



Corporate NO: C406

Report COUNCIL DATE: Dec. 14, 1998

COUNCIL-IN-COMMITTEE

TO: Mayor & Council **DATE: December 9, 1998**

FROM: Acting General Manager, Engineering **FILE: 2350-010**

SUBJECT: North Grandview Heights Neighbourhood Concept Plan Stage 2 Report

RECOMMENDATION

It is recommended that Council:

1. Approve the engineering servicing and financial strategies as specified in the North Grandview Heights, General Area and Neighbourhood Concept Plan Engineering Report as the means of managing engineering services for this neighbourhood.
2. Authorize staff to prepare an amendment to the Subdivision and Development By-law, No. 8830 to include a rural major collector road standard unique to the North Grandview Heights Neighbourhood Concept Plan area.

INTENT

The purpose of this report is:

1. To provide Council with an overview of the engineering servicing and financial strategies for the North Grandview Neighbourhood Concept Plan (NCP) Study Area and Plan Area;
2. To provide Council with the comprehensive engineering study as prepared by Urban Systems Ltd. for their information;
3. To inform Council of the necessary engineering surcharge to fund the servicing costs for the NCP Plan Area; and
4. To inform Council of the resolution of the significant engineering issues raised during the Stage 1 NCP process.

BACKGROUND

Council approved in principle the Proposed Land Use Concept Plan for the North Grandview Heights (Stage 1 NCP) Study Area on June 23, 1997, and authorized staff to proceed with the Stage 2 NCP process. A number of engineering and financial issues were to be resolved as part of the Stage 2 report. The engineering Stage 2 analysis has now been completed based on the land uses approved by Council. The focus of the Stage 2 report is the smaller Plan Area. Servicing for the entire Study Area is also provided. (Please see Figure 1.0 attached for extent and location of the different areas.)

DISCUSSION

Our engineering consultant has completed a *general* engineering servicing and financial plan for the North Grandview Heights Study Area (339 ha.). A *detailed* engineering servicing plan, phasing and financial analysis has been completed for the Plan Area. The Plan Area is 180 ha in size.

The detail engineering analysis further reduced this Plan Area by investigating servicing costs for only those properties which can be serviced by the existing City sanitary pump station located north of the Plan Area on 160 Street in the Morgan Creek residential subdivision. The details of the engineering analysis are contained in a separate report available in the Engineering Department.

The engineering services discussed in the report relate to major infrastructure. Only those works which could be added to the DCC program such as major trunk sewers and water grid mains, major collector and arterial roads and major stormwater management infrastructure are discussed in detail in the report. Localized site servicing requirements of individual developments are not analyzed in the report.

Sanitary Sewer

To service the complete Study Area, the future North Grandview Interceptor is required (Figure 1.0). This gravity sanitary sewer main is necessary to service all the land south of the proposed alignment and land east of approximately 168 Street. The interceptor alignment starts at approximately the 41m contour at Highway #99 and gradually rises as it moves east to the intersection of 28 Avenue and 176 Street. Details of the proposed alignment are included in the report. This interceptor sewer is proposed to be built beyond the next 10 years. The timing of this interceptor limits the serviceable area to approximately 140, one acre and one acre gross units. The Plan Area will accommodate approximately 270 dwelling units once the North Grandview Interceptor is constructed.

To service the reduced Plan Area, minor sanitary sewer upgrades are required. The only trunk service upgrade required is a minor improvement to the existing City pump station on 160 Street and 37 Avenue.

Water

To service the Study Area, a number of major water mains are required. Important to the development of this area and the further development of Rosemary Heights is a large water main on 152 Street. This main will be built by development as and when required and is part of the DCC program. Also required to service the Study Area are various water mains internal to both the Study and Plan Area. To service the reduced Plan Area, both the 152 Street water main and mains on 164 Street and 31 Avenue are required. These services are DCC items. Other minor works are also required.

Transportation

A transportation study was completed as part of the engineering report. Arterial and collector roads were reviewed and where necessary upgrades or additional elements have been identified. Arterial roads include

32 Avenue, 24 Avenue, 168 Street and 176 Street. Major collector roads include 160 Street, 164 Street, 28 Avenue and 26 Avenue. The details of the necessary works are included in the report.

Of significance to the reduced Plan Area is the road standard for both 160 Street and 164 Street from 32 Avenue to 28 Avenue. During the study it was determined that with the one acre residential density, these roads function more as rural than urban roads. As such, it is recommended that a rural road standard be retained in this area until such time as the land use density justifies a more urban road standard. The suggested road standard is the same as required for collector roads in the Panorama area. The details of the standard are included in the report. Staff will formalize the new standard through a change to the Subdivision and Development By-law following Council's authorization to proceed.

Also identified during the public meetings of the NCP was the concern of speeding traffic on 160 Street. This issue has been referred to transportation operations staff and they are considering various traffic calming measures for 160 Street. This issue is related to the a.m. and p.m. peak traffic on the road.

Stormwater

A comprehensive stormwater study was included as part of the engineering study. The study included hydrology, hydraulic, environmental and groundwater components. The boundaries of the study area went beyond the NCP to address the whole stormwater catchment. The details of the finding are included in the engineering report. The study identified the need for detention ponds, trunk storm sewers, flow diversion structures, creek preservation areas, a water course relocation and downstream improvements to Wills Brook and the Old Logging Ditch pump station.

To service the reduced Plan Area, various trunk storm sewers and two detention ponds are required. In addition, flow diversion structures and a minor creek realignment are required. To provide the detention ponds, approximately 0.52 ha of land will need to be acquired. These works will help protect the downstream water course from erosion and farmland from flooding.

A groundwater study was completed which presented optional measures which could both reduce unwanted groundwater (i.e., flooding of properties) and provide opportunities for groundwater recharge (i.e., introducing water into the ground to feed flow to the creeks during times of low flow). Many of the measures are worth considering and will be investigated as part of a City pilot project on groundwater. The Federal and Provincial government environmental agencies are supportive of trying such measures.

The Ministry of Environment and Department of Fisheries have reviewed the NCP. Their comments on the draft document were reviewed and all issues have been addressed. We are currently awaiting their final reply but we have met with them and do not anticipate any outstanding concerns. At the meeting, we answered their questions and believe they are in agreement on the proposed stormwater management strategy.

As will be discussed in the section on Financing, stormwater drainage presents the greatest servicing challenge and is the most costly trunk service to provide.

Development Phasing

The majority of the NCP Study Area requires the construction of the North Grandview Sanitary Sewer Interceptor. This interceptor is not anticipated to be constructed within the next 10 years. Due to this limitation, the only area which is readily serviceable is the reduced Plan Area. This area is to provide a sanitary sewer servicing from an existing pump station located in Rosemary Heights on 160 Street.

The reduced Plan Area can be divided into two phases based on the stormwater catchments. The Phase I area is bound by approximately 162 Street, 171 Street, 32 Avenue and the North Grandview Interceptor alignment. The Phase II includes all of the remaining reduced Plan Area to the west. The designation of Phase I and II is prioritized to enable the collection of stormwater DCC prior to constructing the two detention pond which are located in the Phase II area.

The shortfall in drainage DCC revenues demonstrates that drainage is a significant issue that will have to be dealt with when this area develops. This could prove to be a major constraint in both time and money for this NCP.

It is possible to have either Phase I or II start development first subject to either catchment advancing the necessary infrastructure including the collection of a surcharge / levy which is required. The details of the phasing plan are included in the engineering study. In accordance with Council practice for development in NCP areas, development will not take place in Phase II until the land required for the detention facilities is either acquired or optioned by developers.

Financing

A comprehensive financial analysis is included in the NCP engineering report. The details of all the necessary DCC infrastructure has 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 a one acre, one acre gross density buildout of the NCP for a total of 140 units.

Projected DCC Revenues and Expenditures at Buildout (1)

	Projected DCC Revenues	Projected DCC Expenditures	Surplus Balance (Deficit Balance)
Sanitary Sewer (\$950/unit)	\$133,000	\$39,000	\$94,000
Storm Sewer (\$4740/unit)	\$663,600	\$1,457,000	(\$793,400)
Water (\$1020/unit)	\$142,800	\$249,000	(\$106,200)
Major Collector Road (\$1370/unit)	\$191,800	\$102,000	\$89,800
Total	\$1,131,200	\$1,847,000	(\$715,800)

(1) Note: It is recognized that the City of Surrey collects DCC's on a community basis not on a NCP or areas basis. This table is presented only to show the financial impact of the NCP on the current 10 Year Plan.

The table also shows the magnitude of additional works or refined construction costs required to service the NCP area as compared to the 1997 10 Year Servicing Plan.

As shown in the table above the funds required for the major DCC works exceed the projected DCC revenue from the reduced Plan Area. A simple calculation would follow that the projected deficit of \$715,800 could be funded by the 140 new homes which will require a contribution of approximately \$5,113 per home, in addition to their current DCC.

The shortfall in drainage DCC revenues demonstrates that drainage is a significant issue that will have to be dealt with when this area develops. This could prove to be a major constraint in both time and money for this NCP.

This financial information was presented to the public at the October 22, 1998, public meeting. As there is no citizens advisory group for this NCP, no consensus has been reached by the community on the affordability of such a levy.

For development to proceed in the reduced Plan Area, around \$5,000 per unit is required for trunk servicing in addition to current DCCs. This is in accordance with Council's policy respecting the developer pay principle. The current mechanisms used for collecting such additional costs include the traditional latecomer agreements and the more recently used development works agreement. These mechanisms are available for initial development proponents to recover these additional costs from subsequent development.

CONCLUSION

The North Grandview Heights General Area and Neighbourhood Concept Engineering Plan report provides the comprehensive servicing, phasing and financial plan for the area. The report provides a funding strategy such that the major servicing costs are not borne by the existing tax payers. The engineering plan has been presented to the public and received general support.

It is recommended that Council receive the engineering report. Further, that Council authorize staff to draft the necessary by-laws to implement proposed the major collector road standards.

Paul Ham, P. Eng.

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PH/MD:brb

Attachment: Appendix I (bound separately) North Grandview Heights General Area
and Neighbourhood Concept Plan Report — Urban Systems Ltd.

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