Federal Emergency Management Agency

Washington, D.C. 20472

November 21, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:
Case No.: 16-05-3467P

The Honorable Del Rae Williams
Mayor, City of Moorhead
Moorhead City Hall
500 Center Avenue
Moorhead, MN 56561

Community Name: City of Moorhead, MN
Community No.: 275244
FIRM Panel Affected: 27027C0317E,
27027C0319E

116

Dear Mayor Williams:

In a Letter of Map Revision (LOMR) dated June 24, 2016, you were notified of proposed flood hazard determinations affecting the Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) report for the City of Moorhead, Clay County, Minnesota. These determinations were for The Red River of the North - from approximately 11,200 feet downstream of 15th Avenue North to approximately 1,900 feet downstream of 15th Avenue North. The 90-day appeal period that was initiated on July 14, 2016, when the Department of Homeland Security's Federal Emergency Management Agency (FEMA) published a notice of proposed Flood Hazard Determinations in *The Extra* has elapsed.

FEMA received no valid requests for changes to the modified flood hazard information. Therefore, the modified flood hazard information for your community that became effective on November 11, 2016, remains valid and revises the FIRM and FIS report that was in effect prior to that date.

The modifications are pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. The community number(s) and suffix code(s) are unaffected by this revision. The community number and appropriate suffix code as shown above will be used by the National Flood Insurance Program (NFIP) for all flood insurance policies and renewals issued for your community.

FEMA has developed criteria for floodplain management as required under the above-mentioned Acts of 1968 and 1973. To continue participation in the NFIP, your community must use the modified flood hazard information to carry out the floodplain management regulations for the NFIP. The modified flood hazard information will also be used to calculate the appropriate flood insurance premium rates for all new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

If you have any questions regarding the necessary floodplain management measures for your community or the NFIP in general, please contact the Mitigation Division Director, FEMA Region V, in Chicago, Illinois, either by telephone at (312) 408-5500, or in writing at 536 South Clark Street, Sixth Floor, Chicago, Illinois 60605.

If you have any questions regarding the LOMR, the proposed flood hazard determinations, or mapping issues in general, please call the FEMA Map Information eXchange, toll free, at (877) 336-2627 (877-FEMA MAP).

Sincerely,

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

cc: Ms. Andrea Crabtree Nayes, CFM
Floodplain Administrator, City of Moorhead

Mr. Nathan Boerboom, P.E., CFM
Division Engineer
Storm Sewer Utilities, City of Fargo

Mr. Gregory S. Thompson, P.E., CFM
Houston Engineering Inc.

Ms. Ceil Strauss, CFM
Minnesota Dept. of Natural Resources - Waters

Ms. Dionne Haynes
North Dakota State Water Commission

Federal Emergency Management Agency

Washington, D.C. 20472

June 24, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:
Case No.: 16-05-3467P
Community Name: City of Moorhead, MN
Community No.: 275244
Effective Date of This Revision: **November 11, 2016**

The Honorable Del Rae Williams
Mayor, City of Moorhead
Moorhead City Hall
500 Center Avenue
Moorhead, MN 56561

Dear Mayor Williams:

The Flood Insurance Study Report and Flood Insurance Rate Map for your community have been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Chicago, Illinois, at (312) 408-5500, or the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at http://www.fema.gov/business/nfip.

Sincerely,

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

List of Enclosures:

Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map
Annotated Flood Insurance Study Report

cc: Ms. Andrea Crabtree Nayes, CFM
Floodplain Administrator, City of Moorhead

Mr. Nathan Boerboom, P.E., CFM
Division Engineer
Storm Sewer Utilities, City of Fargo

Mr. Gregory S. Thompson, P.E., CFM
Houston Engineering Inc.

Ms. Ceil Strauss, CFM
Minnesota Dept. of Natural Resources - Waters

Ms. Dionne Haynes
North Dakota State Water Commission

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Moorhead Clay County Minnesota	LEVEE	FLOODWAY HYDRAULIC ANALYSIS LEVEE CERTIFICATION NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 275244		
IDENTIFIER	Moorhead Country Club Flood Mitigation Project	APPROXIMATE LATITUDE & LONGITUDE: 46.896, -96.770 SOURCE: Other DATUM: NAD 83	

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO.: 27027C0317E DATE: April 17, 2012 TYPE: FIRM NO.: 27027C0319E DATE: April 17, 2012	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: April 17, 2012 PROFILES: 24P AND 25P FLOODWAY DATA TABLE: 3

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map

FLOODING SOURCE & REVISED REACH

The Red River of the North - From approximately 11,200 feet downstream of 15th Avenue North to approximately 1,900 feet downstream of 15th Avenue North

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
The Red River of the North	Zone AE	Zone AE	YES	YES
	Zone X (shaded)	Zone X (shaded)	YES	YES
	BFEs*	BFEs	NONE	YES
	Floodway	Floodway	YES	YES

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Christine Stack
Director, Mitigation Division
Federal Emergency Management Agency, Region V
536 South Clark Street, Sixth Floor
Chicago, IL 60605
(312) 408-5500

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panels and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

A notice of changes will be published in the *Federal Register*. This information also will be published in your local newspaper on or about the dates listed below, and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/bfe_status/bfe_main.asp

LOCAL NEWSPAPER

Name: *The Extra*

Dates: July 7, 2016 and July 14, 2016

Within 90 days of the second publication in the local newspaper, any interested party may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination presented in this LOMR may be changed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
RED RIVER OF THE NORTH (CONTINUED)								
U	27.819	665/282	12,884	2.0	893.0	893.0	893.4	0.4
V	29.162	1,050/760	15,101	1.7	893.9	893.9	894.3	0.4
W	29.996	550/250	10,981	2.4	894.4	894.4	894.8	0.4
X	30.266	490/254	8,735	3.0	894.5	894.5	894.9	0.4
Y	30.875	566/229	11,591	2.2	895.0	895.0	895.4	0.4
Z	32.731	1,310/777	19,805	1.3	895.7	895.7	896.0	0.3
AA	33.344	2,420/522	40,639	0.6	895.8	895.8	896.2	0.4
AB	34.005	3,043/251	29,789	1.0	896.0	896.0	896.3	0.3
AC	34.768	1,622/1,256	19,198	1.5	896.3	896.3	896.6	0.3
AD	35.405	3,157/258	33,415	0.9	896.5	896.5	896.8	0.3
AE	35.993	992/723	16,418	1.8	896.6	896.6	896.9	0.3
AF	36.823	3,094/29	48,994	0.6	897.0	897.0	897.2	0.2
AG	37.769	0 792/295	14,825	2.0	897.3	897.3	897.5	0.2
AH	38.489	720/452	13,769	2.1	897.6	897.6	897.9	0.3
AI	39.437	1,013/708	17,779	1.7	898.2	898.2	898.5	0.3
AJ	40.386	927/708	16,620	1.8	899.1	899.1	899.5	0.4
AK	41.285	1,857/28	25,651	1.1	899.7	899.7	900.1	0.4
AL	42.284	3 616/526	11,254	2.6	900.3	900.3	900.6	0.3
AM	42.932	505/238	9,385	3.1	901.2	901.2	901.6	0.4
AN	44.235	724/267	14,606	2.0	902.3	902.3	902.8	0.5

[1]Miles above county boundary

[2]Total width/Width within county

REVISED DATA

REVISED TO REFLECT LOMR EFFECTIVE: NOVEMBER 11, 2016

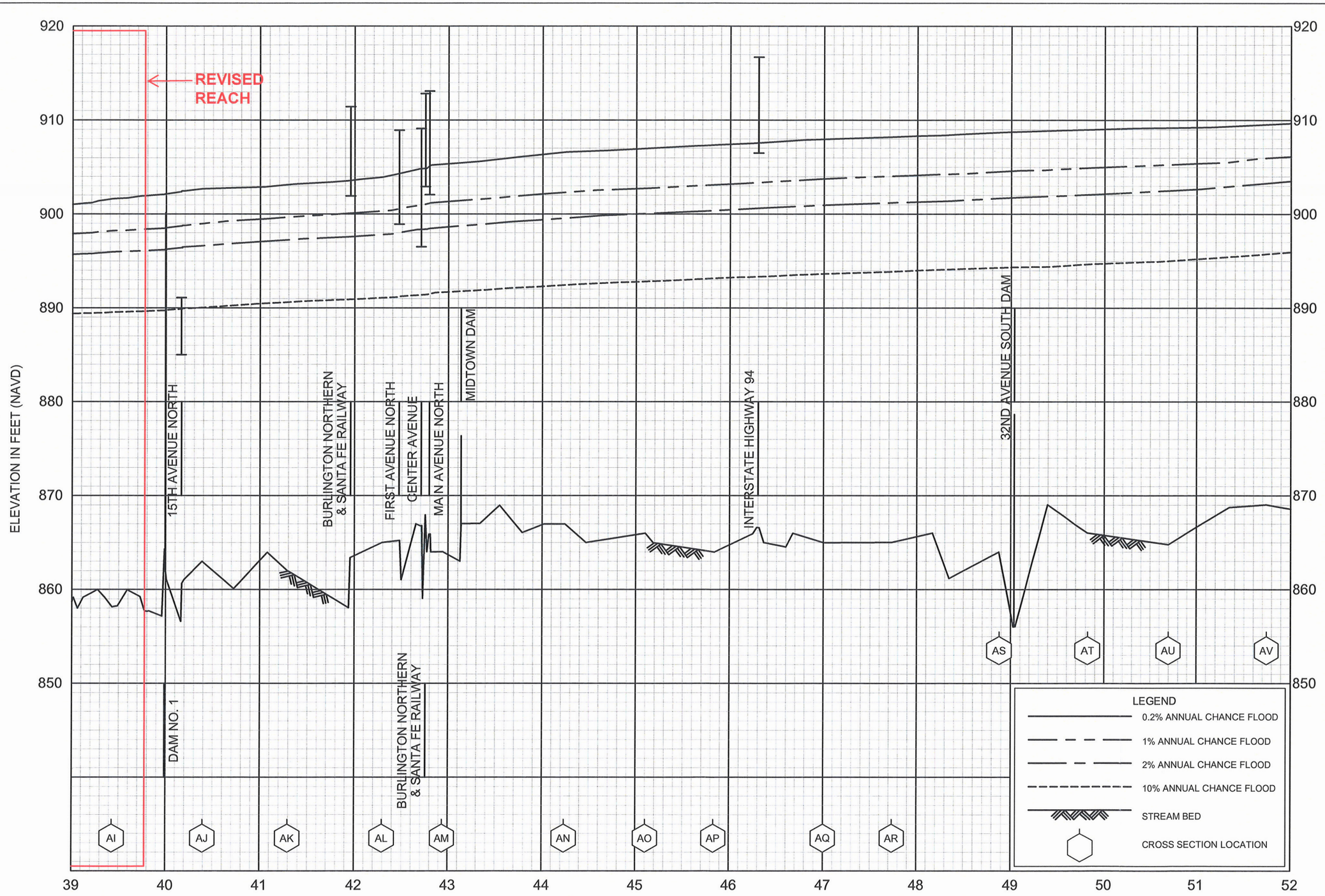
TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

CLAY COUNTY, MN
AND INCORPORATED AREAS

FLOODWAY DATA

RED RIVER OF THE NORTH



REVISED TO REFLECT LOMR EFFECTIVE: NOVEMBER 11, 2016

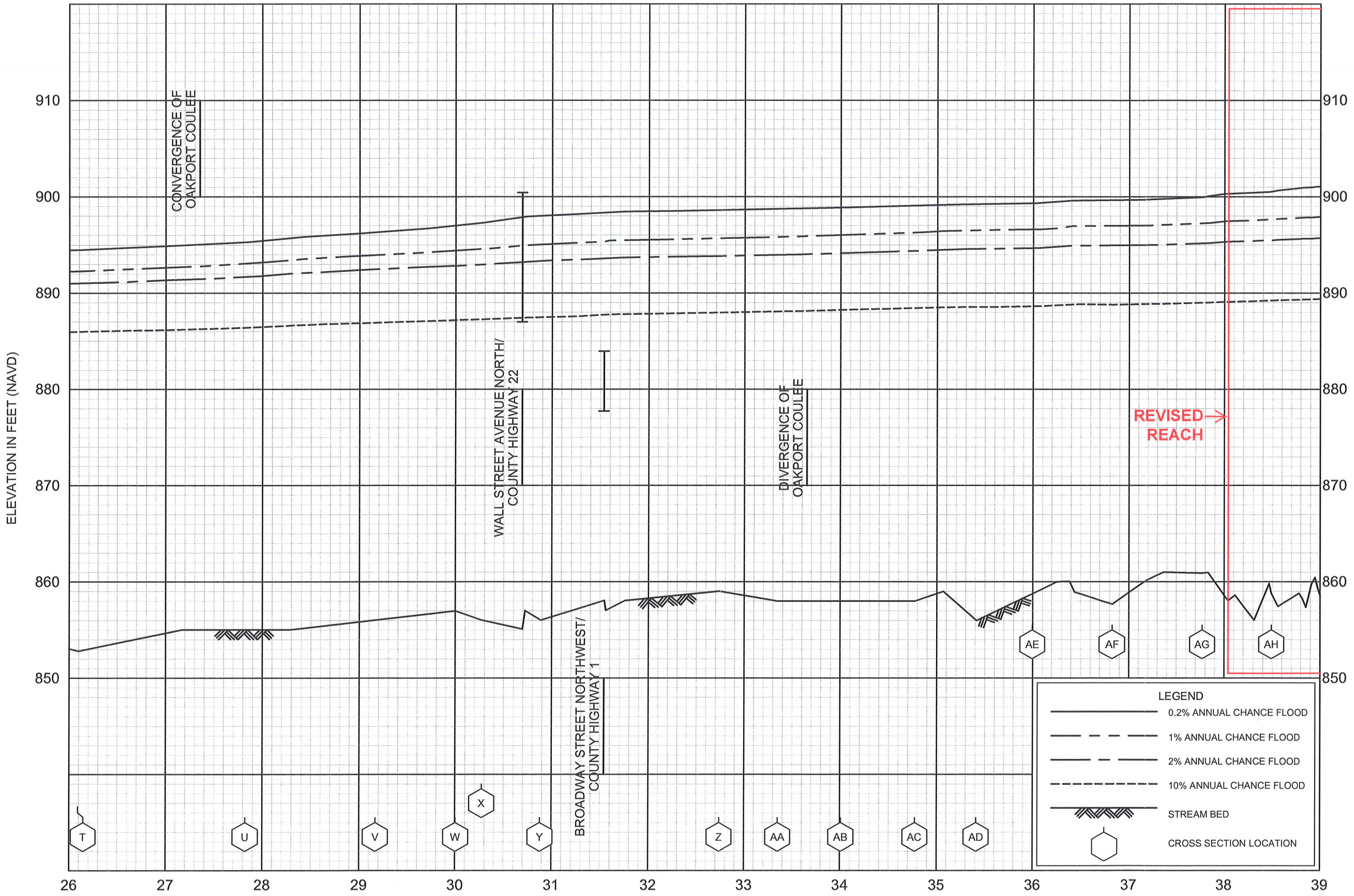
FLOOD PROFILES

RED RIVER OF THE NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

CLAY COUNTY, MN

AND INCORPORATED AREAS



REVISED TO REFLECT LOMRE EFFECTIVE: NOVEMBER 11, 2016

FLOOD PROFILES

RED RIVER OF THE NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

CLAY COUNTY, MN

AND INCORPORATED AREAS

24P



SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*

SCALE

N

Map Projection:
NAD 1983 UTM Zone 14N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0	250	500	1,000 Feet
0	75	150	300 Meters

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

CLAY COUNTY, MINNESOTA
AND INCORPORATED AREAS

PANEL **317** OF **750**

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLAY COUNTY	275235	0317	E
MOORHEAD, CITY OF	275244	0317	E

REVISED TO REFLECT LOMR EFFECTIVE: NOVEMBER 11, 2016

VERSION NUMBER
1.1.1.0

MAP NUMBER
27027C0317E

EFFECTIVE DATE
APRIL 17, 2012

$^{6}69^{000m}E$

96° 46' 52.5"

46° 54' 22.5"

$^{6}70^{000m}E$

$^{6}71^{000m}E$

JOINS PANEL 0317

$^{51}97^{000m}N$

$^{51}96^{000m}N$

Red River of the North

Profile Baseline

897.5

897.6

897.8

897.9

898.1

898.2

898.4

897

897.3

AH

AG

AI

Levee

RIVER DRN

COUNTRY CLUB PKWY

FAIRWAY DR

CADDY AVE N

OAKPORT ST N

28TH AVE N

18TH AVE N

18 AVE CIR N

17TH AVE N

10TH ST N

11TH ST N

28

29

32

3

18

ZONE AE

ZONE AE (EL 892)

ZONE AE (EL 894)

ZONE AE (EL 898)

ZONE AE (EL 889)

Note: This area is shown as being protected from the 1-percent-annual-chance or greater flood hazard by a levee system. Overtopping or failure of any levee system is possible.

REVISED AREA

NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 139 NORTH, RANGE 48 WEST AND TOWNSHIP 140 NORTH, RANGE 48 WEST.

FLOOD HAZARD INFORMATION IS NOT SHOWN ON THIS MAP IN AREAS OUTSIDE OF CLAY COUNTY

Clay County Unincorporated Areas 275235

FLOODING EFFECTS FROM RED RIVER OF THE NORTH

City of Moorhead 275244

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A,V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X

SCALE

Map Projection:
NAD 1983 UTM Zone 14N;
Western Hemisphere; Vertical Datum NAVD 88

1 inch = 500 feet 1:6,000

0 250 500 1,000 Feet

0 75 150 300 Meters

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CLAY COUNTY, MINNESOTA

AND INCORPORATED AREAS

PANEL 319 OF 750

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLAY COUNTY	275235	0319	E
MOORHEAD, CITY OF	275244	0319	E

REVISED TO REFLECT LOMR EFFECTIVE: NOVEMBER 11, 2016

VERSION NUMBER
1.1.1.0

MAP NUMBER
27027C0319E

EFFECTIVE DATE
APRIL 17, 2012