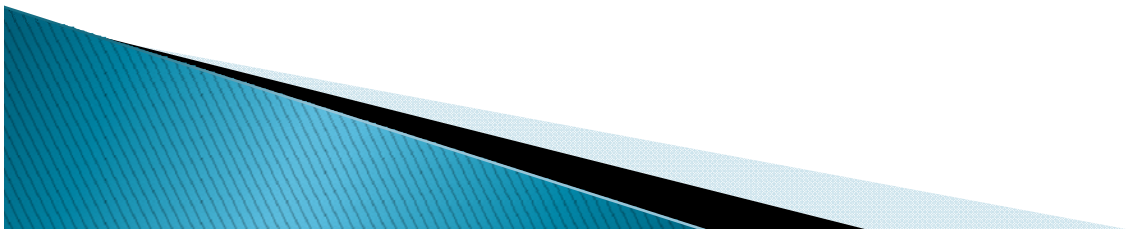


# City Commission Flood Mitigation Project Update

»» 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



- ▶ 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](http://fargofloodinsurance.com)

[www.fema.gov](http://www.fema.gov)



# FARGO

## 52 MILES OF PROTECTION

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

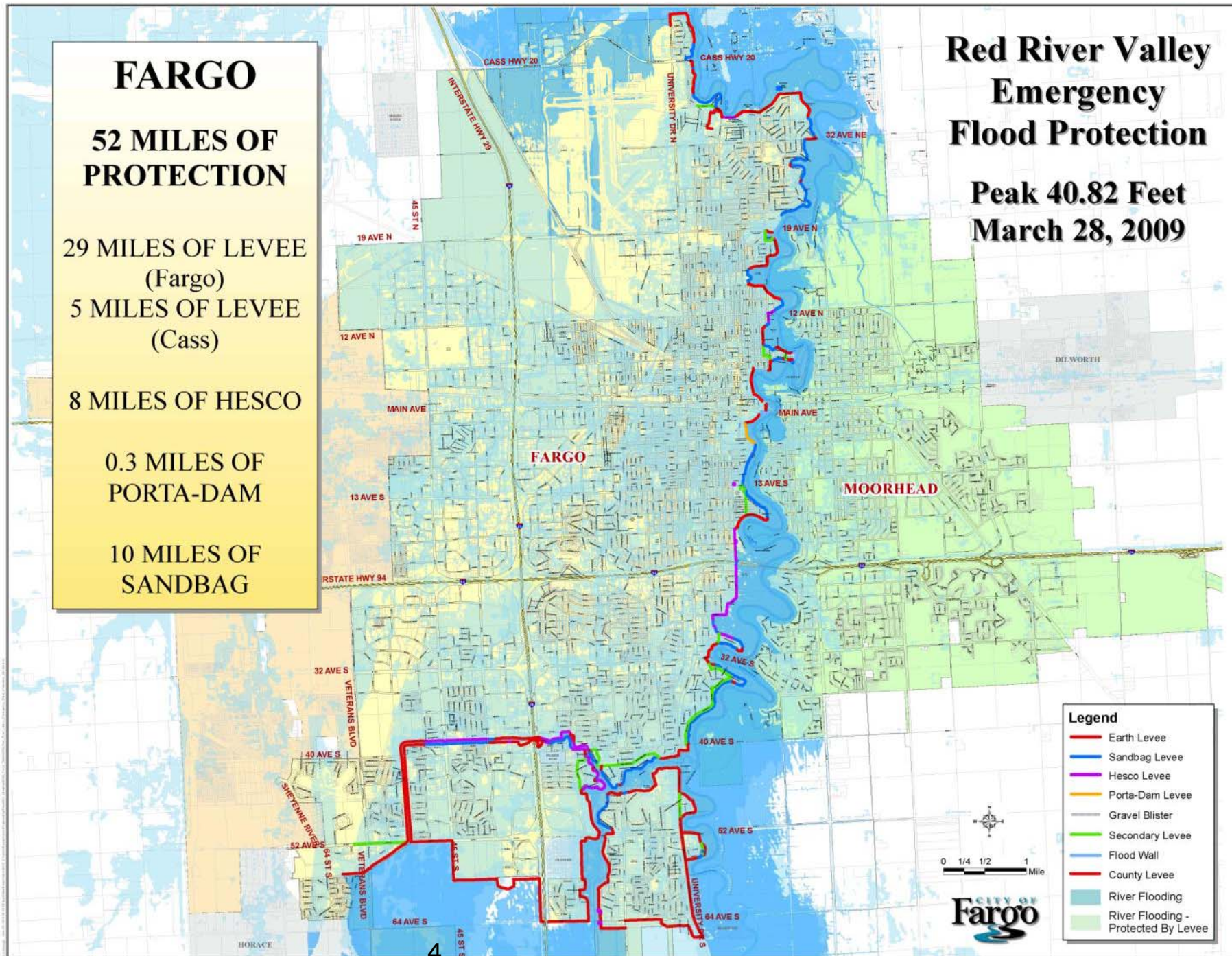
8 MILES OF HESCO

0.3 MILES OF  
PORTA-DAM

10 MILES OF  
SANDBAG

## Red River Valley Emergency Flood Protection

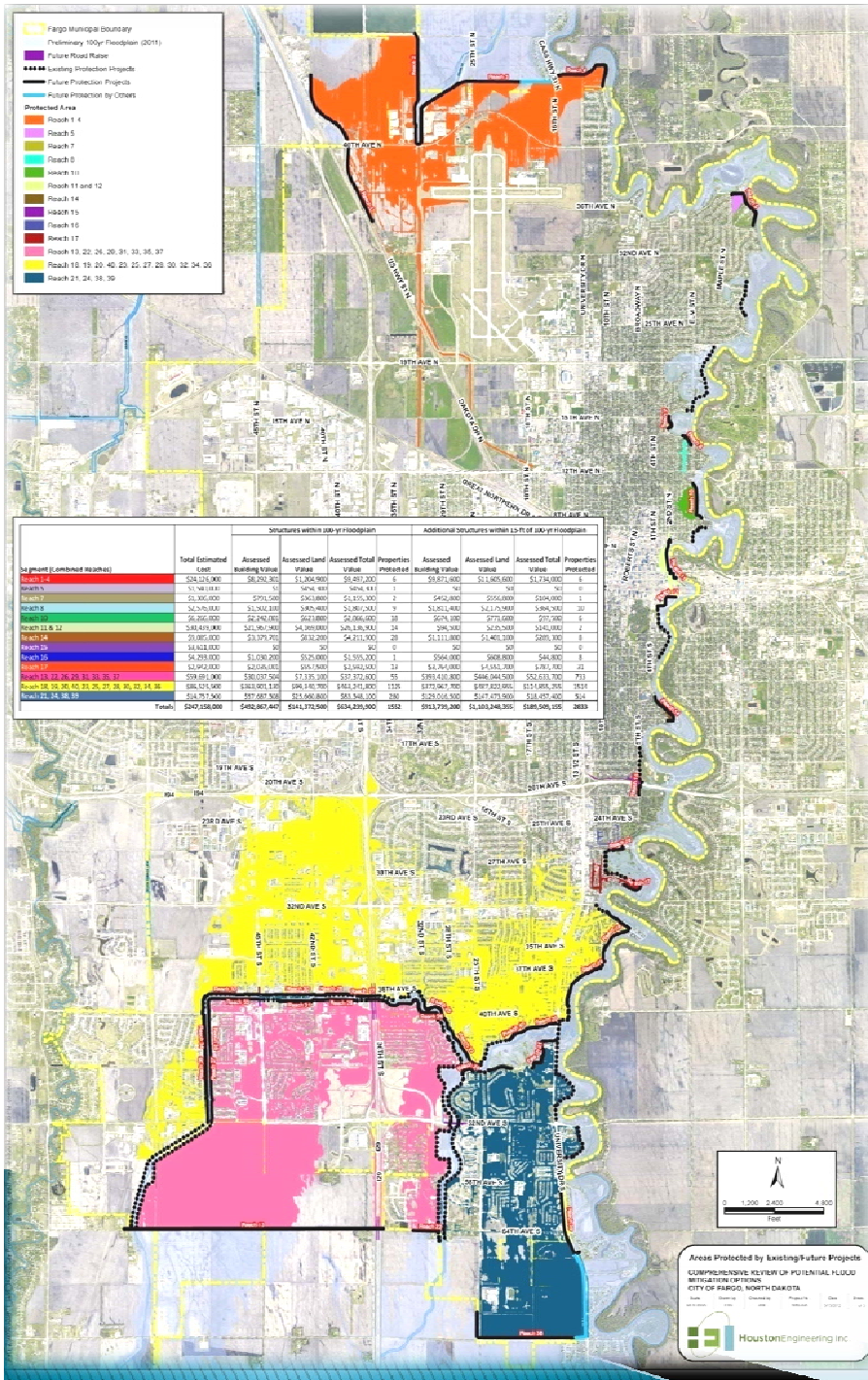
Peak 40.82 Feet  
March 28, 2009





# 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



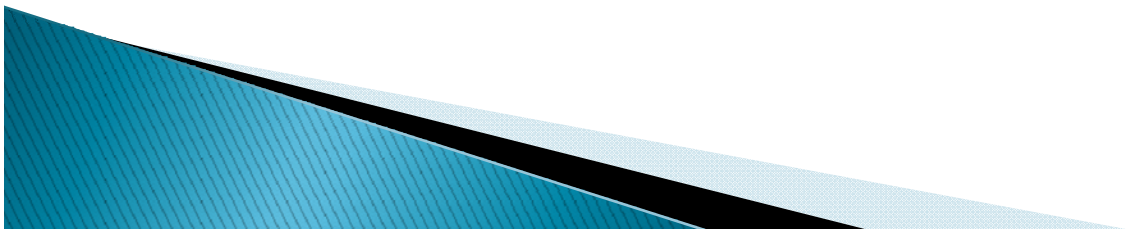
# So...Why implement this Comprehensive Plan?

## 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:

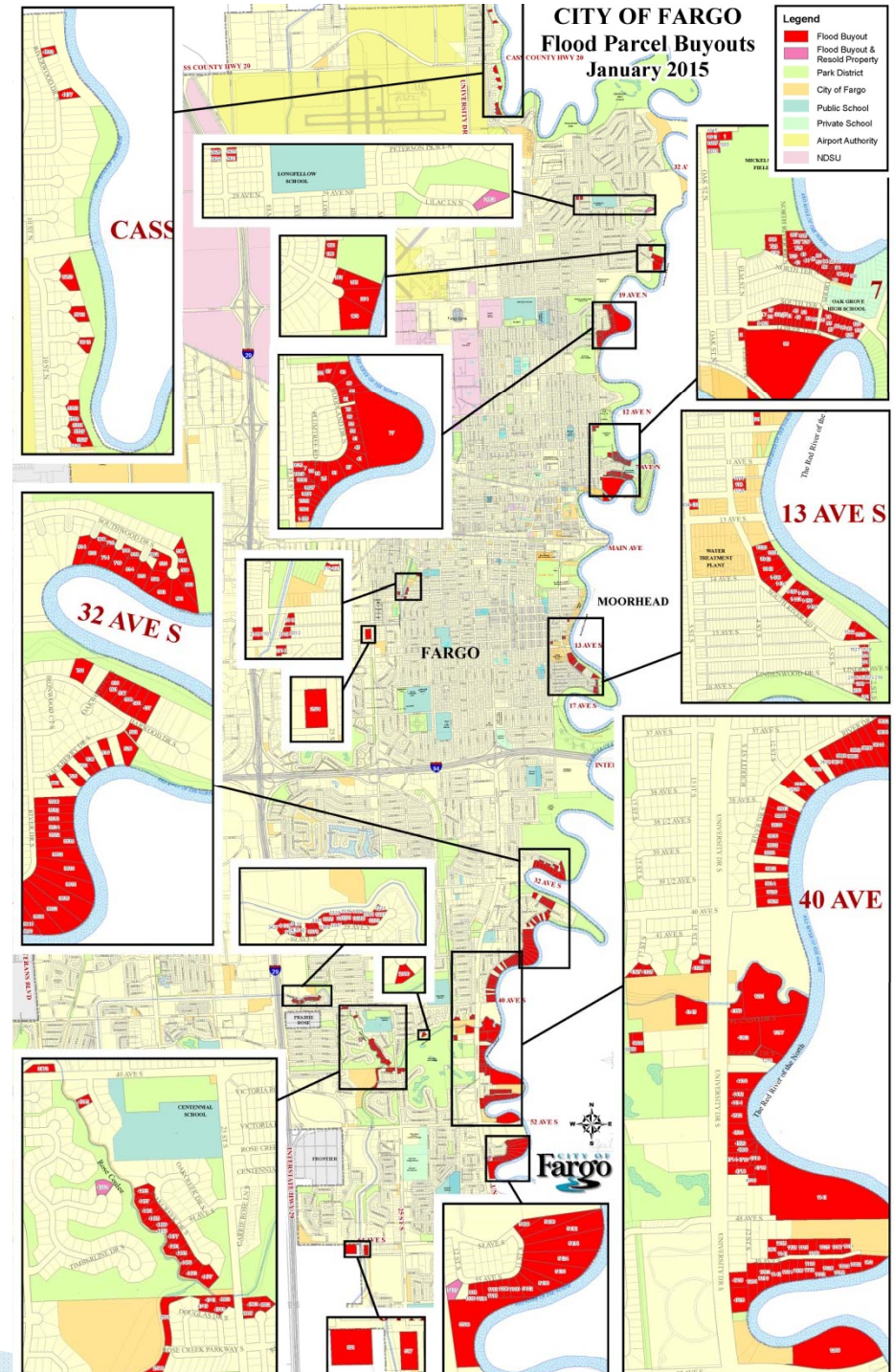
- Upon completion of Certifiable reaches–Keep Housing Affordable for more of our population by making flood insurance available to residents at the lowest possible rates
- Combined with the FM Diversion– Provide for greater than 100 year protection for the largest population center in ND





# Property Acquisitions (Since 2009)

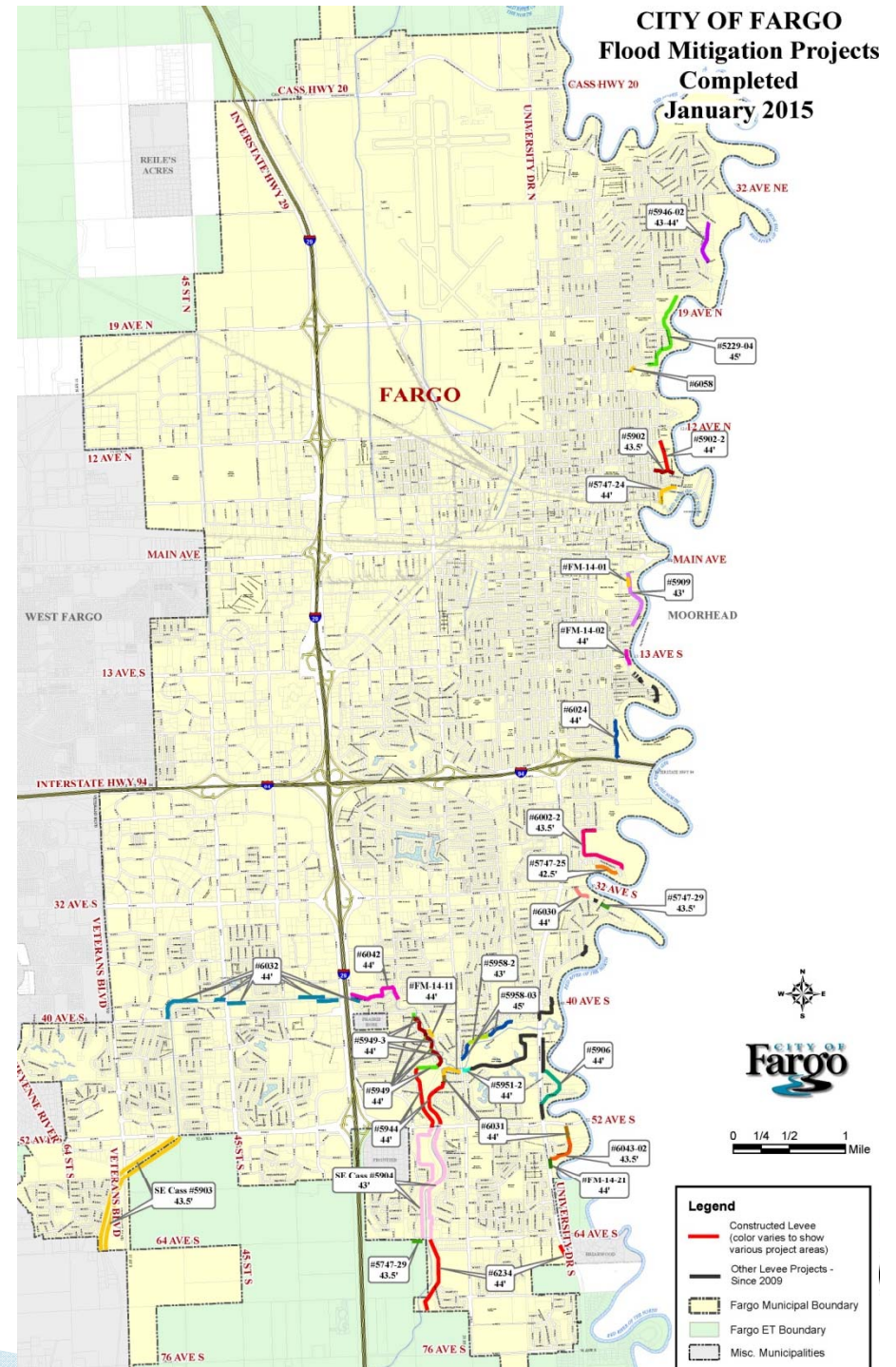
- ▶ 173 Properties Purchased
  - Over 300 since 1990
- ▶ At cost of over \$57 million
- ▶ Cass County purchased 14 additional homes needed
- ▶ Diversion Authority is in process of acquiring 15 additional properties within Fargo
- ▶ Remaining Properties Under Comprehensive Plan
  - 121 properties to be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





# Completed Projects (Since 2009)

- ▶ Over 16 miles constructed
  - 15 miles of earth levee
  - 1 mile of floodwall
- ▶ Project Cost  $\approx$  \$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

▶

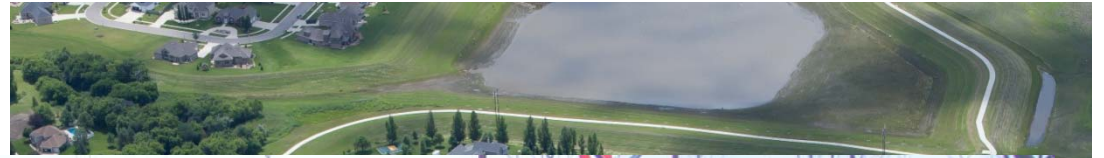




# Timberline

- ▶ Community (2010)

- ▶ Rebuilding after





Ros

- ▶ Com  
201
- Co  
Ea  
Flo





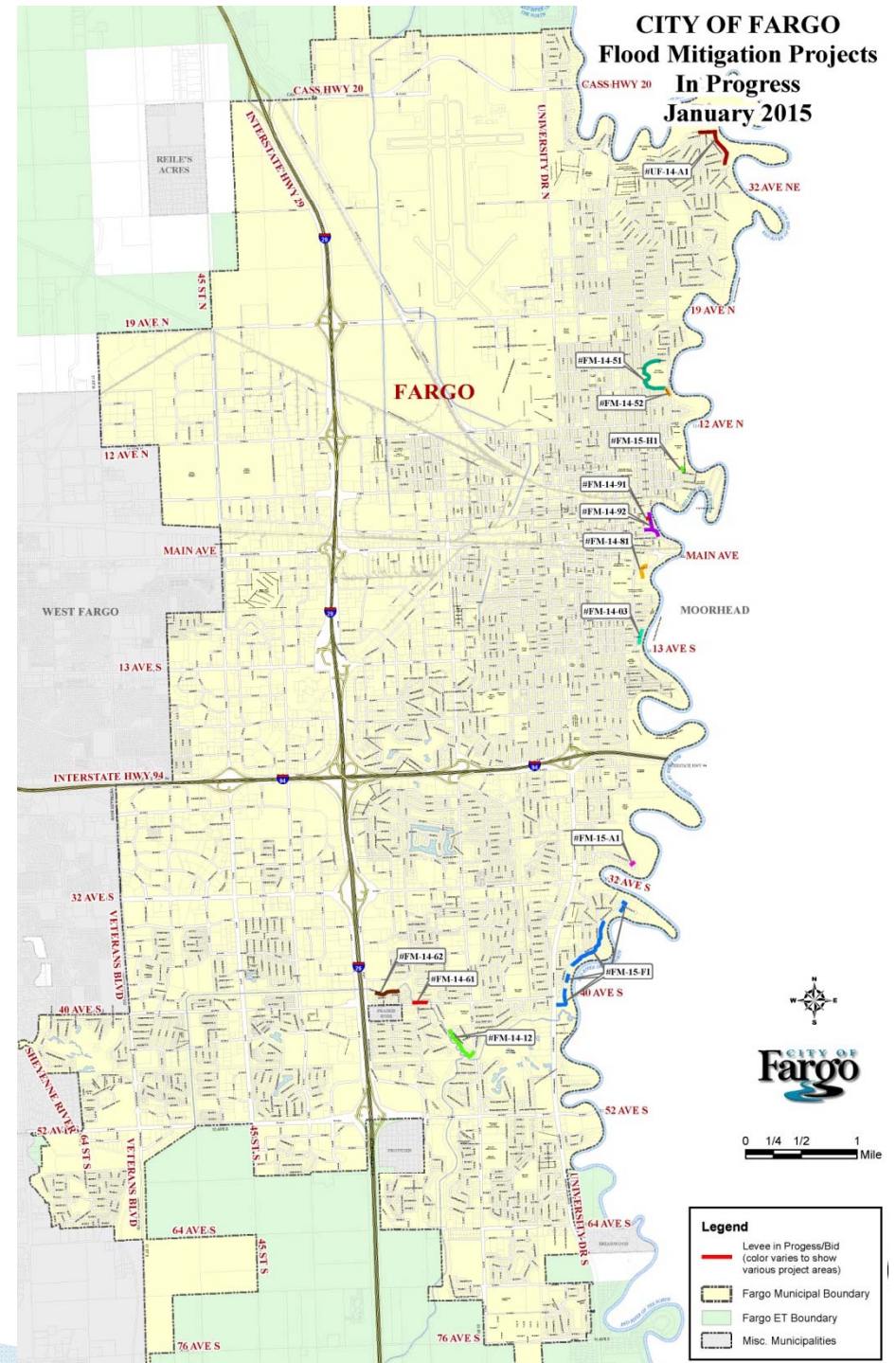
# Mickelson Field





# 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  $\approx$  \$100 million
  - Construction Cost  $\approx$  \$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

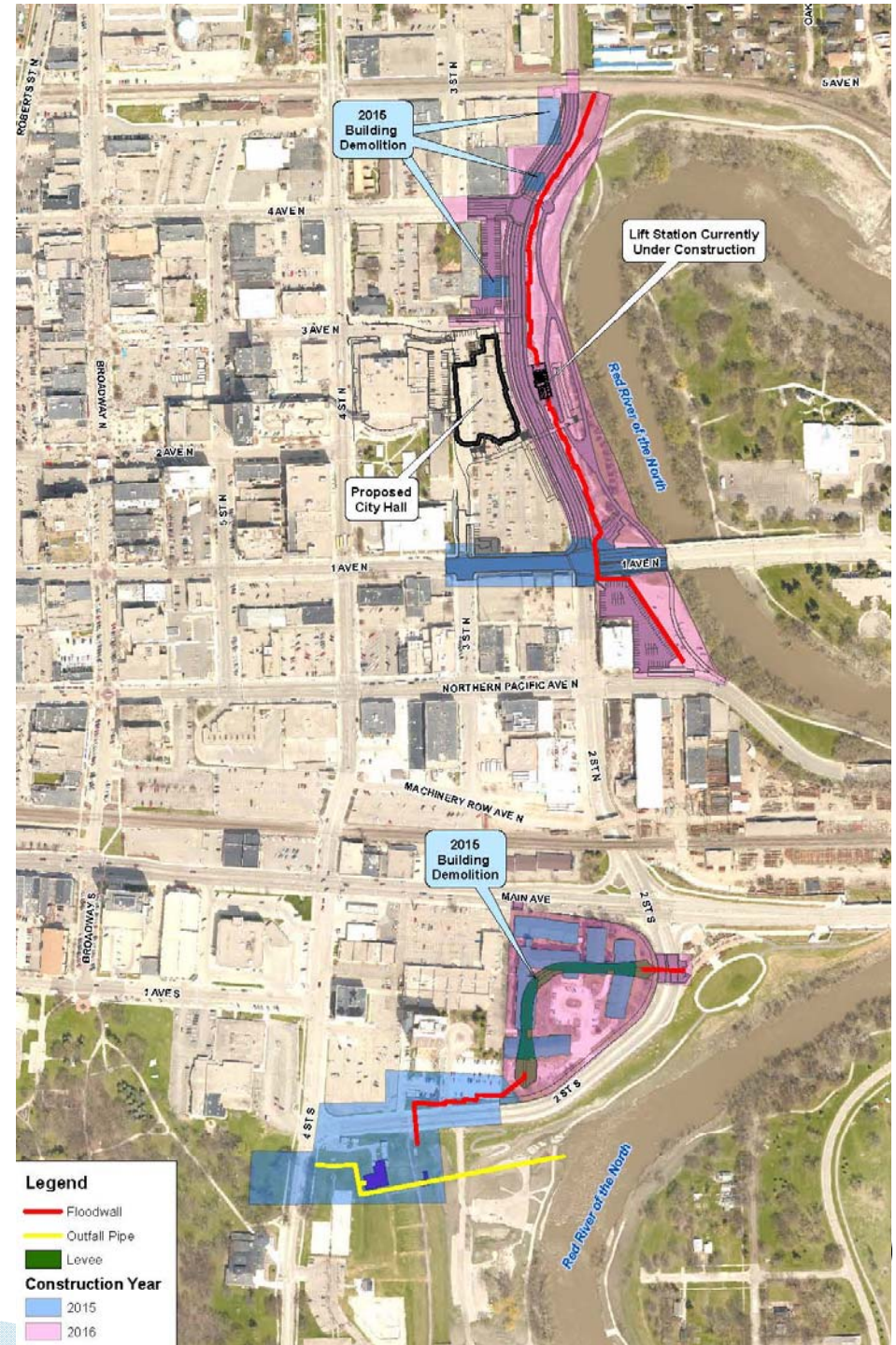
- ▶ Phase 1 – February 2015 Bid Opening
  - Levee Construction on Previously Acquired Properties
  - Construction of new storm sewer lift station
    - New lift station will replace two existing lift stations
  - Fall 2015 Completion





# 2<sup>nd</sup> Street N & S

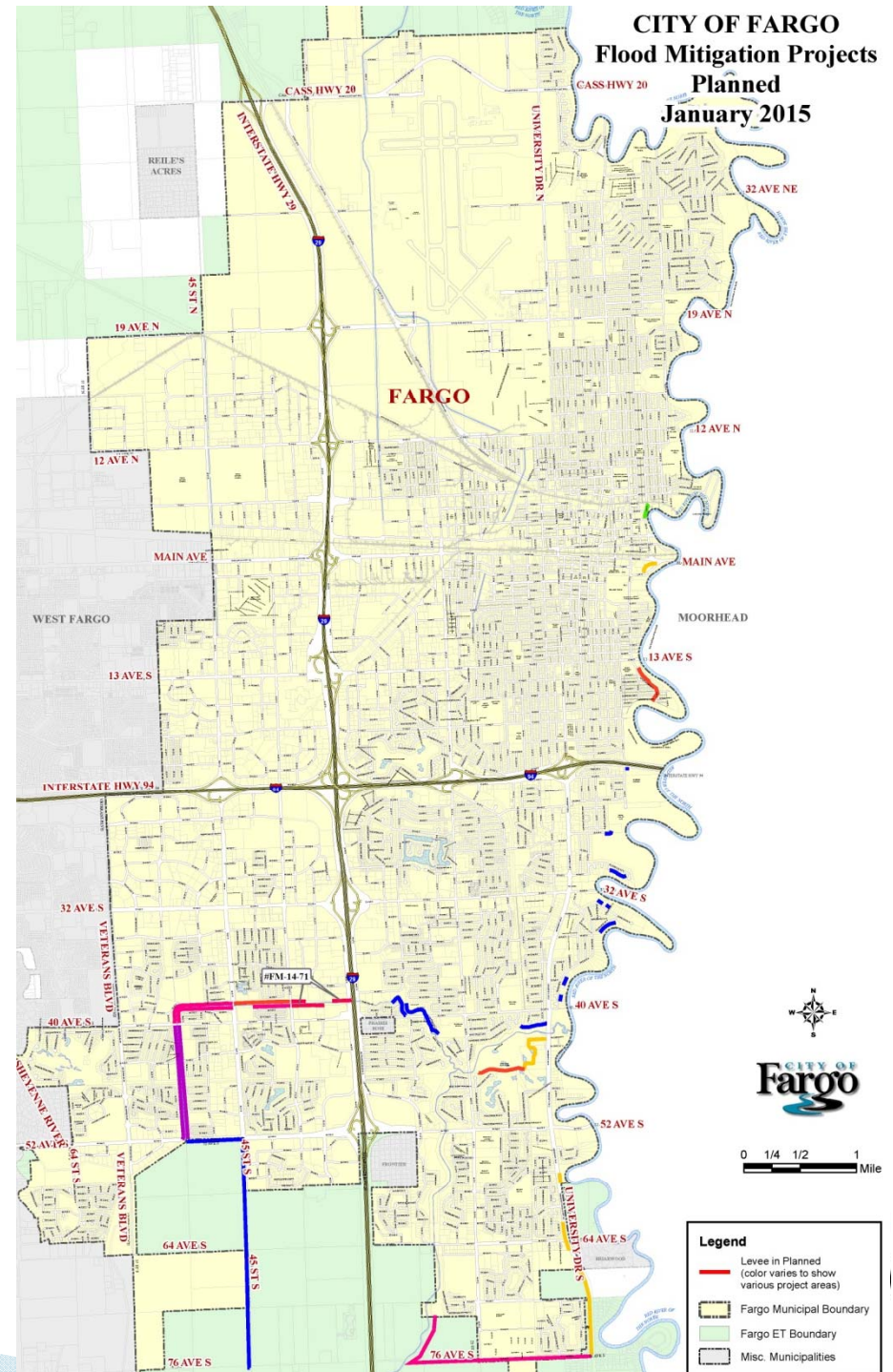
- ▶ Diversion Authority Led
- ▶ Two Projects Under Construction
  - 2<sup>nd</sup> Street N Pump Station
  - 4<sup>th</sup> Street Pump Station & 2<sup>nd</sup> Street S Floodwall
- ▶ 2015 Planned Construction
  - 1<sup>st</sup> Avenue N Utility Relocations
  - Building Demolitions
- ▶ All Projects will carryover to 2016.





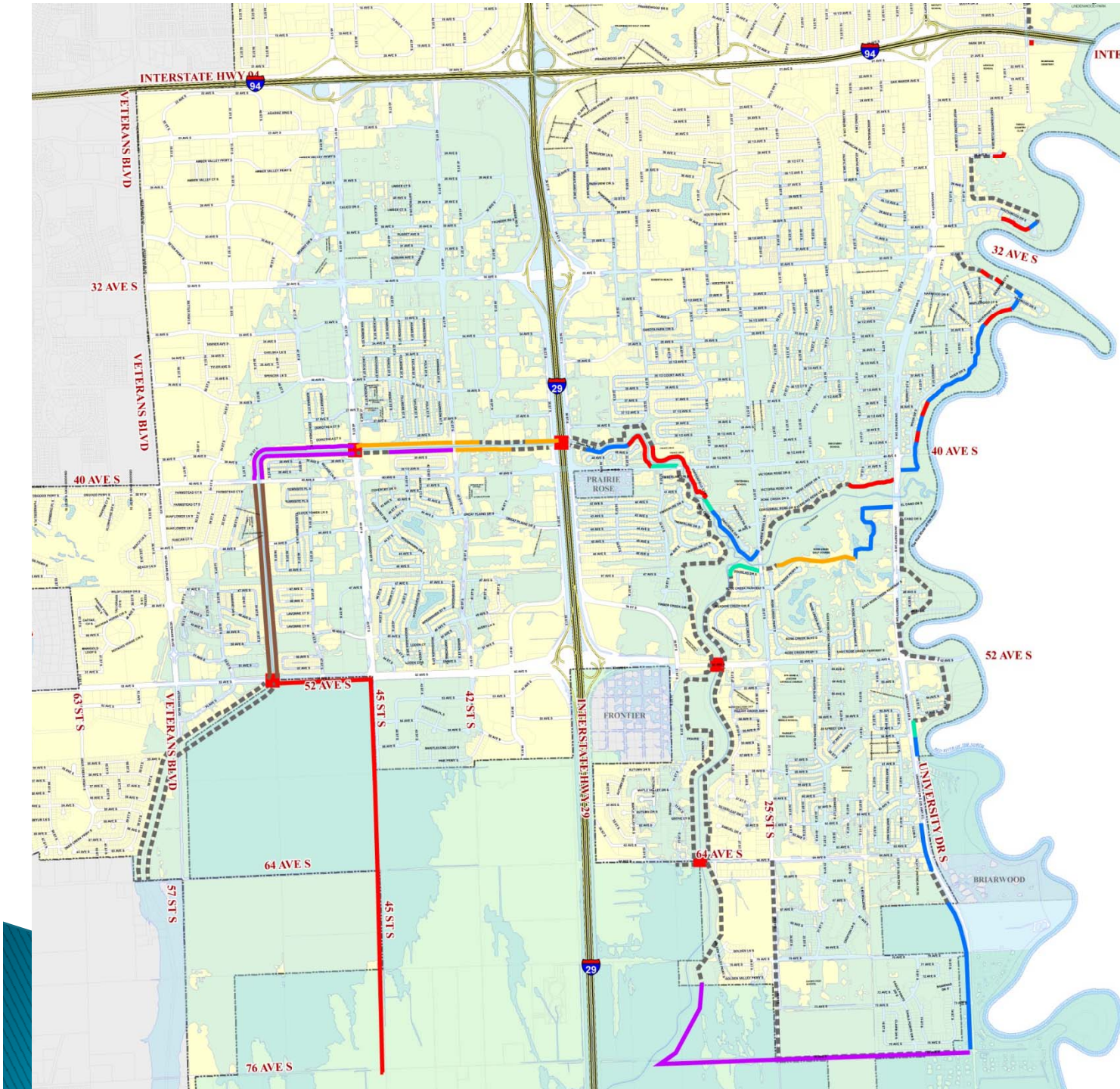
# Remaining Projects

- ▶ Over 13.38 miles remaining
  - \*excludes Cass County 20 Area
- ▶ Project Cost  $\approx$  \$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





# Projects



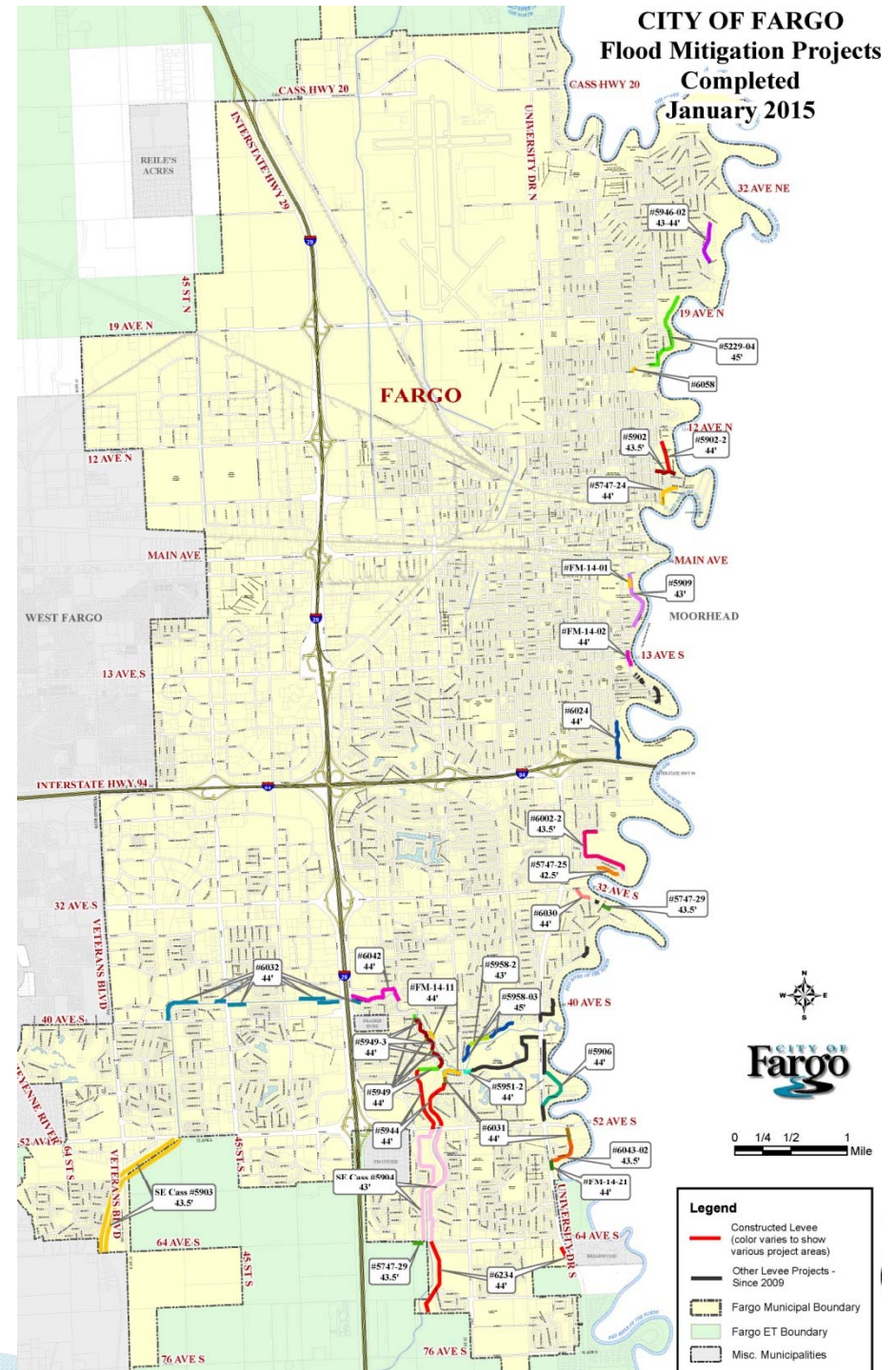
## Legend

- Constructed
- Under Construction
- Planned for 2015
- Planned for 2016
- Planned for 2017
- Planned for 2018
- Unidentified
- FEMA 1% Annual Chance Floodplain (Adoption in January 2015)
- Fargo Municipal Boundary
- Fargo ET Boundary
- Misc. Municipalities



# 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
    - ?!?





# QUESTIONS?

