CITY OF LLOYDMINSTER

SCHEDULE B
OFF-SITE LEVY BACKGROUND REPORT 2023

URBAN SYSTEMS

PREPARED FOR:

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DATE ISSUED:

September 2023

PROJECT NUMBER:

2319.0025.01

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Schedule A

The following table summarizes the levies based on assumptions in the background report (Schedule B). The off-site levies are organized by each infrastructure category and will be effective as of the passing of Bylaw 25-2021. Future levies are calculated using an inflation factor of three percent (3.00%) per year.

New development areas within the City of Lloydminster shall mean the total area of undeveloped lands that are subject to off-site levies including Roads/Circulation and Public Utility Lots (PUL) and excluding Environmental Reserve (ER) and Municipal Reserve (MR). Infill development within the City of Lloydminster shall be subject to levies where the lands have not been subject to an off-site levy previously for the same type of infrastructure.

Application of the levy for new development areas and infill sites is summarized below.

INFRASTRUCTURE CATEGORY	OFF-SITE LEVY (HA)		
	EFFECTIVE UNTIL DEC. 31, 2023	EFFECTIVE UNTIL DEC. 31, 2024	EFFECTIVE UNTIL DEC. 31, 2025*
Water: Treatment & Supply (Common Levy)	$17,375	$17,896	$18,433
Water: Distribution & Storage (Common Levy)	$17,160	$17,675	$18,205
Sanitary: Treatment & Disposal (Common Levy)	$8,975	$9,245	$9,522
Sanitary: Collection (Common Levy)	$66,960	$68,969	$71,038
Stormwater (Common Levy)	$6,578	$6,775	$6,978
Transportation (Common Levy)	$41,220	$42,456	$43,730
Levy Total	**$158,267**	**$163,015**	**$167,906**

**Off-Site Levy rates beyond December 31st, 2025 are subject to an annual 3.00% inflationary increase.*

1.0 INTRODUCTION

The City of Lloydminster (City) has experienced significant growth over the past two (2) decades and anticipates continued strong growth in the future. This growth provides benefit to the citizens of the City, including support for local businesses, employment opportunities, a more diverse local economy, enhanced social services (cultural, science, recreational) and improved community vibrancy. Growth also creates a need for investment in new infrastructure to support service delivery. To prepare for growth, the City has completed infrastructure master plans to identify the current and future needs of the community.

An understanding of future infrastructure needs establishes the necessary foundation to ensure new development pays for the cost of infrastructure to support growth through new development. When a new development area is being constructed in the City, the developer is required to pay for the cost of all infrastructure that is within the development area. Often described as 'on-site' costs, these typically include roads and sidewalks, watermains and hydrants, sewer mains, streetlights, etc. However, that same development will also impact the City's broader infrastructure systems outside of the development area itself. These are often described as 'off-site' costs and can consist of a variety of infrastructure upgrades, including increased treatment capacity (water or wastewater, i.e., sanitary), intersection improvements or road widening, stormwater management systems, etc. New development is also required to pay for their proportionate share of these off-site costs. One mechanism available to municipalities to collect costs related to off-site infrastructure from growth is an off-site levy.

Thorough consideration of both the long-term growth needs of the community and the diversity of off-site levy collection methods will help to achieve stable levy charges to the development industry over time and support the orderly construction of infrastructure as determined by the City. Although the intent is to achieve a predictable, stable off-site levy charge, the calculations will inevitably adjust over time due to inflation, the reassessment of project scopes and costs, reconsideration of beneficiaries, fluctuations in growth, and the addition of new projects as subsequent master plans are commissioned by the City.

1.1 PURPOSE OF THE BACKGROUND REPORT

The Background Report forms part of the City's Off-Site Levy Bylaw and provides a summary of the methodology used to determine how the off-site levies were calculated and how the levies collected will be utilized in the future. The Background Report is divided into three (3) sections as follows:

1. **Methodology for Determining Off-Site Levies**
   Describes how the review was undertaken, including key assumptions, collection methods utilized, and infrastructure categories captured in the off-site levy.

2. **Off-Site Levy Projects**
   Provides details on individual projects including cost, timing, allocation of benefit, and grant contributions.

3. **Off-Site Levy Calculation**
   Articulates cash flow components (inflation, carrying costs, and interest earned) utilized within the off-site levy calculation and provides the resulting off-site levy rates.

The Background Report is intended to provide transparency to Council, the development industry and the general public regarding future infrastructure needs along with the off-site levy calculation and contribution requirements from the City and the development industry.

1.2 ENABLING LEGISLATION

Through *The Lloydminster Charter*, Part 17 of the Alberta *Municipal Government Act (MGA)* is the law that guides the responsibilities and powers of the City in respect of planning and development. Section 648 of the *MGA* allows municipalities to impose a levy to help pay for the capital costs of new or improved infrastructure to service growth. Section 648 (2) provides direction on what types of infrastructure can be included in an off-site levy bylaw:

"An off-site levy may be used only to pay for all or part of the capital cost of any or all of the following:

- *(a) new or expanded facilities for the storage, transmission, treatment or supplying of water;*
- *(b) new or expanded facilities for the treatment, movement or disposal of sanitary sewage;*
- *(c) new or expanded storm sewer drainage facilities;*
- *(c.1) new or expanded roads required for or impacted by a subdivision or development;*
- *(c.2) subject to the regulations, new or expanded transportation infrastructure required to connect, or to improve the connection of, municipal roads to provincial highways resulting from a subdivision or development;*
- *(d) land required for or in connection with any facilities described in clauses (a) to (c.2)."*

Recent changes to the *MGA* enable municipalities to include other infrastructure categories within their off-site levy program - Section 648 (2.1) specifically states:

"In addition to the capital cost of facilities described in subsection (2), an off-site levy may be used to pay for all or part of the capital cost for any of the following purposes, including the cost of any related appurtenances and any land required for or in connection with the purpose:

- *(a) new or expanded community recreation facilities;*
- *(b) new or expanded fire hall facilities;*
- *(c) new or expanded police station facilities;*
- *(d) new or expanded libraries."*

In addition to adhering to Section 648 of the *MGA*, municipalities must also align with the *Off-Site Levies Regulation* (Alberta Regulation 187/2017) when determining their off-site levy rate. Among other things, the Regulation requires correlation between the off-site levy and the impacts of new development, mandates that the method of calculation be clear, requires that the information used in the off-site levy rate calculation be kept current, and that the off-site levies are determined in consultation with affected landowners and developers. Involvement of the development industry is to be consultative in nature with the goal of obtaining the industry's perspective on fairness and equity of the off-site levies.

In 2015, as part of the *MGA* review, amendments were made to the *Act* that allow municipalities to charge for each type of infrastructure separately. Previously, if an off-site levy had been collected for any type of infrastructure, a municipality was unable to collect another off-site levy regardless of whether the off-site levy was for a different type of infrastructure. This change to the *MGA* will allow municipalities to collect off-site levies on land that has already paid off-site levies if the off-site levy being imposed is for a different type of infrastructure.

2.0 METHODOLOGY FOR DETERMINING OFF-SITE LEVIES

The City engaged Urban Systems Ltd. to develop a financial model for calculating off-site levies. The off-site levy model is a cash flow projection that uses assumptions for population growth, interest rate returns, borrowing costs and inflation to determine applicable off-site levy rates. The City is taking steps to strategize future investments in growth-related infrastructure and as such, a more robust model is needed to ensure full cost recovery of all costs including potential debt carrying costs. The detailed assumptions and cost recovery methods used to determine the off-site levies are summarized in the following sections.

2.1 GROWTH PROJECTIONS

In 2013 the City completed the Comprehensive Growth Strategy (the *Growth Strategy*) to understand future land needs and to manage growth over a 30-year planning horizon. Based on an assumed average annual growth rate of two and one half percent (2.5%), the *Growth Strategy* indicates that approximately 2,480 hectares of gross developable land will be required to accommodate the City's residential, commercial, industrial, instituitional and urban services growth over the next thirty (30) years, including expansion of the airport and landfill facilities. Population growth over this planning horizon was forecast to be 31,179 people resulting in a total population of 58,983 in the year 2041. Table 1: *Future Land Requirements* summarizes the projected land needs within and outside of the City's current municipal boundary over the next thirty (30) years.

Table 1 - Future Land Requirements [1]

	GROSS DEVELOPABLE LAND NEEDS OVER 30 YEARS (HA)				
LAND	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER	TOTAL
Available within City Boundary	658	54	455	0	1,167
Annexation Required	503	284	238	287	1,312
Total	**1,161**	**338**	**693**	**287**	**2,479**

[1] Assumes 2.5% average annual growth rate and 19 development units per net residential hectare.

The *Growth Strategy* was used to identify annexation land requirements and inform the development of infrastructure servicing strategies that would be required to support the City's future growth. The infrastructure master plans assumed variable growth rates that were generally consistent with the *Growth Strategy* – in some cases slightly higher and in other cases slightly lower.

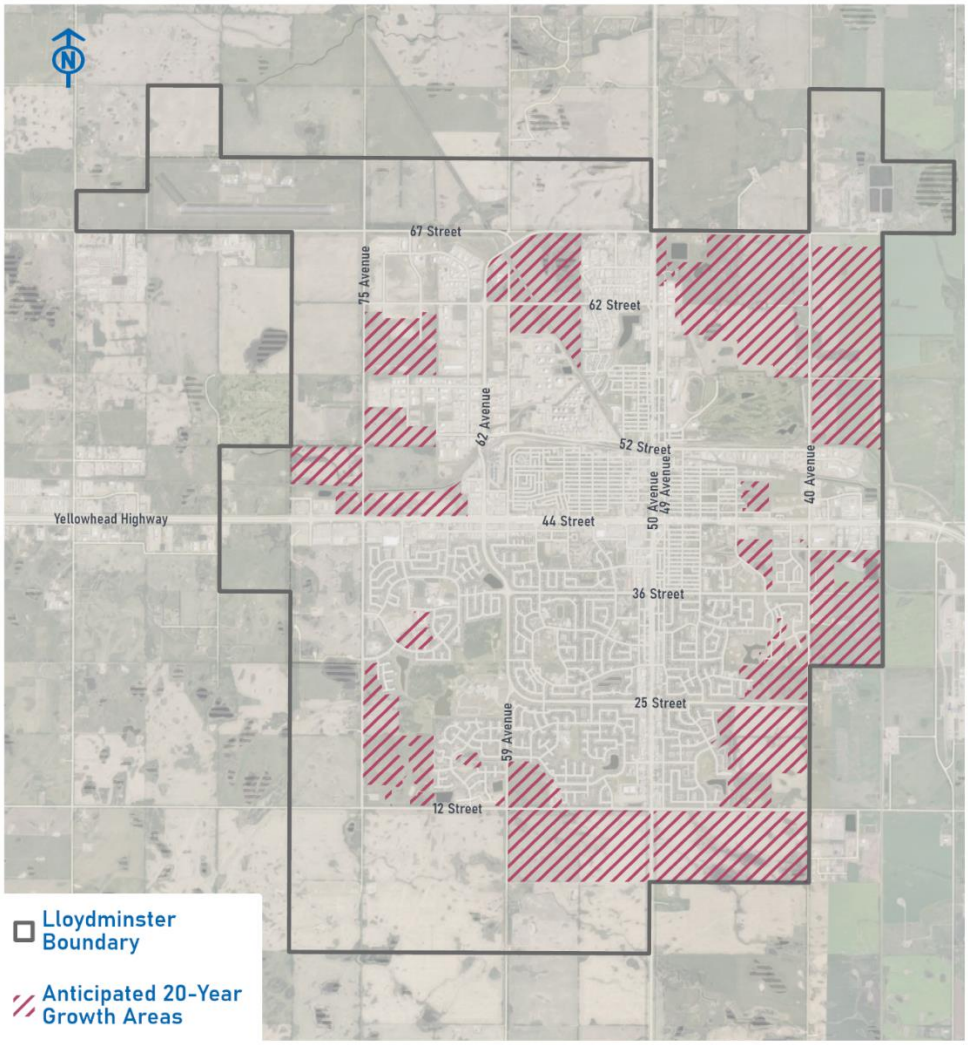
Due to a reduced demand for new development within the City between 2016 and 2020, the timing for a signficant number of growth-related capital projects identified in the master plans needed to be delayed. Looking ahead, the City assumed an average annual growth rate of two and two tenths percent (2.2%) for the purpose of establishing the off-site levy and developing the financial model – a growth rate that is consistent with other City planning initiatives. Adjustments to project timing as well as the associated population thresholds (i.e., capacity triggers) were also incorporated into the financial model.

2.2 FUTURE GROWTH

Growth projections in conjunction with the locations of anticipated growth are used to determine the City's infrastructure needs to support future growth over the 20-year planning horizon. Figure 1 summarizes the areas where future growth is anticipated to occur over the next twenty (20) years within the City's new boundary, inclusive of annexation lands which were approved in early 2022. The total hectares of anticipated development is in alignment with projections assumed in this off-site levy financial model, which forecasts approximately 1,125 hectares of growth over the next twenty (20) years.

Anticipated growth areas were identified in collaboration with the development industry with consideration given to cost effective development, approved policy plans and build-out of planned areas, balanced residential and employment growth, infrastructure master plans and alignment with the City's strategic objectives.

Figure 1 – Anticipated Future Growth Areas



2.3 INFRASTRUCTURE NEEDS

The *Municipal Government Act (MGA)* provides legislation regarding the infrastructure categories that municipalities can include in an off-site levy program (per Section 1.2 of this report). The City has elected to include major off-site infrastructure related to water, sanitary, storm and transportation projects within this update to their off-site levy program.

Following completion of the *Growth Strategy*, the City commissioned a series of master plans and studies to clearly identify the infrastructure needs that will be required to service future growth within and beyond the City's current municipal boundary. These studies, and more specifically the growth-related capital projects, form the basis for infrastructure to be included in the off-site levy program. The relevant master plans and studies are summarized in Table 2. Information on the actual infrastructure projects included in each infrastructure category is summarized in Section 3.

Table 2 - Infrastructure Master Plans/Studies [2]

WATER INFRASTRUCTURE	
Water: Treatment & Supply	Waterworks Master Plan and System Assessment, October, 2016
Water: Distribution & Storage	Water Master Plan, May, 2016
SANITARY INFRASTRUCTURE	
Sanitary: Treatment & Disposal	Mechanical Wastewater Treatment Facility Preliminary Design Report, March, 2016 New Mechanical Wastewater Facility Validation Report, August, 2020
Sanitary: Collection	Sanitary Sewer Master Plan, March, 2016
STORM INFRASTRUCTURE	
Stormwater	Stormwater Master Plan, November, 2015
TRANSPORTATION INFRASTRUCTURE	
Transportation	Lloydminster Transportation Master Plan, May, 2016

[2] Projects identified in the Master Plans and completed by the City between 2016 and 2022 are not included in the off-site levy model

Capital costs associated with transportation infrastructure required to improve the intersection connections of municipal roads along Highway 17, specifically the North-South Corridor project, are not included in the off-site levy program. Similarly, capital costs associated with community recreation, fire hall, police station and library facilities are not included in the off-site levy program.

2.4 ALLOCATION OF BENEFIT

Allocation of benefit refers to the fair distribution of infrastructure costs to those that receive benefit from the infrastructure. For example, infrastructure costs can be allocated between existing development and new development, between multiple new development areas, and depending on the infrastructure category, may be allocated on an intermunicipal basis (Section 648.01 of the *MGA*). In determining the allocation of project benefits to existing development or existing users of the infrastructure, a number of factors are considered, including asset capacity, asset condition and

regulatory compliance. If the infrastructure is providing new capacity it is allocated to new development, if the additional capacity is required for redundancy, then it is allocated between existing development and new development, if existing assets are to be renewed through the improvements due to their condition then this is allocated to existing development, and if improvements are needed to be within compliance of new regulations then those improvements are allocated to existing development and new development accordingly.

In general, for water, sanitary and storm infrastructure, allocation of benefit is determined based on the portion of the capacity of the upgrade that is required to serve existing development and the portion of capacity allocated to new development. For transportation projects, the benefit allocation of projects is more difficult, as capacity allocations are harder to determine. It is anticipated as new development occurs, the level of service on existing roads and at existing intersections will decline. As improvements to the transportation network are implemented (e.g., road widening, intersection upgrades, etc.) the level of service for existing development is expected to marginally improve for a point in time and then diminish again as growth persists. Allocation of benefit is discussed in Section 3.0 for each infrastructure category.

2.5 COST RECOVERY APPROACH

When determining how infrastructure costs included in the off-site levy program will be recovered from those that benefit there are generally two (2) pieces that require consideration: 1) the application of the off-site levy (i.e., City-wide or to site specific); and 2) timing of recovery.

2.5.1 CITY-WIDE VS SITE SPECIFIC

Cost recovery of off-site levy infrastructure projects can be calculated and applied on a City-wide basis or on a site specific (i.e., catchment) basis. The decision to apply off-site levies by either of these methods depends on the particular infrastructure projects and whether the benefit of the projects provided can be definitively allocated to a specific area. Future growth is forecast across several areas in the City where some developments utilize existing infrastructure and other developments require new infrastructure. Overall, feedback from both the development industry and City administration expressed concern with the site specific approach and a strong preference toward the City-wide approach which is consistent with the City's historic approach toward the off-site levy.

For the purposes of the current off-site levy calculations, a City-wide off-site levy collection method has been selected for all types of infrastructure as it is consistent with the City's current practice, offers increased funding flexibility to support orderly and timely construction of projects, and provides a consistent levy for the development industry regardless of project location.

2.5.2 CAPACITY-BASED VS REVOLVING TIMEFRAME

The second key consideration when determining the most appropriate off-site levy calculation method is the time horizon for collection relative to each infrastructure category. Generally, there are two (2) time horizons utilized: 1) Capacity-Based; or 2) a Revolving Timeframe. A Capacity-Based Timeframe considers the capacity of particular infrastructure and applies that capacity to the benefitting area. In most cases, this capacity is based on future population thresholds. This approach is typically most appropriate for a limited number of projects where capacity thresholds are easily defined (e.g., treatment facilities).

Conversely, the Revolving Timeframe considers potential development and associated projects within a set number of years or set population horizon. If there are several projects anticipated over time, the Revolving Timeframe approach helps to minimize fluctuations and provides more funding flexibility. For the purposes of the current off-site levy calculations, the approach for each infrastructure category is indicated in Table 3.

Table 3 - Summary of Levy Calculation Method by Infrastructure Type

INFRASTRUCTURE CATEGORY	CAPACITY-BASED TIMEFRAME	REVOLVING TIMEFRAME
Water: Treatment & Supply Projects	✓	
Water: Distribution & Storage Projects		✓
Sanitary: Treatment & Disposal Projects	✓	
Sanitary: Collection Projects		✓
Stormwater Projects		✓
Transportation Projects		✓

2.6 INFILL LANDS

Infill development shall be subject to off-site levies where the lands have not been subject to an off-site levy previously for the same type of infrastructure.

2.7 GRANTS

The City has, and may continue to receive, project specific and/or discretionary grants that may be utilized to help fund off-site levy projects. Application of the grants within the off-site levy program will vary depending on the type of grant. The City has secured various project specific grants through the Provincial Territorial Infrastructure Component Small Communities Fund (PTIC-SCF), Provincial Territorial Infrastructure Component National and Regional Projects Fund (PTIC-NRP), Alberta Municipal Water/Wastewater Partnership (AMWWP), Investing in Canada Infrastructure Program (ICIP), and the Alberta Community Resilience Program (ACRP) which are all applied to total project costs. Both the City and the broader development industry will share the benefit of these grants based upon the allocation of benefit of the respective projects.

3.0 INFRASTRUCTURE PROJECTS

3.1 WATER: TREATMENT & SUPPLY

The City currently draws raw water from the North Saskatchewan River, coveys it via a raw water supply line approximately thirty-four (34) kilometres to the City's water treatment plant and is then distributed to residents and businesses through the watermain distribution system and storage network.

Infrastructure Included
The City builds expanded water treatment capacity improvements and recovers new development's portion of costs through the off-site levy.

Allocation of Benefit
When a water treatment expansion provides capacity and/or improved treatment to existing development, that portion of the project is allocated as benefit to the entire City. However, the required water treatment expansion project identified below is solely required to support new development, and as such, is allocated 100% to new development.

Recovery Approach
Projects related to the treatment of water benefit all new developments regardless of their location. The capacity of this project is well understood and based on future population growth and assumed per capita demands. The capacity of the water treatment expansion project is 20,000 additional residents. Based on an assumed average annual growth rate of 2.2% (see Section 2.1), the capacity timeframe is +/-27 years. This timeframe will vary with adjustments in annual growth rates.

The Water Treatment levy is calculated on a City-wide basis based on the capacity (27 years) of the long-term water treatment expansion project.

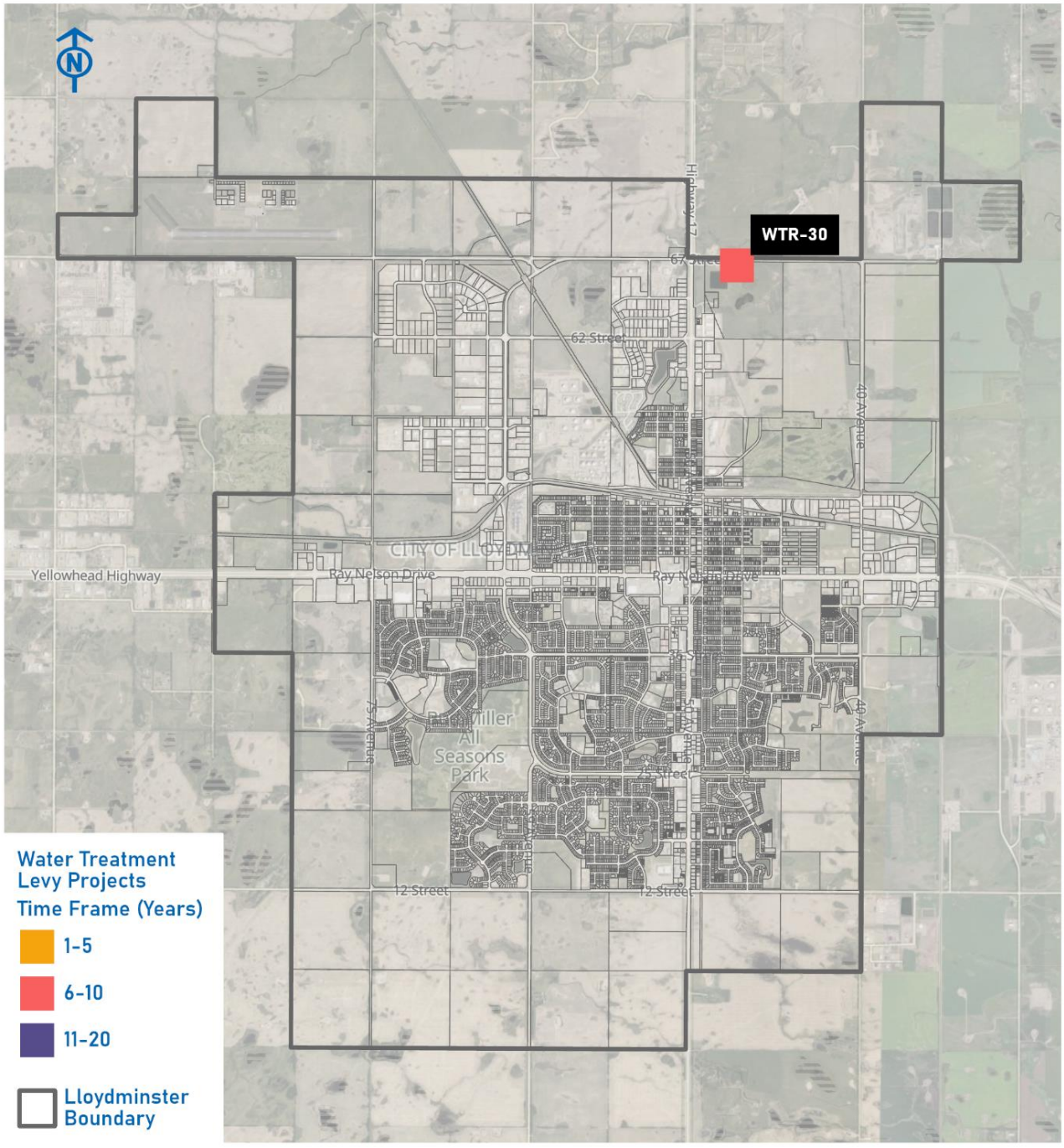
Grants
There are no grants assumed for water treatment projects. Water treatment projects are eligible under the Alberta Municipal Water/Wastewater Partnership grant program and the City could pursue funding to reduce overall project costs.

Future Infrastructure Considerations
The City's current off-site levy program does not include any upgrade to the existing raw water supply line from the North Saskatchewan River. Upgrades to the supply main and additional water treatment expansions will need to be considered in future updates.

Table 4 - Estimated Project Costs – Water: Treatment & Supply

PROJECT ID	PROJECT DESCRIPTION	ESTIMATED PROJECT COST ($2023)	ESTIMATED CONSTRUCTION YEARS	ANTICIPATED GRANT ($2023)	ALLOCATION OF BENEFIT TO NEW DEVELOPMENT
WTR-30	The Water Security Agency (WSA) has confirmed that an expansion to the Water Treatment Plant (WTP) is required and will include expansion of the clarification, filtration and disinfection stages.	$26,328,879	2030-2034	$0	100%

Figure 2 - Future Water: Treatment & Supply Projects



3.2 WATER: DISTRIBUTION & STORAGE

The City's water distribution and storage system is comprised of a single pressure zone including a network of pipes, pumping stations, and a reservoir. Together, the distribution and storage system provide the necessary water pressure and fire flow distribution to serve all customers.

Infrastructure Included

- Water distribution and storage infrastructure in the off-site levy program includes:
  - the West End Reservoir (WER),
  - two (2) pump houses (one at the WTP and the other at the WER), and
  - major off-site distribution mains with a diameter greater than 300mm.

Allocation of Benefit

The City's master plans identified several deficiencies in the existing distribution system, including upgrade projects that will benefit existing development in the City and other projects that will provide benefit to both existing development and new development. Those projects that were identified to only benefit existing development are not included in the off-site levy program. For those projects that will provide benefit to both new development and existing development areas, like the Dedicated Water Line and WER Expansion, costs have been allocated proportionally based on population analysis of future growth and existing residents. Finally, the master plans identify projects that only provide benefit to new development. It is assumed that these projects are required to add additional capacity for growth, and as such, are 100% allocated to growth.

Recovery Approach

Due to the nature of the City's water system, the reservoir and distribution mains that feed the reservoirs can be considered to provide a combined storage volume available to the entire City for growth purposes. The Water Master Plan, 2016, identifies off-site project needs over a 20-year planning horizon. As such, the Water Distribution and Storage Levy is calculated on a City-wide basis using a 20-year revolving timeframe.

Grants

There are no grants assumed for water distribution and storage projects. If eligible, water distribution and storage projects are considered a lower priority under the Alberta Municipal Water/Wastewater Partnership grant program and have not recently been funded.

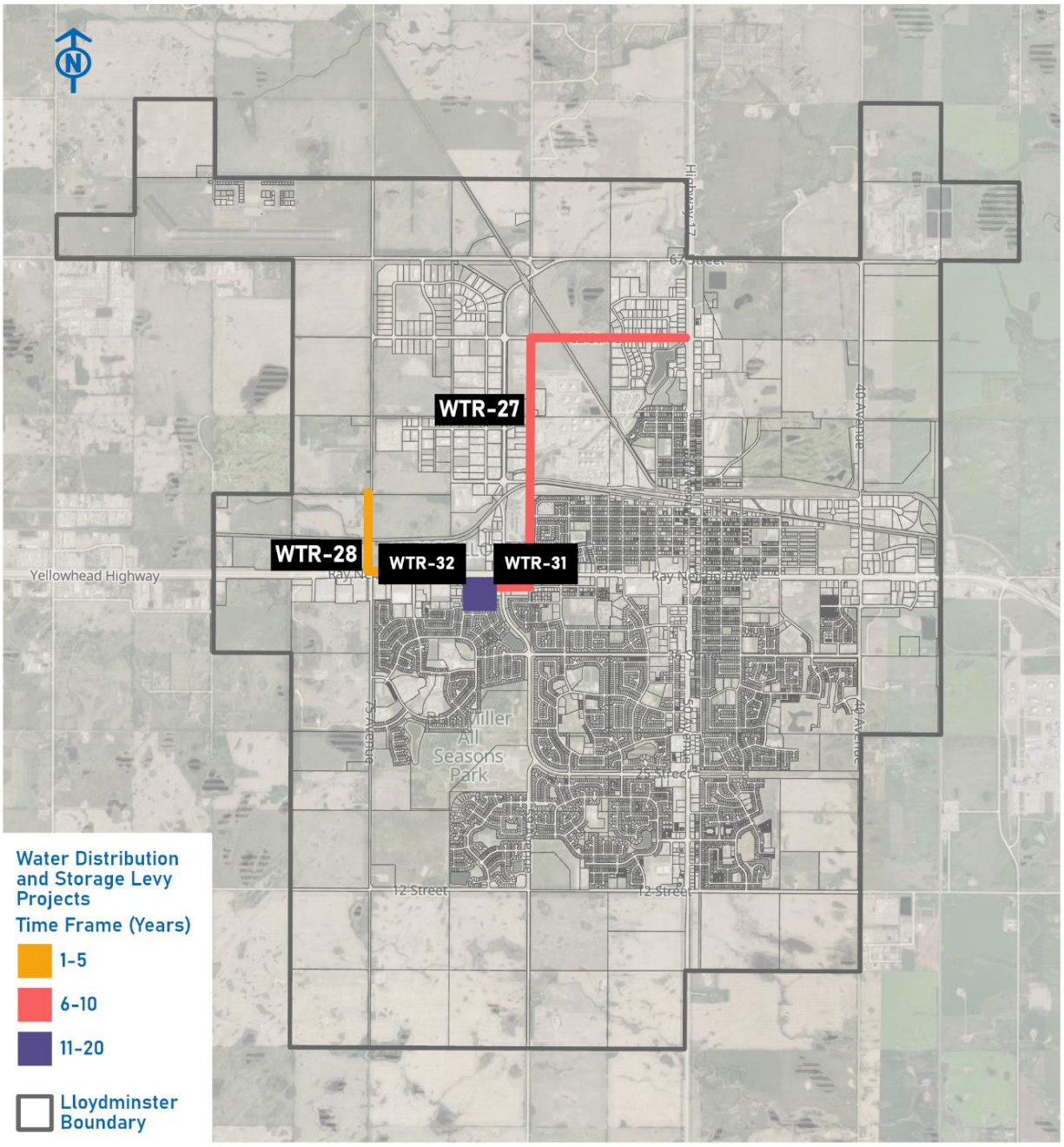
Future Infrastructure Considerations

The City will be reviewing long-term water distribution and storage needs required to accommodate future growth within the annexation lands. Additional water distribution and storage projects will be considered for subsequent off-site levy updates.

Table 5 - Estimated Project Costs – Water: Distribution & Storage

PROJECT ID	PROJECT DESCRIPTION	ESTIMATED PROJECT COST ($2023)	ESTIMATED CONSTRUCTION YEARS	ANTICIPATED GRANT ($2023)	ALLOCATION OF BENEFIT TO NEW DEVELOPMENT
WTR-27	New 750 mm dedicated fill line from the WTP to the WER, 9,850m3 of additional storage and pumping upgrades at the WER.	$25,554,859	2029-2032	-	44%
WTR-28	Extend 500mm main on 44th St. to meet minimum system pressures during peak hour demand in the northwest industrial area.	$2,163,356	2027	-	44%
WTR-31	Upgrade 500 mm main from WER with 750 mm (or equivalent pipe twinning) to minimize headloss and ensure the minimum system pressures are met during peak hour demands.	$1,952,469	2035	-	44%
WTR-32	Demolition of existing above ground reservoir and construction of new expansion in its' place along with additional pumping capacity at WER for peak hour demands.	$10,665,634	2036	-	59%

Figure 3 - Future Water: Distribution & Storage Projects



3.3 SANITARY: TREATMENT & DISPOSAL

The City collects and treats all sewage at their current aerated wastewater stabilization lagoons and disposes of the treated effluent from this facility to the North Saskatchewan River approximately thirty (30) kilometres north of the City. In 2019, the City initiated a procurement process to advance the new Mechanical Wastewater Treatment Facility (WWTF). This major capital project will play a significant role in responding to current Wastewater Systems Effluent Regulations (WSER) limits as well as supporting future growth.

Infrastructure Included
Sanitary treatment and disposal infrastructure includes the new WWTF project as well as a review of the effluent disposal pipeline.

Allocation of Benefit
Each improvement has been reviewed from a capacity, compliance, and condition perspective. The effluent disposal pipeline review study provides benefit related to future capacity and is allocated 100% to growth, while the new WWTF provides benefit related to compliance, condition, and capacity and as such is shared between existing development and future development based on population analysis and consideration of the facility design population of 53,974 residents.

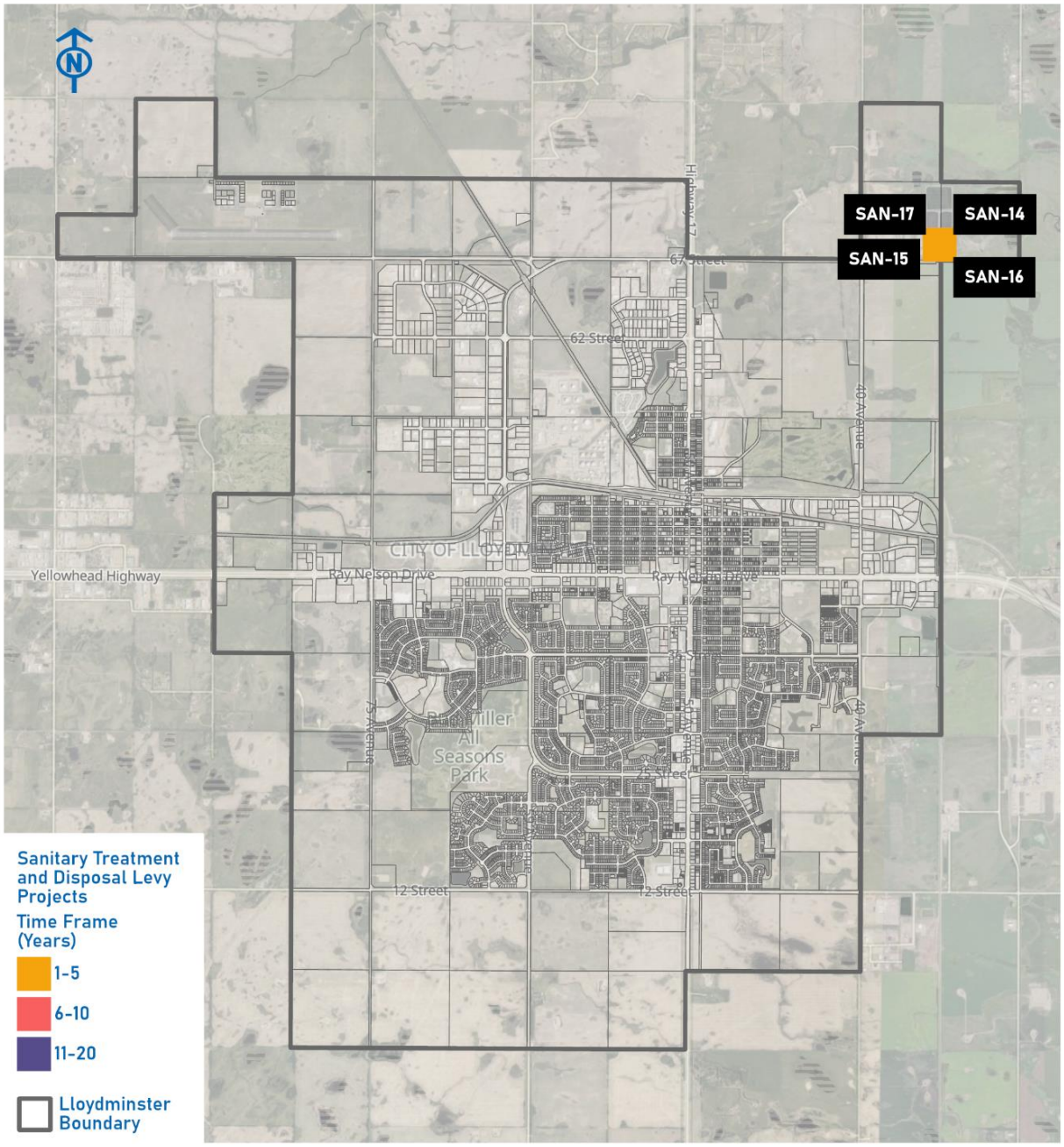
Recovery Approach
Sanitary treatment and disposal projects benefit all new developments, regardless of location. The capacity of the new WWTF is well understood and based on an assumed average annual growth rate of 2.2% (see Section 2.1), the capacity timeframe is 23-years. This timeframe will vary with adjustments in annual growth. The Sanitary Treatment and Disposal Levy is calculated on a City-wide basis and based on the capacity (53,974 residents) of the long-term sanitary treatment solution.

Grants
The City has secured several grants for the new WWTF including the Provincial Territorial Infrastructure Component Small Communities Fund (PTIC-SCF), Provincial Territorial Infrastructure Component National and Regional Projects Fund (PTIC-NRP), Alberta Municipal Water/Wastewater Partnership (AMWWP) and Investing in Canada Infrastructure Program (ICIP). The total of all grant contributions toward the WWTF project is $48,978,915 which is applied to the total project cost. The existing and new development areas in the City will share the proportional benefit of these grant funds.

Table 6 - Estimated Project Costs – Sanitary: Treatment & Disposal

PROJECT ID	PROJECT DESCRIPTION	ESTIMATED PROJECT COST ($2023)	ESTIMATED CONSTRUCTION YEARS	ANTICIPATED GRANT ($2023)	ALLOCATION OF BENEFIT TO NEW DEVELOPMENT
SAN-14 to SAN-17	New mechanical WWTF that will include a membrane bioreactor (MBR) treatment process designed to accommodate a future population of 53,974. The design basis assumes an average daily influent flow of 20,900 m^3/day and a maximum daily flow of 52,650 m^3/day. The new WWTF incorporates or repurposes all the existing treatment infrastructure. Specifically, existing screens are used as coarse screens, lagoon Cell #1 will be reused as sludge storage and digesters, Cells #2 and #3 are reused as a wet weather storage cell and overflow, and the effluent pump station and forcemain are also planned to be reused. The WWTF will have large exterior partially buried concrete tanks for the primary clarifier, equalization and fine screen chambers, bioreactors, and the membrane tanks. The MBR process will be situated in a large pre-engineered process building abutting the administration building, which will be a more traditional framed structure. The new building will seamlessly connect to the existing building. Projects SAN-14 through to SAN-17 represent a four-year implementation period (i.e., one project for each year) that aligns with the City's cashflow projections for the major capital project.	$81,500,000	2021-2024	$48,978,915	32%

Figure 4 - Future Sanitary: Treatment & Disposal Projects



3.4 SANITARY: COLLECTION

The City's sanitary collection system encompasses a network of gravity sanitary sewer mains and one (1) lift station, located at the Lloydminster Golf and Curling Centre, that convey sewage to the City's existing treatment and disposal infrastructure.

Infrastructure Included
Sanitary collection infrastructure includes major off-site sanitary sewer trunk mains, which include twinning of existing infrastructure or new dedicated trunk mains that serve new development areas. Consistent with the City's current approach, only the oversize portions of trunk mains are included within the sanitary collection project costs whereby the local developer is responsible for the cost of a 375mm diameter trunk main.

Allocation of Benefit
Typically, sanitary collection improvements are either new extensions connecting new development to the sanitary collection system or upgrades to existing infrastructure to accommodate additional capacity for new development. Only when existing infrastructure is upgraded (replaced) and aging infrastructure is renewed will the City consider an allocation of costs to existing development. All the Sanitary Collection projects included within the off-site levy program are extensions to new development areas or twinning of existing infrastructure. As such, there is no benefit to existing development and the allocation of benefit is 100% to new development.

Recovery Approach
A City-wide recovery approach is used for sanitary collection. Consistent with the City's current practice, the entire sanitary collection system improvements have been viewed collectively as required system improvements that benefit new development regardless of where developments are located.

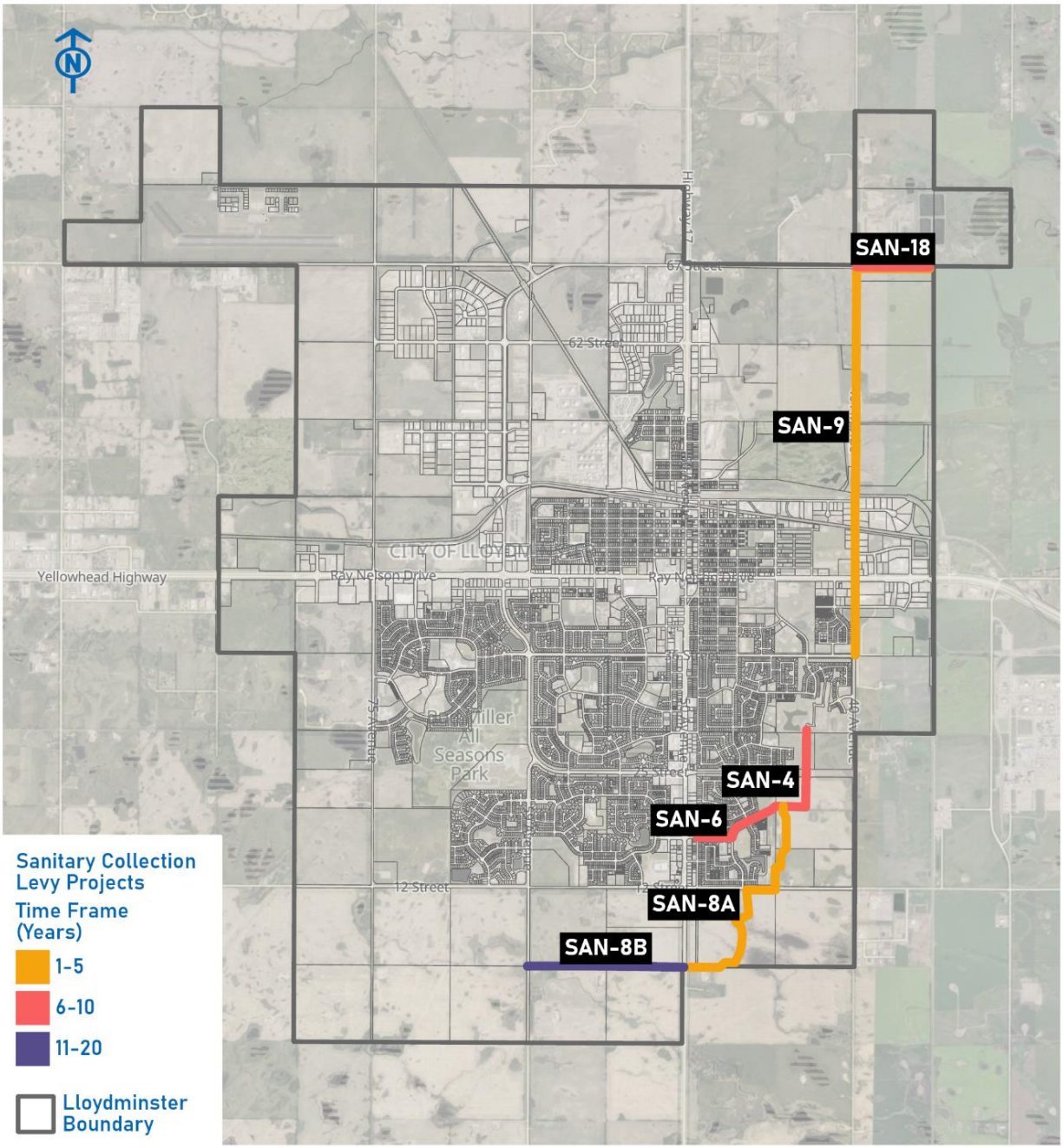
Based on the Sanitary Sewer Master Plan, 2016, a number of projects were identified that would be required within specific horizon periods and their associated design populations (e.g., 10-year, 20-year, 40-year). The speed and pattern of new development will dictate the exact timing. As such, the anticipated timeframe for Sanitary Collection projects has been captured within 20-year horizon with project costs averaged over this period using a revolving window. Based on an assumed average annual growth rate of 2.2% (see Section 2.1) and consideration of the design population for specific projects, the Sanitary Collection levy is calculated on a City-wide basis over a 24-year revolving timeframe.

Grants
There are no grants assumed for sanitary collection projects.

Table 7 - Estimated Project Costs – Sanitary: Collection

PROJECT ID	PROJECT DESCRIPTION	ESTIMATED PROJECT COST ($2023)	ESTIMATED CONSTRUCTION YEARS	ANTICIPATED GRANT ($2023)	ALLOCATION OF BENEFIT TO NEW DEVELOPMENT
SAN-4	The initial portion ranging from 600 mm to 750 mm diameter trunk main connecting to the southeast trunk at the intersection of 19th Street and 47th Avenue, and then increasing to a 1,200 mm diameter trunk main at SAN-8A which drains north to connect to the existing 1,350 mm diameter trunk at the intersection of 29th Street Close and 43rd Avenue.	$5,503,932	2029	-	100%
SAN-6	Twinning the southeast trunk with a 525 mm diameter trunk main along 18th Street and 19th Street between 47th Avenue and 49th Avenue and connecting to SAN-4.	$4,255,624	2031-2032	-	100%
SAN-8A	New development areas south of 12th Street require an extension of the South Trunk, ranging in size from 900 mm to 1,200 mm diameter, starting at Highway 17 in the southwest and draining north to SAN-4.	$11,442,747	2028-2032	-	100%
SAN-8B	New development areas west of Highway 17 require a new 900mm diameter trunk main between 59th Avenue and connecting to SAN-8A at Highway 17.	$3,578,091	2037-2042	-	100%
SAN-9	Future growth flows exceed capacity of the existing East Trunk, requiring a twin 1,200 mm diameter trunk main connecting to the existing 1,200 mm diameter trunk at 52nd Street and 40th Avenue. The trunk would travel north along 40th Avenue to 67th Street, where it would then drain east to the wastewater treatment facility.	$37,139,166	2028-2033	-	100%
SAN-18	New development in the City's north industrial lands will require a new Northwest trunk. A 1,050mm diameter trunk will run along 67th street to 40th Avenue, connecting to the wastewater treatment facility.	$7,884,615	2028-2032	-	100%

Figure 5 - Future Sanitary: Collection Projects



3.5 STORMWATER

The City's stormwater management system encompasses a network of storm sewer mains, stormwater management facilities or lakes, a number of drainage channels, culverts, catchbasins, and roadway surfaces.

Infrastructure Included
Stormwater infrastructure includes upgrades to the existing storm sewer mains, culverts, drainage channels, and capacity improvements for stormwater management facilities or lakes.

Allocation of Benefit
The Stormwater Master Plan, 2015, identified several deficiencies within the existing stormwater management system – upgrade projects that will benefit existing development in the City and are not included in the off-site levy program. Other projects, like the upgrades to the Northwest Drainage Channel, will benefit both new development and existing development areas – these costs will be allocated proportionally based on the amount of contributing catchment area between existing and new development.

Recovery Approach
A City-wide recovery approach is used for stormwater projects. Consistent with the City's current practice and the stormwater collection projects noted above, stormwater system improvements have been viewed collectively as required system improvements that benefit new development regardless of where developments are located.

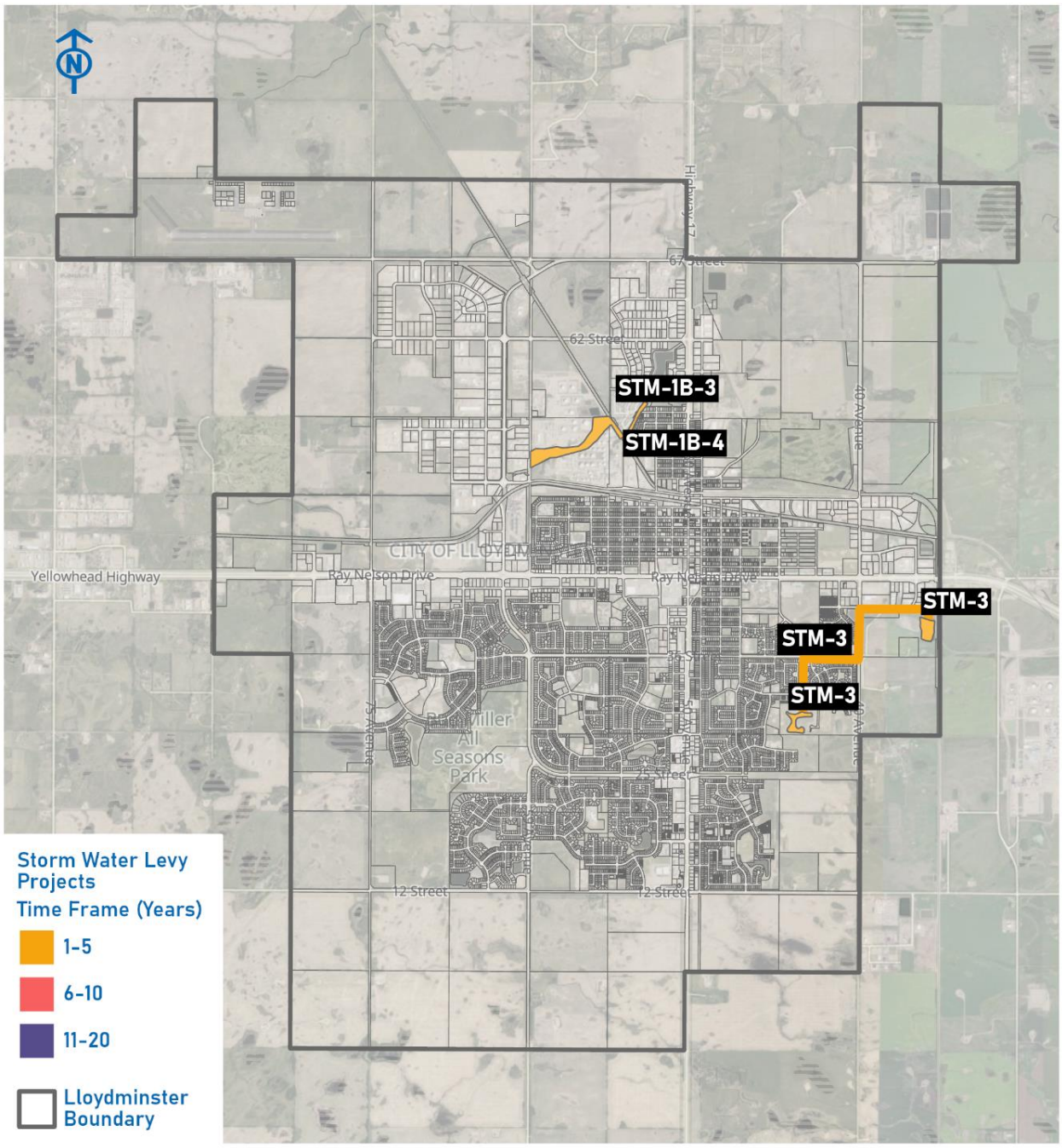
Based on the master plan, several projects were identified that would be required to accommodate future growth over the long term. The anticipated timeframe for stormwater projects has been captured within the identified time horizons with project costs averaged over this period using a revolving window. Based on an assumed average annual growth rate of 2.2% (see Section 2.1), the Stormwater levy is calculated on a City-wide basis over a 20-year revolving timeframe.

Grants
The City has secured a grant through the Alberta Community Resilience Program (ACRP) for the Northwest Drainage Channel project. The total of all grant contributions toward the project is $1,621,904 which is applied to the total project cost. The existing and new development areas in the City will share the proportional benefit of these grant funds.

Table 8 - Estimated Project Costs – Stormwater

PROJECT ID	PROJECT DESCRIPTION	ESTIMATED PROJECT COST ($2023)	ESTIMATED CONSTRUCTION YEARS	ANTICIPATED GRANT ($2023)	ALLOCATION OF BENEFIT TO NEW DEVELOPMENT
STM-1B-3	Northwest Drainage Channel Phase 1B-3 (CP Rail to 57th Street) to address existing system deficiencies and accommodate new development by increasing the conveyance capacity of the channel and culvert crossings at specific locations.	$1,966,909	2024	$1,621,904	39%
STM-1B-4	Northwest Drainage Channel Phase 1B-4 (59th Avenue to CP Rail) to address existing system deficiencies and accommodate new development by increasing the conveyance capacity of the channel and culvert crossings at specific locations.	$5,463,635	2024-2026	-	39%
STM-3	New development in the east central part of the City will require upgrades to the East Drainage Channel between Jaycee Lake (Lake J) and Lake K via 1,600 mm and 2,200 mm diameter culverts as well as earthworks to increase storage capacity for each lake.	$9,694,147	2025-2026	-	13%

Figure 6 - Future Stormwater Projects



3.6 TRANSPORTATION

The City's transportation system consists of a network of minor and major roadways and intersections.

Infrastructure Included
Transportation infrastructure projects in the off-site levy program include the extensions as well as twinning and urbanization of major arterial roadways and associated intersection upgrades.

Allocation of Benefit
Determining allocation of benefit for transportation projects is difficult. It is anticipated as new development occurs, the level of service on existing roads and at existing intersections will decline. As improvements to the transportation network are implemented (e.g., twinning of roads, upgrading of intersections, etc.) the level of service for existing development could improve for a period of time and then diminish again as growth continues.

The Lloydminster Transportation Master Plan, 2016, considers the need for network improvements to accommodate development within and surrounding the City. To account for benefit outside of the City's current municipal boundary, all transportation project costs have been reduced by 18% to account for the 'regional benefit' based on population analysis. The City may want to consider the development of intermunicipal levies to recover these costs.

Some Transportation projects included within the off-site levy program are extensions to new development areas or twinning to accommodate new development. As such, there is no benefit to existing development and the allocation of benefit is 82% to new development, accounting for the 18% reduction for regional benefit. Other projects, like the twinning of 75th Avenue, will benefit both new development and existing development areas. The benefit to new development for twinning projects will be 52% based on the unit cost of road upgrades to provide additional capacity or to oversize existing arterial roads, again accounting for the 18% reduction for regional benefit.

Recovery Approach
Transportation projects provide benefit to the overall transportation system in the City and there are several transportation projects identified over the next twenty (20) years. Based on the master plan and adjustments in project timing to account for anticipated growth a number of projects have been identified within the 20-year planning horizon. Again, the rate and pattern of new development will dictate the exact timing. As such, the anticipated timeframe for transportation projects have been captured within the identified time horizon with project costs averaged through this period.

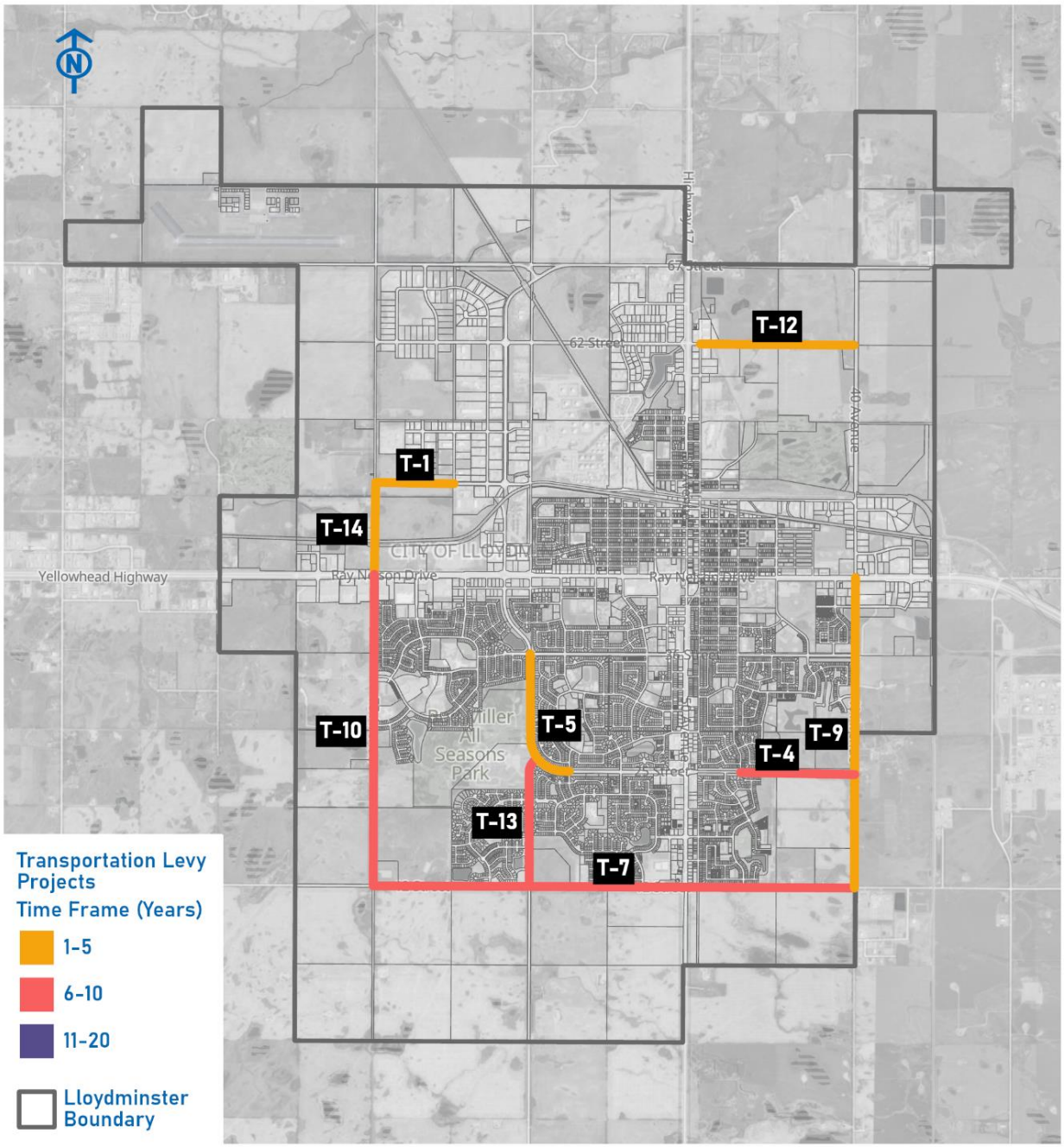
The transportation off-site levy is calculated on a City-wide basis over a 20-year revolving timeframe.

Grants
There are no grants assumed for transportation projects.

Table 9 - Estimated Project Costs – Transportation

PROJECT ID	PROJECT DESCRIPTION	ESTIMATED PROJECT COST ($2023)	ESTIMATED CONSTRUCTION YEARS	ANTICIPATED GRANT ($2023)	ALLOCATION OF BENEFIT TO NEW DEVELOPMENT
T-1	Extending the first two lanes of the future four-lane arterial of 52nd Street to 75th Avenue.	$7,102,726	2023-2024	-	82%
T-4	Extending the lanes of the future four-lane arterial of 25th Street to 40th Avenue from 47th Avenue.	$6,556,362	2031	-	82%
T-5	Twinning of College Drive, adding two additional lanes to create an urbanized four-lane arterial from 36th Street to 47th Avenue.	$12,231,295	2028-2029	-	82%
T-7	Twinning of 12th Street, adding two additional lanes to create an urbanized four-lane arterial from 40th Avenue and 75th Avenue.	$19,393,170	2027-2042	-	52%
T-9	Twinning of 40th Avenue adding two additional lanes to create an urbanized four-lane arterial from 12th Street and 44th Street.	$8,288,721	2024-2042	-	52%
T-10	Twinning of 75th Avenue adding two additional lanes to create an urbanized four-lane arterial from 12th Street and 44th Street.	$8,861,618	2029-2042	-	52%
T-12	Extending the first two lanes of the future four-lane arterial of 62nd Street from 40th Avenue to 49th Avenue.	$9,507,651	2028-2032	-	82%
T-13	Twinning of 59th Avenue adding two additional lanes to create an urbanized four-lane arterial from 12th Street and 25th Street.	$5,180,451	2033-2042	-	52%
T-14	Twinning of 75th Avenue adding two additional lanes to create an urbanized four-lane arterial from 44th Street to 52nd Street.	$3,510,517	2024-2025	-	52%
T-15	Rail grade separation study.	$81,955	2023	-	42%

Figure 7 - Future Transportation Projects



4.0 OFF-SITE LEVY CALCULATION

4.1 FINANCIAL MODEL INPUTS

The updated Off-Site Levy Bylaw charges are based on a cash flow projection model that requires financial input assumptions to be utilized. Financial model inputs include interest earned, carrying costs, and inflation. When a projected positive fund balance occurs, interest earned is applied to the positive balance. Conversely, when a fund balance is negative (e.g., the City front-ends infrastructure prior to collecting enough off-site levy funds to cover the project costs) a borrowing cost is applied to the negative balance. An annual inflation rate is applied to future project costs and levy collections. The following are the assumptions used in the model and are based on current and historical trends:

Table 10 - Financial Model Inputs

INPUT	RATE (%)	RATIONALE
Interest Earned on Positive Fund Balances	2.31%	Based on historical averages between 2017-2020
Borrowing Cost on Negative Fund Balances	4.18%	Based on average of the last 2 years rates using a 30-year borrowing period Alberta government no longer backing loans through Alberta Capital Finance Authority
Inflation Rate	3.00%	Bank of Canada target range is 1-3% 3-year average is 3.3% 5-year average is 2.8%

4.1.1 PAYMENT TIMING

The financial model for determining the off-site levies also needs to consider the timing of off-site levy payments. The City's Off-site Levy Policy No. 610-07 incorporates a tiering system to assess Developers based on past performance and sets out the City's expectations in terms of actual timing of off-site levy payments for Developers, which includes provisions for deferred payments. To facilitate calculation of the off-site levy, the financial model assumes off-site levies are due through three (3) installment payments:

1. 40% of levies shall be paid prior to the execution of the Development Agreement or release of a development permit;
2. 30% of levies shall be paid within one (1) year of the execution of the Development Agreement or release of a development permit; and
3. 30% of levies shall be paid within two (2) years of the execution of the Development Agreement or release of a development permit.

4.1.2 INFILL DEVELOPMENT

Infill development typically involves the intensification of land use on an existing subdivided property where the intensification is expected to result in new or improved infrastructure to service growth. 100% of off-site levies shall be paid prior to release of a development permit where the City has not already collected off-site levy charges in relation to the infill development.

4.2 FUND LEVY BALANCES

In order to properly account for the previous collection of off-site levies, off-site levy fund balances are brought forward into the off-site levy financial model. This ensures off-site levies collected to date for future projects are accounted for in the off-site levy calculations to avoid collecting twice for projects. Correspondingly, any deficit fund balances, resulting from previously constructed City-wide projects where off-site levies have not been fully collected, are brought forward to the new off-site levy calculation.

As a result, the financial model starts with either a positive or negative fund balance for each of the off-site levy fund infrastructure categories to reflect the current off-site levy fund balances that were provided by the City to the end of December 2022:

Table 11 - Levy Fund Balances

INFRASTRUCTURE CATEGORY	FUND BALANCE (DEC 31, 2022)
Water: Treatment & Supply	$ 568,178
Water: Distribution & Storage	$ 1,136,357
Sanitary: Treatment & Disposal	$ 487,306
Sanitary: Collection	$ 974,611
Stormwater	($ 2,928,241)
Transportation	$ 8,763,790

4.3 SUMMARY OF OFF-SITE LEVY RATES

The following off-site levy calculations are based on assumptions provided in this report. The off-site levy rates will be effective as of the passing of the Bylaw. The future off-site levies are to be calculated using an inflation factor of 3.00% per year.

Table 12 - Levy Summary by Infrastructure Category

INFRASTRUCTURE CATEGORY	OFF-SITE LEVY (HA)		
	EFFECTIVE UNTIL DEC. 31, 2023	EFFECTIVE UNTIL DEC. 31, 2024	EFFECTIVE UNTIL DEC. 31, 2025*
Water: Treatment & Supply (Common Levy)	$17,375	$17,896	$18,433
Water: Distribution & Storage (Common Levy)	$17,160	$17,675	$18,205
Sanitary: Treatment & Disposal (Common Levy)	$8,975	$9,245	$9,522
Sanitary: Collection (Common Levy)	$66,960	$68,969	$71,038
Stormwater (Common Levy)	$6,578	$6,775	$6,978
Transportation (Common Levy)	$41,220	$42,456	$43,730
Levy Total	**$158,267**	**$163,015**	**$167,906**

**Off-Site Levy rates beyond December 31st, 2025 are subject to an annual 3.00% inflationary increase.*