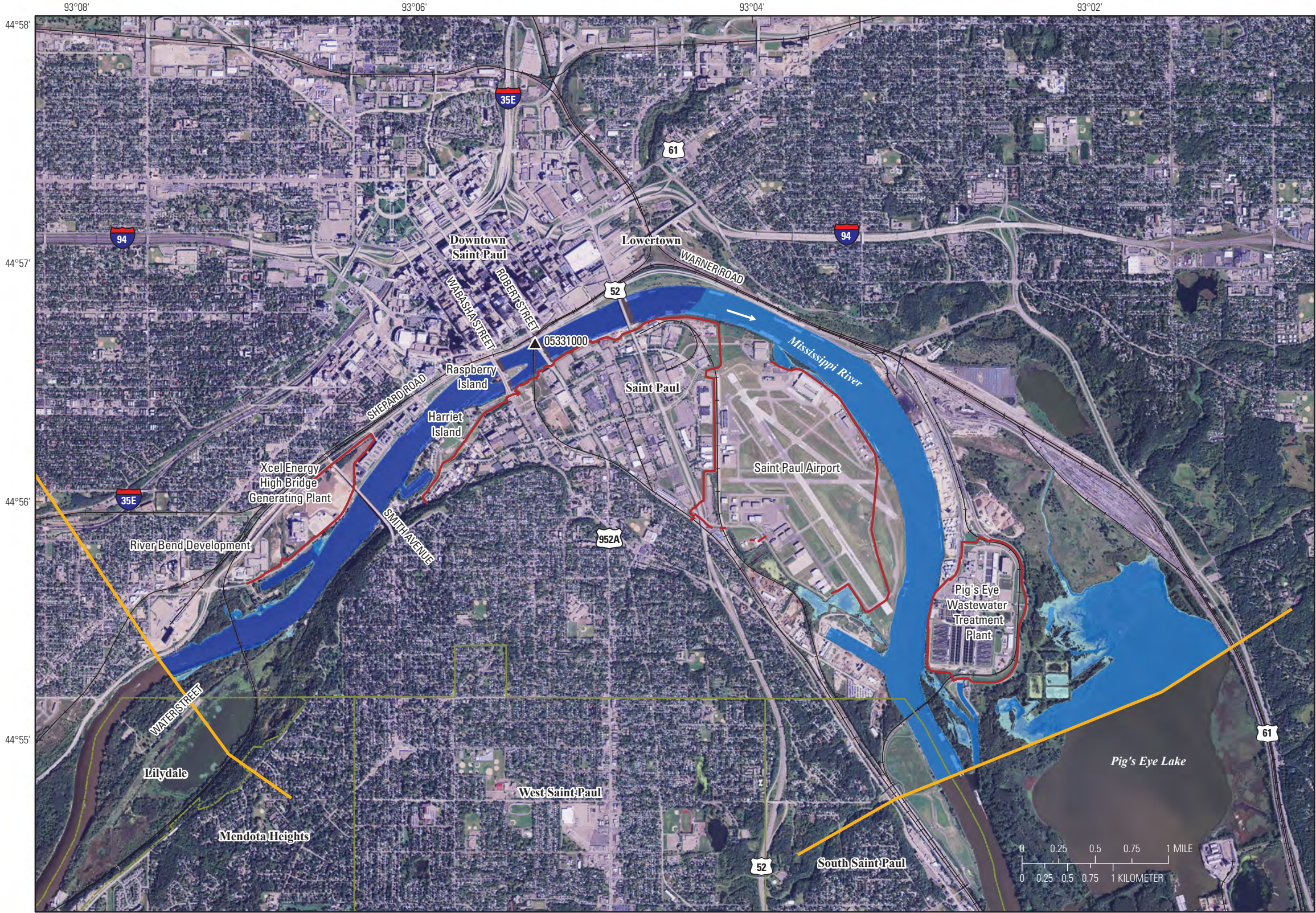




U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Scientific Investigations Report 2014–5079



Base data from Minnesota Department of Transportation, 2011, 1:24,000, Minnesota Geospatial Information Office (MnGeo), 2013, 1:24,000, and modified from the U.S. Army Corps of Engineers National Levee Database, 2009, with digitization from topography, aerial imagery, and as-built information. Orthophotography from Minnesota Geospatial Information Office (MnGeo). Spatial Data Portal, 2010 National Agriculture Imagery Program, accessed at <http://www.mngeo.state.mn.us/chouse/metadata/naip10.html> . World Geodectic System 1984 Web Mercator (Auxiliary Sphere) projection

EXPLANATION

Depth of inundation, in feet

	0 to 1.0
	1.1 to 2.0
	2.1 to 6.0
	6.1 to 15.0
	Greater than 15.0

Mapping study limit

Levee

Railroad

05331000 U.S. Geological Survey streamgage and number

DISCLAIMER

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UNCERTAINTIES AND LIMITATIONS FOR USE OF FLOOD-INUNDATION MAPS

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Suggested citation:

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Note: The extent and depth of inundation was constructed using bare-earth topography data that are free of vegetation, buildings, and other man-made structures. Buildings that are shaded do not reflect inundation but denote that bare-earth surfaces in the vicinity of the buildings are inundated.

Sheet 1. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 9.0 feet and an elevation of 692.8 feet above North American Vertical Datum of 1988.



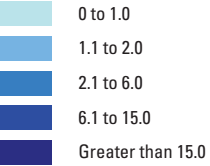
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

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EXPLANATION

Depth of inundation, in feet



Mapping study limit

Levee

Railroad

05331000 ▲ U.S. Geological Survey streamgage and number



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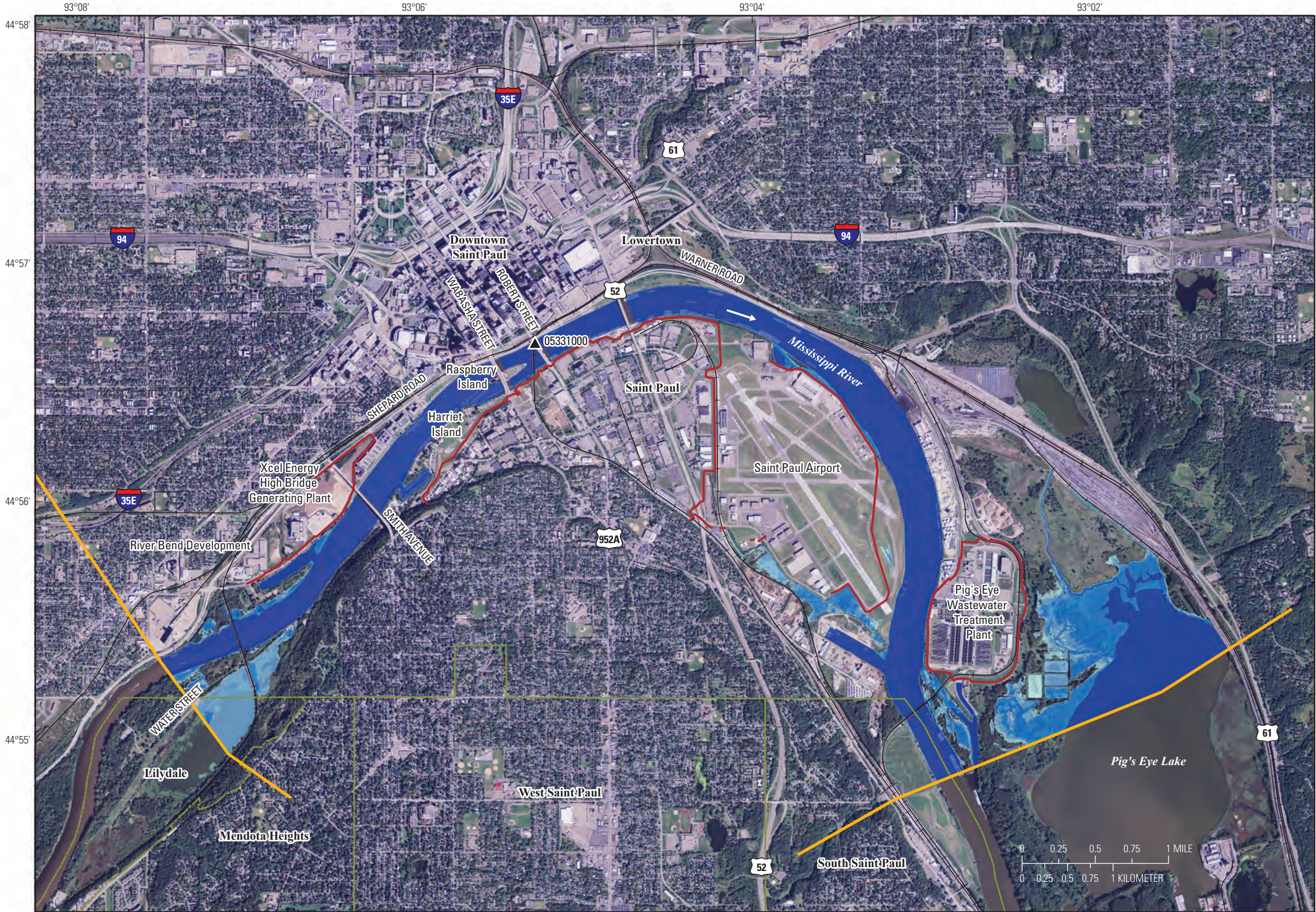
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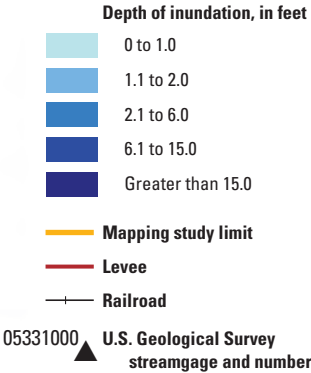
Sheet 2. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 10.0 feet and an elevation of 693.8 feet above North American Vertical Datum of 1988.



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Sheet 3. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 11.0 feet and an elevation of 694.8 feet above North American Vertical Datum of 1988.

EXPLANATION



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UNCERTAINTIES AND LIMITATIONS FOR USE OF FLOOD-INUNDATION MAPS

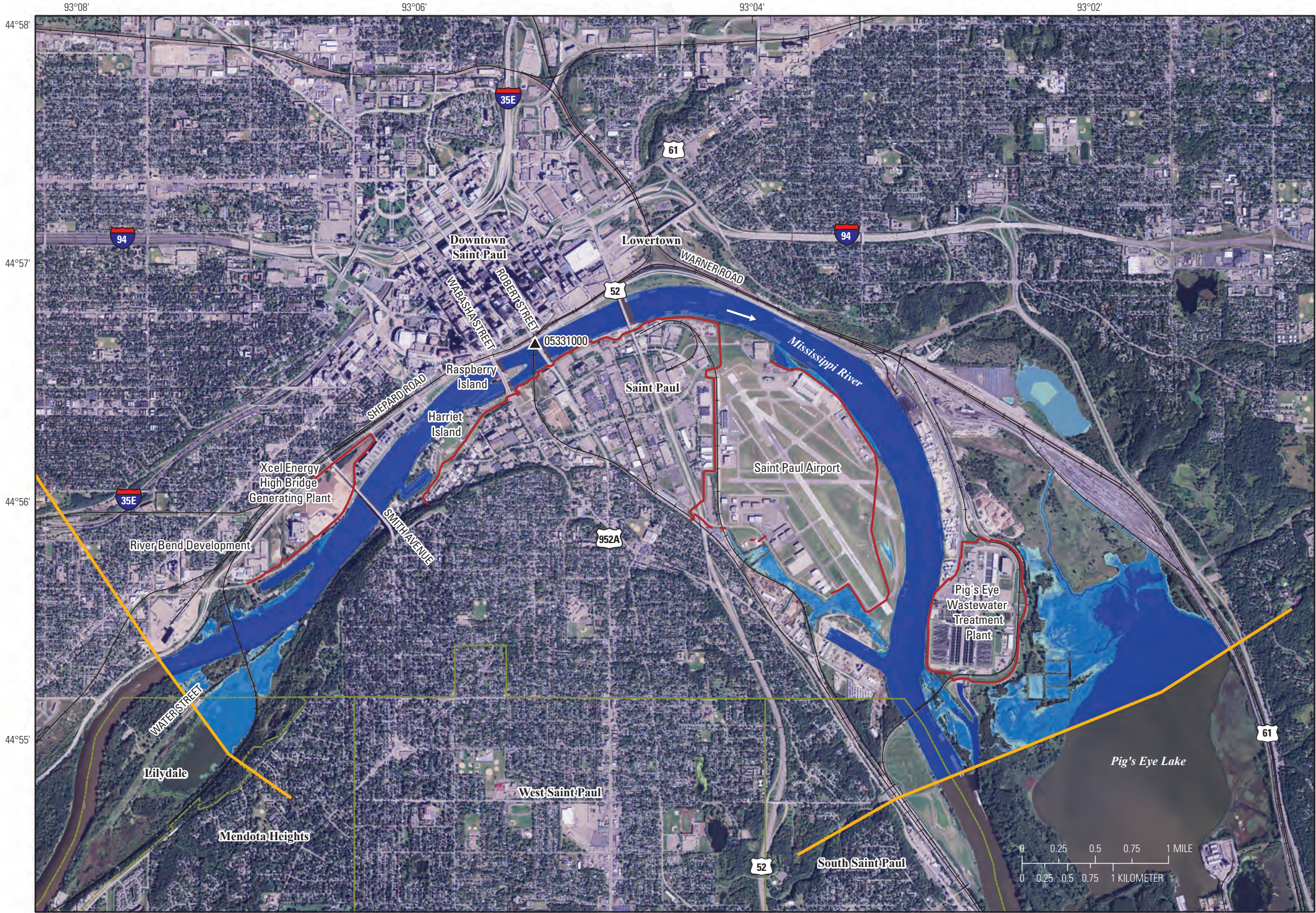
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Sheet 4. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 12.0 feet and an elevation of 695.8 feet above North American Vertical Datum of 1988.

EXPLANATION

Depth of inundation, in feet

	0 to 1.0
	1.1 to 2.0
	2.1 to 6.0
	6.1 to 15.0
	Greater than 15.0

Mapping study limit

Levee

Railroad

05331000 U.S. Geological Survey streamgage and number

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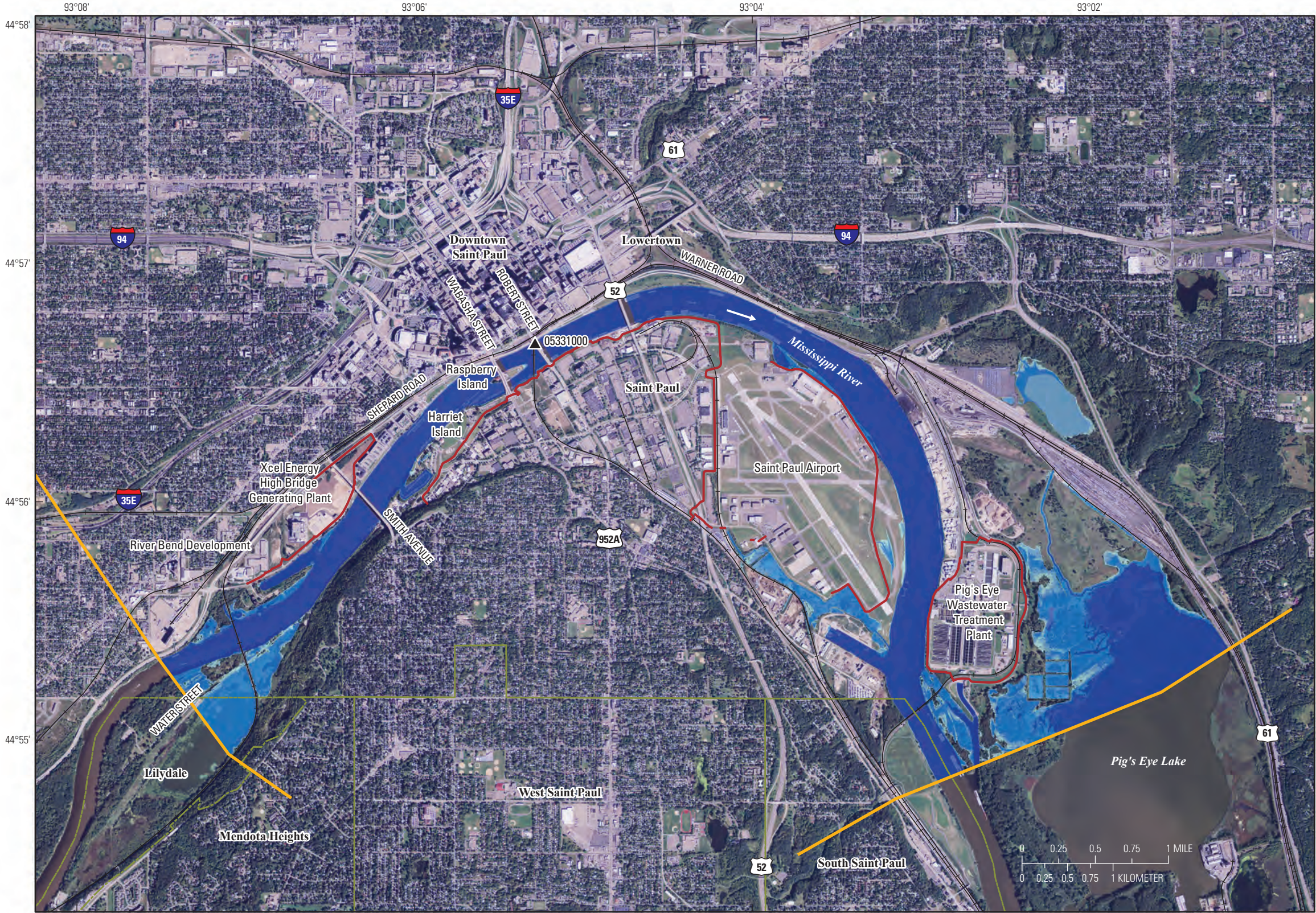
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EXPLANATION

Depth of inundation, in feet

	0 to 1.0
	1.1 to 2.0
	2.1 to 6.0
	6.1 to 15.0
	Greater than 15.0

Mapping study limit

Levee

Railroad

05331000 U.S. Geological Survey streamgage and number

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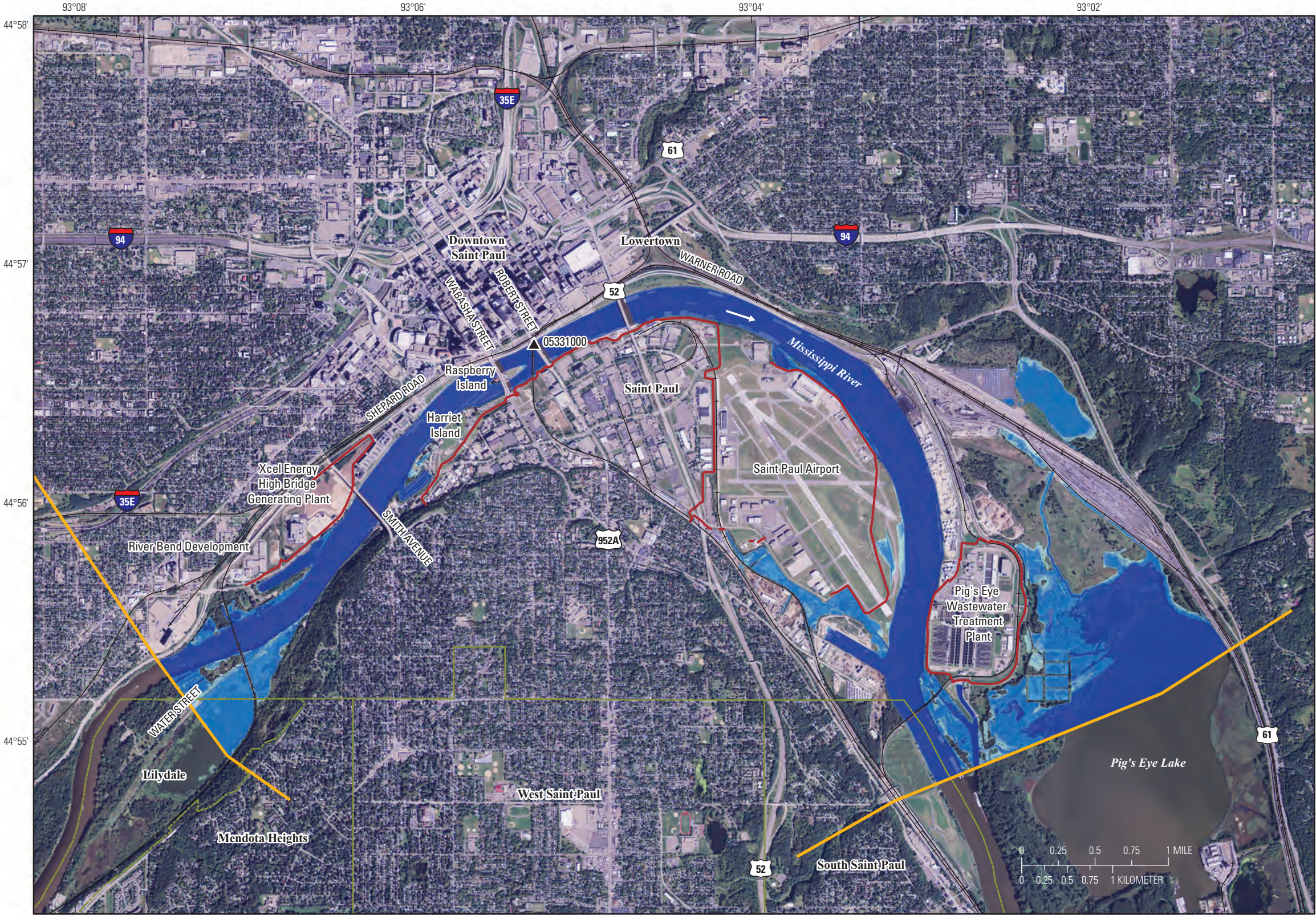
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Sheet 5. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 13.0 feet and an elevation of 696.8 feet above North American Vertical Datum of 1988.



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EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 U.S. Geological Survey streamgage and number



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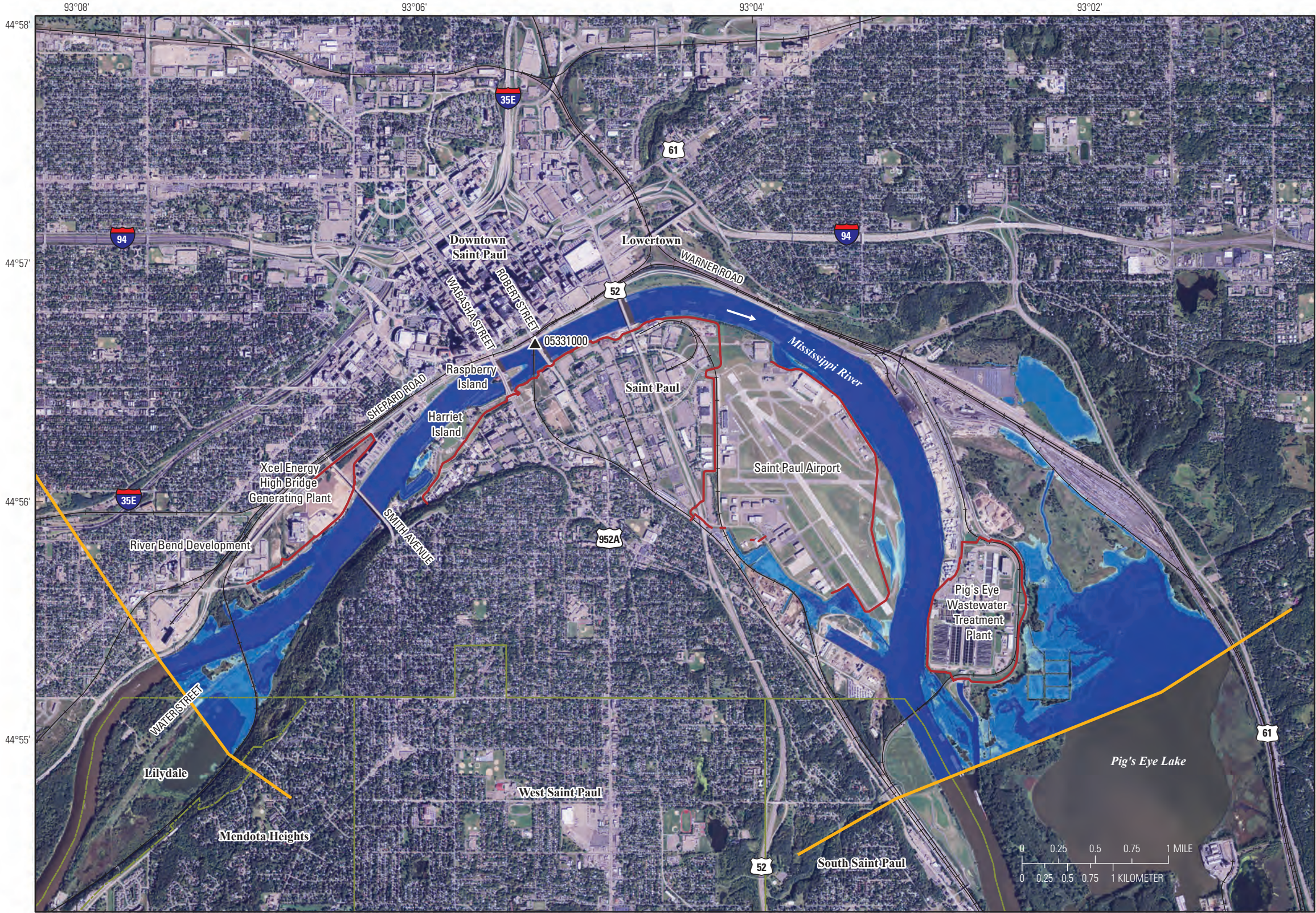
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Sheet 6. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 14.0 feet and an elevation of 697.8 feet above North American Vertical Datum of 1988.



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EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 ▲ U.S. Geological Survey streamgage and number



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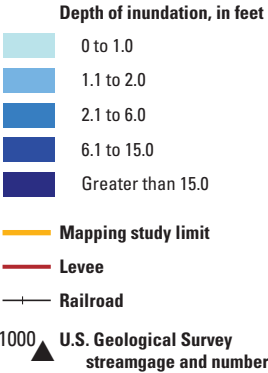
Note: The extent and depth of inundation was constructed using bare-earth topography data that are free of vegetation, buildings, and other man-made structures. Buildings that are shaded do not reflect inundation but denote that bare-earth surfaces in the vicinity of the buildings are inundated.

Base data from Minnesota Department of Transportation, 2011, 1:24,000, Minnesota Geospatial Information Office (MnGeo), 2013, 1:24,000, and modified from the U.S. Army Corps of Engineers National Levee Database, 2009, with digitization from topography, aerial imagery, and as-built information. Orthophotography from Minnesota Geospatial Information Office (MnGeo). Spatial Data Portal, 2010 National Agriculture Imagery Program, accessed at <http://www.mngeo.state.mn.us/chouse/metadata/naip10.html>. World Geodectic System 1984 Web Mercator (Auxiliary Sphere) projection

Sheet 7. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 15.0 feet and an elevation of 698.8 feet above North American Vertical Datum of 1988.



EXPLANATION



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Sheet 8. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 16.0 feet and an elevation of 699.8 feet above North American Vertical Datum of 1988.



Base data from Minnesota Department of Transportation, 2011, 1:24,000, Minnesota Geospatial Information Office (MnGeo), 2013, 1:24,000, and modified from the U.S. Army Corps of Engineers National Levee Database, 2009, with digitization from topography, aerial imagery, and as-built information. Orthophotography from Minnesota Geospatial Information Office (MnGeo). Spatial Data Portal, 2010 National Agriculture Imagery Program, accessed at <http://www.mngeo.state.mn.us/chouse/metadata/naip10.html>. World Geodectic System 1984 Web Mercator (Auxiliary Sphere) projection

Sheet 9. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 17.0 feet and an elevation of 700.8 feet above North American Vertical Datum of 1988.

EXPLANATION

Depth of inundation, in feet

0 to 1.0
1.1 to 2.0
2.1 to 6.0
6.1 to 15.0
Greater than 15.0

Mapping study limit

Levee

Railroad

05331000 U.S. Geological Survey streamgage and number

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EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 U.S. Geological Survey streamgage and number



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Sheet 10. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 18.0 feet and an elevation of 701.8 feet above North American Vertical Datum of 1988.



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EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 U.S. Geological Survey streamgage and number



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EXPLANATION

Depth of inundation, in feet

- 0 to 1.0
- 1.1 to 2.0
- 2.1 to 6.0
- 6.1 to 15.0
- Greater than 15.0

Mapping study limit

Levee

Railroad

05331000 U.S. Geological Survey streamgage and number



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Sheet 12. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 20.0 feet and an elevation of 703.8 feet above North American Vertical Datum of 1988.



Base data from Minnesota Department of Transportation, 2011, 1:24,000, Minnesota Geospatial Information Office (MnGeo), 2013, 1:24,000, and modified from the U.S. Army Corps of Engineers National Levee Database, 2009, with digitization from topography, aerial imagery, and as-built information. Orthophotography from Minnesota Geospatial Information Office (MnGeo). Spatial Data Portal, 2010 National Agriculture Imagery Program, accessed at <http://www.mngeo.state.mn.us/chouse/metadata/naip10.html>. World Geodectic System 1984 Web Mercator (Auxiliary Sphere) projection

EXPLANATION

Depth of inundation, in feet

- 0 to 1.0
- 1.1 to 2.0
- 2.1 to 6.0
- 6.1 to 15.0
- Greater than 15.0

Mapping study limit

Levee

Railroad

05331000 **U.S. Geological Survey streamgage and number**



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UNCERTAINTIES AND LIMITATIONS FOR USE OF FLOOD-INUNDATION MAPS

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If these flood-inundation maps are used in conjunction with National Weather Service (NWS) river forecasts, users need to be aware of additional uncertainties that may be inherent in NWS forecast procedures. The NWS uses forecast models to estimate the quantity and timing of water flowing through selected stream reaches in the United States. These forecast models (1) estimate the amount of runoff generated by recent and forecasted precipitation and snowmelt, (2) simulate the movement of floodwater as it proceeds downstream, and (3) predict the streamflow and stage for the stream at a given location (Advanced Hydrologic Prediction Service [AHPS] forecast point) throughout the forecast period (every 6 hours and 3 to 5 days out in many locations). Additional information on AHPS forecasts can be accessed at http://water.weather.gov/ahps/pcpn_and_river_forecasting.pdf.

Suggested citation:

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Note: The extent and depth of inundation was constructed using bare-earth topography data that are free of vegetation, buildings, and other man-made structures. Buildings that are shaded do not reflect inundation but denote that bare-earth surfaces in the vicinity of the buildings are inundated.

Sheet 13. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 21.0 feet and an elevation of 704.8 feet above North American Vertical Datum of 1988.



Base data from Minnesota Department of Transportation, 2011, 1:24,000, Minnesota Geospatial Information Office (MnGeo), 2013, 1:24,000, and modified from the U.S. Army Corps of Engineers National Levee Database, 2009, with digitization from topography, aerial imagery, and as-built information. Orthophotography from Minnesota Geospatial Information Office (MnGeo). Spatial Data Portal, 2010 National Agriculture Imagery Program, accessed at <http://www.mngeo.state.mn.us/chouse/metadata/naip10.html> . World Geodectic System 1984 Web Mercator (Auxiliary Sphere) projection

Sheet 14. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 22.0 feet and an elevation of 705.8 feet above North American Vertical Datum of 1988.

EXPLANATION

Depth of inundation, in feet

0 to 1.0
1.1 to 2.0
2.1 to 6.0
6.1 to 15.0
Greater than 15.0

Mapping study limit

Levee

Railroad

05331000 U.S. Geological Survey streamgage and number

DISCLAIMER

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Note: The extent and depth of inundation was constructed using bare-earth topography data that are free of vegetation, buildings, and other man-made structures. Buildings that are shaded do not reflect inundation but denote that bare-earth surfaces in the vicinity of the buildings are inundated.



Base data from Minnesota Department of Transportation, 2011, 1:24,000, Minnesota Geospatial Information Office (MnGeo), 2013, 1:24,000, and modified from the U.S. Army Corps of Engineers National Levee Database, 2009, with digitization from topography, aerial imagery, and as-built information. Orthophotography from Minnesota Geospatial Information Office (MnGeo). Spatial Data Portal, 2010 National Agriculture Imagery Program, accessed at <http://www.mngeo.state.mn.us/chouse/metadata/naip10.html> . World Geodectic System 1984 Web Mercator (Auxiliary Sphere) projection

EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 U.S. Geological Survey streamgage and number



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Sheet 15. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 23.0 feet and an elevation of 706.8 feet above North American Vertical Datum of 1988.



Base data from Minnesota Department of Transportation, 2011, 1:24,000, Minnesota Geospatial Information Office (MnGeo), 2013, 1:24,000, and modified from the U.S. Army Corps of Engineers National Levee Database, 2009, with digitization from topography, aerial imagery, and as-built information. Orthophotography from Minnesota Geospatial Information Office (MnGeo). Spatial Data Portal, 2010 National Agriculture Imagery Program, accessed at <http://www.mngeo.state.mn.us/chouse/metadata/naip10.html> . World Geodectic System 1984 Web Mercator (Auxiliary Sphere) projection

Sheet 16. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 24.0 feet and an elevation of 707.8 feet above North American Vertical Datum of 1988.

EXPLANATION

- Depth of inundation, in feet**
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit**
- Levee**
- Railroad**
- 05331000** **U.S. Geological Survey streamgage and number**



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Sheet 17. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 25.0 feet and an elevation of 708.8 feet above North American Vertical Datum of 1988.

EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 U.S. Geological Survey streamgage and number



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Suggested citation:

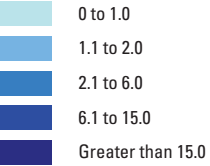
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EXPLANATION

Depth of inundation, in feet



Mapping study limit

Levee

Railroad

05331000  **U.S. Geological Survey streamgage and number**



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EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 U.S. Geological Survey streamgage and number



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Suggested citation:

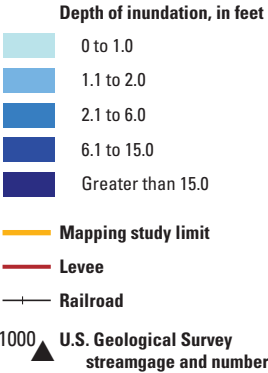
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Sheet 19. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 27.0 feet and an elevation of 710.8 feet above North American Vertical Datum of 1988.



EXPLANATION



DISCLAIMER

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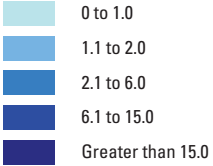
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EXPLANATION

Depth of inundation, in feet



Mapping study limit

Levee

Railroad

05331000 U.S. Geological Survey streamgage and number



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Sheet 21. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 29.0 feet and an elevation of 712.8 feet above North American Vertical Datum of 1988.



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EXPLANATION

Depth of inundation, in feet

- 0 to 1.0
- 1.1 to 2.0
- 2.1 to 6.0
- 6.1 to 15.0
- Greater than 15.0

Mapping study limit

- Levee
- Railroad

05331000 U.S. Geological Survey streamgage and number



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Sheet 22. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 30.0 feet and an elevation of 713.8 feet above North American Vertical Datum of 1988.



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EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 U.S. Geological Survey streamgage and number



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Sheet 23. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 31.0 feet and an elevation of 714.8 feet above North American Vertical Datum of 1988.



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EXPLANATION

- Depth of inundation, in feet
- 0 to 1.0
 - 1.1 to 2.0
 - 2.1 to 6.0
 - 6.1 to 15.0
 - Greater than 15.0
- Mapping study limit
- Levee
- Railroad
- 05331000 U.S. Geological Survey streamgage and number



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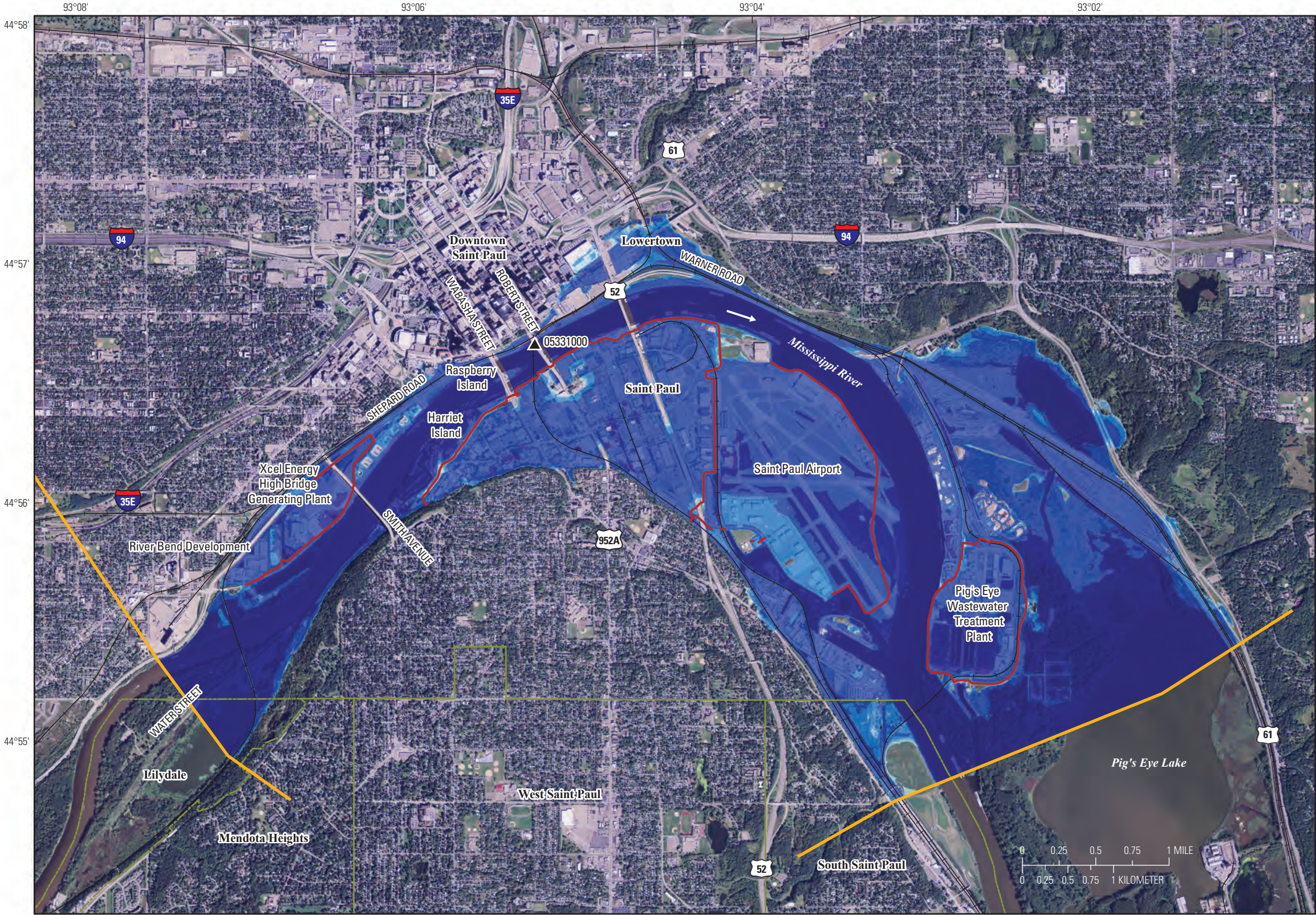
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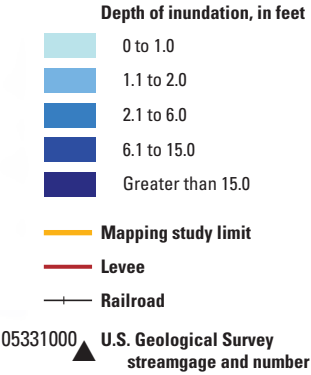
Sheet 24. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 32.0 feet and an elevation of 715.8 feet above North American Vertical Datum of 1988.



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Sheet 25. Flood-inundation map of the Mississippi River at Saint Paul, Minnesota, at the U.S. Geological Survey streamgage 05331000 for a corresponding stage of 33.0 feet and an elevation of 716.8 feet above North American Vertical Datum of 1988.

EXPLANATION



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