

# ***Memorandum***

DATE **February 20, 2020**

TO Dillon Dittmer, Jamie Hawkins, Brad Garbers, Mercy Manzanares

FROM Robert Carnazzo

THRU Julie Ramirez and Jason Dayton

SUBJECT Floodplain Certification — I-680/US-6 Bridges, Omaha, 680-9(33), CN 22593

I-680/US-6 Bridges, Omaha is a Bridge Overlay project located in the City of Omaha, Douglas County, Nebraska, along Highways US-6 (Dodge Street) and I-680 and their Interchange. The project begins just west of Big Papillion Creek with the US-6 ramp bridge over the creek leading to I-680, extends through the entire I-680 / US-6 Interchange and ends just east of the US-6 (Dodge Street) bridge over Regency Parkway. The project includes the I-680 bridge over Big Papillion Creek.

This project will complete, on all bridges included in the project, deck repair, replacement of expansion joints, and placement of a three (3) inch overlay across the entire bridge which is reduced over 150 feet on each side of the bridge to a one and one-half (1.5) inch inlay of the highway pavement.

Work will be completed on the following bridges:

S006 26466A – US-6 (Dodge Street) WB ramp to I-680, over Big Papillion Creek;  
S006 36484, S006 36484A through D - US-6 (Dodge Street) Mainline and Ramps over 108<sup>th</sup> Ave.;  
S006 36561 – US-6 (Dodge Street) over Regency Parkway;  
S680 00216 – I-680 over Big Papillion Creek;  
S680 00289 – US-6 WB ramp to I-680 NB over I-680 Mainline;  
S680 00302 – US-6 (Dodge Street) over I-680 Mainline;  
S680 00302A – US-6 (Dodge Street) over I-680 NB ramps;  
S680 00304 – US-6 WB ramp to I-680 SB over I-680 Mainline;  
S680 00315 – I-680 NB ramp to US-6 (Dodge Street) WB over I-680 Mainline.

Please review the attached mapping showing where this project encroaches into flood zones. Enclosed you will find certifications for these encroachments:

## Community of City of Omaha

### **Big Papillion Creek, S006 26466A, Section 20 T15N R12E**

The project encroaches the Base Floodplain \ Floodway for Big Papillion Creek in Section 20 T15N R12E. The ordinary high water of the creek is conveyed through the highway by the 391 foot long bridge structure (S006 26466A). At this location the project will complete bridge deck repair, replacement of expansion joints, and placement a three (3) inch overlay across the entire bridge which is reduced over 150 feet on each side of the bridge to a one and one-half (1.5) inch inlay of the highway pavement. The work on the bridge structure will not impact the overtopping elevation of the highway as the overlay will occur between the bridge rails, which are closed to a height of approximately 30 inches. A hydrology and hydraulic analysis completed for the bridge's construction in 2004-2005 indicates that the base flood (100 year flood event) of 25,800 cfs is conveyed under the bridge at an elevation of 1037.73 feet (NGVD 29). This is below the bridge's low structure elevation of 1039.05 feet. Since the project

February 20, 2020

will not affect a change in the creek's conveyance beneath the bridge, the project will not affect the depth of flow in the creek. The project will not cause a change in the base flood elevation of Big Papillion Creek.

**Big Papillion Creek, S680 00216, Section 21 T15N R12E**

The project encroaches the Base Floodplain \ Floodway for Big Papillion Creek in Section 21 T15N R12E. The ordinary high water of the creek is conveyed through the highway by the 391 foot long bridge structure (S680 00216). At this location the project will complete bridge deck repair, replacement of expansion joints, and placement a three (3) inch overlay across the entire bridge which is reduced over 150 feet on each side of the bridge to a one and one-half (1.5) inch inlay of the highway pavement. The work on the bridge structure will not impact the overtopping elevation of the highway as the overlay will occur between the bridge rails, which are closed to a height of approximately 30 inches. A hydrology and hydraulic analysis completed for the bridge's widening in 2014-2015 indicates that the base flood (100 year flood event) of 25,800 cfs is conveyed under the bridge at an elevation of 1035.6 feet (NAVD 88). This is below the bridge's low structure elevation of 1037.97 feet. Since the project will not affect a change in the creek's conveyance beneath the bridge, the project will not affect the depth of flow in the creek. The project will not cause a change in the base flood elevation of Big Papillion Creek.

Enclosures:       Certificates (2)  
                      FIRMettes covering project (4)  
                      Location Map (2)

February 20, 2020

**Permit Information:**

Community of City of Omaha

**Big Papillion Creek, S006 26466A, Section 20 T15N R12E**

Is the work substantial improvement?	No
Is the work in an identified floodplain?	Yes
Elevation of the base flood (100-year event)?	1037.7 NGVD 29
Elevation/floodproofing requirement (if applicable)?	NA
Is the work in a designated floodway?	Yes

**Big Papillion Creek, S680 00216, Section 21 T15N R12E**

Is the work substantial improvement?	No
Is the work in an identified floodplain?	Yes
Elevation of the base flood (100-year event)?	1035.6 NAVD 88
Elevation/floodproofing requirement (if applicable)?	NA
Is the work in a designated floodway?	Yes

*Certification of Compliance  
Floodplain and Floodway Regulations*

FLOODPLAIN/ FLOODWAY LOCATION

Project Name I-680/US-6 Bridges, Omaha Stream Big Papillion Creek  
Project No. 680-9(33) County Douglas  
Control No. 22593 Section(s) 20 T 15 N R 12 E

FEMA LOCATION

County/Community City of Omaha, Nebraska  
Panel No. 31055C 0214H  
Effective Date 12/02/2005

TYPE OF STRUCTURE

☒ Bridge ☐ Culvert ☐ Roadway  
Structure No. S006 26466A ☐

TYPE OF IMPROVEMENT

☒ Modify Existing ☐ Replace Existing ☐ Other

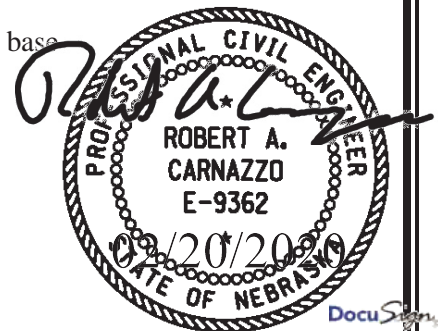
Details Complete deck repair, replace expansion joints, place 3-inch overlay between closed bridge rails. 2004-2005 Study BFE of 1037.73, Bridge Low Structure of 1039.05 (feet NGVD29).

Highway Profile Change: ☐ Yes ☒ No

THE FOLLOWING IS HEREBY CERTIFIED

- ☐ Floodplain in Un-mapped Community (State Minimum Standards Apply)  
Proposed construction will not increase the base  
(100 year) flood heights more than one foot at any location.
- ☐ Floodplain (without Designated Floodway) or Flood Fringe  
Proposed construction will not increase the base  
(100 year) flood heights more than one foot at any location.
- ☒ Designated Floodway  
Proposed construction will result in no rise along the base  
(100 year) floodway water surface profile.

Completed By: ROBERT A. CARNAZZO, P.E., CFM  
NDOT Roadway Design Hydraulics



*Certification of Compliance  
Floodplain and Floodway Regulations*

FLOODPLAIN/ FLOODWAY LOCATION

Project Name I-680/US-6 Bridges, Omaha Stream Big Papillion Creek  
Project No. 680-9(33) County Douglas  
Control No. 22593 Section(s) 21 T 15 N R 12 E

FEMA LOCATION

County/Community City of Omaha, Nebraska  
Panel No. 31055C 0214H  
Effective Date 12/02/2005

TYPE OF STRUCTURE

☒ Bridge ☐ Culvert ☐ Roadway  
Structure No. S680 00216 ☐

TYPE OF IMPROVEMENT

☒ Modify Existing ☐ Replace Existing ☐ Other

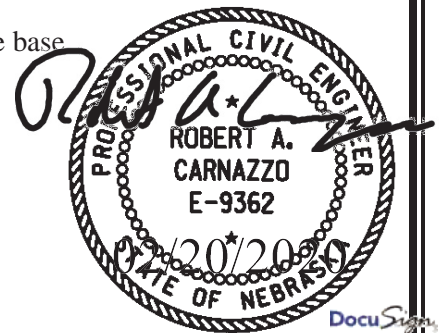
Details Complete deck repair, replace expansion joints, place 3-inch overlay between closed bridge rails. 2014-2015 Study BFE of 1035.6, Bridge Low Structure of 1037.97 (feet NAVD88).

Highway Profile Change: ☐ Yes ☒ No

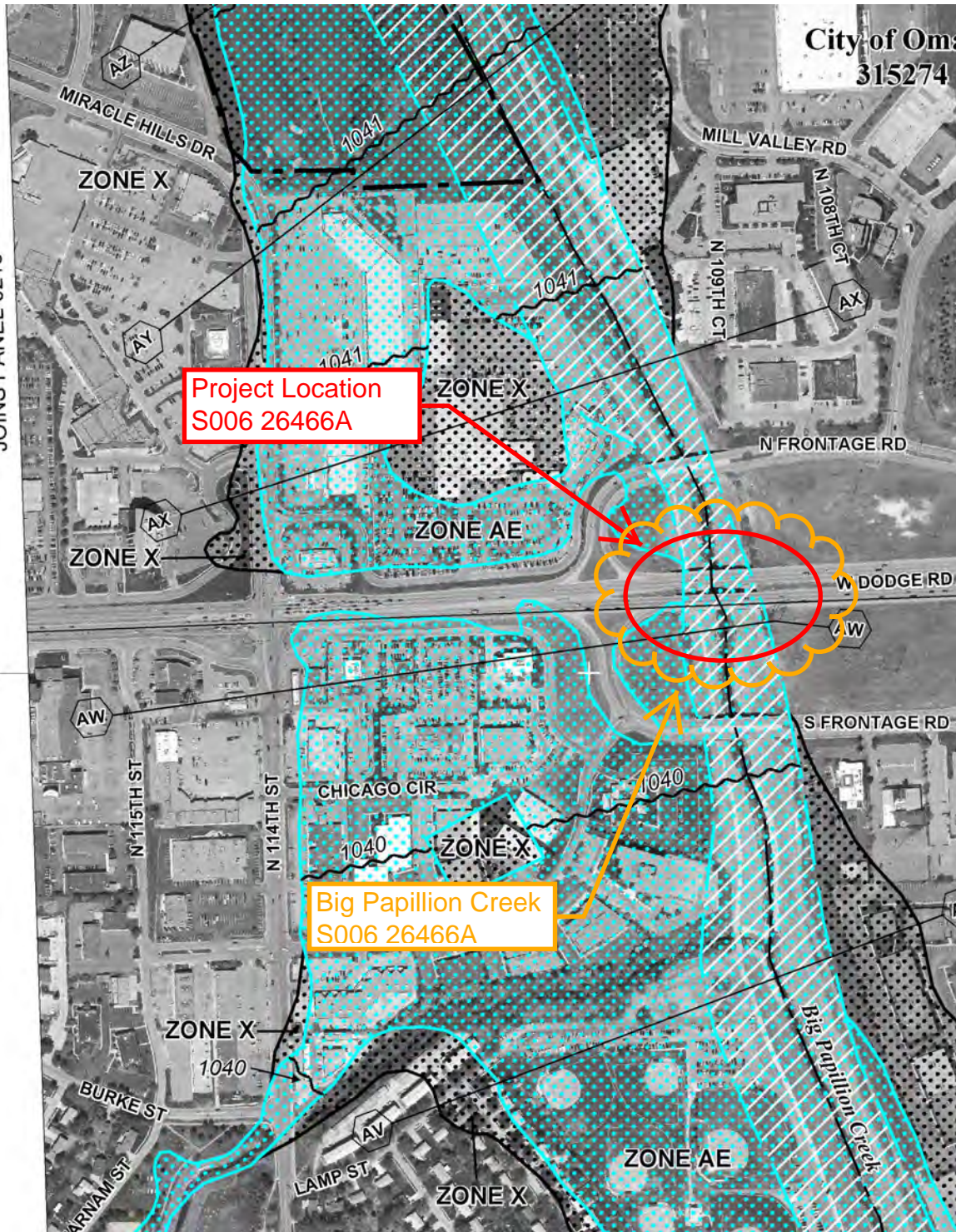
THE FOLLOWING IS HEREBY CERTIFIED

- ☐ Floodplain in Un-mapped Community (State Minimum Standards Apply)  
Proposed construction will not increase the base  
(100 year) flood heights more than one foot at any location.
- ☐ Floodplain (without Designated Floodway) or Flood Fringe  
Proposed construction will not increase the base  
(100 year) flood heights more than one foot at any location.
- ☒ Designated Floodway  
Proposed construction will result in no rise along the base  
(100 year) floodway water surface profile.

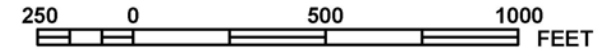
Completed By: ROBERT A. CARNAZZO, P.E., CFM  
NDOT Roadway Design Hydraulics



JOINS PANEL 0213

City of Omaha  
315274

MAP SCALE 1" = 500'



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0214H

**FIRM**

FLOOD INSURANCE RATE MAP

DOUGLAS COUNTY,  
NEBRASKA  
AND INCORPORATED AREAS

PANEL 214 OF 360

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

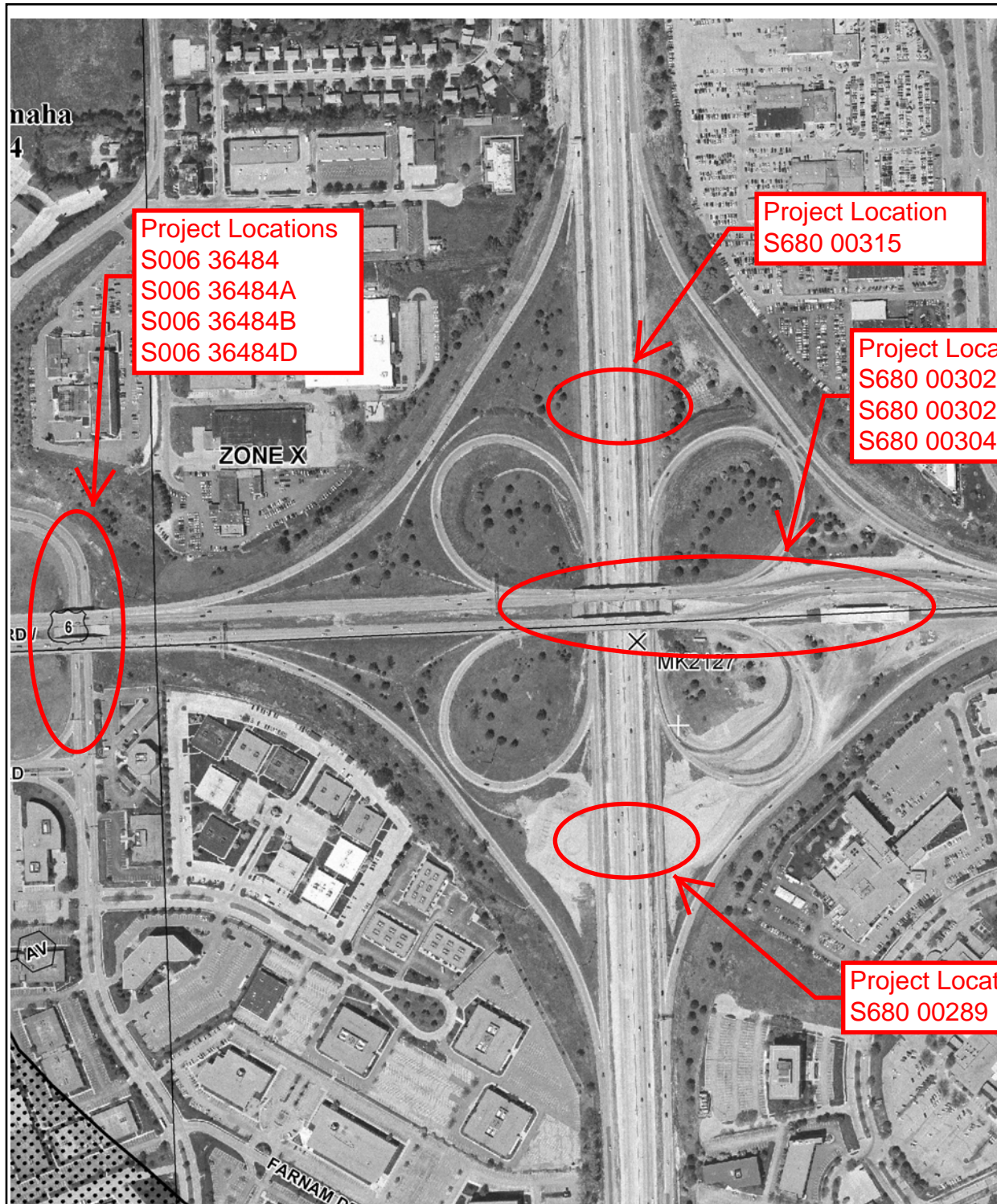
COMMUNITY	NUMBER	PANEL	SUFFIX
OMAHA, CITY OF	315274	0214	H

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  
31055C0214HEFFECTIVE DATE  
DECEMBER 2, 2005

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRMette - Desktop version 3.0. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. Further information about National Flood Insurance Program flood hazard maps is available at <http://www.msc.fema.gov/>.



MAP SCALE 1" = 500'

250 0 500 1000  
FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0214H

**FIRM**

FLOOD INSURANCE RATE MAP

**DOUGLAS COUNTY,  
NEBRASKA  
AND INCORPORATED AREAS**

PANEL 214 OF 360

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
OMAHA, CITY OF	315274	0214	H

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.

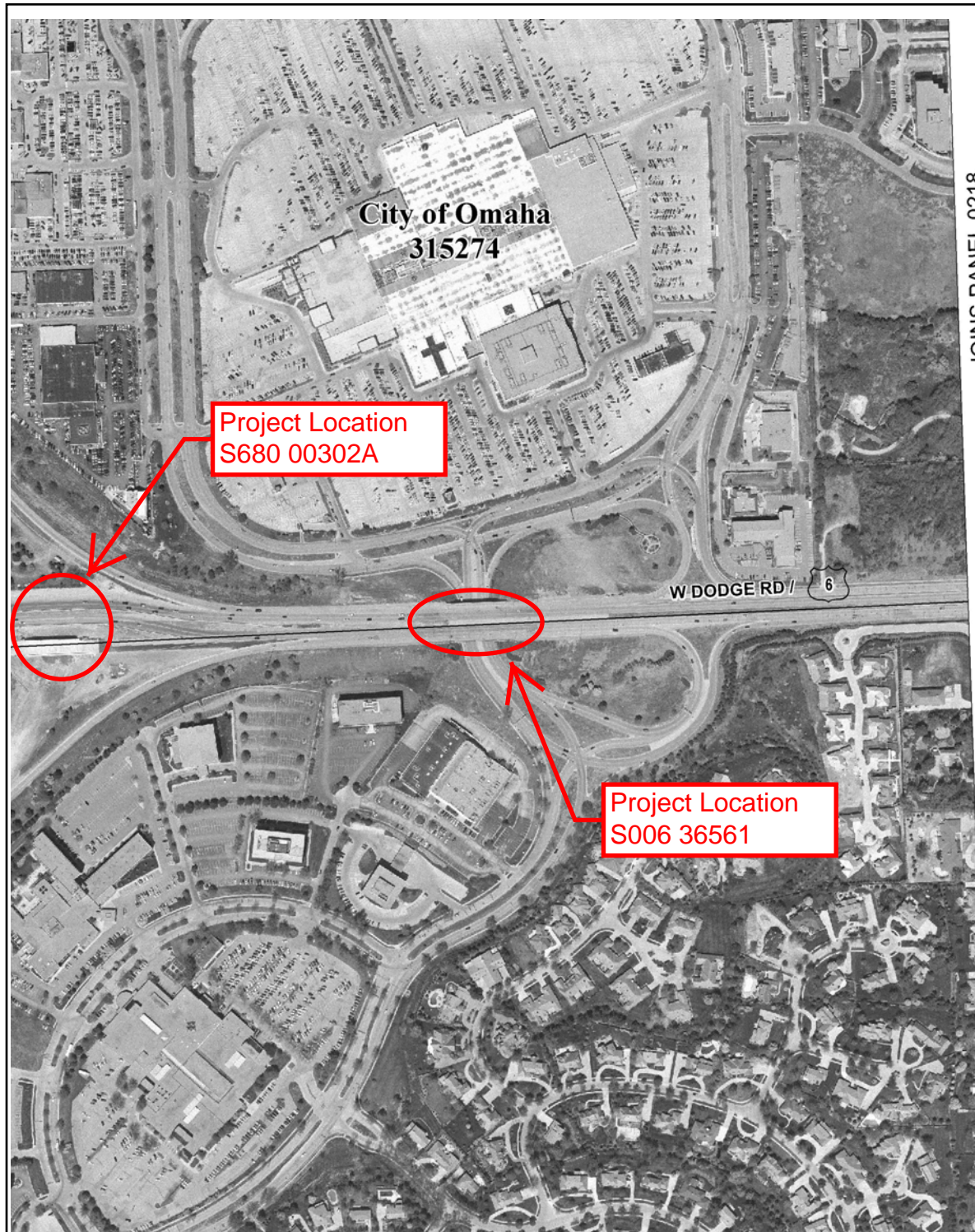


**MAP NUMBER  
31055C0214H**

**EFFECTIVE DATE  
DECEMBER 2, 2005**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRMette - Desktop version 3.0. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. Further information about National Flood Insurance Program flood hazard maps is available at <http://www.msc.fema.gov/>.



MAP SCALE 1" = 500'

250 0 500 1000  
FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0214H

**FIRM**

FLOOD INSURANCE RATE MAP

**DOUGLAS COUNTY,  
NEBRASKA  
AND INCORPORATED AREAS**

PANEL 214 OF 360

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
OMAHA, CITY OF	315274	0214	H

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.

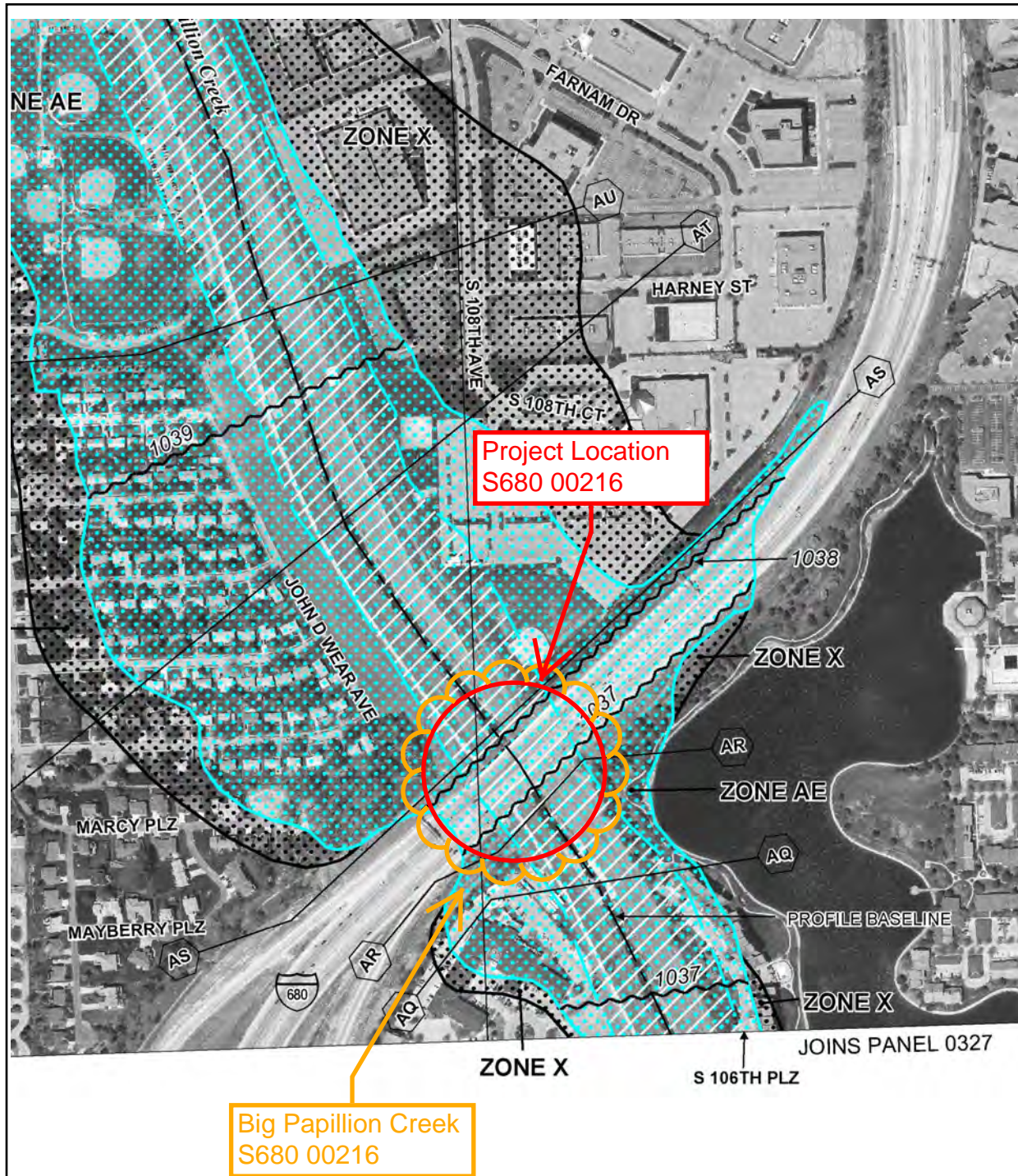


**MAP NUMBER  
31055C0214H**

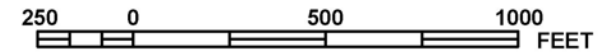
**EFFECTIVE DATE  
DECEMBER 2, 2005**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRMette - Desktop version 3.0. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. Further information about National Flood Insurance Program flood hazard maps is available at <http://www.msc.fema.gov/>.



MAP SCALE 1" = 500'



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0214H

**FIRM**

FLOOD INSURANCE RATE MAP

**DOUGLAS COUNTY,  
NEBRASKA  
AND INCORPORATED AREAS**

PANEL 214 OF 360

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
OMAHA, CITY OF	315274	0214	H

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  
31055C0214H**

**EFFECTIVE DATE  
DECEMBER 2, 2005**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRMette - Desktop version 3.0. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. Further information about National Flood Insurance Program flood hazard maps is available at <http://www.msc.fema.gov/>.

