Sturgeon Valley:
2019 Offsite Levy Update

April 25th, 2019

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April 25th, 2019

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RE: Sturgeon Valley 2019 Offsite Levy Update

Chris:

Enclosed is our report in support of the Sturgeon Valley 2019 offsite levy rate update.

I look forward to discussing the results with Council and Administration. In the meantime, if you have any questions do not hesitate to contact me.

Yours truly,

Greg Weiss
President

1 DOCUMENT INFORMATION

Version Number	Revision Date	Summary of Changes and Author
1.0	April 8th, 2019	DRAFT: Created by CORVUS Business Advisors.
2.0	April 15th, 2019	FINAL.
3.0	April 25th, 2019	FINAL with addition of Appendix H.

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3 INTRODUCTION

3.1 Introduction

Bylaw 1321-14, established by Sturgeon County ("the County") in 2014 defines offsite levy charges pertaining to roads, water, and sanitary offsite infrastructure in the Sturgeon Valley. The County wishes to update this bylaw, amending offsite infrastructure included in the bylaw in alignment with the County's latest capital/master plans, and ensuring updated costs and development forecasts are reflected fairly and equitably in new rates, thereby ensuring a financially sustainable community.

This report outlines the methodology and information used in establishing updated transportation, water, sanitary, and stormwater offsite levy rates for the Sturgeon Valley.

3.2 Methodology

The County has various infrastructure capital/master plans, and these plans have been used by County staff as a start point for developing key information for this offsite levy review. County staff reviewed existing plans and verified offsite projects for roads, water, sanitary, and drainage infrastructure[1]. The County's review also included verification of benefits to existing development, future development, and benefiting areas.

Support provided by CORVUS Business Advisors ("CORVUS") included:

- Provision of the new CORVUS offsite levy model, including configuration, priming, and data loading.
- Incorporation of area measurements and land development forecasts (provided by County staff).
- Incorporation of infrastructure costs and allocation percentages for existing development, new development, and other parties (provided by County staff).
- Reconciliation of reserve opening balances (historical reconciliation details provided by County staff).
- Determination of roads, water, sanitary, and drainage levy rates.
- Presentation of levies and background information to Administration and Council.
- Provision of training to staff.

Offsite levy rates within the CORVUS model are forecast using a rolling 25-year review period. During this review, a cut-off date of December 31st, 2018 was established, and so the review period stems from **2019 to 2043**. The cut-off date coincides with the County's most recent year-end when the project started. Project expenditures, receipts etc. were gathered as "actuals" from the County's financial records up to the cut-off date. Beyond the

[1] It was not within CORVUS' scope of work to review the County's capital/master plans. Plans were reviewed and refined by County staff.

cut-off date, all financial details are estimates. When the County completes its next rate update, information from January 1st, 2019 up to the new cut-off date will be converted from estimates to actuals, and the rolling 25-year review period will move further out.

Costs that benefit development prior to and within the 25-year review period are included in rates. Costs that benefit development beyond the review period (called "financial oversizing") are excluded from rates. In future years, when rates are updated and the rolling 25-year period moves further out, offsite infrastructure costs beyond 2043 will gradually be included in rates.

4 KEY FINDINGS

The following provides a summary of key findings pertaining to the updating of Sturgeon Valley offsite levy rates:

Offsite Infrastructure Costs. Offsite infrastructure costs to be included in the offsite levy bylaw total approximately **$221.44 million**. An overview of offsite infrastructure costs and maps is provided in Appendices B1 (Transportation), C1 (Water), D1 (Sanitary), and E1 (Stormwater); and a definition of each offsite infrastructure type is provided in Appendix F.

Before determining how the infrastructure costs will be allocated to parties that benefit (e.g., existing/residual development, new development, other municipalities etc.), financing provided by way of special ear-marked grants and other contributions are deducted from offsite infrastructure costs. For this review, the County has identified approximately **$1.64 million** in grants and contributions. An overview of grants and contributions and resulting net costs is provided in Appendices B2, C2, D2, and E2.

The share of costs which benefits existing/residual development (the County's share) is **$52.77 million**; and, the share of costs which benefits other stakeholders (e.g., neighbouring municipalities) is **$0.08**.

The share of costs which benefits future development totals approximately **$166.95 million ($134.80 million + $32.16 million)** and is based on the allocations shown in Appendices B4, C4, D4, and E4. However, **$134.80 million** of the cost which benefits future development is beyond the 25-year review period (called "financial oversizing"). Financial oversizing is determined based on the anticipated year of construction (construction staging) which is provided in Appendices B3, C3, D3, and E3.

Of the **$166.95 million** in total offsite infrastructure costs which benefits future development, the portion that is within the 25-year review period and included in rates today (the offsite levy share) is approximately **$32.16 million**, as shown in the table below. A complete summary of offsite infrastructure net cost "flow-thru" is provided in Appendices B6, C6, D6, and E6.

Summary of Infrastructure Costs & Allocations

Infrastructure	Special Grants & Contributions	Muni Share of Costs	Other Stakeholders' Share of Costs	Developer Cost Beyond 25 Yrs (Financial Oversizing)	Developer Costs (In Rates)	Total Costs
Transportation	$ -	$ 49,671,884	$ -	$ 96,923,930	$ 9,162,650	**$ 155,758,464**
Water	$ 15,000	$ 2,547,819	$ -	$ 1,383,921	$ 16,148,321	**$ 20,095,061**
Sanitary	$ 1,627,200	$ 551,928	$ 76,453	$ 353,405	$ 6,847,547	**$ 9,456,533**
Stormwater	$ -	$ -	$ -	$ 36,134,108	$ -	**$ 36,134,108**
Total	$ 1,642,200	$ 52,771,631	$ 76,453	$ 134,795,364	$ 32,158,518	**$ 221,444,166**

Offsite Levy Collections. Before allocating infrastructure costs to benefitting lands, offsite levy costs must be reduced by the total levies collected to date. Up to December 31st, 2018, the County has collected approximately **$14.80 million** in offsite levies as summarized in the table below. Details associated with levy collections are shown in Appendices B5, C5, D5, and E5.

Summary of Levies Collected to Date

Levies Collected To Date	
Transportation	$ 7,076,185
Water	$ 5,223,604
Sanitary	$ 2,503,538
Stormwater	$ -
Total	$ 14,803,327

Offsite Levy Areas and Forecast Development. To facilitate the allocation of infrastructure costs to those lands that benefit from the infrastructure, the Sturgeon Valley is parsed into **32** offsite levy areas. The area boundaries, numbering schema, and area measurements are described in Appendix A along with an offsite levy map. An overview of offsite infrastructure allocations to each benefitting area is provided in Appendices B7, C7, D7, and E7.

To calculate offsite levy rates, it is necessary to forecast the amount of land that will develop during the 25-year review period. Land development forms the denominator of the rate calculation. A larger denominator reduces rates but could potentially result in under-collection thereby placing an increased burden on tax payers. A smaller denominator increases rates but could potentially result in over-collection thereby placing an increased burden on future development. Accordingly, land development forecasts need to be: (a) reasonable and reflect current planning assumptions including the current pace of development in the community, and (b) updated regularly.

For this review, the County is forecasting development of approximately **265 ha.** over the 25-year review period (the land development forecast is shown in Appendix A).

Offsite Levy Reserves. The County is currently managing offsite levy receipts and withdrawals via four reserves/accounts (i.e., one reserve/account for each infrastructure type), and this in alignment with MGA requirements. The reason the MGA stipulates the

requirement for separate accounts is because offsite levies can only be used for the type of infrastructure for which they were collected (e.g., water levies can only be used to construct water offsite infrastructure, not sanitary infrastructure etc.). During the project, several amendments to historical information were identified. Accordingly, the County's offsite levy reserve balances require amendment as discussed further below and shown in Appendices B8, C8, D8, E8 and G.

Interest. Offsite levy reserve/account balances (both actual and forecast) are impacted by interest. Actual reserve inflows and forecast reserve balances that are in a positive/surplus position earn interest (as required by the MGA). Actual reserve outflows and forecast reserve balances that are in a negative/deficit position are charged interest (forecast balances that are negative indicate the requirement for front-ending). During the project, several amendments to interest calculations were identified. An overview of reserve/account adjustments is discussed further below, and interest rates and forecast balances over the 25-year review period are shown in Appendices B9, C9, D9, E9 and G.

Front-ending Approach. Front-ending is an extremely important concept that underpins rigorous management of offsite levies. Front-ending represents debts owed by future development to the front-ending party (municipality or developer) for past construction undertaken on behalf of future development—i.e., a front-ending party will often pay for its share of an offsite infrastructure project in addition to that portion of the project which benefits future development when offsite levy reserve balances are insufficient.

There are 2 alternatives for repaying front-ending debts to claimants: (1) the First-In First-Out (FIFO) approach, and (2) the Average Outstanding Claim (AOC) approach.

When a FIFO approach is used, claims are reimbursed based on the order they are incurred. For example, Developer A[2] front-ends a $1 million piece of infrastructure in 2016. Developer B front-ends a $0.5 million piece of infrastructure in 2017. And Developer C is contemplating front-ending a $0.5 million piece of infrastructure in the future. Using the FIFO approach, all offsite levy collections flow entirely to Developer A until it is fully repaid before any levy collections flow to Developer B. As a result, in could take many years before Developer B is fully repaid. Developer C, if it chooses to front-end in 2019, would not see any claim reimbursement until both Developer A and Developer B were repaid. This model is good for earlier claimants as they will be reimbursed before future claimants. However, use of this model acts as a disincentive for developers (like Developer C) to front-end in the future (why front-end if there is no chance of reimbursement in a reasonable time-frame?). As a result, the FIFO approach can create: (a) stagnation of development, and (b) increased pressure on the municipality (i.e., taxpayers) to front-end. Accordingly, the FIFO approach is not recommended.

When the AOC approach is used, claimants share distributions based on their proportionate share of outstanding claims. For example, Developer A fronts a $1 million piece of

[2] A municipality can also be a front-ending party (and claimant).

infrastructure in 2016. Developer B front-ends a $0.5 million piece of infrastructure in 2017. And Developer C is contemplating front-ending a $0.5 million piece of infrastructure in the future. Using the AOC approach, offsite levy collections are shared between Developer A (66.6% of distributions) and Developer B (33.3% of distributions) until fully repaid[3]. If Developer C chooses to front-end in the future, then future claim reimbursements would be shared amongst Developer A (50% of distributions) and Developer B (25% of distributions) and Developer C (25% of distributions) until repaid[4]. This approach is preferred, as it ensures regular positive cash flow to all claimants, and therefore no disincentive to future front-ending. In 2017, the County adopted the AOC approach as part of its broader offsite levy policy framework.

In the Sturgeon Valley, it is our understanding that the County is the only front-ending party currently. As such, all excess cash in reserve accounts should always be used to pay-down the County's front-ending debt (described below).

Offsite Levy Account Adjustments. At end 2018, the transportation account reflected a surplus balance of **$2,907,985**. This balance is in alignment with the offsite levy model at end 2018. A complete reconciliation of the transportation account balance is provided in Appendices B8 and G.

At end 2018, the water account reflected a surplus balance of **$0**. However, after adjustments and front-ending claim repayments, the new balance in the water account should be amended to a deficit of approximately **$(4,468,160)**[5] at end 2018. A complete reconciliation of the water account balance is provided in Appendices C8 and G.

At end 2018, the sanitary account reflected a surplus balance of **$0**. However, after adjustments and front-ending claim repayments, the new balance in the sanitary account should be amended to a deficit of approximately **$(2,907,126)**[6] at end 2018. A complete reconciliation of the sanitary account balance is provided in Appendices D8 and G.

At end 2018, the stormwater account reflected a surplus balance of **$0**. This balance is in alignment with the offsite levy model at end 2018. A complete reconciliation of the stormwater account balance is provided in Appendices E8 and G.

5 RATE UPDATES

For future development to pay for its share of the **$221.44 million** offsite infrastructure costs contained in the County's capital plans for the Sturgeon Valley, rates are approximately

[3] $1,000,000 / ($1,000,000 + $500,000) = **66.6%**. $500,000 / ($1,000,000 + $500,000) = **33.3%**.

[4] $1,000,000 / ($1,000,000 + $500,000 + $500,000) = **50%**. $500,000 / ($1,000,000 + $500,000 + $500,000) = **25%**.

[5] Unofficial internal County documentation shows a water front-ending balance of $(3,975,824).

[6] Unofficial internal County documentation shows a sanitary front-ending balance of $(2,636,939).

$67,814 per net hectare on a weighted average basis, as shown in the tables below. A comparison of rates to other municipalities is shown in Appendix H.

Rates are decreasing from an average of approximately $171,000[7] per net hectare (contained in the current bylaw) to $67,814 per net hectare. The primary reason for the decrease in rates is the update and removal of certain projects contained in the current bylaw, the limitation of costs to the 25-year review period, and the substantive increase in applicable development from 116 ha to 265 ha.

Offsite Levy Rates: High, Low, & Averages[8]

	Transportation Levies (/Net Ha.)	Water Levies (/Net Ha.)	Sanitary Levies (/Net Ha.)	Storm Levies (/Net Ha.)	Total (/Net Ha.)
High	$ 8,326	$ 41,385	$ 35,621	$ -	$ 85,333
Low	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
Weighted Average	$ 8,326	$ 41,385	$ 18,102	$ -	$ 67,814

Summary of Offsite Levy Rates by Area

[7] $57,933 per lot / .2023 (converts ½ acres lots to gross hectares) X .60 (converts gross hectares to net hectares) = ~$171,000.

[8] Highs, Lows, and Averages are shown for information purposes only. Developers pay the actual rate applicable to their specific development area and development type.

Area #	Transportation Levies	Water Levies	Sanitary Levies	Stormwater Levies	Total
1.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
1.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
1.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
1.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
2.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
2.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
2.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
2.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
3.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
3.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
3.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
3.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
4.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
4.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
4.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
4.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
5.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
5.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
5.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
5.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
6.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
6.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
6.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
6.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
7.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
7.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
7.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
7.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
8.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
8.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
8.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
8.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
9.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
9.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
9.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
9.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
10.1	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
10.2	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
10.3	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
10.4	$ 8,326	$ 41,385	$ 30,609	$ -	$ 80,320
11.1	$ 8,326	$ 41,385	$ 35,621	$ -	$ 85,333
11.2	$ 8,326	$ 41,385	$ 35,621	$ -	$ 85,333
11.3	$ 8,326	$ 41,385	$ 35,621	$ -	$ 85,333
11.4	$ 8,326	$ 41,385	$ 35,621	$ -	$ 85,333
12.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
12.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
12.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
12.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
13.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
13.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
13.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
13.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
14.1	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
14.2	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
14.3	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
14.4	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
15.1	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
15.2	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
15.3	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
15.4	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
16.1	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
16.2	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
16.3	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775
16.4	$ 8,326	$ 41,385	$ 22,063	$ -	$ 71,775

Area #	Transportation Levies	Water Levies	Sanitary Levies	Stormwater Levies	Total
17.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
17.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
17.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
17.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
18.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
18.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
18.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
18.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
19.1	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
19.2	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
19.3	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
19.4	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
20.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
20.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
20.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
20.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
21.1	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
21.2	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
21.3	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
21.4	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
22.1	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
22.2	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
22.3	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
22.4	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
23.1	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
23.2	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
23.3	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
23.4	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
24.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
24.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
24.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
24.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
25.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
25.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
25.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
25.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
26.1	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
26.2	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
26.3	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
26.4	$ 8,326	$ 41,385	$ 10,408	$ -	$ 60,120
27.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
27.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
27.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
27.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
28.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
28.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
28.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
28.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
29.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
29.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
29.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
29.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
30.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
30.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
30.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
30.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
31.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
31.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
31.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
31.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
32.1	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
32.2	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
32.3	$ 8,326	$ 41,385	$ -	$ -	$ 49,711
32.4	$ 8,326	$ 41,385	$ -	$ -	$ 49,711

6 RECOMMENDATIONS

In addition to implementing the offsite levy rates outlined in Section 5, CORVUS recommends the following:

1. Amend the balances of water and sewer offsite levy accounts as reflected in

Appendices C8/G-water: $(4,468,160)[9] and D8/G-sanitary: $(2,907,216)[10]; and in so doing, withdraw (or deposit) excess funds and repay front-ending claimants.

2. Establish a formal and regular communication and documentation process between the Finance, Planning, and Engineering departments to enable the accurate documentation of offsite levy expenditure and front-ending details.
3. Establish individual accounts and/or sub-ledgers for each account to track amounts owed to each front-ending party. In so doing, ensure the same interest charging rate that is reflected in the offsite levy model (in any given year) is used to calculate interest on outstanding front-ending balances.
4. During the reconciliation of future reserve balances, ensure the interest earning and charge rates that underpin the offsite levy bylaw for that time period are used to determine reserve interest impacts. This is outlined in the offsite levy model user guide and instructions for the annual rate update.
5. Limit withdrawals from offsite levy accounts to only that portion of project cost for which future development is responsible (i.e., Project Cost X Developer Share %).
6. Amend the offsite levy bylaw to include the requirement for an annual report to Council outlining the status of levies (monies collected, remaining front-ending debts, etc.). This is a newly amended requirement of the MGA.
7. Recent changes to the MGA enable municipalities to charge offsite levies for recreation, fire, police, library, and interchange facilities. Accordingly, the County should consider whether it wishes to adopt such levies in the future and, if so, begin developing the necessary supporting documentation that will be needed to support such levies.

[9] Unofficial internal County documentation shows a water front-ending balance of $(3,975,824).

[10] Unofficial internal County documentation shows a sanitary front-ending balance of $(2,636,939).

7 ACKNOWLEDGEMENTS

CORVUS Business Advisors would like to thank all Sturgeon County staff from Engineering, Planning, and Finance who supported the work of this review.

8 DISCLAIMER

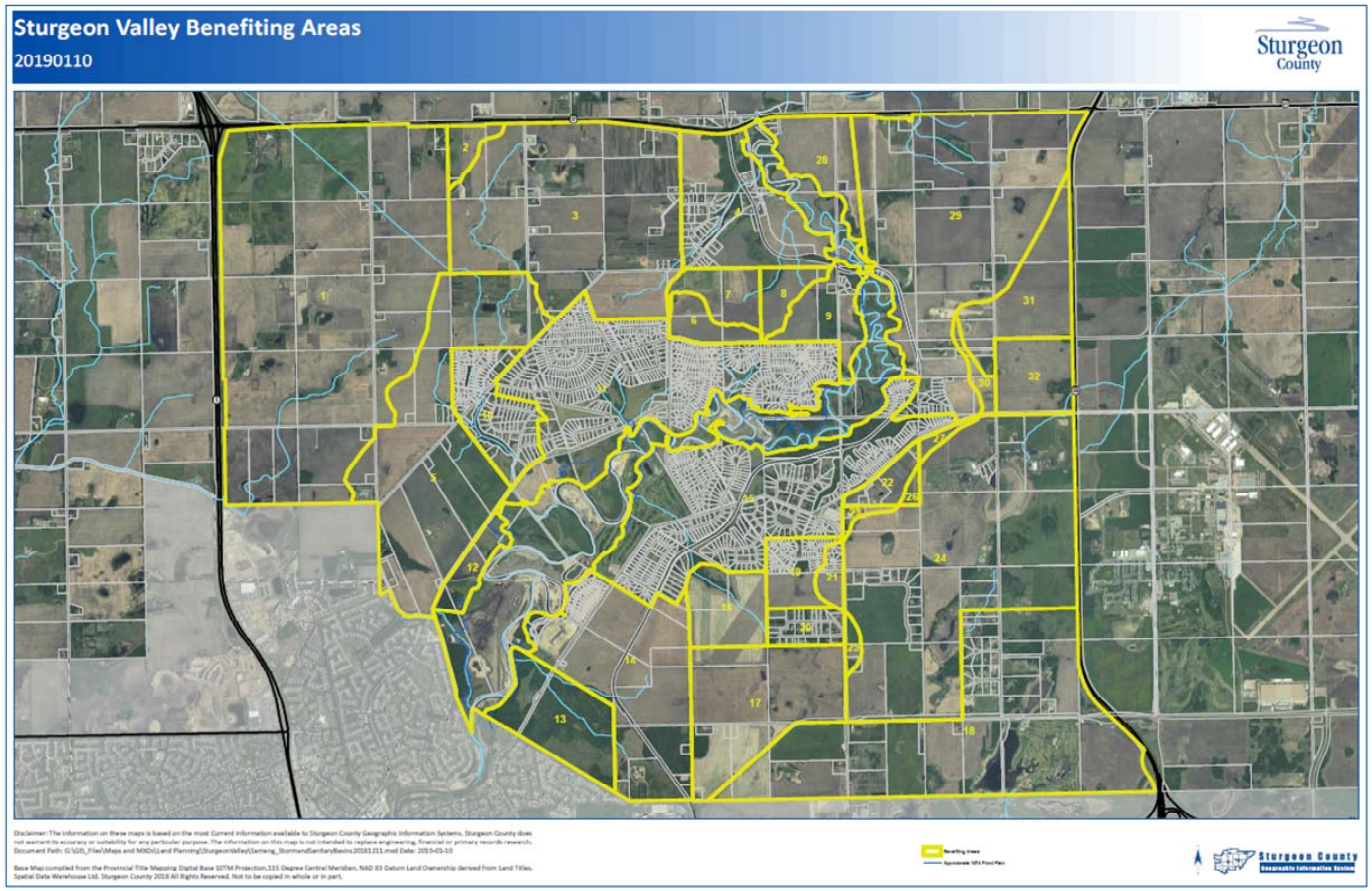
CORVUS Business Advisor has relied upon Sturgeon County and its advisors to provide all of the data and information used to construct the offsite levy model and create the rates, such as planning data and assumptions, development forecasts and assumptions, infrastructure costs and costs estimates, allocations to benefitting parties, allocation to benefitting areas, and other assumptions etc. As such, CORVUS Business Advisors makes no guarantee as to the accuracy of the input data and information provided by these groups or the results that stem from this data and information.

Offsite levy rates are not intended to stay static; they are based upon assumptions and the best available information of the day. Planning assumptions, cost estimates etc. can change each year. Accordingly, the Municipal Government Act requires that offsite levy rates be updated with the most available information on a regular basis (usually annually). When information changes, it will be reflected in a future update, and rates adjusted accordingly.

APPENDIX A: OFFSITE LEVY AREAS AND LAND STAGING

The Sturgeon Valley is parsed into **32** offsite levy areas, as shown in the map below. Areas take into consideration the intersection points of existing/planned infrastructure basins (e.g., water and sanitary basins), and also various natural and man-made barriers (e.g., rivers, highways, etc.). All offsite levy infrastructure costs are allocated to one or more areas.

Offsite Levy Areas



Total net development area, the amount of land available for development in all offsite levy areas, is approximately **4113 ha.** In calculating net development area, allowances have been made for environmental reserves, municipal reserves, and arterial road right of way.

Offsite Levy Net Development Area[11]

Area Ref. #	Development Area Location	Land Use	Gross Area (ha.)	Environmental Reserves (ha.)	Sub-total	Municipal Reserves	Arterial Right of Way	Net Development Area (ha.)	Net Development After 25 Yrs
1.1	See Map	Commercial	-	-	-	-	-	-	-
1.2	See Map	Industrial	-	-	-	-	-	-	-
1.3	See Map	Residential	816.09	-	816.09	81.61	37.14	697.34	697.34
1.4	See Map	Other	-	-	-	-	-	-	-
2.1	See Map	Commercial	-	-	-	-	-	-	-
2.2	See Map	Industrial	-	-	-	-	-	-	-
2.3	See Map	Residential	20.69	-	20.69	2.07	0.93	17.69	17.69
2.4	See Map	Other	-	-	-	-	-	-	-
3.1	See Map	Commercial	-	-	-	-	-	-	-
3.2	See Map	Industrial	-	-	-	-	-	-	-
3.3	See Map	Residential	426.42	-	426.42	42.64	30.32	353.46	325.40
3.4	See Map	Other	-	-	-	-	-	-	-
4.1	See Map	Commercial	-	-	-	-	-	-	-
4.2	See Map	Industrial	-	-	-	-	-	-	-
4.3	See Map	Residential	162.48	5.06	157.42	15.74	16.18	125.50	109.19
4.4	See Map	Other	-	-	-	-	-	-	-
5.1	See Map	Commercial	-	-	-	-	-	-	-
5.2	See Map	Industrial	-	-	-	-	-	-	-
5.3	See Map	Residential	353.33	-	353.33	35.33	32.31	285.69	285.69
5.4	See Map	Other	-	-	-	-	-	-	-
6.1	See Map	Commercial	-	-	-	-	-	-	-
6.2	See Map	Industrial	-	-	-	-	-	-	-
6.3	See Map	Residential	29.94	-	29.94	2.99	5.97	20.97	0.60
6.4	See Map	Other	-	-	-	-	-	-	-
7.1	See Map	Commercial	-	-	-	-	-	-	-
7.2	See Map	Industrial	-	-	-	-	-	-	-
7.3	See Map	Residential	44.49	-	44.49	4.45	3.03	37.01	37.01
7.4	See Map	Other	-	-	-	-	-	-	-
8.1	See Map	Commercial	-	-	-	-	-	-	-
8.2	See Map	Industrial	-	-	-	-	-	-	-
8.3	See Map	Residential	30.08	-	30.08	3.01	1.80	25.27	25.27
8.4	See Map	Other	-	-	-	-	-	-	-
9.1	See Map	Commercial	-	-	-	-	-	-	-
9.2	See Map	Industrial	-	-	-	-	-	-	-
9.3	See Map	Residential	61.36	13.02	48.34	4.83	9.81	33.70	0.01
9.4	See Map	Other	-	-	-	-	-	-	-
10.1	See Map	Commercial	-	-	-	-	-	-	-
10.2	See Map	Industrial	-	-	-	-	-	-	-
10.3	See Map	Residential	86.94	7.68	79.26	8.30	14.39	56.58	5.89
10.4	See Map	Other	-	-	-	-	-	-	-
11.1	See Map	Commercial	-	-	-	-	-	-	-
11.2	See Map	Industrial	-	-	-	-	-	-	-
11.3	See Map	Residential	362.75	58.59	304.16	5.42	67.33	231.41	0.00
11.4	See Map	Other	-	-	-	-	-	-	-
12.1	See Map	Commercial	-	-	-	-	-	-	-
12.2	See Map	Industrial	-	-	-	-	-	-	-
12.3	See Map	Residential	31.86	-	31.86	3.19	3.46	25.22	25.22
12.4	See Map	Other	-	-	-	-	-	-	-
13.1	See Map	Commercial	-	-	-	-	-	-	-
13.2	See Map	Industrial	-	-	-	-	-	-	-
13.3	See Map	Residential	104.04	101.88	2.15	-	2.15	-	-
13.4	See Map	Other	-	-	-	-	-	-	-
14.1	See Map	Commercial	-	-	-	-	-	-	-
14.2	See Map	Industrial	40.21	-	40.21	4.02	-	36.19	36.19
14.3	See Map	Residential	256.92	5.67	251.25	25.13	26.13	200.00	167.41
14.4	See Map	Other	-	-	-	-	-	-	-
15.1	See Map	Commercial	-	-	-	-	-	-	-
15.2	See Map	Industrial	-	-	-	-	-	-	-
15.3	See Map	Residential	358.23	47.68	310.55	31.06	63.83	215.66	44.62
15.4	See Map	Other	-	-	-	-	-	-	-
16.1	See Map	Commercial	-	-	-	-	-	-	-
16.2	See Map	Industrial	-	-	-	-	-	-	-
16.3	See Map	Residential	68.42	4.96	63.46	6.35	3.28	53.83	0.00
16.4	See Map	Other	-	-	-	-	-	-	-

[11] Area measurements were provided by County staff.

Area Ref. #	Development Area Location	Land Use	Gross Area (ha.)	Environmental Reserves (ha.)	Sub-total	Municipal Reserves	Arterial Right of Way	Net Development Area (ha.)
17.1	See Map	Commercial	-	-	-	-	-	-
17.2	See Map	Industrial	-	-	-	-	-	-
17.3	See Map	Residential	183.64	-	183.64	18.36	20.60	144.67
17.4	See Map	Other	-	-	-	-	-	-
18.1	See Map	Commercial	-	-	-	-	-	-
18.2	See Map	Industrial	-	-	-	-	-	-
18.3	See Map	Residential	479.24	11.68	467.56	46.76	37.89	382.92
18.4	See Map	Other	-	-	-	-	-	-
19.1	See Map	Commercial	-	-	-	-	-	-
19.2	See Map	Industrial	-	-	-	-	-	-
19.3	See Map	Residential	45.20	-	45.20	4.52	7.06	33.62
19.4	See Map	Other	-	-	-	-	-	-
20.1	See Map	Commercial	-	-	-	-	-	-
20.2	See Map	Industrial	-	-	-	-	-	-
20.3	See Map	Residential	32.54	4.06	28.48	-	3.73	24.75
20.4	See Map	Other	-	-	-	-	-	-
21.1	See Map	Commercial	-	-	-	-	-	-
21.2	See Map	Industrial	-	-	-	-	-	-
21.3	See Map	Residential	16.04	-	16.04	1.60	2.47	11.97
21.4	See Map	Other	-	-	-	-	-	-
22.1	See Map	Commercial	-	-	-	-	-	-
22.2	See Map	Industrial	-	-	-	-	-	-
22.3	See Map	Residential	25.04	-	25.04	2.50	4.45	18.08
22.4	See Map	Other	-	-	-	-	-	-
23.1	See Map	Commercial	-	-	-	-	-	-
23.2	See Map	Industrial	-	-	-	-	-	-
23.3	See Map	Residential	7.08	-	7.08	0.71	3.14	3.23
23.4	See Map	Other	-	-	-	-	-	-
24.1	See Map	Commercial	-	-	-	-	-	-
24.2	See Map	Industrial	-	-	-	-	-	-
24.3	See Map	Residential	541.93	-	541.93	54.19	28.81	458.92
24.4	See Map	Other	-	-	-	-	-	-
25.1	See Map	Commercial	-	-	-	-	-	-
25.2	See Map	Industrial	-	-	-	-	-	-
25.3	See Map	Residential	8.52	-	8.52	0.85	1.88	5.79
25.4	See Map	Other	-	-	-	-	-	-
26.1	See Map	Commercial	-	-	-	-	-	-
26.2	See Map	Industrial	-	-	-	-	-	-
26.3	See Map	Residential	5.22	-	5.22	0.52	-	4.70
26.4	See Map	Other	-	-	-	-	-	-
27.1	See Map	Commercial	-	-	-	-	-	-
27.2	See Map	Industrial	-	-	-	-	-	-
27.3	See Map	Residential	7.32	-	7.32	0.73	1.43	5.16
27.4	See Map	Other	-	-	-	-	-	-
28.1	See Map	Commercial	-	-	-	-	-	-
28.2	See Map	Industrial	-	-	-	-	-	-
28.3	See Map	Residential	70.87	0.19	70.68	7.07	4.93	58.68
28.4	See Map	Other	-	-	-	-	-	-
29.1	See Map	Commercial	-	-	-	-	-	-
29.2	See Map	Industrial	-	-	-	-	-	-
29.3	See Map	Residential	467.28	1.55	465.73	46.57	33.38	385.78
29.4	See Map	Other	-	-	-	-	-	-
30.1	See Map	Commercial	-	-	-	-	-	-
30.2	See Map	Industrial	-	-	-	-	-	-
30.3	See Map	Residential	13.55	-	13.55	1.36	1.32	10.88
30.4	See Map	Other	-	-	-	-	-	-
31.1	See Map	Commercial	-	-	-	-	-	-
31.2	See Map	Industrial	-	-	-	-	-	-
31.3	See Map	Residential	107.21	-	107.21	10.72	3.81	92.67
31.4	See Map	Other	-	-	-	-	-	-
32.1	See Map	Commercial	-	-	-	-	-	-
32.2	See Map	Industrial	-	-	-	-	-	-
32.3	See Map	Residential	66.34	-	66.34	6.63	4.02	55.68
32.4	See Map	Other	-	-	-	-	-	-
		Total	**5,331.27**	**262.03**	**5,069.24**	**479.23**	**476.99**	**4,113.01**

Summary of Offsite Levy Net Development Area

Description	ha.
Gross Development Area	5,331.27
Less Environment Reserve	262.03
Less Municipal Reserve	479.23
Less ROW Allowance	476.99
Net Development Area	4,113.01

*Note: 1 Hectare (ha.) = ~2.47 Acres

Net development area definitions will be applied in determining offsite levy obligations of developers on application for subdivision or development within Sturgeon County. Net development area is defined as follows:

- Gross Area – The area of lands to be developed in hectares that have not previously

paid an offsite levy.

- Less: Any environmental reserves contained within the development area Including environmental reserves and environmental easements.
- Less: A 10% allowance for Municipal Reserves.
- Less: The measurement of arterial road right of way that bisects the development lands.

- Equals: Net Developable Area, which is the area subject to offsite levies.

A rate planning period of 25-years underpins the offsite levy model and rate calculations. Many municipalities use this planning period as it provides a reasonable timeframe to recoup the costs associated with offsite levy infrastructure construction, and it aligns with the timeframes of many municipal capital planning and construction cycles.

Of the 4113 net ha. of land available across all offsite levy areas, approximately 587 ha. (14%) have been developed to date, and planners estimate that approximately 265 ha. (6%) will develop during the next 25-years (the rate planning period) as shown in the tables below.

Summary of Anticipated Development during the 25 Year Rate Planning Period

Developed to Date	587.41	14.3%
Developed In Next 25 Years	265.00	6.4%
Developed Beyond 25 Years	3,260.61	79.3%
Net Development Area	4,113.02	

Anticipated Development during the 25 Year Rate Planning Period

Area Ref. #	Area Developed in Next 25 years (Net ha.)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.3	28.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.00
3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.3	20.370	-	-	-	-	4.07	-	4.07	-	4.07	-	4.07	-	4.07	-	-	-	-	-	-	-	-	-	-	-	-
6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.3	24.097	-	-	-	-	-	-	-	12.05	-	-	-	12.05	-	-	-	-	-	-	-	-	-	-	-	-	-
9.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.3	20.462	-	-	-	-	-	-	-	-	-	-	10.23	-	-	-	-	-	10.23	-	-	-	-	-	-	-	-
11.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.3	7.500	7.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.3	53.830	-	-	-	-	-	-	10.77	-	-	10.77	-	-	10.77	-	-	10.77	-	-	10.77	-	-	-	-	-	-
16.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Area Ref. #	Area Developed in Next 25 years (Net ha.)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
17.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.3	10.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.00	-	-	-
17.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.3	53.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30
18.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.3	17.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.83	-	8.83	-	-	-	-	-
19.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.3	7.307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.31	-	-	-	-	-	-	-	-	-
21.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.3	18.080	-	-	-	11.75	-	-	6.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.3	4.697	-	-	-	-	-	-	4.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	264.99	7.50	-	-	11.75	4.07	-	25.87	12.05	4.07	10.77	14.31	12.05	14.84	-	-	23.37	15.53	14.13	16.07	14.13	5.30	15.30	5.30	5.30	33.30

APPENDIX B: TRANSPORTATION

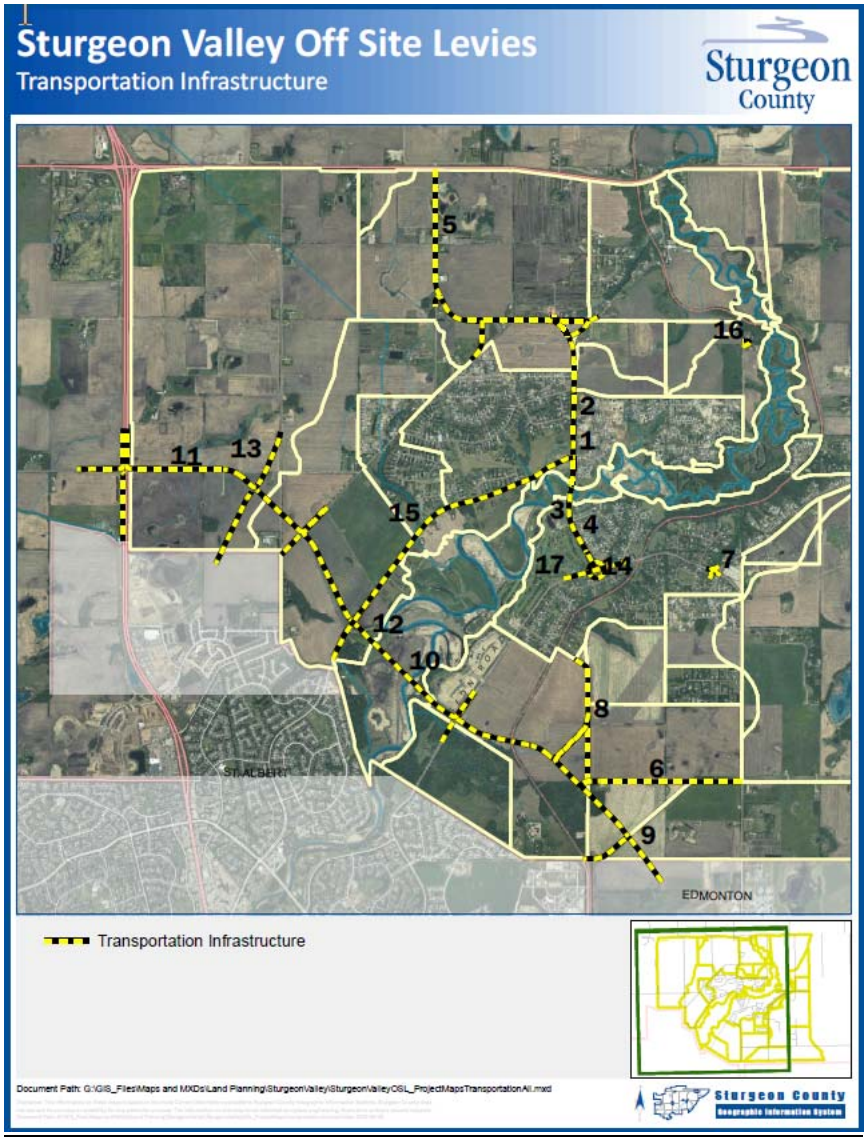
B1. Transportation Offsite Infrastructure

To support future growth, transportation offsite infrastructure is required. The estimated cost of this infrastructure is based upon: (a) actual construction costs to the cut-off date, (b) debenture interest associated with financing, and (c) future cost estimates. Total cost is approximately **$155.76 million** as outlined in the table below. Actual costs, debenture interest (if any), and cost estimates were provided by County staff. It is important to note that these costs represent "gross" costs, of which only a portion will go to support development during the 25-year review period. The remainder of this section outlines how the "net" costs for development are determined.

Summary of Transportation Offsite Infrastructure

Item	Project Description	Cost of Completed Work	Debenture Interest	Estimated Cost of Work Yet to be Completed	Total Project Cost
1	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Sub Grade	$ 1,836,738	$ -	$ -	$ 1,836,738
2	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Pave	$ 1,681,017	$ -	$ -	$ 1,681,017
3	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Road Widening & Sub Grade	$ 365,189	$ -	$ -	$ 365,189
4	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Pave	$ 597,189	$ -	$ -	$ 597,189
5	Starkey Road (Station 2+400 to Highway 37)	$ -	$ -	$ 19,721,972	$ 19,721,972
6	Twp. 542 (Range Road 250 to Range Road 251)	$ -	$ -	$ 1,718,802	$ 1,718,802
7	Sturgeon Road @ RR 250 (Roundabout - Access Management)	$ -	$ -	$ 1,865,255	$ 1,865,255
8	Range Road 251 (Railway Trestle to Twp. 542)	$ -	$ -	$ 2,062,502	$ 2,062,502
9	127 Street Stage 1	$ -	$ -	$ 36,304,640	$ 36,304,640
10	127 Street Stage 2A	$ -	$ -	$ 24,143,510	$ 24,143,510
11	127 Street Stage 2B	$ -	$ -	$ 28,994,680	$ 28,994,680
12	127 Street Stage 3	$ -	$ -	$ 14,987,800	$ 14,987,800
13	127 Street Stage 4	$ -	$ -	$ 10,179,100	$ 10,179,100
14	Sturgeon Road and Starkey Road Traffic Signalization	$ -	$ -	$ 250,000	$ 250,000
15	Bellerose Drive	$ 4,891,829	$ -	$ -	$ 4,891,829
16	Trestle Ridge Road	$ 1,179,543	$ -	$ -	$ 1,179,543
17	Sturgeon Road and Starkey Road	$ 1,719,517	$ -	$ -	$ 1,719,517
18	Range Road 250 (Trestle Ridge to Twp. 544A)	$ -	$ -	$ 573,633	$ 573,633
19	Township Road 544 (Coal mine Road to Hwy 2)	$ -	$ -	$ 2,685,548	$ 2,685,548
100	Unallocated Offsite Levies Collected to Dec 31, 2018	$ -	$ -	$ -	$ -
		$ 12,271,022	**$ -**	**$ 143,487,442**	**$ 155,758,464**

*Costs estimates provided by County staff.
**Estimates include engineering and contingencies.
***Contributions stemming from old development are not technically "receipts". Instead, they have been set-up as an individual project (#100) and credited 100% to future development and to all offsite levy areas.
****Offsite infrastructure definitions are contained in Appendix F.



B2. Transportation Offsite Infrastructure Grants & Contributions to Date

The MGA enables the County to allocate the costs of offsite infrastructure to development, other than those costs that have been provided by way of special grant or contribution (i.e., contributed infrastructure). Sturgeon County has/will receive **$0.00** in special grants or contributions for transportation offsite levy infrastructure as shown in the table below (note, if the County receives other grants or contributions in the future, it will be reflected in one of the annual updates and rates adjusted accordingly). The result is that the total reduced project estimated cost is **$155.76 million**.

Special Grants and Contributions for Transportation Offsite Infrastructure

Item	Project Description	Total Project Cost	Special Provincial Grants	Developer Agreement Contributions	Other Contributions	Reduced Project Cost
1	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Sub Grade	$ 1,836,738	$ -	$ -	$ -	$ 1,836,738
2	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Pave	$ 1,681,017	$ -	$ -	$ -	$ 1,681,017
3	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Road Widening & Sub Grade	$ 365,189	$ -	$ -	$ -	$ 365,189
4	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Pave	$ 597,189	$ -	$ -	$ -	$ 597,189
5	Starkey Road (Station 2+400 to Highway 37)	$ 19,721,972	$ -	$ -	$ -	$ 19,721,972
6	Twp. 542 (Range Road 250 to Range Road 251)	$ 1,718,802	$ -	$ -	$ -	$ 1,718,802
7	Sturgeon Road @ RR 250 (Roundabout - Access Management)	$ 1,865,255	$ -	$ -	$ -	$ 1,865,255
8	Range Road 251 (Railway Trestle to Twp. 542)	$ 2,062,502	$ -	$ -	$ -	$ 2,062,502
9	127 Street Stage 1	$ 36,304,640	$ -	$ -	$ -	$ 36,304,640
10	127 Street Stage 2A	$ 24,143,510	$ -	$ -	$ -	$ 24,143,510
11	127 Street Stage 2B	$ 28,994,680	$ -	$ -	$ -	$ 28,994,680
12	127 Street Stage 3	$ 14,987,800	$ -	$ -	$ -	$ 14,987,800
13	127 Street Stage 4	$ 10,179,100	$ -	$ -	$ -	$ 10,179,100
14	Sturgeon Road and Starkey Road Traffic Signalization	$ 250,000	$ -	$ -	$ -	$ 250,000
15	Bellerose Drive	$ 4,891,829	$ -	$ -	$ -	$ 4,891,829
16	Trestle Ridge Road	$ 1,179,543	$ -	$ -	$ -	$ 1,179,543
17	Sturgeon Road and Starkey Road	$ 1,719,517	$ -	$ -	$ -	$ 1,719,517
18	Range Road 250 (Trestle Ridge to Twp. 544A)	$ 573,633	$ -	$ -	$ -	$ 573,633
19	Township Road 544 (Coal mine Road to Hwy 2)	$ 2,685,548	$ -	$ -	$ -	$ 2,685,548
100	Unallocated Offsite Levies Collected to Dec 31, 2018	$ -	$ -	$ -	$ -	$ -
		$ 155,758,464	**$ -**	**$ -**	**$ -**	**$ 155,758,464**

B3. Year of Construction

The timing of construction is used to determine the impact of inflation on cost, the impact of forecast reserve balances, and the estimate of financial oversizing (described in the Section that follows). The County anticipates construction of offsite infrastructure as outlined in the table below. Note, if this schedule is adjusted in the future, it will be reflected in one of the County's annual rate/bylaw updates.

Forecast Year of Construction

Item	Project Description	Construction Start Year
1	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Sub Grade	2013
2	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Pave	2014
3	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Road Widening & Sub Grade	2014
4	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Pave	2014
5	Starkey Road (Station 2+400 to Highway 37)	2044
6	Twp. 542 (Range Road 250 to Range Road 251)	2024
7	Sturgeon Road @ RR 250 (Roundabout - Access Management)	2021
8	Range Road 251 (Railway Trestle to Twp. 542)	2028
9	127 Street Stage 1	2044
10	127 Street Stage 2A	2044
11	127 Street Stage 2B	2044
12	127 Street Stage 3	2044
13	127 Street Stage 4	2044
14	Sturgeon Road and Starkey Road Traffic Signalization	2023
15	Bellerose Drive	2008
16	Trestle Ridge Road	2007
17	Sturgeon Road and Starkey Road	2009
18	Range Road 250 (Trestle Ridge to Twp. 544A)	2029
19	Township Road 544 (Coal mine Road to Hwy 2)	2021

*The share of projects constructed beyond the 25-year review period are not included in rates today (see financial oversizing in next section).
**Project costs are inflated by 2% per annum to 2022 and 3% per annum thereafter to the year of construction.

B4. Transportation Offsite Infrastructure Benefiting Parties

The transportation offsite infrastructure previously outlined will benefit various parties to varying degrees. Four potential benefiting parties were identified including:

- Sturgeon County – a portion of the transportation infrastructure which is required to service existing residents.
- Other Stakeholders – other parties (such as neighboring municipalities) that benefit from the infrastructure.
- Sturgeon County Future Development (Financial Oversizing) - that portion of cost which benefits future development beyond the 25-year review period.
- Sturgeon County Future Development (In Rates) – all growth-related infrastructure (i.e., levyable transportation infrastructure costs) during the 25-year rate planning period.

The table below outlines the allocation of transportation offsite levy infrastructure costs to benefiting parties.

Allocation of Transportation Infrastructure to Benefiting Parties

Item	Project Description	Reduced Project Cost	Muni Share %	Other Stakeholder Share	Developer Share Beyond 25 Yrs (Financial Oversizing %)	OSL / Developer Share %
1	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Sub Grade	$ 1,836,738	80.0%		0.0%	20.0%
2	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Pave	$ 1,681,017	80.0%		0.0%	20.0%
3	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Road Widening & Sub Grade	$ 365,189	80.0%		0.0%	20.0%
4	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Pave	$ 597,189	80.0%		0.0%	20.0%
5	Starkey Road (Station 2+400 to Highway 37)	$ 19,721,972	80.0%		20.0%	0.0%
6	Twp. 542 (Range Road 250 to Range Road 251)	$ 1,718,802	20.0%		16.0%	64.0%
7	Sturgeon Road @ RR 250 (Roundabout - Access Management)	$ 1,865,255	75.0%		2.0%	23.0%
8	Range Road 251 (Railway Trestle to Twp. 542)	$ 2,062,502	20.0%		28.8%	51.2%
9	127 Street Stage 1	$ 36,304,640	20.0%		80.0%	0.0%
10	127 Street Stage 2A	$ 24,143,510	20.0%		80.0%	0.0%
11	127 Street Stage 2B	$ 28,994,680	20.0%		80.0%	0.0%
12	127 Street Stage 3	$ 14,987,800	20.0%		80.0%	0.0%
13	127 Street Stage 4	$ 10,179,100	20.0%		80.0%	0.0%
14	Sturgeon Road and Starkey Road Traffic Signalization	$ 250,000	25.0%		12.0%	63.0%
15	Bellerose Drive	$ 4,891,829	58.0%		0.0%	42.0%
16	Trestle Ridge Road	$ 1,179,543	58.0%		0.0%	42.0%
17	Sturgeon Road and Starkey Road	$ 1,719,517	58.0%		0.0%	42.0%
18	Range Road 250 (Trestle Ridge to Twp. 544A)	$ 573,633	20.0%		32.0%	48.0%
19	Township Road 544 (Coal mine Road to Hwy 2)	$ 2,685,548	20.0%		6.4%	73.6%
100	Unallocated Offsite Levies Collected to Dec 31, 2018	$ -				100.0%
		$ 155,758,464				

*Allocations were determined by County staff.
**Financial oversizing is determined by separating out the pro rata portion of developer cost beyond the 25-year review period, in comparison with the anticipated year of construction. In future, as the rolling 25-year review period moves further out these additional developer costs will gradually be included in future rate calculations.

B5. Existing Receipts & Adjusted Levy Cost

Using the offsite levy share percentages shown in the previous section and applying those percentages to project costs results in an offsite levy cost of approximately **$9.16 million**. However, prior to allocating these costs to benefiting areas, existing offsite levy receipts collected from developers (if any) need to be considered in determining the residual/net costs to developers. County staff have advised that **$7.08 million** in transportation levies have been applied/collected as shown in the table below. This results in an adjusted offsite levy cost of approximately **$2.09 million**.

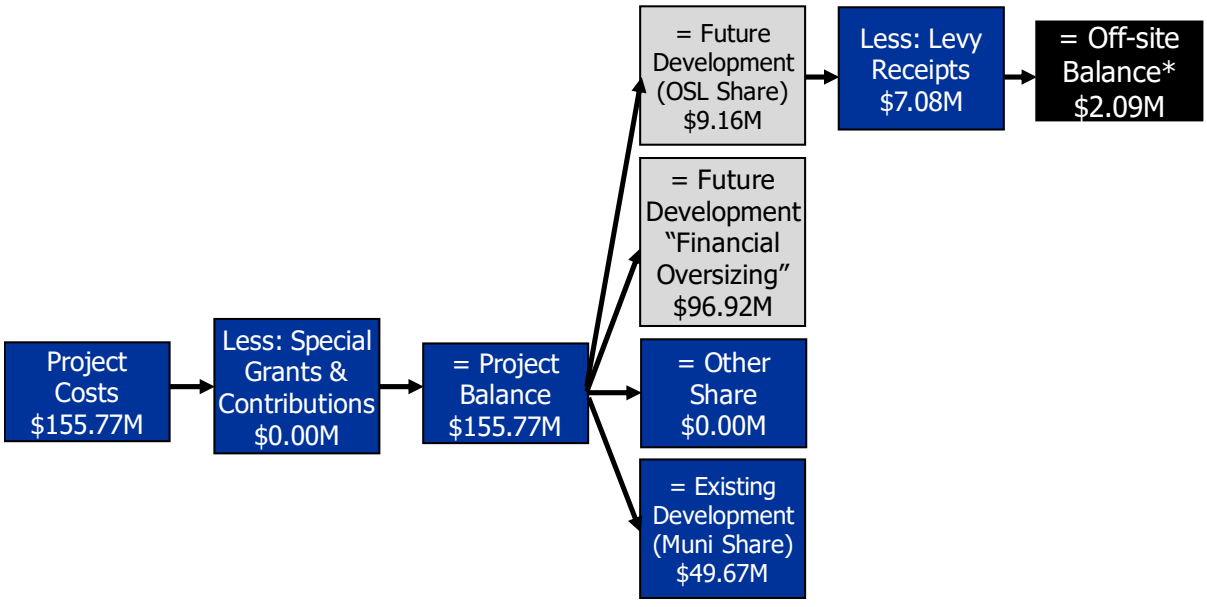
Offsite Levy Funds Applied to Date

Item	Project Description	OSL / Developer Cost	Offsite Levy Funds Collected to Dec 31, 2018	Offsite Levy Funds Collected Starting Jan 1, 2019	Adjusted Developer (Levy) Cost
1	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Sub Grade	$ 367,348	$ 367,348	$ -	$ (0)
2	Starkey Road N of Bridge (Sturgeon River to Estates Way)- Pave	$ 336,203	$ 336,203	$ -	$ 0
3	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Road Widening & Sub Grade	$ 73,038	$ 73,038	$ -	$ (0)
4	Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Pave	$ 119,438	$ 119,438	$ -	$ 0
5	Starkey Road (Station 2+400 to Highway 37)	$ -	$ -	$ -	$ -
6	Twp. 542 (Range Road 250 to Range Road 251)	$ 1,100,033	$ -	$ -	$ 1,100,033
7	Sturgeon Road @ RR 250 (Roundabout - Access Management)	$ 429,009	$ -	$ -	$ 429,009
8	Range Road 251 (Railway Trestle to Twp. 542)	$ 1,056,001	$ -	$ -	$ 1,056,001
9	127 Street Stage 1	$ -	$ -	$ -	$ -
10	127 Street Stage 2A	$ -	$ -	$ -	$ -
11	127 Street Stage 2B	$ -	$ -	$ -	$ -
12	127 Street Stage 3	$ -	$ -	$ -	$ -
13	127 Street Stage 4	$ -	$ -	$ -	$ -
14	Sturgeon Road and Starkey Road Traffic Signalization	$ 157,500	$ -	$ -	$ 157,500
15	Bellerose Drive	$ 2,054,568	$ 2,054,568	$ -	$ (0)
16	Trestle Ridge Road	$ 495,408	$ 495,408	$ -	$ 0
17	Sturgeon Road and Starkey Road	$ 722,197	$ 722,197	$ -	$ 0
18	Range Road 250 (Trestle Ridge to Twp. 544A)	$ 275,344	$ -	$ -	$ 275,344
19	Township Road 544 (Coal mine Road to Hwy 2)	$ 1,976,563	$ -	$ -	$ 1,976,563
100	Unallocated Offsite Levies Collected to Dec 31, 2018	$ -	$ 2,907,985	$ -	$ (2,907,985)
		$ 9,162,650	**$ 7,076,185**	**$ -**	**$ 2,086,465**

B6. Summary of Transportation Offsite Levy Cost Flow-through

As shown in the figure below, the total cost for transportation infrastructure that forms the basis of the rate is approximately **$2.09 million**. The cost allocations to each benefitting party are based on the benefitting percentages shown in previous section. The offsite levy balance (due from developers) is allocated to various benefitting areas (as described in the next section).

Total Transportation Offsite Levy Costs



B7. Transportation Infrastructure Benefiting Areas

Net developer costs for each project have been allocated to multiple benefiting offsite levy

area (see tables below). Allocations are denoted with a “1” below applicable area numbers. Benefiting areas were determined by County staff. The lands anticipated to develop over the 25-years in each offsite levy benefitting area are used to determine rates.

Transportation Allocations to Benefitting Areas

Item	Developer Cost	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	8.2	8.3	8.4
1	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 1,100,033	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ 429,009	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	$ 1,056,001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	$ 157,500	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	$ 275,344	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	$ 1,976,563	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100	$ (2,907,985)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 2,086,465																																

Item	Developer Cost	9.1	9.2	9.3	9.4	10.1	10.2	10.3	10.4	11.1	11.2	11.3	11.4	12.1	12.2	12.3	12.4	13.1	13.2	13.3	13.4	14.1	14.2	14.3	14.4	15.1	15.2	15.3	15.4	16.1	16.2	16.3	16.4
1	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 1,100,033	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ 429,009	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	$ 1,056,001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	$ 157,500	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	$ 275,344	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	$ 1,976,563	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100	$ (2,907,985)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 2,086,465																																

Item	Developer Cost	17.1	17.2	17.3	17.4	18.1	18.2	18.3	18.4	19.1	19.2	19.3	19.4	20.1	20.2	20.3	20.4	21.1	21.2	21.3	21.4	22.1	22.2	22.3	22.4	23.1	23.2	23.3	23.4	24.1	24.2	24.3	24.4
1	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 1,100,033	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ 429,009	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	$ 1,056,001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	$ 157,500	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	$ 275,344	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	$ 1,976,563	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100	$ (2,907,985)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 2,086,465																																

Item	Developer Cost	25.1	25.2	25.3	25.4	26.1	26.2	26.3	26.4	27.1	27.2	27.3	27.4	28.1	28.2	28.3	28.4	29.1	29.2	29.3	29.4	30.1	30.2	30.3	30.4	31.1	31.2	31.3	31.4	32.1	32.2	32.3	32.4
1	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 1,100,033	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ 429,009	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	$ 1,056,001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	$ 157,500	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	$ 275,344	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	$ 1,976,563	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100	$ (2,907,985)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 2,086,465																																

B8. Reserve Balance

As at December 31st, 2018 the transportation reserve balance was in a surplus of **$2,907,985**. This amount takes into consideration expenditures and front-ending repayments up to end-2018. This balance assumes that all remaining cash (if any) in the reserve is withdrawn and used to pay down front-ending debts owed to the County. In addition to maintaining a dedicated transportation offsite levy reserve (required by the MGA), it is also recommended that the County develop a set of "sub-ledgers" to track the amounts due to front-ending parties, including interest owed in accordance with the rates in effect at that time. A detailed reserve continuity schedule is also provided in Appendix G.

Transportation Offsite Levy Reserve Balance

Description	Dr	Cr	Balance
Offsite Levy Expenditures to December 31, 2018		$ 4,168,199.85	$ (4,168,199.85)
Allocated Receipts to December 31, 2018	$ 4,168,199.90		$ 0.05
Debenture Interest Costs to December 31, 2018		$ -	$ 0.05
Unallocated Receipts to December 31, 2018	$ 2,907,985.15		$ 2,907,985.21
Opening Balance			$ 2,907,985.21

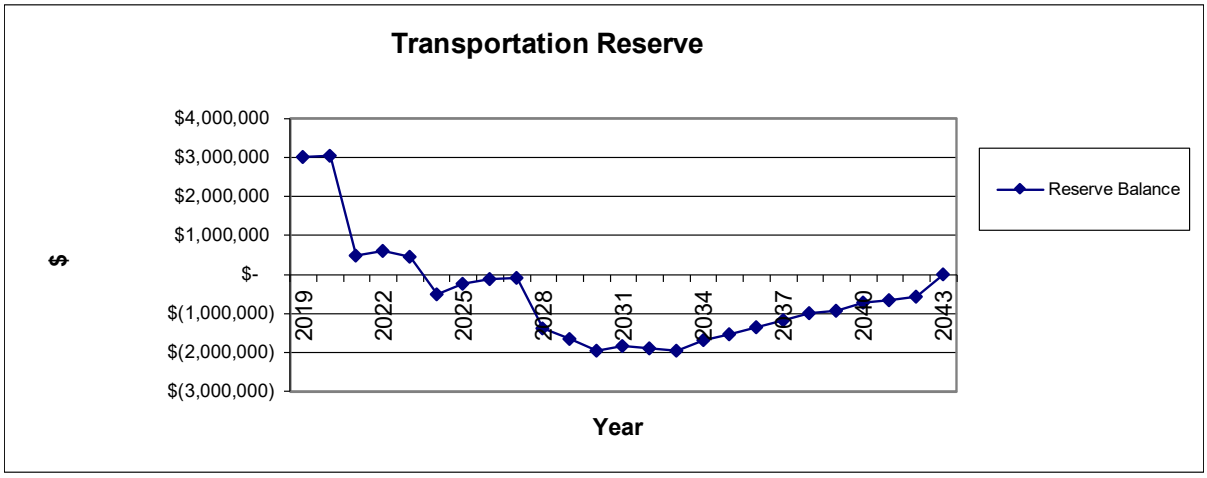
B9. Development and Transportation Infrastructure Staging Impacts

Transportation offsite infrastructure will be constructed in staged fashion over the 25-year review period. We have reviewed the availability of offsite levy funds to meet these construction requirements and found that offsite levy reserve funds will not be sufficient to pay for construction of transportation infrastructure from time to time—front ending of infrastructure will be required. A front-ender is the party that constructs and pays up front for infrastructure that benefits other parties.

To compensate parties for capital they provide in front-ending offsite infrastructure construction, a **3.25%**[12] interest allowance has been charged to the reserve when it is forecast to be in a negative balance. Further, a **1.00%** interest credit has been provided to the reserve when it is forecast to be in a positive balance. The graph and table below outline the forecast transportation levy reserve balances over the 25-year development period.

If necessary, an interest staging adjustment has been applied to rates (slightly positive or slightly negative) to ensure that the forecast reserve balance at the end of the 25-year review period always returns to break-even (i.e., developers are not charged too much thereby providing a windfall to the County, nor are they charged too little thereby placing an unequitable burden on taxpayers).

Anticipated Transportation Offsite Levy Reserve Balances



[12] The 20-year debenture rate at the Alberta Capital Finance Authority at the time of writing was ~3.25%.

Anticipated Transportation Offsite Levy Reserve Balances

			Reserve Balance	$ 2,907,985
Year	**Receipts**	**Expenditure**	**Interest**	**Balance**
2019	$ 63,991	$ -	$ 29,720	$ 3,001,696
2020	$ -	$ -	$ 30,017	$ 3,031,713
2021	$ -	$ 2,552,071	$ 4,796	$ 484,438
2022	$ 109,568	$ -	$ 5,940	$ 599,946
2023	$ 39,123	$ 177,268	$ 4,618	$ 466,419
2024	$ -	$ 956,430	$ (15,925)	$ (505,937)
2025	$ 263,508	$ -	$ (7,879)	$ (250,308)
2026	$ 126,446	$ -	$ (4,025)	$ (127,887)
2027	$ 44,033	$ -	$ (2,725)	$ (86,579)
2028	$ 119,853	$ 1,377,842	$ (43,698)	$ (1,388,267)
2029	$ 164,028	$ 370,039	$ (51,814)	$ (1,646,092)
2030	$ 142,281	$ 380,676	$ (61,246)	$ (1,945,732)
2031	$ 180,526	$ -	$ (57,369)	$ (1,822,576)
2032	$ -	$ -	$ (59,234)	$ (1,881,810)
2033	$ -	$ -	$ (61,159)	$ (1,942,968)
2034	$ 310,693	$ -	$ (53,049)	$ (1,685,325)
2035	$ 212,644	$ -	$ (47,862)	$ (1,520,543)
2036	$ 199,196	$ -	$ (42,944)	$ (1,364,291)
2037	$ 233,365	$ -	$ (36,755)	$ (1,167,681)
2038	$ 211,327	$ -	$ (31,082)	$ (987,436)
2039	$ 81,673	$ -	$ (29,437)	$ (935,200)
2040	$ 242,846	$ -	$ (22,501)	$ (714,855)
2041	$ 86,647	$ -	$ (20,417)	$ (648,625)
2042	$ 89,246	$ -	$ (18,180)	$ (577,558)
2043	$ 577,558	$ -	$ 0	$ 0

APPENDIX C: WATER

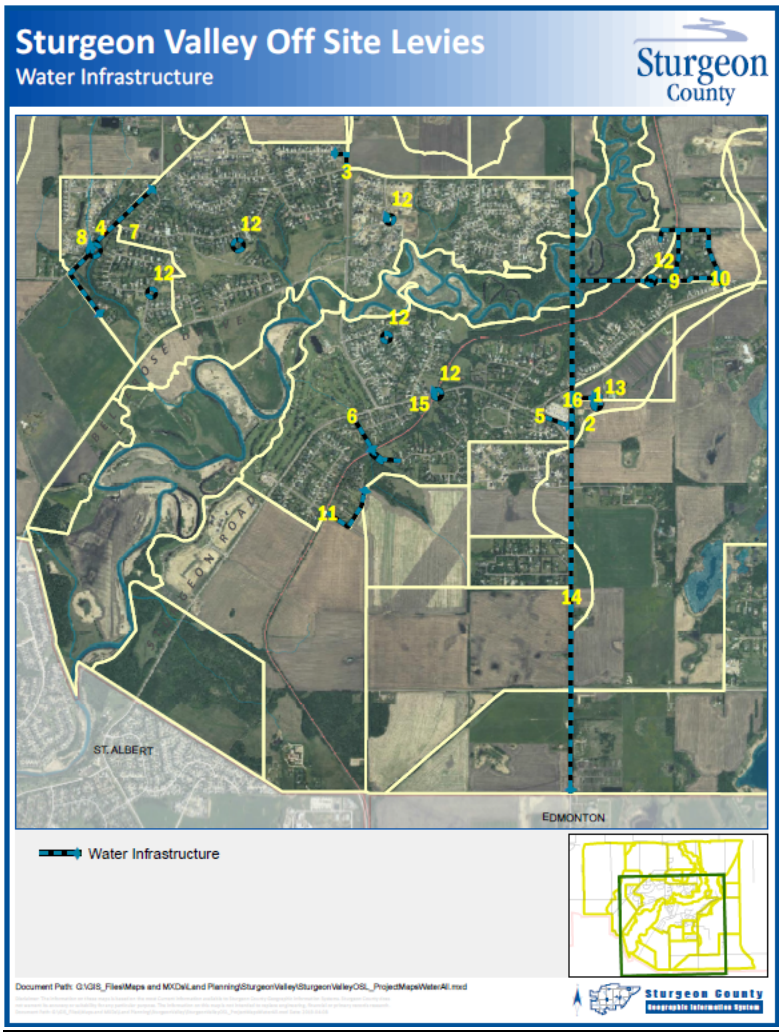
C1. Water Offsite Infrastructure

In order to support future growth, water offsite infrastructure is required. The estimated cost of this infrastructure is based upon: (a) actual construction costs to the cut-off date, (b) debenture interest associated with financing, and (c) future cost estimates. Total cost is approximately **$20.10 million** as outlined in the table below. Actual costs, debenture interest (if any), and cost estimates were provided by County staff. It is important to note that these costs represent "gross" costs, of which only a portion will go to support development during the 25-year review period. The remainder of this section outlines how the "net" costs for development are determined.

Summary of Water Offsite Infrastructure

Item	Project Description	Cost of Completed Work	Debenture Interest	Estimated Cost of Work Yet to be Completed	Total Project Estimated Cost
1	Allin Ridge New Pump (Expansion Project)	$ 2,871,810	$ 212,737	$ -	$ 3,084,546
2	Allin Ridge Reservoir (Expansion Project)	$ 2,941,657	$ 212,737	$ -	$ 3,154,393
3	Upper Manor Pointe (East) - Starkey Road Water Looping Connection	$ 276,950	$ -	$ -	$ 276,950
4	Summerbrook Reservoir Pump Station Improvements	$ -	$ -	$ 1,548,648	$ 1,548,648
5	Allin Ridge Reservoir to Tuscany Hills and Regency Estates (Watermain Looping for Fire Protection)	$ -	$ -	$ 1,002,155	$ 1,002,155
6	Upper Vicount Estates to Lower Vicount Estates and Sturgeon Heights	$ -	$ -	$ 1,899,834	$ 1,899,834
7	Coal Mine Road from Summerbrook Reservoir to Flynn Way	$ -	$ -	$ 811,588	$ 811,588
8	Summerbrook Reservoir to Southwest Summerbrook Estates	$ -	$ -	$ 770,762	$ 770,762
9	Watermain to Noroncal via Crozier Avenue	$ -	$ -	$ 1,031,857	$ 1,031,857
10	Noroncal Water and Fire Servicing	$ -	$ -	$ 1,754,038	$ 1,754,038
11	Sturgeon Heights Fire Servicing	$ -	$ -	$ 468,198	$ 468,198
12	PRV Improvements	$ -	$ -	$ 504,160	$ 504,160
13	127th Street Reservoir and Pumphouse (Allin Ridge initial construction of Reservoir)	$ 818,684	$ -	$ -	$ 818,684
14	127th Street Water Supply Line (Allin Ridge supply line from EPCOR)	$ 1,840,900	$ 437,872	$ -	$ 2,278,772
15	Sturgeon Road Pressure Reducing Valve	$ 65,263	$ -	$ -	$ 65,263
16	East River Crossing	$ 625,213	$ -	$ -	$ 625,213
100	Unallocated Offsite Levies Collected	$ -	$ -	$ -	$ -
		$ 9,440,477	**$ 863,345**	**$ 9,791,239**	**$ 20,095,061**

*Costs estimates provided by County staff.
**Estimates include engineering and contingencies.
***Contributions stemming from old development are not technically "receipts". Instead, they have been set-up as an individual project (#100) and credited 100% to future development and to all offsite levy areas.
****Offsite infrastructure definitions are contained in Appendix F.



C2. Water Offsite Infrastructure Grants & Contributions to Date

The MGA enables the County to allocate the costs of offsite infrastructure to development, other than those costs that have been provided by way of special grant or contribution (i.e., contributed infrastructure). The County has/will receive approximately **$0.02 million** in special grants and contributions for water offsite levy infrastructure as shown in the table below (note, if the County receives other grants or contributions in the future, it will be reflected in one of the annual updates and rates adjusted accordingly). The result is that the total reduced project estimated cost is **$20.08 million**.

Special Grants and Contributions for Water Offsite Infrastructure

Item	Project Description	Total Project Estimated Cost	Special Provincial Grants	Developer Agreement Contributions	Other Contributions	Reduced Project Estimated Cost
1	Allin Ridge New Pump (Expansion Project)	$ 3,084,546	$ -	$ -	$ -	$ 3,084,546
2	Allin Ridge Reservoir (Expansion Project)	$ 3,154,393	$ -	$ -	$ -	$ 3,154,393
3	Upper Manor Pointe (East) - Starkey Road Water Looping Connection	$ 276,950	$ -	$ -	$ -	$ 276,950
4	Summerbrook Reservoir Pump Station Improvements	$ 1,548,648	$ -	$ -	$ -	$ 1,548,648
5	Allin Ridge Reservoir to Tuscany Hills and Regency Estates (Watermain Looping for Fire Protection)	$ 1,002,155	$ -	$ -	$ -	$ 1,002,155
6	Upper Vicount Estates to Lower Vicount Estates and Sturgeon Heights	$ 1,899,834	$ -	$ -	$ -	$ 1,899,834
7	Coal Mine Road from Summerbrook Reservoir to Flynn Way	$ 811,588	$ -	$ -	$ -	$ 811,588
8	Summerbrook Reservoir to Southwest Summerbrook Estates	$ 770,762	$ -	$ -	$ -	$ 770,762
9	Watermain to Noroncal via Crozier Avenue	$ 1,031,857	$ -	$ -	$ -	$ 1,031,857
10	Noroncal Water and Fire Servicing	$ 1,754,038	$ -	$ -	$ -	$ 1,754,038
11	Sturgeon Heights Fire Servicing	$ 468,198	$ -	$ -	$ -	$ 468,198
12	PRV Improvements	$ 504,160	$ -	$ -	$ -	$ 504,160
13	127th Street Reservoir and Pumphouse (Allin Ridge initial construction of Reservoir)	$ 818,684	$ 3,750	$ -	$ -	$ 814,934
14	127th Street Water Supply Line (Allin Ridge supply line from EPCOR)	$ 2,278,772	$ 3,750	$ -	$ -	$ 2,275,022
15	Sturgeon Road Pressure Reducing Valve	$ 65,263	$ 3,750	$ -	$ -	$ 61,513
16	East River Crossing	$ 625,213	$ 3,750	$ -	$ -	$ 621,463
100	Unallocated Offsite Levies Collected	$ -	$ -	$ -	$ -	$ -
		$ 20,095,061	**$ 15,000**	**$ -**	**$ -**	**$ 20,080,061**

C3. Year of Construction

The timing of construction is used to determine the impact of inflation on cost, the impact of forecast reserve balances, and the estimate of financial oversizing (described in the Section that follows). The County anticipates construction of offsite infrastructure as outlined in the table below. Note, if this schedule is adjusted in the future, it will be reflected in one of the County's annual rate/bylaw updates.

Forecast Year of Construction

Item	Project Description	Construction Start Year
1	Allin Ridge New Pump (Expansion Project)	2013
2	Allin Ridge Reservoir (Expansion Project)	2013
3	Upper Manor Pointe (East) - Starkey Road Water Looping Connection	2013
4	Summerbrook Reservoir Pump Station Improvements	2019
5	Allin Ridge Reservoir to Tuscany Hills and Regency Estates (Watermain Looping for Fire Protection)	2033
6	Upper Vicount Estates to Lower Vicount Estates and Sturgeon Heights	2024
7	Coal Mine Road from Summerbrook Reservoir to Flynn Way	2023
8	Summerbrook Reservoir to Southwest Summerbrook Estates	2024
9	Watermain to Noroncal via Crozier Avenue	2023
10	Noroncal Water and Fire Servicing	2023
11	Sturgeon Heights Fire Servicing	2024
12	PRV Improvements	2022
13	127th Street Reservoir and Pumphouse (Allin Ridge initial construction of Reservoir)	2002
14	127th Street Water Supply Line (Allin Ridge supply line from EPCOR)	2003
15	Sturgeon Road Pressure Reducing Valve	2004
16	East River Crossing	2006

*The share of projects constructed beyond the 25-year review period are not included in rates today (see financial oversizing in next section).
**Project costs are inflated by 2% per annum to 2022 and 3% per annum thereafter to the year of construction.

C4. Water Offsite Infrastructure Benefiting Parties

The water offsite infrastructure previously outlined will benefit various parties to varying degrees. Four potential benefiting parties were identified including:

- Sturgeon County – a portion of the water infrastructure which is required to service existing residents.
- Other Stakeholders – other parties (such as neighboring municipalities) that benefit

from the infrastructure.

- Sturgeon County Future Development (Financial Oversizing) - that portion of cost which benefits future development beyond the 25-year review period.
- Sturgeon County Future Development (In Rates) – all growth-related infrastructure (i.e., levyable water infrastructure costs) during the 25-year rate planning period.

The table below outlines the allocation of water offsite levy infrastructure costs to benefiting parties.

Allocation of Water Infrastructure to Benefiting Parties

Item	Project Description	Reduced Project Estimated Cost	Muni Share %	Other Stakeholder Share	Developer Share Beyond 25 Yrs (Financial Oversizing %)	OSL / Developer Share %
1	Allin Ridge New Pump (Expansion Project)	$ 3,084,546			0.0%	100.0%
2	Allin Ridge Reservoir (Expansion Project)	$ 3,154,393			0.0%	100.0%
3	Upper Manor Pointe (East) - Starkey Road Water Looping Connection	$ 276,950	70.3%		0.0%	29.7%
4	Summerbrook Reservoir Pump Station Improvements	$ 1,548,648	25.0%		0.0%	75.0%
5	Allin Ridge Reservoir to Tuscany Hills and Regency Estates (Watermain Looping for Fire Protection)	$ 1,002,155	25.0%		42.0%	33.0%
6	Upper Vicount Estates to Lower Vicount Estates and Sturgeon Heights	$ 1,899,834	25.0%		15.0%	60.0%
7	Coal Mine Road from Summerbrook Reservoir to Flynn Way	$ 811,588	25.0%		12.0%	63.0%
8	Summerbrook Reservoir to Southwest Summerbrook Estates	$ 770,762	25.0%		15.0%	60.0%
9	Watermain to Noroncal via Crozier Avenue	$ 1,031,857	25.0%		12.0%	63.0%
10	Noroncal Water and Fire Servicing	$ 1,754,038	25.0%		12.0%	63.0%
11	Sturgeon Heights Fire Servicing	$ 468,198	25.0%		15.0%	60.0%
12	PRV Improvements	$ 504,160			12.0%	88.0%
13	127th Street Reservoir and Pumphouse (Allin Ridge initial construction of Reservoir)	$ 814,934	3.8%		0.0%	96.2%
14	127th Street Water Supply Line (Allin Ridge supply line from EPCOR)	$ 2,275,022			0.0%	100.0%
15	Sturgeon Road Pressure Reducing Valve	$ 61,513			0.0%	100.0%
16	East River Crossing	$ 621,463			0.0%	100.0%
100	Unallocated Offsite Levies Collected	$ -				100.0%
		$ 20,080,061				

*Allocations were determined by County staff.
**Financial oversizing is determined by separating out the pro rata portion of developer cost beyond the 25-year review period, in comparison with the anticipated year of construction. In future, as the rolling 25-year review period moves further out these additional developer costs will gradually be included in future rate calculations.

C5. Existing Receipts & Adjusted Levy Cost

Using the offsite levy share percentages shown in the previous section and applying those percentages to project costs results in an offsite levy cost of approximately **$16.15 million**. However, prior to allocating these costs to benefiting areas, existing offsite levy receipts collected from developers need to be considered in determining the residual/net costs to developers. County staff have advised that approximately **$5.22 million** in water levies have been applied/collected as shown in the table below. This results in an adjusted offsite levy cost of approximately **$10.92 million**.

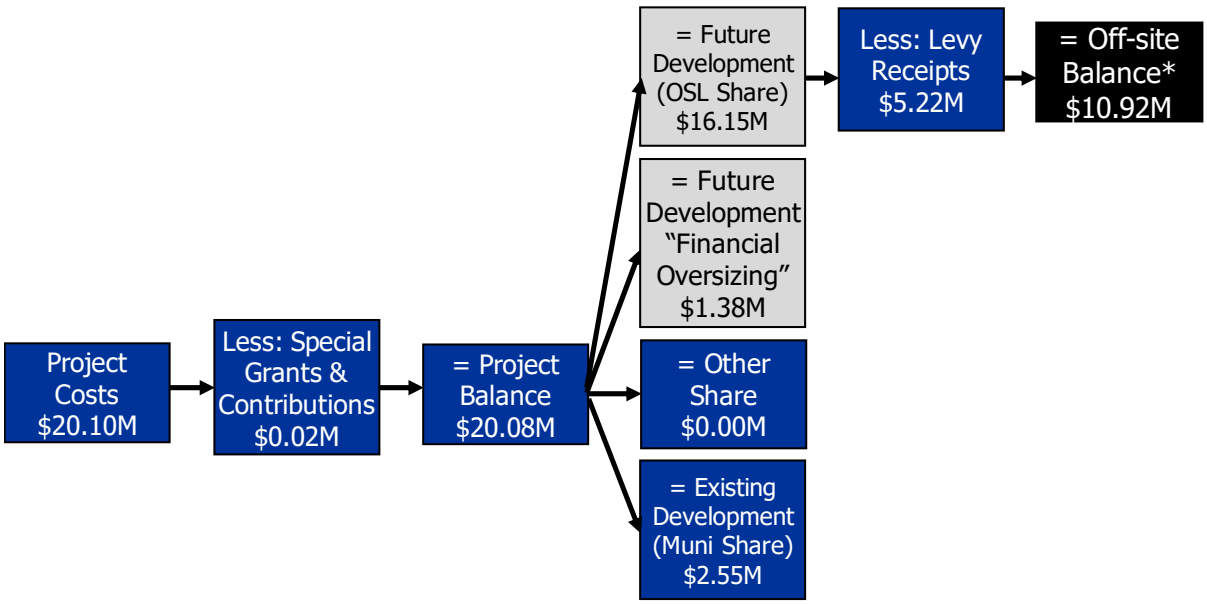
Offsite Levy Funds Applied to Date

Item	Project Description	OSL / Developer Cost	Offsite Levy Funds Collected to Dec 31, 2018	Offsite Levy Funds Collected Starting Jan 1, 2019	Adjusted Developer (Levy) Cost
1	Allin Ridge New Pump (Expansion Project)	$ 3,084,546	$ 959,949	$ -	$ 2,124,597
2	Allin Ridge Reservoir (Expansion Project)	$ 3,154,393	$ 877,695	$ -	$ 2,276,699
3	Upper Manor Pointe (East) - Starkey Road Water Looping Connection	$ 82,254	$ 82,254	$ -	$ 0
4	Summerbrook Reservoir Pump Station Improvements	$ 1,161,486	$ -	$ -	$ 1,161,486
5	Allin Ridge Reservoir to Tuscany Hills and Regency Estates (Watermain Looping for Fire Protection)	$ 330,711	$ -	$ -	$ 330,711
6	Upper Vicount Estates to Lower Vicount Estates and Sturgeon Heights	$ 1,139,900	$ -	$ -	$ 1,139,900
7	Coal Mine Road from Summerbrook Reservoir to Flynn Way	$ 511,300	$ -	$ -	$ 511,300
8	Summerbrook Reservoir to Southwest Summerbrook Estates	$ 462,457	$ -	$ -	$ 462,457
9	Watermain to Noroncal via Crozier Avenue	$ 650,070	$ -	$ -	$ 650,070
10	Noroncal Water and Fire Servicing	$ 1,105,044	$ -	$ -	$ 1,105,044
11	Sturgeon Heights Fire Servicing	$ 280,919	$ -	$ -	$ 280,919
12	PRV Improvements	$ 443,661	$ -	$ -	$ 443,661
13	127th Street Reservoir and Pumphouse (Allin Ridge initial construction of Reservoir)	$ 783,581	$ 783,581	$ -	$ -
14	127th Street Water Supply Line (Allin Ridge supply line from EPCOR)	$ 2,275,022	$ 1,837,150	$ -	$ 437,872
15	Sturgeon Road Pressure Reducing Valve	$ 61,513	$ 61,513	$ -	$ 0
16	East River Crossing	$ 621,463	$ 621,463	$ -	$ (0)
100	Unallocated Offsite Levies Collected	$ -	$ -	$ -	$ -
		$ 16,148,321	**$ 5,223,604**	**$ -**	**$ 10,924,717**

C6. Summary of Water Offsite Levy Cost Flow-through

As shown in the figure below, the total cost for water infrastructure that forms the basis of the rate is approximately **$10.92 million**. The cost allocations to each benefitting party are based on the benefitting percentages shown in previous section. The offsite levy balance (due from developers) is allocated to various benefitting areas (as described in the next section).

Total Water Offsite Levy Costs



C7. Water Infrastructure Benefiting Areas

Net developer costs for each project have been allocated to multiple benefiting offsite levy area (see tables below). Allocations are denoted with a "1" below applicable area numbers. Benefiting areas were determined by County staff. The lands anticipated to develop over the

25-years in each offsite levy benefitting area are used to determine rates.

Water Allocations to Benefitting Areas

Item	Developer Cost	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	8.2	8.3	8.4
1	$ 2,124,597	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 2,276,699	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 1,161,486	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	$ 330,711	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 1,139,900	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ 511,300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	$ 462,457	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	$ 650,070	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ 1,105,044	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	$ 280,919	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	$ 443,661	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	$ 437,872	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 10,924,717																																

Item	Developer Cost	9.1	9.2	9.3	9.4	10.1	10.2	10.3	10.4	11.1	11.2	11.3	11.4	12.1	12.2	12.3	12.4	13.1	13.2	13.3	13.4	14.1	14.2	14.3	14.4	15.1	15.2	15.3	15.4	16.1	16.2	16.3	16.4
1	$ 2,124,597	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 2,276,699	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 1,161,486	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	$ 330,711	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 1,139,900	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ 511,300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	$ 462,457	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	$ 650,070	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ 1,105,044	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	$ 280,919	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	$ 443,661	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	$ 437,872	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 10,924,717																																

Item	Developer Cost	17.1	17.2	17.3	17.4	18.1	18.2	18.3	18.4	19.1	19.2	19.3	19.4	20.1	20.2	20.3	20.4	21.1	21.2	21.3	21.4	22.1	22.2	22.3	22.4	23.1	23.2	23.3	23.4	24.1	24.2	24.3	24.4
1	$ 2,124,597	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 2,276,699	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 1,161,486	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	$ 330,711	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 1,139,900	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ 511,300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	$ 462,457	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	$ 650,070	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ 1,105,044	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	$ 280,919	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	$ 443,661	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	$ 437,872	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 10,924,717																																

Item	Developer Cost	25.1	25.2	25.3	25.4	26.1	26.2	26.3	26.4	27.1	27.2	27.3	27.4	28.1	28.2	28.3	28.4	29.1	29.2	29.3	29.4	30.1	30.2	30.3	30.4	31.1	31.2	31.3	31.4	32.1	32.2	32.3	32.4
1	$ 2,124,597	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 2,276,699	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 1,161,486	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	$ 330,711	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 1,139,900	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ 511,300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	$ 462,457	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	$ 650,070	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ 1,105,044	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	$ 280,919	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	$ 443,661	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	$ -	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	$ 437,872	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	$ 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	$ (0)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 10,924,717																																

C8. Reserve Balance

As at December 31st, 2018 the water reserve balance was in a deficit of **$(4,468,160)**. This amount takes into consideration expenditures and front-ending repayments up to end-2018. A negative balance indicates the presence of front-ending—i.e., this amount is owed to the County by the reserve. The County's ledgers should be amended to reflect this balance as it includes expenditures to date. This balance assumes that all remaining cash in the reserve is withdrawn and used to pay down front-ending debts owed to the County. In addition to maintaining a dedicated water offsite levy reserve (required by the MGA), it is also recommended that the County develop a set of "sub-ledgers" to track the amounts due to front-ending parties, including interest owed in accordance with the rates in effect at that time. A detailed reserve continuity schedule is also provided in Appendix G.

Water Offsite Levy Reserve Balance

Description	Dr	Cr	Balance
Offsite Levy Expenditures to December 31, 2018		$ 9,199,427.77	$ (9,199,427.77)
Allocated Receipts to December 31, 2018	$ 5,223,604.71		$ (3,975,823.06)
Debenture Interest Costs to December 31, 2018		$ 492,336.85	$ (4,468,159.91)
Unallocated Receipts to December 31, 2018	$ -		$ (4,468,159.91)
Opening Balance			$ (4,468,159.91)

C9. Development and Water Infrastructure Staging Impacts

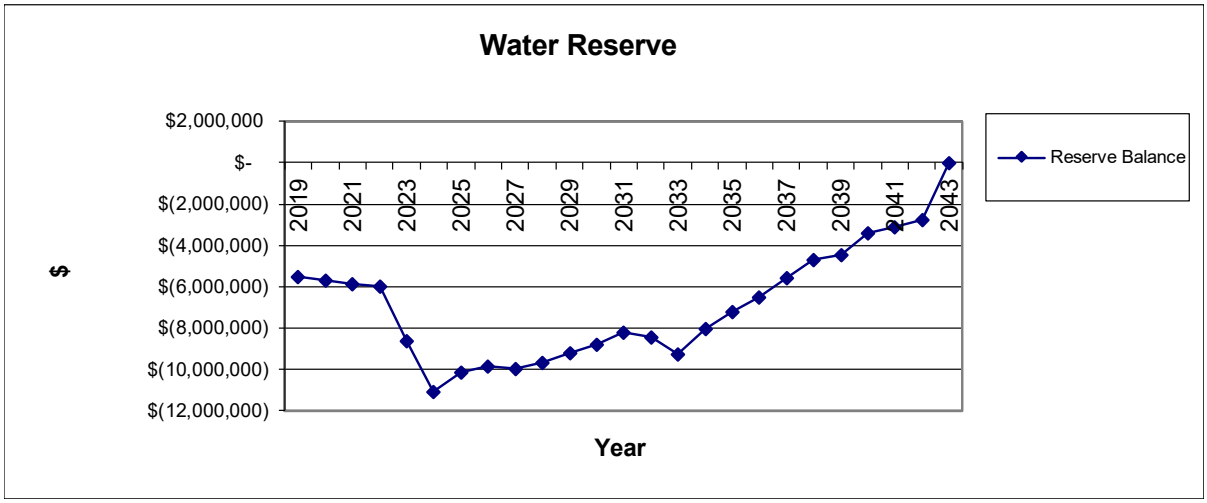
Water offsite infrastructure will be constructed in staged fashion over the 25-year review period. We have reviewed the availability of offsite levy funds to meet these construction requirements and found that offsite levy reserve funds will not be sufficient to pay for construction of water infrastructure from time to time—front ending of infrastructure will be required. A front-ender is the party that constructs and pays up front for infrastructure that benefits other parties.

To compensate parties for capital they provide in front-ending offsite infrastructure construction, a **3.25%**[13] interest allowance has been charged to the reserve when it is forecast to be in a negative balance. Further, a **1.00%** interest credit has been provided to the reserve when it is forecast to be in a positive balance. The graph and table below outline the forecast water levy reserve balances over the 25-year development period.

If necessary, an interest staging adjustment has been applied to rates (slightly positive or slightly negative) to ensure that the forecast reserve balance at the end of the 25-year review period always returns to break-even (i.e., developers are not charged too much thereby providing a windfall to the County, nor are they charged too little thereby placing an unequitable burden on taxpayers).

[13] The 20-year debenture rate at the Alberta Capital Finance Authority at the time of writing was ~3.25%.

Anticipated Water Offsite Levy Reserve Balances



Anticipated Water Offsite Levy Reserve Balances

			Opening Balance	$ (4,468,160)
Year	**Receipts**	**Expenditure**	**Interest**	**Balance**
2019	$ 310,388	$ 1,161,486	$ (172,876)	$ (5,492,133)
2020	$ -	$ -	$ (178,494)	$ (5,670,628)
2021	$ -	$ -	$ (184,295)	$ (5,854,923)
2022	$ 521,187	$ 475,432	$ (188,798)	$ (5,997,967)
2023	$ 186,097	$ 2,501,578	$ (270,187)	$ (8,583,635)
2024	$ -	$ 2,141,046	$ (348,552)	$ (11,073,233)
2025	$ 1,253,446	$ -	$ (319,143)	$ (10,138,930)
2026	$ 601,475	$ -	$ (309,967)	$ (9,847,422)
2027	$ 209,454	$ -	$ (313,234)	$ (9,951,202)
2028	$ 570,111	$ -	$ (304,885)	$ (9,685,977)
2029	$ 780,243	$ -	$ (289,436)	$ (9,195,170)
2030	$ 676,797	$ -	$ (276,847)	$ (8,795,220)
2031	$ 858,718	$ -	$ (257,936)	$ (8,194,439)
2032	$ -	$ -	$ (266,319)	$ (8,460,758)
2033	$ -	$ 490,564	$ (290,918)	$ (9,242,241)
2034	$ 1,477,892	$ -	$ (252,341)	$ (8,016,690)
2035	$ 1,011,498	$ -	$ (227,669)	$ (7,232,861)
2036	$ 947,526	$ -	$ (204,273)	$ (6,489,608)
2037	$ 1,110,063	$ -	$ (174,835)	$ (5,554,380)
2038	$ 1,005,230	$ -	$ (147,847)	$ (4,696,998)
2039	$ 388,499	$ -	$ (140,026)	$ (4,448,524)
2040	$ 1,155,162	$ -	$ (107,034)	$ (3,400,396)
2041	$ 412,159	$ -	$ (97,118)	$ (3,085,355)
2042	$ 424,524	$ -	$ (86,477)	$ (2,747,309)
2043	$ 2,747,309	$ -	$ 0	$ 0

APPENDIX D: SANITARY

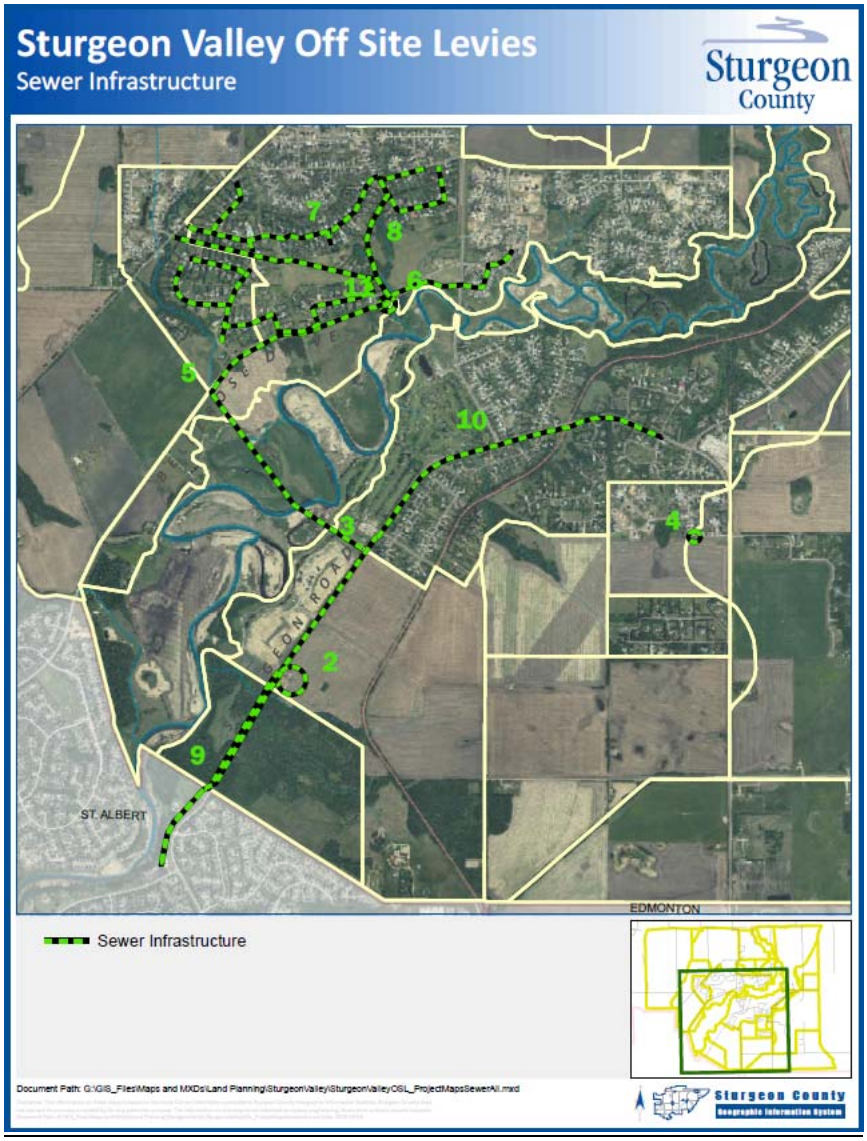
D1. Sanitary Offsite Infrastructure

In order to support future growth, sanitary offsite infrastructure is required. The estimated cost of this infrastructure is based upon: (a) actual construction costs to the cut-off date, (b) debenture interest associated with financing, and (c) future cost estimates. Total cost is approximately **$9.46 million** as outlined in the table below. Actual costs, debenture interest (if any), and cost estimates were provided by County staff. It is important to note that these costs represent "gross" costs, of which only a portion will go to support development during the 25-year review period. The remainder of this section outlines how the "net" costs for development are determined.

Summary of Sanitary Offsite Infrastructure

Item	Project Description	Cost of Completed Work	Debenture Interest	Estimated Cost of Work Yet to be Completed	Total Project Estimated Cost
1	Rivers Gate Gravity Sewer Eng.	$ 8,120	$ -	$ -	$ 8,120
2	Rivers Gate Southwest Lift Station	$ 2,486,551	$ -	$ -	$ 2,486,551
3	Sturgeon Road Gravity Sewer (450mm) Diameter	$ -	$ -	$ 1,571,390	$ 1,571,390
4	Upgrade Tuscany Hills Lift Station	$ -	$ -	$ 489,090	$ 489,090
5	Bellerose Gravity Sewer and Force Main	$ 724,181	$ -	$ -	$ 724,181
6	Bellerose Lift Station	$ 288,164	$ -	$ -	$ 288,164
7	Summerbrook / Upper Manor Sewer Design	$ 1,426,347	$ 277,306	$ -	$ 1,703,653
8	Upper Manor Gravity Trunk	$ 778,252	$ -	$ -	$ 778,252
9	Forcemain Twinning to St. Albert	$ 429,558	$ -	$ -	$ 429,558
10	Sturgeon Road Forcemain Upgrade	$ 186,748	$ -	$ -	$ 186,748
11	Bellerose Lift Station Upgrade	$ 790,827	$ -	$ -	$ 790,827
100	Unallocated Offsite Levies Collected	$ -	$ -	$ -	$ -
		$ 7,118,747	**$ 277,306**	**$ 2,060,480**	**$ 9,456,533**

*Costs estimates provided by County staff.
**Estimates include engineering and contingencies.
***Contributions stemming from old development are not technically "receipts". Instead, they have been set-up as an individual project (#100) and credited 100% to future development and to all offsite levy areas.
****Offsite infrastructure definitions are contained in Appendix F.



D2. Sanitary Offsite Infrastructure Grants & Contributions to Date

The MGA enables the County to allocate the costs of offsite infrastructure to development, other than those costs that have been provided by way of special grant or contribution (i.e., contributed infrastructure). Sturgeon County has/will receive approximately **$1.63 million** in special grants and contributions for sanitary offsite levy infrastructure as shown in the table below (note, if the County receives additional grants or contributions in the future, it will be reflected in one of the annual updates and rates adjusted accordingly). The result is that the total reduced project estimated cost is **$7.83 million**.

Special Grants and Contributions for Sanitary Offsite Infrastructure

Item	Project Description	Total Project Estimated Cost	Special Grants	Developer Agreement Contributions	Other Contributions	Reduced Project Estimated Cost
1	Rivers Gate Gravity Sewer Eng.	$ 8,120	$ -	$ -	$ -	$ 8,120
2	Rivers Gate Southwest Lift Station	$ 2,486,551	$ -	$ -	$ -	$ 2,486,551
3	Sturgeon Road Gravity Sewer (450mm) Diameter	$ 1,571,390	$ -	$ -	$ -	$ 1,571,390
4	Upgrade Tuscany Hills Lift Station	$ 489,090	$ -	$ -	$ -	$ 489,090
5	Bellerose Gravity Sewer and Force Main	$ 724,181	$ -	$ -	$ -	$ 724,181
6	Bellerose Lift Station	$ 288,164	$ -	$ -	$ -	$ 288,164
7	Summerbrook / Upper Manor Sewer Design	$ 1,703,653	$ 509,236	$ 1,117,964	$ -	$ 76,453
8	Upper Manor Gravity Trunk	$ 778,252	$ -	$ -	$ -	$ 778,252
9	Forcemain Twinning to St. Albert	$ 429,558	$ -	$ -	$ -	$ 429,558
10	Sturgeon Road Forcemain Upgrade	$ 186,748	$ -	$ -	$ -	$ 186,748
11	Bellerose Lift Station Upgrade	$ 790,827	$ -	$ -	$ -	$ 790,827
100	Unallocated Offsite Levies Collected	$ -	$ -	$ -	$ -	$ -
		$ 9,456,533	**$ 509,236**	**$ 1,117,964**	**$ -**	**$ 7,829,333**

D3. Year of Construction

The timing of construction is used to determine the impact of inflation on cost, the impact of forecast reserve balances, and the estimate of financial oversizing (described in the Section that follows). The County anticipates construction of offsite infrastructure as outlined in the table below. Note, if this schedule is adjusted in the future, it will be reflected in one of the County's annual rate/bylaw updates.

Forecast Year of Construction

Item	Project Description	Construction Start Year
1	Rivers Gate Gravity Sewer Eng.	2015
2	Rivers Gate Southwest Lift Station	2013
3	Sturgeon Road Gravity Sewer (450mm) Diameter	2024
4	Upgrade Tuscany Hills Lift Station	2021
5	Bellerose Gravity Sewer and Force Main	2002
6	Bellerose Lift Station	2003
7	Summerbrook / Upper Manor Sewer Design	2005
8	Upper Manor Gravity Trunk	2005
9	Forcemain Twinning to St. Albert	2005
10	Sturgeon Road Forcemain Upgrade	2006
11	Bellerose Lift Station Upgrade	2008

*The share of projects constructed beyond the 25-year review period are not included in rates today (see financial oversizing in next section).
**Project costs are inflated by 2% per annum to 2022 and 3% per annum thereafter to the year of construction.

D4. Sanitary Offsite Infrastructure Benefiting Parties

The sanitary offsite infrastructure previously outlined will benefit various parties to varying degrees. Four potential benefiting parties were identified including:

- Sturgeon County – a portion of the sanitary infrastructure which is required to service existing residents.
- Other Stakeholders – other parties (such as neighboring municipalities) that benefit from the infrastructure.
- Sturgeon County Future Development (Financial Oversizing) - that portion of cost

which benefits future development beyond the 25-year review period.

- Sturgeon County Future Development (In Rates) – all growth-related infrastructure (i.e., levyable sanitary infrastructure costs) during the 25-year rate planning period.

The table below outlines the allocation of sanitary offsite levy infrastructure costs to benefiting parties.

Allocation of Sanitary Infrastructure to Benefiting Parties

Item	Project Description	Reduced Project Estimated Cost	Muni Share %	Other Stakeholder Share	Developer Share Beyond 25 Yrs (Financial Oversizing %)	OSL / Developer Share %
1	Rivers Gate Gravity Sewer Eng.	$ 8,120			0.0%	100.0%
2	Rivers Gate Southwest Lift Station	$ 2,486,551			0.0%	100.0%
3	Sturgeon Road Gravity Sewer (450mm) Diameter	$ 1,571,390			20.0%	80.0%
4	Upgrade Tuscany Hills Lift Station	$ 489,090			8.0%	92.0%
5	Bellerose Gravity Sewer and Force Main	$ 724,181	17.3%		0.0%	82.7%
6	Bellerose Lift Station	$ 288,164	17.3%		0.0%	82.7%
7	Summerbrook / Upper Manor Sewer Design	$ 76,453		100.0%	0.0%	0.0%
8	Upper Manor Gravity Trunk	$ 778,252	17.3%		0.0%	82.7%
9	Forcemain Twinning to St. Albert	$ 429,558	17.3%		0.0%	82.7%
10	Sturgeon Road Forcemain Upgrade	$ 186,748	17.3%		0.0%	82.7%
11	Bellerose Lift Station Upgrade	$ 790,827	17.3%		0.0%	82.7%
100	Unallocated Offsite Levies Collected	$ -				100.0%
		$ 7,829,333				

*Allocations were determined by County staff.
**Financial oversizing is determined by separating out the pro rata portion of developer cost beyond the 25-year review period, in comparison with the anticipated year of construction. In future, as the rolling 25-year review period moves further out these additional developer costs will gradually be included in future rate calculations.

D5. Existing Receipts & Adjusted Levy Cost

Using the offsite levy share percentages shown in the previous section and applying those percentages to project costs results in an offsite levy cost of approximately **$6.85 million**. However, prior to allocating these costs to benefiting areas, existing offsite levy receipts collected from developers need to be considered in determining the residual/net costs to developers. County staff have advised that approximately **$2.50 million** in sanitary levies have been applied/collected as shown in the table below. This results in an adjusted offsite levy cost of approximately **$4.34 million**.

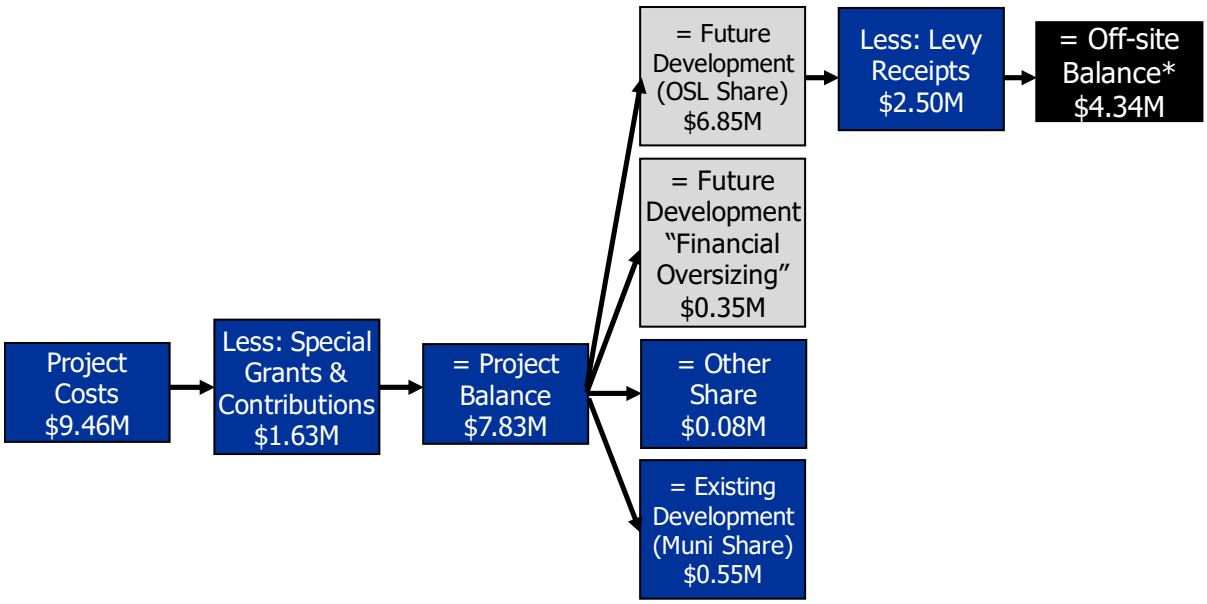
Offsite Levy Funds Applied to Date

Item	Project Description	OSL / Developer Cost	Offsite Levy Funds Collected to Dec 31, 2018	Offsite Levy Funds Collected Starting Jan 1, 2019	Adjusted Developer (Levy) Cost
1	Rivers Gate Gravity Sewer Eng.	$ 8,120	$ -	$ -	$ 8,120
2	Rivers Gate Southwest Lift Station	$ 2,486,551	$ 762,626	$ -	$ 1,723,925
3	Sturgeon Road Gravity Sewer (450mm) Diameter	$ 1,257,112	$ -	$ -	$ 1,257,112
4	Upgrade Tuscany Hills Lift Station	$ 449,963	$ -	$ -	$ 449,963
5	Bellerose Gravity Sewer and Force Main	$ 599,187	$ 158,686	$ -	$ 440,501
6	Bellerose Lift Station	$ 238,427	$ 52,653	$ -	$ 185,774
7	Summerbrook / Upper Manor Sewer Design	$ -	$ -	$ -	$ -
8	Upper Manor Gravity Trunk	$ 643,926	$ 551,056	$ -	$ 92,870
9	Forcemain Twinning to St. Albert	$ 355,416	$ 262,537	$ -	$ 92,879
10	Sturgeon Road Forcemain Upgrade	$ 154,515	$ 154,520	$ -	$ (5)
11	Bellerose Lift Station Upgrade	$ 654,330	$ 561,460	$ -	$ 92,870
100	Unallocated Offsite Levies Collected	$ -	$ -	$ -	$ -
		$ 6,847,547	**$ 2,503,538**	**$ -**	**$ 4,344,009**

D6. Summary of Sanitary Offsite Levy Cost Flow-through

As shown in the figure below, the total costs for sanitary infrastructure that forms the basis of the rate is approximately **$4.34 million**. The cost allocations to each benefitting party are based on the benefitting percentages shown in the previous section. The offsite levy balance (due from developers) is allocated to various benefitting areas (as described in the next section).

Total Sanitary Offsite Levy Costs



D7. Sanitary Infrastructure Benefiting Areas

Net developer costs for each project have been allocated to multiple benefiting offsite levy area (see tables below). Allocations are denoted with a "1" below applicable area numbers. Benefiting areas were determined by County staff. The lands anticipated to develop over the 25-years in each offsite levy benefitting area are used to determine rates.

Sanitary Allocations to Benefitting Areas

Item	Developer Cost	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	8.2	8.3	8.4
1	$ 8,120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	$ 1,723,925	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	$ 1,257,112	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	$ 449,963																																
5	$ 440,501	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	$ 185,774	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	$ -																																
8	$ 92,870																																
9	$ 92,879	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	$ (5)																																
11	$ 92,870	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$ 4,344,009																																

Item	Developer Cost	9.1	9.2	9.3	9.4	10.1	10.2	10.3	10.4	11.1	11.2	11.3	11.4	12.1	12.2	12.3	12.4	13.1	13.2	13.3	13.4	14.1	14.2	14.3	14.4	15.1	15.2	15.3	15.4	16.1	16.2	16.3	16.4
1	$ 8,120	1	1	1	1	1	1	1	1	1	1	1	1									1	1	1	1	1	1	1	1	1	1	1	1
2	$ 1,723,925	1	1	1	1	1	1	1	1	1	1	1	1									1	1	1	1	1	1	1	1	1	1	1	1
3	$ 1,257,112	1	1	1	1	1	1	1	1	1	1	1	1									1	1	1	1	1	1	1	1	1	1	1	1
4	$ 449,963																																
5	$ 440,501	1	1	1	1	1	1	1	1	1	1	1	1																				
6	$ 185,774	1	1	1	1	1	1	1	1	1	1	1	1																				
7	$ -					1	1	1	1	1	1	1	1																				
8	$ 92,870									1	1	1	1																				
9	$ 92,879	1	1	1	1	1	1	1	1	1	1	1	1																				
10	$ (5)																									1	1	1	1				
11	$ 92,870	1	1	1	1	1	1	1	1	1	1	1	1									1	1	1	1	1	1	1	1	1	1	1	1
	$ 4,344,009																																

Item	Developer Cost	17.1	17.2	17.3	17.4	18.1	18.2	18.3	18.4	19.1	19.2	19.3	19.4	20.1	20.2	20.3	20.4	21.1	21.2	21.3	21.4	22.1	22.2	22.3	22.4	23.1	23.2	23.3	23.4	24.1	24.2	24.3	24.4
1	$ 8,120																																
2	$ 1,723,925																																
3	$ 1,257,112																																
4	$ 449,963									1	1	1	1					1	1	1	1	1	1	1	1	1	1	1	1				
5	$ 440,501																																
6	$ 185,774																																
7	$ -																																
8	$ 92,870																																
9	$ 92,879																																
10	$ (5)																																
11	$ 92,870																																
	$ 4,344,009																																

Item	Developer Cost	25.1	25.2	25.3	25.4	26.1	26.2	26.3	26.4	27.1	27.2	27.3	27.4	28.1	28.2	28.3	28.4	29.1	29.2	29.3	29.4	30.1	30.2	30.3	30.4	31.1	31.2	31.3	31.4	32.1	32.2	32.3	32.4
1	$ 8,120																																
2	$ 1,723,925																																
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9	$ 92,879																																
10	$ (5)																																
11	$ 92,870																																
	$ 4,344,009																																

D8. Reserve Balance

As at December 31st, 2018 the sanitary reserve balance was at a deficit of **$(2,907,216)**. This amount takes into consideration expenditures and front-ending repayments up to end-2018. A negative balance indicates the presence of front-ending—i.e., this amount is owed to the County by the reserve. The County's ledgers should be amended to reflect this balance as it includes expenditures to date. This balance assumes that all remaining cash in the reserve is withdrawn and used to pay down front-ending debts owed to the County. In addition to maintaining a dedicated sanitary offsite levy reserve (required by the MGA), it is also recommended that the County develop a set of "sub-ledgers" to track the amounts due to front-ending parties, including interest owed in accordance with the rates in effect at that time. A detailed reserve continuity schedule is also provided in Appendix G.

Sanitary Offsite Levy Reserve Balance

Description	Dr	Cr	Balance
Offsite Levy Expenditures to December 31, 2018		$ 5,140,472.25	$ (5,140,472.25)
Allocated Receipts to December 31, 2018	$ 2,503,537.91		$ (2,636,934.34)
Debenture Interest Costs to December 31, 2018		$ 270,281.75	$ (2,907,216.09)
Unallocated Receipts to December 31, 2018	$ -		$ (2,907,216.09)
Opening Balance			$ (2,907,216.09)

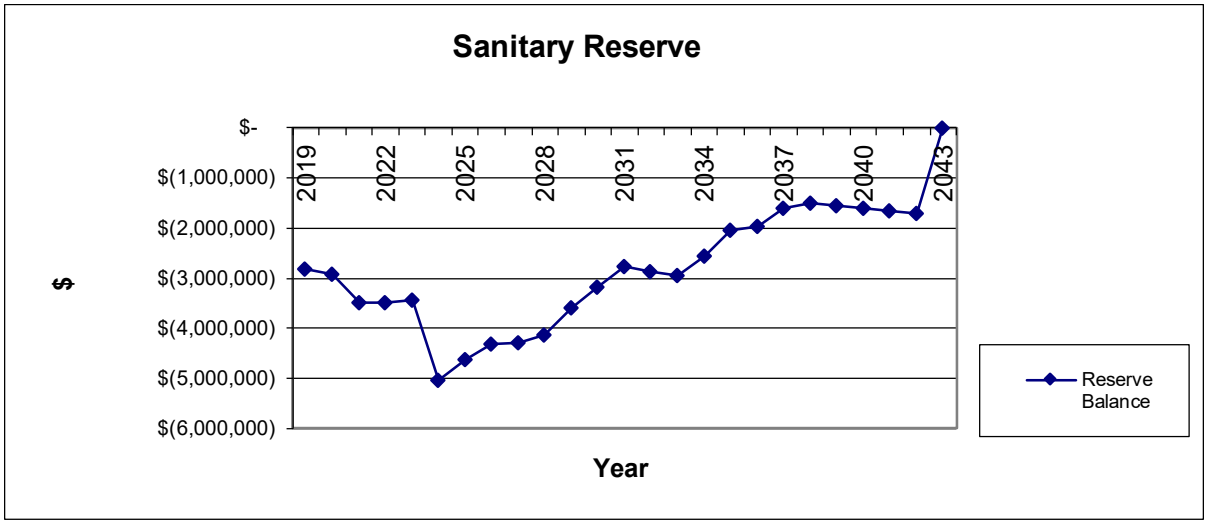
D9. Development and Sanitary Infrastructure Staging Impacts

Sanitary offsite infrastructure will be constructed in staged fashion over the 25-year development period. We have reviewed the availability of offsite levy funds to meet these construction requirements and found that offsite levy reserve funds will not be sufficient to pay for construction of sanitary infrastructure from time to time—front ending of infrastructure will be required. A front-ender is the party that constructs and pays up front for infrastructure that benefits other parties.

To compensate parties for capital they provide in front-ending offsite infrastructure construction, a **3.25%**[14] interest allowance has been charged to the reserve when it is forecast to be in a negative balance. Further, a **1.00%** interest credit has been provided to the reserve when it is forecast to be in a positive balance. The graph and table below outline the forecast water levy reserve balances over the 25-year development period.

If necessary, an interest staging adjustment has been applied to rates (slightly positive or slightly negative) to ensure that the forecast reserve balance at the end of the 25-year review period always returns to break-even (i.e., developers are not charged too much thereby providing a windfall to the County, nor are they charged too little thereby placing an unequitable burden on taxpayers).

Anticipated Sanitary Offsite Levy Reserve Balances



[14] The 20-year debenture rate at the Alberta Capital Finance Authority at the time of writing was ~3.25%.

Anticipated Sanitary Offsite Levy Reserve Balances

		Opening Balance	$ (2,907,216)
Year	**Receipts**	**Expenditure**	**Interest**	**Balance**
2019	$ 165,474	$ -	$ (89,107)	$ (2,830,849)
2020	$ -	$ -	$ (92,003)	$ (2,922,851)
2021	$ -	$ 468,141	$ (110,207)	$ (3,501,200)
2022	$ 131,078	$ -	$ (109,529)	$ (3,479,651)
2023	$ 137,640	$ -	$ (108,615)	$ (3,450,626)
2024	$ -	$ 1,429,177	$ (158,594)	$ (5,038,397)
2025	$ 558,539	$ -	$ (145,595)	$ (4,625,453)
2026	$ 444,859	$ -	$ (135,869)	$ (4,316,463)
2027	$ 154,915	$ -	$ (135,250)	$ (4,296,799)
2028	$ 303,937	$ -	$ (129,768)	$ (4,122,630)
2029	$ 644,667	$ -	$ (113,034)	$ (3,590,997)
2030	$ 500,568	$ -	$ (100,439)	$ (3,190,868)
2031	$ 506,479	$ -	$ (87,243)	$ (2,771,632)
2032	$ -	$ -	$ (90,078)	$ (2,861,710)
2033	$ -	$ -	$ (93,006)	$ (2,954,715)
2034	$ 479,116	$ -	$ (80,457)	$ (2,556,056)
2035	$ 573,524	$ -	$ (64,432)	$ (2,046,964)
2036	$ 148,886	$ -	$ (61,688)	$ (1,959,766)
2037	$ 396,569	$ -	$ (50,804)	$ (1,614,001)
2038	$ 157,953	$ -	$ (47,322)	$ (1,503,370)
2039	$ -	$ -	$ (48,860)	$ (1,552,230)
2040	$ -	$ -	$ (50,447)	$ (1,602,677)
2041	$ -	$ -	$ (52,087)	$ (1,654,764)
2042	$ -	$ -	$ (53,780)	$ (1,708,544)
2043	$ 1,708,544	$ -	$ -	$ (0)

APPENDIX E: STORMWATER

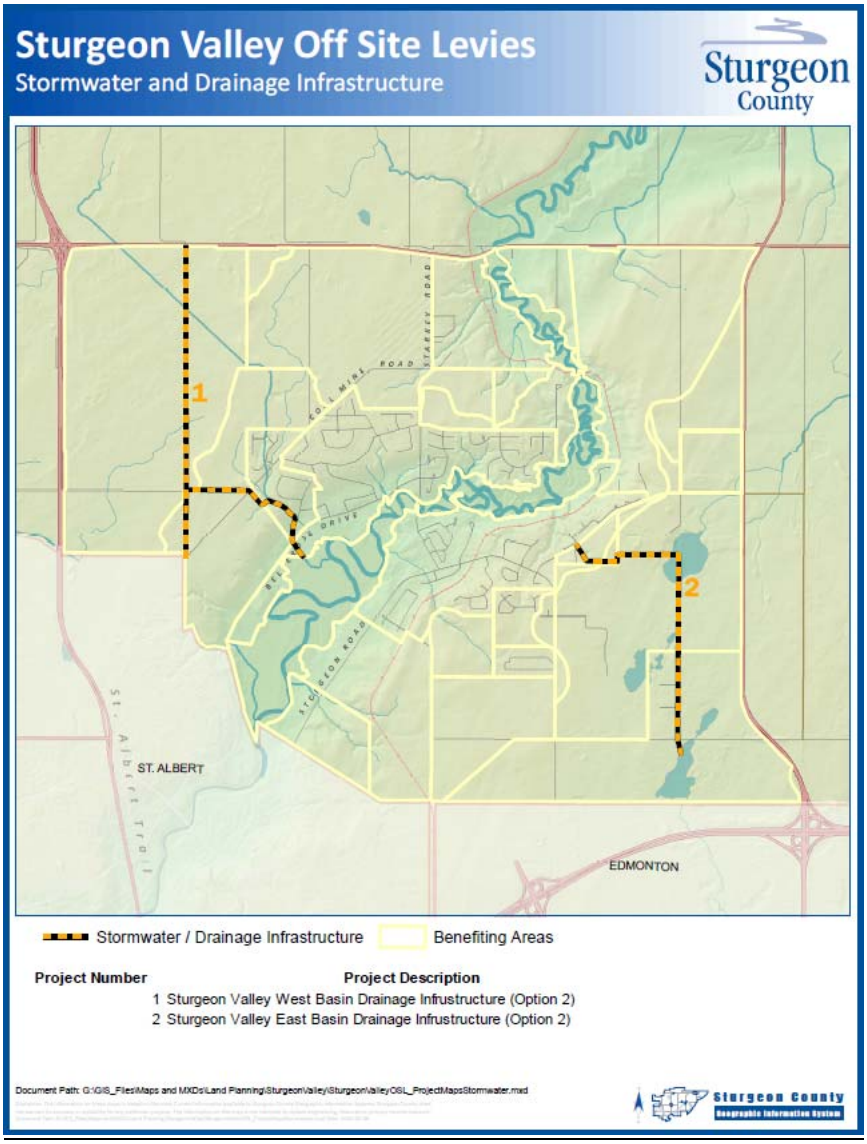
E1. Stormwater Offsite Infrastructure

In order to support future growth, stormwater offsite infrastructure is required. The estimated cost of this infrastructure is based upon: (a) actual construction costs to the cut-off date, (b) debenture interest associated with financing, and (c) future cost estimates. Total cost is approximately **$36.13 million** as outlined in the table below. Actual costs, debenture interest (if any), and cost estimates were provided by County staff. It is important to note that these costs represent "gross" costs, of which only a portion will go to support development during the 25-year review period. The remainder of this section outlines how the "net" costs for development are determined.

Summary of Stormwater Offsite Infrastructure

Item	Project Description	Cost of Completed Work	Debenture Interest	Estimated Cost of Work Yet to be Completed	Total Project Estimated Cost
1	Sturgeon West Stormwater Drainage Sytem	$ -	$ -	$ 20,999,849	$ 20,999,849
2	Sturgeon East Stormwater Drainage System	$ -	$ -	$ 15,134,258	$ 15,134,258
		$ -	**$ -**	**$ 36,134,108**	**$ 36,134,108**

*Costs estimates provided by County staff.
**Estimates include engineering and contingencies.
***Contributions stemming from old development are not technically "receipts". Instead, they have been set-up as an individual project (#100) and credited 100% to future development and to all offsite levy areas.
****Offsite infrastructure definitions are contained in Appendix F.



E2. Stormwater Offsite Infrastructure Grants & Contributions to Date

The MGA enables the County to allocate the costs of offsite infrastructure to development, other than those costs that have been provided by way of special grant or contribution (i.e., contributed infrastructure). Sturgeon County has/will receive approximately **$0.00** in special grants and contributions for stormwater offsite levy infrastructure as shown in the table below (note, if the County receives other grants or contributions in the future, it will be reflected in one of the annual updates and rates adjusted accordingly). The result is that the total reduced project estimated cost is **$36.13 million**.

Special Grants and Contributions for Stormwater Offsite Infrastructure

Item	Project Description	Total Project Estimated Cost	Special Provincial Grants	Developer Agreement Contributions	Other Contributions	Reduced Project Estimated Cost
1	Sturgeon West Stormwater Drainage Sytem	$ 20,999,849	$ -	$ -	$ -	$ 20,999,849
2	Sturgeon East Stormwater Drainage System	$ 15,134,258	$ -	$ -	$ -	$ 15,134,258
		$ 36,134,108	**$ -**	**$ -**	**$ -**	**$ 36,134,108**

E3. Year of Construction

The timing of construction is used to determine the impact of inflation on cost, the impact of forecast reserve balances, and the estimate of financial oversizing (described in the Section that follows). The County anticipates construction of offsite infrastructure as outlined in the table below. Note, if this schedule is adjusted in the future, it will be reflected in one of the County's annual rate/bylaw updates.

Forecast Year of Construction

Item	Project Description	Construction Start Year
1	Sturgeon West Stormwater Drainage Sytem	2044
2	Sturgeon East Stormwater Drainage System	2044

*The share of projects constructed beyond the 25-year review period are not included in rates today (see financial oversizing in next section).
**Project costs are inflated by 2% per annum to 2022 and 3% per annum thereafter to the year of construction.

E4. Stormwater Offsite Infrastructure Benefiting Parties

The stormwater offsite infrastructure previously outlined will benefit various parties to varying degrees. Four potential benefiting parties were identified including:

- Sturgeon County – a portion of the stormwater infrastructure which is required to service existing residents.
- Other Stakeholders – other parties (such as neighboring municipalities) that benefit from the infrastructure.
- Sturgeon County Future Development (Financial Oversizing) - that portion of cost which benefits future development beyond the 25-year review period.
- Sturgeon County Future Development (In Rates) – all growth-related infrastructure (i.e., levyable stormwater infrastructure costs) during the 25-year rate planning period.

The table below outlines the allocation of stormwater offsite levy infrastructure costs to benefiting parties.

Allocation of Stormwater Infrastructure to Benefiting Parties

Item	Project Description	Reduced Project Estimated Cost	Muni Share %	Other Stakeholder Share	Developer Share Beyond 25 Yrs (Financial Oversizing %)	OSL / Developer Share %
1	Sturgeon West Stormwater Drainage Sytem	$ 20,999,849			100.0%	0.0%
2	Sturgeon East Stormwater Drainage System	$ 15,134,258			100.0%	0.0%
		$ 36,134,108				

*Allocations were determined by County staff.
**Financial oversizing is determined by separating out the pro rata portion of developer cost beyond the 25-year review period, in comparison with the anticipated year of construction. In future, as the rolling 25-year review period moves further out these additional developer costs will gradually be included in future rate calculations.

E5. Existing Receipts & Adjusted Levy Cost

Using the offsite levy share percentages shown in the previous section and applying those percentages to project costs results in an offsite levy cost of **$0.00**. However, prior to allocating these costs to benefiting areas, existing offsite levy receipts collected from developers need to be considered in determining the residual/net costs to developers. County staff have advised that **$0.00** in stormwater levies have been applied/collected as shown in the table below. This results in an adjusted offsite levy cost of **$0.00**.

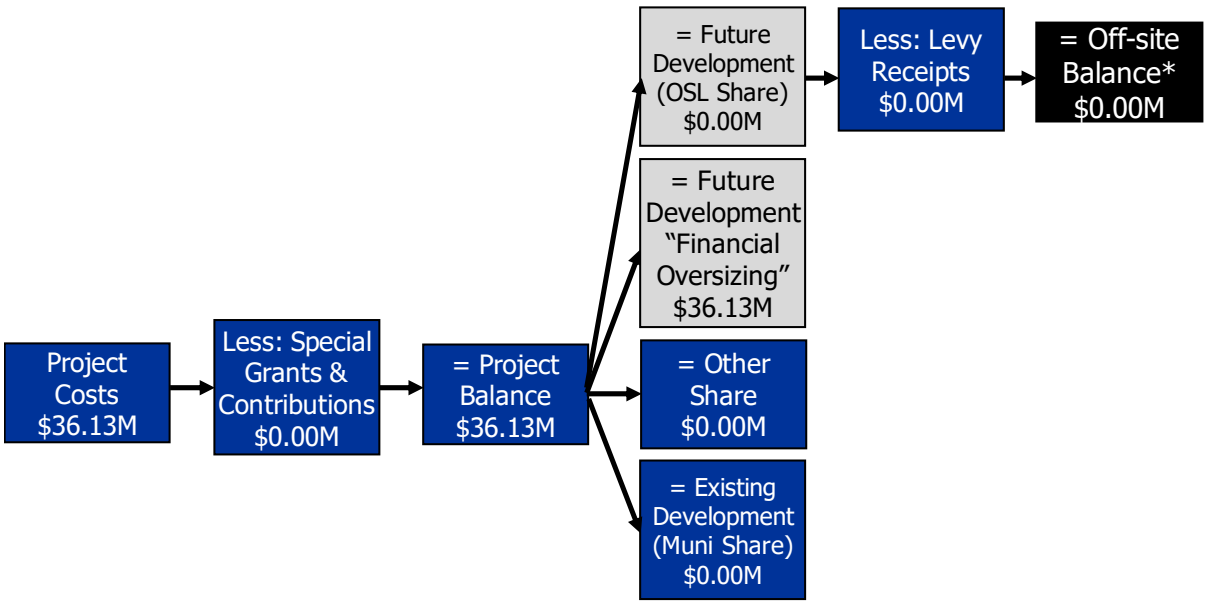
Offsite Levy Funds Applied to Date

Item	Project Description	OSL / Developer Cost	Offsite Levy Funds Collected to Dec 31, 2018	Offsite Levy Funds Collected Starting Jan 1, 2019	Adjusted Developer (Levy) Cost
1	Sturgeon West Stormwater Drainage Sytem	$ -	$ -	$ -	$ -
2	Sturgeon East Stormwater Drainage System	$ -	$ -	$ -	$ -
		$ -	**$ -**	**$ -**	**$ -**

E6. Summary of Stormwater Offsite Levy Cost Flow-through

As shown in the figure below, the total cost for stormwater infrastructure that forms the basis of the rate is **$0.00**. The cost allocations to each benefitting party are based on the benefitting percentages shown in previous section. The offsite levy balance (due from developers) is allocated to various benefitting areas (as described in the next section).

Total Stormwater Offsite Levy Costs



E7. Stormwater Infrastructure Benefiting Areas

Net developer costs for each project have been allocated to multiple benefiting offsite levy area (see tables below). Allocations are denoted with a "1" below applicable area numbers. Benefiting areas were determined by County staff. The lands anticipated to develop over the 25-years in each offsite levy benefitting area are used to determine rates.

Stormwater Allocations to Benefitting Areas

Item	Developer Cost	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	8.2	8.3	8.4
1	$ -	1	1	1	1	1	1	1	1									1	1	1	1												
2	$ -																																
	$ -																																

Item	Developer Cost	9.1	9.2	9.3	9.4	10.1	10.2	10.3	10.4	11.1	11.2	11.3	11.4	12.1	12.2	12.3	12.4	13.1	13.2	13.3	13.4	14.1	14.2	14.3	14.4	15.1	15.2	15.3	15.4	16.1	16.2	16.3	16.4
1	$ -					1	1	1	1																								
2	$ -																																
	$ -																																

Item	Developer Cost	17.1	17.2	17.3	17.4	18.1	18.2	18.3	18.4	19.1	19.2	19.3	19.4	20.1	20.2	20.3	20.4	21.1	21.2	21.3	21.4	22.1	22.2	22.3	22.4	23.1	23.2	23.3	23.4	24.1	24.2	24.3	24.4
1	$ -																																
2	$ -					1	1	1	1																					1	1	1	1
	$ -																																

Item	Developer Cost	25.1	25.2	25.3	25.4	26.1	26.2	26.3	26.4	27.1	27.2	27.3	27.4	28.1	28.2	28.3	28.4	29.1	29.2	29.3	29.4	30.1	30.2	30.3	30.4	31.1	31.2	31.3	31.4	32.1	32.2	32.3	32.4
1	$ -																																
2	$ -	1	1	1	1					1	1	1	1																				
	$ -																																

E8. Reserve Balance

As at December 31st, 2018 the stormwater reserve balance was **$0**. This amount takes into consideration expenditures and front-ending repayments up to end-2018. This balance assumes that cash in the reserve is excess of this amount is withdrawn and used to pay

down front-ending debts owed to the County. In addition to maintaining a dedicated stormwater offsite levy reserve/account (required by the MGA), it is also recommended that the County develop a set of "sub-ledgers" to track the amounts due to front-ending parties, including interest owed in accordance with the rates in effect at that time. A detailed reserve continuity schedule is also provided in Appendix G.

Stormwater Offsite Levy Reserve Balance

Description	Dr	Cr	Balance
Offsite Levy Expenditures to December 31, 2018		$ -	$ -
Allocated Receipts to December 31, 2018	$ -		$ -
Debenture Interest Costs to December 31, 2018		$ -	$ -
Unallocated Receipts to December 31, 2018	$ -		$ -
Opening Balance			$ -

E9. Development and Stormwater Infrastructure Staging Impacts

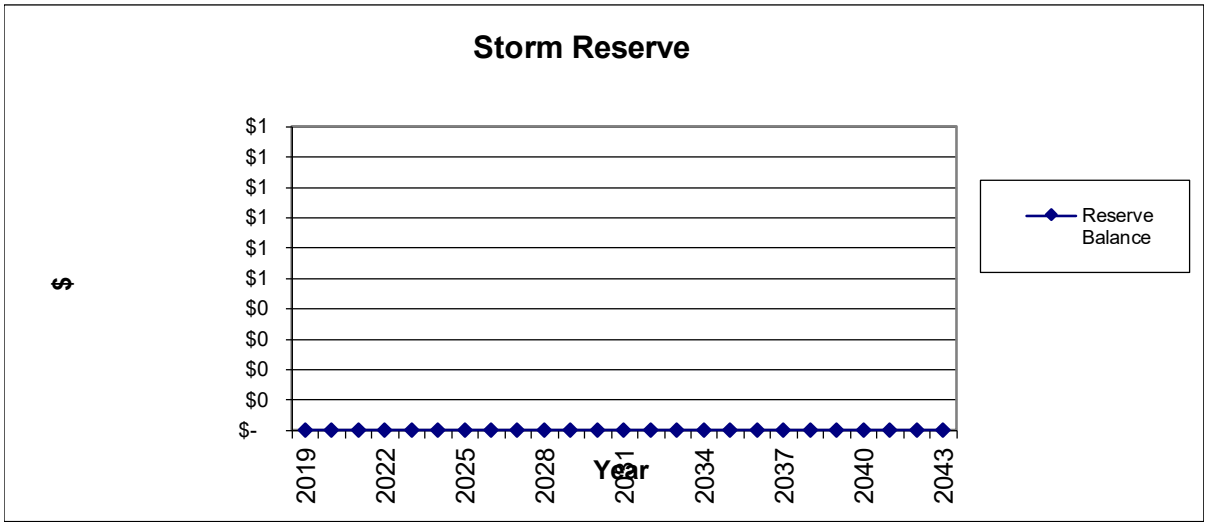
Stormwater offsite infrastructure will be constructed in staged fashion over the 25-year development period.

To compensate parties for capital they provide in front-ending offsite infrastructure construction, a **3.25%**[15] interest allowance has been charged to the reserve when it is forecast to be in a negative balance. Further, a **1.00%** interest credit has been provided to the reserve when it is forecast to be in a positive balance. The graph and table below outline the forecast water levy reserve balances over the 25-year development period.

If necessary, an interest staging adjustment has been applied to rates (slightly positive or slightly negative) to ensure that the forecast reserve balance at the end of the 25-year review period always returns to break-even (i.e., developers are not charged too much thereby providing a windfall to the County, nor are they charged too little thereby placing an unequitable burden on taxpayers).

[15] The 20-year debenture rate at the Alberta Capital Finance Authority at the time of writing was ~3.25%.

Anticipated Stormwater Offsite Levy Reserve Balances



Anticipated Stormwater Offsite Levy Reserve Balances

		Opening Balance	$ -
Year	**Receipts**	**Expenditure**	**Interest**	**Balance**
2019	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -
2030	$ -	$ -	$ -	$ -
2031	$ -	$ -	$ -	$ -
2032	$ -	$ -	$ -	$ -
2033	$ -	$ -	$ -	$ -
2034	$ -	$ -	$ -	$ -
2035	$ -	$ -	$ -	$ -
2036	$ -	$ -	$ -	$ -
2037	$ -	$ -	$ -	$ -
2038	$ -	$ -	$ -	$ -
2039	$ -	$ -	$ -	$ -
2040	$ -	$ -	$ -	$ -
2041	$ -	$ -	$ -	$ -
2042	$ -	$ -	$ -	$ -
2043	$ -	$ -	$ -	$ -

APPENDIX F: OFFSITE INFRASTRUCTURE DEFINITIONS

F1. Roadways

Sturgeon County maintains a roadway classification system consistent with the definition of arterial, collector, and local roads contained in the Transportation Association of Canada's Manual of Geometric Design Standards for Canadian Roads.

Arterial Roadways are typically designed as free flowing, with controlled intersection spacing and providing connectivity to the Provincial highway network therefore, Arterials are considered a benefit to the County at large. The cost of such facilities is then assessed proportionately against all benefiting lands through an offsite levy charge.

Collector roads are intended to address interregional travel demands, as secondary connections to the Provincial highway network and origin – destinations. These roadways are typically the second highest volume of traffic which is usually between 200 vehicles per day and 500 vehicles per day and are typically paved. Collectors are considered a benefit to the County at large. The cost of such facilities is then assessed proportionately against all benefiting lands through an offsite levy charge.

Local roads are any roadway which is not classified as either an Arterial, or Collector. Local roads within new development area are constructed by developers, at their cost, in conjunction with the developments.

F2. Water

Sturgeon County's philosophy regarding its waterworks system improvements is that development is responsible, at their cost, for the construction of all new distribution mains up to and including 300 mm diameter in size. Primary feeder mains (water mains larger then 300 mm diameter), treated water, storage reservoirs, pumping facilities and water quality monitoring stations benefit the entire water distribution system and thus, the cost of such facilities is then assessed proportionately against all benefiting lands through an offsite levy charge.

Capital improvements to the water supply system are the responsibility of EPCOR. The cost of such improvements are assessed proportionately against the County through the Commission's water utility rate structure and these costs are not included in the County's offsite levy charge.

F3. Sanitary

The sanitary sewage collection system in Sturgeon County provides wastewater servicing to its residential and non-residential customers through local collection, conveyance, and treatment via wastewater lagoons, or through the Alberta Capital Region Wastewater Commission (ACRWC) infrastructure. The communities / locations serviced by the ACRWC include: Cardiff, Sturgeon Valley, Sturgeon Industrial Park, and the Alberta Industrial Heartland.

Sanitary Sewer systems typically have a hierarchical classification based primarily upon the

size of diameter of pipe and the area they serve. In the case of the sanitary sewer system in Sturgeon County, laterals (locals) are typically 200 mm and 250 mm diameter in size, collectors are 300 mm and 375 mm diameter in size, and trunks are sewer pipe systems greater than 375 mm in diameter.

Trunks, forcemains, and lift stations, benefit the entire sanitary collection system. The cost of such facilities is then assessed proportionately against all benefiting lands through an offsite levy charge.

Development shall be fully responsible for the construction of lateral and collectors for the sanitary sewer system at their entire cost.

Capital improvements to the Regional Treatment Plant and Transmission Line are the responsibility of the ACRWC of which Sturgeon County is a member. The cost of such capital improvements are assessed proportionately against Sturgeon County through the ACRWC sewage utility rate structure and are not included in the Sturgeon County offsite levy charge.

F4. Stormwater

Sturgeon County's storm drainage networks primarily consists of a system of drainage ditches, swales and culverts. The networks also includes sewer pipes in some residential subdivisions, and a few stormwater management facilities. Most drainage from the Sturgeon Valley flows into the Sturgeon River, and the majority of the existing residential developments rely on road ditches, drainage channels and natural swales to convey runoff to the River.

Storm drainage networks have a hierarchical classification based primarily upon the size of diameter of pipe. Sturgeon County storm drainage networks consist of laterals between 300 mm and 1050 mm diameter in size which discharges into a trunk line. Trunk lines are greater than 1200 mm in diameter (or equivalent to in capacity, e.g. 2 x 600 mm) and discharge into an outfall. Outfalls can be any structure (man-made or natural) where stormwater is discharged into a river.

Trunks, forcemains, lift stations, and outfalls benefit the entire collection system and the cost of such facilities are assessed proportionately against all benefiting land through an offsite levy charge.

Development shall be fully responsible for the construction of laterals for the storm sewer system at their entire cost.

For rural cross-sections that utilize overland ditching, drainage corridors will be established and the cost of certain rural ditches will be funded by offsite levy charge. Development shall be fully responsible for the construction of other ditches, ponds, etc for the storm sewer system at their entire cost.

APPENDIX G: RESERVE CONTINUITY SCHEDULES

Information Only. Not Included in Reserve Totals
Reserve Balance Per GL
Amended Reserve Balance Per Offsite Levy Model

Roads			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
GL																				
	Opening Balance		$ -	$ 227,940	$ 227,940	$ 867,040	$ 1,361,440	$ 2,708,940	$ 2,378,592	$ 1,390,093	$ 340,939	$ 1,098,947	$ 1,098,947	$ 1,098,947	$ 1,971,672	$ 2,519,739	$ 2,483,724	$ 2,482,917	$ 2,482,917	
	Receipts		$ 393,000		$ 639,100	$ 494,400	$ 1,347,500		$ 684,000		$ 813,120			$ 913,707	$ 1,366,290				$ 425,068	$ 7,076,185
	Withdrawals		$ 165,060					$ 330,348	$ 1,672,499	$ 1,049,154	$ 55,113			$ 40,982	$ 818,223	$ 36,015	$ 807			$ 4,168,200
	Closing Balance		$ 227,940	$ 227,940	$ 867,040	$ 1,361,440	$ 2,708,940	$ 2,378,592	$ 1,390,093	$ 340,939	$ 1,098,947	$ 1,098,947	$ 1,098,947	$ 1,971,672	$ 2,519,739	$ 2,483,724	$ 2,482,917	$ 2,482,917	$ 2,907,985	$ 2,907,985
OSL Model																				
	Opening Balance																			$ -
	Revenues																			
		Offsite Levies																		$ 7,076,185
		Other Contributions																		$ -
		Sub-Total																		$ 7,076,185
	Total Expenditures																			
		Starkey Road N of Bridge (Sturgeon River to Estates Way)- Sub Grade																		*$ 1,836,738*
		Starkey Road N of Bridge (Sturgeon River to Estates Way)- Pave																		*$ 1,681,017*
		Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Road Widening & Sub Grade																		*$ 365,189*
		Starkey Road S of Bridge (Sturgeon Road to Sturgeon River)- Pave																		*$ 597,189*
		Bellerose Drive																		*$ 4,891,829*
		Trestle Ridge Road																		*$ 1,179,543*
		Sturgeon Road and Starkey Road																		*$ 1,719,517*
		Sub-Total																		*$ 12,271,022*
	Developer Share of Expenditures																			
		Developer Share of Expenditures																		$ 4,168,200
		Sub-Total																		$ 4,168,200
	Debentures																			
		Debenture Accrual																		
		Sub-Total																		$ -
	Interest																			
		Interest Earned																		
		Interest Charged																		
		Sub-Total																		$ -
	Reserve Closing Balance (Also Equals Front-ending Balance if Negative)																			$ 2,907,985

Water			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
GL																				
	Opening Balance		$ -	$ 220,534	$ -	$ -	$ 286,167	$ 1,005,938	$ 444,106	$ 877,740	$ 877,740	$ 1,375,545	$ 1,375,545	$ 328,018	$ 836,892	$ 1,555,284	$ 1,065,548	$ 1,065,548	$ 1,065,548	
	Receipts		$ 1,004,115		$ 573,901	$ 336,496	$ 776,468		$ 442,940		$ 497,805			$ 544,216	$ 799,065	$ -	$ -	$ -	$ 248,598	$ 5,223,604
	Withdrawals		$ 783,581	$ 220,534	$ 573,901	$ 50,329	$ 56,698	$ 561,831	$ 9,306				$ 1,047,527	$ 35,342	$ 80,673	$ 489,736			$ 1,314,146	$ 5,223,604
	Closing Balance		$ 220,534	$ -	$ -	$ 286,167	$ 1,005,938	$ 444,106	$ 877,740	$ 877,740	$ 1,375,545	$ 1,375,545	$ 328,018	$ 836,892	$ 1,555,284	$ 1,065,548	$ 1,065,548	$ 1,065,548	$ -	$ -
OSL Model																				
	Opening Balance																			$ -
	Revenues																			
		Offsite Levies																		$ 5,223,604
		Other Contributions																		$ -
		Sub-Total																		$ 5,223,604
	Total Expenditures																			
		ALLin Ridge New Pump (Expansion Project)																		*$ 2,871,810*
		Allin Ridge Reservoir (Expansion Project)																		*$ 2,941,657*
		Upper Manor Pointe (East) - Starkey Road Water Looping Connection																		*$ 276,950*
		127th Street Reservoir and Pumphouse (Allin Ridge initial construction of Reservoir)																		*$ 818,684*
		127th Street Water Supply Line (Allin Ridge supply line from EPCOR)																		*$ 1,840,900*
		Sturgeon Road Pressure Reducing Valve																		*$ 65,263*
		East River Crossing																		*$ 625,213*
		Sub-Total																		*$ 9,440,477*
	Developer Share of Expenditures																			
		Developer Share of Expenditures																		*$ 9,199,428*
		Sub-Total																		$ 9,199,428
	Debentures																			
		Debenture Accrual																		$ 492,337
		Sub-Total																		$ 492,337
	Interest																			
		Interest Earned																		$ -
		Interest Charged																		$ -
		Sub-Total																		$ -
	Reserve Closing Balance (Also Equals Front-ending Balance if Negative)																			**$ (4,468,160)**

Sanitary			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
GL																				
	Opening Balance		$ -	$ -	$ -	$ 150,626	$ 232,590	$ 417,688	$ 417,688	$ 707,948	$ 336,485	$ 496,226	$ (0)	$ (0)	$ 141,435	$ 578,380	$ 561,260	$ 561,260	$ 561,260	
	Receipts		$ -		$ 150,626	$ 590,641	$ 352,725		$ 349,920		$ 297,000			$ 183,600	$ 441,630		$ -	$ -	$ 137,396	$ 2,503,538
	Withdrawals					$ 508,677	$ 167,627		$ 59,661	$ 371,463	$ 137,259	$ 496,226		$ 42,165	$ 4,685	$ 17,120			$ 698,656	$ 2,503,538
	Closing Balance		$ -	$ -	$ 150,626	$ 232,590	$ 417,688	$ 417,688	$ 707,948	$ 336,485	$ 496,226	$ (0)	$ (0)	$ 141,435	$ 578,380	$ 561,260	$ 561,260	$ 561,260	$ -	$ -
OSL Model																				
	Opening Balance																			$ -
	Revenues																			
		Offsite Levies																		$ 2,503,538
		Other Contributions																		$ -
		Sub-Total																		$ 2,503,538
	Total Expenditures																			
		Rivers Gate Gravity Sewer Eng.																		*$ 8,120*
		Rivers Gate Southwest Lift Station																		*$ 2,486,551*
		Bellerose Gravity Sewer and Force Main																		*$ 724,181*
		Bellerose Lift Station																		*$ 288,164*
		Summerbrook / Upper Manor Sewer Design																		*$ 1,426,347*
		Upper Manor Gravity Trunk																		*$ 778,252*
		Forcemain Twinning to St. Albert																		*$ 429,558*
		Sturgeon Road Forcemain Upgrade																		*$ 186,748*
		Bellerose Lift Station Upgrade																		*$ 790,827*
		Sub-Total																		*$ 7,118,747*
	Developer Share of Expenditures																			
		Developer Share of Expenditures																		*$ 5,140,472*
		Sub-Total																		$ 5,140,472
	Debentures																			
		Debenture Accrual																		$ 270,282
		Sub-Total																		$ 270,282
	Interest																			
		Interest Earned																		$ -
		Interest Charged																		$ -
		Sub-Total																		$ -
	Reserve Closing Balance (Also Equals Front-ending Balance if Negative)																			**$ (2,907,216)**

Storm			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
GL																				
	Opening Balance		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Receipts																			$ -
	Withdrawals																			$ -
	Closing Balance		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OSL Model																				
	Opening Balance																			$ -
	Revenues																			
		Offsite Levies																		$ -
		Other Contributions																		$ -
		Sub-Total																		$ -
	Total Expenditures																			
																				$ -
		Sub-Total																		$ -
	Developer Share of Expenditures																			
		Developer Share of Expenditures																		$ -
		Sub-Total																		$ -
	Debentures																			
		Debenture Accrual																		$ -
		Sub-Total																		$ -
	Interest																			
		Interest Earned																		$ -
		Interest Charged																		$ -
		Sub-Total																		$ -
	Reserve Closing Balance (Also Equals Front-ending Balance if Negative)																			$ -

APPENDIX H: COMPARISON OF RATES

The table below compares the new Sturgeon Valle offsite levy rates in relation to other municipalities.

Municipality / Area	Average Per Ha.
Town of Hinton	**$56,000**
Town of Sylvan Lake* (update in progress)	**$65,500**
Sturgeon Valley*	**$67,800**
Town of Stony Plain (2007-out of date)	**$69,000**
Town of Drayton Valley* (in progress) (not incl drainage)	**$70,000**
Town of Calmar* (not incl drainage)	**$71,000**
City of Lacombe*	**$72,500**
Town of Edson* (not incl drainage)	**$77,400**
Town of Rocky Mountain House* (in process)	**$79,700**
City of Spruce Grove (not incl drainage)	**$80,000**
City of Fort Saskatchewan (South Fort)	**$104,100**
Town of Redcliff*	**$109,200**
Town of Devon*	**$117,300**
Leduc County (Greater Nisku Area)	**$119,000**
City of Leduc* (update in progress)	**$130,000**
Town of Beaumont*	**$152,500**
City of Red Deer* (update in progress)	**$203,300**
City of Chestermere*	**$219,600**
City of Lethbridge	**$249,000**
City of Medicine Hat* (subsidy)	**$250,000**
City of Lloydminster* (in process)	**$281,800**
City of St. Albert*	**+$290,000**
City of Edmonton	**+$300,000**
City of Calgary (incl rec & stabilization)	**+$350,000**

*CORVUS clients

**Information adapted from online sources as at Jan 1st, 2019.