



Flood Mitigation Discussion

43rd Ave N To Wall St Area

9/13/2016



MEETING OBJECTIVES

- * Review City policy regarding emergency measures
- * Review flood status for various scenarios
- * Discuss options for future work
- * Discuss next steps



CITY POLICY – SANDBAG & EMERGENCY MEASURE DEPLOYMENT DURING FLOOD EVENTS

** Adopted by City Council on May 28, 2013*

When a National Weather Service deterministic forecast is issued with a predicted crest of 42.5 feet or greater, the City Council will discuss and consider providing emergency assistance in the form of empty sandbags and loose sand for neighborhoods requiring such measures.

Current Effective FEMA 100-YR Floodplain (River Stage 39.3 ft)



HWY 75 N

57 AVE N

43 AVE N

20 ST N

21 ST N

18 ST N

43 AVE N

17 ST N

WALL STREET AVENUE

FEMA LOMC

FEMA LOMC

42 AVE N

53 AVE N

52 AVE N

51 AVE N

51 AVE N

53 AVE N

52 1/2 AVE N

52 AVE N

51 AVE N

40 AVE N

12 ST N

12 ST N

58 AVE N

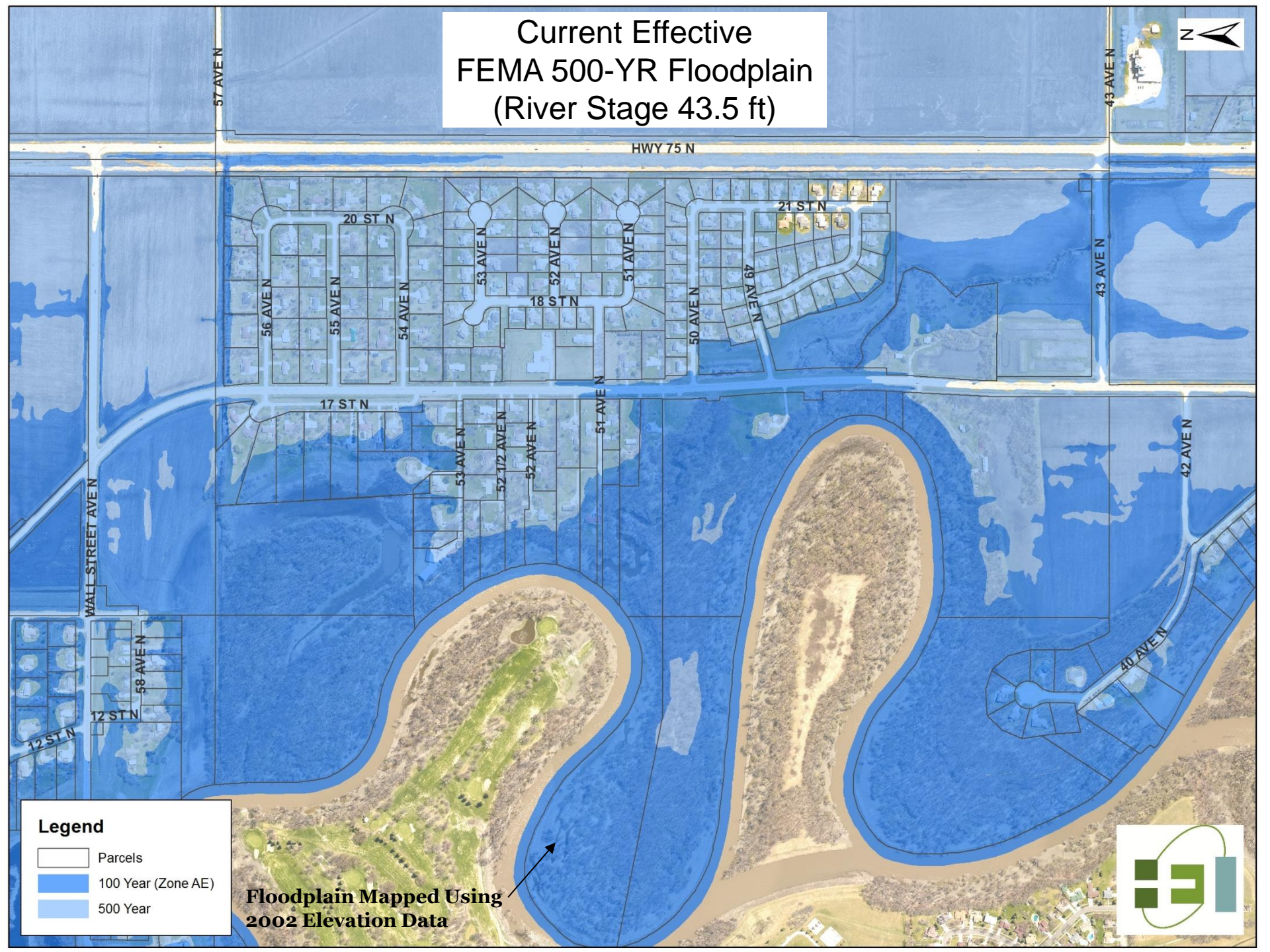
Legend

-  Parcels
-  100 Year (Zone AE)

Floodplain Mapped Using
2002 Elevation Data



Current Effective FEMA 500-YR Floodplain (River Stage 43.5 ft)



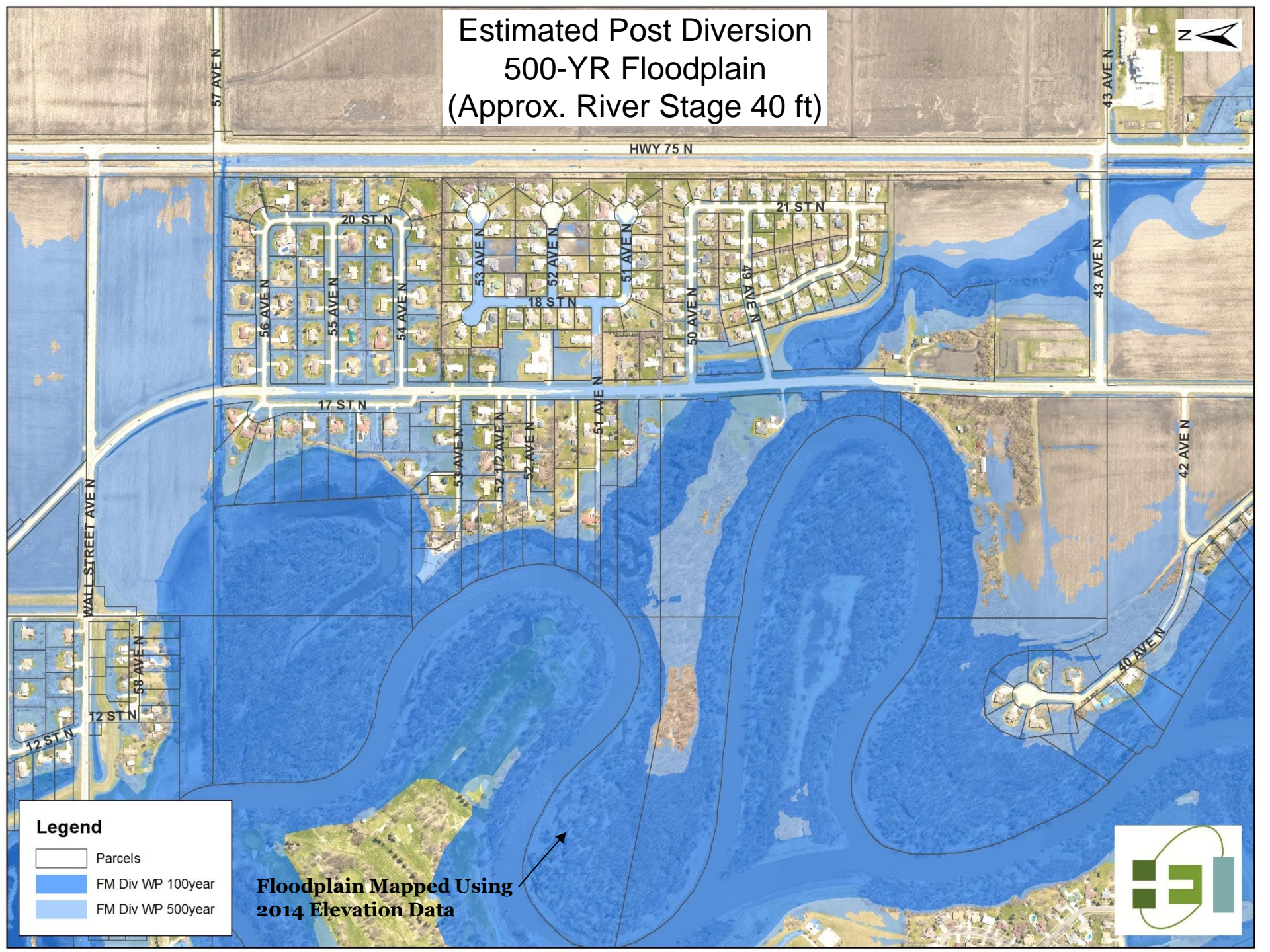
Legend

-  Parcels
-  100 Year (Zone AE)
-  500 Year




**Floodplain Mapped Using
2002 Elevation Data**



Estimated Post Diversion 500-YR Floodplain (Approx. River Stage 40 ft)



Legend

-  Parcels
-  FM Div WP 100year
-  FM Div WP 500year

**Floodplain Mapped Using
2014 Elevation Data**



Preliminary Future FEMA 100-YR Floodplain - No Diversion (Approx. River Stage 41 ft)



HWY 75 N

57 AVEN N

43 AVEN N

20 ST N

21 ST N

56 AVEN N

55 AVEN N

54 AVEN N

53 AVEN N

52 AVEN N

51 AVEN N

50 AVEN N

43 AVEN N

18 ST N

17 ST N

53 AVEN N

52 1/2 AVEN N

52 AVEN N

51 AVEN N

42 AVEN N

WALL STREET AVEN

58 AVEN N

40 AVEN N

12 ST N

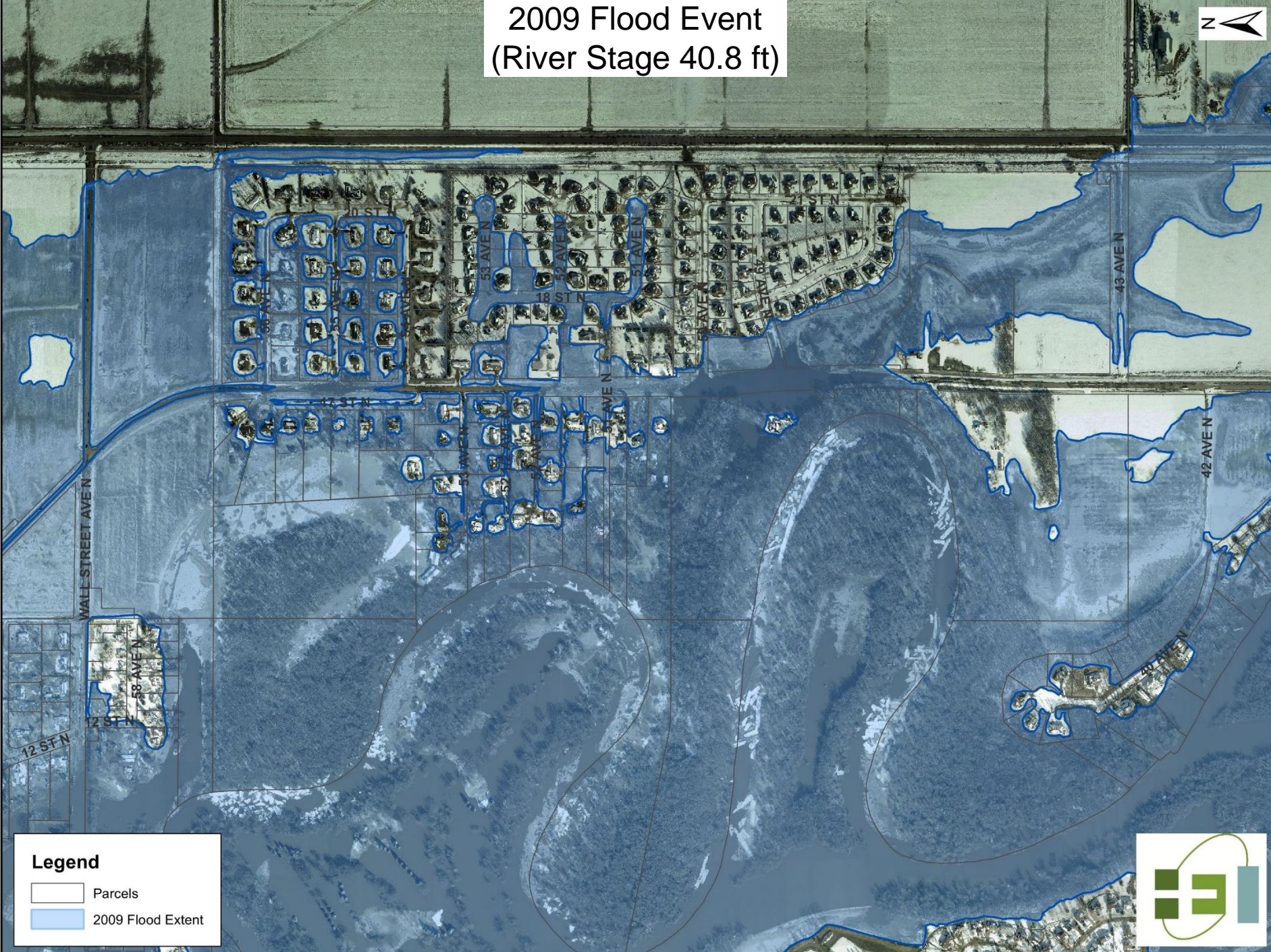
Legend

-  Parcels
-  FM River Stage 41

**Floodplain Mapped Using
2014 Elevation Data**



2009 Flood Event (River Stage 40.8 ft)

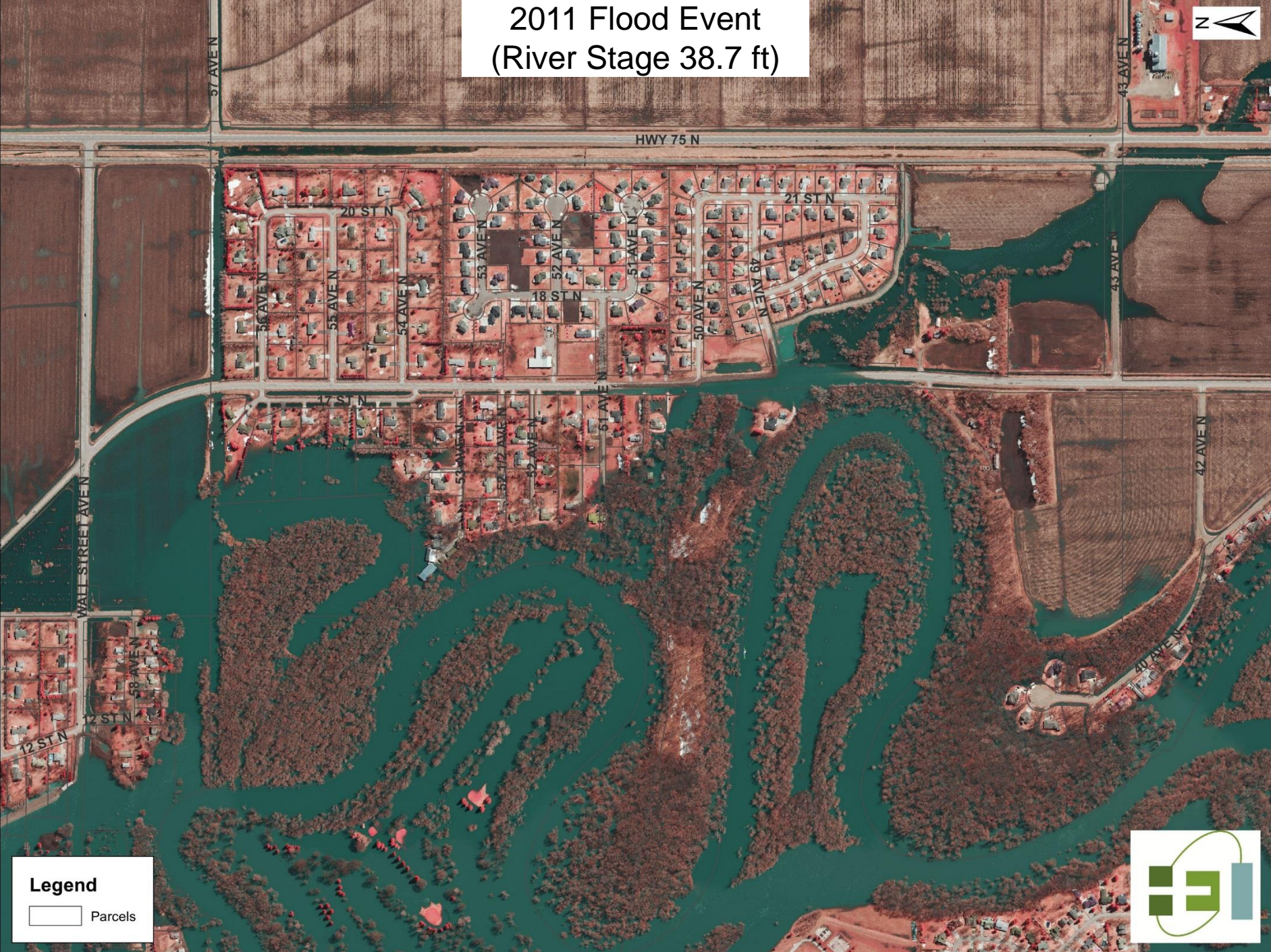


Legend


-  Parcels
-  2009 Flood Extent



2011 Flood Event (River Stage 38.7 ft)

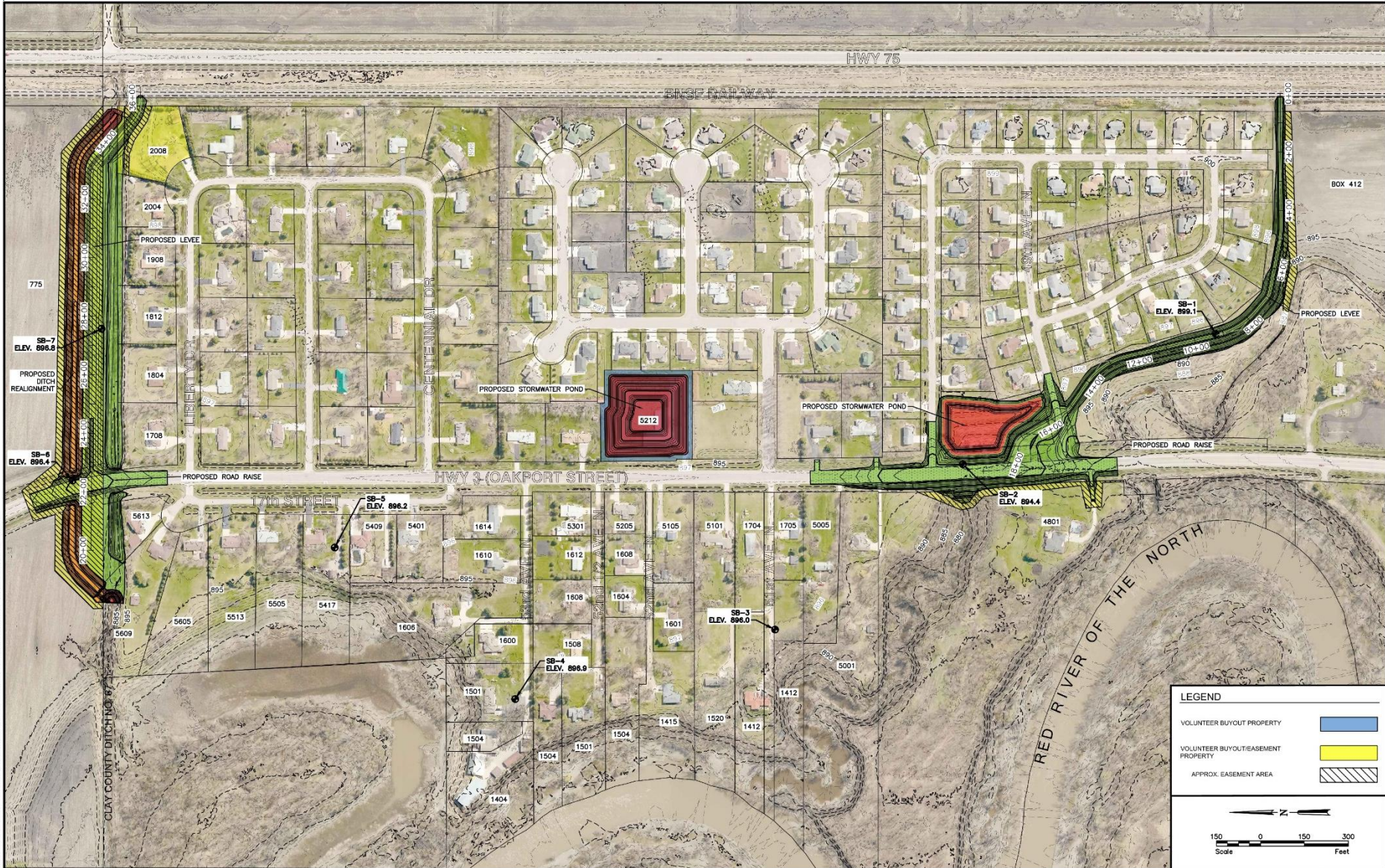


Legend

 Parcels

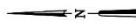


Base Protection Option



LEGEND

- VOLUNTEER BUYOUT PROPERTY
- VOLUNTEER BUYOUT/EASEMENT PROPERTY
- APPROX. EASEMENT AREA


 150 0 150 300
 Scale Feet

No.	Revision	Date	By



Fargo
 Drawn by BJA Date 8-29-16
 Checked by MPL Scale AS SHOWN
 P: 701.237.5065
 F: 701.237.5101

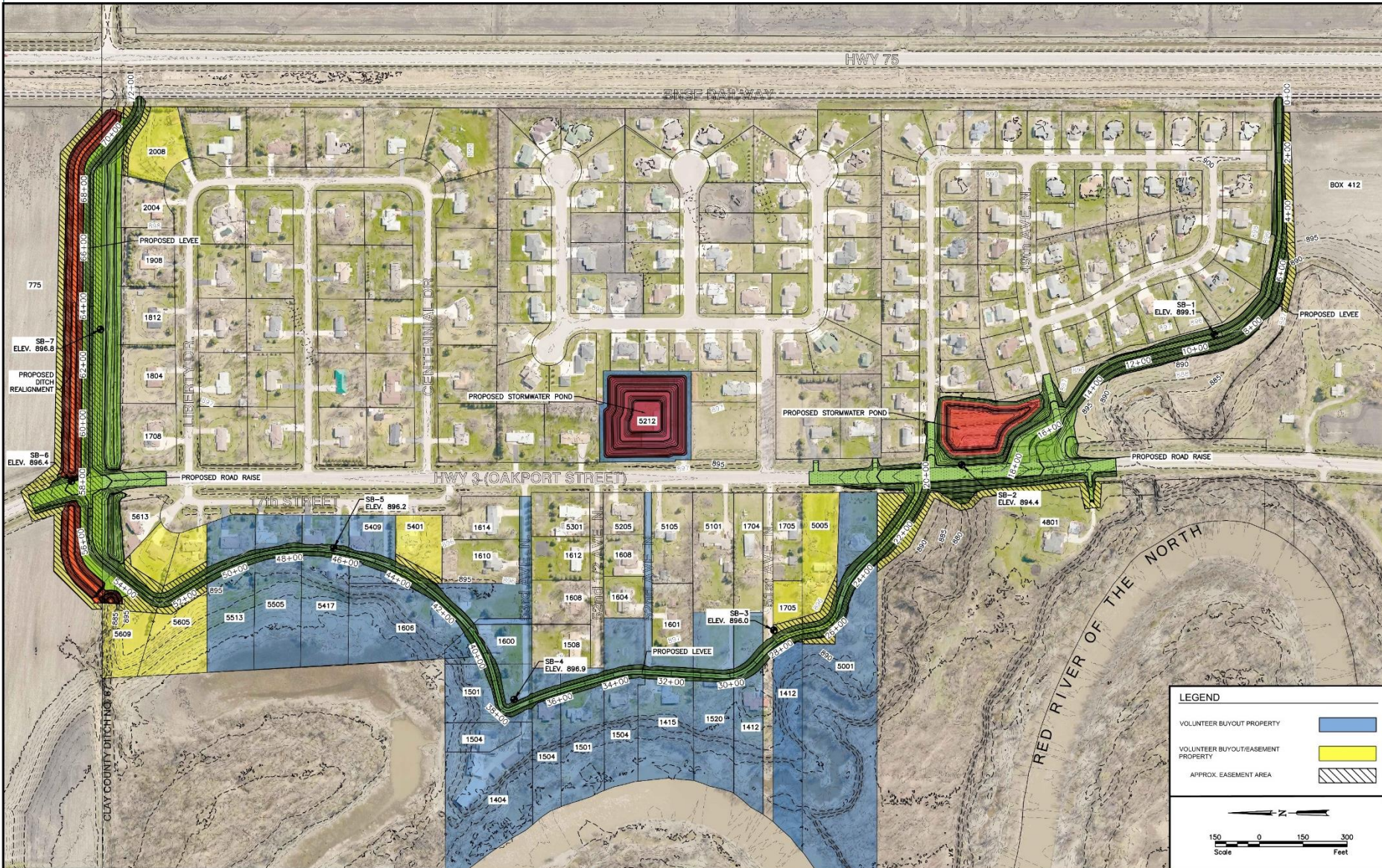
MCCANN'S - CRYSTAL CREEK FLOOD MITIGATION
 CITY OF MOORHEAD
 MOORHEAD, MINNESOTA

OVERALL
 BASE OPTION
 PROJECT NO. 6019-077

SHEET
 1 of 1

H:\Fargo\BIN\6019\6019_16_0019_077\CAD\Concept\Oakport Lempe - Overall Base Option - Moorhead.dwg, Sheet 9/13/2016, 11:48 AM (Issued)

Full Protection Option



LEGEND

- VOLUNTEER BUYOUT PROPERTY (Blue fill)
- VOLUNTEER BUYOUT/EASEMENT PROPERTY (Yellow fill)
- APPROX. EASEMENT AREA (Hatched pattern)

Scale: 1" = 300'
 150 0 150 300
 Feet

No.	Revision	Date	By

Houston Engineering Inc.

Fargo

Drawn by: BJA
 Checked by: MPL

Date: 8-29-16
 Scale: AS SHOWN

McCANN'S- CRYSTAL CREEK FLOOD MITIGATION
 CITY OF MOORHEAD
 MOORHEAD, MINNESOTA

OVERALL OPTION #2
 PROJECT NO. 6019-077

SHEET
 1 of 1

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PROJECT OPTIONS

- * Do Nothing (FM Diversion Project Only)
- * Base Project Option
 - Estimated Project Cost = \$4 Million
- * Full Protection Option
 - Estimated Project Cost = \$11 Million



POTENTIAL FUNDING SOURCES

- * Special Assessments
- * City Flood Mitigation Funds
- * DNR Flood Damage Reduction Grant Funds



NEXT STEPS

- * A Property Owner Survey Form Will be Mailed To Each Property Owner for Comments
- * Revise Proposed Project Alignment Per Comments
- * Future meeting and/or follow-up



QUESTIONS?

* Today's presentation will be available on the City's website*