Grandview Heights NCP Area #4 - Stage One Transportation Study

August 20, 2013
Project #1169-25610

Table of Contents

1.0 INTRODUCTION 1.1
1.1 STUDY AREA AND CONTEXT 1.1

2.0 ROAD NETWORK 2.1
2.1 EXTERNAL ROADWAY NETWORK 2.1
2.2 INTERNAL ROADWAY NETWORK 2.1
2.3 ACCESS 2.3
2.4 CROSS-SECTIONS 2.3
2.5 PARKING 2.5

3.0 COSTING 3.1

4.0 PEDESTRIAN AND CYCLIST NETWORK 4.1
4.1 PEDESTRIAN INFRASTRUCTURE 4.2
4.2 CYCLING INFRASTRUCTURE 4.2

5.0 TRANSIT NETWORK 5.1
5.1 TRANSIT CONTEXT 5.1
5.2 NCP AREA #4 TRANSIT INFRASTRUCTURE 5.1

LIST OF APPENDICES

APPENDIX A PRELIMINARY COST ESTIMATE A.1

1.0 Introduction

As part of the orderly planning and development of Grandview Heights, Stantec is preparing a Neighbourhood Concept Plan (NCP) for Area #4. As part of the NCP preparation process, this report assesses the proposed transportation network in support of the NCP submission.

This is a high-level review of the transportation network required to support the proposed NCP. In conjunction with City of Surrey staff, and based on the current status of travel demand modeling background information, it has been established that there is sufficient initial analysis to estimate the roadway requirements and development costs related to transportation for NCP Area #4. As such, further quantitative analysis, if required, will be deferred to the Stage Two Transportation Study.

The objectives of this transportation assessment are to:

- Review the external roadway network, and access to the land use plan.
- Rationalize the internal roadway network and road cross-sections.
- Summarize costs for external transportation improvements associated with the development.
- Discuss pedestrian and cyclist circulation within the NCP and external connections.
- Review current transit plans and discuss the implementation of future transit service for the NCP.

As part of the normal planning process, the land use plan for NCP Area #4 has undergone numerous refinements since the planning process began. This report is based on the land use plan shown in **Figure 1.1**.

1.1 STUDY AREA AND CONTEXT

The Grandview Heights General Land Use Plan (GLUP) was approved by City Council in 2005 and encompasses five residential neighbourhoods in Surrey located east of Highway 99 and north of 16 Avenue. **Figure 1.2** illustrates the location of NCP Area #4 and the other neighbourhoods of Grandview Heights. The lands within and adjacent to NCP Area #4 remain largely undeveloped at the time of this plan preparation.

NOTES:

1. Riparian setbacks are shown at 30m from the centreline of the watercourses. They must be confirmed by geotech assesment and survey and be in compliance with DFO requirements. Any variance to the setbacks must be approved by DFO.

2. Geotech assesment and windfirm analysis of the vegetated boundaries will be required in conjunction with survey on properties affected by riparian requirements.

3. All land areas and sizes shown are approximate and subject to riparian setbacks, areas required for stormwater facilities and dedications for roads, greenways and pathways.

4. Where stormwater facilities are shown, the landuse areas provided are net of the stormwater facility area. The land use areas are approximate and must be confirmed when the exact area required for the stormwater facility is determined, subject to design criteria for stormwater management facilities.

5. In certain locations where a substantial area of the land is currently covered by forest, achieving the density of development, as shown, would be subject to the provision of an on-site green space for the preservation of naturally forested areas other than riparian areas. The amount of density that could be achieved on site would be proportional to the amount of green space provided. This may require consideration of innovative site planning and design concepts such as clustering units, transfer of density winthin the same site, etc.

Legend

- Future Road
- Pathway (Dedicated or on private property with a public R.O.W.)
- Greenway - 8m Wide Corridor required on private property, or as noted (Multi-use pathway within road R.O.W. or parkland or wildlife hub/corridor, or on private property with a public R.O.W.)
- Residential units to be designed to face/front adjecent park, riparian area, wildlife hub or corridor, or pathway, or designed so as to allow overview or surveillence of these features
- Transition Buffer
- Entrance Treatment
- Landmark/Plaza
- Gateway Treatment
- Provincial Highway
- Arterial
- Collector
- Local
- Green Street, Subject to Engineering requirements and approval
- Commercial High Street
- Flex Street, Subject to Engineering requirements and approval

Land Use

- Wildlife Hub & Corridor
- Wildlife Corridor in park, is subject to park layout
- Riparian Area
- Park
- Stormwater Facility
- Locations and extent of stormwater facilities are subject to change. The size of a stormwater facility is dependent on the stormwater volume required to be stored and on the City's Stormwater Management Facility Design Criteria, and is subject to Engineering approval.
- Buffer
- Elementary School
- Existing Institutional
- Proposed Institutional
- Commercial Residential Mixed Use (Residential at 30-45 upa)
- Apts 45 - High Density Residential (30-45 upa)
- Row 30 - Medium Density Residential (15-30 upa)
- Row 15 - Medium Density Residential (12-15 upa)
- Flex - Detached Residential and / or Medium Density (12-15 upa)
- Cluster 12 (8-12 upa)
- RES 10 - Low Density Residential (4-10 upa)
- Detached Residential (10-15 upa)
- Residential Transition (2-4 upa)

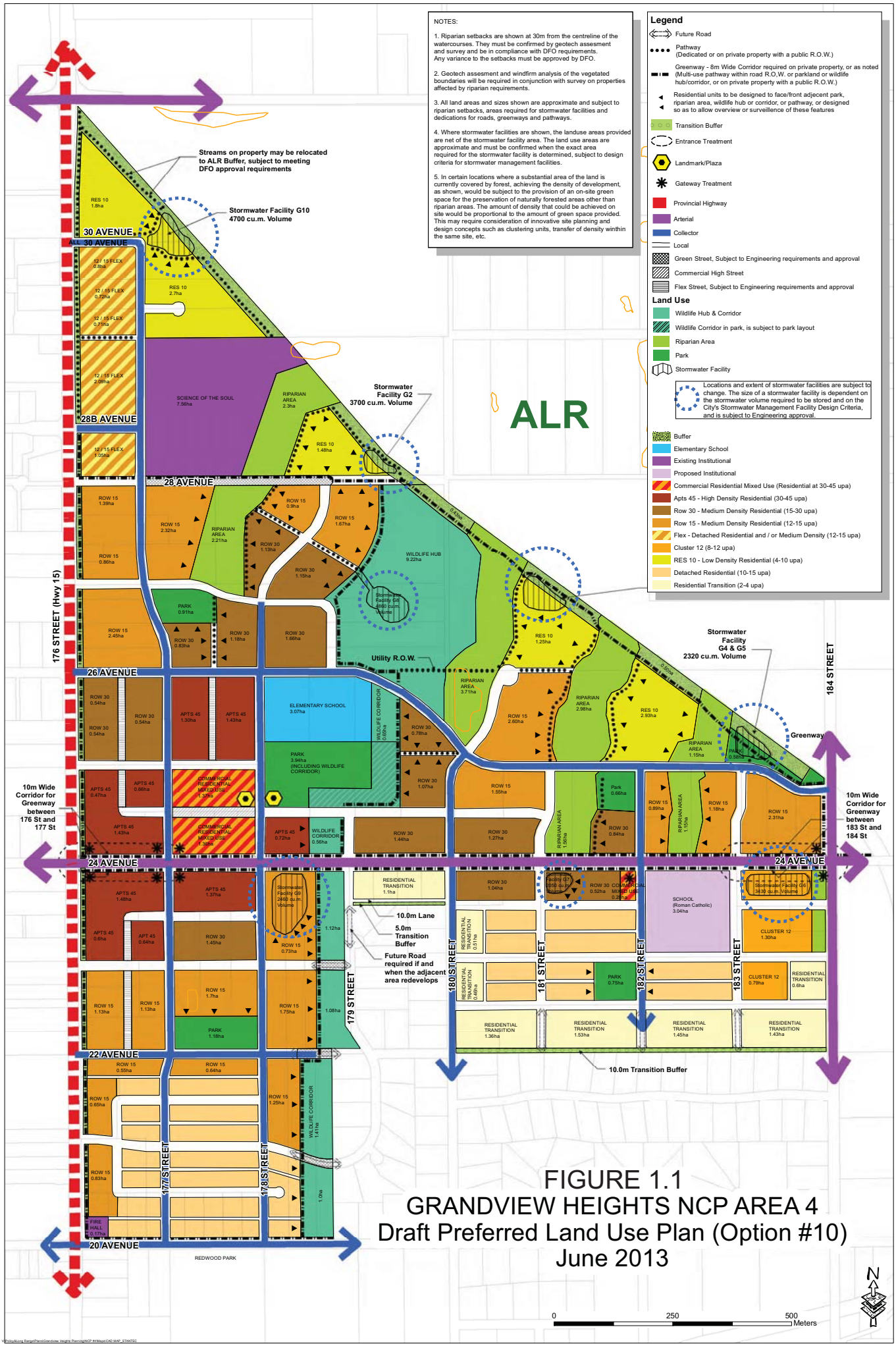
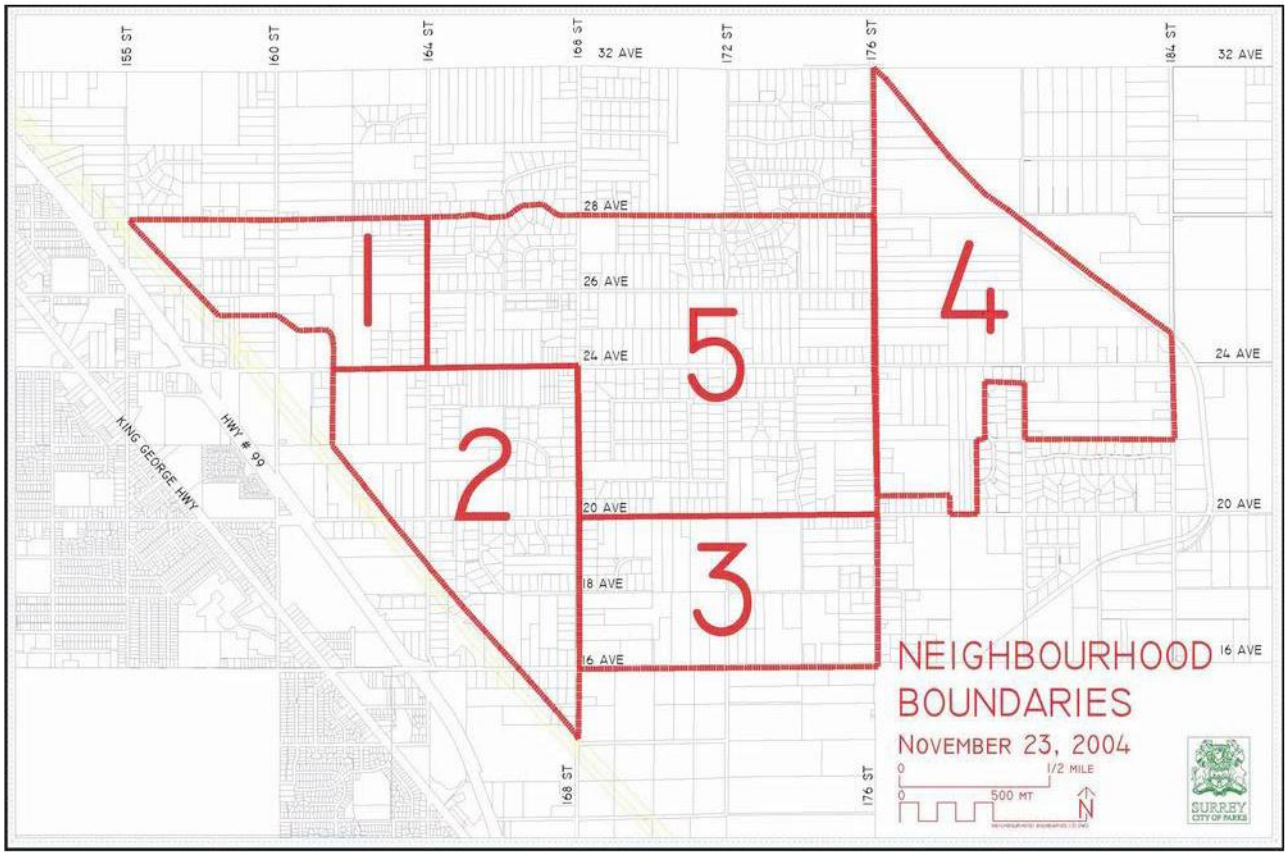


FIGURE 1.1
GRANDVIEW HEIGHTS NCP AREA 4
Draft Preferred Land Use Plan (Option #10)
June 2013

Figure 1.2 – Grandview Heights Neighbourhoods Location Plan



2.0 Road Network

2.1 EXTERNAL ROADWAY NETWORK

Grandview Heights NCP Area #4 is intended to integrate into Surrey's arterial road network including 184 Street, 32 Avenue, and 24 Avenue.

- 184 Street is a two lane arterial road with a posted speed of 60 km/h that forms the eastern boundary of NCP Area #4. It is ultimately expected to be a four lane divided roadway.
- 32 Avenue is an east-west arterial immediately north of the NCP with a posted speed of 60 km/h. To the west it connects with Highway 99 via an interchange, and to the east it connects to the Campbell Heights employment area that is under development at the time of writing. 32 Avenue will ultimately provide an improved connection when it is widened to a four lane divided roadway.
- 24 Avenue is a 60 km/h arterial that runs through the NCP and connects the study area to the other neighbourhoods of Grandview Heights to the west with an overpass at Highway 99. East of the study area, 24 Avenue leads to Campbell Heights. 24 Avenue is ultimately expected to be a six lane divided roadway.

20 Avenue is an east-west roadway that forms the south boundary of NCP Area #4 and is currently classified as a collector in the vicinity of the NCP. It will ultimately have an overpass at Highway 99. Further to the south, 16 Avenue is an east-west arterial that will connect to Highway 99 via an interchange once construction is complete in 2014.

Provincial Highways are under the jurisdiction of the Ministry of Transportation and Infrastructure (MoTI) and generally operate at a higher speed serving longer distance travelers. Highway 15, also known as 176 Street, is a provincial highway that forms the western boundary of NCP Area #4. This 70 km/h four lane highway connects the NCP to the US border to the south, and to other major routes within Metro Vancouver including Highway 1 to the north.

Traffic generated by NCP Area #4 will contribute to the need to improve some of the above roadways. The share of roadway costs attributable to NCP Area #4 is described in Section 3.0.

2.2 INTERNAL ROADWAY NETWORK

The proposed street network for Grandview Heights NCP Area #4 provides a well-connected grid street pattern and pedestrian / bicycle network that promotes the principles of the City's 2008 *Transportation Strategic Plan* and its supporting documents. Benefits of a grid network in the context of the study area include:

- Increased active modal share.
- Increased transit modal share.

- Multiple route options to increase network resilience and improve emergency response time.
- Reduced per capita vehicle travel, traffic congestion, and pollution emissions.

In general, NCP Area #4 has a grid network with 200 m by 100 m blocks. Among other things, this is supportive of the Integration of Transportation strategic direction in Surrey's Transportation Strategic Plan, which identifies a service direction to

> *"Promote integrated and universal transportation elements within development projects so that they can support other means than the private car",*

and states that

> *"By promoting a finer grid network, communities will benefit from having improved connectivity, improved transit and walking options and a reduced need for circulation of traffic."*

A specific 'action for change' is identified to

> *"Promote community connectivity for all modes through the development of a finer grid network and reduction in the number of cul-de-sacs."*

This is also consistent with the set of planning principles adopted by the Community Advisory Committee early in the planning process, which included the following:

- ❖ The basic internal block will generally be on a grid of about 100 m by 200 m, as adjusted by site factors to provide multiple choices for getting around within the village and enhance walkability and bicycling.

However, the grid network is not uniformly imposed in all areas, and where appropriate has been modified to accommodate natural and man-made constraints as well as the proposed development. Factors include the following.

- The road network minimizes crossings of the riparian areas and wildlife hub. Through successive drafts of the land use plan, some larger blocks were created as roads were shifted so as not to bisect natural areas, and other connections were eliminated entirely.
- Considering the constraints of Highway 15 and the ALR Buffer, block widths in the north of the plan are allowed to exceed 100 m.
- Larger blocks have been provided for special uses such as school sites; it is expected that active modes will be able to cut through these larger blocks.
- Detached residential blocks have alleys that provide access and reduce the block size for vehicles, and can also be used by other modes.

In addition to supporting active transportation modes, collector roads within the NCP will generally be suitable and available for public transit service (as per service planning ultimately undertaken by TransLink); bus stop locations will be detailed in the Stage Two Transportation Study.

Internal collector-collector intersections will operate under roundabout control; local-collector intersection controls will be finalized at a later phase but will likely be stop controlled or yield controlled. The internal road network classification and intersection controls are shown in **Figure 2.1**.

Grandview Heights NCP Area #5 west of NCP Area #4 is currently undeveloped. When development of those lands proceeds, the area should be planned to interconnect the road network of both NCP Areas.

2.3 ACCESS

Highway 15 is a provincial highway under MoTI control. As highways are intended for longer distance travel at higher speeds, MoTI strives to limit interruptions to through traffic on the highway while balancing the need for adjacent developments to have access. To that end, MoTI has agreed to allow signalized intersections (when warranted) on Highway 15 at approximately 400 m spacing; other intersections with the highway will be restricted access.

24 Avenue is also intended to be a major arterial serving city-wide traffic, and will be a primary route to Campbell Heights. To promote the flow of through traffic on 24 Avenue, the NCP also limits signalized intersections to approximately 400 m spacing, except between the 176 Street and 178 Street intersections adjacent to the commercial mixed use.

The initial stages of development within NCP Area #4 are expected to be in the western portion of the area, extending eastward from Highway 15, likely in the vicinity of 26 Avenue. As with the extension of other services for initial development, transportation connections (including all-directional access) will need to be confirmed in the Stage Two Transportation Study. Signalization of intersections on Highway 15 and 24 Avenue will occur as warranted by adjacent development. **Figure 2.1** illustrates the proposed roadway network and signalized intersections on Highway 15 and 24 Avenue.

2.4 CROSS-SECTIONS

Roadways within the NCP are expected to respond to differing needs according to location, context, and anticipated uses, while accommodating a diverse group of users. The following Table 2.1 summarizes the roadway cross-sections applicable to NCP Area #4.

Table 2.1 – Typical Roadway Cross-Sections

Classification	Right-of-way (m)	Multi-use Pathways	Bike Lanes	Sidewalks	Parking Lanes
6-lane Arterial (24 Avenue)	37	✓	✓	×	×
4-lane Arterial	30	×[1]	✓	✓	×
Collector (parking)	24	×[2]	✓	✓	✓
Collector (left turn bay)	24	×	✓	✓	×
Local	19.5 - 20.5	×[3]	×	✓	✓

[1] 184 Street will have a Multi-use Pathway on the west side.
[2] 20 Avenue will have a Multi-use Pathway on the north side.
[3] 28 Avenue will have a Multi-use Pathway on the north side (176 Street to 178 Street).

The NCP also includes three special street types. These streets have unique cross-sections, right-of-way widths, and other design features as appropriate. The cross-sections and locations for these street types will be finalized as part of the Stage Two Transportation Study subject to engineering requirements and approvals.

Commercial High Street

The road that bisects the main commercial mixed use area north of 24 Avenue and east of 177 Street is a Commercial High Street. The cross-section will include opportunities for on-street angle parking and sidewalk cafes with an expanded boulevard to create a comfortable pedestrian environment. The intent is that vehicular traffic will be accommodated only at low speeds.

Green Streets

Green Streets are proposed for 21 Avenue, 22 Avenue, and 23 Avenue, where they cross the wildlife corridor. The intent is to develop a design in the Stage Two planning process which will facilitate the safe movement of wildlife across the roads. A Green Street is also proposed for 28 Avenue to protect the fish-bearing drainage channel adjacent to Science of the Soul and to minimize impacts on the riparian area. Potential features of Green Streets include the elimination of parking and/or bicycle lanes, or reduction in the width of the boulevard to minimize road right-of-way.

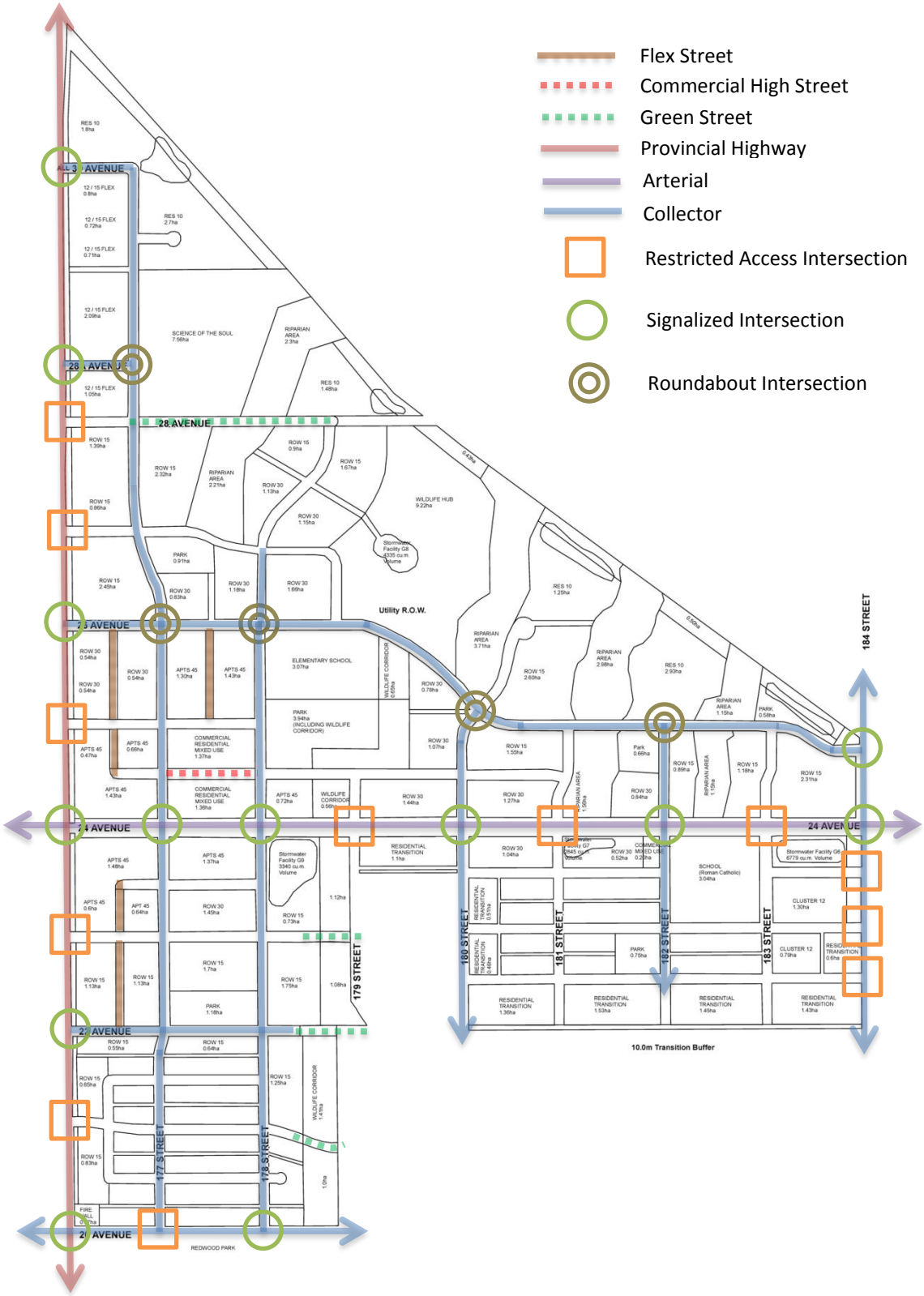
Flex Streets

Flex Streets will potentially have a slightly reduced right-of-way, and may be one-way as warranted by the development context and include pedestrian circulation. Flex Streets are proposed through several higher density residential parcels on the west side of NCP Area #4. These streets are expected to only serve trips generated by the adjacent residents and can be modified to respond to lot layout. They may, subject to engineering requirements and approvals, be on private lands as long as there is general pedestrian access.

2.5 PARKING

On-street curbside parallel parking will be allowed on all local roads within NCP Area #4 with provision of a 2.25 m parking lane on both sides. Parking will generally be allowed on both sides of collector roadways within the NCP, except where additional width is required for development of a left turn lane, such as at approaches to major intersections. The Commercial High Street will also feature on-street angle parking. Depending on the road widths and adjacent land uses, parking may also be permitted on Green Streets and Flex Streets. Parking controls will be confirmed as part of the Stage Two Transportation Study.

Figure 2.1 – Major Road Network and Arterial Intersection Control



3.0 Costing

The need for improvements to the arterial roadway network in South Surrey can be attributed, in part, to traffic generated by NCP Area #4. It is the City's practice to require developers to contribute to improvements for these arterial roadways even though they are external to the NCP. As directed by the City of Surrey, the cost estimate calculations for NCP Area #4 include 24 Avenue, 32 Avenue and 184 Street. In allocating costs to NCP Area #4, the City considered the 10 Year Servicing Plan, Campbell Heights Local Area Plan, and other planned developments nearby including areas of North Grandview. Recognizing that other developments will also contribute to traffic on these roads, the city has also determined the share of costs allocated to NCP Area #4 for each arterial. The following **Table 3.1** summarizes the scope and share of the improvements external to the NCP that are attributed to NCP Area #4, which includes intersection upgrades and traffic signals that fall within the limits.

Table 3.1 – Scope of External Roadway Improvements.

Arterial Road	Share	Scope
184 Street	50%	16 Avenue to 22 Avenue 26 Avenue to 32 Avenue
32 Avenue	50%	Highway 15 to 184 Street
24 Avenue	25%	176 Street to 168 Street 184 Street to 188 Street

The sum of the on-site and off-site arterial and collector road network improvement costs resulting from the NCP is estimated at $82.0 million. This includes the external improvements attributable to NCP Area #4 as described above and those within the NCP. $53.0 million will be financed from City-wide DCCs payable by development in NCP Area #4, with the balance of $29.0 million payable by development within NCP Area #4 over and above city-wide DCC payments.

Details of the calculations of Preliminary Cost Estimate are included in Appendix A.

4.0 Pedestrian and Cyclist Network

The City has developed policy documents for walking and cycling as part of its strategy to increase the share of these active modes of transportation. The City's *Walking Plan* (2011) and *Cycling Plan* (2012) recognize the importance of active modes to achieving "broader transportation and City objectives in the areas of safety, health, accessibility, sustainability, environmental protection, and developing a successful Surrey economy." Considering that over 50,000 Surrey residents have no access to a car, the City aims to provide realistic transportation choices with an understanding that active modes are heavily influenced by the travel environment and directness of connections. The City also recognizes that active modes and transit are fundamentally linked, with walking and/or cycling being part of every transit trip.

NCP Area #4 is not close to Surrey's town centres or the core of Metro Vancouver, and suburban developments in Surrey and elsewhere typically find it challenging to achieve a high active transportation mode share. Cycling has a mode share of 0.6% of all trips in Surrey, and only 8% of residents walk to work even in more traditional mixed use neighbourhoods. While not underestimating the difficulty of promoting active modes, the land use plan for NCP Area #4 has been designed to maximize the potential for a mode shift.

Both the *Walking Plan* and the *Cycling Plan* have "Making Connections" as one of the principles for success. The roadway network has been designed as a grid to provide multiple route choices and a high level of interconnectivity between residential developments and the school and commercial sites. A connected road network includes fewer culs-de-sac and dead-end streets to create shorter routes between destinations; where there are dead-ends for motor vehicles, pathways are typically provided for pedestrians and cyclists to improve connectivity for active modes.

The NCP Area #4 concept plan (**Figure 1.1**) includes illustration of pedestrian and cycling infrastructure according to the following legend.

Pathways	
Greenways	
Bike lanes (on collectors)	Collector
Mixed use	
School sites	

4.1 PEDESTRIAN INFRASTRUCTURE

All local, collector, and arterial roadways in Surrey require a sidewalk or multi-use path on both sides of the street. In the context of NCP Area #4, the grid network and typical block size of 100 m - 200 m creates a highly walkable environment with direct paths between destinations. A further network of pathways and greenways is planned (some of which parallel road alignments while others diverge from the vehicular network) that will further improve pedestrian connectivity and reduce walking distances for pedestrians. The integration of schools and mixed use commercial areas within the neighbourhood provides destinations that are within walking distance and allows residents to meet more of their daily needs without having to use a vehicle.

The *Walking Plan* recognizes highways and arterial roads as potential impediments to pedestrian travel. To facilitate crossing 24 Avenue, traffic signals are proposed at Highway 15, 177 Street, 178 Street, 180 Street, 182 Street, and 184 Street. These will allow for direct routes to the school and commercial areas for pedestrians. The Stage Two Transportation Study will further review pedestrian connectivity across 24 Avenue and the potential for adding midblock pedestrian signals and crosswalks based on the City's crosswalk warrant.

To support the *Walking Plan*'s objective of providing a safe and secure pedestrian environment, the NCP specifically calls for residential units to front onto adjacent pathways and greenways to allow for "overview or surveillance" of travelers on these paths. Lighting of paths that diverge from the vehicular road network should also be considered.

As development proceeds in NCP Area #4, pedestrian connectivity to the commercial areas and transit stops should be maintained at all stages of development. This could include early construction of sidewalks and crosswalks connecting to transit service and traffic signals to facilitate the crossing of pedestrians even if signals are not yet warranted based on traffic volumes. As development in the surrounding area proceeds, the pedestrian network within NCP Area #5 and other NCPs should integrate with NCP Area #4.

4.2 CYCLING INFRASTRUCTURE

The City's road standards include bicycle lanes on both sides of all collector and arterial roads; bicycles will also have access to the extensive pathway and greenway network within the NCP and surrounding area. Traffic volumes and speeds on local roads are generally expected to be low enough to allow cyclists comfortably share the road with vehicles. Similar to the pedestrian network, the grid network encourages cycling activity by decreasing travel distances.

The bike lanes on 24 Avenue will connect cyclists to White Rock to the west and the Campbell Heights employment area to the east. The City's *Bike Map 2011* designates Highway 15 (north of 32 Avenue) and 32 Avenue (west of Highway 15) as bike routes with bike lanes / shoulders. The proposed pathways and greenways on the east side of Highway 15 adjacent to NCP Area #4 will allow cyclists to connect to those bike routes.

As highlighted in Surrey's walking and cycling plans, active modes require a connected network in order to be viable. A simple connectivity index[1] can be calculated by dividing the number of roadway links by the number of roadway nodes (intersections), with links being the segments between nodes. For pedestrians and cyclists, the connectivity index includes connections on pathways and greenways that are inaccessible to vehicles. Reflecting the high connectivity of the proposed grid network, Grandview Heights NCP Area #4 has a connectivity index of 1.7. This is above the 1.4 minimum required for a walkable community and reflect the effects of the grid network and additional pedestrian and cyclist trails.

[1] See the Victoria Transport Policy Institute for a more in depth discussion at http://www.vtpi.org/tdm/tdm116.htm

5.0 Transit Network

5.1 TRANSIT CONTEXT

South of Fraser Area Transit Plan

TransLink's *South of Fraser Area Transit Plan* (November 2007) shown in **Figure 5.1** provides a long range transit plan for the region to 2031, including potential bus routes and service frequency within the study area. The proposed 2031 transit plan includes local bus service connecting White Rock to Langley on 24 Avenue with peak-hour frequency of 15 minutes. Neighbourhood bus service is also proposed on 176 Street and 24 Avenue to the south and west of NCP Area #4 with a 15 minute peak-hour frequency, which will provide opportunity for transit connectivity to White Rock.

Surrey Rapid Transit Study

TransLink has completed an initial phase of planning for rapid transit for Surrey, and has short-listed four alternatives based on combinations of bus rapid transit (BRT), light rail transit (LRT), and rail rapid transit (RRT) aka SkyTrain, covering three corridors: Fraser Highway, King George Boulevard / 152 Street, and 104 Avenue. The preferred alternative for Surrey Rapid Transit will be determined as part of the ongoing TransLink Regional Transportation Strategy.

The connection between NCP Area #4 and Surrey Rapid Transit will be primarily via a frequent transit network that is currently envisioned to be located on 24 Avenue (east/west) and 200 Street (north/south).

Existing and Imminent Transit Service

Route 531 connecting White Rock Centre and Langley Centre is currently in operation. A shuttle service that will run along the western edge of NCP Area #4 was scheduled to be implemented in 2013 but is not yet in operation at the time of writing. A B-Line (bus service with limited stops) between Surrey City Centre and Newton is expected to begin operation in September and ultimately extend to White Rock. (The B-Line is consistent with one of the corridors planned for Surrey Rapid Transit.)

5.2 NCP AREA #4 TRANSIT INFRASTRUCTURE

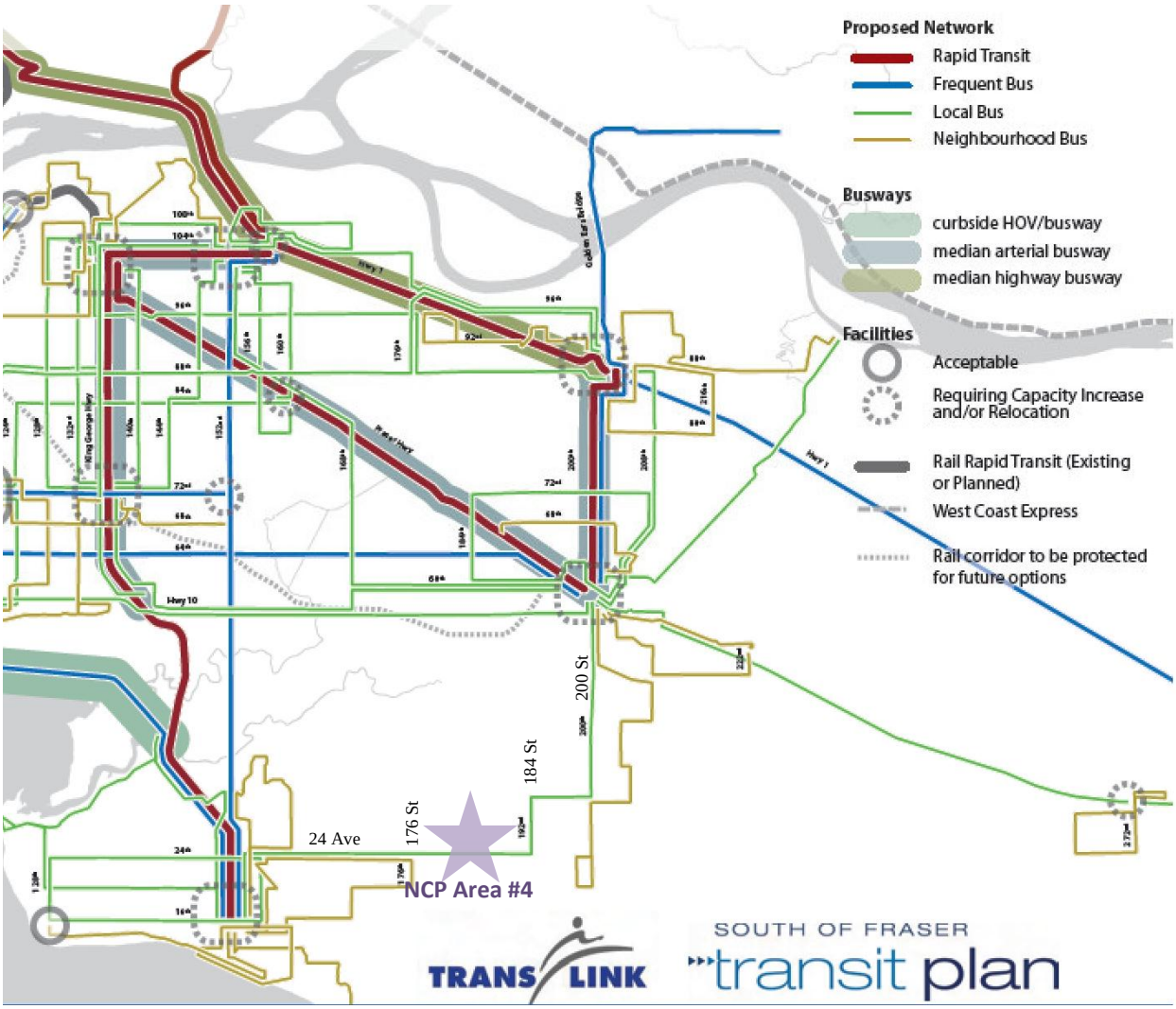
As background to future transit service planning by TransLink, it is noted that NCP Area #4 has been designed to encourage a high modal split for transit with ridership numbers that warrant superior transit service. All collector roads will be capable of supporting transit and the grid network is sufficiently dense to achieve TransLink's service guidelines, which endeavor to situate bus stops so that at least 90% of residents and employees within urban areas are no

more than 450 m from transit service. The grid network also supports transit by reducing the walking distance between trip ends and transit stops.

The majority of the proposed land use plan consists of medium and high density residential that will provide the population density needed to support a high transit level of service. The areas of highest density, as well as schools and commercial areas, are located close to 24 Avenue, which has the potential to carry high frequency transit service. Right-of-way for six lanes is being reserved on 24 Avenue, but depending on future traffic demand the two outer lanes have the potential to operate as bus lanes, further increasing the appeal of transit.

The Stage Two Transportation Study will include a detailed review of future routes and identify locations of bus stops in conjunction with TransLink. Considering the suitability of NCP Area #4 for transit, the City of Surrey expects that the neighbourhood will ultimately receive a high level of service. In the interim, the City will encourage TransLink to provide early service to help shape the transportation choices and habits of residents. Some jurisdictions provide transit service during the early stages of development through developer funding and the City is open to various ways of supporting early transit service to NCP Area #4.

Figure 5.1 – Proposed 2031 Transit Network for South of Fraser



Appendix A Preliminary Cost Estimate

City of Surrey
Grandview Heights NCP #4
ROAD SUMMARY
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
Project No:	Grandview Heights NCP#4				
A. SUMMARY					
1	**On-Site**				
1.1	Arterial Roads	$ 12,338,356	$ 10,926,220	$ 1,412,137	Includes intersection signals
1.2	Collector Roads	$ 2,571,532	$ 2,571,532	$ -	Includes intersection signals
1.3	Intersections (on 176 St and 184 St)	$ 4,402,972	$ 1,266,517	$ 3,136,455	
TOTAL FOR ON-SITE		**$ 19,312,861**	**$ 14,764,269**	**$ 4,548,591**	
Contingency 30%		**$ 5,793,858**	**$ 4,429,281**	**$ 1,364,577**	
Engineering 10%		**$ 1,931,286**	**$ 1,476,427**	**$ 454,859**	
GRAND TOTAL FOR ON-SITE *(excl. taxes)*		**$ 27,038,005**	**$ 20,669,977**	**$ 6,368,028**	
2	**Off-Site**				
2.1	Arterial Roads	$ 33,520,532	$ 19,653,543	$ 13,866,988	Includes intersection signals
2.2	Collector Roads	$ 398,834	$ 398,834	$ -	No signals
2.3	Intersections	$ 5,328,403	$ 3,041,934	$ 2,286,469	
TOTAL FOR OFF-SITE		**$ 39,247,769**	**$ 23,094,312**	**$ 16,153,458**	
Contingency 30%		**$ 11,774,331**	**$ 6,928,294**	**$ 4,846,037**	
Engineering 10%		**$ 3,924,777**	**$ 2,309,431**	**$ 1,615,346**	
GRAND TOTAL FOR OFF-SITE *(excl. taxes)*		**$ 54,946,877**	**$ 32,332,036**	**$ 22,614,841**	
Overall Total - (On-site & Off-site) *(excl. taxes)*		**$ 81,984,882**	**$ 53,002,013**	**$ 28,982,869**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

Project No: Grandview Heights NCP#4

A. ON-SITE ARTERIAL ROADS

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
1	**24 Avenue (from 176 St to 184 St)**							
	6 lanes - 30.0 m pavement, 40.0 m R/W, 2 sidewalks					(100%)	(0%)	
1.1	Clear and grub	50	sq.m.	$ 3.15	$ 157.50	$ 157.50	$ -	5m past R/W on either side
1.2	Excavation	18	cu.m.	$ 21.24	$ 382.35	$ 382.35	$ -	excavation depth = 600mm
1.3	Sub-grade fill & preparation	18	cu.m.	$ 19.60	$ 352.86	$ 352.86	$ -	
1.4	Sub-base gravel	24.2	tonne	$ 24.15	$ 583.22	$ 583.22	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	10.4	tonne	$ 29.93	$ 309.72	$ 309.72	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	7.5	tonne	$ 117.60	$ 882.00	$ 882.00	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	1	l.m.	$ 455.86	$ 455.86	$ 455.86	$ -	
1.8	New curb	2	l.m.	$ 55.93	$ 111.87	$ 111.87	$ -	
1.9	New sidewalk	2	l.m.	$ 92.22	$ 184.44	$ 184.44	$ -	1.8m sidewalk
1.10	Boulevard trees	2	l.m.	$ 78.75	$ 157.50	$ 157.50	$ -	
1.11	Restoration	10	sq.m.	$ 12.60	$ 126.00	$ 126.00	$ -	
1.12	Drainage allowance	1	l.m.	$ 630.00	$ 630.00	$ 630.00	$ -	
1.13	Lighting allowance	1	l.m.	$ 128.15	$ 128.15	$ 128.15	$ -	lights at 40m costing $5125.90 each
1.14	Ped light allowance	1	l.m.	$ 64.08	$ 64.08	$ 64.08	$ -	
1.15	Pavement markings	1	l.m.	$ 2.94	$ 2.94	$ 2.94	$ -	
SUBTOTAL FOR 24 AVE (per l.m.)		1	l.m.		**$ 4,528.50**	**$ 4,528.50**	**$ -**	
LENGTH OF ROAD		1,582	l.m.		**1,582**	**1,582**	**1,582**	
1.16	Signals for intersection							
	i) Intersections at 177, 178, 180, 181, 182, 183 St (Arterial - Local)	6	l.s.	$ 275,000.00	$ 1,650,000.00	$ 1,650,000.00	$ -	
	ii) Intersections at 176 and 184 St (Arterial - Arterial)	2	l.s.	$ 350,000.00	$ 700,000.00	$ 700,000.00	$ -	
TOTAL FOR 24 AVE					**$ 9,514,083.44**	**$ 9,514,083.44**	**$ -**	
Contingency 30%					**$ 2,854,225.03**	**$ 2,854,225.03**	**$ -**	
Engineering 10%					**$ 951,408.34**	**$ 951,408.34**	**$ -**	
GRAND TOTAL FOR 24 AVE ***(excl. taxes)***					**$ 13,319,716.82**	**$ 13,319,716.82**	**$ -**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
2	**184 Street (from 22 Ave to 26 Ave / Adjacent to ALR)**							
	4 lanes - 20.0 m pavement, 30.0 m R/W, 2 sidewalks					(50%)	(50%)	
1.1	Clear and grub	40	sq.m.	$ 3.15	$ 126.00	$ 63.00	$ 63.00	5m past R/W on either side
1.2	Excavation	12	cu.m.	$ 21.24	$ 254.90	$ 127.45	$ 127.45	excavation depth = 600mm
1.3	Sub-grade fill & preparation	12	cu.m.	$ 19.60	$ 235.24	$ 117.62	$ 117.62	
1.4	Sub-base gravel	16.1	tonne	$ 24.15	$ 388.82	$ 194.41	$ 194.41	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	6.9	tonne	$ 29.93	$ 206.48	$ 103.24	$ 103.24	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	5.0	tonne	$ 117.60	$ 588.00	$ 294.00	$ 294.00	assume 100mm, 2.5 tonne/m3
1.7	Median	1	l.m.	$ 455.86	$ 455.86	$ 227.93	$ 227.93	
1.8	New curb	2	l.m.	$ 55.93	$ 111.87	$ 55.93	$ 55.93	
1.9	New sidewalk	2	l.m.	$ 92.22	$ 184.44	$ 92.22	$ 92.22	1.8m sidwalk
1.10	Boulevard trees	2	l.m.	$ 78.75	$ 157.50	$ 78.75	$ 78.75	
1.11	Restoration	10	sq.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.12	Drainage allowance	1	l.m.	$ 630.00	$ 630.00	$ 315.00	$ 315.00	
1.13	Lighting allowance	1	l.m.	$ 128.15	$ 128.15	$ 64.08	$ 64.08	lights at 40m costing $5125.90 each
1.14	Ped light allowance	0	l.m.	$ 64.08	$ -	$ -	$ -	
1.15	Pavement markings	1	l.m.	$ 2.94	$ 2.94	$ 1.47	$ 1.47	
1.16	Land acquisition (area required = 0.16 ha)	0.0003	ha	$ 2,965,253.00	$ 832.35	$ 416.18	$ 416.18	land acquisition req'd for east side only
	(0.16 ha)/(570 m) = 0.0003 ha per l.m.							$1.2 million per acre
SUBTOTAL FOR 184 ST (per l.m.)		1	l.m.		**$ 4,428.55**	**$ 2,214.27**	**$ 2,214.27**	
LENGTH OF ROAD		570	l.m.		**570**	**570**	**570**	
1.17	Signals for intersection							
	i) Intersection at 26 Ave (Arterial - Collector)	1	l.s.	$ 300,000.00	$ 300,000.00	$ 150,000.00	$ 150,000.00	
TOTAL FOR 184 ST FROM 22 AVE TO 26 AVE					**$ 2,824,273.06**	**$ 1,412,136.53**	**$ 1,412,136.53**	
Contingency 30%					**$ 847,281.92**	**$ 423,640.96**	**$ 423,640.96**	
Engineering 10%					**$ 282,427.31**	**$ 141,213.65**	**$ 141,213.65**	
GRAND TOTAL FOR 184 ST ***(excl. taxes)***					**$ 3,953,982.28**	**$ 1,976,991.14**	**$ 1,976,991.14**	
ON-SITE ARTERIAL ROADS TOTAL ***(incl. contingency, excl. taxes)***					**$ 17,273,699.09**	**$ 15,296,707.96**	**$ 1,976,991.14**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
B.	**ON-SITE COLLECTOR ROADS**				**Widening Cost Only**			
1	**26 Avenue (176 St to 184 St.)**							
	widen 11m pavement to 14m, 24.0 m R/W, widen two 1.5m sidewalks to 1.8m					(100%)	(0%)	
1.1	Clear and grub	23	sq.m.	$ 3.15	$ 72.45	$ 72.45	$ -	5m past R/W on either side
1.2	Excavation	2	cu.m.	$ 21.24	$ 38.23	$ 38.23	$ -	excavation depth = 600mm
1.3	Sub-grade fill & preparation	2	cu.m.	$ 19.60	$ 35.29	$ 35.29	$ -	
1.4	Sub-base gravel	2.4	tonne	$ 24.15	$ 58.32	$ 58.32	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	1.0	tonne	$ 29.93	$ 30.97	$ 30.97	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	0.8	tonne	$ 117.60	$ 88.20	$ 88.20	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	0	l.m.	$ 63.00	$ -	$ -	$ -	
1.8	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.9	New sidewalk	2	l.m.	$ 15.37	$ 30.75	$ 30.75	$ -	1.8m - 1.5m = 0.3m sidwalk
1.10	Restoration	0	sq.m.	$ 12.60	$ -	$ -	$ -	
1.11	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.12	Lighting allowance	1	l.m.	$ 25.63	$ 25.63	$ 25.63	$ -	50m to 40m spacing, $5125.90/light
1.13	Pavement markings	0	l.m.	$ 2.94	$ -	$ -	$ -	
SUBTOTAL FOR 26 AVE (per l.m.)		1	l.m.		**$ 379.84**	**$ 379.84**	**$ -**	
LENGTH OF ROAD		1,666	l.m.		**1,666**	**1,666**	**1,666**	
TOTAL FOR 26 AVE					**$ 632,817.23**	**$ 632,817.23**	**$ -**	
Contingency 30%					**$ 189,845.17**	**$ 189,845.17**	**$ -**	
Engineering 10%					**$ 63,281.72**	**$ 63,281.72**	**$ -**	
GRAND TOTAL FOR 26 AVE *(excl. taxes)*					**$ 885,944.12**	**$ 885,944.12**	**$ -**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
2	**177 Street (20 Ave to 31 Ave) & 31 Ave (176 St to 177 St)**				**Widening Cost Only**			
	widen 11m pavement to 14m, 24.0 m R/W, widen two 1.5m sidewalks to 1.8m					(100%)	(0%)	
1.1	Clear and grub	23	sq.m.	$ 3.15	$ 72.45	$ 72.45	$ -	5m past R/W on either side
1.2	Excavation	2	cu.m.	$ 21.24	$ 38.23	$ 38.23	$ -	excavation depth = 600mm
1.3	Sub-grade fill & preparation	2	cu.m.	$ 19.60	$ 35.29	$ 35.29	$ -	
1.4	Sub-base gravel	2.4	tonne	$ 24.15	$ 58.32	$ 58.32	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	1.0	tonne	$ 29.93	$ 30.97	$ 30.97	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	0.8	tonne	$ 117.60	$ 88.20	$ 88.20	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	0	l.m.	$ 63.00	$ -	$ -	$ -	
1.8	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.9	New sidewalk	2	l.m.	$ 15.37	$ 30.75	$ 30.75	$ -	1.8m - 1.5m = 0.3m sidwalk
1.10	Restoration	0	sq.m.	$ 12.60	$ -	$ -	$ -	
1.11	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.12	Lighting allowance	1	l.m.	$ 25.63	$ 25.63	$ 25.63	$ -	50m to 40m spacing, $5125.90/light
1.13	Pavement markings	0	l.m.	$ 2.94	$ -	$ -	$ -	
SUBTOTAL FOR 177 ST & 31 AVE (per l.m.)		1	l.m.		**$ 379.84**	**$ 379.84**	**$ -**	
LENGTH OF ROAD		2,214	l.m.		**2,214**	**2,214**	**2,214**	
TOTAL FOR 177 ST & 31 AVE					**$ 840,970.79**	**$ 840,970.79**	**$ -**	
Contingency 30%					**$ 252,291.24**	**$ 252,291.24**	**$ -**	
Engineering 10%					**$ 84,097.08**	**$ 84,097.08**	**$ -**	
GRAND TOTAL FOR 177 ST & 31 AVE ***(excl. taxes)***					**$ 1,177,359.11**	**$ 1,177,359.11**	**$ -**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
3	**180 Street (24 Ave to 26 Ave)**				**Widening Cost Only**			
	widen 11m pavement to 14m, 24.0 m R/W, widen two 1.5m sidewalks to 1.8m					(100%)	(0%)	
1.1	Clear and grub	23	sq.m.	$ 3.15	$ 72.45	$ 72.45	$ -	5m past R/W on either side
1.2	Excavation	2	cu.m.	$ 21.24	$ 38.23	$ 38.23	$ -	excavation depth = 600 mm
1.3	Sub-grade fill & preparation	2	cu.m.	$ 19.60	$ 35.29	$ 35.29	$ -	
1.4	Sub-base gravel	2.4	tonne	$ 24.15	$ 58.32	$ 58.32	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	1.0	tonne	$ 29.93	$ 30.97	$ 30.97	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	0.8	tonne	$ 117.60	$ 88.20	$ 88.20	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	0	l.m.	$ 63.00	$ -	$ -	$ -	
1.8	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.9	New sidewalk	2	l.m.	$ 15.37	$ 30.75	$ 30.75	$ -	1.8m - 1.5m = 0.3m sidwalk
1.10	Restoration	0	sq.m.	$ 12.60	$ -	$ -	$ -	
1.11	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.12	Lighting allowance	1	l.m.	$ 25.63	$ 25.63	$ 25.63	$ -	50m to 40m spacing, $5125.90/light
1.13	Pavement markings	0	l.m.	$ 2.94	$ -	$ -	$ -	
SUBTOTAL FOR 180 ST (per l.m.)		1	l.m.		**$ 379.84**	**$ 379.84**	**$ -**	
LENGTH OF ROAD		235	l.m.		**235**	**235**	**235**	
TOTAL FOR 180 ST					**$ 89,262.93**	**$ 89,262.93**	**$ -**	
Contingency 30%					**$ 26,778.88**	**$ 26,778.88**	**$ -**	
Engineering 10%					**$ 8,926.29**	**$ 8,926.29**	**$ -**	
GRAND TOTAL FOR 180 ST FROM 24 AVE TO 26 AVE ***(excl. taxes)***					**$ 124,968.11**	**$ 124,968.11**	**$ -**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
4	**178 Street (20 Ave to 27 Ave)**				**Widening Cost Only**			
	widen 11m pavement to 14m, 24.0 m R/W, widen two 1.5m sidewalks to 1.8m					(100%)	(0%)	
1.1	Clear and grub	23	sq.m.	$ 3.15	$ 72.45	$ 72.45	$ -	5m past R/W on either side
1.2	Excavation	2	cu.m.	$ 21.24	$ 38.23	$ 38.23	$ -	excavation depth = 600 mm
1.3	Sub-grade fill & preparation	2	cu.m.	$ 19.60	$ 35.29	$ 35.29	$ -	
1.4	Sub-base gravel	2.4	tonne	$ 24.15	$ 58.32	$ 58.32	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	1.0	tonne	$ 29.93	$ 30.97	$ 30.97	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	0.8	tonne	$ 117.60	$ 88.20	$ 88.20	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	0	l.m.	$ 63.00	$ -	$ -	$ -	
1.8	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.9	New sidewalk	2	l.m.	$ 15.37	$ 30.75	$ 30.75	$ -	1.8m - 1.5m = 0.3m sidwalk
1.10	Restoration	0	sq.m.	$ 12.60	$ -	$ -	$ -	
1.11	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.12	Lighting allowance	1	l.m.	$ 25.63	$ 25.63	$ 25.63	$ -	50m to 40m spacing, $5125.90/light
1.13	Pavement markings	0	l.m.	$ 2.94	$ -	$ -	$ -	
SUBTOTAL FOR 178 ST (per l.m.)		1	l.m.		**$ 379.84**	**$ 379.84**	**$ -**	
LENGTH OF ROAD		1,395	l.m.		**1,395**	**1,395**	**1,395**	
1.14	Signals for intersection							
	i) Intersection at 20 Ave (Collector - Collector)	1	l.s.	$ -	$ -	$ -	$ -	Cost incl. in 20 Ave Onsite Collector
TOTAL FOR 178 ST					**$ 529,879.97**	**$ 529,879.97**	**$ -**	
Contingency 30%					**$ 158,963.99**	**$ 158,963.99**	**$ -**	
Engineering 10%					**$ 52,988.00**	**$ 52,988.00**	**$ -**	
GRAND TOTAL FOR 178 ST FROM 20 AVE TO 27 AVE *(excl. taxes)*					**$ 741,831.96**	**$ 741,831.96**	**$ -**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
5	**28B Ave (176 St to 177 St)**				**Widening Cost Only**			
	widen 11m pavement to 14m, 24.0 m R/W, widen two 1.5m sidewalks to 1.8m					(100%)	(0%)	
1.1	Clear and grub	23	sq.m.	$ 3.15	$ 72.45	$ 72.45	$ -	5m past R/W on either side
1.2	Excavation	2	cu.m.	$ 21.24	$ 38.23	$ 38.23	$ -	excavation depth = 600 mm
1.3	Sub-grade fill & preparation	2	cu.m.	$ 19.60	$ 35.29	$ 35.29	$ -	
1.4	Sub-base gravel	2.4	tonne	$ 24.15	$ 58.32	$ 58.32	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	1.0	tonne	$ 29.93	$ 30.97	$ 30.97	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	0.8	tonne	$ 117.60	$ 88.20	$ 88.20	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	0	l.m.	$ 63.00	$ -	$ -	$ -	
1.8	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.9	New sidewalk	2	l.m.	$ 15.37	$ 30.75	$ 30.75	$ -	1.8m - 1.5m = 0.3m sidwalk
1.10	Restoration	0	sq.m.	$ 12.60	$ -	$ -	$ -	
1.11	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.12	Lighting allowance	1	l.m.	$ 25.63	$ 25.63	$ 25.63	$ -	50m to 40m spacing, $5125.90/light
1.13	Pavement markings	0	l.m.	$ 2.94	$ -	$ -	$ -	
SUBTOTAL FOR 28B AVE (per l.m.)		1	l.m.		**$ 379.84**	**$ 379.84**	**$ -**	
LENGTH OF ROAD		140	l.m.		**140**	**140**	**140**	
TOTAL FOR 28B AVE					**$ 53,177.92**	**$ 53,177.92**	**$ -**	
Contingency 30%					**$ 15,953.38**	**$ 15,953.38**	**$ -**	
Engineering 10%					**$ 5,317.79**	**$ 5,317.79**	**$ -**	
GRAND TOTAL FOR 28B AVE FROM 176 ST TO 177 ST ***(excl. taxes)***					**$ 74,449.09**	**$ 74,449.09**	**$ -**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
6	**22 Ave (176 St to NCP Boundary)**				**Widening Cost Only**			
	widen 11m pavement to 14m, 24.0 m R/W, widen two 1.5m sidewalks to 1.8m					(100%)	(0%)	
1.1	Clear and grub	23	sq.m.	$ 3.15	$ 72.45	$ 72.45	$ -	5m past R/W on either side
1.2	Excavation	2	cu.m.	$ 21.24	$ 38.23	$ 38.23	$ -	excavation depth = 600 mm
1.3	Sub-grade fill & preparation	2	cu.m.	$ 19.60	$ 35.29	$ 35.29	$ -	
1.4	Sub-base gravel	2.4	tonne	$ 24.15	$ 58.32	$ 58.32	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	1.0	tonne	$ 29.93	$ 30.97	$ 30.97	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	0.8	tonne	$ 117.60	$ 88.20	$ 88.20	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	0	l.m.	$ 63.00	$ -	$ -	$ -	
1.8	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.9	New sidewalk	2	l.m.	$ 15.37	$ 30.75	$ 30.75	$ -	1.8m - 1.5m = 0.3m sidwalk
1.10	Restoration	0	sq.m.	$ 12.60	$ -	$ -	$ -	
1.11	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.12	Lighting allowance	1	l.m.	$ 25.63	$ 25.63	$ 25.63	$ -	50m to 40m spacing, $5125.90/light
1.13	Pavement markings	0	l.m.	$ 2.94	$ -	$ -	$ -	
SUBTOTAL FOR 22 Ave (per l.m.)		1	l.m.		**$ 379.84**	**$ 379.84**	**$ -**	
LENGTH OF ROAD		580	l.m.		**580**	**580**	**580**	
TOTAL FOR 22 Ave					**$ 220,308.52**	**$ 220,308.52**	**$ -**	
Contingency 30%					**$ 66,092.56**	**$ 66,092.56**	**$ -**	
Engineering 10%					**$ 22,030.85**	**$ 22,030.85**	**$ -**	
GRAND TOTAL FOR 22 AVE FROM 176 ST TO NCP BOUNDARY ***(excl. taxes)***					**$ 308,431.93**	**$ 308,431.93**	**$ -**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
7	**20 Ave (176 St to NCP Boundary)**				**Widening Cost Only**			
	widen 11m pavement to 14m, 24.0 m R/W, widen two 1.5m sidewalks to 1.8m					(100%)	(0%)	
1.1	Clear and grub	23	sq.m.	$ 3.15	$ 72.45	$ 72.45	$ -	5m past R/W on either side
1.2	Excavation	2	cu.m.	$ 21.24	$ 38.23	$ 38.23	$ -	excavation depth = 600 mm
1.3	Sub-grade fill & preparation	2	cu.m.	$ 19.60	$ 35.29	$ 35.29	$ -	
1.4	Sub-base gravel	2.4	tonne	$ 24.15	$ 58.32	$ 58.32	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	1.0	tonne	$ 29.93	$ 30.97	$ 30.97	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	0.8	tonne	$ 117.60	$ 88.20	$ 88.20	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	0	l.m.	$ 63.00	$ -	$ -	$ -	
1.8	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.9	New sidewalk	2	l.m.	$ 15.37	$ 30.75	$ 30.75	$ -	1.8m - 1.5m = 0.3m sidwalk
1.10	Restoration	0	sq.m.	$ 12.60	$ -	$ -	$ -	
1.11	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.12	Lighting allowance	1	l.m.	$ 25.63	$ 25.63	$ 25.63	$ -	50m to 40m spacing, $5125.90/light
1.13	Pavement markings	0	l.m.	$ 2.94	$ -	$ -	$ -	
SUBTOTAL FOR 20 Ave (per l.m.)		1	l.m.		**$ 379.84**	**$ 379.84**	**$ -**	
LENGTH OF ROAD		540	l.m.		**540**	**540**	**540**	
1.14	Signals for intersection							
	i) Intersections at 178 St (Collector - Collector)	1	l.s.	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ -	
TOTAL FOR 20 Ave					**$ 205,114.83**	**$ 205,114.83**	**$ -**	
Contingency 30%					**$ 61,534.45**	**$ 61,534.45**	**$ -**	
Engineering 10%					**$ 20,511.48**	**$ 20,511.48**	**$ -**	
GRAND TOTAL FOR 20 AVE FROM 176 ST TO NCP BOUNDARY ***(excl. taxes)***					**$ 287,160.76**	**$ 287,160.76**	**$ -**	
ON-SITE COLLECTOR ROADS TOTAL ***(incl. contingency, excl. taxes)***					**$ 3,600,145.06**	**$ 3,600,145.06**	**$ -**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
C.	**OFF-SITE ARTERIAL ROADS**							
1	**184 Street (from 16 Ave to 22 Ave)**							
	4 lanes - 20.0 m pavement, 30.0 m R/W, 2 sidewalks					(50%)	(50%)	
1.1	Clear and grub	40	sq.m.	$ 3.15	$ 126.00	$ 63.00	$ 63.00	5m past R/W on either side
1.2	Excavation	12	cu.m.	$ 21.24	$ 254.90	$ 127.45	$ 127.45	excavation depth = 600mm
1.3	Sub-grade fill & preparation	12	cu.m.	$ 19.60	$ 235.24	$ 117.62	$ 117.62	
1.4	Sub-base gravel	16.1	tonne	$ 24.15	$ 388.82	$ 194.41	$ 194.41	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	6.9	tonne	$ 29.93	$ 206.48	$ 103.24	$ 103.24	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	5.0	tonne	$ 117.60	$ 588.00	$ 294.00	$ 294.00	assume 100mm, 2.5 tonne/m3
1.7	Median	1	l.m.	$ 455.86	$ 455.86	$ 227.93	$ 227.93	
1.8	New curb	2	l.m.	$ 55.93	$ 111.87	$ 55.93	$ 55.93	
1.9	New sidewalk	2	l.m.	$ 92.22	$ 184.44	$ 92.22	$ 92.22	1.8m sidwalk
1.10	Boulevard trees	2	l.m.	$ 78.75	$ 157.50	$ 78.75	$ 78.75	
1.11	Restoration	10	sq.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.12	Drainage allowance	1	l.m.	$ 630.00	$ 630.00	$ 315.00	$ 315.00	
1.13	Lighting allowance	1	l.m.	$ 128.15	$ 128.15	$ 64.08	$ 64.08	lights at 40m costing $5125.90 each
1.14	Ped light allowance	0	l.m.	$ 64.08	$ -	$ -	$ -	
1.15	Pavement markings	1	l.m.	$ 2.94	$ 2.94	$ 1.47	$ 1.47	
1.16	Land acquisition (area required = 1.01 ha)	0.0008	ha	$ 2,965,253.00	$ 2,499.92	$ 1,249.96	$ 1,249.96	$1.2 million per acre
	(1.01 ha)/(1,198 m) = 0.0002 ha per l.m.							
SUBTOTAL FOR 184 ST (per l.m.)		1	l.m.		**$ 6,096.12**	**$ 3,048.06**	**$ 3,048.06**	
LENGTH OF ROAD		1,198	l.m.		**1,198**	**1,198**	**1,198**	
1.17	Signals for intersection							
	i) Intersections at 16 and 20 Ave (Arterial - Collector)	2	l.s.	$ 300,000.00	$ 600,000.00	$ 300,000.00	$ 300,000.00	
TOTAL FOR 184 ST FROM 16 AVE TO 22 AVE					**$ 7,903,150.14**	**$ 3,951,575.07**	**$ 3,951,575.07**	
Contingency 30%					**$ 2,370,945.04**	**$ 1,185,472.52**	**$ 1,185,472.52**	
Engineering 10%					**$ 790,315.01**	**$ 395,157.51**	**$ 395,157.51**	
GRAND TOTAL FOR 184 ST FROM 16 AVE TO 22 AVE ***(excl. taxes)***					**$ 11,064,410.19**	**$ 5,532,205.09**	**$ 5,532,205.09**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
2	**184 Street (from 26 Ave to 32 Ave)**							
	4 lanes - 20.0 m pavement, 30.0 m R/W, 2 sidewalks					(50%)	(50%)	
1.1	Clear and grub	40	sq.m.	$ 3.15	$ 126.00	$ 63.00	$ 63.00	5m past R/W on either side
1.2	Excavation	12	cu.m.	$ 21.24	$ 254.90	$ 127.45	$ 127.45	excavation depth = 600mm
1.3	Sub-grade fill & preparation	12	cu.m.	$ 19.60	$ 235.24	$ 117.62	$ 117.62	
1.4	Sub-base gravel	16.1	tonne	$ 24.15	$ 388.82	$ 194.41	$ 194.41	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	6.9	tonne	$ 29.93	$ 206.48	$ 103.24	$ 103.24	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	5.0	tonne	$ 117.60	$ 588.00	$ 294.00	$ 294.00	assume 100mm, 2.5 tonne/m3
1.7	Median	1	l.m.	$ 455.86	$ 455.86	$ 227.93	$ 227.93	
1.8	New curb	2	l.m.	$ 55.93	$ 111.87	$ 55.93	$ 55.93	
1.9	New sidewalk	2	l.m.	$ 92.22	$ 184.44	$ 92.22	$ 92.22	1.8m sidwalk
1.10	Boulevard trees	2	l.m.	$ 78.75	$ 157.50	$ 78.75	$ 78.75	
1.11	Restoration	10	sq.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.12	Drainage allowance	1	l.m.	$ 630.00	$ 630.00	$ 315.00	$ 315.00	
1.13	Lighting allowance	1	l.m.	$ 128.15	$ 128.15	$ 64.08	$ 64.08	lights at 40m costing $5125.90 each
1.14	Ped light allowance	0	l.m.	$ 64.08	$ -	$ -	$ -	
1.15	Pavement markings	1	l.m.	$ 2.94	$ 2.94	$ 1.47	$ 1.47	
1.16	Land acquisition (area required = 0.78 ha)	0.0005	ha	$ 2,965,253.00	$ 1,607.29	$ 803.65	$ 803.65	$1.2 million per acre
	(0.78 ha)/(1,439 m) = 0.0005 ha per l.m.							
SUBTOTAL FOR 184 ST (per l.m.)		1	l.m.		**$ 5,203.49**	**$ 2,601.75**	**$ 2,601.75**	
LENGTH OF ROAD		1,439	l.m.		**1,439**	**1,439**	**1,439**	
1.17	Signals for intersection							
	i) Intersections at 28 Ave (Arterial - Local)	0	l.s.	$ 275,000.00	$ -	$ -	$ -	no signal
TOTAL FOR 184 ST FROM 26 AVE TO 32 AVE					**$ 7,487,825.54**	**$ 3,743,912.77**	**$ 3,743,912.77**	
Contingency 30%					**$ 2,246,347.66**	**$ 1,123,173.83**	**$ 1,123,173.83**	
Engineering 10%					**$ 748,782.55**	**$ 374,391.28**	**$ 374,391.28**	
GRAND TOTAL FOR 184 ST FROM 26 AVE TO 32 AVE ***(excl taxes)***					**$ 10,482,955.76**	**$ 5,241,477.88**	**$ 5,241,477.88**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
3	**24 Avenue (from 168 St to 176 St)**							
	6 lanes - 30.0 m pavement, 40.0 m R/W, 2 sidewalks					(75%)	(25%)	
1.1	Clear and grub	50	sq.m.	$ 3.15	$ 157.50	$ 118.13	$ 39.38	5m past R/W on either side
1.2	Excavation	18	cu.m.	$ 21.24	$ 382.35	$ 286.76	$ 95.59	excavation depth = 600mm
1.3	Sub-grade fill & preparation	18	cu.m.	$ 19.60	$ 352.86	$ 264.65	$ 88.22	
1.4	Sub-base gravel	24.2	tonne	$ 24.15	$ 583.22	$ 437.42	$ 145.81	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	10.4	tonne	$ 29.93	$ 309.72	$ 232.29	$ 77.43	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	7.5	tonne	$ 117.60	$ 882.00	$ 661.50	$ 220.50	assume 100mm, 2.5 tonne/m3
1.7	Median	1	l.m.	$ 455.86	$ 455.86	$ 341.89	$ 113.96	
1.8	New curb	2	l.m.	$ 55.93	$ 111.87	$ 83.90	$ 27.97	
1.9	New sidewalk	2	l.m.	$ 92.22	$ 184.44	$ 138.33	$ 46.11	1.8m sidwalk
1.10	Boulevard trees	2	l.m.	$ 78.75	$ 157.50	$ 118.13	$ 39.38	
1.11	Restoration	10	sq.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.12	Drainage allowance	1	l.m.	$ 630.00	$ 630.00	$ 472.50	$ 157.50	
1.13	Lighting allowance	1	l.m.	$ 128.15	$ 128.15	$ 96.11	$ 32.04	lights at 40m costing $5125.90 each
1.14	Ped light allowance	1	l.m.	$ 64.08	$ 64.08	$ 48.06	$ 16.02	
1.15	Pavement markings	1	l.m.	$ 2.94	$ 2.94	$ 2.21	$ 0.74	
SUBTOTAL FOR 24 AVE (per l.m.)		1	l.m.		**$ 4,528.50**	**$ 3,396.37**	**$ 1,132.12**	
LENGTH OF ROAD		1,590	l.m.		**1,590**	**1,590**	1,590	
1.16	Signals for intersection							
	i) Intersection at 168 St (Arterial - Arterial, treat as Arterial - Local)	1	l.s.	$ 275,000.00	$ 275,000.00	$ 206,250.00	$ 68,750.00	
	ii) T-Intersection at 172 St (Arterial - Collector, treat as Arterial - Local)	1	l.s.	$ 200,000.00	$ 200,000.00	$ 150,000.00	$ 50,000.00	T-intersection
TOTAL FOR 24 AVE					**$ 7,675,311.42**	**$ 5,756,483.57**	**$ 1,918,827.86**	
Contingency 30%					**$ 2,302,593.43**	**$ 1,726,945.07**	**$ 575,648.36**	
Engineering 10%					**$ 767,531.14**	**$ 575,648.36**	**$ 191,882.79**	
GRAND TOTAL FOR 24 AVE FROM 168 ST TO 176 ST ***(excl. taxes)***					**$ 10,745,435.99**	**$ 8,059,076.99**	**$ 2,686,359.00**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
4	**24 Avenue (from 184 St to 188 St)**							
	6 lanes - 30.0 m pavement, 40.0 m R/W, 2 sidewalks					(75%)	(25%)	
1.1	Clear and grub	50	sq.m.	$ 3.15	$ 157.50	$ 118.13	$ 39.38	5m past R/W on either side
1.2	Excavation	18	cu.m.	$ 21.24	$ 382.35	$ 286.76	$ 95.59	excavation depth = 600mm
1.3	Sub-grade fill & preparation	18	cu.m.	$ 19.60	$ 352.86	$ 264.65	$ 88.22	
1.4	Sub-base gravel	24.2	tonne	$ 24.15	$ 583.22	$ 437.42	$ 145.81	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	10.4	tonne	$ 29.93	$ 309.72	$ 232.29	$ 77.43	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	7.5	tonne	$ 117.60	$ 882.00	$ 661.50	$ 220.50	assume 100mm, 2.5 tonne/m3
1.7	Median	1	l.m.	$ 455.86	$ 455.86	$ 341.89	$ 113.96	
1.8	New curb	2	l.m.	$ 55.93	$ 111.87	$ 83.90	$ 27.97	
1.9	New sidewalk	2	l.m.	$ 92.22	$ 184.44	$ 138.33	$ 46.11	1.8m sidwalk
1.10	Boulevard trees	2	l.m.	$ 78.75	$ 157.50	$ 118.13	$ 39.38	
1.11	Restoration	10	sq.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.12	Drainage allowance	1	l.m.	$ 630.00	$ 630.00	$ 472.50	$ 157.50	
1.13	Lighting allowance	1	l.m.	$ 128.15	$ 128.15	$ 96.11	$ 32.04	lights at 40m costing $5125.90 each
1.14	Ped light allowance	1	l.m.	$ 64.08	$ 64.08	$ 48.06	$ 16.02	
1.15	Pavement markings	1	l.m.	$ 2.94	$ 2.94	$ 2.21	$ 0.74	
SUBTOTAL FOR 24 AVE (per l.m.)		1	l.m.		**$ 4,528.50**	**$ 3,396.37**	**$ 1,132.12**	
LENGTH OF ROAD		800	l.m.		**800**	**800**	**800**	
1.16	Signals for intersection							
	i) T-Intersection at 188 St (Arterial - Local)	1	l.s.	$ 275,000.00	$ 275,000.00	$ 206,250.00	$ 68,750.00	T-intersection
TOTAL FOR 24 AVE					**$ 3,897,798.20**	**$ 2,923,348.65**	**$ 974,449.55**	
Contingency 30%					**$ 1,169,339.46**	**$ 877,004.60**	**$ 292,334.87**	
Engineering 10%					**$ 389,779.82**	**$ 292,334.87**	**$ 97,444.96**	
GRAND TOTAL FOR 24 AVE FROM 184 ST TO 188 ST ***(excl. taxes)***					**$ 5,456,917.48**	**$ 4,092,688.11**	**$ 1,364,229.37**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
5	**32 Avenue (from 176 St to 184 St)**							
	4 lanes - 20.0 m pavement, 30.0 m R/W, 2 sidewalks					(50%)	(50%)	
1.1	Clear and grub	40	sq.m.	$ 3.15	$ 126.00	$ 63.00	$ 63.00	5m past R/W on either side
1.2	Excavation	12	cu.m.	$ 21.24	$ 254.90	$ 127.45	$ 127.45	excavation depth = 600mm
1.3	Sub-grade fill & preparation	12	cu.m.	$ 19.60	$ 235.24	$ 117.62	$ 117.62	
1.4	Sub-base gravel	16.1	tonne	$ 24.15	$ 388.82	$ 194.41	$ 194.41	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	6.9	tonne	$ 29.93	$ 206.48	$ 103.24	$ 103.24	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	5.0	tonne	$ 117.60	$ 588.00	$ 294.00	$ 294.00	assume 100mm, 2.5 tonne/m3
1.7	Median	1	l.m.	$ 455.86	$ 455.86	$ 227.93	$ 227.93	
1.8	New curb	2	l.m.	$ 55.93	$ 111.87	$ 55.93	$ 55.93	
1.9	New sidewalk	2	l.m.	$ 92.22	$ 184.44	$ 92.22	$ 92.22	1.8m sidwalk
1.10	Boulevard trees	2	l.m.	$ 78.75	$ 157.50	$ 78.75	$ 78.75	
1.11	Restoration	10	sq.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.12	Drainage allowance	1	l.m.	$ 630.00	$ 630.00	$ 315.00	$ 315.00	
1.13	Lighting allowance	1	l.m.	$ 128.15	$ 128.15	$ 64.08	$ 64.08	lights at 40m costing $5125.90 each
1.14	Ped light allowance	1	l.m.	$ 64.08	$ 64.08	$ 32.04	$ 32.04	
1.15	Pavement markings	1	l.m.	$ 2.94	$ 2.94	$ 1.47	$ 1.47	
SUBTOTAL FOR 32 AVE (per l.m.)		1	l.m.		**$ 3,660.28**	**$ 1,830.14**	**$ 1,830.14**	
LENGTH OF ROAD		1,600	l.m.		**1,600**	**1,600**	**1,600**	
1.16	Signals for intersection							
	i) Intersections at 176 and 184 St (Arterial - Arterial)	2	l.s.	$ 350,000.00	$ 700,000.00	$ 350,000.00	$ 350,000.00	
TOTAL FOR 32 AVE					**$ 6,556,446.40**	**$ 3,278,223.20**	**$ 3,278,223.20**	
Contingency 30%					**$ 1,966,933.92**	**$ 983,466.96**	**$ 983,466.96**	
Engineering 10%					**$ 655,644.64**	**$ 327,822.32**	**$ 327,822.32**	
GRAND TOTAL FOR 32 AVE ***(excl. taxes)***					**$ 9,179,024.96**	**$ 4,589,512.48**	**$ 4,589,512.48**	
OFF-SITE ARTERIAL ROADS TOTAL ***(incl. contingency, excl. taxes)***					**$ 46,928,744.38**	**$ 27,514,960.56**	**$ 19,413,783.82**	

City of Surrey
Grandview Heights NCP #4
ARTERIALS & COLLECTORS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
D.	**OFF-SITE COLLECTOR ROADS**				**Widening Cost Only**			
1	**20 Ave (NCP Boundary to 184 St)**							
	widen 11m pavement to 14m, 24.0 m R/W, widen two 1.5m sidewalks to 1.8m					(100%)	(0%)	
1.1	Clear and grub	23	sq.m.	$ 3.15	$ 72.45	$ 72.45	$ -	5m past R/W on either side
1.2	Excavation	2	cu.m.	$ 21.24	$ 38.23	$ 38.23	$ -	excavation depth = 600 mm
1.3	Sub-grade fill & preparation	2	cu.m.	$ 19.60	$ 35.29	$ 35.29	$ -	
1.4	Sub-base gravel	2.4	tonne	$ 24.15	$ 58.32	$ 58.32	$ -	assume 350mm, 2.3 tonne/m3
1.5	Base gravel	1.0	tonne	$ 29.93	$ 30.97	$ 30.97	$ -	assume 150mm, 2.3 tonne/m3
1.6	Asphalt	0.8	tonne	$ 117.60	$ 88.20	$ 88.20	$ -	assume 100mm, 2.5 tonne/m3
1.7	Median	0	l.m.	$ 63.00	$ -	$ -	$ -	
1.8	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.9	New sidewalk	2	l.m.	$ 15.37	$ 30.75	$ 30.75	$ -	1.8m - 1.5m = 0.3m sidwalk
1.10	Restoration	0	sq.m.	$ 12.60	$ -	$ -	$ -	
1.11	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.12	Lighting allowance	1	l.m.	$ 25.63	$ 25.63	$ 25.63	$ -	50m to 40m spacing, $5125.90/light
1.13	Pavement markings	0	l.m.	$ 2.94	$ -	$ -	$ -	
SUBTOTAL FOR 20 Ave (per l.m.)		1	l.m.		**$ 379.84**	**$ 379.84**	**$ -**	
LENGTH OF ROAD		1,050	l.m.		**1,050**	**1,050**	**1,050**	
TOTAL FOR 20 Ave					**$ 398,834.39**	**$ 398,834.39**	**$ -**	
Contingency 30%					**$ 119,650.32**	**$ 119,650.32**	**$ -**	
Engineering 10%					**$ 39,883.44**	**$ 39,883.44**	**$ -**	
GRAND TOTAL FOR 20 AVE FROM NCP BOUNDARY TO 184 ST ***(excl. taxes)***					**$ 558,368.14**	**$ 558,368.14**	**$ -**	
OFF-SITE COLLECTOR ROADS TOTAL ***(incl. contingency, excl. taxes)***					**$ 558,368.14**	**$ 558,368.14**	**$ -**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

Project No: Grandview Heights NCP#4

A. ON-SITE INTERSECTIONS

1a 176 Street and 20 Avenue (West side)
widening for EB to NB left-turn lane

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
						(0%)	(100%)	
1.1	Excavation	635	cu.m.	$ 21.24	$ 13,496.85	$ -	$ 13,496.85	excavation depth = 600mm
1.2	Sub-grade fill & preparation	635	cu.m.	$ 19.60	$ 12,456.06	$ -	$ 12,456.06	
1.3	Sub-base gravel	852	tonne	$ 24.15	$ 20,587.75	$ -	$ 20,587.75	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	365	tonne	$ 29.93	$ 10,933.25	$ -	$ 10,933.25	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	265	tonne	$ 117.60	$ 31,134.60	$ -	$ 31,134.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	182	l.m.	$ 55.93	$ 10,168.71	$ -	$ 10,168.71	
1.7	New sidewalk	26	l.m.	$ 92.22	$ 2,388.54	$ -	$ 2,388.54	1.8m sidwalk
1.8	Shoulder	354	l.m.	$ 11.55	$ 4,088.70	$ -	$ 4,088.70	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	91	l.m.	$ 630.00	$ 57,267.00	$ -	$ 57,267.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 20 AVE ON WEST SIDE OF 176 ST					**$ 163,434.96**	**$ -**	**$ 163,434.96**	

1b 176 Street and 20 Avenue (East Side)
widening for WB to SB left-turn lane

Growth Component at 0 %
Balance to Developer at 100 %

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
						(0%)	(100%)	
1.1	Excavation	635	cu.m.	$ 21.24	$ 13,496.85	$ -	$ 13,496.85	excavation depth = 600mm
1.2	Sub-grade fill & preparation	635	cu.m.	$ 19.60	$ 12,456.06	$ -	$ 12,456.06	
1.3	Sub-base gravel	852	tonne	$ 24.15	$ 20,587.75	$ -	$ 20,587.75	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	365	tonne	$ 29.93	$ 10,933.25	$ -	$ 10,933.25	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	265	tonne	$ 117.60	$ 31,134.60	$ -	$ 31,134.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	182	l.m.	$ 55.93	$ 10,168.71	$ -	$ 10,168.71	
1.7	New sidewalk	6	l.m.	$ 92.22	$ 544.11	$ -	$ 544.11	1.8m sidwalk
1.8	Shoulder	354	l.m.	$ 11.55	$ 4,088.70	$ -	$ 4,088.70	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	182	l.m.	$ 630.00	$ 114,534.00	$ -	$ 114,534.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 20 AVE ON EAST SIDE OF 176 ST					**$ 218,857.53**	**$ -**	**$ 218,857.53**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
1c	**176 Street and 20 Avenue (North Side)**							
	widening for SB to WB right-turn lane					(0%)	(100%)	
1.1	Excavation	246	cu.m.	$ 21.24	$ 5,225.41	$ -	$ 5,225.41	excavation depth = 600mm
1.2	Sub-grade fill & preparation	246	cu.m.	$ 19.60	$ 4,822.46	$ -	$ 4,822.46	
1.3	Sub-base gravel	330	tonne	$ 24.15	$ 7,970.71	$ -	$ 7,970.71	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	141	tonne	$ 29.93	$ 4,232.89	$ -	$ 4,232.89	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	103	tonne	$ 117.60	$ 12,054.00	$ -	$ 12,054.00	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	140	l.m.	$ 92.22	$ 12,911.01	$ -	$ 12,911.01	1.8m sidwalk
1.8	Shoulder	140	l.m.	$ 11.55	$ 1,617.00	$ -	$ 1,617.00	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 ST ON NORTH SIDE OF 20 AVE					**$ 49,746.98**	**$ -**	**$ 49,746.98**	
1d	**176 Street and 20 Avenue (South Side)**							
	widening for NB to EB right-turn lane					(0%)	(100%)	
1.1	Excavation	246	cu.m.	$ 21.24	$ 5,225.41	$ -	$ 5,225.41	excavation depth = 600mm
1.2	Sub-grade fill & preparation	246	cu.m.	$ 19.60	$ 4,822.46	$ -	$ 4,822.46	
1.3	Sub-base gravel	330	tonne	$ 24.15	$ 7,970.71	$ -	$ 7,970.71	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	141	tonne	$ 29.93	$ 4,232.89	$ -	$ 4,232.89	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	103	tonne	$ 117.60	$ 12,054.00	$ -	$ 12,054.00	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	140	l.m.	$ 92.22	$ 12,911.01	$ -	$ 12,911.01	1.8m sidwalk
1.8	Shoulder	140	l.m.	$ 11.55	$ 1,617.00	$ -	$ 1,617.00	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 ST ON SOUTH SIDE OF 20 AVE					**$ 49,746.98**	**$ -**	**$ 49,746.98**	
1.12	Signals for intersection (Arterial - Collector)	1	l.s.	$ 300,000.00	$ 300,000.00	$ -	$ 300,000.00	
TOTAL FOR 176 ST & 20 AVE					**$ 781,786.45**	**$ -**	**$ 781,786.45**	
Contingency 30%					**$ 234,535.94**	**$ -**	**$ 234,535.94**	
Engineering 10%					**$ 78,178.65**	**$ -**	**$ 78,178.65**	
GRAND TOTAL FOR 176 ST & 20 AVE *(excl. taxes)*					**$ 1,094,501.03**	**$ -**	**$ 1,094,501.03**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
2a	**176 Street and 22 Avenue (North side)**							
	widening for SB to EB left-turn lane					(0%)	(100%)	
1.1	Excavation	350	cu.m.	$ 21.24	$ 7,430.28	$ -	$ 7,430.28	excavation depth = 600mm
1.2	Sub-grade fill & preparation	350	cu.m.	$ 19.60	$ 6,857.30	$ -	$ 6,857.30	
1.3	Sub-base gravel	469	tonne	$ 24.15	$ 11,333.96	$ -	$ 11,333.96	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	201	tonne	$ 29.93	$ 6,018.96	$ -	$ 6,018.96	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	146	tonne	$ 117.60	$ 17,140.20	$ -	$ 17,140.20	assume 100mm, 2.5 tonne/m3
1.6	New curb	187	l.m.	$ 55.93	$ 10,476.34	$ -	$ 10,476.34	
1.7	New sidewalk	213	l.m.	$ 92.22	$ 19,680.07	$ -	$ 19,680.07	1.8m sidwalk
1.8	Shoulder	234	l.m.	$ 11.55	$ 2,702.70	$ -	$ 2,702.70	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 ST ON NORTH SIDE OF 22 AVE					**$ 82,553.32**	**$ -**	**$ 82,553.32**	
2b	**176 Street and 22 Avenue (South side)**							
	widening for NB to WB right-turn lane					(0%)	(100%)	
1.1	Excavation	434	cu.m.	$ 21.24	$ 9,227.31	$ -	$ 9,227.31	excavation depth = 600mm
1.2	Sub-grade fill & preparation	434	cu.m.	$ 19.60	$ 8,515.76	$ -	$ 8,515.76	
1.3	Sub-base gravel	583	tonne	$ 24.15	$ 14,075.10	$ -	$ 14,075.10	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	250	tonne	$ 29.93	$ 7,474.67	$ -	$ 7,474.67	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	181	tonne	$ 117.60	$ 21,285.60	$ -	$ 21,285.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	44	l.m.	$ 55.93	$ 2,461.07	$ -	$ 2,461.07	
1.7	New sidewalk	139	l.m.	$ 92.22	$ 12,818.79	$ -	$ 12,818.79	1.8m sidwalk
1.8	Shoulder	139	l.m.	$ 11.55	$ 1,605.45	$ -	$ 1,605.45	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 ST ON SOUTH SIDE OF 22 AVE					**$ 78,377.25**	**$ -**	**$ 78,377.25**	
1.12	Signals for intersection (Arterial - Local)	1	l.s.	$ 275,000.00	$ 275,000.00	$ -	$ 275,000.00	
TOTAL FOR 176 ST & 22 AVE					**$ 435,930.57**	**$ -**	**$ 435,930.57**	
Contingency 30%					**$ 130,779.17**	**$ -**	**$ 130,779.17**	
Engineering 10%					**$ 43,593.06**	**$ -**	**$ 43,593.06**	
GRAND TOTAL FOR 176 ST & 22 AVE (excl. taxes)					**$ 610,302.79**	**$ -**	**$ 610,302.79**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
3a	**176 Street and 24 Avenue (West Side)**							
	widening for EB to NB left-turn lane					(75%)	(25%)	
1.1	Excavation	635	cu.m.	$ 21.24	$ 13,496.85	$ 10,122.64	$ 3,374.21	excavation depth = 600mm
1.2	Sub-grade fill & preparation	635	cu.m.	$ 19.60	$ 12,456.06	$ 9,342.05	$ 3,114.02	
1.3	Sub-base gravel	852	tonne	$ 24.15	$ 20,587.75	$ 15,440.82	$ 5,146.94	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	365	tonne	$ 29.93	$ 10,933.25	$ 8,199.94	$ 2,733.31	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	265	tonne	$ 117.60	$ 31,134.60	$ 23,350.95	$ 7,783.65	assume 100mm, 2.5 tonne/m3
1.6	New curb	182	l.m.	$ 55.93	$ 10,168.71	$ 7,626.53	$ 2,542.18	
1.7	New sidewalk	25	l.m.	$ 92.22	$ 2,305.54	$ 1,729.15	$ 576.38	1.8m sidwalk
1.8	Shoulder	354	l.m.	$ 11.55	$ 4,088.70	$ 3,066.53	$ 1,022.18	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 590.63	$ 196.88	
SUBTOTAL FOR 24 AVE ON WEST SIDE OF 176 ST					**$ 106,084.96**	**$ 79,563.72**	**$ 26,521.24**	
3b	**176 Street and 24 Avenue (East Side)**							
	widening for WB to SB left-turn lane					(100%)	(0%)	
1.1	Excavation	635	cu.m.	$ 21.24	$ 13,496.85	$ 13,496.85	$ -	excavation depth = 600mm
1.2	Sub-grade fill & preparation	635	cu.m.	$ 19.60	$ 12,456.06	$ 12,456.06	$ -	
1.3	Sub-base gravel	852	tonne	$ 24.15	$ 20,587.75	$ 20,587.75	$ -	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	365	tonne	$ 29.93	$ 10,933.25	$ 10,933.25	$ -	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	265	tonne	$ 117.60	$ 31,134.60	$ 31,134.60	$ -	assume 100mm, 2.5 tonne/m3
1.6	New curb	182	l.m.	$ 55.93	$ 10,168.71	$ 10,168.71	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	354	l.m.	$ 11.55	$ 4,088.70	$ 4,088.70	$ -	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 126.00	$ -	
1.10	Drainage allowance	388	l.m.	$ 630.00	$ 244,440.00	$ 244,440.00	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 787.50	$ -	
SUBTOTAL FOR 24 AVE ON EAST SIDE OF 176 ST					**$ 348,219.43**	**$ 348,219.43**	**$ -**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
3c	**176 Street and 24 Avenue (North Side)**							
	widening for SB to WB right-turn lane					(0%)	(100%)	
1.1	Excavation	246	cu.m.	$ 21.24	$ 5,225.41	$ -	$ 5,225.41	excavation depth = 600mm
1.2	Sub-grade fill & preparation	246	cu.m.	$ 19.60	$ 4,822.46	$ -	$ 4,822.46	
1.3	Sub-base gravel	330	tonne	$ 24.15	$ 7,970.71	$ -	$ 7,970.71	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	141	tonne	$ 29.93	$ 4,232.89	$ -	$ 4,232.89	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	103	tonne	$ 117.60	$ 12,054.00	$ -	$ 12,054.00	assume 100mm, 2.5 tonne/m3
1.6	New curb	140	l.m.	$ 55.93	$ 7,830.69	$ -	$ 7,830.69	
1.7	New sidewalk	140	l.m.	$ 92.22	$ 12,911.01	$ -	$ 12,911.01	1.8m sidwalk
1.8	Shoulder	140	l.m.	$ 11.55	$ 1,617.00	$ -	$ 1,617.00	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 ST ON NORTH SIDE OF 24 AVE					**$ 57,577.67**	**$ -**	**$ 57,577.67**	
3d	**176 Street and 24 Avenue (South Side)**							
	widening for NB to EB right-turn lane					(0%)	(100%)	
1.1	Excavation	246	cu.m.	$ 21.24	$ 5,225.41	$ -	$ 5,225.41	excavation depth = 600mm
1.2	Sub-grade fill & preparation	246	cu.m.	$ 19.60	$ 4,822.46	$ -	$ 4,822.46	
1.3	Sub-base gravel	330	tonne	$ 24.15	$ 7,970.71	$ -	$ 7,970.71	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	141	tonne	$ 29.93	$ 4,232.89	$ -	$ 4,232.89	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	103	tonne	$ 117.60	$ 12,054.00	$ -	$ 12,054.00	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	140	l.m.	$ 11.55	$ 1,617.00	$ -	$ 1,617.00	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 ST ON SOUTH SIDE OF 24 AVE					**$ 36,835.97**	**$ -**	**$ 36,835.97**	
1.12	Signals for intersection (Arterial - Arterial)	0	l.s.	$ 350,000.00	$ -	$ -	$ -	included in 24 Ave arterial costs
TOTAL FOR 176 ST & 24 AVE					**$ 548,718.03**	**$ 427,783.15**	**$ 120,934.88**	
Contingency 30%					**$ 164,615.41**	**$ 128,334.94**	**$ 36,280.46**	
Engineering 10%					**$ 54,871.80**	**$ 42,778.31**	**$ 12,093.49**	
GRAND TOTAL FOR 176 ST & 24 AVE *(excl. taxes)*					**$ 768,205.24**	**$ 598,896.41**	**$ 169,308.83**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
4a	**24 Ave and 184 Street (North side)**							
	widening for SB to EB left-turn lane					(50%)	(50%)	
1.1	Excavation	483	cu.m.	$ 21.24	$ 10,259.64	$ 5,129.82	$ 5,129.82	excavation depth = 600mm
1.2	Sub-grade fill & preparation	483	cu.m.	$ 19.60	$ 9,468.49	$ 4,734.25	$ 4,734.25	
1.3	Sub-base gravel	648	tonne	$ 24.15	$ 15,649.80	$ 7,824.90	$ 7,824.90	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	278	tonne	$ 29.93	$ 8,310.92	$ 4,155.46	$ 4,155.46	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	201	tonne	$ 117.60	$ 23,667.00	$ 11,833.50	$ 11,833.50	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 1,697.85	$ 1,697.85	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	480	l.m.	$ 630.00	$ 302,400.00	$ 151,200.00	$ 151,200.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON NORTH SIDE OF 24 AVE					**$ 374,065.06**	**$ 187,032.53**	**$ 187,032.53**	
4b	**24 Ave and 184 Street (South side)**							
	widening for NB to WB left-turn lane					(50%)	(50%)	
1.1	Excavation	483	cu.m.	$ 21.24	$ 10,259.64	$ 5,129.82	$ 5,129.82	excavation depth = 600mm
1.2	Sub-grade fill & preparation	483	cu.m.	$ 19.60	$ 9,468.49	$ 4,734.25	$ 4,734.25	
1.3	Sub-base gravel	648	tonne	$ 24.15	$ 15,649.80	$ 7,824.90	$ 7,824.90	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	278	tonne	$ 29.93	$ 8,310.92	$ 4,155.46	$ 4,155.46	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	201	tonne	$ 117.60	$ 23,667.00	$ 11,833.50	$ 11,833.50	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 1,697.85	$ 1,697.85	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	427	l.m.	$ 630.00	$ 269,010.00	$ 134,505.00	$ 134,505.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON SOUTH SIDE OF 24 AVE					**$ 340,675.06**	**$ 170,337.53**	**$ 170,337.53**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
4c	**24 Ave and 184 Street (West side)**							
	widening for EB to NB left-turn lane					(100%)	(0%)	
1.1	Excavation	483	cu.m.	$ 21.24	$ 10,259.64	$ 10,259.64	$ -	excavation depth = 600mm
1.2	Sub-grade fill & preparation	483	cu.m.	$ 19.60	$ 9,468.49	$ 9,468.49	$ -	
1.3	Sub-base gravel	648	tonne	$ 24.15	$ 15,649.80	$ 15,649.80	$ -	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	278	tonne	$ 29.93	$ 8,310.92	$ 8,310.92	$ -	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	201	tonne	$ 117.60	$ 23,667.00	$ 23,667.00	$ -	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 3,395.70	$ -	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 126.00	$ -	
1.10	Drainage allowance	340	l.m.	$ 630.00	$ 214,200.00	$ 214,200.00	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 787.50	$ -	
SUBTOTAL FOR 24 AVE ON WEST SIDE OF 184 ST					**$ 285,865.06**	**$ 285,865.06**	**$ -**	
4d	**24 Ave and 184 Street (East side)**							
	widening for WB to SB left-turn lane					(75%)	(25%)	
1.1	Excavation	483	cu.m.	$ 21.24	$ 10,259.64	$ 7,694.73	$ 2,564.91	excavation depth = 600mm
1.2	Sub-grade fill & preparation	483	cu.m.	$ 19.60	$ 9,468.49	$ 7,101.37	$ 2,367.12	
1.3	Sub-base gravel	648	tonne	$ 24.15	$ 15,649.80	$ 11,737.35	$ 3,912.45	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	278	tonne	$ 29.93	$ 8,310.92	$ 6,233.19	$ 2,077.73	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	201	tonne	$ 117.60	$ 23,667.00	$ 17,750.25	$ 5,916.75	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 2,546.78	$ 848.93	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.10	Drainage allowance	300	l.m.	$ 630.00	$ 189,000.00	$ 141,750.00	$ 47,250.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 590.63	$ 196.88	
SUBTOTAL FOR 24 AVE ON EAST SIDE OF 184 ST					**$ 260,665.06**	**$ 195,498.79**	**$ 65,166.26**	
1.12	Signals for intersection (Arterial - Arterial)	0	l.s.	$ 350,000.00	$ -	$ -	$ -	cost incl. in 24 Ave Arterial Road
TOTAL FOR 24 AVE & 184 ST					**$ 1,261,270.24**	**$ 838,733.91**	**$ 422,536.32**	
Contingency 30%					**$ 378,381.07**	**$ 251,620.17**	**$ 126,760.90**	
Engineering 10%					**$ 126,127.02**	**$ 83,873.39**	**$ 42,253.63**	
GRAND TOTAL FOR 24 AVE & 184 ST *(excl. taxes)*					**$ 1,765,778.33**	**$ 1,174,227.48**	**$ 591,550.85**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
5a	**176 Street and 26 Avenue (North Side)**							
	widening for SB to EB left-turn and SB to WB right-turn lane					(0%)	(100%)	
1.1	Excavation	596	cu.m.	$ 21.24	$ 12,655.69	$ -	$ 12,655.69	excavation depth = 600mm
1.2	Sub-grade fill & preparation	596	cu.m.	$ 19.60	$ 11,679.77	$ -	$ 11,679.77	
1.3	Sub-base gravel	799	tonne	$ 24.15	$ 19,304.66	$ -	$ 19,304.66	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	343	tonne	$ 29.93	$ 10,251.86	$ -	$ 10,251.86	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	248	tonne	$ 117.60	$ 29,194.20	$ -	$ 29,194.20	assume 100mm, 2.5 tonne/m3
1.6	New curb	187	l.m.	$ 55.93	$ 10,476.34	$ -	$ 10,476.34	
1.7	New sidewalk	213	l.m.	$ 92.22	$ 19,680.07	$ -	$ 19,680.07	1.8m sidwalk
1.8	Shoulder	234	l.m.	$ 11.55	$ 2,702.70	$ -	$ 2,702.70	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 St ON NORTH SIDE OF 26 AVE					**$ 116,858.78**	**$ -**	**$ 116,858.78**	
5b	**176 Street and 26 Avenue (South Side)**							
	widening for SB to WB left-turn and SB to EB right-turn lane					(0%)	(100%)	
1.1	Excavation	596	cu.m.	$ 21.24	$ 12,655.69	$ -	$ 12,655.69	excavation depth = 600mm
1.2	Sub-grade fill & preparation	596	cu.m.	$ 19.60	$ 11,679.77	$ -	$ 11,679.77	
1.3	Sub-base gravel	799	tonne	$ 24.15	$ 19,304.66	$ -	$ 19,304.66	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	343	tonne	$ 29.93	$ 10,251.86	$ -	$ 10,251.86	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	248	tonne	$ 117.60	$ 29,194.20	$ -	$ 29,194.20	assume 100mm, 2.5 tonne/m3
1.6	New curb	187	l.m.	$ 55.93	$ 10,476.34	$ -	$ 10,476.34	
1.7	New sidewalk	213	l.m.	$ 92.22	$ 19,680.07	$ -	$ 19,680.07	1.8m sidwalk
1.8	Shoulder	257	l.m.	$ 11.55	$ 2,968.35	$ -	$ 2,968.35	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 St ON SOUTH SIDE OF 26 AVE					**$ 117,124.43**	**$ -**	**$ 117,124.43**	
1.12	Signals for intersection (Arterial - Collector)	1	l.s.	$ 300,000.00	$ 300,000.00	$ -	$ 300,000.00	
TOTAL FOR 176 ST & 26 AVE					**$ 533,983.22**	**$ -**	**$ 533,983.22**	
Contingency 30%					**$ 160,194.97**	**$ -**	**$ 160,194.97**	
Engineering 10%					**$ 53,398.32**	**$ -**	**$ 53,398.32**	
GRAND TOTAL FOR 176 ST & 26 AVE *(excl. taxes)*					**$ 747,576.51**	**$ -**	**$ 747,576.51**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
6a	**176 Street and 28 Avenue (North side)**							
	widening for SB to EB left-turn and SB to WB right-turn lane					(0%)	(100%)	
1.1	Excavation	432	cu.m.	$ 21.24	$ 9,176.33	$ -	$ 9,176.33	excavation depth = 600mm
1.2	Sub-grade fill & preparation	432	cu.m.	$ 19.60	$ 8,468.71	$ -	$ 8,468.71	
1.3	Sub-base gravel	580	tonne	$ 24.15	$ 13,997.34	$ -	$ 13,997.34	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	248	tonne	$ 29.93	$ 7,433.37	$ -	$ 7,433.37	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	180	tonne	$ 117.60	$ 21,168.00	$ -	$ 21,168.00	assume 100mm, 2.5 tonne/m3
1.6	New curb	187	l.m.	$ 55.93	$ 10,476.34	$ -	$ 10,476.34	
1.7	New sidewalk	213	l.m.	$ 92.22	$ 19,680.07	$ -	$ 19,680.07	1.8m sidwalk
1.8	Shoulder	257	l.m.	$ 11.55	$ 2,968.35	$ -	$ 2,968.35	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 St ON NORTH SIDE OF 28 AVE					**$ 94,282.01**	**$ -**	**$ 94,282.01**	
6b	**176 Street and 28 Avenue (South side)**							
	widening for NB to EB right-turn lane					(0%)	(100%)	
1.1	Excavation	246	cu.m.	$ 21.24	$ 5,225.41	$ -	$ 5,225.41	excavation depth = 600mm
1.2	Sub-grade fill & preparation	246	cu.m.	$ 19.60	$ 4,822.46	$ -	$ 4,822.46	
1.3	Sub-base gravel	330	tonne	$ 24.15	$ 7,970.71	$ -	$ 7,970.71	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	141	tonne	$ 29.93	$ 4,232.89	$ -	$ 4,232.89	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	103	tonne	$ 117.60	$ 12,054.00	$ -	$ 12,054.00	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	140	l.m.	$ 92.22	$ 12,911.01	$ -	$ 12,911.01	1.8m sidwalk
1.8	Shoulder	140	l.m.	$ 11.55	$ 1,617.00	$ -	$ 1,617.00	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 St ON SOUTH SIDE OF 28 AVE					**$ 49,746.98**	**$ -**	**$ 49,746.98**	
1.12	Signals for intersection (Arterial - Local)	1	l.s.	$ 275,000.00	$ 275,000.00	$ -	$ 275,000.00	
TOTAL FOR 176 ST & 28 AVE					**$ 419,028.99**	**$ -**	**$ 419,028.99**	
Contingency 30%					**$ 125,708.70**	**$ -**	**$ 125,708.70**	
Engineering 10%					**$ 41,902.90**	**$ -**	**$ 41,902.90**	
GRAND TOTAL FOR 176 ST & 28 AVE *(excl. taxes)*					**$ 586,640.59**	**$ -**	**$ 586,640.59**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
7a	**176 Street and 31 Avenue (South side)**							
	widening for NB to EB right-turn lane					(0%)	(100%)	
1.1	Excavation	434	cu.m.	$ 21.24	$ 9,227.31	$ -	$ 9,227.31	excavation depth = 600mm
1.2	Sub-grade fill & preparation	434	cu.m.	$ 19.60	$ 8,515.76	$ -	$ 8,515.76	
1.3	Sub-base gravel	583	tonne	$ 24.15	$ 14,075.10	$ -	$ 14,075.10	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	250	tonne	$ 29.93	$ 7,474.67	$ -	$ 7,474.67	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	181	tonne	$ 117.60	$ 21,285.60	$ -	$ 21,285.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	182	l.m.	$ 55.93	$ 10,179.90	$ -	$ 10,179.90	
1.7	New sidewalk	117	l.m.	$ 92.22	$ 10,789.92	$ -	$ 10,789.92	1.8m sidwalk
1.8	Shoulder	256	l.m.	$ 11.55	$ 2,956.80	$ -	$ 2,956.80	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 St ON SOUTH SIDE OF 31 AVE					**$ 85,418.55**	**$ -**	**$ 85,418.55**	
1.12	Signals for intersection (Arterial - Collector)	1	l.s.	$ 300,000.00	$ 300,000.00	$ -	$ 300,000.00	
TOTAL FOR 176 ST & 31 AVE					**$ 385,418.55**	**$ -**	**$ 385,418.55**	
Contingency 30%					**$ 115,625.57**	**$ -**	**$ 115,625.57**	
Engineering 10%					**$ 38,541.86**	**$ -**	**$ 38,541.86**	
GRAND TOTAL FOR 176 ST & 31 AVE *(excl. taxes)*					**$ 539,585.97**	**$ -**	**$ 539,585.97**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
8	**176 Street and 32 Avenue (South side)**							
	widening for NB to EB right-turn lane					(0%)	(100%)	
1.1	Excavation	246	cu.m.	$ 21.24	$ 5,225.41	$ -	$ 5,225.41	excavation depth = 600mm
1.2	Sub-grade fill & preparation	246	cu.m.	$ 19.60	$ 4,822.46	$ -	$ 4,822.46	
1.3	Sub-base gravel	330	tonne	$ 24.15	$ 7,970.71	$ -	$ 7,970.71	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	141	tonne	$ 29.93	$ 4,232.89	$ -	$ 4,232.89	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	103	tonne	$ 117.60	$ 12,054.00	$ -	$ 12,054.00	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	140	l.m.	$ 11.55	$ 1,617.00	$ -	$ 1,617.00	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ -	$ 126.00	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ -	$ 787.50	
SUBTOTAL FOR 176 ST ON SOUTH SIDE OF 32 AVE					**$ 36,835.97**	**$ -**	**$ 36,835.97**	
1.12	Signals for intersection (Arterial - Arterial)	0	l.s.	$ 350,000.00	$ -	$ -	$ -	Cost incl. in 32 Ave Offsite Arterial
TOTAL FOR 176 ST ON SOUTH SIDE OF 32 AVE					**$ 36,835.97**	**$ -**	**$ 36,835.97**	
Contingency 30%					**$ 11,050.79**	**$ -**	**$ 11,050.79**	
Engineering 10%					**$ 3,683.60**	**$ -**	**$ 3,683.60**	
GRAND TOTAL FOR 176 ST & 32 AVE *(excl. taxes)*					**$ 51,570.36**	**$ -**	**$ 51,570.36**	
ON-SITE INTERSECTION TOTAL *(incl. contingency, excl. taxes)*					**$ 6,164,160.82**	**$ 1,773,123.89**	**$ 4,391,036.93**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
B.	**OFF-SITE INTERSECTIONS**							
1a	**24 Avenue and 168 St (West side)**					(75%)	(25%)	
	widening for EB to NB left-turn lane							
1.1	Excavation	376	cu.m.	$ 21.24	$ 7,978.31	$ 5,983.73	$ 1,994.58	excavation depth = 600mm
1.2	Sub-grade fill & preparation	376	cu.m.	$ 19.60	$ 7,363.07	$ 5,522.31	$ 1,840.77	
1.3	Sub-base gravel	504	tonne	$ 24.15	$ 12,169.91	$ 9,127.43	$ 3,042.48	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	216	tonne	$ 29.93	$ 6,462.90	$ 4,847.18	$ 1,615.73	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	157	tonne	$ 117.60	$ 18,404.40	$ 13,803.30	$ 4,601.10	assume 100mm, 2.5 tonne/m3
1.6	New curb	182	l.m.	$ 55.93	$ 10,168.71	$ 7,626.53	$ 2,542.18	
1.7	New sidewalk	85	l.m.	$ 92.22	$ 7,838.83	$ 5,879.12	$ 1,959.71	1.8m sidwalk
1.8	Shoulder	288	l.m.	$ 11.55	$ 3,326.40	$ 2,494.80	$ 831.60	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.10	Drainage allowance	490	l.m.	$ 630.00	$ 308,700.00	$ 231,525.00	$ 77,175.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 590.63	$ 196.88	
SUBTOTAL FOR 24 AVE ON WEST SIDE OF 168 ST					**$ 383,326.03**	**$ 287,494.52**	**$ 95,831.51**	
1b	**24 Avenue and 168 St (East side)**					(75%)	(25%)	
	widening for WB to SB left-turn lane							
1.1	Excavation	376	cu.m.	$ 21.24	$ 7,978.31	$ 5,983.73	$ 1,994.58	excavation depth = 600mm
1.2	Sub-grade fill & preparation	376	cu.m.	$ 19.60	$ 7,363.07	$ 5,522.31	$ 1,840.77	
1.3	Sub-base gravel	504	tonne	$ 24.15	$ 12,169.91	$ 9,127.43	$ 3,042.48	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	216	tonne	$ 29.93	$ 6,462.90	$ 4,847.18	$ 1,615.73	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	157	tonne	$ 117.60	$ 18,404.40	$ 13,803.30	$ 4,601.10	assume 100mm, 2.5 tonne/m3
1.6	New curb	182	l.m.	$ 55.93	$ 10,168.71	$ 7,626.53	$ 2,542.18	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	288	l.m.	$ 11.55	$ 3,326.40	$ 2,494.80	$ 831.60	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.10	Drainage allowance	246	l.m.	$ 630.00	$ 154,980.00	$ 116,235.00	$ 38,745.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 590.63	$ 196.88	
SUBTOTAL FOR 24 AVE ON EAST SIDE OF 168 ST					**$ 221,767.20**	**$ 166,325.40**	**$ 55,441.80**	
1.1	Signals for intersection (Arterial - Arterial, treat as Arterial - Local)	0	l.s.	$ 275,000.00	$ -	$ -	$ -	Cost incl. in 24 Ave Offsite Arterial
TOTAL FOR 24 AVE & 168 ST					**$ 605,093.24**	**$ 453,819.93**	**$ 151,273.31**	
Contingency 30%					**$ 181,527.97**	**$ 136,145.98**	**$ 45,381.99**	
Engineering 10%					**$ 60,509.32**	**$ 45,381.99**	**$ 15,127.33**	
GRAND TOTAL FOR 24 AVE & 168 ST ***(excl. taxes)***					**$ 847,130.53**	**$ 635,347.90**	**$ 211,782.63**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
2a	**24 Avenue and 172 St (East side)**							
	widening for WB to SB left-turn lane					(75%)	(25%)	
1.1	Excavation	500	cu.m.	$ 21.24	$ 10,616.50	$ 7,962.38	$ 2,654.13	excavation depth = 600mm
1.2	Sub-grade fill & preparation	500	cu.m.	$ 19.60	$ 9,797.83	$ 7,348.37	$ 2,449.46	
1.3	Sub-base gravel	671	tonne	$ 24.15	$ 16,194.14	$ 12,145.61	$ 4,048.54	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	287	tonne	$ 29.93	$ 8,600.00	$ 6,450.00	$ 2,150.00	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	208	tonne	$ 117.60	$ 24,490.20	$ 18,367.65	$ 6,122.55	assume 100mm, 2.5 tonne/m3
1.6	New curb	187	l.m.	$ 55.93	$ 10,476.34	$ 7,857.26	$ 2,619.09	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 2,546.78	$ 848.93	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 590.63	$ 196.88	
SUBTOTAL FOR 24 AVE ON EAST SIDE 172 ST					**$ 84,484.22**	**$ 63,363.16**	**$ 21,121.05**	
2b	**24 Avenue and 172 St (West side)**							
	Widening to transition back to 6 lane cross-section					(75%)	(25%)	
1.1	Excavation	281	cu.m.	$ 21.24	$ 5,964.61	$ 4,473.46	$ 1,491.15	excavation depth = 600mm
1.2	Sub-grade fill & preparation	281	cu.m.	$ 19.60	$ 5,504.66	$ 4,128.50	$ 1,376.17	
1.3	Sub-base gravel	377	tonne	$ 24.15	$ 9,098.27	$ 6,823.70	$ 2,274.57	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	161	tonne	$ 29.93	$ 4,831.69	$ 3,623.77	$ 1,207.92	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	117	tonne	$ 117.60	$ 13,759.20	$ 10,319.40	$ 3,439.80	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	316	l.m.	$ 11.55	$ 3,649.80	$ 2,737.35	$ 912.45	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.10	Drainage allowance	0	l.m.	$ 630.00	$ -	$ -	$ -	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 590.63	$ 196.88	
SUBTOTAL FOR 24 AVE ON WEST SIDE 172 ST					**$ 43,721.74**	**$ 32,791.30**	**$ 10,930.43**	
1.12	Signals for T-intersection (Arterial - Collector)	0	l.s.	$ 200,000.00	$ -	$ -	$ -	T-intersection - cost included in 24 Ave Offsite Arterial Road costs
TOTAL FOR 24 AVE & 172 ST					**$ 128,205.95**	**$ 96,154.47**	**$ 32,051.49**	
Contingency 30%					**$ 38,461.79**	**$ 28,846.34**	**$ 9,615.45**	
Engineering 10%					**$ 12,820.60**	**$ 9,615.45**	**$ 3,205.15**	
GRAND TOTAL FOR 24 AVE & 172 ST *(excl. taxes)*					**$ 179,488.34**	**$ 134,616.25**	**$ 44,872.08**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
3a	**184 Street and 29A Ave (South side)**							
	widening for NB to WB left-turn lane					(50%)	(50%)	
1.1	Excavation	557	cu.m.	$ 21.24	$ 11,827.27	$ 5,913.63	$ 5,913.63	excavation depth = 600mm
1.2	Sub-grade fill & preparation	557	cu.m.	$ 19.60	$ 10,915.23	$ 5,457.61	$ 5,457.61	
1.3	Sub-base gravel	747	tonne	$ 24.15	$ 18,041.02	$ 9,020.51	$ 9,020.51	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	320	tonne	$ 29.93	$ 9,580.79	$ 4,790.39	$ 4,790.39	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	232	tonne	$ 117.60	$ 27,283.20	$ 13,641.60	$ 13,641.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	263	l.m.	$ 92.22	$ 24,254.25	$ 12,127.13	$ 12,127.13	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 1,871.10	$ 1,871.10	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	425	l.m.	$ 630.00	$ 267,750.00	$ 133,875.00	$ 133,875.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON SOUTH SIDE OF 29A AVE					**$ 374,307.45**	**$ 187,153.73**	**$ 187,153.73**	
3b	**184 Street and 29A Ave (North side)**							
	Widening to transition back to 4 lane cross-section					(50%)	(50%)	
1.1	Excavation	334	cu.m.	$ 21.24	$ 7,086.16	$ 3,543.08	$ 3,543.08	excavation depth = 600mm
1.2	Sub-grade fill & preparation	334	cu.m.	$ 19.60	$ 6,539.73	$ 3,269.86	$ 3,269.86	
1.3	Sub-base gravel	448	tonne	$ 24.15	$ 10,809.06	$ 5,404.53	$ 5,404.53	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	192	tonne	$ 29.93	$ 5,740.21	$ 2,870.11	$ 2,870.11	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	139	tonne	$ 117.60	$ 16,346.40	$ 8,173.20	$ 8,173.20	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 1,871.10	$ 1,871.10	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	424	l.m.	$ 630.00	$ 267,120.00	$ 133,560.00	$ 133,560.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON NORTH SIDE OF 29A AVE					**$ 318,297.26**	**$ 159,148.63**	**$ 159,148.63**	
1.12	Signals for intersection (Arterial - Local)	0	l.s.	$ 275,000.00	$ -	$ -	$ -	no signal
TOTAL FOR 184 ST & 29A AVE					**$ 692,604.72**	**$ 346,302.36**	**$ 346,302.36**	
Contingency 30%					**$ 207,781.42**	**$ 103,890.71**	**$ 103,890.71**	
Engineering 10%					**$ 69,260.47**	**$ 34,630.24**	**$ 34,630.24**	
GRAND TOTAL FOR 184 ST & 29A AVE *(excl. taxes)*					**$ 969,646.60**	**$ 484,823.30**	**$ 484,823.30**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
4a	**184 Street and 28 Ave (North side)**							
	widening for SB to EB left-turn lane					(50%)	(50%)	
1.1	Excavation	557	cu.m.	$ 21.24	$ 11,827.27	$ 5,913.63	$ 5,913.63	excavation depth = 600mm
1.2	Sub-grade fill & preparation	557	cu.m.	$ 19.60	$ 10,915.23	$ 5,457.61	$ 5,457.61	
1.3	Sub-base gravel	747	tonne	$ 24.15	$ 18,041.02	$ 9,020.51	$ 9,020.51	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	320	tonne	$ 29.93	$ 9,580.79	$ 4,790.39	$ 4,790.39	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	232	tonne	$ 117.60	$ 27,283.20	$ 13,641.60	$ 13,641.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	263	l.m.	$ 92.22	$ 24,254.25	$ 12,127.13	$ 12,127.13	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 1,697.85	$ 1,697.85	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	505	l.m.	$ 630.00	$ 318,150.00	$ 159,075.00	$ 159,075.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON NORTH SIDE OF 28 AVE					**$ 424,360.95**	**$ 212,180.48**	**$ 212,180.48**	
4b	**184 Street and 28 Ave (South side)**							
	Widening to transition back to 4 lane cross-section					(50%)	(50%)	
1.1	Excavation	334	cu.m.	$ 21.24	$ 7,086.16	$ 3,543.08	$ 3,543.08	excavation depth = 600mm
1.2	Sub-grade fill & preparation	334	cu.m.	$ 19.60	$ 6,539.73	$ 3,269.86	$ 3,269.86	
1.3	Sub-base gravel	448	tonne	$ 24.15	$ 10,809.06	$ 5,404.53	$ 5,404.53	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	192	tonne	$ 29.93	$ 5,740.21	$ 2,870.11	$ 2,870.11	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	139	tonne	$ 117.60	$ 16,346.40	$ 8,173.20	$ 8,173.20	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	40	l.m.	$ 92.22	$ 3,688.86	$ 1,844.43	$ 1,844.43	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 1,697.85	$ 1,697.85	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	150	l.m.	$ 630.00	$ 94,500.00	$ 47,250.00	$ 47,250.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON SOUTH SIDE OF 28 AVE					**$ 149,019.62**	**$ 74,509.81**	**$ 74,509.81**	
1.12	Signals for intersection (Arterial - Local)	0	l.s.	$ 275,000.00	$ -	$ -	$ -	no signal
TOTAL FOR 184 ST & 28 AVE					**$ 573,380.58**	**$ 286,690.29**	**$ 286,690.29**	
Contingency 30%					**$ 172,014.17**	**$ 86,007.09**	**$ 86,007.09**	
Engineering 10%					**$ 57,338.06**	**$ 28,669.03**	**$ 28,669.03**	
GRAND TOTAL FOR 184 ST & 28 AVE *(excl. taxes)*					**$ 802,732.81**	**$ 401,366.40**	**$ 401,366.40**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
5a	**184 Street and 21A Ave (North side)**							
	Widening to transition back to 4 lane cross-section					(50%)	(50%)	
1.1	Excavation	334	cu.m.	$ 21.24	$ 7,086.16	$ 3,543.08	$ 3,543.08	excavation depth = 600mm
1.2	Sub-grade fill & preparation	334	cu.m.	$ 19.60	$ 6,539.73	$ 3,269.86	$ 3,269.86	
1.3	Sub-base gravel	448	tonne	$ 24.15	$ 10,809.06	$ 5,404.53	$ 5,404.53	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	192	tonne	$ 29.93	$ 5,740.21	$ 2,870.11	$ 2,870.11	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	139	tonne	$ 117.60	$ 16,346.40	$ 8,173.20	$ 8,173.20	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 1,871.10	$ 1,871.10	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	500	l.m.	$ 630.00	$ 315,000.00	$ 157,500.00	$ 157,500.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON NORTH SIDE OF 21A AVE					**$ 366,177.26**	**$ 183,088.63**	**$ 183,088.63**	
5b	**184 Street and 21A Ave (South side)**							
	widening for NB to WB left-turn lane					(50%)	(50%)	
1.1	Excavation	557	cu.m.	$ 21.24	$ 11,827.27	$ 5,913.63	$ 5,913.63	excavation depth = 600mm
1.2	Sub-grade fill & preparation	557	cu.m.	$ 19.60	$ 10,915.23	$ 5,457.61	$ 5,457.61	
1.3	Sub-base gravel	747	tonne	$ 24.15	$ 18,041.02	$ 9,020.51	$ 9,020.51	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	320	tonne	$ 29.93	$ 9,580.79	$ 4,790.39	$ 4,790.39	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	232	tonne	$ 117.60	$ 27,283.20	$ 13,641.60	$ 13,641.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 1,871.10	$ 1,871.10	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	450	l.m.	$ 630.00	$ 283,500.00	$ 141,750.00	$ 141,750.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON SOUTH SIDE OF 21A AVE					**$ 365,803.20**	**$ 182,901.60**	**$ 182,901.60**	
1.12	Signals for intersection (Arterial - Local)	0	l.s.	$ 275,000.00	$ -	$ -	$ -	No signal
TOTAL FOR 184 ST & 21A AVE					**$ 731,980.46**	**$ 365,990.23**	**$ 365,990.23**	
Contingency 30%					**$ 219,594.14**	**$ 109,797.07**	**$ 109,797.07**	
Engineering 10%					**$ 73,198.05**	**$ 36,599.02**	**$ 36,599.02**	
GRAND TOTAL FOR 184 ST & 21A AVE *(excl. taxes)*					**$ 1,024,772.65**	**$ 512,386.32**	**$ 512,386.32**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
6a	**184 Street and 20 Ave (North side)**							
	widening for SB to EB left-turn lane					(50%)	(50%)	
1.1	Excavation	557	cu.m.	$ 21.24	$ 11,827.27	$ 5,913.63	$ 5,913.63	excavation depth = 600mm
1.2	Sub-grade fill & preparation	557	cu.m.	$ 19.60	$ 10,915.23	$ 5,457.61	$ 5,457.61	
1.3	Sub-base gravel	747	tonne	$ 24.15	$ 18,041.02	$ 9,020.51	$ 9,020.51	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	320	tonne	$ 29.93	$ 9,580.79	$ 4,790.39	$ 4,790.39	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	232	tonne	$ 117.60	$ 27,283.20	$ 13,641.60	$ 13,641.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 1,871.10	$ 1,871.10	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	450	l.m.	$ 630.00	$ 283,500.00	$ 141,750.00	$ 141,750.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON NORTH SIDE OF 20 AVE					**$ 365,803.20**	**$ 182,901.60**	**$ 182,901.60**	
6b	**184 Street and 20 Ave (South side)**							
	widening for NB to WB left-turn lane					(50%)	(50%)	
1.1	Excavation	557	cu.m.	$ 21.24	$ 11,827.27	$ 5,913.63	$ 5,913.63	excavation depth = 600mm
1.2	Sub-grade fill & preparation	557	cu.m.	$ 19.60	$ 10,915.23	$ 5,457.61	$ 5,457.61	
1.3	Sub-base gravel	747	tonne	$ 24.15	$ 18,041.02	$ 9,020.51	$ 9,020.51	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	320	tonne	$ 29.93	$ 9,580.79	$ 4,790.39	$ 4,790.39	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	232	tonne	$ 117.60	$ 27,283.20	$ 13,641.60	$ 13,641.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 1,871.10	$ 1,871.10	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	390	l.m.	$ 630.00	$ 245,700.00	$ 122,850.00	$ 122,850.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON SOUTH SIDE OF 20 AVE					**$ 328,003.20**	**$ 164,001.60**	**$ 164,001.60**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
6c	**184 Street and 20 Ave (West side)**							
	widening for EB to NB left-turn lane					(50%)	(50%)	
1.1	Excavation	557	cu.m.	$ 21.24	$ 11,827.27	$ 5,913.63	$ 5,913.63	excavation depth = 600mm
1.2	Sub-grade fill & preparation	557	cu.m.	$ 19.60	$ 10,915.23	$ 5,457.61	$ 5,457.61	
1.3	Sub-base gravel	747	tonne	$ 24.15	$ 18,041.02	$ 9,020.51	$ 9,020.51	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	320	tonne	$ 29.93	$ 9,580.79	$ 4,790.39	$ 4,790.39	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	232	tonne	$ 117.60	$ 27,283.20	$ 13,641.60	$ 13,641.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 1,871.10	$ 1,871.10	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	430	l.m.	$ 630.00	$ 270,900.00	$ 135,450.00	$ 135,450.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST & 20 AVE ON WEST SIDE OF 184 ST					**$ 353,203.20**	**$ 176,601.60**	**$ 176,601.60**	
6d	**184 Street and 20 Ave (East side)**							
	widening for WB to SB left-turn lane					(50%)	(50%)	
1.1	Excavation	557	cu.m.	$ 21.24	$ 11,827.27	$ 5,913.63	$ 5,913.63	excavation depth = 600mm
1.2	Sub-grade fill & preparation	557	cu.m.	$ 19.60	$ 10,915.23	$ 5,457.61	$ 5,457.61	
1.3	Sub-base gravel	747	tonne	$ 24.15	$ 18,041.02	$ 9,020.51	$ 9,020.51	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	320	tonne	$ 29.93	$ 9,580.79	$ 4,790.39	$ 4,790.39	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	232	tonne	$ 117.60	$ 27,283.20	$ 13,641.60	$ 13,641.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 1,871.10	$ 1,871.10	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	250	l.m.	$ 630.00	$ 157,500.00	$ 78,750.00	$ 78,750.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST & 20 AVE ON EAST SIDE OF 184 ST					**$ 239,803.20**	**$ 119,901.60**	**$ 119,901.60**	
1.12	Signals for intersection (Arterial - Collector)	0	l.s.	$ 300,000.00	$ -	$ -	$ -	Cost incl. in 184 St Arterial Road
TOTAL FOR 184 ST & 20 AVE					**$ 1,286,812.80**	**$ 643,406.40**	**$ 643,406.40**	
Contingency 30%					**$ 386,043.84**	**$ 193,021.92**	**$ 193,021.92**	
Engineering 10%					**$ 128,681.28**	**$ 64,340.64**	**$ 64,340.64**	
GRAND TOTAL FOR 184 ST & 20 AVE *(excl. taxes)*					**$ 1,801,537.92**	**$ 900,768.96**	**$ 900,768.96**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
7a	**184 Street and 16 Ave (North side)**							
	widening for SB to EB left-turn lane					(50%)	(50%)	
1.1	Excavation	483	cu.m.	$ 21.24	$ 10,259.64	$ 5,129.82	$ 5,129.82	excavation depth = 600mm
1.2	Sub-grade fill & preparation	483	cu.m.	$ 19.60	$ 9,468.49	$ 4,734.25	$ 4,734.25	
1.3	Sub-base gravel	648	tonne	$ 24.15	$ 15,649.80	$ 7,824.90	$ 7,824.90	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	278	tonne	$ 29.93	$ 8,310.92	$ 4,155.46	$ 4,155.46	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	201	tonne	$ 117.60	$ 23,667.00	$ 11,833.50	$ 11,833.50	assume 100mm, 2.5 tonne/m3
1.6	New curb	30	l.m.	$ 55.93	$ 1,678.01	$ 839.00	$ 839.00	
1.7	New sidewalk	30	l.m.	$ 92.22	$ 2,766.65	$ 1,383.32	$ 1,383.32	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 1,697.85	$ 1,697.85	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	475	l.m.	$ 630.00	$ 299,250.00	$ 149,625.00	$ 149,625.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON NORTH SIDE OF 16 AVE					**$ 375,359.71**	**$ 187,679.85**	**$ 187,679.85**	
7b	**184 Street and 16 Ave (South side)**							
	Widening to transition back to 4 lane cross-section					(50%)	(50%)	
1.1	Excavation	334	cu.m.	$ 21.24	$ 7,086.16	$ 3,543.08	$ 3,543.08	excavation depth = 600mm
1.2	Sub-grade fill & preparation	334	cu.m.	$ 19.60	$ 6,539.73	$ 3,269.86	$ 3,269.86	
1.3	Sub-base gravel	448	tonne	$ 24.15	$ 10,809.06	$ 5,404.53	$ 5,404.53	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	192	tonne	$ 29.93	$ 5,740.21	$ 2,870.11	$ 2,870.11	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	139	tonne	$ 117.60	$ 16,346.40	$ 8,173.20	$ 8,173.20	assume 100mm, 2.5 tonne/m3
1.6	New curb	30	l.m.	$ 55.93	$ 1,678.01	$ 839.00	$ 839.00	
1.7	New sidewalk	30	l.m.	$ 92.22	$ 2,766.65	$ 1,383.32	$ 1,383.32	1.8m sidwalk
1.8	Shoulder	294	l.m.	$ 11.55	$ 3,395.70	$ 1,697.85	$ 1,697.85	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 63.00	$ 63.00	
1.10	Drainage allowance	162	l.m.	$ 630.00	$ 102,060.00	$ 51,030.00	$ 51,030.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 393.75	$ 393.75	
SUBTOTAL FOR 184 ST ON SOUTH SIDE OF 16 AVE					**$ 157,335.41**	**$ 78,667.71**	**$ 78,667.71**	
1.12	Signals for intersection (Arterial - Arterial)		l.s.	$ 350,000.00	$ -	$ -	$ -	Cost incl. in 184 St Arterial Road
TOTAL FOR 184 ST & 16 AVE					**$ 532,695.12**	**$ 266,347.56**	**$ 266,347.56**	
Contingency 30%					**$ 159,808.54**	**$ 79,904.27**	**$ 79,904.27**	
Engineering 10%					**$ 53,269.51**	**$ 26,634.76**	**$ 26,634.76**	
GRAND TOTAL FOR 184 ST & 16 AVE *(excl. taxes)*					**$ 745,773.17**	**$ 372,886.59**	**$ 372,886.59**	

City of Surrey
Grandview Heights NCP #4
INTERSECTIONS
OPINION OF PROBABLE COST

17-Sep-13

ITEM	DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL COST	DCC ELIGIBLE COSTS ATTRIBUTABLE TO NCP 4	DCC ELIGIBLE COSTS NOT ATTRIBUTABLE TO NCP 4	NOTES
8a	**24 Ave and 188 St (West side)**							
	widening for EB to NB left-turn lane					(75%)	(25%)	
1.1	Excavation	557	cu.m.	$ 21.24	$ 11,827.27	$ 8,870.45	$ 2,956.82	excavation depth = 600mm
1.2	Sub-grade fill & preparation	557	cu.m.	$ 19.60	$ 10,915.23	$ 8,186.42	$ 2,728.81	
1.3	Sub-base gravel	747	tonne	$ 24.15	$ 18,041.02	$ 13,530.76	$ 4,510.25	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	320	tonne	$ 29.93	$ 9,580.79	$ 7,185.59	$ 2,395.20	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	232	tonne	$ 117.60	$ 27,283.20	$ 20,462.40	$ 6,820.80	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 2,806.65	$ 935.55	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.10	Drainage allowance	450	l.m.	$ 630.00	$ 283,500.00	$ 212,625.00	$ 70,875.00	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 590.63	$ 196.88	
SUBTOTAL FOR 24 AVE ON WEST SIDE OF 188 ST					**$ 365,803.20**	**$ 274,352.40**	**$ 91,450.80**	
8b	**24 Ave and 188 St (East side)**							
	Widening to transition back to ***6 lane*** *cross-section*					(75%)	(25%)	
1.1	Excavation	334	cu.m.	$ 21.24	$ 7,086.16	$ 5,314.62	$ 1,771.54	excavation depth = 600mm
1.2	Sub-grade fill & preparation	334	cu.m.	$ 19.60	$ 6,539.73	$ 4,904.80	$ 1,634.93	
1.3	Sub-base gravel	448	tonne	$ 24.15	$ 10,809.06	$ 8,106.79	$ 2,702.26	assume 350mm, 2.3 tonne/m3
1.4	Base gravel	192	tonne	$ 29.93	$ 5,740.21	$ 4,305.16	$ 1,435.05	assume 150mm, 2.3 tonne/m3
1.5	Asphalt	139	tonne	$ 117.60	$ 16,346.40	$ 12,259.80	$ 4,086.60	assume 100mm, 2.5 tonne/m3
1.6	New curb	0	l.m.	$ 55.93	$ -	$ -	$ -	
1.7	New sidewalk	0	l.m.	$ 92.22	$ -	$ -	$ -	1.8m sidwalk
1.8	Shoulder	324	l.m.	$ 11.55	$ 3,742.20	$ 2,806.65	$ 935.55	
1.9	Restoration	10	cu.m.	$ 12.60	$ 126.00	$ 94.50	$ 31.50	
1.10	Drainage allowance	255	l.m.	$ 630.00	$ 160,650.00	$ 120,487.50	$ 40,162.50	
1.11	Pavement markings	1	l.s.	$ 787.50	$ 787.50	$ 590.63	$ 196.88	
SUBTOTAL FOR 24 AVE ON EAST SIDE OF 188 ST					**$ 211,827.26**	**$ 158,870.45**	**$ 52,956.82**	
1.12	Signals for T-intersection (Arterial - Local)	1	l.s.	$ 200,000.00	$ 200,000.00	$ 150,000.00	$ 50,000.00	T-intersection
TOTAL FOR 24 AVE & 188 ST					**$ 777,630.46**	**$ 583,222.85**	**$ 194,407.62**	
Contingency 30%					**$ 233,289.14**	**$ 174,966.85**	**$ 58,322.28**	
Engineering 10%					**$ 77,763.05**	**$ 58,322.28**	**$ 19,440.76**	
GRAND TOTAL FOR 24 AVE & 188 ST ***(excl. taxes)***					**$ 1,088,682.65**	**$ 816,511.99**	**$ 272,170.66**	
OFF-SITE INTERSECTION TOTAL ***(incl. contingency, excl. taxes)***					**$ 7,459,764.66**	**$ 4,258,707.71**	**$ 3,201,056.95**	

City of Surrey
Grandview Heights NCP #4
SIGNALS
OPINION OF PROBABLE COST

17-Sep-13

Road Classifications at Intersection	*Signals Cost
Local - Local	$ 250,000
Collector - Local	$ 250,000
Collector - Collector	$ 300,000
Arterial - Local	$ 275,000
Arterial - Collector	$ 300,000
Arterial - Arterial	$ 350,000
T-Intersection	$ 200,000

* Signals cost includes controllers, uninterruptable power supply, wiring and conduits.