2024 City-Led Projects Recommended for Climate Change Reserve Funding

Project Title /Applicant	Summary Description	Proposed Funding
Fleet Services Electric Vehicle and GRID Assessment (CFEM, PW)	The feasibility report will review facilities Fleet has previously identified as suitable charging locations and provide high level costing, identify any necessary electrical upgrades, and assess current available capacity.	**$150,000**
Macassa Lodge B Wing Expansion – Climate Resilience Measures (CFEM, PW)	This 65,000 square foot expansion to the existing Long Term Care Facility (236,000 square feet will accommodate 20 existing residents and an additional 44 residents. Reserve funding will contribute to incorporation of: • Air Source Heat Pump Technology for building space heating and domestic hot water generation. • Enthalpy wheel heat recovery to reduce ventilation energy consumption. • High performance building envelope including high performance windows and increased wall and roof insulation. • Variable speed hydronic pumping systems, to reduce energy consumption by reducing speed of the pump in response to reduce volume demand. • Variable speed fan systems, to reduce energy consumption by reducing speed of the fan in response to reduced air volume demand. Continue to investigate emerging technology opportunities to include in the design as follows • Solar Photovoltaic panels • Solar Wall technology • Low intensity development stormwater management • Light Harvesting	**$200,000**
Recreation Centre Pool Heat Reclamation (Corporate Facilities & Energy Management, PW)	This project will see installation of a heat reclaim recovery system in Riverdale & Huntington Park indoor pools to capture heat from the required draining of heated water to run through a heat exchanger and transfer the heat to the incoming make-up water. This process will decrease the amount of natural gas needed to heat the make-up water, thereby reducing natural gas consumption and associated GHG emissions.	**$225,000**
AC in Hamilton Rental Housing – Feasibility Case Study (CityHousing Hamilton)	This project involves a detailed feasibility study and the preparation of a publicly available case study that assesses the feasibility of providing in-suite air conditioning at three of CityHousing Hamilton's main building archetypes: • Natural Gas-heated Townhouses; • Natural Gas-heated Apartment buildings; and • Electrically-heated Apartment buildings. By evaluating the technical and financial implications of providing in-suite air conditioning at each of these	**$150,000**

	common forms of rental housing in Hamilton, the City of Hamilton will be in a better position to understand what is necessary to support and enable future adaptation efforts associated with the climate risk of extreme heat in rental housing.	
Development Incentive Program for Bayfront Industrial Area (Economic Development, Planning & Economic Development)	The Bayfront Industrial Area Retrofit Grant is intended to assist building owners that cannot financially justify the investment needed for deep retrofits and/or that have not considered the long-term benefits of such a retrofit. The Bayfront Industrial Area needs a catalyst to initiate this change to support future private investment. Through the Economic Development Division's current LEED Community Improvement Plan comprehensive review, staff are seeking to develop and implement a new program to support sustainable retrofits of these buildings within the Bayfront Industrial Area. Staff have identified this gap in current program offerings as retrofits of existing buildings generally do not result in meaningful tax uplift to the City, which is the existing source of funding under the existing LEED tax increment program (i.e. no new tax revenue means no grant to support sustainability efforts).	**$250,000**
EcoDiesel Fuel Replacement Program (Fleet, PW)	This request is for funds to purchase Petro-Canada EcoDiesel™ to replace the current biodiesel used to operate City vehicles and equipment. Petro-Canada EcoDiesel™ is a newly developed product made with hydrotreated renewable diesel (HRD). HRD is an alternative fuel produced from renewable materials. The final product is a high-quality, low-carbon intensity, renewable diesel. It can reduce GHG emissions by up to 60% compared to conventional biodiesel. This is a new, innovative product that expands on the City's use of biodiesel to dramatically reduce GHG emissions in the short term.	**$185,000**
Tree Tweeting Public Education Initiative (Forestry, PW)	This technology will develop personalities for chosen trees to better engage and communicate with residents. Tree data will be gathered and hosted on a dashboard: - *Dendrometer data to monitor how the trees respond to fluctuations in environmental conditions such as rainfall and drought. *Soil life sensors data to assess and forecast the impacts of climate change on the health of our urban forest. *Sap flow as an indicator of the tree's response to environmental conditions These metrics reflect climate impacts and allow staff and residents to see how climate change affects our urban forest. This can assist staff in better supporting the urban forest in the future, and enable residents to better understand climate change and better care for their own	**$28,500**

	neighbourhood trees. Academics may also be able to use this data through OpenData.	
Low Impact Development/ Green Standards Training & Implementation (Growth Management, PED)	Funding will assist with implementation of the Low Impact Development Site Servicing Guidelines (Staff report will be presented to Council in September or October 2024) through the designation of funds for a training program for internal staff and external consultants. Site Servicing Guidelines will be applicable to all future site plan control applications, starting in November of 2024. Therefore, there is a need to ensure that both staff and external consultants are fully trained on the implementation of the guidelines. Applying the Site Servicing Guidelines to both the preparation and the review / approval of site plan control applications will be a new process for all involved. Applicants will be required to provide documentation of how the Site Servicing Guidelines are applied within the application, including the design criteria for the subject site (targets), the description of Low Impact Development Best Management Plan measures, operation and maintenance requirements and a Site Works Certificate Form. City staff will be required to review this information and determine if the appropriate design criteria are being utilized.	**$50,000**
Solar Powered Ambulance Fleet (Hamilton Paramedics, Healthy & Safe Communities)	Since ambulances draw continual power to ensure the pharmaceuticals and medical diagnostic equipment within the vehicle are in a temperature-controlled environment, andthat pa tients are comfortable, the vehicle must be plugged in or running to maintain battery capacity. When inside a designated station, shore power plugs are provided for this purpose. When outside shore power is not available. Installing solar panels on vehicles will enable the auxiliary batteries to continue to run on solar power rather than on fuel thereby reducing greenhouse gas emissions generated from constantly idling vehicles. By retrofitting the fleet of 59 ambulances with solar panels, this directly advances renewable energy use within the City's corporate fleet.	**$240,000**
Making NFP Housing Climate Resilient (Housing Secretariat, HSC)	This project will support up to six social housing pilot projects with additional funding secured through the Climate Change Reserve to implement additional measures to enhance climate mitigation and adaptation features. These are projects that are emerging as part of the Housing Accelerator Fund work that is being administered by the City's Housing Secretariat.	**$250,000**
Electric Street Sweeper (Roads, PW)	The all-electric Bucher CityCat VR50e street sweeper has a custom-designed Bucher Battery Pack tailored to the sweeper. This proven technology will reduce the	**$120,000**

	City's environmental footprint while achieving low noise emissions and meeting Council approved initiatives, climate goals and downtown cleanliness. There are no GHG emissions with this vehicle.	
Electric Maintenance Vehicles (Roads, PW)	Funding will enable the purchase of one electric bike lane sweeping vehicle and one electric bike lane inspection vehicle and the associated charging infrastructure for these vehicles. The City currently does not have cycling lane sweepers or inspection vehicles and so does not have comparative GHG emissions data; however, our sidewalk sweepers generate approximately 486 tonnes/year (180,000L of diesel). These emissions would be entirely avoided by the purchase and use of electric alternatives.	**$403,000**
Organics Management – Phase 2 Feasibility Study (Waste Management, PW)	The detailed feasibility study for preferred Source Separated Organics (SSO) and Leaf & Yard (L&Y) waste management options will provide valuable data including the estimated project $ cost/ tonne CO2e reduction achieved for each option. These insights can guide future decisions and strategies for the management of the City's Organic and Leaf /Yard waste streams. The options being evaluated in this project have estimated Biogas Generation rates of 6,900 – 9,150 m3/hr at 60% methane. The estimated renewable natural gas (RNG) production is 173 - 229 m3/hr.43221	**$250,000**
TOTAL		**$2,501,500**