

DRAFT REPORT

PREPARED BY HEMSON FOR THE CITY OF WELLAND

NORTHWEST WELLAND SECONDARY PLAN

FISCAL IMPACT ANALYSIS

May 15, 2020



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CONTENTS

1.	INTRODUCTION AND BACKGROUND	1
2.	CAPITAL COST ANALYSIS	3
A.	Developer Funded Capital	4
B.	DC-Funded Capital	5
C.	City-Funded Capital	7
3.	OPERATING ANALYSIS	8
4.	REVENUE ANALYSIS	11
5.	SUMMARY	13
	APPENDIX	14

1. INTRODUCTION AND BACKGROUND

As part of the Northwest Welland Secondary Plan (NWSP) being undertaken by SGL Planning & Design Inc. for the City of Welland, Hemson has been retained to undertake a fiscal impact analysis. This report provides a summary of Hemson’s evaluation of the capital costs, operating costs, and revenue sources associated with the Preferred Land Use Plan.

The Preferred Land Use Plan developed by SGL anticipates 1,820 residential units and 136 jobs at build-out of the Secondary Plan area. The plan is supported by Associated Engineering’s Transportation Assessment Preferred Plan and Municipal Servicing Conceptual Design Report for the area.

As shown in Table 1, the residential units are anticipated to accommodate nearly 4,400 people across the Low Density, Medium Density, and Mixed Use land use designations. This population forecast is based on the occupancy rates specified within the City’s 2019 Development Charges Background Study for single detached and semi-detached units, rows and multiples, and apartments with two or more bedrooms, respectively. The Mixed Use designation is anticipated to accommodate nearly 4,800 square metres of non-residential floor space based on an assumption of 35 square metres of floor space per worker.

Table 1. Summary of Preferred Land Use Plan

Land Use	Gross Area (ha)	Residential Units	Population ¹	Jobs	People + Jobs	Non-Res. Floor Space (sq.m.) ²
Low Density Residential	83.37	1,220	3,038	0	3,037	N/A
Medium Density Residential	13.57	451	1,010	0	1,011	N/A
Mixed Use	3.20	149	316	136	452	4,754
Total		1,820	4,364	136	6,568	4,754

¹Population per unit as per City’s 2019 DC study.

²Based on Hemson assumption of 35m² per worker.

Results of the analysis are high-level in nature and are designed to show the potential fiscal impact of new development. The actual impact is influenced by many factors including the cost and timing of projects, as well as the timing of development. For the purposes of Hemson’s analysis, a 10-year build-out period is assumed for all residential and non-residential development and supporting infrastructure. It is noted that all values in this report are provided in 2020 dollars.

This report is organized as follows:

Section 2 provides the analysis of the capital costs associated with the anticipated servicing needs to build-out of the NWSP Preferred Land Use Plan. Developer-funded, DC-funded, and City-funded costs are examined, as well as the long-term lifecycle costs associated with this new infrastructure;

Section 3 examines the additional annual operating costs that may arise as a result of the new infrastructure, as well as population and employment growth in the NWSP area;

Section 4 provides a forecast of the assessment and City property tax revenue potential of the NWSP Preferred Land Use Plan, and compares this potential against the City-wide average; and

Section 5 summarizes the long-term annual tax-supported costs and revenues associated with the NWSP, and provides final commentary on the results of the fiscal impact analysis.

2. CAPITAL COST ANALYSIS

The fiscal impact analysis examined growth-related capital costs to be funded through direct developer contributions and development charges (DCs), as well as any non-growth shares of projects to be funded by the City. The potential long-term lifecycle costs to the City associated with the new infrastructure was examined.

Anticipated capital costs by service area are summarized in Table 2, and total \$62.5 million over the 10-year planning period. The majority of the engineered services costs (Roads and Related, Water, Sanitary Sewer, Storm Sewer) were provided by the NWSP engineering consultant, Associated Engineering Ltd. Other capital costs were provided by SGL or estimated based on the existing service level, unit cost, and capital cost information available within the City's 2019 DC Background Study. A detailed listing of these capital costs is provided within the Appendix.

Table 2. Capital Cost Summary

Asset Type	Gross Cost	Average Annual Cost Over 10-Year Build-Out	Source
Roads and Related	\$20,175,313	\$2,017,531	NWSP Transportation Plan; Hemson estimates based on current service levels
Water	\$10,345,750	\$1,034,575	NWSP Municipal Servicing Report
Sanitary Sewer	\$13,249,500	\$1,324,950	NWSP Municipal Servicing Report
Storm Sewer	\$11,623,500	\$1,162,350	NWSP Municipal Servicing Report
Parks and Recreation	\$5,223,599	\$522,360	NWSP Preferred Land Use Plan; Hemson estimates based on DC study capital programs
Library	\$386,469	\$38,647	Hemson estimates based on DC study capital programs
Fire	\$1,056,316	\$105,632	Hemson estimates based on DC study service levels
Public Works	\$426,971	\$42,697	Hemson estimates based on DC study capital programs
Total	\$62,487,418	\$6,248,742	

A. DEVELOPER FUNDED CAPITAL

This analysis estimates the amount of additional funding for replacement capital required as a result of the emplacement of local services capital by developers. Local services capital typically includes local roads, streetlights, and sidewalks, as well as any water, sanitary, and storm sewer infrastructure that is typically internal to a development. For the purposes of this analysis, any watermains, sanitary sewers, storm sewers and associated infrastructure along local roads are considered to be local services capital; infrastructure along collector roads is considered to be external to future individual developments and eligible for funding through DCs. In addition, parkland provided by developers through section 42 of the *Planning Act* is considered to be local services capital. The Appendix details the capital costs that are assumed to be local services capital in this analysis.

To estimate the City’s incremental increase in capital replacement contributions, useful life assumptions from the City’s Tangible Capital Asset policy were applied. These useful life assumptions are detailed in the Appendix.

This information was used to estimate an annual replacement contribution that would be required by the end of the 10-year planning period. As shown in Table 3, the anticipated replacement costs are estimated at approximately \$788,000 per year, which translates to \$175 per capita and employment when allocated across the NWSP development forecast.

Table 3. Summary of Replacement Costs and Annual Tax-Supported Replacement Contribution for Local Services Capital

Asset Type	Replacement Cost	Useful Life	Annual Provision	Per Capita + Employment
Roads and Related	\$11,058,932	20-75 years	\$306,032	\$68.01
Water	\$8,797,659	50-80 years	\$123,655	\$27.48
Sanitary Sewer	\$12,484,062	80 years	\$123,876	\$27.53
Storm Sewer	\$5,765,346	80 years	\$57,208	\$12.71
Parks and Recreation	\$3,162,500	10-50 years	\$177,264	\$39.39
Library	\$0	N/A	\$0	\$0.00
Fire	\$0	N/A	\$0	\$0.00
Public Works	\$0	N/A	\$0	\$0.00
Total	\$41,268,499		\$788,036	\$175

B. DC-FUNDED CAPITAL

For the purposes of this analysis, DC-eligible capital costs include collector roads and related infrastructure as well as the associated water, sanitary, and storm sewer infrastructure, less any replacement shares of the projects. DC-eligible soft services capital costs have also been estimated in accordance with the City's most recent DC Background Study. Further details are included within the Appendix.

i. DC-Eligible Costs and Projected DC Revenues

Table 4 compares the total anticipated DC-eligible costs with anticipated revenues associated with the NWSP study area under the City's current (2020) DC rates. Overall, a DC revenue shortfall of approximately \$6.2 million is anticipated over the 10-year planning period under the current DC by-law.

This shortfall is primarily associated with the engineered services; particularly Storm Sewer infrastructure and, to a lesser extent, Roads and Related infrastructure. In part, this may be due to the classification of local vs. DC-eligible services in this analysis; it is noted that municipalities are granted some flexibility in the determination of local services.

To address the discrepancy, the City may consider several options:

- Fund a greater proportion of the Storm Sewer capital costs through direct developer contributions or developer cost sharing arrangements;
- Ensure the remaining DC-eligible capital costs are reflected within the City's next DC Background Study; and/or
- Consider introducing area-specific DCs for the NWSP area, if appropriate.

The development-related infrastructure needs for Parks and Recreation, Library, and Public Works services are based on the capital program costs per capita and employment within the 2019 DC Background Study. For Parks and Recreation and Library, costs were grossed up for the 10% statutory discount, which was recently removed through an amendment to the *Development Charges Act*. It is noted that the City's current DC rates for these services are well below the 10-year historical service level and that development of the NWSP area may necessitate additional park, recreation, library, and public works infrastructure to meet the needs of development; these potential additional costs could be recovered through an increase in DC rates for these services.

Table 4. DC-Eligible Costs and Revenues under Current (2020) DC Rates

Asset Type	Total Cost	DC Revenues Under Current Rates	Difference
Roads and Related	\$7,871,257	\$7,139,265	(\$731,992)
Water	\$1,548,091	\$1,293,251	(\$254,840)
Sanitary Sewer	\$765,438	\$1,043,169	\$277,731
Storm Sewer	\$5,858,154	\$537,860	(\$5,320,294)
Parks and Recreation	\$2,061,099	\$1,873,212	(\$187,887)
Library	\$386,469	\$251,147	(\$135,322)
Fire	\$1,056,316	\$1,177,453	\$121,137
Public Works	\$426,971	\$474,419	\$47,448
Total	\$19,973,795	\$13,789,777	(\$6,184,019)

ii. Lifecycle Costs

Once again, useful life assumptions from the City’s Tangible Capital Asset policy were used to estimate the City’s long-term incremental increase in capital replacement contributions associated with the new DC-funded infrastructure. As shown in Table 5, at build-out these replacement costs are estimated at approximately \$504,000 per year, which translates to \$112 per capita and employment when allocated across the NWSP development forecast.

Table 5. Summary of Replacement Costs and Annual Tax-Supported Replacement Contribution for DC-Funded Capital

Asset Type	Replacement Cost	Useful Life	Annual Provision	Per Capita + Employment
Roads and Related	\$7,871,257	20-50 years	\$214,287	\$47.62
Water	\$1,548,091	50-80 years	\$15,837	\$3.52
Sanitary Sewer	\$765,438	80 years	\$7,595	\$1.69
Storm Sewer	\$5,858,154	80 years	\$58,129	\$12.92
Parks and Recreation	\$2,061,099	10-50 years	\$52,987	\$11.78
Library	\$386,469	7 years	\$60,874	\$13.53
Fire	\$1,056,316	10-50 years	\$76,400	\$16.98
Public Works	\$426,971	10-50 years	\$17,926	\$3.98
Total	\$19,973,795		\$504,035	\$112

C. CITY-FUNDED CAPITAL

City-funded shares of capital costs were also considered as part of the analysis. This includes identified replacement components of capital projects. A total of \$1.2 million in Roads and Related replacement costs has been estimated; this amount is related to the urbanization of existing roads (Quaker Road and Cataract Road) and is intended to capture the road resurfacing costs that would have otherwise been incurred as part of the City's regular asset management practices. No other DC discounts or ineligible costs have been identified at this time.

As shown in Table 6, the average annual cost to the City of first-round capital is calculated at \$124,500 per year over the course of the 10-year planning period, or \$28 per capita and employment. No additional lifecycle costs are associated with this share.

Table 6. City-Funded Shares of First-Round Capital

Asset Type	Total City-Funded Capital Cost to Build-Out	Average Annual City Cost Over 10-Year Build-Out	Per Capita + Employment
Roads and Related	\$1,245,123	\$124,512	\$28

3. OPERATING ANALYSIS

Tax-supported operating costs arising from the construction of new developer- and DC-funded capital, and the addition of households, people and jobs in the NWSP area, were estimated based on data from the City's Financial Information Return (FIR). Utility-supported water and sewer services are excluded from this analysis.

Table 7 summarizes the gross operating costs anticipated to be associated with development in the NWSP area. Cost drivers were applied to the FIR operating cost data. Where appropriate, costs are driven by the planned infrastructure investments (e.g. Roads and Related, Parks), whereas many services are considered to be driven by population growth, population and employment growth, or household growth. For certain services such as Recreation, Libraries, General Government, and Planning and Development, incremental cost savings are common and a factor of 75% was applied accordingly. The total additional annual operating cost associated with development of the NWSP area is calculated at \$3.4 million.

Table 8 summarizes the anticipated non-tax revenues and resulting net operating costs. These non-tax revenues include grants, user fees, and service charges as per the FIR. It is assumed that these revenues will remain consistent on a per-capita basis. Annual revenues associated with the NWSP population at build-out are calculated at \$629,200.

The total net annual operating cost associated with the NWSP area is \$2.8 million. This translates to \$626 per capita and employee.

Table 7. Anticipated Additional Operating Costs Based on 2018 Financial Information Return

Service	Operating Cost Driver	2018 FIR Operating Cost / Unit	NWSP Quantity	NWSP Total Operating Cost
General Government	Population + Employment (75%)	\$42.44	3,375	\$143,228
Fire	Households	\$456.09	1,820	\$830,080
Protective Inspection and Control	Population + Employment	\$8.71	4,500	\$39,213
Building Permit and Inspection Services	Households	\$39.67	1,820	\$72,193
Roads and Related	\$ Value of Infrastructure	\$0.02	\$20,175,313	\$401,247
Transit	Transit Routes	\$940,978.25	1	\$940,978
Parking	Population + Employment	\$7.71	4,500	\$34,688
Public Health	Population (75%)	\$0.52	3,273	\$1,713
Cemeteries	Population (75%)	\$1.80	3,273	\$5,884
Social Services	Population (75%)	\$13.83	3,273	\$45,270
Parks	Hectares of Parkland	\$15,387.10	5.75	\$88,476
Recreation	Population (75%)	\$134.08	3,273	\$438,842
Libraries	Population (75%)	\$68.63	3,273	\$224,621
Museums & Cultural Services	Population (75%)	\$19.98	3,273	\$65,385
Planning and Development	Population + Employment (75%)	\$33.29	3,375	\$112,337
Total				\$3,444,155

Table 8. Anticipated Grant, User Fees, and Service Charges and Resulting Net Operating Costs

Service	2018 FIR Non-Tax Revenues Per Capita	NWSP Total Non-Tax Revenues	NWSP Total Net Operating Costs	Per Capita + Employment
General Government	\$5.46	\$23,823	\$119,405	\$26.54
Fire	\$1.50	\$6,551	\$823,529	\$183.02
Protective Inspection and Control	\$1.34	\$5,836	\$33,377	\$7.42
Building Permit and Inspection Services	\$0.00	\$0	\$72,193	\$16.04
Roads and Related	\$21.29	\$92,928	\$308,320	\$68.52
Transit	\$73.13	\$319,127	\$621,851	\$138.20
Parking	\$2.63	\$11,481	\$23,207	\$5.16
Public Health	\$0.00	\$0	\$1,713	\$0.38
Cemeteries	\$1.23	\$5,385	\$499	\$0.11
Social Services	\$1.81	\$7,909	\$37,362	\$8.30
Parks	\$6.07	\$26,473	\$62,003	\$13.78
Recreation	\$19.19	\$83,752	\$355,090	\$78.91
Libraries	\$3.42	\$14,909	\$209,712	\$46.61
Museums & Cultural Services	\$0.00	\$0	\$65,385	\$14.53
Planning and Development	\$7.11	\$31,015	\$81,322	\$18.07
Total		\$629,187	\$2,814,968	\$626

4. REVENUE ANALYSIS

An analysis was undertaken of the residential and non-residential assessment and property tax revenue potential of the NWSP area at build-out. The assessed value estimates were based on a sampling of recently constructed buildings in Welland from 2015 to 2019.

As shown in Table 9, the total estimated assessment value of new buildings within the NWSP is forecasted at \$620.0 million. After applying the City's 2019 tax rates to each class of development, annual City property tax revenue is calculated at a total of \$5.0 million, or an average of \$1,112 per person or job in the NWSP area.

Table 9. Summary of Tax Revenues

Land Use	Forecast Units/Space	Assessment (2019)	Total Estimated Assessment	City Tax Rate (2019)	Annual City Taxes	Per Capita / Emp.
Residential	Units	Per Unit				
Low Density	1,220	\$372,000	\$453,840,000	0.007969	\$3,616,800	\$1,191
Med. Density	451	\$265,000	\$119,515,000	0.007969	\$952,454	\$943
Mixed Use	149	\$240,000	\$35,760,000	0.007969	\$284,983	\$902
Non-Residential	m²	Per m²				
Mixed Use	4,754	\$2,300	\$10,934,200	0.013826	\$151,176	\$1,113
Total			\$620,049,200		\$5,005,413	\$1,112

Development of the NWSP area is anticipated to generate higher taxation revenues per capita and per employment when compared with the City-wide existing average per the City's 2018 FIR (Table 10). This is reflective of higher assessed values in newer buildings, which are typically larger and constructed with more modern amenities. Furthermore, the non-residential assessed values are representative of retail and small office uses common in mixed use communities; this compares with the City-wide average which includes more expansive industrial buildings with typically lower property values.

Table 10. City Property Tax Revenue Comparison with City Average

	<u>NW Welland SP</u>		<u>City Average (2018)</u>	
	Total Annual City Tax Revenue	Per Capita / Employment	Total Annual City Tax Revenue	Per Capita / Employment
Residential	\$4,854,237	\$1,112	\$32,354,869	\$584
Non-Residential	\$151,176	\$1,113	\$7,188,165	\$392
Total	\$5,005,413	\$1,112	\$39,543,034	\$536

5. SUMMARY

Table 11 provides an overall summary of the results in terms of costs incurred by the City during the 10-year build-out period and beyond. Revenues are estimated at \$1,112 per capita and employment per year while expenditures total \$940, for an annual surplus of \$172 or 15%.

Table 11. Overall Findings

	Annual Cost Per Capita and Employment
Revenue	\$1,112
Expenditures	
Developer Constructed Assets Lifecycle Contribution	\$175
DC-Funded Assets Lifecycle Contribution	\$112
City-Funded Assets	\$28
Operating Costs	\$626
Total Expenditures	\$940
Net Difference	\$172 15%

These results are indicative of incremental cost efficiencies as well as strong assessed values for new buildings. Furthermore, this analysis assumes full City funding of infrastructure lifecycle costs consistent with the City’s Tangible Capital Asset policy. It is relatively uncommon for municipal asset management contributions to reach 100% of the calculated lifecycle needs, further strengthening the results.

An area of potential concern is the magnitude of the anticipated first-round capital costs in relation to the prevailing DC rates. As approval and implementation of the NWSP moves forward, the City may work to mitigate these pressures by examining components of engineered infrastructure, and in particular storm sewer infrastructure, that may be eligible for direct developer contributions or developer cost sharing arrangements. These costs should also be more closely examined at the time of the City’s next DC Background Study and incorporated into future DC rate calculations, as appropriate.

Overall, the analysis shows that the NWSP Preferred Land Use Plan is anticipated to be fiscally sustainable over a long-term planning horizon.

APPENDIX

NWSP SERVICING NEEDS

NWSP GROWTH-RELATED INFRASTRUCTURE NEEDS

Type	Source	Item	Unit of Measure	Quantity	Unit Cost	Unit Cost Source	Total Cost	Replacement Share	Net Growth Related	Local Service or DC-Funded	Useful Life (Years)
Roads and Related	NWSP Transportation Plan	Earth Excavation - New Local Roads	m3	44,110	\$18	Associated Engineering	\$793,980	\$0	\$793,980	Local Service	50
Roads and Related	NWSP Transportation Plan	Earth Excavation - Quaker Rd. and Cataract Rd.	m3	15,361	\$18	Associated Engineering	\$276,505	\$92,168	\$184,337	DC	50
Roads and Related	NWSP Transportation Plan	Earth Excavation - New Collector Roads	m3	20,729	\$18	Associated Engineering	\$373,115	\$0	\$373,115	DC	50
Roads and Related	NWSP Transportation Plan	Granular A - New Local Roads	t	89,100	\$15	Associated Engineering	\$1,336,500	\$0	\$1,336,500	Local Service	50
Roads and Related	NWSP Transportation Plan	Granular A - Quaker Rd. and Cataract Rd.	t	31,029	\$15	Associated Engineering	\$465,438	\$155,146	\$310,292	DC	50
Roads and Related	NWSP Transportation Plan	Granular A - New Collector Roads	t	41,871	\$15	Associated Engineering	\$628,062	\$0	\$628,062	DC	50
Roads and Related	NWSP Transportation Plan	HL8-HS 75mm - New Local Roads	t	11,880	\$125	Associated Engineering	\$1,485,000	\$0	\$1,485,000	Local Service	25
Roads and Related	NWSP Transportation Plan	HL8-HS 75mm - Quaker Rd. and Cataract Rd.	t	4,137	\$125	Associated Engineering	\$517,154	\$172,385	\$344,769	DC	25
Roads and Related	NWSP Transportation Plan	HL8-HS 75mm - New Collector Roads	t	5,583	\$125	Associated Engineering	\$697,846	\$0	\$697,846	DC	25
Roads and Related	NWSP Transportation Plan	HL3-HS 40mm - New Local Roads	t	6,325	\$125	Associated Engineering	\$790,625	\$0	\$790,625	Local Service	25
Roads and Related	NWSP Transportation Plan	HL3-HS 40mm - Quaker Rd. and Cataract Rd.	t	2,203	\$125	Associated Engineering	\$275,337	\$91,779	\$183,558	DC	25
Roads and Related	NWSP Transportation Plan	HL3-HS 40mm - New Collector Roads	t	2,972	\$125	Associated Engineering	\$371,538	\$0	\$371,538	DC	25
Roads and Related	NWSP Transportation Plan	Curb - New Local Roads	m	14,600	\$80	Associated Engineering	\$1,168,000	\$0	\$1,168,000	Local Service	40
Roads and Related	NWSP Transportation Plan	Curb - Quaker Rd. and Cataract Rd.	m	4,150	\$80	Associated Engineering	\$332,000	\$110,667	\$221,333	DC	40
Roads and Related	NWSP Transportation Plan	Curb - New Collector Roads	m	5,600	\$80	Associated Engineering	\$448,000	\$0	\$448,000	DC	40
Roads and Related	NWSP Transportation Plan	Subdrain - New Local Roads	m	14,600	\$15	Associated Engineering	\$219,000	\$0	\$219,000	Local Service	50
Roads and Related	NWSP Transportation Plan	Subdrain - Quaker Rd. and Cataract Rd.	m	4,150	\$15	Associated Engineering	\$62,250	\$20,750	\$41,500	DC	50
Roads and Related	NWSP Transportation Plan	Subdrain - New Collector Roads	m	5,600	\$15	Associated Engineering	\$84,000	\$0	\$84,000	DC	50
Roads and Related	NWSP Transportation Plan	Sod - New Local Roads	m2	73000	\$12	Associated Engineering	\$876,000	\$0	\$876,000	Local Service	20
Roads and Related	NWSP Transportation Plan	Sod - Quaker Rd. and Cataract Rd.	m2	14,525	\$12	Associated Engineering	\$174,300	\$58,100	\$116,200	DC	20
Roads and Related	NWSP Transportation Plan	Sod - New Collector Roads	m2	19,600	\$12	Associated Engineering	\$235,200	\$0	\$235,200	DC	20
Roads and Related	NWSP Transportation Plan	Sidewalk 1.5m - New Local Roads	m2	10,950	\$80	Associated Engineering	\$876,000	\$0	\$876,000	Local Service	40
Roads and Related	NWSP Transportation Plan	Sidewalk 1.5m - Quaker Rd. and Cataract Rd.	m2	6,225	\$80	Associated Engineering	\$498,000	\$166,000	\$332,000	DC	40
Roads and Related	NWSP Transportation Plan	Sidewalk 1.5m - New Collector Roads	m2	8,400	\$80	Associated Engineering	\$672,000	\$0	\$672,000	DC	40
Roads and Related	NWSP Transportation Plan	Tactile Warning Plates - New Local Roads	each	60	\$8,000	Associated Engineering	\$480,000	\$0	\$480,000	Local Service	20
Roads and Related	NWSP Transportation Plan	Tactile Warning Plates - Quaker Rd. and Cataract Rd.	each	9	\$8,000	Associated Engineering	\$72,000	\$24,000	\$48,000	DC	20
Roads and Related	NWSP Transportation Plan	Tactile Warning Plates - New Collector Roads	each	11	\$8,000	Associated Engineering	\$88,000	\$0	\$88,000	DC	20
Roads and Related	NWSP Transportation Plan	Signalization of two intersections - Regional Road 54 (Rice Road) & Quaker Rd. & First Ave.	each	2	\$175,000	Associated Engineering	\$350,000	\$0	\$350,000	DC	20
Roads and Related	Hemson	Streetlights - New Local Roads	each	86	\$450	DC Study	\$38,700	\$0	\$38,700	Local Service	20
Roads and Related	Hemson	Streetlights - Quaker Rd. and Cataract Rd.	each	25	\$450	DC Study	\$11,250	\$3,750	\$7,500	DC	20
Roads and Related	Hemson	Streetlights - New Collector Roads	each	33	\$450	DC Study	\$14,850	\$0	\$14,850	DC	20
Roads and Related	NWSP Transportation Plan	Other General Construction - New Local Roads	LS	55%	\$1,429,600	Associated Engineering	\$783,341	\$0	\$783,341	Local Service	50
Roads and Related	NWSP Transportation Plan	Other General Construction - Quaker Rd. and Cataract Rd.	LS	19%	\$1,429,600	Associated Engineering	\$275,074	\$91,691	\$183,383	DC	50
Roads and Related	NWSP Transportation Plan	Other General Construction - New Collector Roads	LS	26%	\$1,429,600	Associated Engineering	\$371,185	\$0	\$371,185	DC	50
Roads and Related	NWSP Transportation Plan	Contingency (15% of subtotal) - New Local Roads				Associated Engineering	\$1,327,072	\$0	\$1,327,072	Local Service	N/A
Roads and Related	NWSP Transportation Plan	Contingency (15% of subtotal) - Quaker Rd. and Cataract Rd.				Associated Engineering	\$465,637	\$155,212	\$310,424	DC	N/A
Roads and Related	NWSP Transportation Plan	Contingency (15% of subtotal) - New Collector Roads				Associated Engineering	\$628,329	\$0	\$628,329	DC	N/A
Roads and Related	NWSP Transportation Plan	Engineering (10% of subtotal) - New Local Roads				Associated Engineering	\$884,715	\$0	\$884,715	Local Service	N/A
Roads and Related	NWSP Transportation Plan	Engineering (10% of subtotal) - Quaker Rd. and Cataract Rd.				Associated Engineering	\$310,424	\$103,475	\$206,950	DC	N/A
Roads and Related	NWSP Transportation Plan	Engineering (10% of subtotal) - New Collector Roads				Associated Engineering	\$418,886	\$0	\$418,886	DC	N/A
Subtotal Transportation							\$20,175,313	\$1,245,123	\$18,930,189		



NWSP GROWTH-RELATED INFRASTRUCTURE NEEDS

Type	Source	Item	Unit of Measure	Quantity	Unit Cost	Unit Cost Source	Total Cost	Replacement Share	Net Growth Related	Local Service or DC-Funded	Useful Life (Years)
Water	NWSP Municipal Servicing Report	150mm PVC DR18 Watermain	m	6510	\$220	Associated Engineering	\$1,432,200	\$0	\$1,432,200	Local Service	80
Water	NWSP Municipal Servicing Report	150mm Gate Valve & Box	each	30	\$1,600	Associated Engineering	\$48,000	\$0	\$48,000	Local Service	80
Water	NWSP Municipal Servicing Report	200 mm PVC DR18 Watermain	m	1950	\$260	Associated Engineering	\$507,000	\$0	\$507,000	Local Service	80
Water	NWSP Municipal Servicing Report	200mm Gate Valve & Box	each	11	\$2,500	Associated Engineering	\$27,500	\$0	\$27,500	Local Service	80
Water	NWSP Municipal Servicing Report	300mm PVC DR18 Watermain	m	2540	\$310	Associated Engineering	\$787,400	\$0	\$787,400	DC	80
Water	NWSP Municipal Servicing Report	300mm Gate Valve & Box	each	15	\$3,500	Associated Engineering	\$52,500	\$0	\$52,500	DC	80
Water	NWSP Municipal Servicing Report	Water Services	each	1820	\$2,000	Associated Engineering	\$3,640,000	\$0	\$3,640,000	Local Service	50
Water	NWSP Municipal Servicing Report	Hydrants - Local Services	each	58	\$5,500	Associated Engineering	\$319,000	\$0	\$319,000	Local Service	60
Water	NWSP Municipal Servicing Report	Hydrants - DC Eligible	each	16	\$5,500	Associated Engineering	\$88,000	\$0	\$88,000	DC	60
Water	NWSP Municipal Servicing Report	Connect to Existing	each	6	\$5,000	Associated Engineering	\$30,000	\$0	\$30,000	Local Service	80
Water	NWSP Municipal Servicing Report	Granular A - Local Services	t	30379	\$15	Associated Engineering	\$455,686	\$0	\$455,686	Local Service	80
Water	NWSP Municipal Servicing Report	Granular A - DC Eligible	t	9121	\$15	Associated Engineering	\$136,814	\$0	\$136,814	DC	80
Water	NWSP Municipal Servicing Report	Other General Construction - Local Services	LS	1	\$578,741	Associated Engineering	\$578,741	\$0	\$578,741	Local Service	80
Water	NWSP Municipal Servicing Report	Other General Construction - DC Eligible	LS	1	\$173,759	Associated Engineering	\$173,759	\$0	\$173,759	DC	80
Water	NWSP Municipal Servicing Report	Contingency (15% of subtotal) - Local Services					\$1,055,719	\$0	\$1,055,719	Local Service	N/A
Water	NWSP Municipal Servicing Report	Contingency (15% of subtotal) - DC Eligible					\$185,771	\$0	\$185,771	DC	N/A
Water	NWSP Municipal Servicing Report	Engineering (10% of subtotal) - Local Services					\$703,813	\$0	\$703,813	Local Service	N/A
Water	NWSP Municipal Servicing Report	Engineering (10% of subtotal) - DC Eligible					\$123,847	\$0	\$123,847	DC	N/A
Subtotal Water							\$10,345,750	\$0	\$10,345,750		
Sanitary Sewer	NWSP Municipal Servicing Report	200mm PVC DR35	m	8900	\$205	Associated Engineering	\$1,824,500	\$0	\$1,824,500	Local Service	80
Sanitary Sewer	NWSP Municipal Servicing Report	300mm PVC DR35	m	1250	\$250	Associated Engineering	\$312,500	\$0	\$312,500	DC	80
Sanitary Sewer	NWSP Municipal Servicing Report	1200mm Diameter MH - Local Services	each	63	\$6,000	Associated Engineering	\$378,000	\$0	\$378,000	Local Service	80
Sanitary Sewer	NWSP Municipal Servicing Report	1200mm Diameter MH - DC Eligible	each	8	\$6,000	Associated Engineering	\$48,000	\$0	\$48,000	DC	80
Sanitary Sewer	NWSP Municipal Servicing Report	Sanitary Laterals	each	1820	\$3,000	Associated Engineering	\$5,460,000	\$0	\$5,460,000	Local Service	80
Sanitary Sewer	NWSP Municipal Servicing Report	Connect to Existing Trunk	each	4	\$5,000	Associated Engineering	\$20,000	\$0	\$20,000	Local Service	80
Sanitary Sewer	NWSP Municipal Servicing Report	Granular A - Local Services	t	75321	\$15	Associated Engineering	\$1,129,818	\$0	\$1,129,818	Local Service	80
Sanitary Sewer	NWSP Municipal Servicing Report	Granular A - DC Eligible	t	10579	\$15	Associated Engineering	\$158,682	\$0	\$158,682	DC	80
Sanitary Sewer	NWSP Municipal Servicing Report	Flush & CCTV (end of construction) - Local Services	m	8900	\$15	Associated Engineering	\$133,500	\$0	\$133,500	Local Service	80
Sanitary Sewer	NWSP Municipal Servicing Report	Flush & CCTV (end of construction) - DC Eligible	m	1250	\$15	Associated Engineering	\$18,750	\$0	\$18,750	DC	80
Sanitary Sewer	NWSP Municipal Servicing Report	Flush & CCTV (end of maintenance) - Local Services	m	8900	\$15	Associated Engineering	\$133,500	\$0	\$133,500	Local Service	80
Sanitary Sewer	NWSP Municipal Servicing Report	Flush & CCTV (end of maintenance) - DC Eligible	m	1250	\$15	Associated Engineering	\$18,750	\$0	\$18,750	DC	80
Sanitary Sewer	NWSP Municipal Servicing Report	Other General Construction - Local Services	LS	94%	\$963,600	Associated Engineering	\$907,932	\$0	\$907,932	Local Service	80
Sanitary Sewer	NWSP Municipal Servicing Report	Other General Construction - DC Eligible	LS	6%	\$963,600	Associated Engineering	\$55,668	\$0	\$55,668	DC	80
Sanitary Sewer	NWSP Municipal Servicing Report	Contingency (15% of subtotal) - Local Services					\$1,498,087	\$0	\$1,498,087	Local Service	N/A
Sanitary Sewer	NWSP Municipal Servicing Report	Contingency (15% of subtotal) - DC Eligible					\$91,853	\$0	\$91,853	DC	N/A
Sanitary Sewer	NWSP Municipal Servicing Report	Engineering (10% of subtotal) - Local Services					\$998,725	\$0	\$998,725	Local Service	N/A
Sanitary Sewer	NWSP Municipal Servicing Report	Engineering (10% of subtotal) - DC Eligible					\$61,235	\$0	\$61,235	DC	N/A
Subtotal Sanitary Sewer							\$13,249,500	\$0	\$13,249,500		



NWSP GROWTH-RELATED INFRASTRUCTURE NEEDS

Type	Source	Item	Unit of Measure	Quantity	Unit Cost	Unit Cost Source	Total Cost	Replacement Share	Net Growth Related	Local Service or DC-Funded	Useful Life (Years)
Storm Sewer	NWSP Municipal Servicing Report	450mm PVC DR35 Ultra Rib	m	2170	\$350	Associated Engineering	\$759,500	\$0	\$759,500	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	525mm PVC DR35 Ultra Rib	m	1150	\$400	Associated Engineering	\$460,000	\$0	\$460,000	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	600mm CONC	m	2000	\$450	Associated Engineering	\$900,000	\$0	\$900,000	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	675mm CONC	m	730	\$500	Associated Engineering	\$365,000	\$0	\$365,000	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	750mm CONC	m	1380	\$600	Associated Engineering	\$828,000	\$0	\$828,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	825mm CONC	m	790	\$700	Associated Engineering	\$553,000	\$0	\$553,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	975mm CONC	m	610	\$800	Associated Engineering	\$488,000	\$0	\$488,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	1050mm CONC	m	240	\$1,000	Associated Engineering	\$240,000	\$0	\$240,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	1200mm CONC	m	550	\$1,200	Associated Engineering	\$660,000	\$0	\$660,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	1500mm CONC	m	110	\$1,500	Associated Engineering	\$165,000	\$0	\$165,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	1200mm Diameter MH	each	71	\$6,000	Associated Engineering	\$426,000	\$0	\$426,000	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	1500mm Diameter MH - Local Services	each	6	\$10,000	Associated Engineering	\$60,000	\$0	\$60,000	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	1500mm Diameter MH - DC Eligible	each	31	\$10,000	Associated Engineering	\$310,000	\$0	\$310,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	1800mm Diameter MH	each	15	\$12,000	Associated Engineering	\$180,000	\$0	\$180,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	2400mm Diameter MH	each	6	\$16,000	Associated Engineering	\$96,000	\$0	\$96,000	DC	80
Storm Sewer	NWSP Municipal Servicing Report	Catchbasin - Local Services	each	206	\$1,600	Associated Engineering	\$329,600	\$0	\$329,600	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	Catchbasin - DC Eligible	each	124	\$1,600	Associated Engineering	\$198,400	\$0	\$198,400	DC	80
Storm Sewer	NWSP Municipal Servicing Report	Catchbasin leads - Local Services	m	1030	\$160	Associated Engineering	\$164,800	\$0	\$164,800	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	Catchbasin leads - DC Eligible	m	620	\$160	Associated Engineering	\$99,200	\$0	\$99,200	DC	80
Storm Sewer	NWSP Municipal Servicing Report	Granular A - Local Services	t	36437	\$15	Associated Engineering	\$546,552	\$0	\$546,552	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	Granular A - DC Eligible	t	22163	\$15	Associated Engineering	\$332,448	\$0	\$332,448	DC	80
Storm Sewer	NWSP Municipal Servicing Report	Flush & CCTV (end of construction) - Local Services	m	6050	\$15	Associated Engineering	\$90,750	\$0	\$90,750	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	Flush & CCTV (end of construction) - DC Eligible	m	3680	\$15	Associated Engineering	\$55,200	\$0	\$55,200	DC	80
Storm Sewer	NWSP Municipal Servicing Report	Flush & CCTV (end of maintenance) - Local Services	m	6050	\$15	Associated Engineering	\$90,750	\$0	\$90,750	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	Flush & CCTV (end of maintenance) - DC Eligible	m	3680	\$15	Associated Engineering	\$55,200	\$0	\$55,200	DC	80
Storm Sewer	NWSP Municipal Servicing Report	Other General Construction - Local Services	LS	50%	\$845,400	Associated Engineering	\$419,325	\$0	\$419,325	Local Service	80
Storm Sewer	NWSP Municipal Servicing Report	Other General Construction - DC Eligible	LS	50%	\$845,400	Associated Engineering	\$426,075	\$0	\$426,075	DC	80
Storm Sewer	NWSP Municipal Servicing Report	Contingency (15% of subtotal) - Local Services					\$691,842	\$0	\$691,842	Local Service	N/A
Storm Sewer	NWSP Municipal Servicing Report	Contingency (15% of subtotal) - DC Eligible					\$702,978	\$0	\$702,978	DC	N/A
Storm Sewer	NWSP Municipal Servicing Report	Engineering (10% of subtotal) - Local Services					\$461,228	\$0	\$461,228	Local Service	N/A
Storm Sewer	NWSP Municipal Servicing Report	Engineering (10% of subtotal) - DC Eligible					\$468,652	\$0	\$468,652	DC	N/A
Subtotal Storm Sewer							\$11,623,500	\$0	\$11,623,500		



NWSP GROWTH-RELATED INFRASTRUCTURE NEEDS

Type	Source	Item	Unit of Measure	Quantity	Unit Cost	Unit Cost Source	Total Cost	Replacement Share	Net Growth Related	Local Service or DC-Funded	Useful Life (Years)
Parks and Recreation	SGL Land Use Plan	Parkland	hectares	5.75	\$550,000	DC Study cost of parkland improvement cost per ha	\$3,162,500	\$0	\$3,162,500	Local Service	20
Parks and Recreation	Hemson	Park improvements and facilities	pop	4,364	\$452.18	DC Study capital program per capita	\$1,973,258	\$0	\$1,973,258	DC	50
Parks and Recreation	Hemson	Parks Vehicles & Equipment	pop	4,364	\$20.13	DC Study capital program per capita	\$87,841	\$0	\$87,841	DC	10
Library	Hemson	Materials	pop	4,364	\$88.56	DC study service level per capita	\$386,469	\$0	\$386,469	DC	7
Fire	Hemson	Facilities	pop & emp	4,500	\$101.68	DC Study service level per pop+emp	\$457,535	\$0	\$457,535	DC	50
Fire	Hemson	Vehicles & Equipment	pop & emp	4,500	\$133.07	DC Study service level per pop+emp	\$598,782	\$0	\$598,782	DC	10
Public Works	Hemson	Vehicles & Equipment	pop & emp	4,500	\$21.41	DC Study capital program per pop+emp	\$96,350	\$0	\$96,350	DC	10
Public Works	Hemson	Buildings	pop & emp	4,500	\$73.48	DC Study capital program per pop+emp	\$330,622	\$0	\$330,622	DC	50
Subtotal Soft Services							\$7,093,355	\$0	\$7,093,355		
TOTAL INFRASTRUCTURE NEED							\$62,487,418	\$1,245,123	\$61,242,295		
Local Services							\$41,268,499	\$0	\$41,268,499		
DC-Funded							\$21,218,919	\$0	\$19,973,795		
City-Funded								\$1,245,123	\$0		