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LAND ACKNOWLEDGMENT

The lands on which Edmonton sits and the North Saskatchewan River that runs through it have been the sites of natural abundance, ceremony and culture, travel and rest, relationship building, making and trading for Indigenous peoples since time immemorial.

The City of Edmonton acknowledges the traditional land on which we reside is in Treaty Six Territory. We would like to thank the diverse Indigenous Peoples whose ancestors' footsteps have marked this territory for centuries, such as nêhiyaw / Cree, Dene, Anishinaabe / Saulteaux, Nakota Isga / Nakota Sioux, and Niitsitapi / Blackfoot peoples. We also acknowledge this as the Métis' homeland and the home of one of the largest communities of Inuit south of the 60th parallel. It is a welcoming place for all peoples who come from around the world to share Edmonton as a home. Together we call upon all of our collective, honoured traditions and spirits to work in building a great city for today and future generations.

The City of Edmonton owes its strength and vibrancy to these lands and the diverse Indigenous peoples whose ancestors' footsteps have marked this territory as well as settlers from around the world who continue to be welcomed here and call Edmonton home.



The City of Edmonton recognizes that, as settlers to this land, we must do better. Reconciliation begins with acknowledging historical traumas and current disparities. The City recognizes it needs to honour and respect its foundational relationship with the First Peoples of Canada. This will be accomplished through living the values of mutual respect, responsibility and renewal to build and maintain strong relationships between all City employees and Indigenous Peoples.

The Indigenous Framework has been built on years of dialogue with Indigenous communities, through formal and informal relationships with Elders, community Knowledge Keepers and Indigenous youth, as well as information gathering from research and discussions with municipal and community leaders, service providers and academic professionals. This important work is intended to answer the question:

“How can the City of Edmonton best support and build strong relationships with Indigenous Peoples in Edmonton?”

Through the adoption of this framework, it becomes the responsibility of each and every City of Edmonton employee to forge stronger relationships with the descendants of the original inhabitants of this land and to recognize we all have roles to play in our journey towards reconciliation. The framework is designed to be a living initiative that will change and adapt as our relationships grow and mature.

It is the responsibility of every employee to live out these four roles in their interactions with indigenous Peoples:

Listener: “We listen, with open hearts and minds, when Indigenous Peoples share their stories and experiences.”

Connector: “We connect Indigenous Peoples to the programs, services, people and resources that enrich the community and foster relationships to create positive change.”

Advocate: “We stand with Indigenous Peoples to create a safe and inclusive city where everyone is treated with dignity and respect.”

Partner: “We work in partnership with Indigenous Peoples on initiatives to improve the physical, mental, spiritual and emotional well-being of Indigenous Peoples in Edmonton.”



BLATCHFORD RENEWABLE ENERGY UTILITY

Outcome: Blatchford will be home to up to 30,000 Edmontonians living, working and learning in a sustainable community that uses 100% renewable energy, is carbon neutral, significantly reduces its ecological footprint, and empowers residents to pursue a range of sustainable lifestyle choices.

Blatchford Renewable Energy's strategic objectives include the growth of the District Energy Sharing System and the integration of emerging technologies into the utility's operation. The overall goal is to reach steady, reliable operation and financial sustainability while achieving Council's vision for a carbon neutral community powered entirely by renewable energy. Blatchford's District Energy Sharing System has been operational for over two years and the utility's focus is on day-to-day operations, maintaining and connecting new customer connections while also planning the extension and development of the next Energy Centres as the development grows.

A key strategy of Edmonton's Community Energy Transition Strategy

Emissions-neutral electricity grid by 2050

The overall goal is to reach steady, reliable operation and financial sustainability while achieving Council's vision for a carbon-neutral community powered entirely by renewable energy.

Blatchford Renewable Energy

At full-built out, the Utility is expected to provide **46,789** and **43,747 MWh** heating and cooling energy respectively to Blatchford residents and businesses.

Complies with environmental regulations and goals to **protect the environment and biodiversity**.

Downtown District Energy Initiative

>A **City-wide** decarbonized district energy network by 2050.

> Distributed energy centres will provide **redundancy** by supplying energy into the District Energy Sharing System from various locations.

Significantly reducing greenhouse gas emissions and increasing energy resilience in the heart of Edmonton.

BRANCH BY THE NUMBERS
BLATCHFORD RENEWABLE ENERGY UTILITY



Branch Services Delivered

Provision of Sustainable Thermal Energy Services
<p>Sustainable Heating and Domestic Hot Water Energy Services: At full build out, the Blatchford Renewable Energy utility net District Energy Sharing System annual heating loads are currently estimated to be 46,789 MWh with peak heating demand of 34,543 kW.</p>
<p>Sustainable Cooling Energy Services: At full build out, the Blatchford Renewable Energy utility net District Energy Sharing System annual cooling loads are currently estimated to be 43,747 MWh with peak cooling demand of 46,601 kW.</p>

Key Actions for 2023-2026

The focus for Blatchford Renewable Energy over the next four years will be on the continuation of the utility's operational performance, the extension of the distribution piping network and the growth of existing and new energy centres.

The first Blatchford residents have been connected for almost two years and the District Energy Sharing System has worked without any interruptions or concerns. The variability and flexibility of the utility has provided comfortable heat and cooling energy throughout the initial years of operation. While the operations and engineering teams are monitoring the performance of the first energy centre, Blatchford Renewable Energy started the process of planning the anticipated growth in the community. The next four years will include a series of operational activities described in more detail below:

Energy Centre One Expansion

The current capacity at Energy Centre One is one (1) megawatt (MW) of heating and cooling energy respectively, which is enough to service the first few land development stages in Blatchford. The expansion of Energy Centre One is needed to provide energy for land development stages in Blatchford west and east which are anticipated to come online between 2023 and 2026. This includes larger developments on the east side of Blatchford such as Hangar 11 and the anticipated initial NAIT campus extension, which will be serviced by Energy Centre One. At full capacity, Energy Centre One will be able to generate 4.25 MW of heating and 4 MW of cooling energy. The design effort for the expansion of Energy Centre One is underway and the capital budget in 2023 and 2024 to extend the capacity is \$3.2 million dollars.

Design and Construction of the Next Energy Centre

According to the current development scenario, additional energy capacity in the District Energy Sharing System, apart from Energy Centre One, will be needed by 2026. To keep in line with the vision for Blatchford and the original business case for the District Energy Sharing System, the next major renewable energy source would be the heat from the two combined sewer lines which meet under the future Blatchford market area. The majority of this energy demand would need to be provided by a new Sewer Heat Exchange Energy Centre. With the project in schematic design development, the utility has learned that updated sewer flow forecasts from EPCOR have reduced the expected future flow and hence the energy potential from the combined sewer system. After the review of the updated business case for the Sewer Heat Exchange Energy Centre, the utility will advance a previously planned peaking Energy Centre prior to the construction of the Sewer Heat Exchange Energy Centre. At current estimations, the peaking Energy Centre would be commissioned in 2026 at an approximate cost of \$15.3 million dollars.

Extension of Distribution Piping Network

The distribution piping network distributes the energy from the energy centres to the buildings and utility customers. As the development grows, so will the piping network. In order to facilitate the anticipated Blatchford development scenario, additional distribution piping is expected to be needed over the next four years in Blatchford west, east and the market area. The total capital forecast for the 2023 to 2026 budget is \$4.9 million dollars for the planned extension of the distribution piping network.

Connecting New Customers

Based on land sales and home builder construction, the utility is projected to be connected to 53 townhouse accounts by the end of 2022. The number of expected accounts is anticipated to increase to 143 in 2023 and to 216, 290 and 442 in the years 2024 to 2026 respectively. By 2026, Blatchford Renewable Energy expects to provide thermal energy services to a connected floor space area of approximately 400,000 m², with all of this energy coming from the first energy centre.

Performance

Performance Measure	Actual/ Forecast/ Trend				2023-2026 Desired Trend
	2020	2021	2022	2026	
	Actual	Actual	Forecast	Forecast	
Goal: A Healthy Community Well Served					
Thermal Energy Provided by DESS (Cumulative)	1MWh	214 MWh	798 MWh	29,762 MWh	↗
Goal: Environmental Stewardship					
Renewable Energy (Utility) ¹	96%	96%	96%	96%	→
GHG reduction (Utility) ²	8.5 tCO ₂ e	33 tCO ₂ e	23 tCO ₂ e	2,612 tCO ₂ e	↗
Goal: Operational Effectiveness					
Total floor area connected to the DESS (Cumulative)	1,504 m ²	5,787 m ²	15,000 m ²	403,335 m ²	↗

¹ Renewable Energy (Utility): Percent of renewable energy used for utility-owned and operated equipment

² GHG Reduction (Utility): Tonnes of carbon dioxide equivalent reduced from utility operation

Emerging Opportunities and Risks

Emerging Opportunities
<p>Opportunity to grow the utility outside of its current service area</p> <p>Over the last year there has been interest from building owners located outside the utility's service area to connect to the District Energy Sharing System. This interest is driven mostly by acknowledging the sustainability impacts to connecting. NAIT indicated that they would like to look into the feasibility of connecting buildings on their existing campus to the utility in the future. The ability to service more buildings would need to be evaluated on an individual basis, but could be of benefit to the utility and the City's overall greenhouse gas reduction efforts.</p>
<p>Partnership with external industry partner</p> <p>While still in its infancy, Blatchford Renewable Energy continues to evaluate the timing and opportunities related to engaging an external service provider with plans to further investigate this opportunity in 2023. This engagement is an ongoing mandate by Council, however the right timing and pathway would need to be evaluated and implemented.</p>
<p>Integration of emerging technologies</p> <p>The strategic objectives of Blatchford Renewable Energy continue to focus on the growth of the District Energy Sharing System and the integration of emerging technologies. The utility continues to monitor the fast changing market for applicable sustainable energy services technologies which could further support the Blatchford vision.</p>
Emerging Risks
<p>External investment</p> <p>The need for external investment for the utility to close the existing funding gap in the long term financial model remains. The utility, with Council's support, continues to advocate for grant opportunities on the provincial and federal level. The impact on rate structure and uptake in customers is critical for long term viability.</p>
<p>Pace of land development</p> <p>Close collaboration between the Blatchford Redevelopment Office and Blatchford Renewable Energy ensures planning and construction are aligned and expedites monitoring and updating the financial performance of both entities. As with any large land development project, Blatchford uses a staging plan. However, the sequence and timing of the stages are subject to change depending on the market conditions and construction progress. The current operational, energy and financial model for the utility is based on the most recent development scenario for Blatchford and will be adjusted as necessary and in alignment with the land development plans.</p>

Supply chain constraints

Inflation, high fuel prices and potential labour shortages causing higher production and transportation costs, as well as service impacts, could affect procurement plans and budget forecasts, therefore impacting the utility's growth.

Potential change in regulations

Blatchford Renewable Energy works closely with its partners, all levels of government and key players in the energy and utility market to ensure any potential changes in regulations that may affect energy costs and other levies are recognized and implemented in any updated forecast.

Branch Summary by Program

Branch - Blatchford Renewable Energy Utility

2023-2026 Budget - Branch Summary by Account Category

(\$000)	2021 Actuals	2022 Projected	2023 Approved	2024 Approved	2025 Approved	2026 Approved
Revenue and Transfers						
Rate Revenue	11	14	145	694	1,225	2,007
Infrastructure Fees	43	67	996	755	1,590	1,933
Grant Revenue	56	-	-	-	-	-
Total Revenue and Transfers	\$110	\$81	\$1,141	\$1,449	\$2,815	\$3,940
Net Expenditure and Transfers						
Personnel	360	288	575	587	600	613
Materials, Goods, and Supplies	11	3	11	11	11	11
External Services	351	261	661	533	529	478
Intra-municipal Charges	138	397	369	395	417	442
Utilities & Other Charges	48	72	74	85	91	92
Amortization	143	142	177	386	572	736
Debt	555	573	1,203	1,523	1,935	2,547
Subtotal	1,606	1,736	3,070	3,520	4,155	4,919
Intra-municipal Recoveries	-	-	-	-	-	-
Total Net Expenditure and Transfers	\$1,606	\$1,736	\$3,070	\$3,520	\$4,155	\$4,919
Total Net Operating Requirement before other revenue	(\$1,496)	(\$1,655)	(\$1,929)	(\$2,071)	(\$1,340)	(\$979)
Other Revenue - Developer Contributions - Capital	-	-	2,000	1,500	450	1,000
Total Net Operating Requirement	(\$1,496)	(\$1,655)	\$71	(\$571)	(\$890)	\$21
Full Time Equivalents	3.10	3.10	5.10	5.10	5.10	5.10

Branch - Blatchford Renewable Energy Utility

Summary of Budget Changes - Net Requirement

(\$000)	2023 Approved	2024 Approved	2025 Approved	2026 Approved
Previous Year's Budgeted Revenue	81	1,141	1,449	2,815
Rate Revenue	131	549	531	782
Infrastructure Fees	929	(241)	835	343
Grant Changes	-	-	-	-
Total Budget Revenue	\$1,141	\$1,449	\$2,815	\$3,940
Previous Year's Budgeted Expenditures	1,736	3,070	3,520	4,155
Previously Approved Adjustments	-	-	-	-
Administrative Adjustments	-	-	-	-
Revised Base Budget	1,736	3,070	3,520	4,155
Existing Services (Incremental to Base)				
Cost Changes	619	337	500	553
Efficiency & Cost Savings	-	-	-	-
Total Impact on Existing Services	619	337	500	553
Growth/New Services				
Customer Growth & Program Changes	715	113	135	211
Total Growth/New Services	715	113	135	211
Total Budget Expenditures	\$3,070	\$3,520	\$4,155	\$4,919
Other Revenue - Developer Contributions - Capital	2,000	1,500	450	1,000
Total Net Income(Loss)	\$71	(\$571)	(\$890)	\$21
Full Time Equivalents	2.0	0.0	0.0	0.0

Details of Budget Changes

Revenue Changes

- Annual rate revenue increases as additional residents move into Blatchford and become customers of Blatchford Renewable Energy. Up to 2023, all connections have been to fee-simple townhouses. From 2023 - 2026, growth is expected to include several new medium density apartments, new strata townhouse complexes, retail and residential mixed-use buildings, a new student union residence and a new fire hall.
- Year-over-year changes in infrastructure revenue reflect the timing of the one-time infrastructure fee paid by builders to connect to Blatchford Renewable Energy.

Expenditure Changes

Existing Services (Incremental to Base)

- Increased costs related to higher facility maintenance and shared costs with more utility infrastructure coming online and increased rate and contract work.
- Increased effort and costs for design and construction management given the anticipated growth from 2023 to 2026, especially in the multi-unit building sector.

Growth/New Services

- Increased contract costs for feasibility studies to extend outside of the current service area and to prepare and execute the engagement of a third party industry partner for the utility.
- This includes the motion made at Executive Committee on October 12, 2022 for BRE to prepare an unfunded service package to undertake a feasibility study to expand the Utility to areas adjacent to Blatchford outside the current service area including, but not limited to, Hangar 14.
- Increased costs for rate integration work for EPCOR's automatic billing system on behalf of the utility.

Other Revenue - Developer Contribution - Capital

- New capital costs related to the development of the Energy Transfer Stations will be recovered from the builders in Blatchford. These transfer stations in the Blatchford apartment buildings connect and distribute energy from the District Energy Sharing System operated by the Utility.
- The builder will pay for central mechanical room equipment in multi-unit buildings, which will then be owned, operated and maintained by BREU. These will be contributed assets on BREU's balance sheet and will not attract a net depreciation expense or a return on rate base.

Incremental Change in Full-Time Equivalents

- Two new full-time equivalents: the addition of a new Project Coordinator and a Business Analyst to provide business planning and engineering support with the anticipated utility growth, the management of additional energy centre construction and capacity, the extension of the distribution piping network and increased customer connections.

Amortization

- Amortization is calculated on a straight line basis as assets are put into service which incurs a half year of expenses in the first and last year of the asset's life.

Interest

- Interest Expense includes interest due to the City of Edmonton for use of working capital and interest on long term debt used to finance capital expenditures. Interest on working capital is calculated on rates ranging from 4.63 per cent to 5.38 per cent. Interest is calculated on long term borrowing of 25 years at rates ranging from 5.33 per cent to 6.00 per cent.

Branch - Blatchford Renewable Energy Utility

Pro-Forma Income Statement

(\$000)	2021 Actuals	2022 Projected	2023 Approved	2024 Approved	2025 Approved	2026 Approved
Revenues						
Rate Revenue	11	14	145	694	1,225	2,007
Infrastructure Fees	43	67	996	755	1,590	1,933
Grant Revenue	56	-	-	-	-	-
Total Revenue	\$110	\$81	\$1,141	\$1,449	\$2,815	\$3,940
Expenses						
Operating and maintenance	908	1,021	1,690	1,611	1,648	1,636
Amortization of tangible capital assets	143	142	177	386	572	736
Interest	555	573	1,203	1,523	1,935	2,547
Total Expense	\$1,606	\$1,735	\$3,070	\$3,520	\$4,155	\$4,919
Total Net Operating Requirement before other revenue	(\$1,496)	(\$1,654)	(\$1,929)	(\$2,071)	(\$1,340)	(\$979)
Other Revenue - Developer Contribution - Capital	-	-	2,000	1,500	450	1,000
Net Income/(Loss)	(\$1,496)	(\$1,654)	\$71	(\$571)	(\$890)	\$21
Opening Retained Earnings						
Net Income	(11,738)	(13,352)	(15,007)	(14,936)	(15,507)	(16,398)
Capital assets transferred to other City Departments	(118)	-	-	-	-	-
Ending Retained Earnings	(\$13,352)	(\$15,007)	(\$14,936)	(\$15,507)	(\$16,398)	(\$16,376)

Branch - Blatchford Renewable Energy Utility

Pro-Forma Balance Sheet

(\$000)	2021 Actuals	2022 Projected	2023 Approved	2024 Approved	2025 Approved	2026 Approved
Assets						
Cash and cash equivalents	10,905	8,777	6,336	3,857	2,170	824
Accounts Receivable	56	56	56	56	56	56
Total Assets	\$10,961	\$8,833	\$6,392	\$3,913	\$2,226	\$880
Liabilities						
Accounts payable and accrued liabilities	178	178	178	178	178	178
Short-term debt	16,000	16,000	16,000	16,000	16,000	16,000
Long-term debt	19,310	19,547	24,815	27,024	33,550	42,771
Total Liabilities	\$35,488	\$35,725	\$40,993	\$43,202	\$49,728	\$58,949
Net Financial Assets (Net Debt)	(\$24,527)	(\$26,892)	(\$34,601)	(\$39,289)	(\$47,502)	(\$58,069)
Non-Financial Assets						
Tangible capital assets	11,174	11,885	19,665	23,782	31,104	41,693
Total Non-Financial Assets	\$11,174	\$11,885	\$19,665	\$23,782	\$31,104	\$41,693
Retained Earnings/Deficit	(\$13,353)	(\$15,007)	(\$14,936)	(\$15,507)	(\$16,398)	(\$16,376)

2023-2026 Capital Budget

Branch - Blatchford Renewable Energy Utility

Summary of Capital Expenditures

Capital Projects	Profile Number	2022 & Prior	2023 Approved	2024 Approved	2025 Approved	2026 Approved	2023-2026 Total	Profile Total
Previously Approved								
Blatchford District Energy Sharing System - Energy Transfer St	22-83-8384	1,500	1,500	2,000	-	-	3,500	5,000
Distribution Piping System	21-83-8384	7,450	1,200	-	-	-	1,200	8,650
Total Previously Approved		8,950	2,700	2,000	-	-	4,700	13,650
2023-2026 Capital Budget Requests								
Blatchford District Energy System [DES]	17-02-2107	-	2,698	483	-	-	3,181	3,181
Distribution Piping System	21-83-8384	-	1,220	1,220	1,220	1,220	4,881	4,881
Energy Center #4 - Blatchford Renewable Energy	23-83-8385	-	-	436	5,680	8,560	14,676	14,676
Total 2023-2026 Capital Budget Requests		-	3,918	2,139	6,900	9,780	22,738	22,738
2023-2026 Approved Capital Budget		\$8,950	\$6,618	\$4,139	\$6,900	\$9,780	\$27,438	\$36,388
Cash Flow Adjustment								
Blatchford District Energy Sharing System	22-83-8384	(1,450)	500	(500)	450	1,000	1,450	
Blatchford Renewable Energy Utility Planning and Design - Growth	CM-83-8383	(2,790)	839	863	544	544	2,790	
Total Forecast Per Blatchford Renewable Energy Utility 2023 Rate File		\$4,710	\$7,957	\$4,502	\$7,894	\$11,324	\$31,678	

Note: For rate filing purposes the Blatchford Renewable Energy Utility 2023 Rate Filing (Attachment 1 of FCS01479) reflects forecasted capital expenditures, including those for previously approved capital projects, cash flowed over the 2023-2026 time period. This ensures rates are being calculated based on correct timing of expenditures. The budget for previously approved capital profiles reflects cash flows as originally approved by Council.

2023-2026 Capital Budget

Scope Change - Blatchford District Energy System [DES]

Current capacity at Energy Centre One is one megawatt (MW) of heating and one megawatt of cooling energy, which is enough to service the first few land development stages in Blatchford. The expansion of Energy Centre One is needed to provide energy for land development stages in Blatchford west and east, which are anticipated to come online between 2023 and 2026. At full capacity, Energy Centre One will be able to generate 4.25 MW of heating and 4 MW of cooling energy. Design for the expansion is underway in 2022, and the anticipated capital budget requirement in 2023 and 2024 to extend the capacity is \$3.18 million.

Scope Change - Distribution Piping System

The distribution piping network distributes the energy from the energy centres to the buildings and utility customers. As the development grows, so will the piping network. Additional distribution piping is needed to facilitate the anticipated Blatchford development scenario in the west, east and market areas. The anticipated capital requirement for the 2023-2026 budget is \$4.88 million for the planned extension of the distribution piping network.

New Profile for Funding - Energy Center #4 - Blatchford Renewable Energy - Design and Construction

According to the current land development scenario, additional energy capacity in the District Energy Sharing System, apart from Energy Centre One, will be needed by 2026. To align with the vision for Blatchford and the original business case for the District Energy Sharing System, the next major renewable energy source would be the heat from the two combined sewer lines that meet under the future Blatchford Market area. The majority of this energy demand would need to be provided by a new sewer heat exchange energy centre. With the project in schematic design development, updated sewer flow forecasts from EPCOR have reduced the expected future flow and hence the energy potential from the combined sewer system (updated business case in Attachment 3). Given this new information the Utility will be advancing a previously planned peaking energy centre prior to construction of the sewer heat exchange energy centre. At current estimations, the peaking energy centre would be commissioned in 2026 at an approximate cost of \$15.29 million, of which \$0.61 million for design work would be funded out of existing profile CM-83-8383 and \$14.68 million for delivery in the new capital profile 23-83-8385.

Capital Profiles

The capital profiles on the following pages provide additional information for the previously approved profile and budget adjustments:

Previously Approved Profile

- [Blatchford District Energy Sharing System - Energy Transfer Station \(22-83-8384\)](#)

2023 -2026 Approved Profiles

- [Blatchford District Energy System \[DES\] \(17-02-2107\)](#)
- [Distribution Piping System \(21-83-8384\)](#)
- [Energy Center #4 - Blatchford Renewable Energy \(23-83-8385\)](#)