St. George Area Study Municipal Financial Impact Analysis

Independent Real Estate Intelligence

October 17, 2013

Altus Group

St. George Area Study
Municipal Financial Impact Analysis

Prepared for:

St. George's Landowners Group

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EXECUTIVE SUMMARY

Altus Group Economic Consulting was retained by the St. George Landowners Group ("Landowners Group") to examine the financial impacts of three proposed developments in the St. George settlement area, County of Brant.

St. George is designated as a Primary Settlement Area within Brant County. The Landowners Group plans to develop approximately 1,192 units, including 999 single-detached units and 193 townhouse units, plus units on mixed-use blocks, which may be either condominium apartment or stacked townhouse units. The 1,192 units will house approximately 3,192 persons. In addition to the residential units, there will also be nearly 65,000 square feet of commercial uses.

The Landowners Group proposes to front-end finance some water and wastewater infrastructure upgrades to allow for growth and development of the St. George settlement area. The infrastructure upgrades will allow for more efficient operation and maintenance of the community's water and sewer system. It is estimated that the improvements to the water and wastewater infrastructure will increase the serviced capacity of St. George to approximately 10,290 persons (based on a current population of 3,100 persons, of which 2,300 persons have full municipal services).

For all front-ended external works, the Landowners Group would receive development charge (DC) rebates for work done, with any costs over and above the DC rebates subject to DC credits to be funded from the DC revenues of other future development in the St. George settlement area, and recovered through an area-specific development charge to be established for the St. George settlement area.

In addition to the one-time expenditures and revenues for infrastructure, the development of the Landowners Group lands will generate on-going revenues and costs:

- Annual property tax revenues for the County of $3.2 million;
- Non-tax revenues of approximately $95,400 per year;

- Revenues from water and sewer rates of approximately $1.9 million per year;
- Annual net operating expenditures of $3.2 million (for all County services excluding road, water and wastewater);
- Annual operating and lifecycle costs for internal roads of $104,200;
- Annual operating and lifecycle costs for internal and upgraded external water works of approximately $661,370; and
- Annual operating and lifecycle costs for internal sewers and upgrades to the external sewer collection and treatment system of approximately $978,990.

Combined, the annual revenues and costs generated by the Landowners Group lands produce an annual net fiscal benefit for the County of approximately $123,860, or roughly $28.59 per capita and $169.36 per employee.

By front-end financing key pieces of water and wastewater infrastructure, the Landowners Group is facilitating development and growth within the designated settlement area, allowing other developments in St. George to proceed, which will also produce an annual net fiscal benefit for the County. Based on a serviced capacity of 10,290 persons, the infrastructure financed by the Landowners Group and the approximately 3,200 persons to be accommodated in the proposed developments will free up capacity for another approximately 4,800 persons to be accommodated in the St. George settlement area in other future developments, and on the mixed use blocks of the St. George Landowners Group lands.

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1 INTRODUCTION

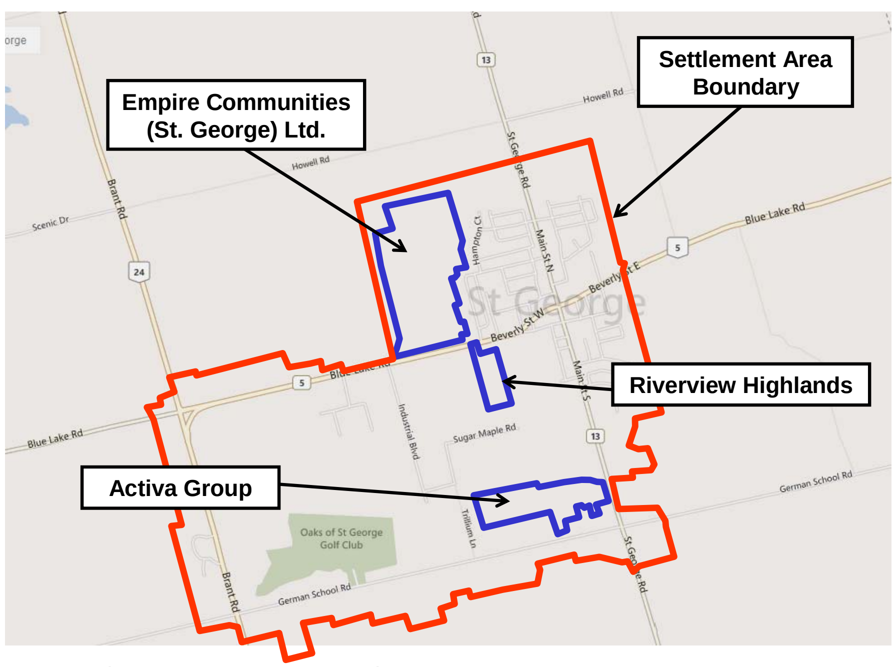
Altus Group Economic Consulting was retained by the St. George Landowners Group ("Landowners Group") to examine the financial impacts of three developments in the St. George settlement area, County of Brant.

1.1 Background

St. George is designated as a Primary Settlement Area within Brant County, located near the intersection of Highway 24 and Highway 5, north of the City of Brantford. Figure 1 shows the lands of the three landowners within the Landowners Group.

Figure 1

St. George Landowners Group – Subject Lands



Source: Bing Maps, St. George Landowners Group

In total, the combined lands will contain 999 single-detached units, 193 townhouse units, for a total of 1,192 units. The Empire lands also include a mixed-use block, on which higher density units will be built. For the purposes of this analysis, we have assumed that roughly 117 units will be built on these mixed-use lands. However, as the unit count is tentative, we have not shown these units in Figure 2.

Figure 2

Proposed Residential Development, St. George Landowners Group

	Single-Detached	Townhouses	Total
		Units	
Empire Communities	723	168	891
Riverview Highlands	64	25	89
Activa Group	212	-	212
Total	999	193	1,192

Note: St. George Landowners Group unit counts does not include the unit potential on Empire mixed-use block.
Source: Altus Group Economic Consulting based on conceptual plans provided by St. George Landowners Group

In addition to the residential development being proposed, the combined proposals will also include:

- A total of 2.49 hectares of parkland (includes a 0.50 hectare parkette in the Empire plan, 0.57 hectare parkette in the Activa plan, and another 1.42 hectares in the Empire plan adjacent to the proposed school site);
- 3.06 hectares of mixed-use lands (located along the Highway 5 frontage of the Empire lands), which will contain residential units and 60,000 square feet of commercial uses; and
- A commercial development of 4,900 square feet (455 square metres) on the north part of Riverview Highland lands, along the Highway 5 frontage.

The 1,192 residential units outside of the mixed-use lands are expected to be built-out over a 10-year period. Between the 1,192 singles and townhouses built on the St. George LOG lands, the mixed-use parcel on the Empire lands, and other future developments, there will be roughly 2,850 new residential units built in St. George at build-out of servicing capacity. The conclusions section of this report will summarize:

- The annual fiscal impact of development on a year-by-year basis, from the beginning of development to build-out;
- The cumulative fiscal impacts over the period from the beginning of development to build-out; and
- The annual fiscal impact at build-out and beyond.

It is estimated that the improvements to water and wastewater infrastructure being proposed by the Landowners Group will bring the serviced capacity of St. George to approximately 10,290 persons, which will consist of:

- An existing serviced population of 2,300 persons (based on the 2011 Census, the community has a population of 3,100 persons, however only 2,300 persons had full servicing);
- Approximately 3,200 persons housed in the 1,192 units proposed by the Landowners Group[1]; and
- Available capacity for approximately 4,800 persons on mixed-use lands within the St. George LOG lands, and "other future developments" elsewhere in the St. George settlement area.

For the purposes of this analysis, we have assumed that the 4,800 persons that could be accommodated on the mixed-use lands and in other future development will be housed in 1,658 units, of which we have assumed that 118 units will be units on the mixed-use blocks within the Empire lands. We have incorporated the fiscal impact of those 118 units into the cumulative fiscal impact of the St. George Landowners Group lands.

By front-end financing much of the required water and wastewater infrastructure, the development of the Landowner Group lands can allow other developments in the St. George settlement area to proceed.

2 POLICY CONTEXT

2.1 Provincial Policy Statement, 2005

Section 1.6 of the *Provincial Policy Statement* deals with the provision of infrastructure and public service facilities. In particular, policy 1.6.4.2 says

[1] To estimate the population potential of units in St. George, we have used the average household size factors from the County's 2009 Development Charges Background Study.

that development in settlement areas with existing services should be promoted:

> 1.6.4.2 Municipal sewage services and municipal water services are the preferred form of servicing for settlement areas. Intensification and redevelopment within settlement areas on existing municipal sewage services and municipal water services should be promoted, wherever feasible.

2.2 Growth Plan for the Greater Golden Horseshoe, 2006

Section 3 of the *Growth Plan for the Greater Golden Horseshoe* deals with infrastructure planning. The preamble in section 3.1 of the *Growth Plan* says that:

> Investments in water and wastewater systems by all levels of government have also lagged behind GGH growth and many municipalities are now faced with significant renewal and capacity expansion issues. There is a need to co-ordinate investment in water and wastewater infrastructure to support future growth in ways that are linked to the determination of how these systems are paid for and administered.

Policy 1 of section 3.2 deals with the co-ordination of infrastructure and land use planning:

> 1. Infrastructure planning, land use planning, and infrastructure investment will be co-ordinated to implement this Plan. Infrastructure includes but is not limited to transit, transportation corridors, water and wastewater systems, waste management systems, and community infrastructure.

Section 3.2.5 of the *Growth Plan for the Greater Golden Horseshoe* deals specifically with water and wastewater systems. Policy 1 states that municipalities should generate sufficient revenue to recover the full cost of supplying a municipal water and wastewater systems.

> 1. Municipalities should generate sufficient revenue to recover the full cost of providing municipal water and wastewater systems.

Where "full cost" is defined as:

> The full cost of providing water and wastewater services includes the source protection costs, operating costs, financing costs, renewal and replacement costs and improvement costs associated with extracting, treating or distributing water to the public, and collecting, treating or discharging wastewater.

2.3 Brant County Official Plan

Following the submission of the development applications for St. George, Brant County requested that an Area Study, as required by the *Brant County Official Plan* be completed for St. George. The policies reviewed in this section can be found in the in-force *Brant County Official Plan* at the time of the application.

Section 1.8.4, policy 1 of the in-force *Brant County Official Plan* contemplates upgrades of the St. George Water Pollution Control Plant ("St. George WPCP"):

> (1) Upgrades and/or expansion of the Paris and the St. George Treatment Plants should be pursued.
>
> (2) The outcome of the Servicing Study for the County may result in prioritization of development and/or improvements to the services. …

Section 1.8.4, policy 6 states that developer funding and development charges will be key in financing water and wastewater facilities:

> (6) Development Charges and/or developer funded construction of trunk lines and treatment plants will play an important role in financing the construction of the necessary servicing facilities.

Section 2 of the *Official Plan* details the County's Land Use Management Strategy. Section 2.1, policy 6 states that municipal services should be made available to current and future residents of the County without undue additional cost:

> In order to effectively accommodate the current and future inhabitants of the County of Brant, Council will endeavour to ensure that:

(6) adequate municipal services such as sewage disposal, water supply, storm drainage, police and fire protection, and garbage disposal can be made available without undue additional cost.

Section 2.2.2, policy 1 of the *Official Plan* deals with the Costs of Servicing Development as it relates to the location of development:

(1) Location of Development

In order to minimize the cost of services provided by all public agencies, no new development in the Planning Area will be permitted in any location where it would contribute to a demand for public services, which are not economically feasible to provide, improve or maintain. Instead, development will be permitted only in locations where demands on public services will be minimized, or where it can most effectively utilize existing services, or where new services can be economically provided and maintained either by the municipality or by the developer.

Section 2.2.2, policy 2 of the *Brant County Official Plan* deals with the use of development charges to deal with the costs of servicing development:

(2) Development Charges

In order to defray costs to the municipality associated with any development or redevelopment, the County of Brant may implement any or all of the provisions of the Development Charges Act, as amended.

Section 2.2.2 policy 3 deals with the provision of services in industrial areas, and states that the municipality may participate in the provision of services to Industrial lands:

(3) Industrial Services

In order to encourage industries to locate within the County of Brant, the municipality may participate in the development of additional or expanded Industrial Park sites and/or the provision of services to privately owned Industrial lands so as to ensure an adequate supply of available serviced to Industrial lands within the County of Brant.

Section 2.2.3, policy 1 deals with the provision of water and sewer infrastructure to new development:

(1) Public Piped Systems

> Where possible, urban development or redevelopment in the County of Brant shall be in Settlement Areas or land use designations intended for the specific use and developed on the basis of public piped water and sanitary sewer systems. In certain cases, this will entail extensions and/or improvements to the existing public piped systems in order to service areas of new urban development.

Section 3.7.1 includes the requirements for an area study prior to development being permitted within greenfield areas of Settlement Areas:

> Prior to development being permitted within the greenfield portion of the Settlement Areas, Area Studies in accordance with Section 2.4 of this Plan, shall be prepared.

Section 3.7.2 sets out the goals for development in Residential areas:

> (1) to ensure that new development occurs in a manner in keeping with the capacity of the services available and the financial capability of the municipality;

2.4 New Brant County Official Plan[2]

Section 1.11.2.4.1 of the new *Brant County Official Plan* states that:

> Both the Provincial Policy Statement and the Growth Plan for the Greater Golden Horseshoe direct development to Urban Settlement Areas that offer municipal water and sanitary sewage systems and limit development in Urban Settlement Areas that have partial or private water and sanitary sewage systems.
> The County's fully serviced Primary Urban Settlement Areas are Paris, St. George and Cainsville / Brant East. A majority of new residential development, redevelopment, and intensification in Brant County shall be directed to these Primary Urban Settlement Areas.
>
> …
>
> Areas without County water and sewer services are projected to accommodate a limited amount of the County's forecasted growth. …

[2] New *Brant County Official Plan* dated September 4, 2012.

Section 1.11.2.4.2 sets out the objectives for the servicing of land in Paris and St. George:

> The following objectives apply to the servicing of land through the provision of County water and sanitary sewage systems in Paris and St. George:
>
> > a) To ensure that the provision of water and sanitary sewage systems is orderly, efficient, financially sustainable, protects human health and the environment and does not require the premature extension of municipal infrastructure in order to accommodate anticipated growth to 2031. …
> >
> > f) To ensure that where the extension of full municipal services is contemplated, municipal water supply, and sewage conveyance and treatment are extended in a coordinated manner that is financially feasible.

Section 2.2.4.3 e) of the adopted *Brant County Official Plan* sets out the requirements for the financial component of area studies:

i. establishes a proposed approach to the financing of implementation of the Area Study, taking into account the anticipated costs outlined in the servicing strategy;

ii. demonstrates how the proposed approach to the financing of implementation will minimize costs to the County and will be within the financial capability of the County to maintain; and

iii. where necessary, identifies an area-specific Development Charge to cover the implementation costs by the proponent, taking into account growth related capital costs, and non-growth related capital costs.

3 CAPITAL REQUIREMENTS

3.1 Capital Requirements of Development

The servicing plan for the St. George Area Study was completed by MTE Consultants, Norbert M. Woerns and Gamsby and Mannerow Limited.

3.1.1 Water

As the proposed units get built, all units in Phases 1 and 2 will be able to proceed with one new groundwater supply. The units in Phase 3 will require a second new groundwater supply. The cost to bring two new groundwater supply wells on line, including treatment and connection into the distribution system, is expected to range from $4.6 million to $5.2 million. The Landowners Group is proposing to front-end finance these costs.

The industrial park in St. George requires upgrades to the water mains along Highway 5 to a 300mm diameter. These upgrades are required to address existing fire flow deficiencies in the industrial park. The costs for the upgrades are estimated to be approximately $2.3 million. While these costs are not included in the County's most recent Development Charges Background Study, the project could be incorporated into a future DC Background Study and therefore included in the newly calculated DC rates, if eligible. Alternatively, the project could be funded by the County through debt financing prior to being included in a DC Background Study – the debt associated with the project could then be included in the subsequent DC Background Study, allowing the County to allocate DC funds to the repayment of the debt principal and interest. For the portion of project costs that are not, or are not eligible to be, funded by development charges, this amount would be paid for by other County sources.

In addition to the external works required, it is estimated that 11.2 km of internal water mains would be required to serve the Landowners Group developments.[3] The internal water mains required to service the developments would be funded as needed by each respective developer. Ongoing operation and replacement costs would be the responsibility of the County.

[3] At the same rate of metres of water mains per unit as in the Landowners Group developments, it is estimated that the other 1,540 units of other future developments would require approximately 12.2 km of internal water mains.

3.1.2 *Wastewater*

The proposed Landowner Group developments will require expansion of the St. George Water Pollution Control Plant (St. George WPCP). The preferred plan is to construct a new plant with a capacity of 2,600 m^3/day, and once that phase is complete, refurbish the existing plant to a capacity of 1,000 m^3/day. The cost of constructing the new plant would be $14 million, and the cost of refurbishing the existing plant is estimated to cost $2 million, for a cost of $16 million.

The proposed upgrades and associated costs are as follows:[4]

- Construct new headworks facility and dissolved air flotation system to 3,600 m^3/day capacity ($3.5 million);
- Construct new 2,600 m^3/day plant ($8.6 million);
- Upgrade and expand the County's centralized sludge processing and dewatering facility located at the Paris WPCP ($1.9 million);
- Upgrade and expand the County biosolids storage facility ($0.4 million); and
- Refurbish existing St. George WPCP to increase total capacity to 3,600 m^3/day ($1.9 million).

The Landowners Group is proposing to front-end finance these costs to allow development to proceed in the St. George settlement area.

The St. George WPCP was included in the County's 2009 Development Charges Background Study, at a cost of $10 million, of which:

- $1 million was allocated as benefit to existing development,
- $6.93 million was allocated to post-period capacity, and

[4] The costs and other details of the upgrades are subject to change based on the necessary Environmental Assessments.

- $2.07 million was growth-related development charge recoverable costs ($1.53 million by the residential DC, and $538,200 by the non-residential DC).

The allocation of costs from the DC Study shows that the upgrades to the St. George WPCP would benefit existing development in addition to the development forecast in the DC Study from 2009-2031, and future development (post-period capacity) beyond that forecasted to 2031.

The DC revenues generated by other future developments in St. George would help provide the DC credits required to reimburse the front-ending landowners.

In accordance with the *Development Charges Act*, 10% of the total cost of the WPCP ($16 million), or $1.6 million would be funded by taxes or other County sources. Similar to all other development charge eligible projects subject to the 10% statutory deduction, the $1.6 million of WPCP costs would be paid for through the taxes of both new home buyers in St. George and those elsewhere across the County. If the County chooses, some of the annual fiscal surplus from the St. George LOG developments can be allocated to funding this share of costs, however the funds do not necessarily have to come from tax payers in St. George.

A June 2009 report by Weslake on wastewater in St. George lists a number of existing sewers that will require upgrades as a result of development. In total, approximately 2.2 km of community-wide upgrades to existing sewers ranging in size of 200mm to 450mm are required for developments in St. George, including the Landowners Group developments, and a number of other potential developments.

The Weslake report also identified some specific existing sewer upgrades are required for the Landowner Group developments to proceed:

- Approximately 814 metres of sewer upgrades for the Empire lands;
- Approximately 418 metres of sewer upgrades for the Activa lands;
- The Riverview Highlands development would not require any additional requirements for sewer upgrades.

While the need for these sewer upgrades may be triggered by the proposed new development in St. George, the benefit will accrue to both existing and new homes, and therefore should be funded accordingly through development charges on new homes (where they meet guidelines for DC eligibility), and property taxes on existing home owners.

In addition to the identified external projects and existing sewer projects and upgrades, it is estimated that 11.2 km of internal sewers would be required to serve the Landowners Group developments.[5] Construction of internal sewers would be funded by the developers in the Landowners Group for the respective developments. Future operation and lifecycle replacement costs would be the responsibility of the County.

3.1.3 Roads

It is estimated that the developments will require approximately 11.2 kilometres of roads internal to the developments. For roads that meet the local service guidelines set out in the County's 2009 DC Study, the initial capital cost of these internal roads will be paid for by the developers. As phases of development are completed, the County will assume ownership of the roads, as well as responsibility for on-going operating and lifecycle costs. These on-going operating and lifecycle costs are factored into the calculation of the net annual fiscal impact later in this report.

In addition to the internal roads, the October 2013 St. George Area *Traffic Impact Study* by Paradigm Transportation Solutions Limited found the need for 570 metres of new turning lanes on various County Roads. The on-going operating and lifecycle costs of these new turning lanes have also been factored into the calculation of net annual fiscal impact.

The road improvement costs identified in Table 8.1 of the Paradigm study have a total capital cost of $1,684,100. Of this, $1,222,161 will be funded by

[5] Using the same rate of metres of sewers per unit as the Landowners Group developments, the 1,540 units of other future development would require approximately 12.2 km of internal sewers.

the St. George Landowners Group, while $461,939 is the responsibility of the County. The capital costs that will be the responsibility of the County are for traffic signals and turning lanes, which, according to the local service policy on page B-2 of the County's 2009 DC Background Study should be eligible for funding through development charges.

3.1.4 Parks and Recreation Facilities

The plans for the Empire lands include a 0.5-hectare parkette, while the Activa lands include a 0.57-hectare park.

The County's 2009 *Development Charges Background Study* included the parkland development costs for the Empire lands, which had a gross cost of $175,000.

While the Empire parkland project is shown as being above the service level cap, it does not restrict the County from funding the project through the DC reserve fund. The project only needs to be identified in a County budget and deemed as eligible under the local service guidelines to be funded.

The County can fund projects shown as being over the level of service cap in the most recent DC Background Study, as projects that were "under" the service level cap may not have proceeded, other projects may have come in under budget, among other reasons. Therefore, the funding for the development of the Empire parks should be funded by the existing Parks & Recreation DC reserve fund.

The 10% statutory deduction of the $175,000 cost would need to be funded by other non-DC sources, including property taxes levied on existing home owners across the County. The County could choose to allocate some of the annual fiscal surplus from the St. George LOG developments to fund the 10% statutory discount, but it does not necessarily have to come from St. George tax payers.

For parkland development on the Activa lands, although there were no provisions in the County's most recent DC Background Study, so long as the project is DC eligible under the local service guidelines, the project could be funded through DC's – the costs could then be recovered in a subsequent DC Background Study (either through the incorporating of the DC reserve fund in the recoveries or through provision for repayment of debt required to fund the project). So long as a project is expressed in a County budget and meets the local service guidelines for being DC eligible, the County can fund the project through development charges.

There will also be open space lands provided within the plans, but there should be no development costs associated with open space lands.

3.1.5 Capital Costs to be Front-Ended by Developer

Appendix B of the County's 2009 *Development Charges Background Study* sets out the local service and developer contribution policies for various DC eligible services.

For water and wastewater projects that do not meet the definition of local works, the front-ending of the water and wastewater works being offered by the landowners would be reimbursed to the developers through DC rebates according to the process set out in the County's DC study:

> If the County identifies the need to oversize either sewers or water mains for the benefit of adjoining lands not owned by the developer then the County will pay for such oversizing by rebating collected development charges from the developer's site. This rebate would be granted every six months and would vary depending upon the value of development charges collected during the time period from this site. The County will not pay interest on the rebate offered to the developer and will continue such 6 month payments until the debt is repaid. The County will then attempt to collect funds from the benefitting properties as the additional lands are developed. The cost of oversizing is prorated over the area benefitting and collected as the properties are developed. (page B-7 and page B-12)

For the DC eligible external works (groundwater wells, WPCP plant and upgrades to existing water mains and sewers, and external roads identified in the October 2013 Paradigm Traffic Impact Study) that the Landowners Group is proposing to front-end, the developers will front-end all costs, with the developers receiving DC rebates for the development charges they would have otherwise paid. For costs over and above the amount of eligible DC rebates, the Landowners Group will be reimbursed from DC's paid by future landowners and developers.

As per the local service guidelines in the County's DC Study, the developers will provide all funding for construction of internal road, sewer and water works. Upon completion, the works will be turned over to the County, who will be responsible for all future operation and replacement costs.

For the $2.3 million in upgrades to the water distribution system for the employment lands, it is assumed that the County will be funding these costs, which is consistent with policy 3 of section 2.2.2 of the *Brant County Official Plan*, which states that the County may participate in the provision of services to privately owned Industrial lands so as to ensure an adequate supply of available serviced Industrial lands within the County.

3.2 Area-Specific Development Charges

Similar to the process done for the Southwest Paris area, the reimbursement of DC credits for the Landowners Group for the works they are proposing to front-end finance could be the basis for an area-specific development charge (ASDC) by-law for St. George. For projects already included in the County-wide DC capital program, an area-specific development charge for St. George would update the project costs based on the costs to be incurred by the Landowners Group.

Ultimately, it is the County's decision to adopt an area-specific DC by-law for St. George, or include the works for St. George in the County-wide DC by-law, which would incorporate any DC credits that would accrue to the St. George Landowners Group for any DC eligible works that they front-end finance.

3.3 Estimates of DC Revenues

Figure 3 provides an estimate of the DC revenues that would be generated by the Landowners Group developments, at current rates, and in the absence of front-end financing of capital works and DC rebates/credits. The calculation presented in Figure 3 includes 118 units planned to be built on the Empire mixed-use block.

Figure 3 **Estimate of Residential DC Revenues, St. George Landowners Group**

	Single Family & Semi	Apartment - 2-Bedroom & Larger	Apartment - Bachelor & 1-Bedroom	Other Multiples	Total
Units	999	94	24	193	1,310
DC Rates		*Dollars / Unit*			
Studies	217	123	97	150	
Fire Protection	225	127	101	155	
Emergency Services (Ambulance)	38	21	17	26	
Parks & Recreation	1,092	620	491	751	
Libraries	352	200	159	242	
Public Works	188	106	85	129	
Roads & Related	2,229	1,264	1,003	1,533	
Sanitary Sewer	8,137	4,617	3,664	5,596	
Water	4,696	2,664	2,116	3,231	
Total	17,174	9,742	7,733	11,813	
DC Revenues			*Dollars*		
Studies	216,783	11,572	2,281	28,950	259,586
Fire Protection	224,775	11,948	2,376	29,915	269,014
Emergency Services (Ambulance)	37,962	1,976	400	5,018	45,356
Parks & Recreation	1,090,908	58,330	11,548	144,943	1,305,729
Libraries	351,648	18,816	3,740	46,706	420,910
Public Works	187,812	9,972	1,999	24,897	224,681
Roads & Related	2,226,771	118,917	23,591	295,869	2,665,148
Sanitary Sewer	8,128,863	434,367	86,177	1,080,028	9,729,436
Water	4,691,304	250,629	49,768	623,583	5,615,284
Total	17,156,826	916,527	181,880	2,279,909	20,535,143

Source: Altus Group Economic Consulting based on Brant County Development Charges (effective as of September 2012)

Based on the current development charge rates (as of September 2012, the residential component of the developments will generate approximately $20,535,100 in DC revenues for the County, including:

- $9,729,400 for sewage works;
- $5,615,300 for water works;
- $2,665,100 for roads and related projects;
- $1,305,700 for parks and recreation projects; and
- $1,219,500 for studies, fire protection, ambulance, libraries and public works projects.

The commercial component of the developments will generate approximately $913,200 in DC revenues for the County, including $276,200 for water works, $478,600 for sewage works, and $137,000 for roads, and $21,300 for other services.

The DC revenues generated can be used to fund growth-related capital projects in St. George and elsewhere in the County.

As costs of the infrastructure being front-end financed by the Landowners Group may exceed the eligible amount of DC rebates they would qualify for, the Landowners Group may be reimbursed using DC revenues of future developers in the County or St. George, as outlined in the next County DC update or upon the establishment of a St. George area-specific development charge. Based on the estimate of 1,540 units of other future residential development that could be accommodated in St. George under the upgraded serviced capacity of 10,290 persons, at current County-wide DC rates, the future DC revenues excluding the St. George Landowner Group lands would amount to approximately $19,841,100.

3.4 Other Fees and Charges

Based on the County's permit rate of $14 per $1,000 in value, the proposed Landowners Group developments would generate approximately $2.9 million in building permit revenues for the County. These funds are to help fund the activities of the County's building division, and cannot be used to fund capital works, or offset other operating costs related to development.

4 FINANCIAL IMPLICATIONS ON REVENUES AND EXPENDITURES

4.1 On-Going Revenues

4.1.1 Assessment and Property Taxes

For the three land areas, we have purchased MPAC data for comparable units in similar developments to those proposed in St. George by the Landowners Group located elsewhere in Brant County or the City of Brantford.

- For the proposed Activa units, we selected a sample of single-detached houses from their Grandville development in Paris;

- For the proposed Empire units, we have taken a sample of both single-detached houses, and townhouses from their Wyndfield subdivision in Brantford as comparables; and
- For the proposed Riverview Highland units, we have assumed $280,000 value for single-detached units, and $240,000 for townhouse units.

Figure 4 **Estimated Annual Property Tax Revenues, St. George Landowners Group Developments**

	Units	Assessment Value / Unit	Total Assessment Value	2011 Tax Rate County	2011 Tax Rate Education	Total Annual Tax Revenue County	Total Annual Tax Revenue Education	Total Annual Tax Revenue Total
Activa		*$ / Unit*	*Dollars*	*Percent*			*Dollars*	
Singles 50-60' Frontage	204	350,000	71,400,000	0.892600%	0.231000%	637,316	164,934	802,250
Singles 60-70' Frontage	8	410,000	3,280,000	0.892600%	0.231000%	29,277	7,577	36,854
Empire								
Single-Detached	723	260,000	187,980,000	0.892600%	0.231000%	1,677,909	434,234	2,112,143
Townhouses	168	190,000	31,920,000	0.892600%	0.231000%	284,918	73,735	358,653
Mixed-Use Lands								
1-Bedroom + Den	24	170,000 [1]	3,998,400	0.892600%	0.231000%	35,690	9,236	44,926
2-Bedroom	94	190,000 [1]	17,875,200	0.892600%	0.231000%	159,554	41,292	200,846
Riverview Highlands								
Single-Detached	64	280,000	17,920,000	0.892600%	0.231000%	159,954	41,395	201,349
Townhouses	25	240,000	6,000,000	0.892600%	0.231000%	53,556	13,860	67,416
Total Residential	1,310		340,373,600			3,038,175	786,263	3,824,438
	Square Feet	*$ / Sq. Ft.*						
Total Commercial	64,898	150	9,734,637	1.709300%	1.617404%	166,394	157,448	323,843
Total Residential & Commercial			**350,108,237**			**3,204,569**	**943,711**	**4,148,280**

[1] 2-bedroom assessment for mixed-use units assumed to be same as conventional townhouses. Assessment value for 1-Bedroom+Den units assumed to be 10% lower than 2-bedroom values

Source: Altus Group Economic Consulting based on MPAC data, Brant County 2012 Budget Fact Sheet

Details regarding the residential assessment estimates are provided in the appendix to this report (Figure A-1), with the house numbers of each unit from MPAC data omitted for privacy reasons.

The assessment comparables for the proposed commercial components of the Landowners Group plans are based on the average assessment value per square foot of a sample of retail properties in the nearby Waterdown community.

In total, the proposed Landowner Group developments would generate a total of $4,148,300 in annual property tax revenues, of which $3,204,600 will be for County purposes, and another $943,700 will be for education purposes.

For the 1,540 units in other future developments, we have assumed a unit mix of 75% single-detached units and 25% townhouse units, with the assessment per unit of $280,000 and $240,000 respectively.

4.1.2 Non-Tax Revenues

In addition to the property tax revenues generated annually by the proposed developments, the units in the proposed developments will also generate a variety of non-tax revenues for the County. These non-tax revenues include County fees for items such as licences, permits (excluding building permits which are handled separately in this analysis), fines and donations, etc.

After making provisions for non-tax revenues that would increase along with residential growth in St. George, and the proportion to which residential development would contribute to an increase in those revenues, we have estimated that the proposed developments in St. George would add approximately $27.02 per capita and $26.47 per employee to the County's annual revenues (see Figure A-2 in the Appendix for the detailed calculation of Non-Tax Revenues).[6]

4.1.3 Water and Wastewater User Rate Revenues

We have modelled annual revenues that would be generated by the residential component of the proposed developments from water and wastewater user rates, based on the County's 2011 rates:

- Water, $0.709 / m^3 and $44.86 fixed cost per month
- Wastewater: $0.975 / m^3 and $16.83 fixed cost per month.

We applied the water and sewer rates to estimates of the average monthly water and wastewater usage, which were based on input from MTE Consultants and Gamsby and Mannerow Limited, which were 32.4 m^3 per month, per household, for both water and wastewater. On an annual basis, this amounts to an estimated water usage of 390m^3 and wastewater usage of 390m^3 per year.

[6] In our estimate, we have deducted $1,400,000 from the donations category to account for a one-time donation of $1.4 million to the fundraising campaign of the Brant Sports Complex.

In total, it is estimated that annual revenues from water and wastewater user rates per household would amount to a total of $1,829,600 per year.

We have also estimated the annual water and sewer revenues that the commercial components of the proposed developments would generate, based on an estimate of water and sewer usage from MTE Consultants (40.5 m^3/ha/day for commercial uses). In total, it is estimated that the annual revenues from water and wastewater user rates would amount to $49,400.

The detailed calculation of annual water and wastewater revenues can be found in Figure A-3 in the Appendix to this report.

4.2 On-Going Expenditures

4.2.1 Operating Costs

We have estimated the additional annual operating costs that will result from the developments proposed in St. George, for County services such as recreation and cultural services, fire protection, etc. We do this calculation in four steps:

1. We take the operating expenditures of the County in 2011, as taken from Schedule 40 of the County's 2011 *Financial Information Return*.
2. Expenditures for each service relating to long-term debt interest, and any user fees and service charges revenues associated with each service are deducted to reach net operating expenditures.
3. We estimate the degree to which the net operating expenditures will change with additional growth by applying a "growth-related" factor to the net operating expenditures, to reach net growth-related operating expenditures. In most cases, the need for services by new residents will require a nearly proportional increase in operating costs to the amount expended on existing residents, with a small allowance made for efficiencies and economies of scale. Other services will grow at a much slower pace than population growth, such as government, planning departments, etc., which do not have to expand significantly when the County grows.

4. We then attribute a share of the net growth-related operating expenditures to residential and non-residential growth, by applying residential/non-residential factors to each service based on typical usage or the residential/non-residential split used in the County's 2009 Development Charges Background Study. This results in the <u>net residential (or non-residential) growth-related operating expenditures</u>.

In total, we have estimated that new development would represent an additional annual operating cost to the County of $923.63 per capita, and $603.46 per employee (See Figure A-4 in the Appendix for the detailed calculation of net growth related operating expenditures).

Operating costs relating to roads, water and wastewater infrastructure are excluded from this part of the analysis. Instead, the impacts on the County's finances for roads, water and wastewater will be calculated separately to account for all costs associated with both operation and eventual replacement of the required infrastructure.

4.2.2 Lifecycle Funding

In reviewing the costs associated with roads, water and wastewater infrastructure, not only do the additional operating costs associated with the infrastructure need to be considered, but the "lifecycle funding" requirements should also be included in the analysis. Incorporating these costs ensures that funding will be available to allow for the eventual replacement of the infrastructure, at the end of each component's useful life.

4.2.2.1 Water and Wastewater Operating, Maintenance and Replacement Costs

In order to determine the average annual cost of the capital replacement, maintenance and operation costs on user rates, the following information was provided by MTE Consultants and Gamsby and Mannerow Limited.

- Detailed lists of the community-wide infrastructure required for St. George as a whole, and for the internal works required for each of the three developments;
- The replacement cycles for each infrastructure component;
- The replacement cost associated with each component; and

- The annual operating and maintenance costs associated with each component.

Our model forecasts all of the operating, maintenance and replacement costs for the new infrastructure required to service the proposed developments, and is based on the total operating and amortization costs as reported in the County's 2011 *Financial Information Return*. The estimated annual operating and lifecycle costs amount to approximately:

- $20,609 per km for water mains;
- $630 per megalitre of water treated;
- $6,990 per km for sewers; and
- $1,020 per megalitre for sewage treated.

For the costs associated with infrastructure required for the Landowners Group developments, we have allocated the costs to residential and non-residential based on the split between the projected population and jobs to be accommodated.

For the new groundwater wells and the upgraded St. George WPCP, we estimated the average annual operating, maintenance and replacement costs by calculating the average operating and lifecycle cost per year, based on a time horizon to the year 2100, ensuring that several replacement cycles are covered. In modelling costs over the 80+ year horizon, we have made several assumptions to calculate the average annual cost implications for maintaining the infrastructure necessary to service the proposed developments, including an assumption that costs would increase by 3.5% per year. We then assumed an annual inflation rate of 2.5%, which allowed us to average the costs on a constant 2012 dollar basis.

The average annual cost of operation, maintenance and replacement of the front-ended works over the full horizon is included in the final calculation of the net annual fiscal impact of the proposed developments. These average annual costs are split between the St. George Landowners Group and other future development, based on the proportion of population (and jobs) each will add to St. George.

To see our detailed calculations of the annual operation and lifecycle replacement costs of the external water and wastewater infrastructure, see Figures A-5 to A-8 in the Appendix to this report.

4.2.2.2 *Water and Wastewater Cash Flow Modelling*

While we have included the average annual operating and lifecycle costs, and average annual revenues (through user rates) in the total net fiscal impact analysis table, we have also attempted to model the year-by-year impact of development on the County's water and wastewater reserves, by incorporating the following into our model:

- Revenues based on 2011 water and wastewater rates, with increases to rates (to keep pace with inflation);
- Interest on accumulated differences between revenues and costs (both positive and negative balances);
- The timing of development; and
- The estimated annual operating costs and lifecycle replacement costs for the required infrastructure.

We have found that the units in the proposed developments will be able to adequately fund all operating, maintenance and lifecycle replacement costs of the infrastructure to be front-end financed by the landowners and all internal infrastructure required to serve the developments.

4.2.2.3 *Roads Operating, Maintenance and Replacement Costs*

To estimate the annual operating and lifecycle replacement costs for the roads required for development, we have taken the cost per kilometre of roads from the County's 2011 *Financial Information Return* of $4,531 per lane kilometre, which incorporates both operating costs and amortization costs for the County's existing inventory of paved roads.

Based on the estimate of 22.4 lane-km of roads in the proposed developments, the roads required for the proposed developments will add approximately $101,700 in annual costs for the County for operation and lifecycle replacement. This amount will be funded through general revenues and is incorporated into the calculation of the net annual fiscal impact.

The 570 metres of external roads (generally turning lanes) identified in the Paradigm Traffic Impact Study would have an annual operating and lifecycle cost of $2,583.

The combined $104,265 in operating and lifecycle costs for internal and external roads. We have allocated these costs to the residential and non-residential components of the St. George Landowners Group lands based on the split of population and employment, or 95% residential and 5% non-residential.

5 CONCLUSIONS

5.1 Fiscal Impact at Build Out

The proposed developments would provide for improved and upgraded infrastructure for the County and the St. George settlement area. By front-end financing the infrastructure required for development and growth to occur in the community, other developments in St. George would be able to proceed.

Figure 5 shows the calculation of net annual fiscal impact of the proposed Landowners Group developments, other future development in St. George, and all potential growth in St. George combined.

Figure 5

Net Annual Fiscal Impact, St. George Area Study

	St. George Landowners Group				Other Future Development in St. George Area		
	Units					*Units*	*Units*
Units		1,310				1,540	2,850
	Persons			*Jobs*		*Persons*	*Persons*
Persons		3,372		162		4,005	7,377
	Residential	Per Capita	Non - Residential	Per Employee	Residential	Per Capita	Total St. George Area
Revenues	*Dollars*	*$ / Capita*			*Dollars*	*$ / Capita*	
Property Tax Revenues	3,038,175	901.13	166,394	1,025.58	3,712,395	926.93	6,916,964
Non-Tax Revenues	91,108	27.02	4,294	26.47	108,228	27.02	203,630
Water / Wastewater User Rates	1,829,564	542.65	49,436	304.70	2,173,340	542.65	4,052,339
Total Revenues	4,958,847	1,470.80	220,124	1,356.75	5,993,962	1,496.60	11,172,933
Expenditures							
Net Operating Expenditures	3,114,037	923.63	97,908	603.46	3,699,167	923.63	6,911,113
Roads - Operating and Lifecycle	99,479	29.51	4,787	29.51	118,171	29.51	222,437
Water - Operating and Lifecycle	662,995	196.65	35,946	221.56	855,689	213.65	1,554,631
Wastewater - Operating and Lifecycle	985,955	292.44	54,005	332.86	1,245,803	311.06	2,285,763
Total Expenditures	4,862,466	1,442.21	192,647	1,187.39	5,918,830	1,477.85	10,973,943
Net Fiscal Impact	96,381	28.59	27,477	169.36	75,132	18.76	198,990

Source: Altus Group Economic Consulting

For the residential component of the developments proposed by the St. George Landowners Group, the $901.13 per capita of annual property tax revenues, $27.02 per capita of non-tax revenues, and $542.65 in annual water and wastewater user rate revenues would produce annual revenues of $1,470.80 per capita for the County.

The residential components of the proposed developments by the St. George Landowners Group would generate an additional annual operating expenditure of $923.63 per capita in net operating expenditures, $29.51 in operating and lifecycle costs for roads, $196.65 in operating and lifecycle costs for water, and $292.44 in lifecycle costs for wastewater, resulting in the total annual expenditures of $1,442.21 per capita.

The annual revenues and expenditures per capita of the residential component of the St. George Landowners Group development produce a net annual fiscal surplus to the County of $28.59 per capita, or $96,381 per year.

The non-residential components of the St. George Landowners Group plans would generate an annual fiscal benefit of $27,477, or $169.36 per employee.

Overall, the development of the St. George Landowners Group lands will produce an annual surplus for the County.

The other future development in St. George will produce an estimated net annual fiscal benefit of $75,132 per year, of $18.76 per capita. The estimate of the net annual fiscal impact of other developments in St. George are based on assumptions that the per capita revenues and operating expenditures would be the same as those in the Landowners Group developments, and that the future development lands would be subject to a proportionate share of the water and wastewater operating and lifecycle costs for the infrastructure being front-end financed by the Landowners Group.

In total, all of the development proposed by the Landowners Group and other future developments in St. George under the upgraded servicing capacity of St. George (to 10,290 persons) combined will generate an annual net fiscal benefit of $198,990.

5.2 Fiscal Impact by Year

We have estimated the annual fiscal impact for the residential component based on an estimate of the timing of development. This shows the year-by-year impact of development as it proceeds to help the County understand if there can be expected to be any annual fiscal deficits generated by the proposed developments, and if so, how to finance these annual deficits.

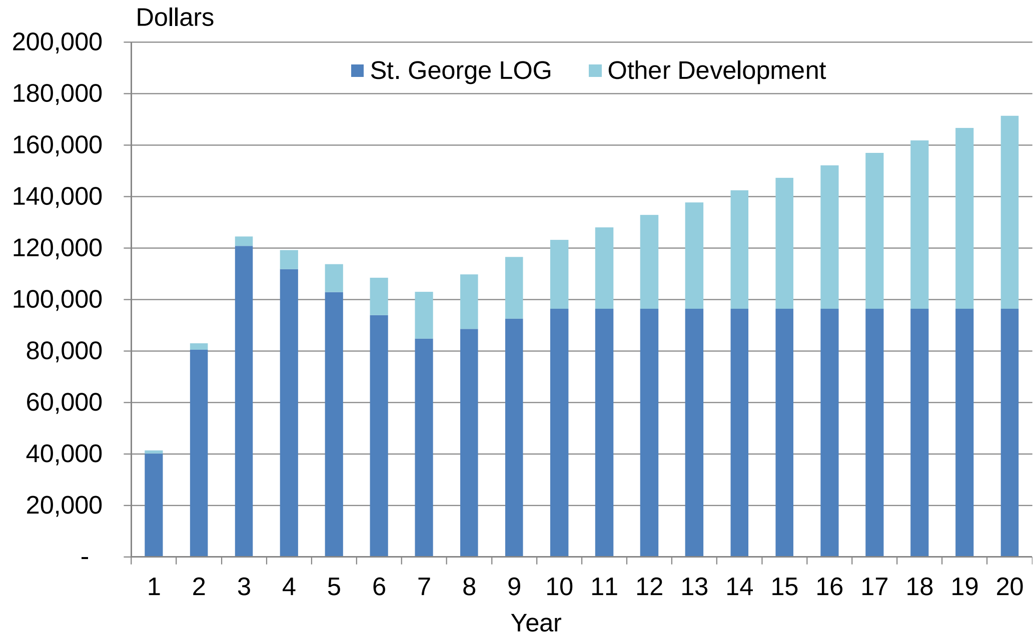
Figure 6 shows the annual fiscal impact of development of both the St. George Landowners Group lands, and the other lands within St. George, based on the following assumptions:

- Years 1-3 – 645 new units, including 270 from Empire (all singles), 212 from Activa (all singles), and 89 units from Riverview (64 singles and 25 townhouses), plus 74 units from other developments;
- Years 4-7 – 660 new units, including 360 units from Empire (260 singles, 100 townhouses), plus 300 units from other developments;
- Years 8-10 – 555 new units, including 261 units from Empire (193 singles, 68 townhouses), plus 294 other units between the mixed-use blocks on Empire's lands, and other developments. For the purposes of this analysis, we have assumed that 40% the 294 other units (118 units) will be located on the mixed-use block within the Empire lands. The remaining 176 units will be constructed on other lands within St. George.

- Years 10+ - 990 units from other developments, which we have assumed for this report will be built over a 10-year span.

Figure 6

Annual Fiscal Impact, St. George Landowners Group and Other Developments in St. George, Years 1-20



Source: Altus Group Economic Consulting

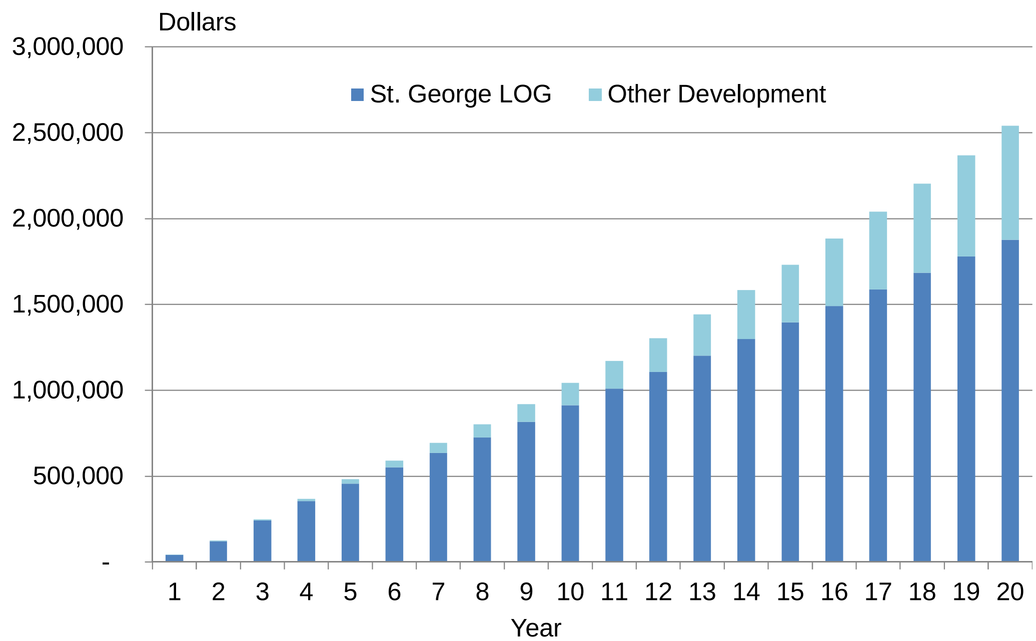
The assumed timing of development for the purposes of the fiscal impact study may not necessarily reflect the market for these units, but instead is a reflection of the landowners capacity, and an attempt to quantify the annual fiscal impact of the development of St. George from now until build-out.

We have excluded the non-residential development from our review of the year-by-year impacts of development, as it is more difficult to estimate when the commercial space will be built and occupied than it is for residential development. Regardless, the net fiscal impact of the non-residential component of the development is positive, and so would only add to the surplus generated by the residential component of development.

Figure 7 shows the cumulative fiscal impacts. By Year 10, at build-out of the St. George LOG lands, the net fiscal impact of the residential developments is approximately $96,381 per year. At full build-out, after year 20, the cumulative impact of the St. George LOG lands is a surplus of $1,876,929, or roughly $93,846 per year.

Figure 7

Cumulative Annual Fiscal Impact, St. George Landowners Group and Other Developments in St. George, Years 1-20



Source: Altus Group Economic Consulting

Combined with the other developments in St. George, the annual fiscal impact of the residential developments at build-out and beyond is $171,513 per year. Cumulatively, at build-out, the LOG and other developments will generate a surplus of $2,541,129.

5.3 Capital Costs

Figure 8 summarizes the capital funding requirements, DC revenues and other sources of funding for roads, water and wastewater projects.

The capital costs for water will be entirely covered by the DC revenues generated from the St. George LOG and other developments.

For sewer, while it is unknown how much the upgrades to existing sewers will cost, the $19.6 million in DC revenues from the LOG and other developments in St. George will more than cover the $14.4 million in DC eligible costs for the Water Pollution Control Plant.

Figure 8

Water, Wastewater and Road Infrastructure Requirements, St. George

	Capital Costs	DC Eligible	Funding
Water			
Capital Costs			
Internal		No	Local Service - Landowners
External - Wells	$4.6 to $5.2 million	Yes - 100%	Development Charges
External - Industrial Upgrades	$2.3 million	Yes - % TBD	Development Charges for DC Eligible Share, Other County Sources for Non-Growth Share
Total External Costs	$6.9 to $7.5 milion	$4.6 to $5.2 million +	
DC Revenues			
St. George LOG	$5.6 million		
Other Developments	$5.4 million		
Total	$11.0 million		
Wastewater			
Capital Costs			
Internal		No	Local Service - Landowners
External - WPCP	$16 million	Yes - 100%	LOG front-end, repaid with DC credits. 10% funded through other County sources
External - Existing Sewer Upgrades	TBD	Yes - % TBD	Development Charges for DC Eligible Share, Other County Sources for Non-Growth Share
Total External	$16 million +	$14.4 million +	
DC Revenues			
St. George LOG	$9.7 million		
Other Developments	$9.4 million		
Total	$19.1 million		
Roads			
Capital Costs			
Internal		No	Local Service - Landowners
External - Traffic Study	$1.68 million	Yes - ~27%	$1,222,161 funded by LOG, remaining $461,939 by County, through DC's
DC Revenues			
St. George LOG	$2.7 million		
Other Developments	$2.6 million		
Total	$5.3 million		

Source: Altus Group Economic Consulting

The $461,939 in capital costs for external roads that is the responsibility of the County and could be funded from DC's, will be more than adequately covered by the $5.3 million in DC revenues generated by the LOG and other developments in St. George combined.

Appendix A
Detailed Financial Impact Tables

Figure A-1

Estimates of Average Assessed Value, St. George Area Study

	Municipality	Builder	Unit Type	2012 Assessment	Frontage
Activa - Single-Detached Units					Feet
Savannah Ridge Drive	Paris	Activa	Single-Detached	349,000	57
Cardinal Lane	Paris	Activa	Single-Detached	382,000	55
Cardinal Lane	Paris	Activa	Single-Detached	339,000	57
Irongate Drive	Paris	Activa	Single-Detached	357,000	53
Irongate Drive	Paris	Activa	Single-Detached	307,000	53
Cobblestone Drive	Paris	Activa	Single-Detached	348,000	55
Total / Average				347,000	55
Scaled Average of 55' Lots for 65' Single-Detached Lots				408,951	65
Empire Single-Detached Units					
Blackburn Drive	Brantford	Empire	Single-Detached	296,000	45
Osborn Avenue	Brantford	Empire	Single-Detached	180,000	41
Webb Avenue	Brantford	Empire	Single-Detached	378,000	51
Draper Street	Brantford	Empire	Single-Detached	250,000	45
Sheppard Street	Brantford	Empire	Single-Detached	208,000	45
Garners Lane	Brantford	Empire	Single-Detached	218,000	45
Gaydon Way	Brantford	Empire	Single-Detached	232,000	38
				251,714	44
Townhouse Units					
Duncan Avenue	Brantford	Empire	Townhouse	189,000	20
Duncan Avenue	Brantford	Empire	Townhouse	186,000	20
Duncan Avenue	Brantford	Empire	Townhouse	183,000	20
Blackburn Drive	Brantford	Empire	Townhouse	197,000	35
Blackburn Drive	Brantford	Empire	Townhouse	163,000	37
Total / Average				183,600	26

Source: Altus Group Economic Consulting based on MPAC data

Figure A-2

Estimate of Non-Tax Revenues, St. George Landowners Group

	Non-Tax Revenues	Less: Building Permit Revenues	Net Non-Tax Revenues	Growth Related	Growth Related Non-Tax Revenues	Residential Share	Residential Growth Related Non-Tax Revenues	Non-Residential Growth Related Non-Tax Revenues
Licenses, Permits, Rents, etc.		Dollars		Percent	Dollars	Percent	Dollars	
Licenses and Permits	1,188,362	696,206 [1]	492,156	95%	467,548	74%	345,986	121,563
Rents, Concessions and Franchises	307,406	-	307,406	0%	-	74%	-	-
Subtotal	1,495,768	696,206	799,562		467,548		345,986	121,563
Fines and Penalties								
Other Fines	29,745	-	29,745	95%	28,258	74%	20,911	7,347
Penalties and Interest on Taxes	597,600	-	597,600	95%	567,720	74%	420,113	147,607
Subtotal	627,345	-	627,345		595,978		441,024	154,954
Other Revenue								
Investment Income	779,366	-	779,366	0%	-	74%	-	-
Donations	100,000	-	100,000	95%	95,000	74%	70,300	24,700
Sale of Publications, Equipment, etc.	150,401	-	150,401	95%	142,881	74%	105,732	37,149
Contribution from Non-Consolidated Entities	302,841	-	302,841	0%	-	74%	-	-
Other Revenues from Government Business Enterprises	470,000	-	470,000	0%	-	74%	-	-
Subtotal	1,802,608	-	1,802,608		237,881		176,032	61,849
Total	3,925,721	696,206	3,229,515		1,301,407		963,041	338,366
2011 Population / Employment							35,638	12,784
$ / Capita or $ / Employee - Growth Related Non Tax Revenues							27.02	26.47

[1] Estimated amount of 2011 Building Permits based on Value and Number of Permits data released by County. Building Permit revenues generated by the proposed developments will be calculated separately.

Source: Altus Group Economic Consulting, based on Brant County Financial Information Return 2011, Brant County Building Permit Data for 2011

Figure A-3

Estimate of Annual Revenues from Water and Wastewater Rates, St. George Area Study

	Fixed / Usage Rate	Annual Usage	Annual Costs per Homeowner	Units	Revenues
Residential Water	*$ / Unit*	*m3 per Year*	*Dollars*		*Dollars*
Monthly Fixed Rate	44.86		538		
	$ / m3				
Consumption Rate	0.709	390	277		
Total Residential Water			815	1,310	1,067,101
Residential Sewer	*$ / Unit*				
Monthly Fixed Rate	16.83		202		
	$ / m3				
Consumption Rate	0.975	390	380		
Total Residential Sewer			582	1,310	762,462
Total Residential			**1,397**	**1,310**	**1,829,564**

	Rate	Usage per Hectare	Land Area	Annual Usage	Annual Revenues
Commercial Water	*$ / m3*	*m3 per Ha / Year*	*Hectares*	*m3*	
Consumption Rate	0.71	14,783	1.99	29,356.06	20,813
Commercial Sewer	*$ / m3*	*m3 per Ha / Year*	*Hectares*	*m3*	
Consumption Rate	0.98	14,783	1.99	29,356.06	28,622
Total Commercial					**49,436**

Source: Altus Group Economic Consulting based on Brant County 2011 User Rates and input from MTE Consultants and Gamsby and Mannerow

Figure A-4

Estimate of Growth Related Net Operating Expenditures, St. George Area Study

	Operating Expenditures	Less: Interest on Long Term Debt	Less: User Fees and Service Charges	Net Operating Expenditures	Growth Related %	Growth Related Net Operating Expenditures	Res. Share	Net Growth-Related Operating Expenditures Residential	Net Growth-Related Operating Expenditures Non - Residential
		Dollars			*Percent*	*Dollars*	*Percent*	*Dollars*	
General Government									
Governance [1]	903,053	-	-	903,053	75%	677,290	74%	501,194	176,095
Corporate Management	1,399,666	-	-	1,399,666	75%	1,049,750	74%	776,815	272,935
Program Support	414,946	-	-	414,946	75%	311,210	74%	230,295	80,914
Subtotal	2,717,665	-	23,945	2,693,720		2,038,249		1,508,304	529,945
Protection Services									
Fire	2,838,949	42,548	104,756	2,691,645	95%	2,557,063	74%	1,892,226	664,836
Police	6,582,551	-	8,900	6,573,651	95%	6,244,968	74%	4,621,277	1,623,692
Conservation Authority	372,360	-	-	372,360	100%	372,360	74%	275,546	96,814
Protective Inspection and Control	509,631	-	3,190	506,441	95%	481,119	74%	356,028	125,091
Building Permit and Inspection Services	748,344	-	195	748,149	95%	710,742	74%	525,949	184,793
Emergency Measures	53,286	-	-	53,286	95%	50,622	74%	37,460	13,162
Provincial Offences Act (POA)	12,460	-	-	12,460	95%	11,837	74%	8,759	3,078
Subtotal	11,117,581	42,548	117,041	10,957,992		10,428,710		7,717,246	2,711,465
Transportation Services									
Roads - Bridges and Culverts	930,048	-	-	930,048	95%	883,546	74%	653,824	229,722
Roads - Traffic Ops & Roadside	2,084,171	-	1,223	2,082,948	95%	1,978,801	74%	1,464,312	514,488
Winter Control	2,575,670	-	-	2,575,670	95%	2,446,887	74%	1,810,696	636,190
Transit - Disabled & Special Needs	136,673	-	-	136,673	95%	129,839	74%	96,081	33,758
Street lighting	559,070	-	-	559,070	95%	531,117	74%	393,026	138,090
Subtotal	6,285,632	-	1,223	6,284,409		5,970,189		4,417,940	1,552,249
Environmental Services									
Storm Sewer System	368,100	-	329	367,771	95%	349,382	74%	258,543	90,839
Solid Waste - Collection/Disposal	2,333,847	-	567,049	1,766,798	95%	1,678,458	74%	1,242,059	436,399
Waste Diversion	1,075,885	-	28,683	1,047,202	95%	994,842	74%	736,183	258,659
Subtotal	3,777,832	-	596,061	3,181,771		3,022,682		2,236,785	785,897
Health Services									
Public Health Services	630,786	-	-	630,786	95%	599,247	85%	509,360	89,887
Ambulance Services	7,611,195	-	407	7,610,788	95%	7,230,249	85%	6,145,711	1,084,537
Cemeteries	640,696	-	172,400	468,296	95%	444,881	100%	444,881	-
Subtotal	8,882,677	-	172,807	8,709,870		8,274,377		7,099,952	1,174,424
Social and Family Services									
General Assistance	527,017	-	-	527,017	95%	500,666	95%	475,633	25,033
Assistance to Aged Persons	1,669,201	-	-	1,669,201	95%	1,585,741	95%	1,506,454	79,287
Child Care	175,260	-	-	175,260	95%	166,497	95%	158,172	8,325
Subtotal	2,371,478	-	-	2,371,478		2,252,904		2,140,259	112,645
Social Housing									
Non-Profit/Cooperative Housing	1,537,492	-	-	1,537,492	95%	1,460,617	95%	1,387,587	73,031
Subtotal	1,537,492	-	-	1,537,492		1,460,617		1,387,587	73,031
Recreation and Cultural Services									
Parks	768,867	-	141	768,726	95%	730,290	95%	693,775	36,514
Recreation Programs	837,724	-	202,427	635,297	95%	603,532	95%	573,356	30,177
Rec Fac - All Other	3,699,667	92,029	1,098,985	2,508,653	95%	2,383,220	95%	2,264,059	119,161
Libraries	2,153,234	-	40,780	2,112,454	95%	2,006,831	95%	1,906,490	100,342
Cultural Services	298,831	-	-	298,831	95%	283,889	95%	269,695	14,194
Subtotal	7,758,323	92,029	1,342,333	6,323,961		6,007,763		5,707,375	300,388
Planning and Development									
Planning and Zoning	1,119,879	-	5,217	1,114,662	75%	835,997	74%	618,637	217,359
Commercial and Industrial	342,730	-	-	342,730	75%	257,048	0%	-	257,048
Residential Development	121,661	-	12,105	109,556	75%	82,167	100%	82,167	-
Agriculture and Reforestation	42,608	-	-	42,608	0%	-	95%	-	-
Other	26,289	-	24,091	2,198	0%	-	95%	-	-
Subtotal	1,653,167	-	41,413	1,611,754		1,175,211		700,804	474,407
Total	46,101,847	134,577	2,294,823	43,672,447		40,630,702		32,916,251	7,714,451
2011 Population / Employment								35,638	12,784
$ / Capita or $ / Employee - Growth Related Net Operating Expenditures								923.63	603.46

[1] The County had $8.3 million in amortization expenses included in their 2010 FIR Schedule 40 in the General Governance line. Schedule 51A of the FIR shows that this amount is actually spread among a variety of sectors, so we have deducted it from this line item for this analysis

Source: Altus Group Economic Consulting, based on Brant County Financial Information Return 2011

Figure A-5

Estimate of Operating and Lifecycle Replacement Costs, Water, St. George Area Study

	Unit	Operating and Amortization Costs Per Unit	Annual Operating and Amortization
Internal New Watermains	*Kilometres*	*$ / Km*	*Dollars*
Empire	7.6		
Activa	2.6		
Riverview Highlands	1.1		
Total St. George Landowners Group	11.2	20,609	**231,204**
Residential			*220,589*
Non-Residential			*10,615*
Other Future Developments	14.5	20,609	**298,781**
Water Treatment	*Megalitres*	*$ / Megalitre*	*Dollars*
Empire	339.0		
Residential	*311.9*		
Non-Residential	*27.1*		
Activa	74.2		
Riverview Highlands	33.4		
Residential	*31.2*		
Non-Residential	*2.2*		
Total St. George Landowners Group	446.6	630	**281,508**
Residential	*417.2*	*630*	*263,002*
Non-Residential	*29.4*	*630*	*18,506*
Other Future Developments	539.1	630	**339,872**
External Projects - Groundwater Wells	*Persons + Jobs*	*Percent*	*Dollars*
St. George Landowners Group	3,534	46.9	**148,657**
Residential	*3,372*	*44.7*	*141,832*
Non-Residential	*162*	*2.2*	*6,825*
Other Future Develvopments	4,005	53.1	**168,482**
Total	7,539	100.0	317,140
Total St. George Landowners Group			**661,370**
Residential			*625,423*
Non-Residential			*35,946*
Total Other Future Developments			**807,136**

Source: Altus Group Economic Consulting based on Brant County Water and Wastewater Long Range Financial Plan (2010), Brant County Financial Information Return (2011), and Weslake, St. George Area Study Wastewater Conveyance and Treatment Report No. 1, (June 2009)

Figure A-6

Estimate of Operating and Lifecycle Replacement Costs, Wastewater, St. George Area Study

	Unit	Operating and Amortization Costs Per Unit	Annual Operating and Amortization
Internal New Wastewater Mains	*Kilometres*	*$ / Km*	*Dollars*
Empire	7.6		
Activa	2.6		
Riverview Highlands	1.1		
Total St. George Landowners Group	11.2	6,991	**78,432**
Residential			*74,831*
Non-Residential			*3,601*
Other Future Developments	14.5	6,991	**101,357**
Internal Existing Sewer Upgrades	*Kilometres*	*$ / Km*	*Dollars*
Empire	0.81		
Activa	0.42		
Riverview Highlands	-		
Total St. George Landowners Group	1.23	6,991	**8,611**
Residential			*8,215*
Non-Residential			*395*
Other Future Developments	2.22	6,991	**15,516**
Community-Wide Existing Sewer Upgrades	*Kilometres*	*$ / Km*	*Dollars*
Total St. George Area	2.22		
Total St. George Landowners Group	0.67	6,991	**4,717**
Residential			*4,501*
Non-Residential			*217*
Other Future Developments	1.54	6,991	**10,798**
Wastewater Treatment	*Megalitres*	*$ / Megalitre*	*Dollars*
Empire	339.0		
Residential	*311.9*		
Non-Residential	*27.1*		
Activa	74.2		
Riverview Highlands	33.4		
Residential	*31.2*		
Non-Residential	*2.2*		
Total St. George Landowners Group	446.6	1,023	**456,821**
Residential	*417.2*	*1,023*	*426,790*
Non-Residential	*29.4*	*1,023*	*30,031*
Other Future Developments	539.1	1,023	**551,533**
External Projects - St. George WPCP	*Persons + Jobs*	*Percent*	*Dollars*
St. George Landowners Group	3,534	46.9	**430,409**
Residential	*3,372*	*44.7*	*410,647*
Non-Residential	*162*	*2.2*	*19,761*
Other Future Develvopments	4,005	53.1	**487,808**
Total	7,539	100.0	918,217
Total St. George Landowners Group			**978,990**
Residential			*924,985*
Non-Residential			*54,005*
Total Other Future Developments			**1,167,013**

Source: Altus Group Economic Consulting based on Brant County Water and Wastewater Long Range Financial Plan (2010), Brant County Financial Information Return (2011), and Weslake, St. George Area Study Wastewater Conveyance and Treatment Report No. 1, (June 2009)

Figure A-7

Forecasted Schedule of Operation and Lifecycle Costs, Groundwater Wells and Industrial Park Upgrades, St. George

	Building and Site Related	Treatment Equipment	Diesel Generator	Electrical and Instruments	HVAC (Blowers)	Mechanical Piping	Watermain Connection	Building and Site Related	Treatment Equipment	Diesel Generator	Electrical and Instruments	HVAC (Blowers)	Mechanical Piping	Watermain Connection	Watermain Upgrades in Industrial Park	Inline Valves	Fire Hydrant	Operating Costs (TW3)	Operating Costs (TW4)	Operating Costs (WMU in Industrial Park)	Total Costs (Nominal)	Total Costs (2012 Dollars)
										Dollars												
Cost	300,000	750,000	100,000	100,000	100,000	100,000	500,000	300,000	750,000	100,000	100,000	100,000	100,000	500,000	2,300,000	100,000	100,000	20,000	20,000	4,500		
										Years												
Cycle	30	20	20	20	20	20	50	30	20	20	20	20	20	50	-	25	25	-	-	-		
Year																						
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,300,000	-	-	-	-	4,500	2,304,500	2,304,500
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,500	4,500	4,544
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,500	4,500	4,589
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	4,500	24,500	25,227
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	4,500	24,500	25,474
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	4,500	24,500	25,723
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	4,500	24,500	25,975
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	47,641
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	48,108
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	48,579
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	49,054
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	49,535
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	50,020
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	50,510
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	51,004
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	51,504
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	52,008
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	52,517
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	53,031
20	-	750,000	100,000	100,000	100,000	100,000	-	-	750,000	100,000	100,000	100,000	100,000	-	-	-	-	20,000	20,000	4,500	2,344,500	2,821,336
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	54,075
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	54,604
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	55,139
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	55,679
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100,000	100,000	20,000	20,000	4,500	244,500	308,917
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	56,775
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	57,331
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	57,892
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	58,459
30	300,000	-	-	-	-	-	-	300,000	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	644,500	854,960
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	59,609
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	60,193
33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	60,782
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	61,378
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	61,979
36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	62,585
37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	63,198
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	63,817
39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	64,442
40	-	750,000	100,000	100,000	100,000	100,000	-	-	750,000	100,000	100,000	100,000	100,000	-	-	-	-	20,000	20,000	4,500	2,344,500	3,428,397
41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	65,710
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	66,354
43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	67,003
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	67,659
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	68,322
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	68,991
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	69,666
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	70,349
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	71,037
50	-	-	-	-	-	-	500,000	-	-	-	-	-	-	500,000	-	100,000	100,000	20,000	20,000	4,500	1,244,500	2,006,106
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	72,435
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	73,145
53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	73,861
54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	74,584
55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	75,314
56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	76,052
57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	76,797
58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	77,549
59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	78,308
60	300,000	750,000	100,000	100,000	100,000	100,000	-	300,000	750,000	100,000	100,000	100,000	100,000	-	-	-	-	20,000	20,000	4,500	2,944,500	5,232,253
61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	79,849
62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	80,631
63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	81,420
64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	82,218
65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	83,023
66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	83,836
67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	84,656
68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	85,485
69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	86,322
70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	87,168
71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	88,021
72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	88,883
73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	89,753
74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	90,632
75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100,000	100,000	20,000	20,000	4,500	244,500	502,844
76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	92,416
77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	93,321
78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	94,234
79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	95,157
80	-	750,000	100,000	100,000	100,000	100,000	-	-	750,000	100,000	100,000	100,000	100,000	-	-	-	-	20,000	20,000	4,500	2,344,500	5,062,485
81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	97,030
82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	97,980
83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	98,939
84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	99,908
85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	100,886
86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	101,874
87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	102,872
88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000	4,500	44,500	103,879
																				Average	204,727	317,140

Source: Altus Group Economic Consulting based on input from Gamsby and Mannerow Limited and MTE Consultants Ltd.

Figure A-8

Forecasted Schedule of Operation and Lifecycle Costs, St. George WPCP Upgrades St. George

Year	Headworks Facility / DAF System	Construct New 2600m3 plant	Upgrade / Expansion of Paris WPCP	Upgrades / Expansion of Biosolids Facility	Phase 2 - Refurbish Plant to 3600 m3 / day	Maintenance and Labour	Consumables	Total Costs (Nominal)	Total Costs (2012 Dollars)
1						105,910	24,670	130,580	130,580
2	-	-	-	-	-	105,910	24,670	130,580	131,859
3	-	-	-	-	-	105,910	24,670	130,580	133,150
4	-	-	-	-	-	105,910	24,670	130,580	134,454
5	-	-	-	-	-	105,910	24,670	130,580	135,770
6	-	-	-	-	-	105,910	24,670	130,580	137,100
7	-	-	-	-	-	105,910	24,670	130,580	138,442
8	-	-	-	-	-	105,910	24,670	130,580	139,798
9	-	-	-	-	-	105,910	24,670	130,580	141,167
10	423,750	1,378,600	197,750	-	491,324	105,910	24,670	2,622,004	2,862,330
11	-	-	-	-	-	105,910	24,670	130,580	143,945
12	-	-	-	-	-	105,910	24,670	130,580	145,354
13	-	-	-	-	-	105,910	24,670	130,580	146,777
14	-	-	-	-	-	105,910	24,670	130,580	148,215
15	1,002,112	466,261	-	-	-	105,910	24,670	1,598,953	1,832,657
16	-	-	-	-	-	105,910	24,670	130,580	151,131
17	-	-	-	-	-	105,910	24,670	130,580	152,611
18	-	-	-	-	-	105,910	24,670	130,580	154,106
19	-	-	-	-	-	105,910	24,670	130,580	155,615
20	445,898	2,238,530	807,950	-	719,867	105,910	24,670	4,342,825	5,226,089
21	-	-	-	-	-	105,910	24,670	130,580	158,677
22	-	-	-	-	-	105,910	24,670	130,580	160,231
23	-	-	-	-	-	105,910	24,670	130,580	161,800
24	-	-	-	-	-	105,910	24,670	130,580	163,384
25	-	787,045	169,500	47,460	226,000	105,910	24,670	1,360,585	1,719,053
26	-	-	-	-	-	105,910	24,670	130,580	166,599
27	-	-	-	-	-	105,910	24,670	130,580	168,231
28	-	-	-	-	-	105,910	24,670	130,580	169,878
29	-	-	-	-	-	105,910	24,670	130,580	171,541
30	1,425,862	1,844,861	197,750	-	491,324	105,910	24,670	4,090,377	5,426,078
31	-	-	-	-	-	105,910	24,670	130,580	174,917
32	-	-	-	-	-	105,910	24,670	130,580	176,630
33	-	-	-	-	-	105,910	24,670	130,580	178,359
34	-	-	-	-	-	105,910	24,670	130,580	180,106
35	-	-	-	-	-	105,910	24,670	130,580	181,869
36	-	-	-	-	-	105,910	24,670	130,580	183,650
37	-	-	-	-	-	105,910	24,670	130,580	185,448
38	-	-	-	-	-	105,910	24,670	130,580	187,264
39	-	-	-	-	-	105,910	24,670	130,580	189,098
40	445,898	2,238,530	807,950	-	719,867	105,910	24,670	4,342,825	6,350,577
41	-	-	-	-	-	105,910	24,670	130,580	192,819
42	-	-	-	-	-	105,910	24,670	130,580	194,707
43	-	-	-	-	-	105,910	24,670	130,580	196,614
44	-	-	-	-	-	105,910	24,670	130,580	198,539
45	1,002,112	466,261	-	-	-	105,910	24,670	1,598,953	2,454,911
46	-	-	-	-	-	105,910	24,670	130,580	202,446
47	-	-	-	-	-	105,910	24,670	130,580	204,428
48	-	-	-	-	-	105,910	24,670	130,580	206,430
49	-	-	-	-	-	105,910	24,670	130,580	208,451
50	477,538	2,423,511	367,250	47,460	797,328	105,910	24,670	4,243,667	6,840,697
51	-	-	-	-	-	105,910	24,670	130,580	212,554
52	-	-	-	-	-	105,910	24,670	130,580	214,635
53	-	-	-	-	-	105,910	24,670	130,580	216,737
54	-	-	-	-	-	105,910	24,670	130,580	218,859
55	-	-	-	-	-	105,910	24,670	130,580	221,002
56	-	-	-	-	-	105,910	24,670	130,580	223,166
57	-	-	-	-	-	105,910	24,670	130,580	225,351
58	-	-	-	-	-	105,910	24,670	130,580	227,558
59	-	-	-	-	-	105,910	24,670	130,580	229,786
60	1,448,010	2,704,791	807,950	-	719,867	105,910	24,670	5,811,198	10,326,255
61	-	-	-	-	-	105,910	24,670	130,580	234,308
62	-	-	-	-	-	105,910	24,670	130,580	236,602
63	-	-	-	-	-	105,910	24,670	130,580	238,919
64	-	-	-	-	-	105,910	24,670	130,580	241,258
65	-	-	-	-	-	105,910	24,670	130,580	243,621
66	-	-	-	-	-	105,910	24,670	130,580	246,006
67	-	-	-	-	-	105,910	24,670	130,580	248,415
68	-	-	-	-	-	105,910	24,670	130,580	250,847
69	-	-	-	-	-	105,910	24,670	130,580	253,304
70	423,750	1,378,600	197,750	-	491,324	105,910	24,670	2,622,004	5,136,044
71	-	-	-	-	-	105,910	24,670	130,580	258,288
72	-	-	-	-	-	105,910	24,670	130,580	260,817
73	-	-	-	-	-	105,910	24,670	130,580	263,371
74	-	-	-	-	-	105,910	24,670	130,580	265,950
75	1,348,909	1,409,924	359,679	210,180	226,000	105,910	24,670	3,685,272	7,579,211
76	-	-	-	-	-	105,910	24,670	130,580	271,184
77	-	-	-	-	-	105,910	24,670	130,580	273,839
78	-	-	-	-	-	105,910	24,670	130,580	276,521
79	-	-	-	-	-	105,910	24,670	130,580	279,228
80	445,898	2,238,530	807,950	-	719,867	105,910	24,670	4,342,825	9,377,474
81	-	-	-	-	-	105,910	24,670	130,580	284,723
82	-	-	-	-	-	105,910	24,670	130,580	287,511
83	-	-	-	-	-	105,910	24,670	130,580	290,326
84	-	-	-	-	-	105,910	24,670	130,580	293,169
85	-	-	-	-	-	105,910	24,670	130,580	296,040
86	-	-	-	-	-	105,910	24,670	130,580	298,939
87	-	-	-	-	-	105,910	24,670	130,580	301,866
88	-	-	-	-	-	105,910	24,670	130,580	304,822
							Average	574,836	918,217

Source: Altus Group Economic Consulting based on input from Gamsby and Mannerow Limited and MTE Consultants Ltd.