Rose Creek Flood Risk Management Project
City of Fargo - Project #FM-15-B0
Public Informational Meeting
November 10, 2015
Overview / Why Are We Here?

- Flood Risk
- FEMA Mapping
- Past Floods
- Project Summary
- Path Forward / Project Schedule
- Acquisitions Overview
- Questions
The 2009 flood is the largest flood on record and equates to a 50-Year Flood Event.

- Flood flow frequency and magnitude since 1900 shows transitions from dry to wet-cycles.
- 16 flood have exceeded the "Major Flood Stage" since 1900.
- 8 of the 16 "major" floods have occurred since 2000 through 2014.

Source: USGS river flow data from USGS Station
Changing flood risk

- Now Effective Floodplain
  - 39.4 Feet River Gage (29,300 cfs)
  - Approx. 2,051 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
  - $70M expended to flood fight

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

“If I am in a community that we come back five years down the road and they are still talking about a project, I am probably going to change the map then,” said Federal Emergency Management Agency’s (FEMA) Deputy Associate Administrator for Mitigation, Roy Wright. (April, 2015)
Effective 39.4 RG

2,051 Structures Affected

USACE 100 year no Diversion (41.1 RG)

19,400 Structures Affected
FEMA Floodplain Impacts

FEMA Effective 100yr
Early Forecast

50% Chance of 38-ft
10% Chance of 40-ft
Max Forecast 44-ft

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
Developed in Fall 2011/Winter 2012

Certifiable Protection From the Effective Floodplain (39.4 Feet)

Funding limitations require prioritization

Outstanding Issues
- With Comprehensive Plan completed would still need:
  - 7.6 miles of emergency clay levees
  - 3.2 miles of sandbag levees
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)

- 183 Properties Purchased
  - Over 320 since 1990

- At cost of over $59 million

- Cass County purchased 14 additional homes needed

- Diversion Authority is in process of acquiring 17 additional properties within Fargo

- Remaining Properties Under Comprehensive Plan
  - 121 properties to be acquired
  - Approximately $36 million
Completed Projects (Since 2009)

- Over 19 miles constructed
- 47 miles of emergency levees constructed by the City in 2009
- Project Cost $125 million
- Reduces required sandbags by approximately 4.5 million
- 50% of the Comprehensive Plan Completed
In Progress Projects

- Combination of projects under construction or under design for 2016/2017 construction
  - 12 City of Fargo Led
  - 7 Diversion Authority Led

- Over 3.5 miles in progress

- City Project Cost ≈ $68.5 million
  - Construction Cost ≈ $37 million

- 65% of the Comprehensive Plan completed once these projects are done
**Remaining Projects**

- Approx. 10 miles remaining
  - *excludes Cass County 20 Area*

- Project Cost ≈ $130 million
  - # Does not include south side line of protection
  - # Does not include 2016 planned projects
  - # Does not included 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
Comprehensive Plan
Example of Potentially Certifiable Levee System
Frequently Asked Questions

- Why build levee if Diversion Project is constructed?
  - Levee will provide real/interim flood protection
  - Levee will be compatible with the Diversion Project by providing protection on the greater than 100 year flood events
  - Levee + Diversion = Increased level of flood protection

- Will I be assessed for this levee project?
  - No – levee is being designed and constructed with Fargo Infrastructure Sales Tax Dollars, as well as dollars from the State
Proposed Project

Design Goals

- Construct a certifiable levee between 25\textsuperscript{th} St. S. and University Dr. S.
- Minimize the impacts to private property
- Integrate the levee system into the golf course
Proposed Project – Levee Grading
Proposed Project – Levee Grading
Proposed Project - Golf Course Features

Design Option 3 w/Tee Alternates

ALT 1: 14 Tee Complex (4,700 SF)
New Sand Bunker (1,470 SF)

ALT 2: 15 Tee Complex (4,790 SF)

ALT 3: 16 Tee Complex (5,760 SF)
Raise & regrade/shape fairway (66,680 SF)

New Sand Bunker (1,997 SF)
Raise & regrade/shape fairway (58,775 SF)

New Practice Tee (34,000 SF)

New Tee Complex (2,210 SF)
New Practice Bunker (690 SF)

Ranger Service Building FF to remain unchanged

Borrow / Pond Area

City of Fargo

200 3rd Street North, Fargo, ND 58102

Option 3
PIC: 15-00
Sheet 2/2
Path Forward / Schedule

- December 2015 – Park Board Review
- January 2016 – City Commission Review
- Early 2016 – Project Design
- Mid/Late 2016 – Potentially Begin Construction on Portions or all of the Project
- $3.6 Million Estimated Construction Cost
Acquisition Overview

- General R/W Acquisition Information
  - 1 Single Family Home
  - 2 Easements
    - 1 from Parks
    - 1 from PKG Property
Questions/Comments?

http://www.cityoffargo.com/ - Flood Control Projects
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