

SECTION 7.0 DEVELOPMENT PHASING & FINANCING

7.1 Development Phasing

A general land use plan for the Clayton Neighbourhood was approved by the City of Surrey Council in February 1999, permitting the East Clayton NCP Area to proceed with the preparation of a detailed Land Use and servicing plan.

At present, the East Clayton NCP Area is substantially rural in nature, with a small subdivision of acreage properties having urban services (The Aloha Subdivision). Rural roadways, surface storm drainage systems, and a limited grid of watermains, and individual septic disposal systems presently service the area.

At full build-out condition, the proposed East Clayton NCP land use plan will result in the development of approximately 4900 residential units along with a business park of over a million square feet. It is expected that the area's population will increase by about 13,000, based on average density rates for all development categories. At the maximum density proposed, the final population could reach 20,000.

To effectively service the proposed development, the municipal infrastructure comprising the roadways, sanitary sewer, watermains and the storm drainage system have to be upgraded and extended, as per the servicing plans presented in the preceding section. The salient features of the servicing scheme are summarized below from a perspective of identifying the potential development phasing pattern and the DCC financing eligible elements of those infrastructure components.

Sanitary trunk sewers have been extended along 68 Avenue to 188 Street for a recent high school construction. This will effectively service the Cloverdale sub-basin area 'B'. Servicing of the McLellan and Langley sub-basins (sub-basin area 'A') cannot proceed until the Langley By-Pass Sewer is in place from the GVRD Trunk Sewer at 188 St. and 52 Avenue to 64 Avenue at 196 Street. It is important to note that no development can proceed within Catchment A without the completion of the first phase of the Langley By-pass sewer to relieve the current capacity constraints

The ground topography divides the NCP area into three significant drainage and sanitary sub-basin areas, as shown in *Figure 7.1*. The two major basin areas are the West Basin B abutting 188 Street draining west to Cloverdale Creek, and the East Basin A comprising the majority of the west half of the plan draining to McClellan Creek. A smaller sub-basin consists of an area abutting 72 Avenue and 196 Street that drains to the Township of Langley. The constraints for each sanitary and storm drainage sub-basin will largely govern the ultimate development phasing.

The downstream lowland drainage and flooding condition is a significant constraint to further development in the Cloverdale Creek sub-basin tributary to the Serpentine River System. The lowlands flood control program is expected to be completed by the Year 2008. In order for development to proceed, the full implementation of local infiltration systems, stormwater pond facilities, and deep infiltration wells will be required in advance of development.

A servicing limit north of 72 Avenue has been established based on the proposed conceptual plan for storm and sanitary trunk systems. Actual development of the area north of 72 Avenue, servicable from the south will be subject to confirmation of servicing feasibility through detailed survey and engineering designs.

The existing grid of trunk watermains feeding the 115m pressure zone for the plan area must be expanded as development proceeds to reliably provide projected fire flows from the existing Clayton Pumping Station and Reservoir south of 72 Avenue, west of 192 Street. The rate of development in Clayton will dictate when the existing Clayton High Pressure Pump Station will need to be upgraded.

The existing rural arterial road network, collector road and local road network will have to be upgraded as the area develops to meet both access and circulation requirements. This includes the re-alignment of 192 Street arterial at Fraser Highway, and provision of the 196 St. arterial corridor.

7.2 Infrastructure Financing

The financial analysis was based on the following approach and planning assumptions:

1. Land use Plan and Population projections (October 1999) were provided by the City of Surrey Planning Department.
2. The Full Build-Out condition was assessed for each municipal utility to confirm all required future DCC Infrastructure elements for the Plan Area.
3. Current DCC Policies and Principles require that for NCP Build-Out, based on Current (February 1999) DCC Rates, revenues balance or exceed expenditures for each of the Infrastructure elements as summarized in *Table 7.6*.
4. On an annual basis, DCC revenues must balance expenditures or be addressed by agreement by the benefiting developers. The City will not finance interim works. However, the City will make every effort to assist fair cost recovery to developers who have up-fronted DCC eligible works that benefit a larger area than the development application. This arrangement will be necessary to finance DCC eligible stormwater elements.

Table 7.1 summarizes the projected number of units for each type of land use for the East Clayton NCP and the potential revenues for the various DCC components (storm, sanitary, water and collector roads) based on current– DCC Rates (By-law 13476) and the medium range of density. A significant portion of the single family units will be in the form of compact lots, for which the City is considering lower DCC rates. Therefore, it is anticipated that the surplus DCC revenues will be lower than that predicted in Table 7.6.

DCC Eligible Infrastructure elements for the East Clayton Plan are summarized as follows:

- **Collector Roads** – Summary of collector road elements required for build-out in **Table 7.2 and Figure 7.2**
- **Sanitary System** - spreadsheet and schematic of Sewer DCC elements required in the NCP Area Plan for build-out (**Table 7.3 and Figure 7.3**)
- **Water System** – spreadsheet and schematic of Water DCC elements required in the NCP Area Plan for build-out (**Table 7.4 and Figure 7.4**)
- **Storm Drainage System** – spreadsheet and schematic of Drainage DCC elements required for build-out (**Table 7.5 and Figure 7.5**)

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Table 7.6: Preliminary Summary of Projected Development Cost Charge (DCC) Revenue and Expenditures at Full Build-Out (1)

	Projected DCC Revenue (2)	Projected DCC Expenditures (2)	Balance + ve (-ve)
Collector Roads	\$6,091,000	\$5,840,000	\$251,000
Sanitary Sewers	\$4,449,000	\$4,430,000	\$18,000
Water	\$4,743,000	\$2,470,000	\$2,273,000
Storm	\$7,557,000	\$4,810,000	\$2,747,000

Note:

- (1) *The City of Surrey collects DCC's on a community basis and not on a NCP or area basis. This table is presented to show that the NCP can be self financed. The table also shows the magnitude of DCC eligible works to service the East Clayton NCP Plan area.*
- (2) *Values rounded to nearest \$1,000*

The Projected DCC Revenues exceed estimated costs for all DCC Infrastructure elements within the East Clayton area.

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Land Use	Units	Ave. Size	Sanitary		Water		Storm		Arterial		Collector		Parks	
			Rate	Revenue	Rate	Revenue	Rate	Revenue	Rate	Revenue	Rate	Revenue	Rate	Revenue
RA	35	n/a	950	33,250	1020	35,700	4740	165,900	5620	196,700	1370	47,950	5510	192,850
6-10 UPA	451	n/a	950	428,450	1020	460,020	2370	1,068,870	5620	2,534,620	1370	617,870	8380	3,779,380
10-15 UPA	480	n/a	950	456,000	1020	489,600	1400	672,000	5620	2,697,600	1370	657,600	8380	4,022,400
15-25 UPA	1307	n/a	950	1,241,650	1020	1,333,140	1400	1,829,800	5620	7,345,340	1370	1,790,590	8380	10,952,660
25-45 UPA	1766	1200	0.55	1,165,560	0.59	1,250,328	0.92	1,949,664	2.51	5,319,192	0.61	1,292,712	5.11	10,829,112
Comm/Res	312		600	187,200	640	199,680	590	184,080	3150	982,800	770	240,240	6670	2,081,040
Live/Work	392		950	372,400	1020	399,840	1400	548,800	5620	2,203,040	1370	537,040	8380	3,284,960
Work/Live	141		950	133,950	1020	143,820	1400	197,400	5620	792,420	1370	193,170	8380	1,181,580
Commercial (Office)	1,032,000		300	309,600	320	309,600	310	319,920	1850	1,909,200	450	464,400	0	
Commercial (Spec)	359,000		300	107,700	320	107,700	1540	552,860	2530	908,270	620	222,580	0	
Commercial (Neigh)	44,000		300	13,200	320	13,200	1540	67,760	2530	111,320	620	27,280	0	
Total				4,448,960		4,742,628		7,557,054		25,000,502		6,091,432		36,323,982

Table 7.1
East Clayton Financial Projection (DCC Revenues)