered and adopted a notice of motion with regard to "place-making" within Grandview Heights, that stated, in part:

"THAT staff, as part of the Stage 2 planning component for NCP Area #2 in Grandview and in consultation with the Projects for Public Spaces consultants (Fred Kent), establish a series of "place-making" guidelines that are to be applied to each development in that NCP at the Development Permit and/or subdivision

stage and to the design of public parks and open spaces and to public facilities in that NCP.

DISCUSSION

Planning Process

The Grandview Heights NCP #2 plan area is bounded by 24 Avenue to the north, 168 Street to the east and the Highway 99 Corridor Plan to the west. It contains about 206 individual properties and comprises some 163 hectares (402 acres) of land. The entire NCP area is currently designated Suburban in Surrey's Official Community Plan ("OCP"), and the majority of properties are zoned One-Acre Residential (RA).

The planning process for Stage 1 of NCP #2 has included 18 meetings with the CAC and three public open houses, as well as:

- A Suburban and Transitional property owners' meeting on May 2, 2006;
- Inter-agency meetings;
- A meeting with the members of the original Grandview Heights General Land Use Plan CAC on November 8, 2006;
- Meetings with the Agricultural and Environmental Advisory Committees and the Heritage Advisory Commission; and
- Numerous site visits and discussions with area residents.

A comprehensive chronology of the public process is attached as Appendix II.

Planning Vision and Objectives

The Grandview Heights General Land Use Plan, approved by Council on June 20, 2005, provides the overall framework to guide the servicing, development and build-out of Grandview Heights as a comprehensively planned community. It envisages Grandview Heights:

"...as a complete community with a mix of residential densities, small commercial nodes, community facilities, schools, parks, pathways, trees and protected areas".

The General Land Use Plan established several guiding principles for consideration during the preparation of individual NCPs. These principles are summarized in Appendix I – the Stage 1 document for NCP #2. The CAC has considered these principles at regular intervals through the process and also reflected on its own vision for the area at one of its early meetings.

This vision, detailed in Appendix I, is centred around creating a healthy and special place to live and work – a place with walking and bike riding paths and plenty of greenery and green space.

Opportunities for public squares and gathering places that add character to the area and celebrate its uniqueness have and will continue to be explored, in accordance with Council's recent directions related to place-making.

June 21, 2007 Public Open House

Approximately 200 people attended the June 21, 2007 open house, where a Draft Preferred Land Use Concept for Grandview Heights NCP #2 was presented. A series of display boards, comment sheets, a staff presentation, and a question and answer period were provided for community feedback.

A total of 121 comment sheets have been received as of July 9 2007, representing 91 properties. In some cases, two comment sheets have been submitted for the same property. The majority of respondents in both cases (comment sheet tally as compared to response per property) supported the land use concept.

Comment Sheet Tally

Location of property	a (Generally Support)		b (Generally Support w/ concerns)		c (Do Not Support)		No Answer		Total	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Inside NCP area	48	56%	21	24%	15	17%	2	2%	86	100%
Outside NCP area	20	57%	7	20%	8	23%	0	0%	35	100%
Total	68	56%	28	23%	23	19%	2	2%	121	100%

Of the 86 respondents who live within the NCP area:

- 56% (48 of 86) indicated that they generally support the land use concept;
- 24% (21 of 86) indicated that they generally support the land use concept, but have one or more concerns; and
- 17% (15 of 86) indicated that they do not support the land use concept.

Of the 35 respondents who do not live within the NCP area:

- 57% (20 of 35) indicated that they generally support the land use concept;
- 20% (7 of 35) indicated that they support the concept, but have one or more concerns; and
- 23% (8 of 35) did not support the plan.

When the views of all respondents, both inside and outside of the NCP boundaries are considered, the following summary is obtained:

- 56% of all respondents generally support the land use concept;

- 23% of all respondents support the land use concept, but have concerns;
- 19% of all respondents do not support the land use concept; and
- 2% of respondents did not answer the question.

Generally speaking, there is support for the proposed Land Use Concept, both inside and outside of the NCP area.

When asked what features are liked about the land use concept, many respondents commented favourably on the proposed densities, the balanced nature of the Plan and its green spaces and trails.

The most frequently cited concerns on the comment sheets were:

- density (too high and a departure from the General Land Use Plan);
- The school site locations (uncertainty created by designating land for future school use); and
- transportation issues (limited highway access, the need for so many new roads and anticipated future congestion within and around the NCP area).

Other concerns related to the land needs, cost, and maintenance of the multi-use corridors and the Grandview Ridge Trail and the length of the planning process.

NCP Name

Participants at the open house were asked to identify a preferred name for the NCP area from a list suggested by the CAC, or to provide a different name. The top three names cited were:

- Sunnyside Heights (36);
- Meridian Ridge (14); and
- Sunnyside Views (7)

This will be further discussed with the CAC, with the intention of presenting a formal name recommendation to Council at Stage 2 of the NCP.

Response to Public Consultation

Density

The land use designations, presented at the June 21, 2007 open house, were derived through discussion with the CAC over a period of almost 18 months. They are described more fully in the attached Stage 1 Document (Appendix I). The densities in the vicinity of Edgewood Drive, in particular, were determined after a meeting in May 2006, to which all affected owners of property designated Suburban or Transitional in the General Land Use Plan were invited. At that time, owners expressed a strong desire to allow urban densities of up to 15 units per acre in Suburban and Transitional areas of the Plan. This preference for higher urban densities was also prevalent at the December 2006 open

house. Staff, however, has recommended that the densities in these areas of NCP #2, be kept to a more moderate range.

As noted in Corporate Report No. C004 (April 2, 2007), a number of refinements to the density and road pattern were incorporated into the Draft Preferred Land Use Concept. Around Edgewood Drive, while many of the residents preferred higher densities, 6 to 10 units per acre are proposed to preclude very small lots and maintain the character of the current road pattern. Policies for traffic calming and lot consolidation have been included in the NCP to ensure that existing owners are able to retain a high quality of life in the Edgewood Drive area until they choose to redevelop. On the west side of 168 Street, a maximum of eight units per acre and buffering and setbacks are proposed in order to provide a more appropriate transition to suburban areas to the east.

Most members of the CAC and most respondents at the June 2007 Open House indicated that they were satisfied with the densities proposed in the land use concept. It is acknowledged, however, that some residents continue to be concerned about the potential change in the suburban character of the area.

In some designations, densities are slightly higher than those originally envisioned in the General Land Use Plan. These include:

- South side of 24 Avenue, west of 164 Street, where 15 to 25 units per acre are proposed in order to ensure that street-oriented townhouse developments are feasible;
- South west corner of 168 Street and 24 Avenue where a mixed commercial-residential designation would permit residential units over retail or commercial units at 25 to 45 units per acre; and
- "Special Residential" area east of the water reservoir, between 24 and 23 Avenues, where townhouse or single-family residential units could be designed to provide live/work opportunities (at 15 to 25 units per acre).

These designations are intended to provide a range of choices in the type, tenure and cost of housing. They also support the directions stated in the OCP, related to live/work developments and the building of complete communities. The densities associated with each proposed land use designation have been reviewed with the CAC. Most respondents at the June 2007 open house indicated their support for the densities presented in the land use concept.

School Locations

Two potential elementary school locations are identified on the land use concept. While the School District has included a school site in NCP #2 in its 2007 Capital Plan Submission, funding for school site acquisition is not expected until 2009 at the earliest. Discussions with the School District will continue into Stage 2 of the NCP. At this point, the Stage 1 NCP document provides some additional flexibility by noting that if the land designated for a school is determined to not meet the requirements of the School District, it may be developed subject to the designation of an alternative school site in the catchment area, to the satisfaction of the School District and the City.

Transportation Issues

The proposed concept provides a modified grid road system, combined with greenways to enable residents to walk or cycle to the school, parks, services and facilities in the area, consistent with the General Land Use Plan. The proposed road network, including regularly spaced intersections, will allow traffic to be more evenly dispersed throughout the neighbourhood, and provide good routing for transit, reducing the potential for congestion. A hierarchy of local, collector and arterial roads will further ensure that through traffic is directed away from residential areas. At Stage 2 of the NCP, a traffic calming plan and street parking plan will be developed.

The South Surrey Transportation Modelling Study was initiated last year to review traffic issues in South Surrey. The results have indicated, among other items, the need for a 20 Avenue vehicle overpass across Highway 99. This future overpass has been identified at the two most recent open houses.

Access to Highway 99 was an issue identified by many people attending the June 2007 open house. The Engineering Department continues to work with the Ministry of Transportation to determine the appropriate location(s) for future access points to/from Highway 99. The need for, and timing of, north facing ramps to Highway 99 on 24 Avenue continues to be analyzed in conjunction with the South Surrey Transportation Modelling Study and other ongoing work. Findings and recommendations will be presented at Stage 2 of the NCP.

Multi-Use Corridors, Grandview Ridge Trail

Details regarding the land needs, cost and maintenance of the multi-use corridors and Grandview Ridge Trail will be further reviewed and refined at Stage 2 of the NCP

Overview of the Proposed Land Use Concept

NCP #2 will provide a variety of housing densities and forms, along an interconnected road and pathway network. The proposed Land Use Concept, illustrated in Appendix I, features higher residential densities the west, adjacent to the Highway 99 Corridor Local Area Plan. The centre portion of the Plan will provide for a range of medium to lower residential densities. A transition to the Agricultural Land Reserve will be provided by low densities (1 to 2 and 2 to 4 units per acre) and a 15 metre (50 foot) landscaped buffer on the west side of 168 Street, south of 16 Avenue. Commercial uses will be permitted in the vicinity of 168 Street and 24 Avenue, in two different forms of mixed-use developments.

The key, unique features of NCP #2 are:

- The *Grandview Ridge Trail*, a 2.2 kilometre (1.3 mile) long trail in a roughly 20 metre (66 foot) corridor. The trail, situated at the top of the slope, would accommodate a range of users and connect the northern and southern parts of the neighbourhood;

- A mixed use neighbourhood node at the corner of 168 Street and 24 Avenue;
- *Multi-Use Corridors*, recommended through the Fergus Creek Integrated Stormwater Management Plan (ISMP) - that will provide for an attractive street frontage with recreational and ecological values;
- *Three new parks*, designed to meet the needs of area residents and expected to contain trails, natural areas and connections to other neighbourhood amenities;
- A new elementary school in conjunction with the large, central future park. The potential for a community school that can provide meeting space and effective use of facilities will be encouraged in line with the City's Plan for the Social Well-being of Surrey Residents;
- Retention of *forest patches* which are high quality stands of older, mature, natural forests, through park dedication, and/or cluster housing; and
- The potential for *geo-exchange* as a source for heating and cooling of homes.

Each proposed land use designation and the neighbourhood's key elements are described further in Appendix I, the Stage 1 document.

Place-Making and Sustainability Elements of the Plan

The future neighbourhood that develops in area #2 of Grandview Heights will incorporate many characteristics of a good place. It will offer choices in travel routes and destinations. Clusters of activities will be provided around a commercial plaza and the school/park site. The hallmarks of a sustainable community include the promotion of a range of densities to reduce the footprint of development and provide for a transit friendly and walkable neighbourhood. The exploration of geo-exchange heating and cooling systems, and a network of multi-use streets will create a safe, walkable community.

Further work will be undertaken at Stage 2, in consultation with the City's (Fred Kent) consultants, to develop these features. These will include, but will not be restricted to:

- Place-making guidelines to be applied to new development, public parks, open spaces and facilities;
- Gateway landmarks at key entrance points into the community and community landmarks at significant visual locations, such as 168 Street and 24 Avenue;
- Trail markers at the entrances to the Grandview Ridge Trail and viewpoints with seating areas where the south-western exposure grants views toward the ocean and the Semiahmoo Peninsula; and
- A public square/gathering place integrated into the mixed-use development at 168 Street and 24 Avenue, as well as into future park at 23 Avenue and 166 Street.

The Character Plan, together with explanatory notes and diagrams, is shown in Appendix I.

Population & Dwelling Unit Projections

The projected future population of NCP #2 at full build-out (15 to 20 years) and based on the proposed land use concept is 7,200 to 11,300 people in 2,700 to 4,200 dwelling units. Detailed projections for each land use designation are shown in the Stage 1 document. As noted in Corporate Report No. C012 (May 28, 2007), the General Land Use Plan had estimated 4,000 to 9,000 people.

Land Use Matters to be Resolved as part of Stage 2

A summary of the land use and infrastructure issues which will need to be resolved during the Stage 2 component of the Plan is provided below. Any resulting changes to the Plan will be presented to Council in conjunction with the completion of the Stage 2 component.

1. A place making exercise with the Project for Public Spaces consultants, the CAC, staff and other stakeholders will be undertaken;
2. The use of Cluster Housing as a means to retain some of the wildlife forest patches identified in the environmental assessment will be further explored. Tree integrity studies in specific locations may be required. If clustered forms of housing are recommended, some land use designations and road alignments may be adjusted;
3. A pedestrian/bicycle plan will be created to show the location and widths of the paths along roads (i.e., on-street or pathway adjacent), connections to the Pioneer and other Greenways, the Grandview Ridge Trail and the Multi-Use Corridors. The location, dimensions and characteristics of each element will be refined at Stage 2;
4. Final recommendations of the Fergus Creek ISMP will be assessed for integration into the NCP. This includes the potential for green streets as well as the location, dimensions, maintenance, financing and phasing of the proposed Multi-Use Corridors;
5. The technical feasibility study related to the implementation of geo-exchange cooling/heating systems will be completed. It is expected that the results will become a key component of the servicing strategy for the neighbourhood;
6. At the request of area residents in the vicinity of Edgewood Drive, the potential for alternate housing forms that respect the proposed density range (6 to 10 units per acre) will be considered further;
7. The use of the City-owned land on 24 Avenue (south of the existing GVRD reservoir and City pumping station) for City utility maintenance and materials storage purposes continues to be pursued. The site plan will incorporate

appropriate access and buffering from adjacent residential uses. A public meeting will be convened once a proposed plan is available; and

8. The integration of NCP #2 with adjacent land uses and road networks will be fully considered, including the Highway 99 Corridor Plan's proposed alignment of Croydon Drive and the Pioneer Greenway, access and landscaping at the detention pond south of the Superstore site, and other buffer/interface considerations. A public review process, related to potential amendments to the Highway 99 Local Area Plan will be needed.

General Servicing Issues

At Stage 1, transportation and servicing to accommodate the proposed amendments have been reviewed and Engineering staff is satisfied that the requirements for transportation, water, sanitary sewer, and storm drainage can be resolved to support the proposed land use concept, as part of the Stage 2 review. A summary is provided below and further detail is provided in Appendix I.

Water

This NCP is within the servicing area of the GVRD South Surrey Transmission Mains, Grandview Reservoir and Grandview Pump Station, which have adequate capacity to supply water to this NCP area.

The topography requires that the NCP be subdivided into two pressure zones. The higher pressure zone, bounded to the west by the BC Hydro right-of-way and south by 17 Avenue, will be serviced by Grandview Pump Station, via a recently completed feeder main on 24 Avenue, from the pump station to 164 Street. Most of the existing water mains within the NCP area are small diameter pipes and the developments will be required to construct local and major grid water mains within the high pressure zone area.

Sanitary Sewer

There is no existing sanitary sewer system in this NCP area and the existing homes are connected to septic fields. A large capacity sewer, recently constructed on 160 Street, north of 24 Avenue, was installed to service the anticipated demand from this NCP area and other areas, and convey flows to the Grandview Heights Interceptor.

A significant northern portion of the NCP area can be serviced by gravity to this trunk interceptor. However, additional infrastructure is needed in order to provide sanitary servicing to the entire NCP area. This includes:

- A sanitary pump station near 13 Avenue and 168 Street; and
- A force-main and additional trunk interceptor to connect the future pump station to the existing sanitary sewer, north of 24 Avenue at 160 Street.

Storm Drainage

This NCP area is in the Fergus Creek watershed, which is a fish-bearing watercourse. The Department of Fisheries and Oceans has indicated that traditional means of stormwater drainage, whereby impervious areas are directly connected to the storm sewer system and post-development flows are discharged into the creek with minimal control, is not acceptable. Currently, this NCP area is largely characterized by low-density rural land use, which provides the opportunity to include stormwater innovation in future development plans.

The Fergus Creek ISMP is nearing completion and is one of Surrey's first ISMPs. An ISMP is a comprehensive plan to balance land use planning, stormwater engineering, flood and erosion protection, and environmental protection. It is a plan required for all watersheds within the Vancouver GVRD under the GVRD's Liquid Waste Management Plan.

To mitigate typical development impacts, such as downstream flooding, stream erosion, and diminishing summer baseflows in the creek, selected runoff-control Best Management Practices (BMP) are proposed for implementation in this NCP area. These are noted in Appendix I.

Due to the high erosion potential in Fergus Creek, stormwater detention facilities, such as detention ponds, are unlikely to adequately mitigate post-development stream erosion. Instead, the key stormwater management feature for this NCP area is the use of enhanced infiltration systems. The systems may include rain gardens, infiltration swales with storage, surface or subsurface storage, infiltration ponds, and underground infiltration galleries. These features will be incorporated into the NCP's design guidelines, both for private lots and on municipal road right-of-ways. Many of these infiltration systems are to be located within the "multi-use corridors" identified on the Stage 1 Land Use Plan.

In addition to drainage infrastructure, these multi-use corridors will be vegetated and contain pedestrian and cycling paths. They will become unique signature features of this NCP area and contribute to the neighbourhood's liveability as an appealing amenity. The preliminary extent and dimension of these corridors may be up to 40 metres wide, covering an area of up to 10% of the watershed. Refinements to the alignment, width, and design details of the multi-use corridors will be completed in Stage 2 of the NCP process.

The funding details for the multi-use corridors will be determined in Stage 2. However, the preliminary concept is to ensure that funding for this stormwater drainage infrastructure is equally shared amongst the future developed lots throughout the NCP area, much like the City's approach with financing traditional detention ponds. Mechanisms to secure and construct these corridors will be proposed in Stage 2.

Transportation

During the Grandview Heights NCP #2 process, a concurrent, but independently commissioned, South Surrey Transportation Model was performed, based on planned future build-out for the year 2031. The model found that there will be high demands on

24 Avenue and 16 Avenue. If no other transportation corridors are provided, these two roads would require widening beyond a 5-lane arterial standard to alleviate the traffic demand. An alternative to widening these two roads to 6-lanes is to construct an overpass on 20 Avenue, across Highway 99. This is expected to relieve the congestion, particularly if a standard 4-lane arterial is used between Croydon Drive and King George Highway. The 20 Avenue overpass would also better accommodate internal South Surrey trips between Grandview Heights NCP #2, Semiahmoo Town Centre, and the Grandview commercial centre.

Due to the topography and the environmental sensitivity in the 164 Street right-of-way, a western realignment of the future 164 Street within NCP #2 will be required. This major road realignment accommodates:

- Improved sight visibility at the intersection of 20 Avenue;
- Protection of the "Class B" watercourse which exists in the right-of-way; and
- Reduced grades on the future 164 Street.

Alternatives were explored, such as an eastern realignment and remaining in the existing right-of-way by re-profiling 20 Avenue. However, these alternatives are either cost prohibitive or provide no improvement to road grades and safety issues. A minimum parcel consolidation area is recommended to make development along 164 Street cost effective.

Next Steps

In Stage 2, staff will work to establish "place-making" guidelines, resolve outstanding land use concerns, identify all detailed engineering requirements and to prepare a comprehensive servicing plan, including water, storm sewer, drainage facilities, transportation network and other major infrastructure, with a financial strategy to fund the infrastructure needed to support development in the area.

Amenities to serve the area, including ongoing park acquisition analysis, park development costs, fire and police protection, library needs and the establishment of appropriate amenity contributions for the Plan area will be determined.

The complete servicing, phasing and financial plan will be presented to the public for review and comment. It is anticipated that the Stage 2 component of the NCP will be completed in the winter of 2007/2008.

In past practice, Council, at the time of adoption of a Stage 1 component, also authorizes staff to receive and process development applications for sites within the plan area, provided that final application approval is held pending completion of a Stage 2 component of the Plan. At this time, no development applications appear imminent for NCP #2. The essential infrastructure to support such development requires further consideration in Stage 2. As well, the development of "place-making" guidelines, in consultation with the Project for Public Spaces consultants, and the undertaking of further tree assessment and consideration of cluster housing development options, may lead to

some revisions in land use and the further development of design guidelines. Therefore, it is recommended that applications for development in this area not be processed at this time.

CONCLUSION

It is the intent of this Plan to reflect strategic priorities of Council, including:

- Community beautification through the protection of key environmental features in parks, along the Grandview Ridge Trail and through the potential use of cluster housing designations;
- Sustainable and unique features, including the proposed multi-use corridors and character plan;
- Crime Reduction through the application of environmental design principles (CPTED) in the layout of pathways and the design and orientation of housing during both the planning and implementation stages;
- Community Health promotion by the development of a walkable community; and
- Transportation systems that encourage multiple modes of movement that are safe and sensitive to the environment.
- The establishment and implementation of "place-making" guidelines in the development of a community with a high level of design quality;

It is expected that the NCP will reflect positively on the City's reputation for innovation and originality and the development of a sustainable neighbourhood.

It is recommended that Council approve the Stage 1 Land Use Concept for Grandview Heights NCP #2, attached as Appendix I to this report. It is further recommended that Council authorize staff to undertake the Stage 2 component of the Plan, including among other things, the resolution of outstanding issues and the completion of an engineering, servicing and financial plan and the provision of community amenities.

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Planning and Development

TDA/kms/saw

Attachments:

- Appendix I Grandview Heights Neighbourhood #2 - Stage 1 Land Use Concept
- Appendix II Chronology of Public Consultation

**Grandview Heights Neighbourhood #2
Stage 1 Land Use Concept**



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**Chronology of Public Consultation
Grandview Heights Neighbourhood Concept Plan # 2**

Date	Event/Meeting	Purpose
September 12, 2005	Inter-Agency Meeting	To advise external agencies of the planning process & to obtain preliminary comments
September 29, 2005	Community Start-Up meeting	Introduction to planning process Formation of the CAC
October 5, 2005	Fergus Creek ISMP Open House	Introduction of ISMP Objectives
October 20, 2005	Citizens' Advisory Committee	Inaugural meeting of the CAC Deliver background material Discuss meeting logistics & identify issues & visions
November 17, 2005	Citizens' Advisory Committee	Transportation workshop
December 15, 2005	Citizens' Advisory Committee	Preliminary findings of environmental assessment
January 19, 2006	Citizens' Advisory Committee	Preliminary ISMP directions; Review transportation concepts
February 16, 2006	Citizens' Advisory Committee	Land use objectives & report back on transportation concepts
March 20, 2006	Fergus Creek ISMP Stakeholder Meeting	Review of ISMP objectives, preliminary directions and address stakeholder concerns
March 23, 2006	Citizens' Advisory Committee	Workshop on land use designations
April 6, 2006	Heritage Workshop	Commonwealth Historic Resource Management Limited Workshop with HAC, CAC, and other interested stakeholders
April 20, 2006	Citizens' Advisory Committee	Presentations by Heritage & Environmental consultants Attended by members of the Environmental and Agricultural Advisory Committees
May 2, 2006	Suburban and Transitional Property Owners Meeting	To resolve outstanding concerns of property owners related to .residential densities in the vicinity of Edgewood Drive Comment Sheets and letters received
May 18, 2006	Citizens' Advisory Committee	Review results of May 2 meeting and agricultural buffer densities and landscaping requirements
May 25, 2006	Heritage Advisory Committee	Presentation of Final Heritage Report
June 1, 2006	Agricultural Advisory Committee	Presentation of draft densities related ALR buffer
June 15, 2006	Citizens' Advisory Committee	Review Discussion Papers & land use and density options
June 21, 2006	Environmental Advisory Committee	Presentation by Environmental Consultant & Staff

July 20, 2006	Citizens' Advisory Committee	Review Discussion Papers & land use and density options
August 17, 2006	Citizens' Advisory Committee	Discuss draft land use designation maps
September 28, 2006	Citizens' Advisory Committee	Review land use options & transportation issues
October 5, 2006	Agricultural Advisory Committee	Overview of draft land use options
October 11, 2006	Site visit with local residents/CAC members	Review specific site conditions related to road alignment
October 12, 2006	Meeting with area residents regarding school site locations	Discuss elementary school needs and proposed sites
October 19, 2006	Citizens' Advisory Committee	Review draft land use options, roads, ISMP corridors & school locations
October 23, 2006	Interagency Meeting # 2	To obtain comments from external agencies on draft land use options
October 30, 2006	Meeting with area residents.	Review ISMP, road, land use details.
November 2, 2006	Meeting with Country Woods Residents Association	Review status of school, park, road components of Grandview Heights General Land Use Plan
November 8, 2006	Meeting with GH General Land Use Plan CAC	Review draft options & obtain input prior to Open House
November 9, 2006	Meeting with area property owners	Review potential impact of road alignment & land use designations
November 16, 2006	Citizens' Advisory Committee	Prepare for first Open House
November 22, 2006 (tentative)	Environmental Review Committee (ERC)	Review of watercourse classifications
December 7, 2006	Public Open House	Obtain feedback on draft land use options
January 18, 2007	Citizens' Advisory Committee	Review feedback from December Open House
March 8, 2007	Citizens' Advisory Committee	Discuss Draft Preferred Land Use Concept
April 2, 2007	Council-in-Committee	Seek authorization for Open House.
April 19, 2007	Citizens' Advisory Committee	Review Council Directions
April 24, 2007	Site visit with area residents	Review concerns related to road alignment and development potential.
May 17, 2007	Citizens' Advisory Committee	Drop in to review Character Plan elements
May 28, 2007	Council-in-Committee	Report back & seek authorization for Open House
June 21, 2007	Open House	Obtain feedback on draft preferred land use concept and character plan
June 26, 2007	Interagency & Area Planning Circulation	Seek feedback on draft preferred land use concept
July 23, 2007	Council	Direct staff, with consultant, to establish place-making guidelines at Stage 2 of NCP

**Grandview Heights Neighbourhood #2
Stage 1 -Land Use Concept Plan**

Table of Contents

PART 1.0: BACKGROUND	1
1.1 INTRODUCTION	1
1.2 PLAN AREA	3
1.3 PLANNING CONTEXT	3
1.4 PLANNING PROCESS & CONSULTATION	4
1.5 HISTORY AND HERITAGE OF GRANDVIEW HEIGHTS	5
PART 2.0: PLANNING	6
2.1 PLANNING OBJECTIVES	6
2.2 PLANNING PRINCIPLES AND VISION	6
2.3 THE LAND USE PLAN AND POLICIES	8
2.4 CHARACTER PLAN	16
2.5 POPULATION AND DWELLING UNIT PROJECTIONS	18
2.6 ENVIRONMENTAL ASSESSMENT	18
PART 3.0: PRELIMINARY ENGINEERING SERVICING PLAN/GENERAL SERVICING ISSUES	22
3.1 WATER	22
3.2 SANITARY SEWER	22
3.3 TRANSPORTATION	25
PART 4.0: IMPLEMENTATION (TO BE DONE AT STAGE 2 OF THE NCP).....	26

List of Figures

Figure 1: Stage 1 Land Use Concept	2
Figure 2: Grandview Heights General Land Use Plan	3
Figure 3: Sketch of Commercial Meeting Place	10
Figure 4: Conceptual Park and Open Space Uses	11
Figure 5: Sketch of Multi Use Corridors	12
Figure 6: Grandview Heights NCP # 2 and Area Parks and Open Space Network	13
Figure 7: Sketch of Grandview Ridge Trail	15
Figure 8: Grandview Heights NCP #2 Preliminary Character Plan	17
Figure 9: Significant Tree Patches	20
Figure 10: Riparian Areas Map	21

List of Tables

Table 1: Low / High Projections with Eastern School Site	18
Table 2: Low / High Projections with Southern School Site (Alternate)	18

Grandview Heights NCP #2
Stage 1 - Land Use Concept
Acknowledgements

The City of Surrey acknowledges the contributions and participation of the following individuals and organizations through the preparation of Stage 1 of this Neighbourhood Concept Plan:

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Steven Simonyi-Gindele	Rusty Ward
Joyce Gordon	Sally Wassall
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Grandview Heights Neighbourhood Concept Plan #2

Stage 1 Land Use Concept

PART 1.0: BACKGROUND

1.1 Introduction

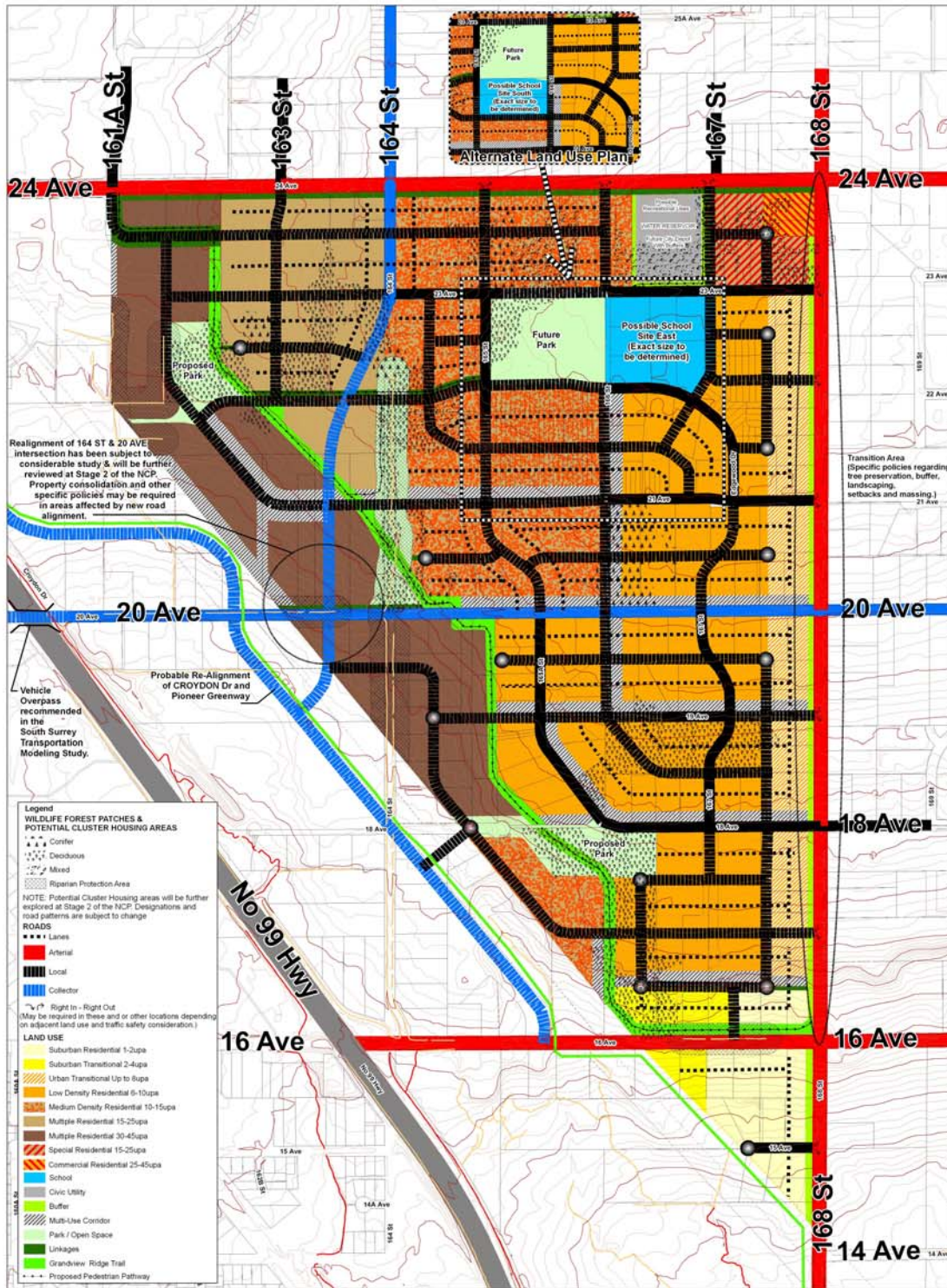
The objective of this Stage 1 Neighbourhood Concept Plan is to outline the desired future land uses in Neighbourhood #2 of Grandview Heights in south Surrey. This document describes the proposed land use designations and accompanying policies, as well as preliminary servicing considerations. Important character elements are illustrated to depict the future vision of the community. Together, these Stage 1 elements are intended to establish the foundation for the creation of a healthy and sustainable neighbourhood.

Planning for NCP #2 began in the fall of 2005 and has been guided by a Citizens' Advisory Committee (CAC). The CAC is a group of approximately 27 residents and community association representatives. The planning process has included consultation with other area stakeholders and has been coordinated by City of Surrey staff.

The planning framework outlined in Stage 1 will be refined during Stage 2 of the NCP planning process. The final NCP will include the completion of an engineering strategy and a comprehensive financial plan that will provide adequate funding for servicing infrastructure, phasing of development and the provision of community amenities. Design guidelines and further refinement of the place making and character defining elements of the neighbourhood will also be undertaken during Stage 2 and will be included in the final NCP document.

Figure 1, the Stage 1 Land Use Concept Map, has been developed through extensive consultation with the CAC, City staff, project consultants, other stakeholders and the public. The intent of this concept is to guide the development of a compact and environmentally friendly community.

Figure 1: Stage 1 Land Use Concept



Grandview Heights NCP Area #2
Stage 1 Land Use Concept
 City of Surrey Planning & Development Department

NOTE: Multi-Use Corridor locations and dimensions are preliminary and will be finalized at Stage 2 of the NCP.

NOTE: This Land Use Map is for discussion purposes only.

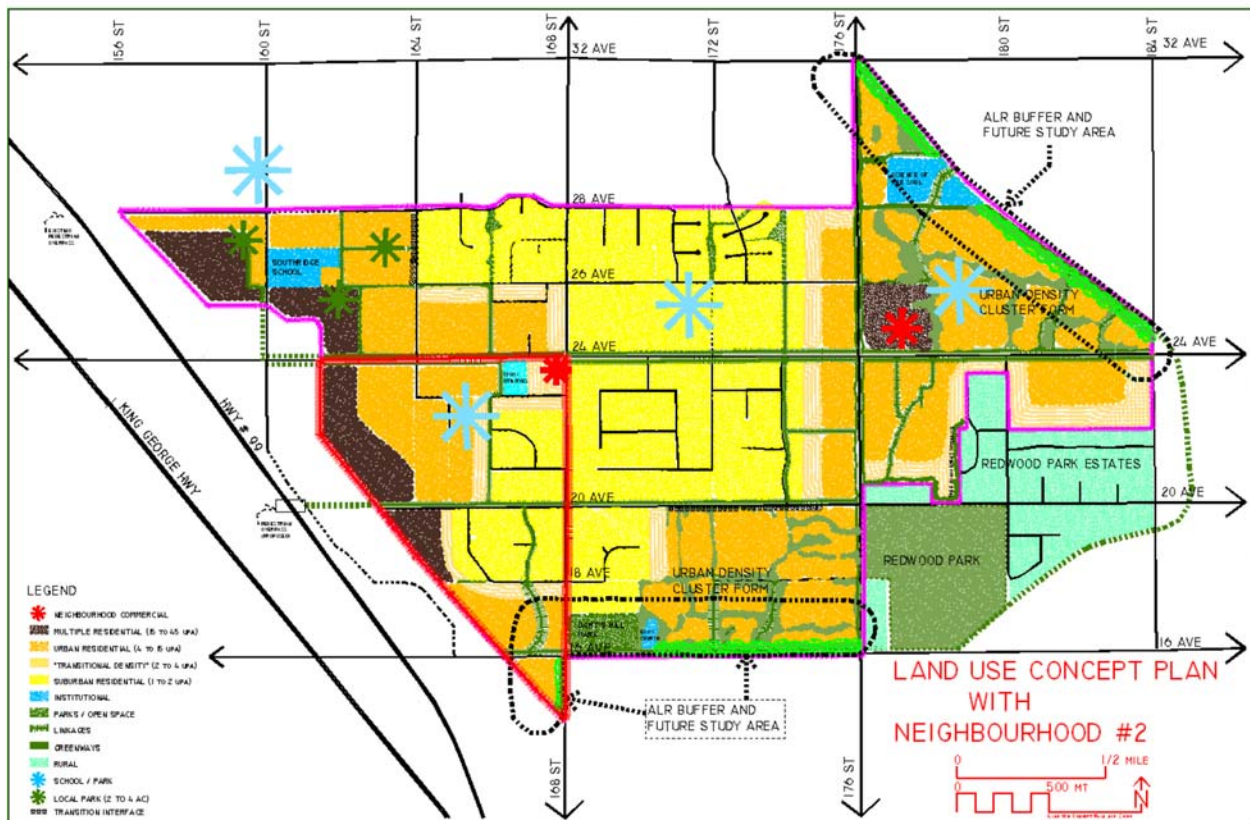
Last Revision: June 11, 2007



1.2 Plan Area

Grandview Heights NCP #2 is the triangle of land bounded by 24 Avenue to the north, 168 Street to the east and the Highway 99 Corridor Local Area Plan area to the west. It contains 206 individual properties and comprises some 163 hectares (402 acres). The area outlined in red shows NCP # 2 in relation to the larger Grandview Heights General Land Use Plan.

Figure 2: Grandview Heights General Land Use Plan



1.3 Planning Context

Grandview Heights General Land Use Plan and NCPs

On June 30, 2005, Surrey City Council approved the Grandview Heights General Land Use Plan, which provides the broad land use and servicing concept for the overall Grandview Heights area. The plan envisages Grandview Heights as a complete community with a mix of residential densities, small commercial nodes, community facilities, schools, parks, pathways, trees and protected areas. The General Land Use Plan defines the boundaries for five separate NCP areas.

Surrey City Council authorized the preparation of a Terms of Reference for Neighbourhood Concept Plan (NCP) #2 in Grandview Heights on April 4, 2005. Council approved the first NCP, Morgan Heights, in September 2006.

Official Community Plan

The entire NCP #2 area is designated Suburban in the City of Surrey's Official Community Plan. This designation provides for a maximum residential density of one unit per acre. The OCP also states that for Suburban designated lands indicated as having potential for urban, commercial, business or industrial development, the minimum lot area for subdivision is 0.8 hectare (2 acres).

Highway 99 Corridor Local Area Plan

The Highway 99 Corridor Land Use Plan borders NCP #2 to the west and provides for future commercial, Business Park and light industrial uses. The commercial node at 160 Street and 24 Avenue, where construction is underway, will ultimately contain up to 1.5 million square feet of commercial and services uses. The southern part of the plan area contains an important Habitat Preservation Area associated with Fergus Creek - a Class A fish bearing watercourse.

The Highway 99 Plan will provide a substantial buffer along its eastern boundary. The NCP #2 process has explored mechanisms to ensure for appropriate buffering, linkages and transitions related to new residential development, including links to the Pioneer Greenway, as well as access and landscaping at the detention pond south of the proposed Superstore site.

1.4 Planning Process & Consultation

The planning process for Stage 1 of NCP #2 has included 18 meetings with the Citizens' Advisory Committee. Other key points in the process to date include:

- A Suburban and Transitional Property Owners' Meeting on May 2, 2006;
- Inter-agency meetings on September 12, 2005 and October 23, 2006 and electronic circulation of the preferred land use concept on June 26 2007;
- A meeting with the members of the original Grandview Heights General Land Use Plan CAC on November 8, 2006;
- Meetings with all the Agricultural and Environmental Advisory Committees and the Heritage Advisory Commission;
- Three public open houses; and
- Numerous site visits, discussions with area residents, and interested stakeholders.

1.5 History and Heritage of Grandview Heights

Commonwealth Historic Resources Management Limited completed a Heritage Study for the Grandview Heights NCPs # 1 and # 2 areas. This study identified heritage resources in the area and outlined opportunities for the 'preservation, commemoration, and integration of any identified heritage features into development in these areas.

Though there was no individual building or site identified that had any heritage amenity, the consultants identified many representative examples of landscapes, subdivisions, houses, and other built and natural features that are specific to the heritage of Grandview Heights. The report states that 'the cultural landscape that is NCP # 2 and NCP # 1 has organically evolved by virtue of the many ways the land has been used.'

Features that were identified as being important from a cultural heritage perspective include:

- The property lines – having followed the boundaries of the original sections and quarter sections marked out by early surveys and subdivided from there over time;
- Unimpeded views along the roadways, with significant views from its highest points;
- Coniferous (and some deciduous) plantings demarking property lines and driveways into the properties. Mature second growth is evidenced throughout the area;
- Fencing and posts, including farm, residential, and equestrian fencing;
- A variety of streetscapes characterized by roadway patterns, roadside plantings, ornamental plantings on the residential properties.

Heritage recommendations included:

- The NCP # 2 community should take a name from the neighbourhood's history;
- Conservation: retaining some rural and semi-rural features such as retaining existing lines of trees or, alternatively, rebuilding or replanting trees in a similar fashion;
- Commemoration: Panels or plaques at specific locations or vistas to explain what was once there;
- Interpretive: Storyboards that tell the story of the area: from logging to farming to suburban to urban. These could be located in the proposed park areas or at gateway locations to the community;
- Retention or restoration of street or place names such as secondary names to numbered streets;

- Naming of the proposed park areas;
- Opportunities for Public Art either by competition or commission. Representative examples include poetry rocks and the commemorative pieces at the new Surrey Museum.

The report suggested these as opportunities to conserve a heritage element in a community that has no specifically identifiable heritage building or structure. Additionally, this type of heritage recognition can be used as part of the character and place making options for this community.

PART 2.0: PLANNING

2.1 Planning Objectives

The Stage 1 Neighbourhood Concept Plan outlines the desired future land uses for Neighbourhood #2 of Grandview Heights. This section describes the proposed land use designations and built forms, policies related to specific land uses, and illustrations of character defining elements. Together, these Stage 1 elements are intended to establish the foundation for the creation of a healthy, affordable and special place to live and work.

2.2 Planning Principles and Vision

The Grandview Heights General Land Plan, approved by Council June 30, 2005, envisages Grandview Heights:

"...as a complete community with a mix of residential densities, small commercial nodes, community facilities, schools, parks, pathways, trees and protected areas."

It also contains guiding principles for the development of individual NCPs. The principles that specifically relate to Neighbourhood Concept Plan #2 are:

- *Community Structure and Character* - tree retention, respect for the ALR and protection of key view corridors of both mountains and water;
- *Residential Land Use* - a variety of housing types with highest densities adjacent to the Highway 99 Corridor, transition densities and a review of residential densities in the vicinity of Edgewood Drive;
- *Commercial Land Use* - a commercial node at the southwest corner of 168 Street and 24 Avenue;

- *Schools, Parks, Greenways and Community Amenities* - a new elementary school associated with a park; a park area on and/or adjacent to the GVRD water reservoir, a pedestrian and bicycle circulation systems, greenways along 16, 20 and 24 Avenues and stormwater detention ponds as community amenities or as natural park areas;
- *Environment and Agriculture* -evaluation of significant forest blocks and watercourses, development methods to protect sensitive areas, buffers to ALR uses and mitigation of water runoff in accordance with a GVRD Liquid Waste Management Plan (the Fergus Creek Integrated Stormwater Management Plan);
- *Community Heritage* - celebration of historic people and events wherever possible and incorporation of community history and heritage features into the design, naming and character of new neighbourhoods;
- *Transportation* - special road and pathway standards to preserve rural character, a modified grid road system with greenways to encourage walking and cycling and to slow down traffic, appropriate treatment of 24 Avenue to ensure it does not separate the community; and
- *Servicing and Infrastructure* - drainage plans (Fergus Creek ISMP) to mitigate impacts related to land use change and a new pump station on 168 Street, at approximately 12 Avenue.

The Citizens' Advisory Committee for NCP #2 has considered these principles throughout the process. The CAC also reflected on its vision for the area including:

- Create a healthy, affordable and special place to live;
- Develop a mixed use neighbourhood;
- Create a wonderful place for people to live within walking and bike riding paths and plenty of greenery;
- Create a place that is attractive for people to work;
- Create a sustainable community of which we are all proud;
- Encourage interesting design;
- Develop at densities that support public transit; and
- Maintain the peace and quiet.

Further to Council's recent directions related to place-making, opportunities for the incorporation of "place-making" guidelines will be established for each development and into the design of public parks, open spaces, public squares and public facilities. This will add character to the area

and celebrate its uniqueness. This will continue to be explored through the Stage 2 planning process.

2.3 The Land Use Plan And Policies

NCP #2 in Grandview Heights will primarily be a residential community offering a variety of housing forms and densities. The community will have a mixed use commercial/residential node, an elementary school and three parks, and a network of trails and open spaces, as shown on Figure 1- the Stage 1 Land Use Concept. The sections below provide an overview of the proposed designations. It is expected that these will be refined during Stage 2 of the NCP process and described more fully in the final NCP document.

"Suburban Residential" and "Suburban Transitional" Designations

- Suburban Residential designation: 1-2 units per acre;
- Suburban Transitional designation: 2-4 units per acre'
- Provide a transition to the Agricultural Land Reserve in accordance with the Official Community Plan (OCP) and Policy No.O-23 ("Residential Buffering Adjacent to the ALR/Agricultural Designation)'
- A 15 metre (50 ft.) wide landscaped buffer will be required along 168 St., south of 16 Ave.;
- Single family residential lots permitted;
- Other forms of housing within the permitted density ranges may be considered (particularly on the north side of 16 Avenue)

"Urban Transitional" Designation (up to 8 units per acre)

- Along 168 Street from approximately 23 Avenue to just north of 16 Avenue;
- Allows larger lots (1/2-1/4 acre) and urban sized lots (approx 6,000 sq. ft.);
- Requires a minimum lot depth and width, a 10 metre landscaped buffer strip on the west side of 168 Street and building design guidelines to ensure an appropriate transition to the suburban lands to the east.

Low Density Residential" Designation (6-10 units per acre):

- Located roughly between 23 and 16A Avenues, and between 165A/1666 Street and 167A Street;
- Provides for standard sized residential lots and the retention and mirroring of the existing curved alignment of Edgewood Drive;
- At the request of area residents in the vicinity of Edgewood Drive, the potential for alternate housing forms in the 6-10 upa density range will be discussed at Stage 2;
- Will allow the Edgewood Drive area to remain as it is for as long as the current owners wish. Opportunities to minimize the impact on Edgewood Drive include:
 - A traffic calming plan to avoid 'rat running' from 168 through to the commercial centre
 - A minimum lot consolidation for redevelopment would be required both north and south of Edgewood Drive to minimize impact on residents desiring to stay in the community in the short to medium term.

"Medium Density Residential" Designation (10-15 units per acre)

- Located between 24 and 20 Avenues, between 164 and 166 Streets, in addition to a small area south of 18 Avenue, adjacent to the Highway 99 Corridor;
- Provides for "small" lots, including 9 metres (30 ft.) or 12 metres (40 ft.) wide;
- Can accommodate coach houses (suites above lane-access garages);
- Also provides for duplexes and some low density townhouse developments;
- Area south of 18 Ave to be explored further in terms of feasibility given land configuration, size and location.

"Multiple Residential" Designation

- 30-45 units per acre (low rise apartments), north of 18 Avenue;
- 15-25 units per acre (townhouses) roughly north of 21 Avenue.
- To avoid the isolation of any individual properties as development in the NCP area proceeds, a minimum lot consolidation will be required for the properties around 164 and 20 Avenue.

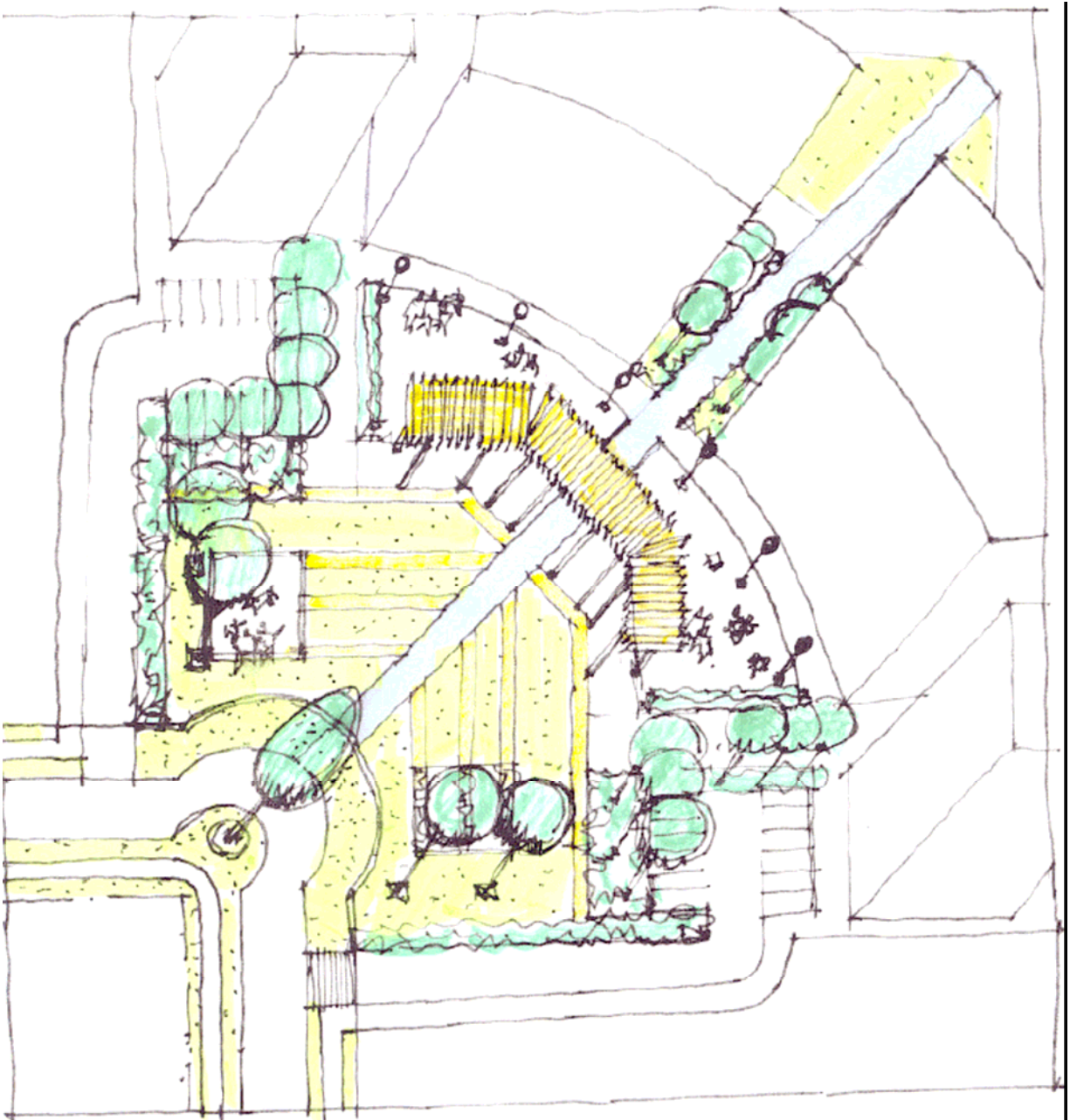
"Special Residential" Designation (15-25 units per acre)

- Located east of the water reservoir, surrounding the commercial-residential node;
- Provides for a flexible development form permitting limited and voluntary retail or service commercial uses on the ground floor of a townhouse or single family dwelling.

"Commercial Residential" Designation (25-45 units per acre)

- The commercial focal point of the neighbourhood will continue to be at the corner of 168 Street and 24 Avenue;
- The commercial-residential designation encompasses approximately five properties;
- Store front retail and office units will be encouraged on the first or second floors with residential units above;
- A public plaza that can serve as a community meeting place (see Figure 4, artist's sketch) will be required to be incorporated into the development. The plaza could be designed to celebrate the area's equestrian history and proximity to farming. This may include public art or rows of planting to emulate farm field, possibly carried through onto pattern in concrete. The plaza should also be designed to accommodate community festivals, farm markets, and other similar events.
- Future local roads that connect to 23 Avenue will have the potential to be closed off for community celebrations.

Figure 3: Sketch of Commercial Meeting Place



Elementary School Sites

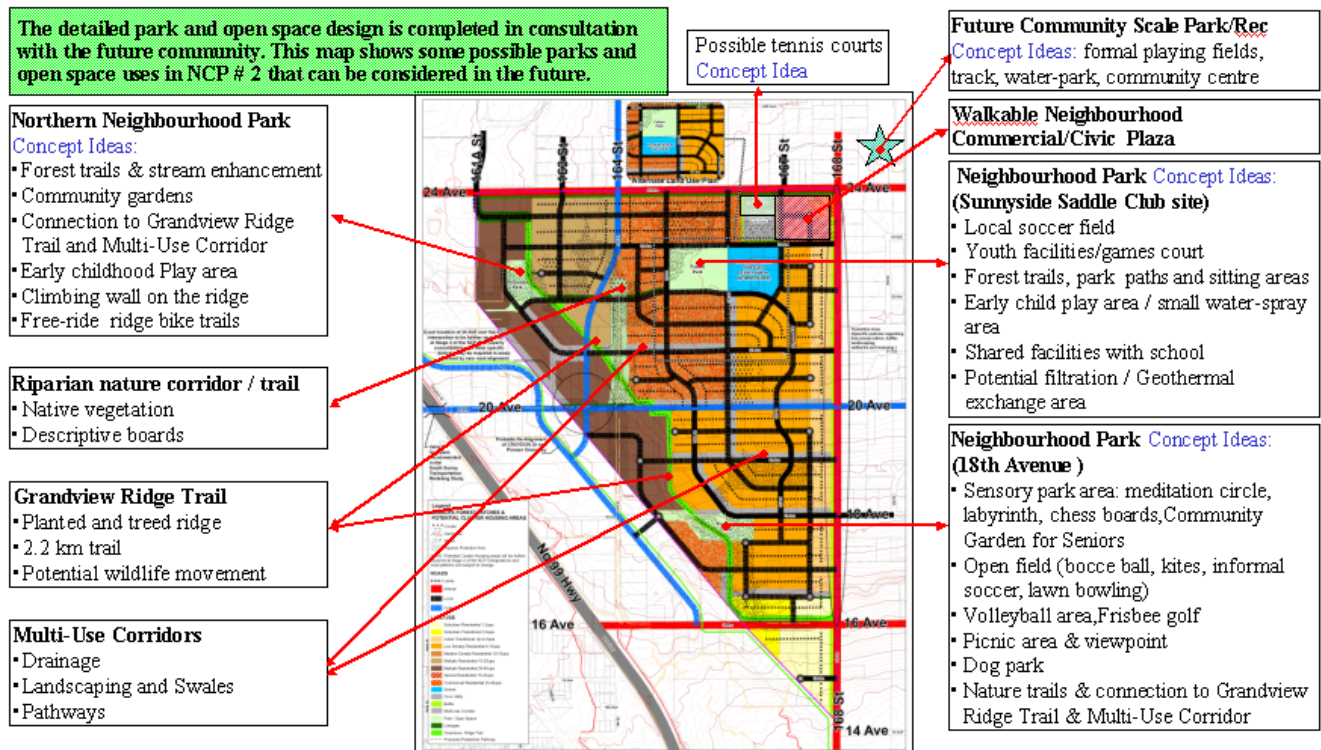
- Two potential school sites are shown: one east of the future park (Sunnyside Saddle Club) and the other to the south;
- If an alternate school location is chosen, underlying density will apply and lands (shown as preferred school site) cannot be developed until an alternate school site is deemed acceptable by the School District and the City;

- Whatever the outcome of the school site selection, there will be no road allowance between the park and school, and opportunities will be explored for shared parking and shared facilities including washrooms, shelters, and fields.

Parks, Open Space and Linkages

- Three neighbourhood parks are proposed that have direct connections to the proposed Grandview Ridge Trail, and a network of greenways, and pedestrian and bicycle pathways;
- The provision of indoor and outdoor amenity spaces is a zoning requirement;
- In multi-family areas, cash in-lieu of adequate outdoor amenity spaces such as those for children's play, ornamental, or community gardens, protection of the environment and a neighbourhood multi-use pathway (ridge linear corridor) will not be accepted. Connection to other parks will be provided in key locations:
- A Greenway will be provided along the north side of 20 Avenue. The details will be determined at Stage 2 but the Greenway could be a four metre multi-use pathway and may necessitate an additional 2.5 meters of statutory right-of-way.

Figure 4: Conceptual Park and Open Space Uses



Wildlife Forest Patches

- These areas may be retained in future parks or through **Cluster Housing** that will be further explored during Stage 2 of the NCP. Road patterns are subject to change in designated cluster areas.
- In areas identified as potential habitat and/or significant tree stands, opportunities for significant cluster housing will be encouraged and supported. Opportunities for cluster development include retaining overall gross density while establishing either a strata or neighbourhood association to maintain the remaining preserved area. In addition, the preserved area will be available to the public through easements or rights of way;
- Where clustered housing is achieved, the resulting open space may not be required to be dedicated to the City. Other forms of ownership and management, (such as homeowners' associations, land trusts, strata corporations) may be encouraged;

Multi-Use Corridors

- These corridors will combine drainage, recreational and aesthetic functions. These are more fully described in Section 3.0 of this Plan.

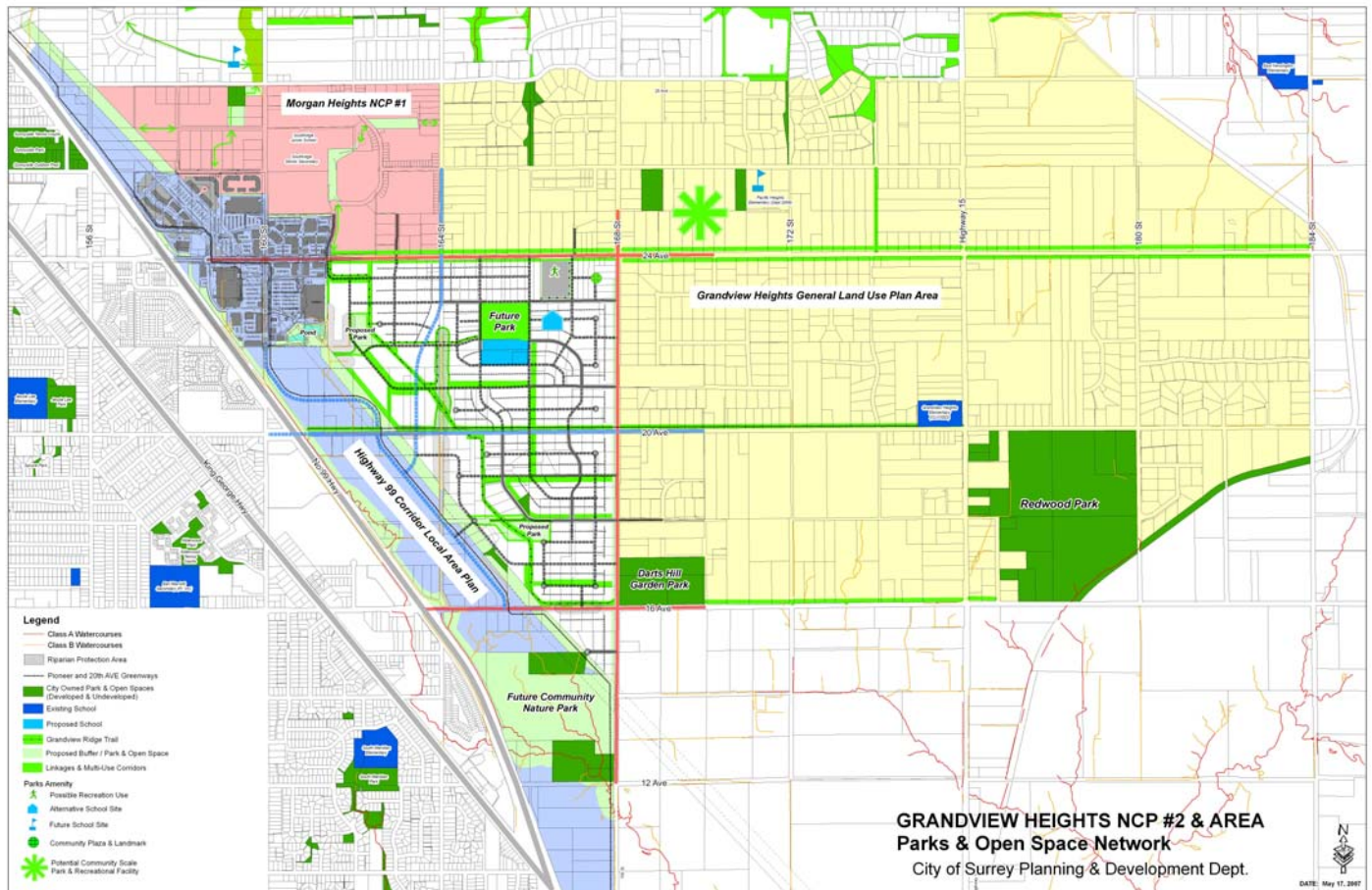
Figure 5: Sketch of Multi Use Corridors



Civic Utility

- This plan provides for a City utility maintenance and materials storage depot on City-owned land on 24 Avenue (south of the existing GVRD reservoir and City pumping station) subject to appropriate access and buffering from adjacent residential uses. This facility 20th Avenue will only have access to and from 20th Avenue, or to the future north-south street to the east of the site, and will be used during standard operating hours except in emergency situations. Driveway access shall be from 24 Avenue and should be located as westerly as possible so as to retain trees and a buffer area on the east side of the property.
- Clustering of structures and uses will be explored, with a view to retaining the important forest patch identified on the southern portion of the City-owned property. A tree integrity study may be required.
- Possible hard surface recreational uses such as tennis courts on the top of the reservoir will continue to be explored subject to water safety & security issues being addressed;
- Development of the site shall be done in a way that recognizes the importance of the area in the structure of the community; or contributes to the character of the area...

Figure 6: Grandview Heights NCP # 2 and Area Parks and Open Space Network



Grandview Ridge Trail

- This will be a 2.2 kilometre (1.3 mile trail), to be located at the top of the slope, connecting northern and southern parts of the plan area;
- The Trail will be located in a 20 metre wide corridor, with statutory right-of-way for public passage;
- In Multiple Residential designations, land will be provided by developments on both sides (half and half) and will be achieved through a right-of-way for public passage;
- Properties affected by the Trail will be able to have this density transferred to the remaining portion of the lot;
- In single family (urban and suburban transitional) areas, south of 18 Avenue the Trail will run through part of a park and link to Highway 99 Plan area, Pioneer Greenway, & run along north side of 16 Avenue to 168 Street in the form of a statutory right-of-way for public passage;
- Further details, including cross sections will be developed during Stage 2 of the NCP;
- The potential to dedicate the Trail as an unopened road in order to accommodate future sewer utilities may be explored at Stage 2 of the NCP. In such a scenario, it is anticipated that the 20 metre road right of way will be used partially as a right-of-way for sewer line and future sewer line access. However, the Grandview Ridge Trail will be left as natural vegetation where possible, and landscaped as a neighbourhood walking trail and amenity not withstanding the required occasional access by City crews for sewer maintenance;
- There may be a need for consolidation or to land banking to obtain a right-of-way in strategic locations
- Special design guidelines will be developed for residential developments adjacent to the Trail;
- Place-making characteristics to be further explored at Stage 2 of the NCP.

Figure 7: Sketch of Grandview Ridge Trail



Transition and Buffer Areas

- In order to provide an attractive streetscape along 168 Street, and to provide a transition between Urban residential densities in this Plan and Suburban densities to the east, lots along 168 Street shall have a minimum lot depth and width, larger than normal lots in order to provide for larger house set backs from 168 Street and for substantial landscaping and buffering. Access will be provided by way of rear lanes.

Design Guidelines

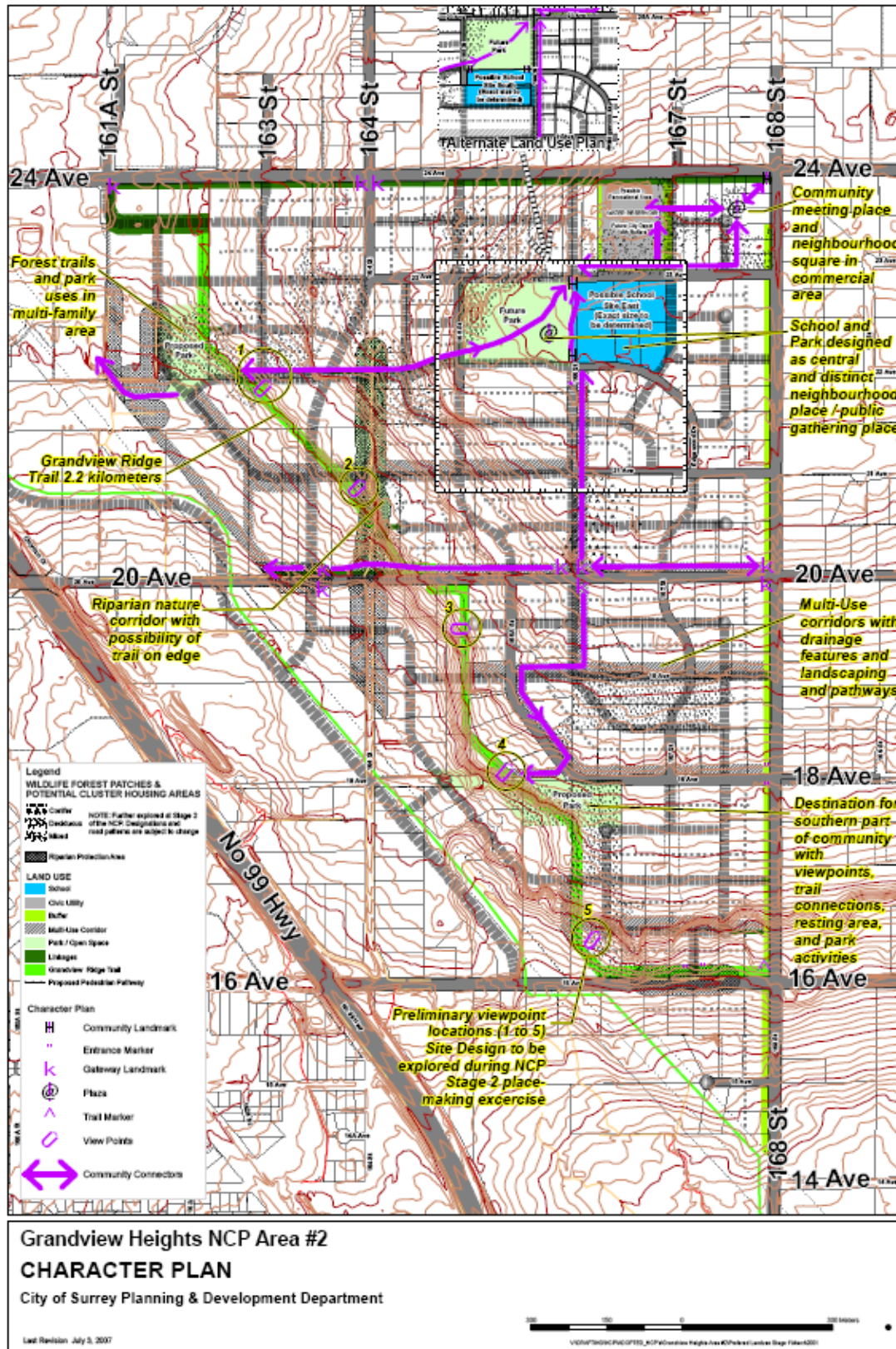
- Design guidelines will incorporate heritage design features where possible, including but not limited to, equestrian style fencing, rows of trees, signature trees, and maintenance of the important views in the neighbourhood;
- A view corridor analysis will be completed for areas deemed to have views worth preserving. Opportunities for commemoration and celebration of these views will be encouraged.

2.4 Character Plan

A preliminary character plan for NCP#2 has been developed and is shown in Figure 8. The plan includes the following features:

- Gateway landmarks at key entrance points into the community along 24 Avenue at 161A Street and 164 Street, and on 20 Avenue and 164 Street and 168 Street; these landmarks may consist of landscape features complemented by guidelines for the buildings that will anchor these entrances and will be further considered at Stage 2 of the NCP;
- entrance markers at secondary access points into the neighbourhood, including the intersections of 167 Street and 16 Avenue and 168 Street and 18 Avenue;
- a neighbourhood in the vicinity of 168 Street and 24 Avenue and a public square/gathering place to be designed and integrated into the future park site at 23 Avenue and 166 Street;
- trail markers at the entrances to the Grandview Ridge Trail;
- viewpoints with seating areas along the Grandview Ridge Trail where the southwestern exposure grants views toward the ocean and the Semiahmoo Peninsula; at least five viewpoint locations have been identified at this time; during Stage 2, specific guidelines that capture the essence of the terrain will be considered;
- community landmarks at significant visual locations such as 168 Street and 24 Avenue; and
- “community connectors” that identify key pedestrian routes to connect the communities together.
- As part of the Stage 2 planning component for this NCP, a series of "place-making" guidelines will be developed, to be applied to each development at the Development Permit and/or subdivision stage and to the design of public parks and open spaces and to public facilities.

Figure 8: Grandview Heights NCP #2 Preliminary Character Plan



2.5 Population And Dwelling Unit Projections

Table 1: Low / High Projections with Eastern School Site

Land Use	Acres	Units (Low)	Population (Low)	Units (High)	Population (High)
Suburban Residential 1-2upa	10.77	11	35	22	69
Suburban Transitional 2-4upa	4.47	9	29	18	58
Urban Transitional up to 8upa	17.23	103	333	138	444
Low Density Residential 6-10upa	66.36	398	1,283	664	2,139
Medium Density Residential 10-15upa	42.28	423	1,308	634	1,962
Special Residential 15-25upa	4.87	73	226	122	377
Multiple Family Residential 15-25upa	22.55	338	1,046	564	1,744
Commercial Residential 25-45upa	1.88	47	101	85	181
Multiple Residential 30-45upa	44.30	1,329	2,846	1,994	4,268
Multi-Use Corridors	19.65	-	-	-	-
Grandview Ridge Trail	10.57	-	-	-	-
Civic Utility	5.01	-	-	-	-
Linkages	5.51	-	-	-	-
School (southern site)	5.97	-	-	-	-
Buffers	5.20	-	-	-	-
Parks & Open Space	22.45	-	-	-	-
Grand Total	289.06	2,731	7,207	4,239	11,242

Table 2: Low / High Projections with Southern School Site (Alternate)

Land Use	Acres	Units (Low)	Population (Low)	Units (High)	Population (High)
Suburban Residential 1-2upa	10.77	11	35	22	69
Suburban Transitional 2-4upa	4.47	9	29	18	58
Urban Transitional up to 8upa	17.23	103	333	138	444
Low Density Residential 6-10upa	60.48	363	1,169	605	1,949
Medium Density Residential 10-15upa	46.91	469	1,451	704	2,177
Special Residential 15-25upa	4.87	73	226	122	377
Multiple Family Residential 15-25upa	22.55	338	1,046	564	1,744
Commercial Residential 25-45upa	1.88	47	101	85	181
Multiple Residential 30-45upa	44.30	1,329	2,846	1,994	4,268
Multi-Use Corridors	19.66	-	-	-	-
Grandview Ridge Trail	10.57	-	-	-	-
Civic Utility	5.01	-	-	-	-
Linkages	5.51	-	-	-	-
School (eastern site)	7.69	-	-	-	-
Buffers	5.20	-	-	-	-
Parks & Open Space	22.86	-	-	-	-
Grand Total	289.95	2,742	7,236	4,249	11,268

2.6 Environmental Assessment

ENKON Environmental Limited was retained by the City to inventory fish, wildlife and vegetation resources and identify any environmentally sensitive areas within the NCP area. The consultant reviewed all relevant environmental reports and also conducted a total of 6 biological surveys during the fall of 2005 and the spring of 2006.

Wildlife Corridors

Connectivity analysis was completed for the overall Fergus Creek Watershed in the Integrated Stormwater Management Plan and important wildlife movement corridors were identified within this analysis related to Plan Area 2.

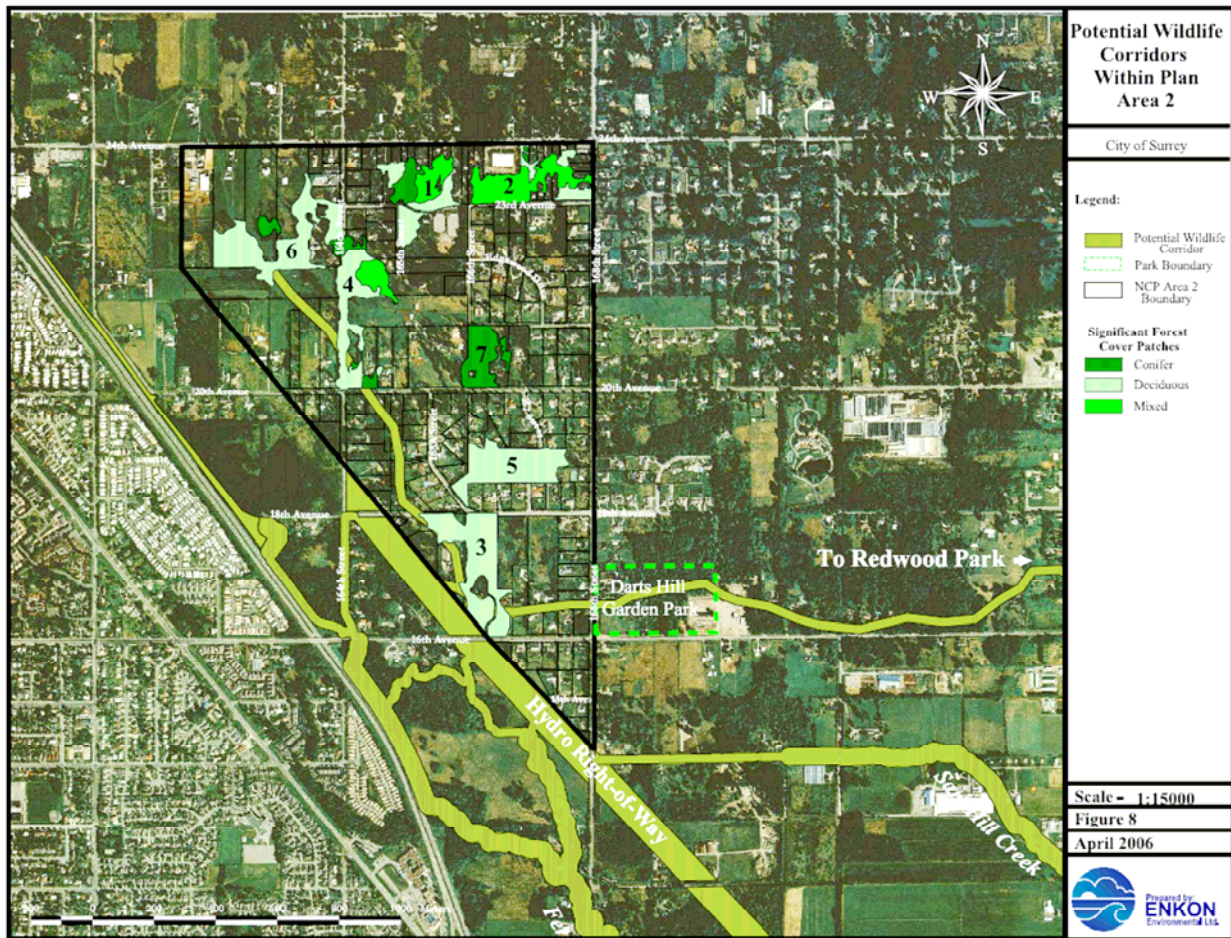
This corridor is envisaged as a component of the Grandview Ridge Trail. While narrower than a wildlife corridor, it still provides connectivity through the community and between habitat patches including the proposed parks, Dart's Hill Park, and the Fergus Creek Habitat Preservation Area.

Significant Tree Patches

Seven stands of trees ranging in size from 2.0 – 5.4 Hectares were identified and rated on a scale of 0-10 (10 being the highest) related to habitat value protection value. These tree stands are shown on Figure 9.

Opportunities exist to protect all or portions of these tree stands through the use and encouragement of Cluster Housing forms which would maintain gross densities, but cluster development in a manner that protects as many trees as possible.. These opportunities will be investigated more thoroughly through the Stage 2 component of the Neighbourhood Concept Plan.

Figure 9: Significant Tree Patches



Streams and Stream Classifications

A complete assessment of watercourses was undertaken and some watercourse were reclassified as shown of Figure 10. The most significant watercourse runs along the unopened road allowance of 164 Street. This is a Class B (Yellow coded) watercourse – Significant food/nutrient value, with no fish present.

Class C (Green coded) watercourses have insignificant food/nutrient value, no fish present

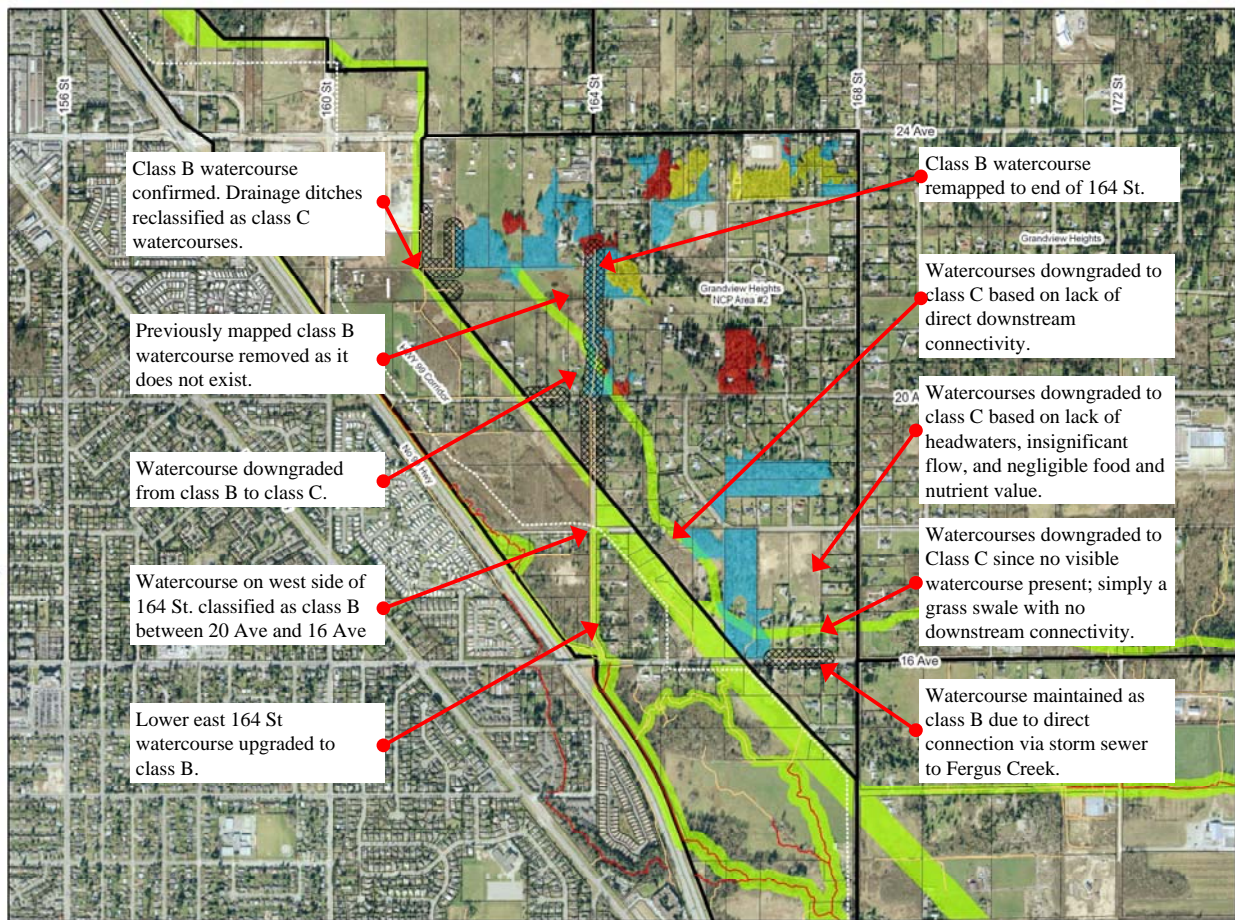
Class A, A(O) and B watercourse are regulated under the federal Fisheries Act and as such require Fisheries and Oceans approval for any modification of in-stream or riparian habitat. Class C watercourses may or may not be regulated under the Fisheries Act.

Setbacks for streams regulated under the Fisheries Act were determined using the Simple Assessment Methodology from the provincial Riparian Areas Regulation. The protocol for determining setback widths using this method is outlined in the following table. At Stage 1, the 30 metre setback shown from Class A and B watercourses.

It is noted that if there is any use of City-owned riparian areas to provide habitat compensation for development in the area, the City of Surrey will be required to be compensated for the full value of the compensation received.

Vegetation Category	Streamside Protection and Enhancement Area Width (m)		
	Fish Bearing	Non-Fish Bearing	
		Permanent	Non-Permanent
Category 1 (Average of greater than 15m wide)	30m	30m	- Minimum 15m - Maximum 30m
Category 2 (Average 10-15m wide)	- Minimum 15m - Maximum 30m	15m	
Category 3 (Average of less than 10m wide)	15m	- Minimum 5m - Maximum 15m	

Figure 10: Riparian Areas Map



PART 3.0: PRELIMINARY ENGINEERING SERVICING PLAN/GENERAL SERVICING ISSUES

At Stage 1, transportation and servicing to accommodate the proposed amendments have been reviewed to ensure that the requirements for transportation, water, sanitary sewer, and storm drainage can be resolved to support the proposed land use concept as part of the Stage 2 review.

3.1 Water

This NCP is within the servicing area of the GVRD South Surrey Transmission Mains, Grandview Reservoir and Grandview Pump Station, which have adequate capacity to supply water to this NCP area.

The topography requires that the NCP be subdivided into two pressure zones. The higher pressure zone, bounded to the west by the BC Hydro Right-of-Way and south by 17 Avenue, will be serviced by Grandview Pump Station via a recently completed feeder main on 24 Avenue from the pump station to 164 Street. Most of the existing water mains within the NCP area are small diameter pipes and the developments will be required to construct local and major grid water mains within the high pressure zone area.

The lower pressure zone, located south of 17 Avenue, will be separately serviced by a gravity main system from the Grandview reservoir. Part of the gravity main system, specifically a new feeder main, may be constructed by the Douglas NCP developments, of which the City funds the feeder main upsizing. The precise alignment of this feeder main is currently under review. This feeder main will have adequate capacity to service the Grandview Heights Area #2 NCP. Most of the existing water mains within the NCP area are small in size and the developments will be required to construct local and major grid water mains within the low pressure zone area similar to that of the high pressure zone area.

In order to enhance and maintain optimum water quality, all water mains within this NCP area will be required to loop and no dead end will be allowed.

3.2 Sanitary Sewer

There is no existing sanitary sewer system in this NCP area and the existing homes are connected to septic fields. A large capacity sewer recently constructed on 160 Street north of 24 Avenue was installed to service the anticipated demand from this NCP area and other areas, and convey flows to the Grandview Heights Interceptor.

A significant northern portion of the NCP area can be serviced by gravity to this trunk interceptor. However, additional infrastructure is needed in order to provide sanitary servicing to the entire NCP area. This includes:

- A sanitary pump station near 13 Avenue and 168 Street; and

- A force-main and additional trunk interceptor to connect the future pump station to the existing sanitary sewer north of 24 Avenue at 160 Street.

In addition to servicing the rest of this NCP area, the pump station will service the future Grandview Heights NCP Area #3 and southern portions of Area #5. A series of local gravity sewers will flow to the existing and future interceptors and the future pump station.

The challenges to servicing this NCP area include financing of the pump station and forcemain, and securing a corridor for the additional interceptor. For funding, a levy may be considered for the whole NCP area, including areas serviced by gravity to the existing interceptor, and possibly for Area #3 to finance the required sanitary infrastructure. Where possible, a common corridor will be assessed for the new interceptor in order to share the space with other engineering services. These details will be outlined more in Stage 2.

3.3 Storm Drainage

This NCP area is in the Fergus Creek watershed. All runoff generated in this study area flow into Fergus Creek which is a fish-bearing watercourse. The Department of Fisheries and Oceans has indicated that traditional means of stormwater drainage, whereby impervious areas are directly connected to the storm sewer system and post-development flows are discharged into the creek with minimal control, is not acceptable. Currently, this NCP area is largely characterized by low-density rural land use which provides the opportunity to include stormwater innovation in future development plans.

For the overall watershed, the Fergus Creek Integrated Stormwater Management Plan (ISMP) is nearing completion and is one of Surrey's first ISMPs. An ISMP is a comprehensive plan to balance land use planning, stormwater engineering, flood and erosion protection, and environmental protection. It is a plan required for all watersheds within the Greater Vancouver Regional District (GVRD) under the GVRD's Liquid Waste Management Plan.

Historically, stormwater management planning began as part of the land use planning process. Its primary function was to identify the infrastructure needed to support the development of cities and towns. It was not originally intended to assess or mitigate the impacts of development. Today's stormwater management planning has expanded significantly to become a comprehensive approach to also include the preservation and utilization of resources within a watershed. It is intended to balance the land use needs with the natural values and functions of the watershed. The recommendations from the Fergus Creek ISMP draft report have been incorporated in the Stage 1 process of this NCP and will be further detailed in Stage 2.

To mitigate typical development impacts such as downstream flooding, stream erosion, and diminishing summer baseflows in the creek, selected runoff-control Best Management Practices (BMP) are proposed for implementation in this NCP area. These include:

- **Roof Leader Disconnection:** enforce roof leader disconnection for all single family detached buildings in accordance with Surrey's Development Control Bylaw;

- **Top Soil Preservation and Augmentation:** ensure a minimum soil depth of 150 mm is present over all pervious areas in the NCP area. The Fergus Creek ISMP analysis indicates that the single most effective system that can reduce stormwater runoff is an enhanced top soil layer on pervious areas. Typical development practice is to remove all materials, including soil and vegetation, from a site that cannot be used for backfill. The useable top soil should be retained on-site and amended to provide a valuable plant growth media and reduction in drainage runoff; and
- **Enhanced infiltration infrastructure:** utilize infiltration as an effective means to reduce runoff volume entering the downstream creek system.

Due to the high erosion potential in Fergus Creek, stormwater detention facilities such as detention ponds are unlikely to adequately mitigate post-development stream erosion. The controlled flow rate provided by detention ponds aims to reduce post-development peak runoff to a rate similar to the pre-development condition. However, the resultant pond discharge rate is generally higher, more frequent, and having a longer duration than the existing stream channel can manage without causing erosion. Instead of implementing stormwater detention facilities in this NCP area, the key stormwater management feature for this area is the use of enhanced infiltration systems. This approach is supported by the modeling results.

Enhanced infiltration systems are intended to mimic a natural system by reducing the volume of runoff entering streams and creeks. The systems may include rain gardens, infiltration swales with storage, surface or subsurface storage, infiltration ponds, and underground infiltration galleries. These features will be incorporated into the NCP's design guidelines both for private lots and on municipal road right-of-ways. Also many of these infiltration systems are to be located within the "multi-use corridors" identified on the Stage 1 Land Use Plan.

In addition to drainage infrastructure, these multi-use corridors will be vegetated and contain pedestrian and cycling paths. These green corridors will become unique signature features of this NCP area and contribute to the neighbourhood's livability as an appealing amenity. The preliminary extent and dimension of these corridors may be up to 40m wide covering an area of up to 10% of the watershed. Refinements to the alignment, width, and design details of the multi-use corridors will be completed in Stage 2 of the NCP process.

The funding details for the multi-use corridors will be determined in Stage 2. However, the preliminary concept is to ensure that funding for this stormwater drainage infrastructure is equally shared amongst the future developed lots throughout the NCP area much like the City's approach with financing traditional detention ponds. Mechanisms to secure and construct these corridors will be proposed in Stage 2.

3.4 Transportation

The road network hierarchy remains unchanged in the Grandview Heights Area #2 NCP and the remaining transportation network will be built around fundamental improvements such as:

- Provide a continuous grid local road network to improve neighbourhood vehicular and pedestrian connectivity;
- Require exclusive back lane access for arterial collectors and most through local roads;
- Design 168 street as an urbanized arterial and protecting existing trees whenever possible;
- Protect the efficiency and safety of arterial roads through pre-established local road turning restrictions, such as right-in right-out at 17 Avenue and 168 Street;
- Establish multi-use pathways on the south side of 24 Avenue and north side of 20 Avenue for pedestrian and bicycle movements;
- Maintain the ability for future transit routes along 20 Avenue and 164 Street through the provision of bus bays;
- Require single family lots developed at 15 units per acre (i.e. RF-9 and coach-house lots) to provide additional parking in order to address future post-development parking demands. This can be achieved preferably through on-street measures such as parking on both sides of the road. The final NCP document will contain specific policies related to on-street parking;
- Restrict direct access from 24 Avenue, 168 Street, 20 Avenue and 16 Avenue to accommodate improved efficiency and safety along these roads; and
- Provide for a traffic control and management plan, which will calm internal traffic through curb bulges and traffic circles.

During the Grandview Heights # 2 NCP process a concurrent, but independently commissioned, South Surrey Transportation Model was performed based on planned future build-out for the year 2031. The model found that there will be high demands on 24 Avenue and 16 Avenue. If no other transportation corridors are provided, these two roads would require widening beyond a 5-lane arterial standard to alleviate the traffic demand. An alternative to widening these two roads to 6-lanes is to construct an overpass on 20 Avenue across Highway 99. This is expected to relieve the congestion, particularly if a standard 4-lane arterial is used between Croydon Drive and King George Highway. The 20 Avenue overpass would also better accommodate internal South Surrey trips between Grandview Heights #2, Semiahmoo Town Centre, and the Grandview commercial centre.

A conceptual design was developed for Croydon Drive to provide for the grade separation of the 20 Avenue overpass and feasibility of development, is adjacent to the BC Hydro corridor. This is to accommodate intersections with 20 Avenue and 164 Street, which will assist traffic movement for the Grandview Heights # 2 area. An amendment to the Highway 99 Corridor Land Use Plan will be required in conjunction with Grandview Heights # 2 NCP to detail these changes.

Due to the topography and the environmental sensitivity in the 164 Street right-of-way, a western realignment of the future 164 Street will be required. This major road realignment accommodates:

- Improved sight visibility at the intersection of 20 Avenue;
- Protection of a yellow-coded "Class B" watercourse which exists in the right-of-way; and
- Reduced grades on the future 164 Street.

Alternatives were explored such as an eastern realignment and remaining in the existing right-of-way by re-profiling 20 Avenue. However, these alternatives are either cost prohibitive or provide no improvement to road grades and safety issues. A minimum parcel consolidation area is recommended to make development along 164 Street cost effective.

PART 4.0: IMPLEMENTATION (to be done at Stage 2 of the NCP)