Green Initiatives

June 5, 2017

Airport

- 20 private aircraft hangars use solar panels instead of electricity.
- We have started replacing fluorescent lights in the terminal with LED.
- We reclaim Jet/Avgas after quality control procedures, reducing the amount of waste fuel.
- We recycle paper, cans and plastic.
- When the airport has asphalt removed, the airport recycles the millings to patch washouts around runway/taxiway lights and the perimeter fence.

Glen Barentine, Airport Director

Engineering

- Complete Streets Policy
- Greenway Trail Projects
- Wastewater Plant Improvements
- Sewer System Overflow Elimination
- Sewer System Lift Station Rebuilds
- Park Avenue Raingardens and Access Management (eliminating excess concrete)
- Property Donations to place in a green corridor protected status
- Malvern Revitalization Plans
- Raingardens on Whittington and Malvern
- Craighead Parking Lot

Gary Carnahan, Chief Engineer

Finance

- Police Department replaced HVAC and boilers
- Finance Department replaced lights and faucet devices
- Wastewater Treatment plant on Davidson replaced boiler

Dorethea Yates, Finance Director

Fire Department

- Approximately 95% of our firefighters are HazMat Technicians
- The Fire HazMat Response Team has been operational since 1994. Our efforts have protected the Ouachita River Drainage Basin from countless releases of hazardous materials including heavy metals and industrial chemicals

Ed Davis, Fire Chief

Fleet Service

- Idle, reducing technologies including GPS systems and automatic engine stop controls.
- Recycling of waste oil to be used as fuel and installed waste oil heaters in the city's Fleet Service shop.
- Recycling of all metals, which also creates a revenue stream.
- Installation of LED lighting and programmable thermostats.
- Purchases of more fuel efficient vehicles, hybrid vehicles, and right sizing vehicles for the duties they perform to decrease fuel consumption.

Greg Speas, Fleet Service Director

Information Systems

Our server virtualization project provides a large reduction in power consumption over physical server usage. For example, let's say we have 33+ virtual servers running on three physical servers using maybe 1500 watts of power. If those same 33 servers were all physical, they would likely be using around 9900 watts of power all day every day. These numbers aren't exact as we move these virtual servers around, but the principle is sound.

Jeff Winter, IS Director

Municipal Customer Operations

The water meter system that we currently utilize is referred to as Automated Meter Infrastructure (AMI), which allows us to obtain the water meter readings utilizing towers that are strategically placed. This automation provides us the meter readings without having to drive to the individual water meters to gather the monthly readings. This technology saves time for the technicians and fuel for the city vehicles which would normally be required to gather such readings if we did not utilize the AMI system, which in turn reduces the amount of hydrocarbons that are released into the atmosphere.

Randy Outler, Director

Parks & Trails

- 2008: Entergy Park was dedicated as a Natural Resource Conservation Park (both the conservation plan and the park received state and regional award recognition)
- 2013: Hot Springs is designated a Growing Healthy Community (GHC) by the Arkansas Coalition of Obesity Prevention (ARCOP)
- 2014: GHC Emerging Community designation achieved, 2015 and 2016 Thriving Community (ARCOP's highest level)
- 2015: Complete Streets Policy unanimously adopted by the city board with dedicated funding
- 2016: City staff Complete Streets Team formed to address pedestrian and bicycle transportation safety and accessibility
- 2016: Hot Springs Green Infrastructure Plan completed
- 2017: Northwoods Urban Wilderness Park emerges as a priority in the city board's two year goal plan

General comments: Public Works - LED building retrofits and traffic light synchronization; Public Information promoted utility company's energy efficient rebate program with Hot Springs as a state leader in number of households participating; Low Impact Development construction techniques employed in public facility development (including streets) to capture and clean storm water runoff; Northwoods Feasibility Plan emphasizes preserving natural areas; Green Infrastructure data shows Hot Springs having a high percentage of tree canopy; and in 2017, the Urban Forester position was reinstated.

Jean Wallace, Parks & Trails Director

Planning & Development

2012 Lighting Retrofit Five Year cash flow (savings) $80,654.12

- City Hall - two-story building with 154 fixtures: **cost $9,935.27** (Federal Energy grant) paid for itself in 15 months.
- Parking deck - multiple stories: **cost $19,089** paid for itself in 2.04 years.
- Street lighting (decorative) Convention Boulevard: **cost $1632.40** (used Entergy rebate money from doing the first and second projects above).

CDBG Related Green Initiatives

Public Survey

Summer 2008: Hot Springs Garland County Beautification Commission volunteers conducted an extensive public survey of desired green initiatives requested by the City Manager. 948 responses received.

CDBG National Environmental Protection Act (NEPA) Requirements

All CDBG projects and programs, regardless of scope, are reviewed under the National Environmental Protection Act, 24 CFR Part 58.

This typically includes examining how a proposed project may impact

- Floodplains, wild and scenic rivers, study rivers, sole source aquifers, wetlands, marshes, mud flats, natural ponds, coastal zones and coastal barriers
- Historic properties and properties of cultural or sacred significance to tribal nations
- Endangered species
- Air quality
- Farmland
- Social justice

NEPA reviews also examine how existing conditions may impact the project

- Proximity to potential contaminants and/or toxic substances
- Airport hazards, runway clear zones and military accident potential zones
- Explosive and flammable operations presenting a possible thermal radiation or explosive hazard
- Air quality
- Outdoor noise (housing only) from traffic, railroads, percussive sounds

CDBG Walkability Improvements

Over 4 miles of sidewalk and ADA ramps constructed or reconstructed since December 2014

- Crescent/Silver surrounding Langston School to encourage children to walk to school
- Silver/Wade/Illinois leading to Wade Street Park from surrounding neighborhoods and Housing Authority units
- Malvern, Park, Reserve, Garden, Walnut, Pleasant, Whittington and Vine for residents to walk to goods, services and public transportation

CDBG Recreation Improvements

Encouraging outdoor play and exercise at area parks

- Baseball Trail Park toddler playground equipment and bathrooms
- Development of a picnic area at the Webb Community Center
- New playground equipment at Chattanooga Park
- Linden Park Lot Acquisition for future park development, and new picnic tables
- New swing set at Wade Street Park
- *Pending* amphitheater construction at David F. Watkins Memorial Park
- *Pending* Pleasant Street Pocket Park lot acquisition and basketball court construction

CDBG Stormwater Mitigation & Water Quality Improvements

In cooperation with the city's Stormwater Division and Parks Maintenance, CDBG has constructed 10 sets of curbs and gutters on Park Avenue in and adjacent to the floodplain to form rain gardens that are then excavated and filled with aggregate, soil mix, stones and boulders by Stormwater, and planted with indigenous drought tolerant plants by Parks and neighborhood volunteers.

The amphitheater to be constructed at David F. Watkins Memorial Park along the exposed portion of Hot Springs Creek Tunnel has been designed to double as an overflow stormwater retention area should the tunnel reach capacity during a notable rain event.

Kathy Sellman, Planning Director

Police Department

- The Police Department has installed energy efficient light/HVAC sensors throughout the entire building. This has reduced our energy costs/usage since implementation approximately four years ago.
- We are in the process of reducing paper by using technology in many law enforcement duties, such as mobile data terminals and eCite/eCrash software. Officers no longer use paper to complete a police report.
- The Police Department currently has one bicycle officer assigned to the downtown area, and we are in the process of purchasing a second. Obviously, we are saving fuel and helping reduce the greenhouse effect.
- We are seeing an increase in fuel savings/efficiency with the purchase of our new Ford Police Interceptor SUV. According to the city's Fleet Service Director, he has identified a 3 or 4 mpg increase in fuel efficiency compared to the Chevrolet Tahoe or the Ford Crown Vic sedan.

Chief Jason Stachey, Police Department

Public Information

- Increased paperless document delivery to all sources, from other departments to the news media to outsourced printing.
- Conversion to e-publications instead of printing.
- Assistance provided to all departments to post their documents on their website pages rather than having to fulfill the public's document requests by using paper, equipment wear and tear and staff time, and fuel and time on the public's part as well.
- City website e-subscriptions also save time, paper and fuel, reducing citizen trips to city departments by submitting information electronically. E-subscriptions include items like city publications, bid and RFP postings, job openings and board/commission agendas. Website statistics show a monthly increase in citizen e-subscriptions, with a current overall subscribership of approximately 7,000.

Terry Payne, Public Information Director

Public Works

Stormwater Division

- The Stormwater Division is responsible for the city's mandated Stormwater MS4 Program which includes protecting city and state natural waterways and systems from pollution through education and outreach, ordinances, permitting and enforcement measures.

- The division also enhances the city's Green Initiatives by purchasing properties in the floodplain which will become green areas for its citizens to enjoy and to help maintain the environment. The division also assists in the funding for rain gardens, pocket parks, and for the upcoming David Watkins "eco" Park on Park Avenue.

- The division offers a four-hour training and certification course entitled How to Inspect Construction Sites for Stormwater Compliance (more than 1150 individuals have been trained through the course).

- The division will be offering an eight-hour educational and training class on Advance Stormwater Management two times per year. Topics will include Low Impact Designs, Green Initiatives, Urban Forestry, Floodplain Management, Stormwater Pollution Prevention and Meeting Stormwater Rules and Regulations.

Traffic Division

- Citywide traffic signal lights converted to LED lights.
- All downtown decorative street lights were converted from incandescent bulbs to fluorescent bulbs.
- All City Hall and Annex building interior office lighting converted to T8 bulb system from T5 and added reflective shielding for Entergy savings.
- All recent purchase of outdoor flood lighting by Public Works has converted to strictly LED lighting.

Denny McPhate, Public Works Director

Solid Waste

- **24-Hour Recycling Drop-off Center**
  The drop-off center opened on June 1, 2008 at the corner of Valley and Runyon streets. The department currently collects newspaper, cardboard, aluminum cans, phone books, plastic #1 and #2"s, also added sorted office paper this year at the site. The site is open 24 hours a day, and 410 tons were dropped off at this site in 2016.

- **Knock Out Litter Program**
  This is an award winning litter abatement program that began in 2001. This crew picks up litter on a daily basis from high traffic areas within the city. This crew collected more than 22 tons of litter in 2016.

- **Earth Angel Curbside Recycling Program**
  Commodities collected through the city's curbside recycling program are newspaper, cardboard, aluminum cans, phone books and added plastics #1's & #2's this year. The department collected 131 tons in 2016.

- **Commercial cardboard recycling**
  The department offers cardboard recycling to businesses within the city limits at no charge. In 2016, the department collected and recycled 1686 tons of cardboard.

- **Recycling center**
  The center collects and processes more than 2,837 tons annually. The commodities with the largest volumes are newspaper and cardboard. This center is the hub for Garland, Hot Spring and Clark counties, as well as the cities of Hot Springs, Malvern, Arkadelphia and Gurdon. Based on volume, the center is one of the largest municipal recycling centers in the state. The center is funded by ADEQ recycling Grants administered through the Southwest Central Regional Solid Waste Management District.

- **Leaf/Mulch curbside recycling**
  A total of 717 tons were collected and taken to the city compost facility in 2016.

- **CAPS (Clean, Attractive Property Service) Program**
  CAPS stands for Clean, Attractive Property Service and is the city's large debris collection program. Three out of the five collection days per week are devoted to recycling and reuse. In 2016, 68 tons of recyclable metal materials were collected, and an additional 824 tons of vegetative debris taken to compost.

- **Transfer Station metal recycling**
  Construction debris is sorted daily, and all metal is separated and hauled to a metal recycler. The volume collected in 2016 was 60 tons.

- **Electronic waste recycling**
  This program started in 2005 and is currently a drop-off collection center; also we hold a two-day event in August at the convention center for collection. In 2016, we collected and transported 7 tractor trailer loads and recycled more than 82 tons of material.

- **Phone book recycling**
  The phone book recycling program was started in 2002. Phone books are part of the curbside and drop-off center recycling commodities. The department collected almost 4 tons of phone books during 2016.

- **Christmas tree recycling**
  The department collects Christmas trees annually from the curbside and delivers them to the compost for reuse. In addition, the city has a drop-off location throughout the month of January for local fishermen to collect the trees and use as fish habitats in area lakes.

- **Waste tires**
  In an effort to decrease illegal dumping, the department became actively involved in waste tire collection in 2005. At this time, the Solid Waste Department collects tires at our drop-off trailer on the hill as well as both HHW events. The department collected 2,428 tires from roll off containers this past year at the HHW events and an additional 1810 at the transfer station for a total of 4,238 tires.

- **Spring Fling citywide cleanup**
  The Solid Waste Department started this citywide cleanup in 2004 to help residents dispose of litter, large bulky items and other debris at no charge. This event is held over one weekend per year and has been extremely successful each year. In 2017, the department hauled 85- 30-cubic yard roll off containers for a total of 254 tons from this one event.

- **Operation Clean Sweep**
  This program is administered through Planning and Neighborhood Services; however, the Solid Waste Department has a huge role in the program's success. In 2016, the volume collected was 87 tons through four events. This program affords residents the opportunity to clean their properties and dispose of the materials at no charge, thus reducing litter and deterring illegal dumping.

Randy Atkinson, Solid Waste Director

Sport Recreation

- **Field Lighting** - We no longer run lights at nights for practices after seasons are over. We used to allow people to pay $3 and they would receive 2 hours of lights. That method didn't recover the cost, especially in winter months.

- **Field Irrigation** - We manually use the irrigation system as opposed to a scheduled zone cycle. We have yet to run the sprinkler system in 2017, and the grass is thriving.

Nathan Neighbors, Operations Manager

Utilities

Water

- **Advanced Metering Infrastructure** installed throughout the City of Hot Springs
  - An integrated system of smart water meters, communication networks and data management
    - Enables remote meter reading
    - Reduces fuel use associated with manual or drive-by meter reading

- **Ouachita Water Treatment Plant**
  - Upgraded two 150hp raw water pumps with VFD
  - Upgraded three 150hp raw water pumps with Soft Start
  - Upgraded two 450hp finish water pumps with Soft Start
  - Upgraded two 600hp finish water pumps with Soft Start

- Eliminated use of chlorine gas by converting to sodium hypochlorite
  - Same efficacy and residual protection as chlorine gas
  - Eliminates need for a risk management plan for chlorine gas

- **Lakeside Water Treatment Plant**
  - Upgraded one 50hp raw water pump with Soft Start (not in use)
  - Upgraded three 350hp finish water pumps with VFD
  - Eliminated use of chlorine gas by converting to sodium hypochlorite
    - Same efficacy and residual protection as chlorine gas
    - Eliminates need for risk management plan for chlorine gas

- **Music Mountain Pump Station**
  - Upgraded three 150hp booster pumps with Soft Start
  - Upgraded two 250hp booster pumps with Soft Start

- **DeSoto Pump Station**
  - Upgraded two 7.5hp booster pumps with Soft Start
  - Upgraded three 7.5hp booster pumps with VFD

- **Pine Street Pump Station**
  - Upcoming replacement of the Pine Street station with new energy efficient pumps
    - Makes it possible to shut down the Lakeside Water Treatment Plant as needed, thereby saving energy cost

- **Hollywood Water Tank**
  - Added SCADA to the pressure reducing valve (PRV)
    - Allows tank to draft more water
    - Relieves demand on Music Mountain Tank to run constantly

Wastewater

- **Molly Creek Pump Station**
  - Replaced 125hp hydromatic pumps with high efficiency KSB 83hp pumps with VFD's

- **Winkler Road Pump Station**
  - Upgraded VFD pumps

- **SCADA System Controls**
  - Enables remote monitoring and management of major pump stations

        - Reduces need to physically inspect each station
            - Saves fuel cost
        - Provides alarms when stations are at high levels
    - Enables preventative response to grinder pump station issues
        - Provides alarms when stations are at high levels

- **Compost Facility**
    - New grinder and windrow turner
        - Reduces fuel usage
    - Provides a means of recycling biosolids with green waste (yard and wood waste)
        - Eliminates need to haul biosolids and green waste to landfills
        - Eliminates need to land-apply wastewater sludge
        - Provides a useful product to the public for use in gardening

- **Regional Wastewater Treatment Plant**
    - New Ultraviolet Disinfection Project
        - Eliminates need for chlorine gas to disinfect effluent
        - Eliminates need for sulphur dioxide to neutralize chlorine residual in effluent
        - Eliminates need for risk management plan for chlorine gas
    - New Headworks Project
        - Energy efficient equipment will improve treatment process

- **Southwest Wastewater Treatment Plant**
    - Uses ultraviolet disinfection
        - Eliminates need for chlorine gas to disinfect effluent
        - Eliminates need for sulphur dioxide to neutralize chlorine residual in effluent
        - Eliminates need for risk management plan for chlorine gas

Monty Ledbetter, Utilities Director