# LETTER OF MAP REVISION DETERMINATION DOCUMENT

## COMMUNITY AND REVISION INFORMATION

<table>
<thead>
<tr>
<th>Community</th>
<th>Project Description</th>
<th>Basis of Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Of Washington, Franklin County, Missouri</td>
<td>NO PROJECT</td>
<td>HYDRAULIC ANALYSIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HYDROLOGIC ANALYSIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NEW TOPOGRAPHIC DATA</td>
</tr>
</tbody>
</table>

| Community No. | 290138 |

## IDENTIFIER

- Tributary To Southwest Branch Of Busch Creek

## APPROXIMATE LATITUDE & LONGITUDE

- 38.539, -91.013

## SOURCE

- Other

## DATUM

- NAD 83

## DATE OF EFFECTIVE FLOOD INSURANCE STUDY

- October 18, 2011

## SUMMARY OF DISCHARGES TABLE

- TABLE 4

## ANNOTATED MAPPING ENCLOSURES

- DATE: October 18, 2011
- TYPE: FIRM *
- NO.: 29071C0145D

## ANNOTATED STUDY ENCLOSURES

- NO.: 29071C0145D
- DATE: October 18, 2011
- PROFILE(S): 89P
- SUMMARY OF DISCHARGES TABLE: TABLE 4

## SUMMARY OF REVISIONS

<table>
<thead>
<tr>
<th>Flooding Source</th>
<th>Effective Flooding</th>
<th>Revised Flooding</th>
<th>Increases</th>
<th>Decreases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tributary To Southwest Branch Of Busch Creek</td>
<td>Zone A</td>
<td>Zone AE</td>
<td>YES</td>
<td>NONE</td>
</tr>
<tr>
<td></td>
<td>Zone X (unshaded)</td>
<td>Zone X (unshaded)</td>
<td>YES</td>
<td>NONE</td>
</tr>
<tr>
<td></td>
<td>No BFEs</td>
<td>BFEs</td>
<td>YES</td>
<td>NONE</td>
</tr>
</tbody>
</table>

* 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, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Siamak Esfandiary, Ph.D., P.E., Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation Administration

13-07-1025P 102-I-A-C
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.

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 (FMIX) 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.

Siamak Esfandiary, Ph.D., P.E., Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation Administration

13-07-1025P 102-I-A-C
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. Dean Ownby
Director, Mitigation Division
Federal Emergency Management Agency, Region VII
9221 Ward Parkway, Suite 300
Kansas City, MO 64114-3372
(816) 283-7002

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 (FMIX) 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.

Siamak Esfandiary, Ph.D., P.E., Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation Administration

13-07-1025P
102-I-A-C
A notice of changes will be published in the Federal Register. This information 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/Scripts/bfe_main.asp.

LOCAL NEWSPAPER
Name: The Missourian
Dates: May 8, 2013 and May 15, 2013

Within 90 days of the second publication in the local newspaper, a citizen 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 information presented in this LOMR may be changed.
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 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.

Manning’s “n” values used in all hydraulic analyses can be found in Table 5.

3.2.1 Pre-Countywide Analysis

County of Franklin, Missouri Unincorporated Areas

Analyses of the hydraulic characteristics of the streams in the county were carried out to provide estimates of the elevations of the floods of the selected recurrence intervals along each flooding source studied in detail.

Valley and channel cross sections for the backwater analyses were obtained from aerial photogrammetry at selected locations to determine hydraulic characteristics. Topographic maps with a scale of 1:4800, 1:24000, or 1:62500, and 4-, 10-, or 20-foot contours were used to supplement field surveyed cross sections (References 26, 27, and 28). All bridges and culverts were field checked to obtain elevation data and structural geometry.

Starting water-surface elevations for the streams studied by detailed methods were based on normal depth analysis except for Brown’s Branch, Pin Oak Creek Tributary, Flat Creek, Meramec River, and Bourbeuse River.

Brown’s Branch and Pin Oak Creek Tributary used coincident elevations at the confluence with their respective parent streams. Flat Creek and the Meramec River started profiles from concurrent downstream studies of the City of Union and St. Louis County FIS, respectively. The Bourbeuse River starting water-