



Programs, Policies and Projects that Promote the Sustainability of the Community

The following is a list of programs/operational practices, policies/plans and current projects of the City of Stillwater that have contributed to and will continue to contribute to the sustainability of the organization in the areas of water/wastewater, energy, waste management and transportation. Although the list is lengthy, it does not represent all of the actions that are being taken by the City that could be considered to promote sustainability.

Programs/Operational Practices

1. Completed the first annual water loss audit for the City of Stillwater including water use data from all departments within the City. This program has enabled the water department to seek better ways to track and fix leaks, monitor illegal water use.
2. Raw water is being metered and monitored at all points of entry and exit the from Kaw pump station to the water treatment plant and from the treatment plant into the distribution system.
3. All filter back wash discharged into the holding lagoons at the water treatment plant is pumped back to the head of the plant and is metered. Two new lagoon transfer pumps have been ordered to facilitate efficient transfer of the lagoon water.
4. Chemical dosages and feed rates at the water treatment plant are optimized with regular jar tests during every plant operator's shift change and also as raw water quality changes.
5. Finished water levels in all five of the potable water storage facilities are monitored closely using SCADA system to turn on and off the pumps and to fill the tanks; thus, preventing any tank overflow and waste of treated water. The water operators also use the SCADA system to monitor for large main line leaks and sudden large draw from the tanks.
6. All bio-solids generated at the wastewater plant during the treatment process are disposed of by land application. Land application of bio-solids significantly reduces the solid waste that is hauled to the landfill from the waste water treatment plant.
7. Methane gas produced during the sludge digestion process is being used to supplement the fuel used by the boiler to heat the three digesters at the waste water treatment plant.
8. The waste water treatment plant has consistently produced effluent below the EPA allowable parameters.
9. Waste water collection crews have initiated a basin wide sewer line cleaning project to systematically clean all of the system trunk lines, which includes vacuuming out of all accumulated debris within the lines.

10. Chemical root application process has been initiated to inject root control chemical into the sewer mains that kills intruding roots but does not harm the trees or other vegetation.
11. Ongoing water and sewer line replacement program to upgrade the main lines, which will make the water distribution and wastewater collection systems dependable and reliable and less prone to break.
12. Implementation of mobile and real-time building inspection scheduling which results in a reduction of paper forms and a reduction of fuel use.
13. Building inspectors carpool when the inspection situations permit.
14. Development review staff creates digital copies of application materials for review instead of printing and mailing hard copies.
15. For 11 years, the City has held household hazardous waste collection events, which have collected 144 tons of unwanted environmentally unsafe products and have serviced 4,786 households. The City was the first in the state to collect pharmaceuticals and have done so for the past 2 years as part of the household hazardous waste collection events.
16. For 5 years, the City has held electronic waste events, which have brought in 93 tons of unwanted/outdated electronics.
17. The City has an active program to reduce grease within the wastewater collection and treatment system that includes providing informational pamphlets to citizens and businesses on proper grease disposal, educating problem areas with door hangers, inspecting restaurants and creating partnerships with all food establishments.
18. A draft Capacity, Management, Operations and Maintenance (CMOM) program has been developed and submitted to ODEQ for review. The objectives of CMOM are to improve the management, operation and maintenance of the City's sanitary sewer system, to investigate and make improvements that are needed to resolve deficiencies in the system, to strive towards extending the life of the sanitary sewer collection system and to protect public health and the environment by eliminating sanitary sewer overflows.
19. The City has an Industrial Pretreatment Program that was developed and implemented to monitor all industrial, commercial and non-residential wastewater for pollutants. The program provides for enforcement and reimbursement of costs for overflow incidents and allows the City to partner with industries for sustainability. Each industry in the City is visited at least once per year to discuss pollution prevention measures employed by industry.
20. The City's environmental programs division has an ongoing citizen outreach campaign in which educational presentations are provided to organizations of all ages about a broad spectrum of environmental issues and the environmental programs staff is constantly providing information to inquiring citizens.
21. The City is part of the national Tree City USA program. In order to participate in the national program, a city must spend at least \$2 per capita for forestry. The City of Stillwater spends \$14 per capita for forestry. In addition to these expenditures, the City gives away seedling trees to the public at the annual Home and Garden show and has an annual Arbor Day observance and planting project.

22. The Parks, Events and Recreation department replaced older lighting with energy efficient lighting on 8 of our 15 lighted ball fields over the past 15 years and have applied for a grant from the Department of Energy to replace the lights at two more fields. PER has also replaced lights at the Municipal Pool and Couch Park tennis courts with newer energy efficient lighting.
23. All park irrigation systems are metered and on timing/controller systems to ensure that water is used efficiently. Irrigation system timers are set to operate only at night.
24. The west-side bait shop and shower facility at Lake McMurtry uses an aerobic treatment system that irrigates the surrounding area with treated waste water.
25. In 2008, a Designated Natural Areas program was established that reduced the total area mowed in parks by 25%.
26. During the past off-season, all mowing procedures were reviewed and schedules adjusted to increase efficiency, reduce frequency in low visibility areas and improve maintenance in high visibility areas.
27. Scrap metal that is generated by various operations is recycled.
28. Most playgrounds are constructed with recycled components.
29. Office paper, aluminum and plastic are recycled at City facilities.
30. On Earth Day 2008, the City opened the Convenience Collection Center for waste disposal and recycling. Items that can be dropped off at the CCC for recycling include: paper, plastic glass, tin, aluminum, scrap metal, appliances, electronics, motor oil, antifreeze, cooking oil, tires and batteries.
31. Tree removal from various City operations is cut into firewood and offered for sale to the public at the CCC and tree trimmings are chipped and the mulch is made available to the public for no cost.
32. In partnership with the Stillwater School District and OSU Extension, a rain cistern is being constructed for use in irrigating food plots at Skyline elementary.
33. Asphalt pavement millings from reconstructed roadways are used in various road maintenance activities.
34. All City facilities electric use is metered.
35. Parks, Events and Recreation department is investigating the feasibility of offering tap water in refillable cups vs. bottled water at concession stands.
36. The municipal pool chemicals are electronically metered to ensure proper treatment without waste. The pool water circulation systems have been upgraded and replaced over the past 10 years to keep it efficient and/or improve efficiency.
37. Tennis court lights are on timers to ensure they aren't left on when not in use and they have photocells to prevent them from being turned on during daylight hours.
38. A turn out the lights when leaving the room program is currently being initiated.
39. All new facilities are being constructed with high efficiency lighting and HVAC systems.
40. All traffic signals have been converted from incandescent bulbs to LED.

41. Utilize efficient high pressure sodium fixtures for majority of 3,500 street lights (HPS = highest light output per watt input).
42. The Electric Utility department is currently evaluating the use of LED street lights.
43. Net electric metering is available to small local energy producers that use renewable resources.
44. Electric transformers are rebuilt and reused and electric primary/secondary wire is reused when possible.
45. Boomer Lake Station is maintained so that economic energy can be purchased against its generating capacity (reducing demand charges) rather than burning expensive natural gas.
46. Boomer Lake water is used for once-thru cooling of BLS steam turbine-generators rather than more expensive treated water/cooling tower combination.
47. Wholesale energy is purchased from a state agency (GRDA) that includes 14% hydro-generation on average within generation mix.

Policies/Plans

1. The Stillwater Transportation Enhancement Plan (STEP) was adopted in 2007 and it identifies capacity enhancements to the City's transportation system that are needed to reduce congestion.
2. An update of the Community Comprehensive Development Plan is scheduled to occur in fiscal year 09/10. The current Comp Plan, which was adopted in 2001, provides development policy guidance and it involves community as in place-making, connection as in linking people, places and activities and conservation as in sustainability.
3. A Wastewater Reclamation and Reuse Feasibility Study, which was completed in 2001, evaluates and provides guidance on the feasibility of implementing a wastewater reuse program.
4. A Tree Inventory and Management Plan, which was completed in 2003, provides an in-depth analysis of the public street trees and direction on how to improve the urban forestry management.
5. A Multi-Jurisdictional Hazard Mitigation Plan was adopted in 2008, which identifies the potential hazards within the City and proposes measures and methods to mitigate the impacts of those hazards.
6. A Multi-Use Trail and On-Street Bicycle Master Plan was adopted in 2009 that provides a guide for the development of a comprehensive system of trails and bike routes for the City and the surrounding area. A comprehensive trail system will provide for the health and enjoyment of the residents, preservation of green space and the future development of the local economy.
7. In 2008, an administrative policy that minimizes the idling of vehicles was implemented for the City's fleet.
8. In 2005, a storm water management plan was developed. The storm water management plan specifies all of the actions that the City will take to comply with the storm water regulations and address the six minimum control measures required by EPA for a successful storm water management program.

9. In 2009, a Water Resources Master & Infrastructure Assets Management Plan was completed. The plan addresses the long term water supply needs for the City and provides guidance on how those needs will be met.
10. A Water and Wastewater Utilities Cost of Service and Rate Design Study was adopted in 2009. The study provides guidance on water and wastewater rates that will be necessary to meet the future needs of the community.
11. A Wastewater Master Plan will be completed in 2009.

Current Projects

1. Automated Meter Read project (AMR) utilizing Advanced Metering Infrastructure (AMI) to read about 16,500 water meters. This project is expected to accomplish:
 - (i) a complete replacement of all water meters in the system thus ensuring that all new meters installed are accurate and capture all water use;
 - (ii) a reduction in water loss due to inaccurate and aged water meters;
 - (iii) a reduction in motor vehicle fuel consumption and vehicle maintenance with an anticipated annual saving of about \$400k.

The Electric Utility Department is currently evaluating potential automated metering infrastructure (AMI) project to assist the utility and its' customers in better monitoring and control of electric consumption.

2. Replace inefficient pumps and motors at two water booster pump stations resulting in reduced energy use.
3. Make piping improvements at the water treatment plant pump station to remove the existing constriction on the high service pumps discharge side resulting in reduced energy use.

Projects 1, 2 and 3 have been accepted as part of the **Green Project Initiative by ODEQ and EPA.**

4. Refurbish the Airport and Husband wastewater lift station by installing new submersible pumps, making the station more reliable and energy efficient.
5. Make piping improvements to the deteriorated sewer lines along Washington, Brooke area by installing new PVC pipes with proper bedding etc. This project shall eliminate ongoing sewer overflows and line blockages.
6. Provide an enclosure over the existing UV facility at the WWTP to better protect the lamps, ballasts and electronic components from premature failure due to extreme heat from the sunlight.