City Commission
Flood Mitigation Project Update

February 2015
Now & Future Floodplain

- **Now Effective Floodplain**
  - 39.4 Feet River Gage (29,300 cfs)
  - Approx. 2,470 Impacted Structures
  - Approx. 7,500 Impacted properties
  - 27,600 Acres Impacted
  - After Diversion – This elevation will be close to 500-year flood levels

- **Flood of Record**
  - 40.8 Feet River Gage

- **Future of the Floodplain**
  - USACE 41.1 River Gage (34,700 cfs)
  - Approx. 19,400 Impacted Structures
  - 36,430 Acres Impacted
New Floodplain Update

- Effective January 16, 2015
- Approval of Basement Exception Continuance
- Appeals Accepted by FEMA
  - 208 Individual LOMA’s Issued
- LOMR-F Approvals
  - 10 Additions Newly Approved
  - 702 Properties
  - 4 Additions Reauthorized
  - Can be viewed at fargofloodinsurance.com

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### FEMA Letter of Map Revision Based on Fill Determination Document (Removal)

**Date:** January 27, 2015
**Case No.:** 15-08-0482X

#### Letter to Mayor

This letter is to inform you that the fill determination for the property described below has been accepted as of January 16, 2015.

**PROPERTY ADDRESS:**
- **Street:** 111 Government Street
- **City:** Fargo, ND
- **State:** ND
- **ZIP Code:** 58102
- **Case No.:** 15-08-0482X

**APPLICANT:**
- **Name:** John Doe
- **Address:** 111 Government Street, Fargo, ND 58102

**FLOORING SOURCE:**
- **Type:** Flooded Basements

**FLOOD SOURCE:**
- **Type:** Red River of the North

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**Additional Information:**

- **LOMR-F Approvals**
  - 4 Additions Reauthorized

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**Sincerely,**

**FEMA Congressman Affairs Division**

**Department of Homeland Security**

**FEMA**
FARGO

52 MILES OF PROTECTION

29 MILES OF LEVEE (Fargo)
5 MILES OF LEVEE (Cass)

8 MILES OF HESCO

0.3 MILES OF PORTA-DAM

10 MILES OF SANDBAG

Red River Valley Emergency
Flood Protection
Peak 40.82 Feet
March 28, 2009
Comprehensive Plan

- Developed Following the 2009 Flood of Record with Final Draft in 2012
- Certifiable Protection From the FEMA Floodplain (39.4 Feet)
- Identified an Estimated $247 M in Projects (2012 $)
- Yellow area has approx 1,500 structures in floodplain
So...Why implement this Comprehensive Plan?

Short Term:
- Reduce emergency measures—immediate benefit from each project
- Provide real protection for existing homes that were built prior to the knowledge of the increased risk

Long Term:
- Upon completion of Certifiable reaches—Keep Housing Affordable for more of our population by making flood insurance available to residents at the lowest possible rates
- Combined with the FM Diversion—Provide for greater than 100 year protection for the largest population center in ND
Property Acquisitions (Since 2009)

- 173 Properties Purchased
  - Over 300 since 1990
- At cost of over $57 million
- Cass County purchased 14 additional homes needed
- Diversion Authority is in process of acquiring 15 additional properties within Fargo
- Remaining Properties Under Comprehensive Plan
  - 121 properties to be acquired
  - Approximately $36 million
Completed Projects (Since 2009)

- Over 16 miles constructed
  - 15 miles of earth levee
  - 1 mile of floodwall

- Project Cost $82 million

- Reduces required sandbags by approximately 4 million

- Required over 80 Private Property Easements

- 45% of the Comprehensive Plan Completed
Meadow Creek

- Completed 2011
- Reduces sandbag needs by approximately 250k
Timberline

- Completed in multiple phases (2011 & 2012)
  - Combination of Levee & Retaining Wall Combo
  - Reduces sandbag needs by approximately 800k
Ros... Combination of Earth Levee and Floodwall

- Reduces sandbag needs by approximately 400k
Mickelson Field

Eliminates the need for the Emergency Levee on Oak Street.
In Progress Projects

- Combination of Projects under Design or Construction
  - 6 City of Fargo Led
  - 6 Diversion Authority Led

- Over 3.5 miles in progress

- Project Cost ≈ $100 million
  - Construction Cost ≈ $67 million

- 55% of the Comprehensive Plan completed once these projects are done
El Zagal

- Phase 1 – Started Fall 2014
  - 80% of Levee Completed
  - 80% of Storm Sewer Completed

- 2015 Major Work Items
  - 1 Gatewell
  - 1 PTO Pump Station
  - Finish Levee
Harwood, Hackberry, River Drive Area

- Phase 1 – February 2015 Bid Opening
  - Levee Construction on Previously Acquired Properties
  - Construction of new storm sewer lift station
    - New lift station will replace two existing lift stations
  - Fall 2015 Completion
2nd Street N & S

- Diversion Authority Led

- Two Projects Under Construction
  - 2nd Street N Pump Station
  - 4th Street Pump Station & 2nd Street S Floodwall

- 2015 Planned Construction
  - 1st Avenue N Utility Relocations
  - Building Demolitions

- All Projects will carryover to 2016.
Remaining Projects

- Over 13.38 miles remaining
  - *excludes Cass County 20 Area

- Project Cost ≈ $240 million
  - # Includes 2015 Planned Projects
  - # Does not include Diversion Authority More Flow Through Town Projects

- Type of Projects:
  - Levees along River & Legal Drains
  - Road Raises
    - Includes Interstate 29 at Drain 27

- 92% of the Comprehensive Plan would be completed
Summary

- Over 16 Miles of Improvements Totaling Over $82M Since 2009
- Reduces required sandbags by approximately 4 million
- 45% of the Comprehensive Plan Completed
  - Additional projects under construction would bring total to 55% completed

Outstanding Issues
- With Comprehensive Plan completed would still need:
  - 7.6 miles of emergency clay levees
  - 3.2 miles of sandbag levees
- Not all areas have feasible solutions
- Events greater than
  - 39.5 feet
  - 42.5 feet
  - ?!?