



Federal Emergency Management Agency

Washington, D.C. 20472

August 13, 2010

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Debra McCartt
Mayor, City of Amarillo
P.O. Box 1971
Amarillo, TX 79105

IN REPLY REFER TO:

Case No.: 10-06-2283P
Community Name: City of Amarillo, TX
Community No.: 480529
Effective Date of
This Revision: **August 13, 2010**

Dear Mayor McCartt:

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 that 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 Denton, TX, at (940) 898-5127, or the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our Web site at <http://www.fema.gov/business/nfip>.

Sincerely,

Michael J. McGinn, Program Specialist
Engineering Management Branch
Mitigation Directorate

For: Kevin C. Long, Acting Chief
Engineering Management Branch
Mitigation Directorate

List of Enclosures:

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

cc: Mr. Martin L. Rodin, P.E.
City Engineer
City of Amarillo

Mr. Adam Rose, P.E., CFM
Alan Plummer Associates, Inc.



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 Amarillo Potter and Randall Counties Texas	NO PROJECT	HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 480529		
IDENTIFIER	Lawrence Lake (Playa Lake 6)	APPROXIMATE LATITUDE AND LONGITUDE: 35.188, -101.877 SOURCE: Precision Mapping Streets DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM*	NO.: 48375C0509 C DATE: June 4, 2010	POTTER COUNTY DATE OF EFFECTIVE FLOOD INSURANCE STUDY: June 4, 2010 SUMMARY OF ELEVATIONS TABLE: 2 RANDALL COUNTY DATE OF EFFECTIVE FLOOD INSURANCE STUDY: June 4, 2010 SUMMARY OF ELEVATIONS TABLE: 2	
TYPE: FIRM*	NO.: 48375C0520 C DATE: June 4, 2010		
TYPE: FIRM*	NO.: 48375C0530 C DATE: June 4, 2010		
TYPE: FIRM*	NO.: 48375C0540 C DATE: June 4, 2010		
TYPE: FIRM*	NO.: 48381C0070 E DATE: June 4, 2010		
TYPE: FIRM*	NO.: 48381C0090 E DATE: June 4, 2010		

Enclosures reflect changes to flooding sources affected by this revision.

* FIRM - Flood Insurance Rate Map

FLOODING SOURCE

Playa Lake 6 (Lawrence Lake) - Located approximately 300 feet north of Olsen Boulevard, approximately 1,000 feet east of South Western Street and approximately 400 feet south of Interstate 40 (I-40)

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Playa Lake 6 (Lawrence Lake)	Zone AE BFES*	Zone AE BFES	NONE NONE	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 (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional information about the NFIP is available on our Web site at <http://www.fema.gov/business/nfip>.

Michael J. McGinn, Program Specialist
Engineering Management Branch
Mitigation Directorate



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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.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic analysis. 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 any permits required by Federal 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 (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional information about the NFIP is available on our Web site at <http://www.fema.gov/business/nfip>.

Handwritten signature of Michael J. McGinn.

Michael J. McGinn, Program Specialist
Engineering Management Branch
Mitigation Directorate



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:

Mr. Frank Pagano
Director, Mitigation Division
Federal Emergency Management Agency, Region VI
Federal Regional Center, Room 206
800 North Loop 288
Denton, TX 76209
(940) 898-5127

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 (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional information about the NFIP is available on our Web site at <http://www.fema.gov/business/nfip>.

A handwritten signature in blue ink that reads "Michael J. McGinn".

Michael J. McGinn, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NAVD 88)		MAP PANEL NUMBERS
		EFFECTIVE	REVISED	
Playa Lake 6 (Lawrence Lake)	Approximately 300 feet north of Olsen Boulevard, approximately 1,000 feet east of South Western Street, and approximately 400 feet south of Interstate 40 (I-40)	3,628	3,625	48375C0509 C 48375C0520 C 48375C0530 C 48375C0540 C 48381C0070 E 48381C0090 E

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. This revision is effective as of the date of this letter. However, until the 90-day period has elapsed, the revised BFEs presented in this LOMR may be changed.

A notice of changes will be published in the *Federal Register*. A short notice also will be published in your local newspaper on or about the dates listed below. Please refer to FEMA's Web site at https://www.floodmaps.fema.gov/fhm/Scripts/bfe_main.asp for a more detailed description of proposed BFE changes, which will be posted within a week of the date of this letter.

LOCAL NEWSPAPER Name: *The Amarillo Globe News*
Dates: 08/20/2010 and 08/26/2010

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 (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional information about the NFIP is available on our Web site at <http://www.fema.gov/business/nfip>.

Michael J. McGinn, Program Specialist
Engineering Management Branch
Mitigation Directorate

A search of the meteorological literature was made that is in general agreement with both the Freese, Nichols and Endress study (Reference 8) and City of Amarillo ordinance 3224. The following is a summary of 4-day maximum rainfall and runoff values at selected recurrence intervals used to calculate inflows to the playas (Reference 9).

<u>Frequency</u>	<u>Rainfall (inches)</u>	<u>Runoff (percent)</u>	<u>Runoff (inches)</u>
10% annual chance	5.5	35	1.92
2% annual chance	7.6	40	3.04
1% annual chance	8.4	50	4.20
0.2% annual chance	10.1	60	6.06

Analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for the playas studied in detail. For the 2006 study, analysis of the playa lakes within the City of Amarillo studied in detail as part of this study, the Amarillo Simulation Analysis of Playa Performance (ASAPP) computer program, developed by HDR Engineering, Inc. for the City of Amarillo, was used (Reference 10).

The peak elevation-drainage area relationships for the selected recurrence intervals are presented in Table 2, "Summary of Elevations." All elevations are referenced to North American Vertical Datum of 1988 (NAVD).

REVISED DATA **Table 2. Summary of Elevations**

<u>FLOODING SOURCE AND LOCATION</u>	<u>ELEVATION ABOVE NAVD (feet)</u>			
	<u>10% annual chance</u>	<u>2% annual chance</u>	<u>1% annual chance</u>	<u>0.2% annual chance</u>
PLAYA LAKES				
#6 (Lawrence)	3605.3	3616.4	3625.0	3629.4
#21 (Tee Anchor)	3613.2	3615.6	3616.2	3618.0
#22	3590.2	3592.0	3592.7	3594.2
#23 Amarillo Lake (Wild Horse)	3616.1	3617.7	3618.4	3619.7
#24 (Martin)	3628.2	3630.1	3631.2	3632.3
#26	3570.8	3572.3	3572.9	3574.1
#27	3544.9	3547.3	3548.1	3550.0
#28	3586.9	3588.9	3589.6	3591.1
#34	3550.0	3551.9	3552.6	3554.3
#60	3557.8	3558.3	3558.3	3558.3
#61	3594.1	3595.6	3595.6	3595.6
Unnamed 28 Basin	3606.0	3606.0	3606.0	3606.0
Unnamed 34 Basin N.	3602.0	3602.0	3602.0	3602.0
Unnamed 34 Basin S.	3566.0	3566.0	3566.0	3566.0
Unnamed 60 Basin	3562.0	3562.0	3562.0	3562.0
Unnamed Hwy 287	3538.0	3538.0	3538.0	3538.0

**REVISED TO
REFLECT LOMR
EFFECTIVE: August 13, 2010**

Playa number 16 (South Washington) has been modified by massive excavations. The long-term base storage was calculated to be 3,601.1 feet of elevation (160 acre-feet), and all floods were added to this elevation. For the rest of the playas, the assumption was that they contained no water and could, therefore, store their full capacity of storm runoff. At several playas, this assumption will rarely hold true; however, no other starting point is hydrologically valid.

The peak elevation-discharge area relationships for the selected recurrence intervals are presented in Table 2, "Summary of Elevations." All elevations are referenced to the North American Vertical Datum of 1988 (NAVD).

REVISED DATA

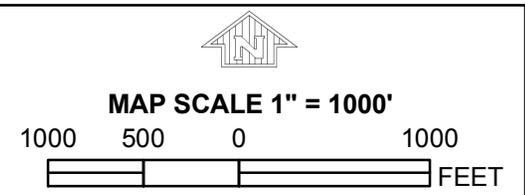
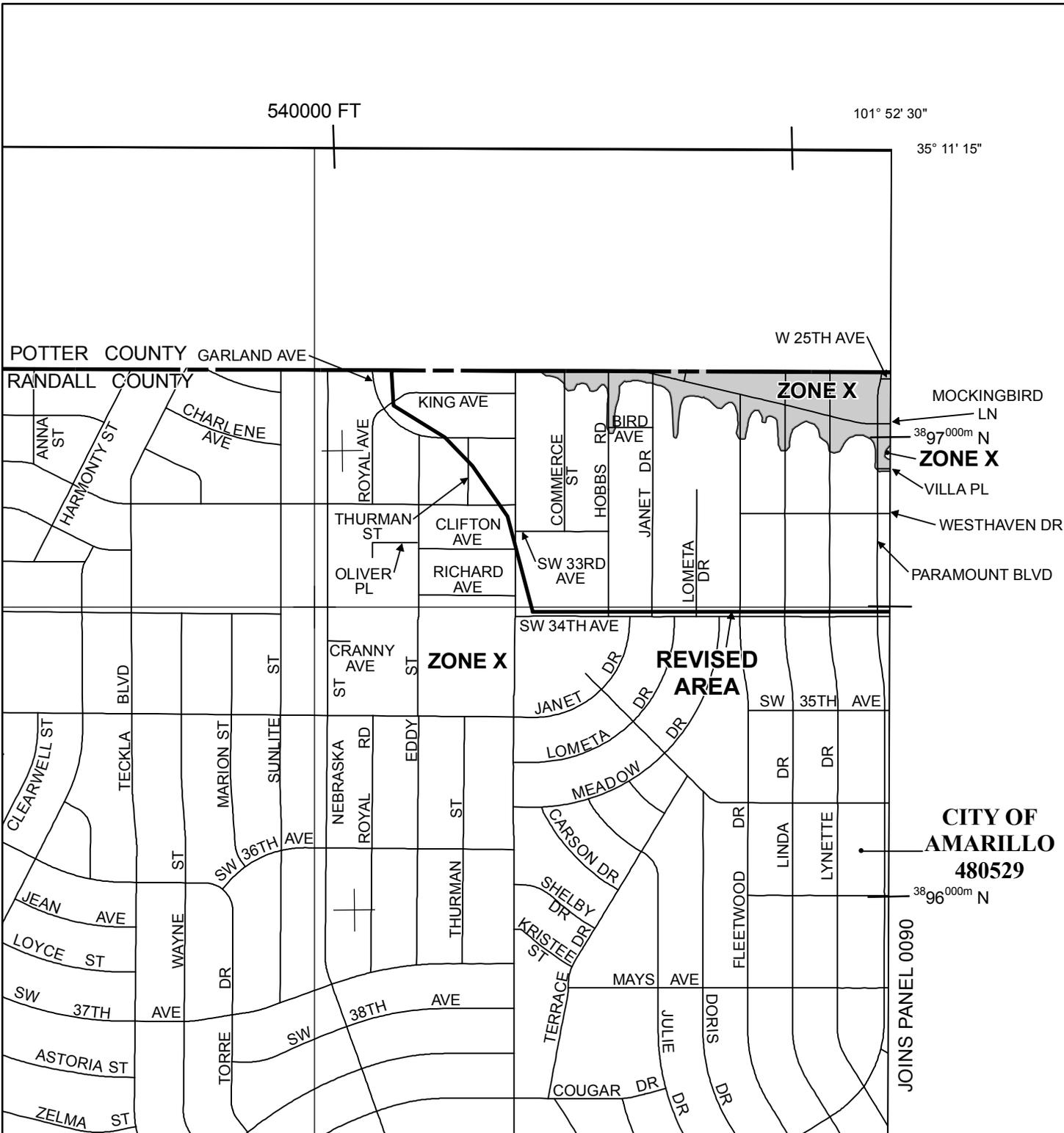
Table 2. Summary of Elevations

<u>FLOODING SOURCE AND LOCATION</u>	<u>ELEVATION ABOVE NAVD (feet)</u>			
	<u>10% annual chance</u>	<u>2% annual chance</u>	<u>1% annual chance</u>	<u>0.2% annual chance</u>
PLAYA LAKES				
#3	3706.5	3708.9	3710.0	3712.2
#4	3697.1	3698.8	3699.5	3701.7
#5 (McDonald Lake) ▼	3681.1	3685.8	3687.0	3690.2
#6 (Lawrence)	3605.3	3616.4	3625.0	3629.4
#7	3673.7	3674.8	3675.2	3676.2
#8	3678.0	3679.7	3680.3	3681.6
#9 (Spring Draw)	--*	--*	3682.7	--*
#11	3643.9	3645.3	3645.8	3647.2
#13	3624.1	3625.3	3625.8	3626.8
#14 (Diamond Horseshoe Lake)	3655.1	3657.3	3658.2	3660.0
#15 (McCarty Lake)	3624.4	3626.0	3626.7	3627.8
#16 (Willow Grove Lake)	3631.0	3632.6	3633.1	3634.3
#17 (Bennett Lake)	3638.2	3642.3	3642.9	3644.2
#18	3580.4	3582.4	3583.0	3584.2
#19 (Santa Fe Lake)	3634.3	3636.8	3637.6	3639.4
#20 (Gooch Lake)	3576.3	3578.2	3578.9	3580.7
#34	3550.0	3551.9	3552.6	3554.3

--* Data not available

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the Flood Insurance Rate Map (FIRM) represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.



- Legend**
- 1% annual chance (100-Year) Floodplain
 - 1% annual chance (100-Year) Floodway
 - 0.2% annual chance (500-Year) Floodplain

NIP PANEL 0070E

FIRM
FLOOD INSURANCE RATE MAP
RANDALL COUNTY,
TEXAS
 AND INCORPORATED AREAS

PANEL 70 OF 675
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AMARILLO, CITY OF	480529	0070	E
RANDALL COUNTY, UNINCORPORATED AREAS	480532	0070	E

REVISED TO REFLECT LOMR
EFFECTIVE: August 13, 2010

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
48381C0070E

EFFECTIVE DATE
JUNE 4, 2010

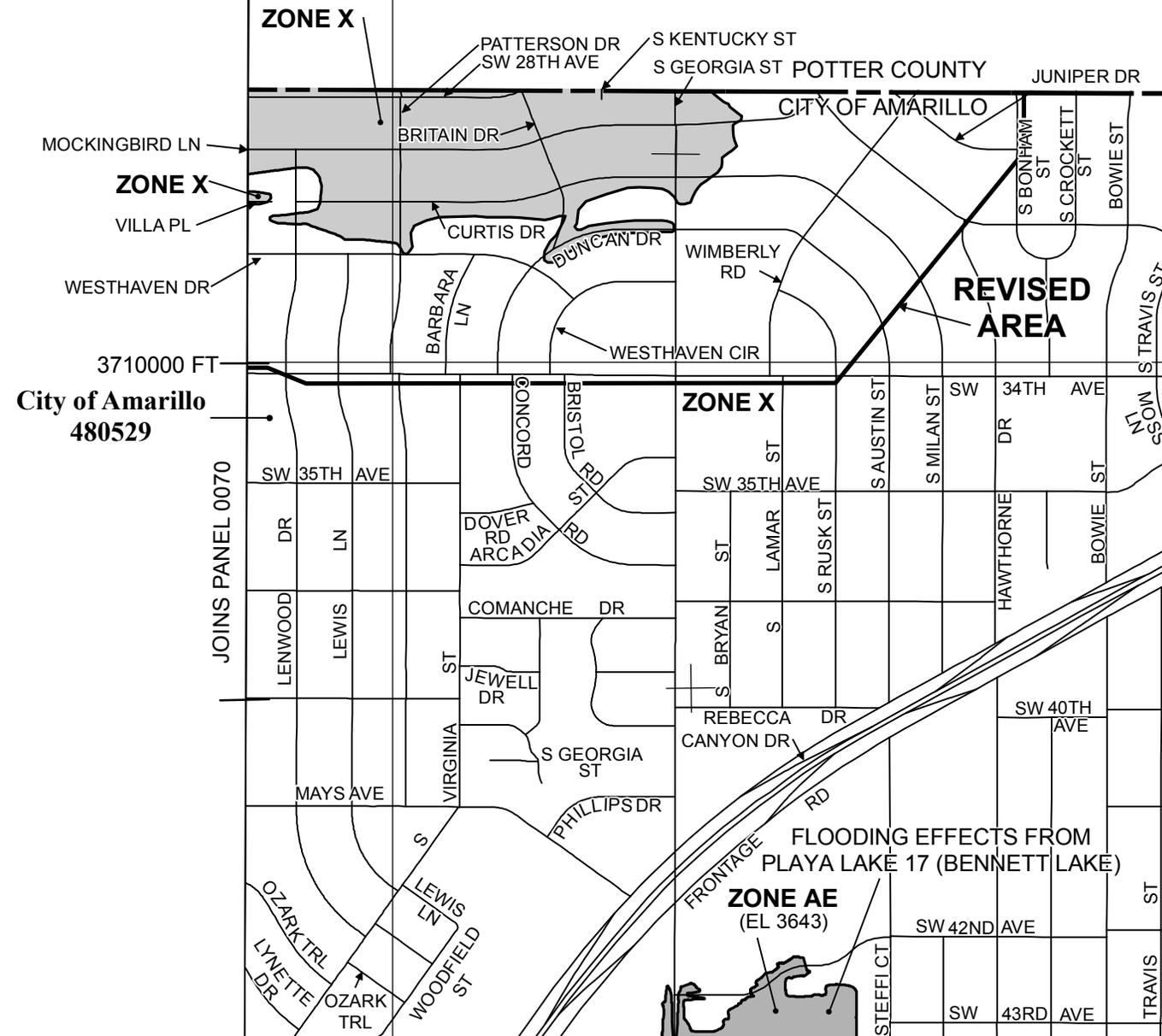
Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

CITY OF
AMARILLO
480529

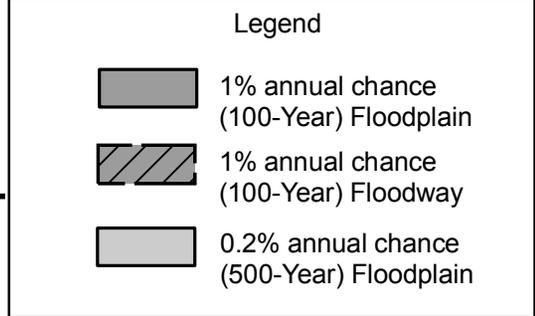
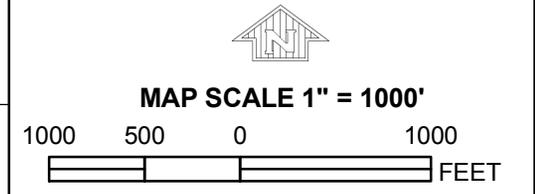
JOINS PANEL 0090

101°52'30" 545000 FT
35°11'15"



City of Amarillo
480529

JOINS PANEL 0070



PANEL 0090E

FIRM
FLOOD INSURANCE RATE MAP
RANDALL COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 90 OF 675
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AMARILLO, CITY OF	480529	0090	E
RANDALL COUNTY, UNINCORPORATED AREAS	480532	0090	E

REVISED TO REFLECT LOMR EFFECTIVE: August 13, 2010

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MAP NUMBER 48381C0090E
EFFECTIVE DATE JUNE 4, 2010

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM



JOINS PANEL 0530

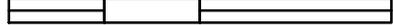
JOINS PANEL 0520

Legend

-  1% annual chance (100-Year) Floodplain
-  1% annual chance (100-Year) Floodway
-  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 500'

500 250 0 250 500
 FEET

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0509C

FIRM
FLOOD INSURANCE RATE MAP
POTTER COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 509 OF 600
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SUFFIX
AMARILLO, CITY OF	480529	0509	C

REVISED TO REFLECT LOMR EFFECTIVE: August 13, 2010

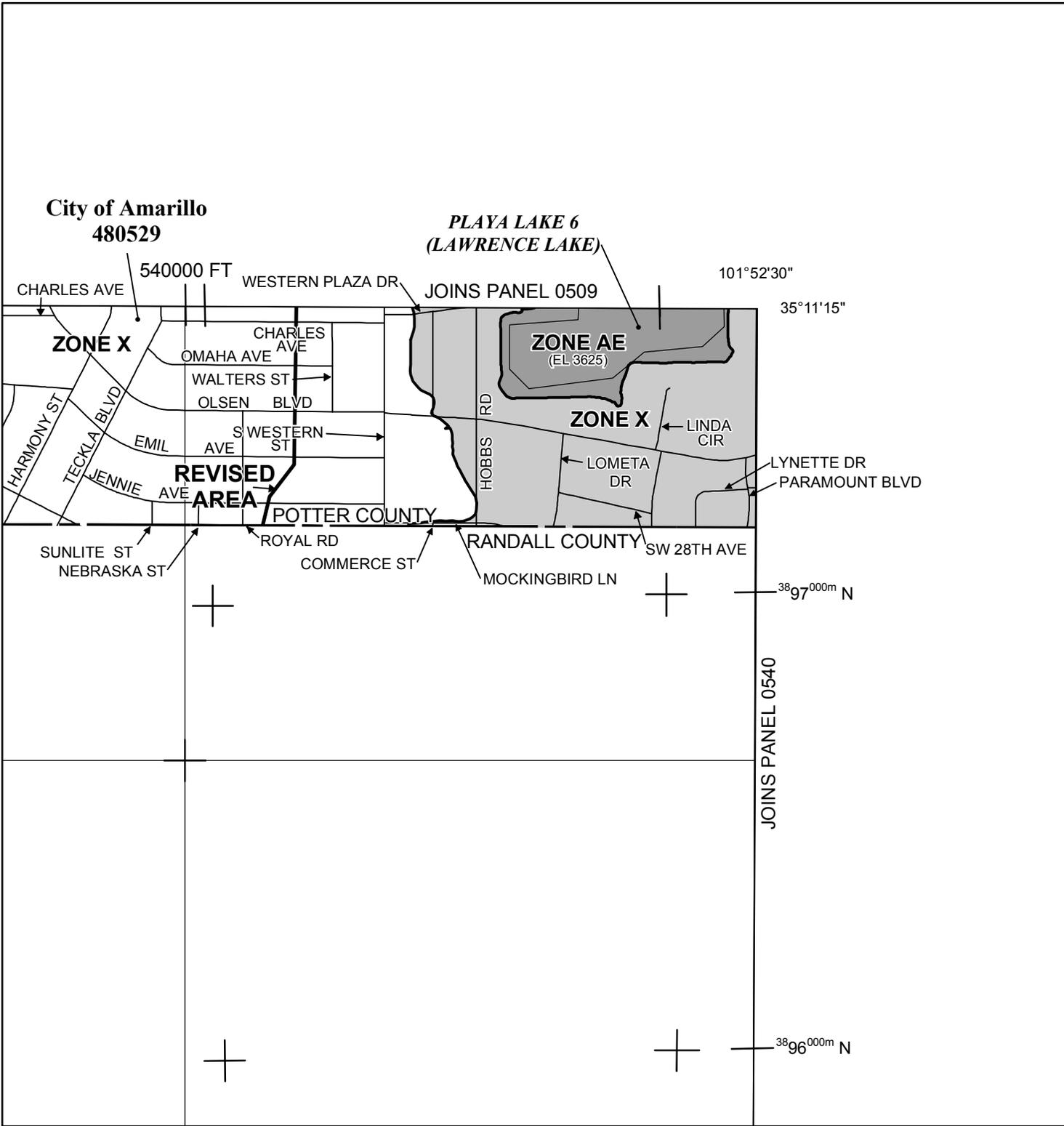
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MAP NUMBER
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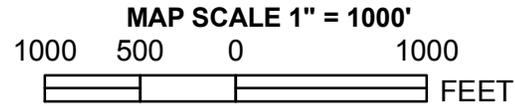
EFFECTIVE DATE
JUNE 4, 2010

Federal Emergency Management Agency



Legend

-  1% annual chance (100-Year) Floodplain
-  1% annual chance (100-Year) Floodway
-  0.2% annual chance (500-Year) Floodplain



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0520C

FIRM
FLOOD INSURANCE RATE MAP
POTTER COUNTY,
TEXAS
AND INCORPORATED AREAS

PANEL 520 OF 600
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AMARILLO, CITY OF	480529	0520	C

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48375C0520C
EFFECTIVE DATE
JUNE 4, 2010

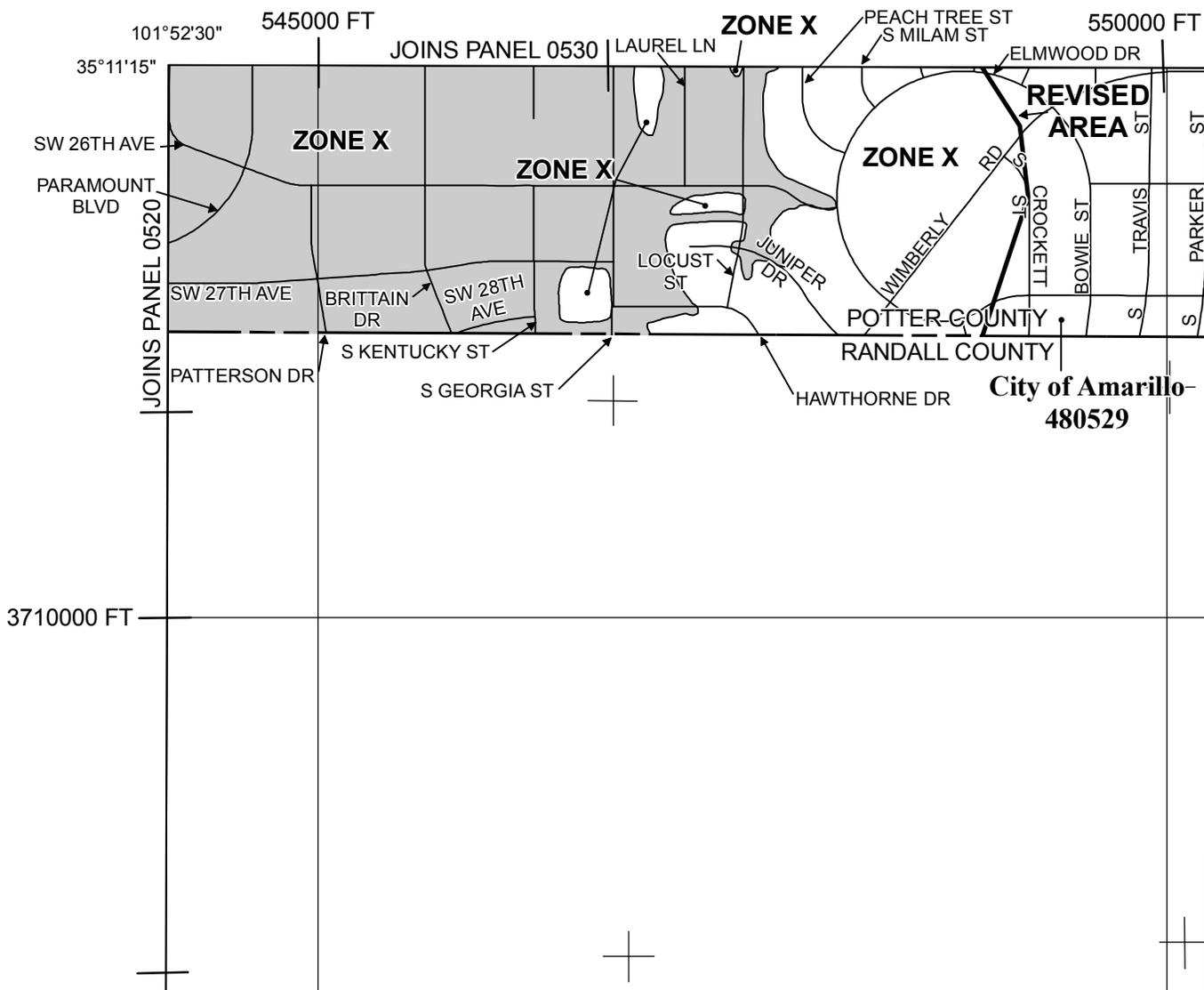
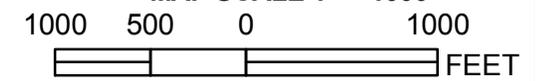
Federal Emergency Management Agency

Legend

-  1% annual chance (100-Year) Floodplain
-  1% annual chance (100-Year) Floodway
-  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 1000'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0540C

FIRM
FLOOD INSURANCE RATE MAP
POTTER COUNTY,
TEXAS
AND INCORPORATED AREAS

PANEL 540 OF 495
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AMARILLO, CITY OF	480529	0540	C

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