



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 HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 275244		
IDENTIFIER	50 th Avenue South Flood Mitigation Project	APPROXIMATE LATITUDE & LONGITUDE: 46.823, -96.791 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM*	NO.: 27027C0458E DATE: April 17, 2012	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: April 17, 2012	
TYPE: FIRM	NO.: 27027C0459E DATE: April 17, 2012	PROFILE(S): 25P AND 26P	
TYPE: FIRM	NO.: 27027C0470E DATE: April 17, 2012	FLOODWAY DATA TABLE: 3	

Enclosures reflect changes to flooding sources affected by this revision.

* FIRM - Flood Insurance Rate Map

FLOODING SOURCE(S) & REVISED REACH(ES)

Red River of the North - From approximately 2,100 feet upstream of 32nd Avenue South to approximately 3,200 feet upstream of County Highway 12/60th Avenue South

SUMMARY OF REVISIONS

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

* 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, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Patrick "Rick" F. Sacbbit, 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)**

OTHER FLOODING SOURCES AFFECTED BY THIS REVISION

FLOODING SOURCE(S) & REVISED REACH(ES)

Red River of the North - From approximately 2,100 feet upstream of 32nd Avenue South to approximately 3,200 feet upstream of County Highway 12/60th Avenue South

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Red River of the North	Zone X (shaded)	Zone X (shaded)	YES	YES

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, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

OTHER COMMUNITIES AFFECTED BY THIS REVISION

CID Number: 275235 **Name:** Unincorporated Areas of Clay County, Minnesota

AFFECTED MAP PANELS

TYPE: FIRM	NO.: 27027C0458E	DATE: April 17, 2012
TYPE: FIRM	NO.: 27027C0459E	DATE: April 17, 2012
TYPE: FIRM	NO.: 27027C0470E	DATE: April 17, 2012

AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT

DATE OF EFFECTIVE FLOOD INSURANCE STUDY: April 17, 2012
PROFILE(S): 25P AND 26P
FLOODWAY DATA TABLE: 3

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, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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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 discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist 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, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Rick F. Sacbibit".

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
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**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. Mary Beth Caruso
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 panel(s) 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, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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**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 FM Extra*

Dates: January 10, 2019 and January 17, 2019

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, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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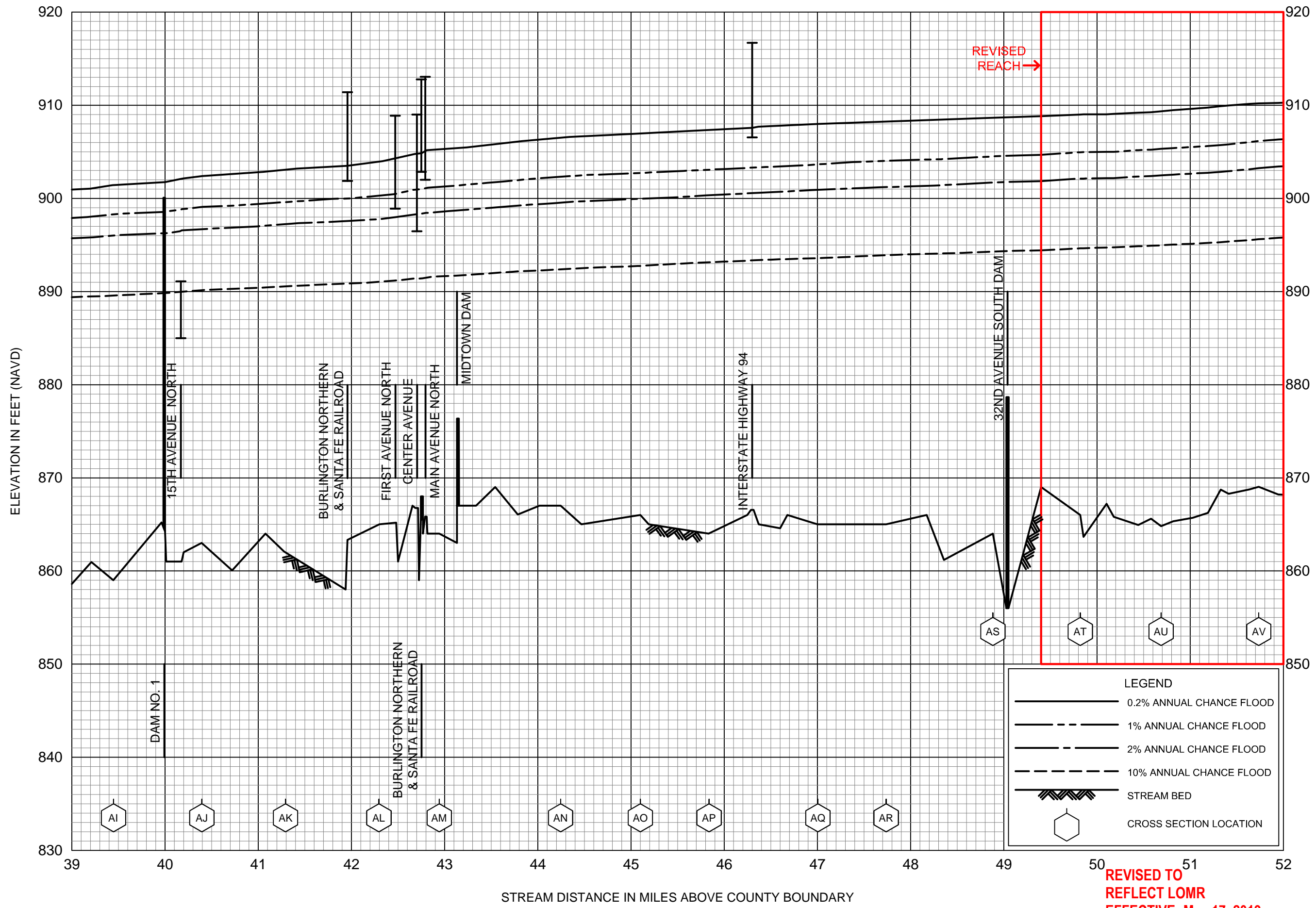
FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH ² (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD88)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
RED RIVER OF THE NORTH (CONTINUED)								
AO	45.094	2,705/2,344	26,213	1.1	902.7	902.7	903.1	0.4
AP	45.827	2,115/290	25,943	1.1	903.1	903.1	903.5	0.4
AQ	46.997	2,231/360	28,301	1.0	903.7	903.7	904.1	0.4
AR	47.729	1,445/1,061	20,306	1.4	904.0	904.0	904.3	0.3
AS	48.871	1,267/979	20,064	1.5	904.5	904.5	904.9	0.4
AT	49.818	2,394/314	31,878	2.1	905.0	905.0	905.3	0.3
AU	50.687	1,103/295	18,582	3.2	905.3	905.3	905.7	0.4
AV	51.735	1,128/908	16,200	1.5	906.1	906.1	906.4	0.3
AW	52.323	855/229	16,054	1.6	906.6	906.6	906.8	0.2
AX	53.790	1,523/1,274	20,764	1.3	907.6	907.6	907.8	0.2
AY	54.818	1,045/811	16,205	1.5	907.6	907.6	908.3	0.7
AZ	55.384	1,096/163	17,436	1.4	908.0	908.0	908.6	0.6
BA	56.301	3,080/2,879	28,075	0.9	908.5	908.5	909.2	0.7
BB	57.109	1,721/250	20,888	1.2	908.8	908.8	909.5	0.7
BC	58.710	2,570/261	29,052	0.9	909.5	909.5	910.2	0.7
BD	59.435	3,599/3,389	34,989	0.7	909.7	p909.7	910.4	0.7
BE	60.179	3,261/948	38,459	0.7	909.9	909.9	910.6	0.7
BF	61.095	3,280/1,792	29,505	0.9	910.1	910.1	910.8	0.7
BG	62.034	4,715/1,813	29,978	0.5	910.3	910.3	911.0	0.7
BH	62.810	3,800/1,141	25,239	0.6	910.4	910.4	911.1	0.7

REVISED DATA

¹ Miles above county boundary
² Total width/Width within county

REVISED TO
REFLECT LOMR
EFFECTIVE: May 17, 2019

TABLE 3	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	CLAY COUNTY, MN AND INCORPORATED AREAS	RED RIVER OF THE NORTH



**REVISED TO
REFLECT LOMR
EFFECTIVE: May 17, 2019**

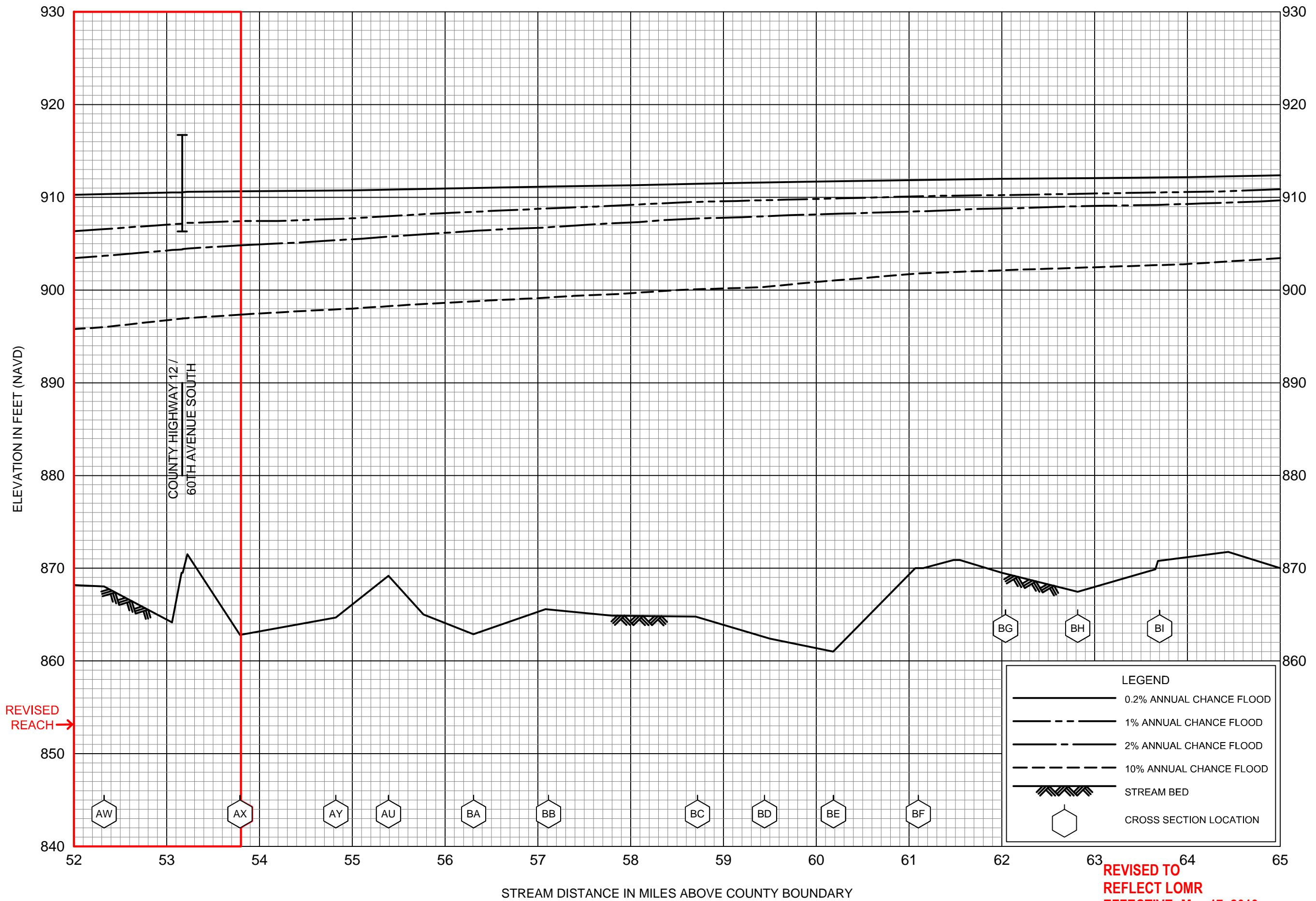
LEGEND	
	0.2% ANNUAL CHANCE FLOOD
	1% ANNUAL CHANCE FLOOD
	2% ANNUAL CHANCE FLOOD
	10% ANNUAL CHANCE FLOOD
	STREAM BED
	CROSS SECTION LOCATION

FLOOD PROFILES

RED RIVER OF THE NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

CLAY COUNTY, MN
AND INCORPORATED AREAS

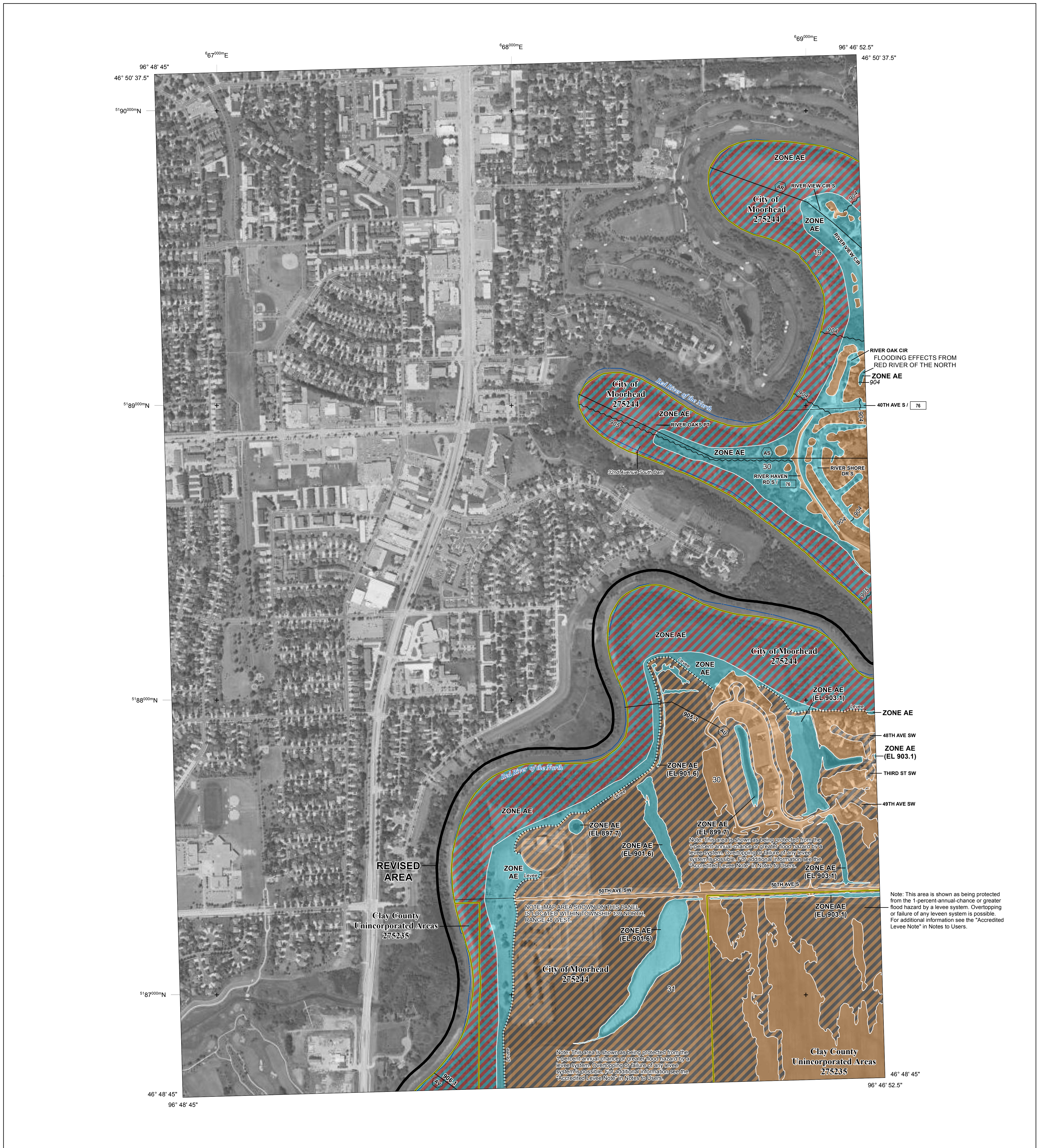


REVISIED REACH →

REVISIED TO
REFLECT LOMR
EFFECTIVE: May 17, 2019

FLOOD PROFILES
RED RIVER OF THE NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CLAY COUNTY, MN
AND INCORPORATED AREAS



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP
 THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING
 DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTP://MSC.FEMA.GOV](http://msc.fema.gov)

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
OTHER AREAS		Areas Determined to be Outside the 0.2% Annual Chance Floodplain Zone X
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
		Coastal Transect
		Profile Baseline
		Hydrographic Feature
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

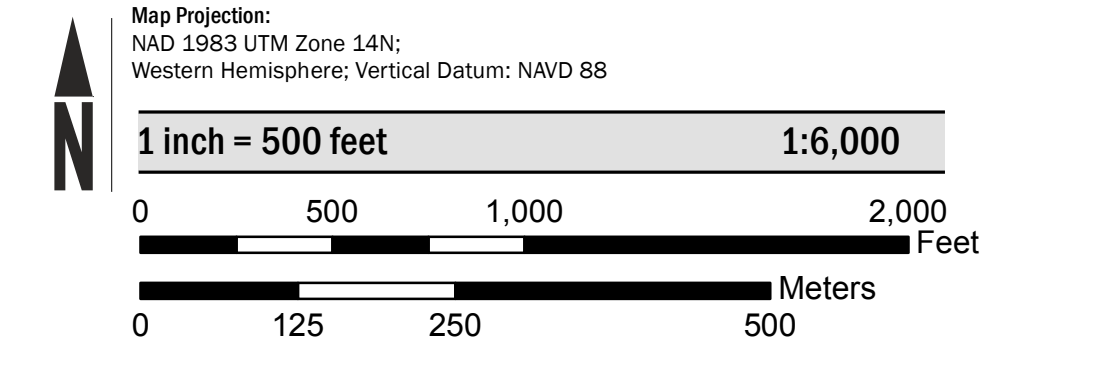
For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

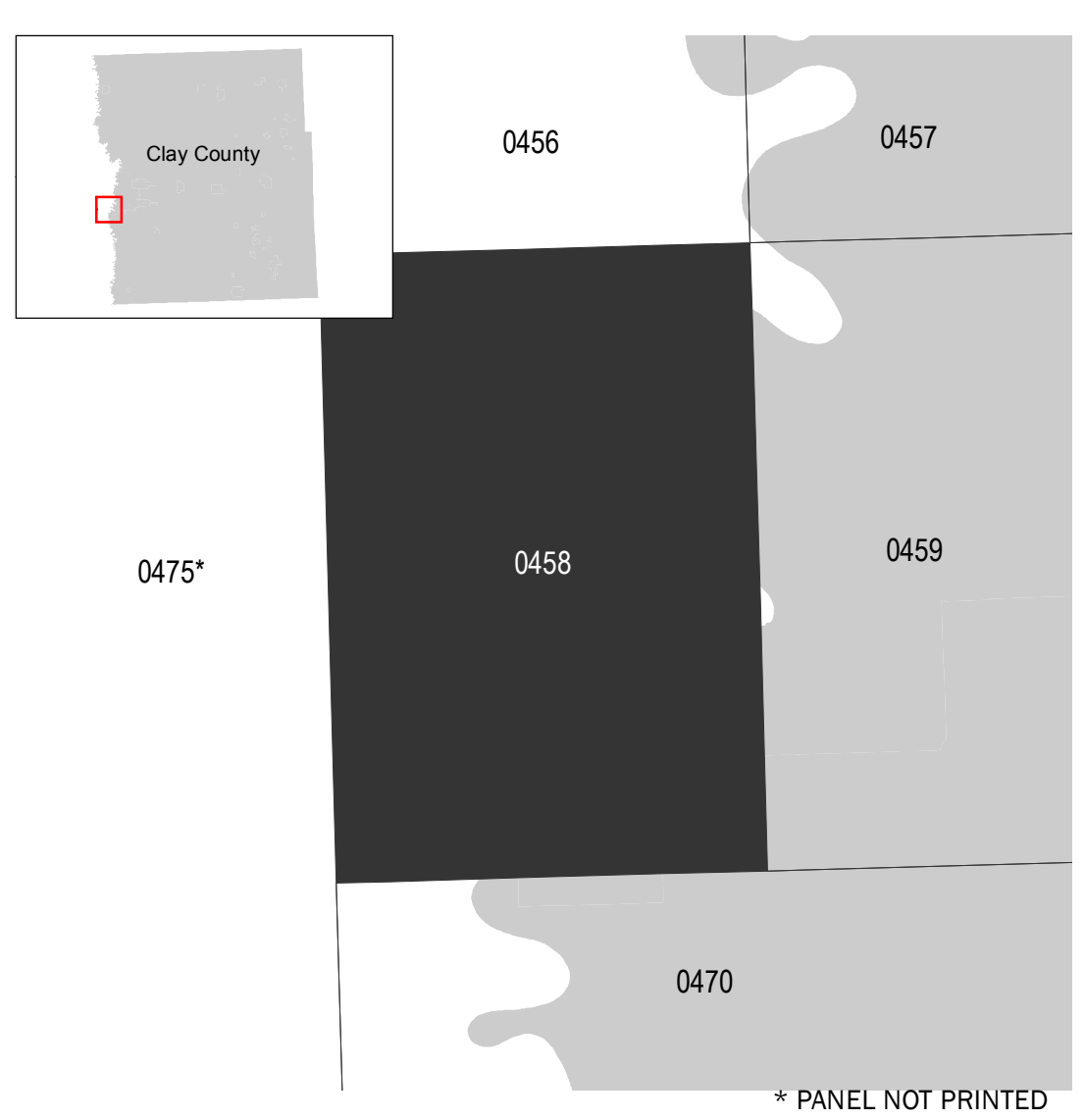
Base map information shown on this FIRM was derived from aerial photography produced for Clay County dated 2005 at a scale of 1:12,000 and aerial photography produced for USDA dated 2004 at a scale of 1:12,000.

ACCREDITED LEVEE: Check with your local community to obtain more information, such as the estimated level of protection provided for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit <http://www.fema.gov/national-flood-insurance-program>.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP

CLAY COUNTY, MINNESOTA
 and Incorporated Areas

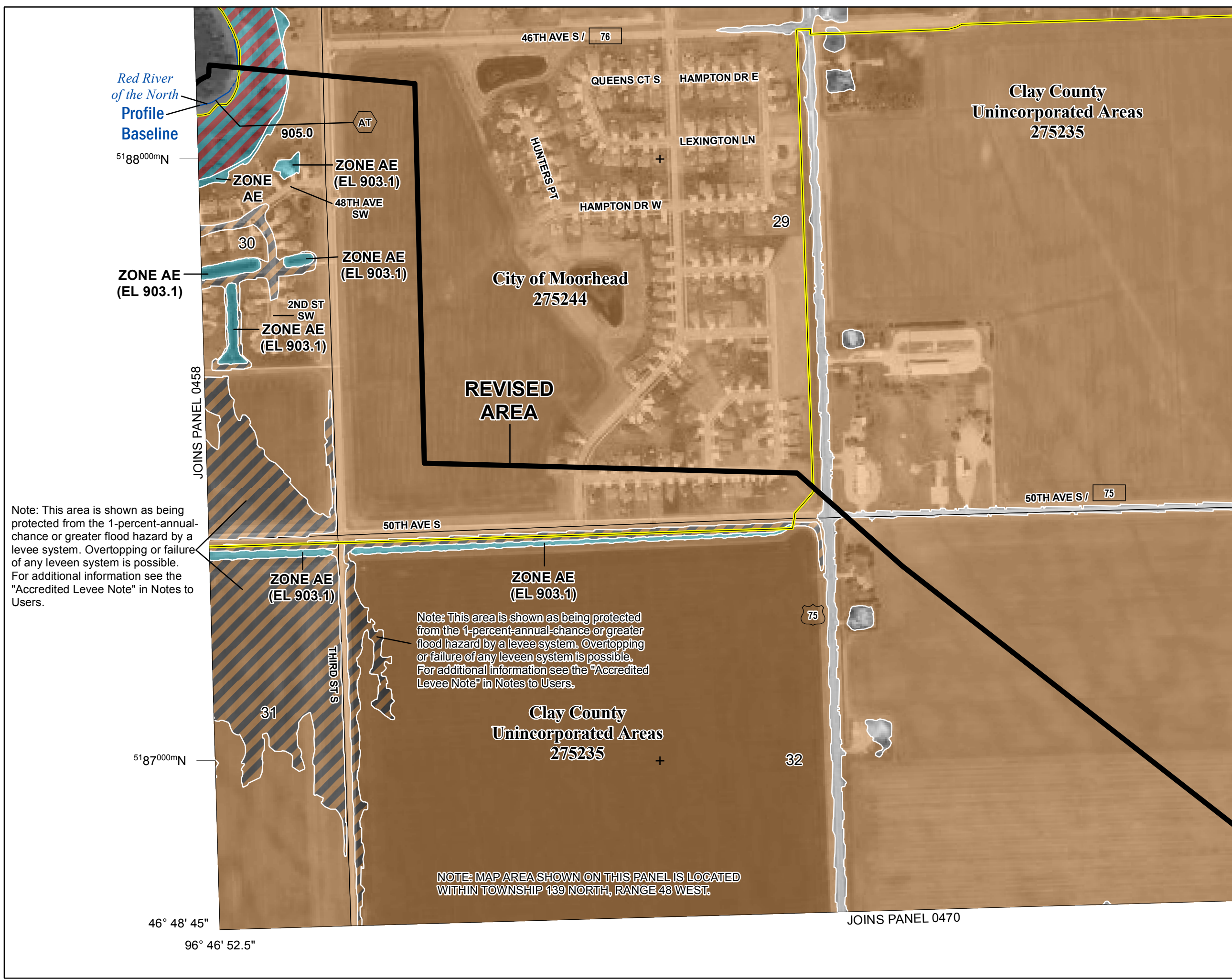
PANEL 458 OF 750

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLAY COUNTY	275235	0458	E
MOORHEAD, CITY OF	275244	0458	E

REVISED TO REFLECT LOMR EFFECTIVE: May 17, 2019

VERSION NUMBER
2.1.3.0
MAP NUMBER
27027C0458E
EFFECTIVE DATE
APRIL 17, 2012



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
- 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

OTHER AREAS OF FLOOD HAZARD

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
FLOOD INSURANCE RATE MAP
CLAY COUNTY, MINNESOTA
and Incorporated Areas

459 OF 750

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLAY COUNTY	275235	0459	E
MOORHEAD, CITY OF	275244	0459	E

REVISED TO REFLECT LOMR EFFECTIVE: May 17, 2019

VERSION NUMBER 2.1.3.0
MAP NUMBER 27027C0459E
EFFECTIVE DATE APRIL 17, 2012

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. For additional information see the "Accredited Levee Note" in Notes to Users.

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. For additional information see the "Accredited Levee Note" in Notes to Users.

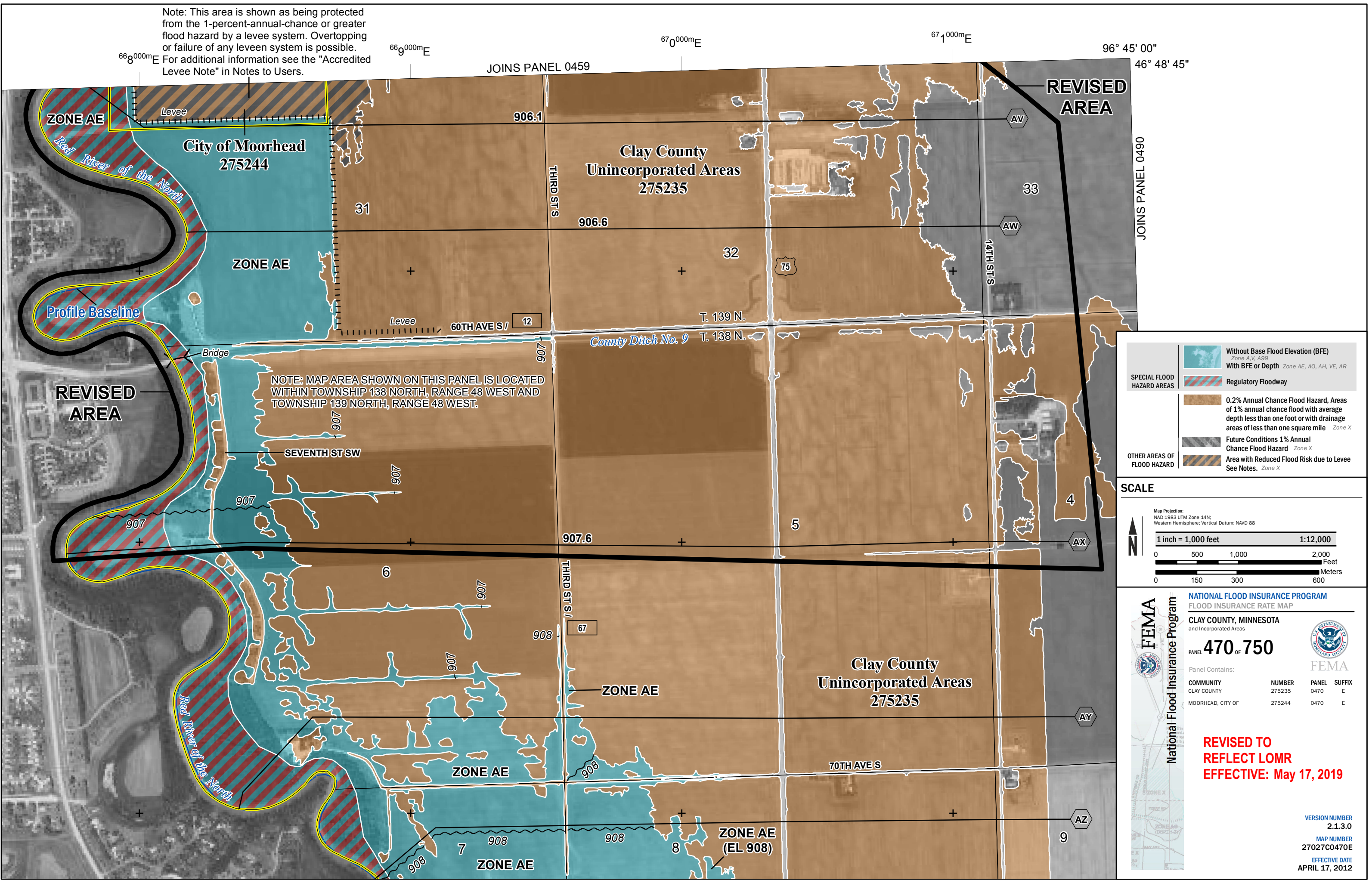
NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 139 NORTH, RANGE 48 WEST.

46° 48' 45"
96° 46' 52.5"

JOINS PANEL 0470

JOINS PANEL 0458

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. For additional information see the "Accredited Levee Note" in Notes to Users.



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
- 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

OTHER AREAS OF FLOOD HAZARD

SCALE

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

1 inch = 1,000 feet 1:12,000

0 500 1,000 2,000 Feet

0 150 300 600 Meters

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP

CLAY COUNTY, MINNESOTA
and Incorporated Areas

PANEL **470** OF **750**

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLAY COUNTY	275235	0470	E
MOORHEAD, CITY OF	275244	0470	E

REVISED TO REFLECT LOMR EFFECTIVE: May 17, 2019

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