



# Corporate Report

NO: C014

COUNCIL DATE: September 12,

2005

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## COUNCIL IN COMMITTEE

TO: **Mayor &  
Council** DATE: **August 10,  
2005**

FROM: **General Manager,  
Engineering** FILE: **6520-20  
(NGNCP)**

SUBJECT: **North Grandview Amendment Neighbourhood  
Concept Plan (NCP)  
Engineering and Financial Strategies**

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## RECOMMENDATION

1. That Council adopt the engineering servicing and financial strategies as outlined in this report and as specified in the North Grandview Amendment NCP Servicing Report, as a means of managing engineering services for this neighbourhood.
2. That the DCC eligible infrastructure items for transportation in this report be added to the 10 year plan.
3. That the DCC eligible items for sewer, water and drainage be added to the 10 year plan in conjunction with a development works agreement for the financial shortfall.

## INTENT

The purpose of this report is:

1. To provide Council with an overview of the engineering servicing and financial strategy for the North Grandview Amendment NCP.
2. To provide Council with a brief of the comprehensive engineering servicing report as prepared by Aplin & Martin Consultants Ltd.

## BACKGROUND

Council approved in principle the Proposed Land Use Concept Plan for the North Grandview Heights Amendment NCP Study Area on May 18, 2005. A number of engineering and financial issues were to be resolved as part of the Stage 2 North Grandview Heights Amendment NCP report. The North Grandview Heights Amendment NCP has now been completed based on the Proposed Land Use Concept Plan.

## DISCUSSION

An engineering servicing analysis and financial plan for the North Grandview Heights Amendment NCP has been completed. This full report which includes detailed engineering analysis, services layout and financial analysis, is available in the Engineering Department.

Only those works which could be added to the Development Cost Charge (DCC) program, such as major trunk sewer and water grid mains, major collector and arterial roads and major stormwater management infrastructure, are discussed in detail in the report. The report does not deal with localized site servicing as they are the requirements of individual developments and need to be done in conjunction with their application.

## **Sanitary Sewer**

Most of the NCP area is currently serviced by septic field systems. The proposed Grandview Height Interceptor, running from 152 Street to 172 street along the 40 to 62 metre contours (north 28 Avenue), as shown in the attached Figure 1, will service areas south of the Interceptor up to the ridge south of 24 Avenue. An upgraded Morgan Creek Sanitary System will service the areas north of this Interceptor and west of 168 Street.

The design and acquisition of the right-of-way for the Phase One of the Interceptor, west of 160 Street has been initiated. The right-of-ways for the remaining sections of the Interceptor will be secured during the development application stage. The City is currently extending the Rosemary Height Pressure Sewer along Highway 99 from 36 Avenue as part of its overall sewer capacity upgrading works which will provide for the necessary connection of the Interceptor at 32 Avenue.

The proponent for this NCP or the Grandview Heights #1 NCP proponents will be required to front end the construction of the Interceptor from 152 Street to 160 Street before development south of the interceptor can proceed. For areas north of the interceptor, the proponents will be required to front end the upgrades to the Morgan Creek pump station.

## **Water**

Water supply to this NCP is currently provided by several un-looped water mains. The western portion of the NCP area is serviced from a 300mm diameter water main, via a 150mm diameter crossing Hwy. 99. The eastern portion, separated into three separate areas, is independently supplied from local mains fed from the Grandview Pump Station via pressure reducing valves. These supply sources do not have sufficient capacity to service the proposed NCP. A new 600mm diameter gravity feeder main is required to convey water from the Grandview Reservoir along 24 Avenue and 160 Street to service this NCP area. The new feeder main will also provide a second supply source to the Morgan Creek area. A network of major grid and local mains is required to loop the different portions of the NCP as shown in Figure 2. Water mains will be looped to provide fire flows and improve water quality.

## **Transportation**

The major road network substantially exists within the NCP area to interim conditions. The reclassification of 160 St to Arterial Road status was endorsed during the Stage 1 Corporate Report. Funding for the upgrading of the major road network is provided for as part of this NCP's Infrastructure Financing. The proposed transportation network is shown in figure 3.

The NCP has proposed to generally utilize the City's neo-traditional road standards, modified where necessary to support sustainability principles. The area will have two proposed feature roundabouts that will require additional property dedication and further design consideration at the time of individual development applications.

A comprehensive traffic calming plan has been developed for the NCP amendment area which includes provisions for traffic calming elements. At the time of development, it will be necessary to define the specific measures from this plan. Traffic calming elements outside of the NCP amendment area will also need to be coordinated in conjunction with development where new road segments tie-in to existing neighbourhoods of the original NCP.

## **Drainage**

This NCP drains to four creeks: Morgan Creek, Wills Brook, April Creek, and a minor creek. These drain to the lowlands of Old Logging Ditch a tributary to the Nicomekl River. The North Grandview Heights NCP servicing plan completed in 1999 provided recommendations for servicing the area based on a predominantly suburban land use. The current study will address the impacts associated with increased densities on both the creek systems and the lowlands.

The individuals development with this NCP will use a combination of source controls including but not limited to infiltration gardens, rainwater detention, supplemental topsoil, and permeable pavement, along with diversion systems to control increases in storm runoff flows and total volume. These measures will reduce the erosion in the tributary creeks and control the potential for lowland flooding.

Improvements to the Old Logging Ditch lowland drainage system proposed in the Old Logging Ditch Functional Plan are adequate to deal with the proposed land use changes. Some of the key components of infrastructure are shown in figure 4 and will need to be completed before development may proceed. These will be highlighted to proponents through the application process.

## Parkland Acquisition

In keeping with its Parks Recreation and Culture Master Plan the City provides parkland on a population basis for different park types. At present in Surrey parkland is categorized into five different types including: neighbourhood parks, community parks, city parks, nature preservation and linkages and urban forest. Community Parks and City Parks are provided on a community and citywide basis. Based on current market values it is anticipated that approximately \$10,000,000 is required to meet the overall parkland acquisition requirements of the North Grandview Heights Amendment Area (including both local and city wide parks). Neighbourhood Concept Plan. Development cost charges from this NCP will be utilized not only to acquire the neighbourhood parks shown in the land use concept plan but also to acquire community and city scale parks and nature preservation and linkages in adjacent locations. Land values change with market fluctuations so actual acquisition values will vary.

### Development Phasing

The NCP report identifies that the area is anticipated to develop in two phases over a projected timeframe of nine years.

The first phase will be dependent upon the construction of the following major infrastructure before development can occur.

- The first phase of Grandview Heights Interceptor Sanitary Sewer Trunk from approximately 32 Avenue and 152 Street to 28 Avenue and 160 Street.
- A low-pressure water main from the proposed Grandview Heights Reservoir along 24 Avenue to 160 Street and then north on 160 Street to 28 Avenue.
- Trunk storm sewer works north of this NCP on 160 Street and 32 Avenue including improvements to the lowland drainage system.

The construction of the above major works and services will allow the other phases to proceed and in turn finance subsequent phases of servicing as the market demands allow.

### Financing

A comprehensive financial analysis is included in the NCP Amendment engineering report. The details of all the necessary DCC infrastructure have been

## identified and the costs are included.

The following table summarizes the projected DCC revenues and construction costs for each engineering service. The revenues are based on the current DCC by-law. Growth projections are based on the densities proposed in the NCP Amendment document for a total of 1572 units.

**Projected DCC Revenues and Expenditures at Buildout**

<b>Services</b>	<b>Projected DCC Revenue</b>	<b>Projected DCC Expenditures</b>	<b>Surplus/ (shortfall)</b>
Water	1,353,000	2,274,600	(921,600)
Sanitary Sewer	1,315,000	2,285,700	(970,700)
Storm Sewer	3,404,500	4,965,400	(1,560,900)
Major Collector	1,624,200	643,500	980,700
Arterials	6,454,800	4,777,500	1,677,300
Park Acquisition	10,687,400	10,000,000	687,400

As shown in the table above, although there are surpluses for transportation infrastructure which will be used to upgrade roads external to the area however, funding for sanitary sewer servicing, drainage and water have significant shortfalls in this NCP area. Using the surplus in one service area to offset the shortfall in another is not consistent with Surrey's current DCC by-law as each service area has its own separate accounts and is funded on a City wide basis.

The shortfalls can be dealt with by applying an area specific charge in addition to the current DCCs or by putting the burden of covering the shortfalls on the first developer. The proposed charges would vary from land use to land use based on anticipated demand (this approach was used in developing the various DCC rates for each land use). For water the proposed area specific charge would be equivalent to approximately \$665 for a single family lot. For sanitary sewer servicing the proposed charges would be equivalent to \$700 for a single family lot. For drainage, the proposed levy would be equivalent to approximately \$1300 for RF-12 lots. A possible mechanism to create the area charge would be a development work agreement which has been used by developers in other NCPs.

## CONCLUSION

The infrastructure proposed in this report will support the land use proposed in the North Grandview Amendment Neighbourhood Concept Plan. The financial strategy proposed is in accordance with Council's policy respecting the developer-pay principle and requiring each NCP to be financially self-sufficient.

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