FLOODPLAIN MANAGEMENT PLAN ANNUAL PROGRESS REPORT - 2011

In accordance with the National Flood Insurance Program Community Rating System, herein is a progress report summarizing the various tasks and objectives the City utilizes to mitigate flooding for the citizens of Bartlesville. To quantify these goals, the City has prepared several master plans that identify specific tasks and objectives for flood related hazards. These goals and analyses are shown in the City wide Master Drainage Study, prepared in 2004 and available at http://www.cityofbartlesville.org/page.php?page=1146, as well as the Multi-Hazard Mitigation Plan, updated in 2010 and available at http://www.rdflanagan.com/Bartlesville/Bartlesville_Complete-8-6-2010.pdf.

The Master Drainage Study focuses on structural projects to remedy flooding or the potential for future flooding. The study analyzed both existing and future (full urbanization) conditions to determine deficiencies in the system and plan for future projects based on growth. Shown below is the listing of high priority structural projects by drainage basin. Projects that have been funded or completed are crossed off. Due to the capital requirements of these projects, funding typically comes from voter approved issues associated with sales tax or general obligation bonds, they are pursued as funding allows.

High Priority Structural Projects

(note projects crossed off have been completed)

Turkey Creek

Phase 1 - Sooner Park Improvements

~~Sooner Park Detention Pond - $877,200~~

~~2 - 10'x8' RCB's Under Madison Blvd - $347,500~~

Total $1,224,700

Phase 2 - Frank Phillips to Eastland Mall

~~4 - 10'x10' RCB's Under Frank Phillips Blvd - $476,400~~

30' Sodded Channel Downstream of Frank Phillips Blvd - $590,400

2 - 8'x5' RCB's Under Brookline Drive - $154,400

Total $1,221,200

Phase 3 - Madison Tributary Stormwater Detention

~~Grand Prairie Detention Pond Modification $1,260,100~~

Willow Hill Detention Pond Modification $222,900 – funding secured, construction slated for early 2012

Total $1,483,000

Total Turkey Creek High Priority Projects $3,928,900

Rice Creek

Phase 1 - Dorchester Area

~~2 - 8'x5' RCB Under Dorchester Dr. - $94,400~~
Channel Dorchester to Silver Lake Road - $233,600
~~Jo Allyn Detention Pond - $62,500~~
Total $390,500

Phase 2 - Fox Hollow Mitigation Project

Freiling Detention Pond - $386,200
Fox Hollow Improvements - $411,300
~~Upstream Wayside Improvements - $13,800~~
Total $811,300

Phase 3 - Madison Tributary Detention Improvements

~~RC 02-92 Detention Pond $337,600~~
RC 02-911 Detention Pond $473,900
Total $811,500

Total Rice Creek High Priority Projects $2,013,300

Interurban Creek

Phase 1 - Howard through Roselawn

~~20' Concrete Channel Bottom w/5' Vertical Wall Downstream of Roselawn Ave. $111,300~~
~~20' Concrete Channel Bottom w/5' Vertical Wall Downstream of Howard Ave. $81,300~~
Total $192,600

Phase 2 - Northern Channel Debell through Howard

10' Concrete Channel Bottom w/5' Vertical Wall Downstream of Howard Ave. (North Channel Alignment) $73,900
1 - 10'x5' RCB Under N.E. Howard (North Channel Alignment) - $85,500
10' Concrete Channel Bottom w/5' Vertical Wall Downstream of Katherine Ave. (North Channel Alignment) - $58,400
1 - 10'x5' RCB Under N.E. Katherine (North Channel Alignment) - $87,100
10' Concrete Channel Bottom w/5' Vertical Wall Downstream of DeBell Ave. (North Channel Alignment) - $87,700
1 - 10'x5' RCB Under N.E. DeBell (North Channel Alignment) - $87,100
10' Concrete Channel Bottom w/5' Vertical Wall Upstream of DeBell Ave. (North Channel Alignment) - $82,400
Total $562,100
Total Interurban Creek High Priority Projects $754,700

Caney River Tributaries

Phase 1 - Silver Lake Road and Price Road, Moonlight Drive
Sod Channel w/ 8' Concrete Liner Along Silver Lake Rd. South of Price Rd. (Area 1) $29,000
6' Concrete Flume At Moonlight Dr. (Area 3) $41,700
Total $70,700
Total Caney Creek High Priority Projects $70,700

Woodlands Creek

Phase 1 - Cedar Street to Nowata Tributary
~~6'x5' RCB Under Evergreen Drive $48,700~~
~~8' Concrete Channel Between Evergreen and Cherokee Hills $208,700~~
8' Concrete Channel Downstream of Oakdale $76,800
Total $334,200

Phase 2 - Cedar Street to Evergreen
~~48" RCP Storm Sewer Between Evergreen and Cedar $174,200~~
Total $174,200
Total Woodlands Creek High Priority Projects $508,400

West Bartlesville - Downtown

Phase 1 - Morton West Detention Ponds
Construct Morton basin detention structures $1,662,700
Total $1,662,700

Phase 2 - Downtown West Storm Sewer Improvements
Construct Phase I Downtown East storm sewer improvements $742,600
Total $742,600

Phase 3 - Downtown West Lupa to Hensley
Construct Downtown West channel and structure improvements
from Lupa Street to Hensley Boulevard $1,747,600
Total $1,747,600
Total West Bartlesville Downtown High Priority Projects $4,152,900

West Bartlesville - Oak Park

Phase 1 - Oak Park
Oak Park Drainage Improvements at Larchmont Road $51,900
Total $51,900

Total West Bartlesville Oak Park High Priority Projects $51,900

Grand Total High Priority Projects $11,480,800

Since the completion of the storm water master plan in October 2004, the City of Bartlesville has invested over $5,000,000 in capital improvements on these high priority projects.

In addition to structural projects, the City also pursues non-structural projects to inform, educate, protect, and purchase properties from flood hazard areas. The City has identified several objectives regarding floods through the multi-hazard mitigation plan that are summarized below. Note, the goal for the objective is in italics and the progress for the objective is shown below the goal.

Objective 1. Public Information & Education. *Improve public awareness of flood and flash flood hazards in general and at specific high-risk locations; and give people knowledge about measures they can use to protect themselves, their property and their community.*

The City disseminates public information and education through mailings, public meetings and information on the City's website. At least once a year, the City mails informational brochures about flood protection, forecasting and development to every property in a flood hazard area. This objective is on-going with the City looking more toward utilizing email and electronic communications in the future to inform and educate.

Objective 2. Preventive Measures. *Expand mapping, regulations, and loss-prevention programs in areas with high risks and catastrophic potential, such as local portions of multijurisdictional floodways and floodplains where additional safety considerations are warranted because Bartlesville does not have jurisdiction to regulate upstream/downstream runoff, blockages, or other actions that can affect the safety of Bartlesville residents.*

In 2008, the updated FEMA floodplain maps became effective and the City continues to update hydrologic and hydraulic modeling to reflect the best available information for flood related hazards. The City also enforces the floodplain regulations that require one (1) foot of freeboard, compensatory storage and no rise in the base flood elevation for any development activity.

Objective 3. Structural Projects. *Obtain funding for and implement projects that can reduce flood and drainage hazards, with consideration for comprehensive solutions in accord with watershed-wide management plans.*

See the section above for structural related projects and progress.

Objective 4. Property Protection. *Identify and protect people, structures, critical facilities, and critical infrastructure that are vulnerable to flood and flash flood hazards.*

Last year, the City was awarded a grant through the Oklahoma Emergency Management Agency to purchase three properties located in the FEMA regulated floodplain. One of these properties has been flooded multiple times and has one of the highest flood insurance claim rates within the City of Bartlesville. The acquisition of these properties and demolition of the structures has been complete. In addition to protecting property, the City continues to improve critical facilities to make them less susceptible to flood related hazards. One of the larger critical facilities vulnerable to flood hazards is the City's wastewater treatment plant. Built in the 1930's,

this plant has been inundated numerous times over the years. Recently City Council approved a facility plan that will begin the planning effort to construct a new satellite wastewater treatment facility. Though the existing treatment plant will remain, the ground work is being established to eventually move all wastewater treatment operations from the Chickasaw site and into a more suitable location not vulnerable to flood hazards. While this objective is on-going, the City continues to remove property and critical facilities from flood hazard areas.

Objective 5. Emergency Services. *Identify the needs and implement additional emergency operations plans and services for areas at high risk of flooding, including additional prediction and forecasting capability, emergency alerts, and evacuation plans.*

This objective continues to be on-going. The City has limited resources for flood predicting and forecasting. However, the City is pursuing additional flood gauges upstream of Bartlesville that can be linked into U.S. Corps of Engineers stream gauge system to provide as much early warning to emergency services as possible.

Objective 6. Natural Resource Protection. *Protect and enhance natural floodplain and storm water resources by adopting and implementing sustainable flood-management policies that have few or no negative impacts and have positive environmental effects whenever possible.*

The City maintains publically owned floodplain property as natural open spaces, green belts and parks. In addition, the City regulates construction runoff and requires best management practices to minimize the negative effects of development. While the City has no regulations or incentives for rain gardens or other green initiatives for storm water quality, it encourages the use of low impact development to preserve and protect the natural resources of the environment.