

Northern Colorado Regional Hazard Mitigation Plan 2013 Annual Report

The following is a summary document of updates and progress related to mitigation actions identified in the current (2009) Northern Colorado Regional Hazard Mitigation Plan for the City of Fort Collins. This annual report was prepared in cooperation between Poudre Fire Authority and Fort Collins Utilities. This annual report was completed as part of a requirement of the City of Fort Collins' participation in the Federal Emergency Management Agency's (FEMA's) Community Rating System (CRS).

UPDATES AND PROGRESS FOR THE CITY OF FORT COLLINS

Aircraft Accidents:

Annual review and update of master plan, HSEEP exercise development and delivery along with working with the TSA to adhere to constantly changing regulations and threats related to security. Those security actions include installing fencing and access gates to secure the hanger areas. The fencing is an ongoing project. Credentialing/access badge system was also put into place. The runways were recently resurfaced.

Biological Hazards/Influenza:

Based upon the Leadership and Coordination chapter of our local influenza Response Plan, the primary focus is to limit the number of illnesses and deaths through education and inoculation, preserve continuity of essential governmental functions through the continuity of operation plans, minimize social disorder and minimize economic losses. Inoculation clinics have been implemented along with additional tabletop exercises for preparedness.

Civil Disturbance

Local law enforcement officers have received training in crowd control and routinely work large scale events to further develop their knowledge, skills and abilities to handle large crowds. Other actions include tabletop exercises in the EOC and Command Rooms. Fort Collins Police also have a Mobile Field Force and all ranks continually train on ICS to maintain NIMS compliancy. Working with the Colorado Information Analysis Center and the local Terrorism Liaison Officer Program assists in providing intelligence which may assist in a Civil Disturbance.

Dam Failure

The U.S. Bureau of Reclamation monitors the area dams as part of the Safety Evaluation of Existing Dams (SEED) Program. This includes analyses of structural performance data, regular examinations of the entire facility, periodic assessments of design and performance. Foundations have been examined along with seepage from the dams. Corrective action plans are then implemented. Evacuation plans, emergency operation plans, flood risk maps and flood mitigation plans are continually evaluated and exercised.

Drought/Extreme Heat

Fort Collins has developed and maintains a water conservation plan which includes a number of strategies. These include public information campaign expansion, on-line access to water history, low income retrofit program, irrigation technology rebates and facility audit program expansion. Fort Collins Utilities offers its water information and audit services to neighboring water districts, in addition to Fort Collins Utilities customers. Fort Collins also works with Colorado State University to host several workshops on water conservation.

Earthquake

Mitigation action items include maintaining open communications with the Colorado Geological Survey to remain informed on earthquake risk assessments, build hazard awareness through K-12 education programs, public information distribution, and appropriate offerings of hazard-related courses in local colleges and universities. Additionally, infrastructure vulnerability assessments will be conducted in 2012.

Expansive Soils

Local Land Use Plans, Capital Improvement Plans and Building/Zoning Codes address Expansive Soils. These are continually updated and enforced.

Fires Urban

The local fire department has an extensive public education program as part of their fire prevention efforts with the community. The International Fire Code is adopted and enforced throughout the city. Smoke detector “give a way” programs are part of this prevention effort along with residential fire inspections. Numerous U.S. Fire Administration Prevention programs are in place within the City of Fort Collins. More detailed information can be obtained at www.poudre-fire.org.

Fires Wildland

Vulnerability assessments are performed in the urban wildland area as part of the Community Wildfire Protection Plan. This plan includes identification of fuels management, home assessments, Firewise education, evacuation/escape routes, and restoration plans to name a few of the critical components.

Floods - Flash and Riverine

Stormwater Capital Projects

Improvements since the 2012 annual report include:

- West Vine Outfall design - The West Vine Basin Outfall Channel is currently in the design process, with the intent to construct the lower portion of the channel in 2015. This is a Master Plan project to alleviate 100-year flooding in the older, northwest portion of the City.
- McClellands Creek Stream Stability - Phase 2 of the McClellands Creek stream rehabilitation project was completed in Spring 2013 which completed rehabilitation work on a 2/3- mile section of McClellands Creek. The rehabilitation project included laying back vertical eroded banks, installing new stream meanders and planting hundreds of native plants and shrubs along the stream banks.

- Fossil Creek Stream Stability – The Design Vision Report was completed for Fossil Creek in Summer 2013. The report outlines the overall master planned vision for future stream rehabilitation efforts in Fossil Creek. In addition, design was initiated to rehabilitate the section of Fossil Creek immediately west of Lemay Avenue.

Stormwater Maintenance Projects

- Poudre River bank repairs - Several areas of bank erosion along the Cache la Poudre River have been repaired or are in the repair design process. Many of these sites were eroded during high runoff flows in spring and early summer of 2011.
- Clearview Channel – A section of Clearview Channel upstream of Hillcrest Drive has been designed to alleviate severe bank erosion into several adjacent back yards. The bank repair work will be completed by City crews in fall and winter of 2013 and 2014.
- Prospect and Overland – Installed two new inlet banks and two manhole access points. Replaced all existing stormline mains and continue piping channel north along Overland Trail to Lake Street. Eliminates standing water in the intersection of Prospect and Overland.
- Mail Creek – Sloped back the bank and installed new concrete wingwalls to allow access for loader to clean concrete pad in mail creek at the trash skimmer. Removed trash storage area and catwalk. Replaced head gate.
- In the Poudre River basin, the 2013 cleanup effort was completed. Downed trees and debris that could threaten bridge piers were removed from the channel corridor.

Updated assessment of Critical Facilities Located in Floodplains

There were no map revisions completed this year and therefore, there is no change to the critical facilities assessment.

City Flood Warning System

Maintained the City Flood Warning System's network of 66 sensor installations, comprising 57 rain gages, 34 stream gages, six weather stations, two repeaters and two base stations.

The State of Colorado Department of Public Safety made available in late 2012 additional grant funding for infrastructure capable of providing early warning of flooding conditions related to runoff from 2012 Colorado wildfire burn areas (High Park and Waldo Canyon). In 2013, in the lower Cache la Poudre watershed below the area of the High Park Fire, City Stormwater installed one additional rain and streamflow gage to its Flood Warning System (FWS) at a location on the Poudre River approximately two hours travel time upstream of the existing Mouth of the Canyon gage. Utilizing the backbone of the City's existing FWS telemetry network, Larimer County installed four (4) new rain and streamflow gages in smaller watersheds west of Fort Collins that are subject to High Park burn area runoff.

In addition, City Stormwater developed and hosted a one-day functional training exercise to improve communication and response among City, County, State and Federal agencies responding to flood and debris-generation from the High Park fire burn area that would threaten City and County residents and public infrastructure.

On September 12-15, 2013 the City responded to flooding on the Poudre River. The flood warning system worked extremely well and provided critical data for emergency response efforts. A variety of notification tools, including the autodialer, web page, and social media were used to notify the public of evacuations and road closures.

Public Outreach

Flood Awareness Week was held July 21-27, 2012. Stormwater's efforts included mailings of an updated flood awareness brochure to each City floodplain resident and property owner. A separate mailer about floodplain management services offered by the City of Fort Collins was sent to local realtors, insurance agents and lenders. Stormwater also set up flood awareness displays in eight public buildings, placed flood awareness messages on bus benches, hung banners from Utility poles in four downtown locations, and broadcast flood awareness videos on the City Cable Channel 14.

A Social Media campaign was added for Flood Awareness Week this year. It included one message per week leading up to Flood Awareness Week and five messages during Flood Awareness Week.

Floodplain maps and rain gauge data are available for iPhones, Android and Windows Smartphones. Users can search by address or zoom to a specific location to see the floodplain map. Rain gauge data can be viewed in real-time.

In addition, the City website was updated to improve customer access to Stormwater services. Please see <http://www.fcgov.com/utilities/what-we-do/stormwater>.

Stormwater participated in the JAX Emergency Preparedness Fair on June 15, 2013.

Floodplain Mapping

Work was initiated in Summer 2013 to update the hydrology and hydraulics models in the Canal Importation Basin. This modeling effort will build upon and finalize the modeling completed with the Canal Importation Ponds and Outfall (CIPO) project and will result in updated floodplain mapping for the entire Canal Importation basin using the best and most accurate modeling software.

Additional areas that are in the process of being remapped due to modeling updates and development projects include the West Vine Basin, Stone Creek Basin, McClellands Creek Basin, and Old Town Basin.

A RiskMAP update for the Poudre River Basin has commenced to better define the flood risk for the Poudre River. Hydrology has been submitted to FEMA and is currently under review and revised hydraulic modeling has commenced. An updated flood risk map for the Poudre River corridor is expected in Summer 2014.

Stormwater MP/FP Administration Staff assisted CWCB and FEMA staff in initiating the RiskMAP process to update the floodplains for the Cache La Poudre (Poudre) River and identified and secured local funding for Fort Collins' local match. Staff coordinated efforts and assisted with aerial mapping in advance of hydrologic modeling.

Several development and natural resources restoration projects are currently in progress along the Poudre River and will result in map revisions when they are complete in the coming years.

Stormwater MP/FP Administration Staff developed and promulgated new methodologies and design guidance to help consulting engineers and City departments complete capital improvements in floodways and floodplains.

Staff prepared a letter sent by the City of Fort Collins to U.S. Congressional Representatives in support of the continuation of FEMA Pre-Disaster Mitigation Grants

Regulatory Issues

The Poudre River floodplain regulations were reviewed. A working committee comprising citizens, business owners and consultants provided feedback. New regulations related to requiring emergency response and preparedness plans for non-residential structures were adopted by City Council in March 2013.

During the summer of 2013, the City began the public outreach process related to adopting the State Rules and Regulations for Regulatory Floodplains in Colorado that were adopted in January 2011 by the Colorado Water Conservation Board. A website -- (<http://www.fcgov.com/utilities/what-we-do/stormwater/flooding/floodplain-regulations#stateregs>) was established for communicating about the changes. Presentations were made to various Boards and Commissions and community organizations. Because the City already had adopted many of these rules, there are relatively minor changes that are needed. These rules were adopted by City Council on November 5th, 2013.

Stormwater Master Plans

Completed an update of the City's *Stormwater Master Plan* to include stream rehabilitation and water quality projects and received approval on a funding mechanism from City Council to include \$650,000 annually for stream rehabilitation and water quality projects.

Coordinated with several City departments and City Boards to develop a prioritization matrix (MCDA Tool) that was used for prioritizing upcoming stream rehabilitation projects. Presented the City's stream rehabilitation and water quality update at the annual CASFM conference.

Conducted innovative public outreach for the Stormwater Master Plan update including development of a social media outreach approach, develop and implement an online stormwater quiz, update to the Stormwater Master Planning web page, and a booth at the New West Fest public event.

Selected an engineering consultant team to assist City staff in designing the rehabilitation of streams throughout the City. Initiated preliminary design of the first stream reach (Fossil Creek Reach 4, Subreach 1) and conducted public outreach on the conceptual design.

For McClelland's Creek:

- 1) Provided design, permitting, and project management services (McClellands Creek, Reach 2, Subreaches 1 and 2).
- 2) Developed permanent educational signage for the McClellands Creek rehabilitation project.

Provided technical expertise to the CDOT North I-25 Widening project regarding flooding impacts from Boxelder Creek and the Cache la Poudre River. Provided technical expertise to develop rating curves for a new flood warning gage on Fossil Creek west of College. Provided coordination and technical support in the planning efforts for the Boxelder Creek improvements in the vicinity of Prospect Road.

Participated in the planning and visioning for the Downtown Core River Project on the Cache la Poudre River near College Avenue. Provided technical review and comments for the Block One Bank Remediation project on the Cache la Poudre River near Linden Street

Stormwater Quality

Low Impact Development (LID) – The City adopted regulations that require new public infrastructure projects as well as new development and redevelopment sites to provide a treatment system that will capture at least 50% of the Water Quality Capture Volume (WQCV) as defined by the City’s Stormwater Criteria Manual and treat it in an “LID-type” device or technology. In addition, a minimum of 25% of new pavement is to be permeable to promote stormwater infiltration. The goals of these new regulations are to reduce the impact of pollutants discharged from developed areas on our “receiving waters, reduce stormwater volume for smaller storm events, and reduce the risk of flooding by distributing and infiltrating stormwater runoff from developed areas locally before reaching major drainageways.

Performed public outreach to the community informing them of the benefits and costs of various stormwater treatment methods including the soon to be adopted LID-type technologies.

Contracted with Colorado State University (CSU) on the design and installation of monitoring equipment at various stormwater treatment and capture locations. Partnered with CSU on the design of retrofit BMP structures to improve the performance of existing stormwater treatment and control structures. Monitored runoff at nine sampling locations throughout the city. Monitored winter runoff that assessed the impact of deicing products on Spring Creek. Participated in the design of a new Low Impact Development (LID) test site to be located at 215 N. Mason St. Partnered with other City Departments on conceptual plans for locating and designing a Green Streets Demonstration Project.

Assisted with water quality standards setting, design review and system evaluation for various proposed new developments. Led a stormwater quality tour of existing stormwater treatment facilities as a component of a City of Fort Collins employee education program. Gave two lectures at CSU for Civil Engineering and Landscape Architecture students regarding LID-based stormwater management policies and technologies

Hail Storm

Most mitigation actions focus on public education as a means of preventing loss of life, injury and property damage.

Hazardous Materials Fixed Facility

Primary means for mitigation in commercial occupancies is through fire code inspection programs administered by the local fire department. This includes a hazardous materials mitigation program. Many of these occupancies also participate in the OSHA Voluntary Partnership Program. A few of these occupancies also are required to report through the EPA EPCRA and CERCLA programs.

Hazardous Materials Transportation

Poudre Fire maintains a trained and equipped hazardous materials response team consisting of technicians and specialists. They provide emergency preparedness education to their citizens. Evacuation and safe refuge areas have been identified and provided during incidents. All first responders receive recognition training in hazardous materials. Hazardous material routes have also been established and enforced within the City of Fort Collins. Emergency notification systems have been upgraded over the last several years and are continually tested.

Lightning

Action items focus mainly on education and improving communication and life safety activities. Colorado State University installed and continually tests their Thor Guard Lightning Prediction Warning System which covers a majority of the main campus. Fort Collins OEM utilizes a weather satellite system to assist with prediction of strikes. Many new facilities have placed grounding systems at their facilities to assist with mitigation efforts.

Terrorism/WMD

Terrorism/WMD training and exercises are continually provided to all first responders. Local emergency operational plans have been developed and exercised for WMD incidents. WMD related courses are provided through the Department of Homeland Security. Active and well-trained bomb squads, SWAT teams and canine units are incorporated into this mitigation activity. The PFA hazmat team has an extensive cache of WMD detection and response equipment which they are highly trained to utilize.

Tornado

Action items include emergency preparedness education to the community, provide areas of safe refuge for affected citizens, promote the inclusion of tornado shelters in new construction and provide specialized training to first responders in the area of search, rescue and structural collapse.

Utility Interruption

Utility interruption has ongoing programs which include public education, back-up power plans, placement of power lines underground, protection of above ground power components and the maintenance of an adequate supply of emergency equipment.

Wind Storm Severe

Emergency preparedness is the primary mitigation action item. This is done through education, training and exercises. Public works departments and utility providers maintain on-call crews to assist during high wind events. Transportation departments maintain traffic control devices for detouring/re-routing or closing traffic through the hazardous areas.

Winter Storm Severe

Plans are reviewed, updated and exercised for this event. Several courses at the Emergency Management Institute (IEMC) have been attended by City of Fort Collins personnel who focused on preparedness and response to a winter storm event. Public education programs focus on preparedness for severe winter storms. Other mitigation activity includes maintaining and updating the Snow Removal Plans, providing safe refuge for affected citizens, maintaining adequate fleets of snow moving equipment, identification of the special needs population which will require special assistance and acquiring temporary snow storage sites that provide proper draining.

Additionally, Fort Collins has upgraded its EOC to provide WEBEOC for better tracking of resources and the overall incident, additional ICS training, upgrading of our emergency notification system, offering NOAA "Weather Spotter" courses, certification as a "Storm Ready Community", hosting an annual emergency preparedness fair, and ongoing public education through direct delivery presentations, pamphlets, calendars and website upgrades.

All- Incident

The PFA Training Center, including the Emergency Operations Center (EOC) now has 100% back-up power via diesel. The computers and TV communications were also upgraded.

Fort Collins is designated as a Storm Ready Community by the National Weather Service.

Various City departments participated in the JAX Emergency Preparedness Fair on June 15, 2013.

CRS Program

The CRS program is a voluntary incentive program that provides flood insurance discounts to citizens and businesses based on a community's floodplain management activities that go above and beyond minimum floodplain management standards. The Northern Colorado Regional Hazard Mitigation Plan addresses not only flood issues but other natural and man-made hazards. It is credited under the Flood Damage Reduction Activities section of the CRS program.

The City of Fort Collins is in the top 12 of 1,273 communities nationwide that participate in the CRS program. Citizens and businesses receive up to a 30% discount on their flood insurance premiums due to the City's progressive floodplain management program.

Additional Information

To review a copy of the Northern Colorado Hazard Mitigation Plan or obtain additional information about the Plan, please contact the Mike Gavin, Office of Emergency Management, Poudre Fire Authority, Phone: 970-416-2878.

To obtain additional information on the Community Rating System, please contact Marsha Hilmes-Robinson, Floodplain Administrator, Fort Collins Utilities, Phone, 970-224-6036.