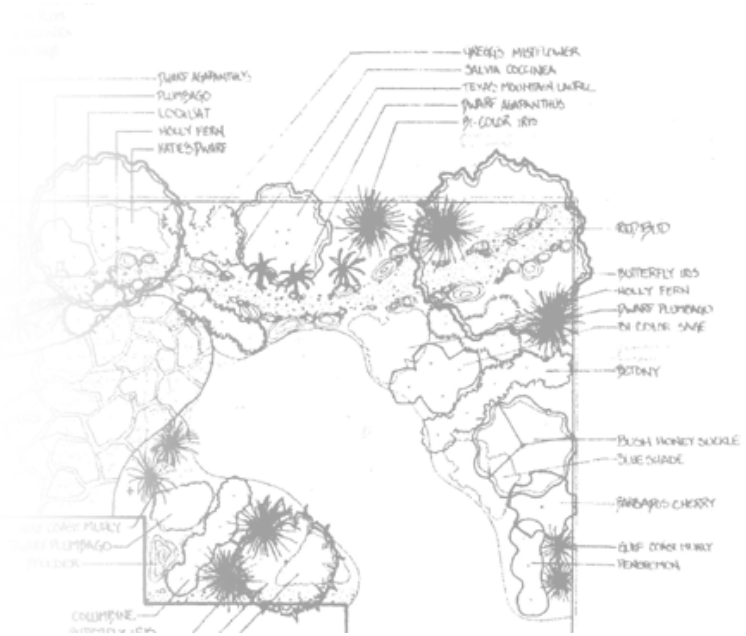
Sustainability Master Plan

for the City of Burnsville Civic Center Complex

Burnsville will strive to provide education on how the public can incorporate sustainable practices into daily activities/operations. **(Sustainability Guide Plan)**



Burnsville

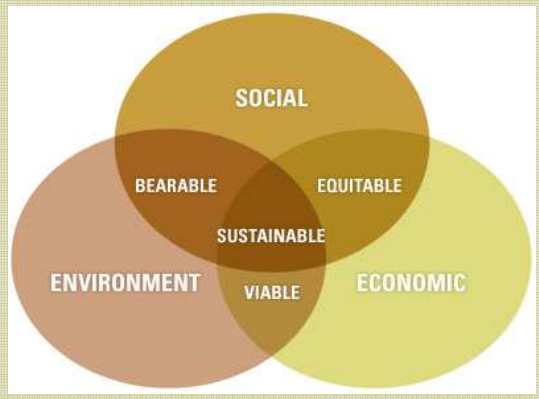
City of Burnsville

SUSTAINABILITY IN BURNSVILLE

The goal of this plan is to make the Civic Center Complex a model site for our community. The sustainable approach will make the area look better and *work* better for both the citizens and the environment.

Sustainability

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." It is usually noted that this requires the reconciliation of environmental, social and economic demands - the "three pillars" of sustainability.



Why Green

SAVE MONEY
Energy-efficient and water-wise designs and/or products reduce on-going costs. Many of the green designs also reduce the cost of maintenance and labor costs.

MAKE A HEALTHIER COMMUNITY
Green designs maximize natural processes while reducing the use of toxic chemicals. It connects individuals to the community and promotes exercise, productivity, safety, and health.

REDUCE ECOLOGICAL IMPACT
Green designs enhance the natural environment, instead of depleting it. By making the our buildings and grounds more resource-efficient and using low impact materials we will be better stewards of the environment.

Civic Center Complex

The Civic Center Complex comprises the City Hall, Police Department, Ice Center, THE GARAGE Youth Center, the Skate Park, and the public land surrounding the buildings. It will be a healthier place with lower utility bills and it will conserve resources too.

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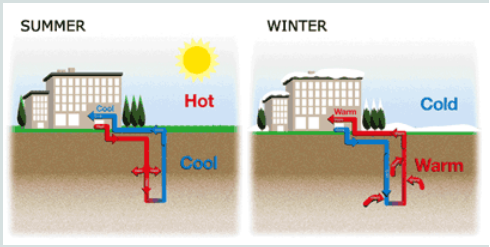
IMPLEMENTED SUSTAINABILITY PROJECTS

Renewable Energy: *Burnsville will strive to increase the use of clean, alternative energy options into city facilities, research methods to reduce energy consumption and promote alternative energy options within the community*

1. Installed Geothermal Heating and Cooling System at the Ice Center

Geothermal heat pumps use the constant temperature of the Earth's crust to heat and/or cool a building. Pipes are buried in the ground near the building. Inside these pipes an environmentally friendly fluid, like the antifreeze in a car radiator, is circulated. According to the U.S. Environmental Protection Agency, geothermal heat pumps are the most energy-efficient, environmentally clean, and cost-effective systems for temperature control.



Energy Efficiency: *Burnsville will strive to make energy efficiency a priority in infrastructure by developing educational programs for the public about energy efficient techniques and construction practices; investigate opportunities and ways to provide incentives to encourage private sector home and business energy improvements*

2. Installed a Building Management Systemat City Hall & Ice Center

A building management system (BMS) was installed to provide a user-friendly central control systems for all equipment and systems in both facilities. The BMS will provide several benefits including: monitoring of critical systems and alarms; and controlling mechanical and lighting systems based on time-of-day, occupant loading, etc. from anywhere internet access is available. The BMS system includes energy management functions to monitor and control energy use. The BMS will play a key role in reducing the overall energy use.

3. Installed Energy Efficient Lighting at the Ice Center

The existing metal halide light fixtures were replaced with a more efficient fluorescent based lighting system. The new lighting system increases the quality of light in the arenas, increases operational efficiency over metal halide fixtures, and decreases the heat output reducing the heat load on the ice rink floors.

4. Conducted Energy Audit at THE GARAGE

Energy audits were conducted for city buildings including THE GARAGE youth center & the city garage area. Dakota Electric Association reimbursed the city for 75% of the cost of the audit. The audit produced recommendations for energy efficient upgrades to the buildings. The recommendations will be implemented as the budget allows.

5. Installed Energy Upgrades at City Hall

An energy audit was conducted on City Hall in 2008 as a part of the Sustainability Guide Plan. The recommendations from the audit have been implemented. The upgrades included retrofitting the lighting, improving the HVAC controls, rebalancing the air systems, and upgrading the building automation system. Also, the city conducted a "lights out" campaign for city employees to turn off light in city offices/conference rooms when not in use.

Sustainable Building Practices: *Burnsville will strive to practice and promote sustainable building practices by providing staff training for LEED certification and green construction to assist residents/builders and to promote green building techniques for both city-owned facilities and private development*

1. Installed Super-insulated Roof at City Hall/Police Department

The City Hall received a new roof in 2010. The white, super-insulated roof on City Hall/ Police has an R-34 value. It will cut our electricity and heating bill by about $12,073 per year and reduce CO2 emissions by 209.3 tons which is equivalent to planting 837 trees.

Surface and Ground Water Resources: *Burnsville will strive to protect and improve surface and groundwater resources. Towards that end the City will develop an educational program aimed at reducing groundwater use, investigate new design standards and incentives to emphasize the use of natural drainage systems over built storm water systems, and seek ways to modify street improvement projects to provide less impervious surface utilizing practices such as porous pavement.*

1. Installed Porous Asphalt in the Police Visitors Parking Lot

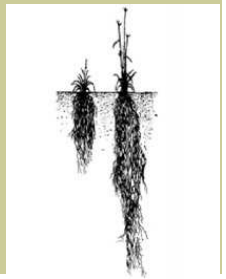
Porous asphalt pavements offer developers and planners a new tool in their toolbox for managing storm water allowing water to drain through the pavement surface into a stone recharge bed and infiltrate into the soils below the pavement.

The city installed porous asphalt in the Police Department's visitor parking area.

Rainfall runs off traditional impervious asphalt (center drive) but drains through porous asphalt parking spaces.

Sustainable Land Use: *Burnsville will strive to adopt land use policies that provide incentives to reduce sprawl, preserve open space, expand and enhance green corridors as redevelopment occurs and to create a walk-able community.*

1. Installed Low Maintenance, Native Landscaping



Some of the areas in the Civic Center Complex have been planted with prairie grasses and flowers. These areas will not require regular mowing or fertilizer, and little or no watering. The area will be attractive and provide wild life habitat for song birds and other small animals. The deep root system (up to 12' deep) increase soil organic matter, builds soil quality, and helps retain and infiltrate storm water.

Sustainable Strategies for the Civic Center Complex

City Hall/Police Department

- Porous Asphalt Pavement
- White, Super-Insulated Roof
- Energy Upgrades

THE GARAGE

- Energy Audit
- Native landscaping

Ice Center

- Geothermal Ice Production System
- Energy Efficient Lighting
- Energy Upgrades
- Recycling Program