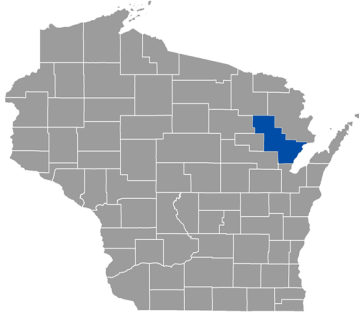


FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 3



OCONTO COUNTY, WISCONSIN AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
GILLETT, CITY OF	550295
LENA, VILLAGE OF	550296
OCONTO, CITY OF	550297
OCONTO COUNTY, UNINCORPORATED AREAS	550294
OCONTO FALLS, CITY OF	550298
PULASKI, VILLAGE OF	550024
SURING, VILLAGE OF	550300



FEMA

REVISED:

March 21, 2023

FLOOD INSURANCE STUDY NUMBER
55083CV002B
Version Number 2.4.3.5

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Exhibits

Flood Profiles	<u>Panel</u>
Brookside Creek	01-06 P
Christie Brook	07-11 P
City of Oconto Tributary No. 1	12-15 P
City of Oconto Tributary No. 4	16-17 P
City of Oconto Tributary No. 4A	18 P
Hayes Creek	19-22 P
Jones Creek	23-24 P
Kirchner Creek	25-28 P
Little Suamico River	29-36 P
McCaslin Brook	37-45 P

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Exhibits

Flood Profiles	<u>Panel</u>
Oconto River	46-81 P
North Branch Oconto River	81-104 P
Oconto River Tributary No. 2	105 P
Oconto River Tributary No. 3	106 P
Oconto River Tributary No. 22	107-109 P
Pensaukee River	110-135 P
South Branch Oconto River	136 P
Spring Creek	137-142 P
Spring Creek Tributary No. 6	143 P
Tibbet Creek	144-147 P
Town Creek	148-149 P
Waupee Creek	150-154 P

Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams
[Not applicable to this Flood Risk Project]

6.4 Coastal Flood Hazard Mapping

Flood insurance zones and BFEs including the wave effects were identified on each transect based on the results from the onshore wave hazard analyses. Between transects, elevations were interpolated using topographic maps, land-use and land-cover data, and knowledge of coastal flood processes to determine the aerial extent of flooding. Sources for topographic data are shown in Table 22.

Zone VE is subdivided into elevation zones and BFEs are provided on the FIRM.

The limit of Zone VE shown on the FIRM is defined as the farthest inland extent of any of these criteria (determined for the 1-percent-annual-chance flood condition):

- The *primary frontal dune* is defined in 44 CFR Section 59.1 of the NFIP regulations. “The primary frontal dune represents a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes that occur immediately landward and adjacent to the beach. The primary frontal dune zone is subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune zone occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.”
- The *wave runup Zone VE* occurs where the (eroded) ground profile is 3.0 feet or more below the 2-percent wave runup elevation.
- The *wave overtopping splash Zone VE* is the area landward of the crest of an overtopped barrier, in cases where the potential 2-percent wave runup exceeds the barrier crest elevation.
- The *breaking wave height Zone VE* occurs where 3-foot or greater wave heights could occur.
- The *high-velocity flow Zone VE* is landward of the overtopping splash zone (or area on a sloping beach or other shore type), where the product of depth of flow times the flow velocity squared (hv^2) is greater than or equal to 200 ft³/sec².

The SFHA boundary indicates the landward extent of the coastal SFHAs shown on the FIRM as Zones VE, AE, AO, AH, or A.

Table 25 indicates the coastal analyses used for floodplain mapping and the criteria used to determine the inland limit of the open-coast Zone VE and the SFHA boundary at each transect.

Table 25: Summary of Coastal Transect Mapping Considerations

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
OC-01	N/A	N/A	VE 587, AE 584	Runup	SWEL + Wave Setup
OC-02	N/A	N/A	VE 587, AE 585	Runup	SWEL + Wave Setup
OC-03	N/A	N/A	VE 587, AE 585	Runup	SWEL + Wave Setup
OC-04	N/A	N/A	VE 587 - 586, AE 584	Runup	SWEL + Wave Setup
OC-05	N/A	N/A	VE 587 - 586, AE 586 - 584	Breaking Wave Height	SWEL + Wave Setup
OC-06	N/A	VE 587, AE 587	AE 584	Runup	SWEL
OC-07	N/A	N/A	VE 587 - 586, AE 585	Runup	SWEL + Wave Setup
OC-08	N/A	N/A	VE 587, AE 585	Breaking Wave Height	SWEL + Wave Setup

A LiMWA boundary has also been added in coastal areas subject to overland wave propagation for use by local communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave.

6.5 FIRM Revisions

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 30, "Map Repositories").

6.5.1 Letters of Map Amendment

A LOMA is an official revision by letter to an effective NFIP map. A LOMA results from an administrative process that involves the review of scientific or technical data submitted by the owner or lessee of property who believes the property has incorrectly been included in a designated SFHA. A LOMA amends the currently effective FEMA map and establishes that a specific property is not located in a SFHA. A LOMA cannot be issued for properties located on the PFD (primary frontal dune).

To obtain an application for a LOMA, visit www.fema.gov/flood-maps/change-your-flood-zone and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at <https://www.fema.gov/online-tutorials>.

For more information about how to apply for a LOMA, call the FEMA Mapping and Insurance eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627).

6.5.2 Letters of Map Revision Based on Fill

A LOMR-F is an official revision by letter to an effective NFIP map. A LOMR-F states FEMA’s determination concerning whether a structure or parcel has been elevated on fill above the base flood elevation and is, therefore, excluded from the SFHA.

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting www.fema.gov/flood-maps/change-your-flood-zone for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Mapping and Insurance eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at www.fema.gov/online-tutorials.

6.5.3 Letters of Map Revision

A LOMR is an official revision to the currently effective FEMA map. It is used to change flood zones, floodplain and floodway delineations, flood elevations and planimetric features. All requests for LOMRs should be made to FEMA through the chief executive officer of the community, since it is the community that must adopt any changes and revisions to the map. If the request for a LOMR is not submitted through the chief executive officer of the community, evidence must be submitted that the community has been notified of the request.

To obtain an application for a LOMR, visit www.fema.gov/flood-maps/change-your-flood-zone and download the form “MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision”. Visit the “Flood Map-Related Fees” section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Mapping and Insurance eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the Oconto County FIRM are listed in Table 26.

Table 26: Incorporated Letters of Map Change
[Not applicable to this Flood Risk Project]

6.5.4 Physical Map Revisions

A Physical Map Revisions (PMR) is an official republication of a community's NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

The community's chief executive officer must submit scientific and technical data to FEMA to support the request for a PMR. The data will be analyzed and the map will be revised if warranted. The community is provided with copies of the revised information and is afforded a review period. When the base flood elevations are changed, a 90-day appeal period is provided. A 6-month adoption period for formal approval of the revised map(s) is also provided.

For more information about the PMR process, please visit www.fema.gov and visit the "Flood Map Revision Processes" section.

6.5.5 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit www.fema.gov to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of Oconto County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBM)s and/or Flood Boundary and Floodway Maps (FBFM)s may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 27, "Community Map History." A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.
- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or “pending” (for Preliminary FIS Reports) is shown. If the community is listed in Table 27 but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first FHBM. This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.
- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as PMRs of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the Oconto County FIRMs in countywide format was 10/06/2010.

Table 27: Community Map History

Community Name	Initial Identification Date)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Gillett, City of	04/12/1974	04/12/1974	05/21/1976	02/01/1984	10/06/2010
Lena, Village of	06/28/1974	06/28/1974	N/A	09/18/1985	10/06/2010
Oconto, City of	12/28/1973	12/28/1973	08/08/1975	08/03/1981	03/21/2023 10/06/2010
Oconto County Unincorporated Areas	01/06/1983	N/A	N/A	01/06/1983	03/21/2023 10/06/2010 08/03/1998
Oconto Falls, City of	01/09/1974	01/09/1974	07/23/1976 05/28/1976	07/16/1981	10/06/2010
Pulaski, Village of	05/24/1974	05/24/1974	05/28/1976	08/03/1981	10/06/2010 8/18/2009
Suring, Village of	05/03/1974	05/03/1974	02/12/1982 06/04/1976	12/01/1983	10/06/2010

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 28 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

Table 28: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Anderson Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Archibald Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Bagley Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Barney Spring	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Bass Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Bear Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Bear Paw Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Big Island Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Boot Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Boulder Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Bowman Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Brehmer Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Brehmer Creek Tributary No. 2	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Brookside Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Brooks Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Camp Five Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Chain Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Christie Brook	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Gillett, City of; Oconto County, Unincorporated Areas
Christie Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
City of Oconto Tributary No. 1	10/06/2010	SCS	IAA-H-9-76, Project Order No. 11	March 1979	Oconto, City of; Oconto County, Unincorporated Areas
City of Oconto Tributary No. 4	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto, City of; Oconto County, Unincorporated Areas
City of Oconto Tributary No. 4A	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto, City of
Chute Pond	10/06/2010	WIDNR	NMH00000763 and NMI00000486	*	Oconto County, Unincorporated Areas
Cooley Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Coopman Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Crooked Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

* No information available

Table 28: Summary of Contracted Studies Included in this FIS Report (*continued*)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Daly Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Daly Creek Tributary No. 1	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Daly Creek Tributary No. 7	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Daly Creek Tributary No. 8	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Deer Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Explosion Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Forbes Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
French Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Funk Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Gilkey Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Gillett Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Glocke Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Grignon Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Grindle Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Hay Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Hay Creek Tributary No. 1	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, (Unincorporated Areas
Hayes Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Hoerth Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Horn Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Impassable Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Jocko Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
John Lake Tributary	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Jones Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Lena, Village of; Oconto County, Unincorporated Areas
Jones Creek Tributary No. 1	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Jones Creek Tributary No. 2	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Kelly Brook	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Kelly Brook Tributary No. 12	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Kelly Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Kelly Lake Tributary	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Kirchner Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Lake John	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Lake John Tributary	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Lake Michigan/Green Bay	03/21/2023	STARR	HSFEHQ-09-D-0370, HSFE05-12-J-0014, and HSFE60-15-D-0005	December 2017	Oconto, City of; Oconto County, Unincorporated Areas
Lake Michigan Tributary No. 5	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Lauder Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Ledge Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Ledge Lake Tributary	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Leigh Flowage	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Linzy Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little Archibald Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little Gillett Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Little Horn Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little Pickerel Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little River Tributary No. 2	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little River Tributary No. 4	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little River Tributary No. 15	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little River Tributary No. 18	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little Squaw Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Little Suamico River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas; Pulaski, Village of
Little Wapato Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Long Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Lower Island Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Lower Wapato Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (*continued*)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Maiden Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Makholm Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McCaslin Brook	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McCaslin Brook Tributary No. 3	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McCaslin Brook Tributary No. 3.1	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McCaslin Brook Tributary No. 6	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McCaslin Brook Tributary No. 6.2	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McCaslin Brook Tributary No. 7	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McCaslin Brook Tributary No. 7.2	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McComb Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McComb Lake Tributary	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
McDonald Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Messenger Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Munger Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (*continued*)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Munger Lake Tributary	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Nelligan Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
North Branch Little River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
North Branch Little River Tributary No. 6	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
North Branch Oconto River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
North Branch Pensaukee River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Oconto River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto, City of; Oconto County, Unincorporated Areas
	10/06/2010	FEMA	LOMR 99-05-131P	August 1999	Oconto, City of
	06/01/1983	SCS	IAA-H-9-76, Project Order No. 11	September 1979	Suring, Village of
	07/06/1982	SCS	IAA-H-9-76, Project Order No. 11	September 1979	Oconto County, Unincorporated Areas
	02/03/1981	SCS	IAA-H-9-76, Project Order No. 11	March 1979	Oconto, City of
	01/16/1981	SCS	IAA-H-9-76, Project Order No. 11	March 1979	Oconto Falls, City of

* No information available

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Oconto River Tributary No. 2	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto, City of
Oconto River Tributary No. 3	02/03/1981	SCS	IAA-H-9-76, Project Order No. 11	March 1979	Oconto, City of
Oconto River Tributary No. 12	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Oconto River Tributary No. 14	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Oconto River Tributary No. 22	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas; Oconto Falls, City of
Paya Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas)
Pecore Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Pecore Creek Tributary No. 1 (includes Wiscobee Lake)	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Pensaukee River	10/06/2010	Ayres and Associates	*	September 2008	Oconto County, Unincorporated Areas
		WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
	07/06/1982	SCS	IAA-H-9-76, Project Order No. 11	September 1979	Oconto County, Unincorporated Areas
Peshtigo Brook	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Peterson Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Pickrel Lake (North Branch Oconto River Watershed)	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

* No information available

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Pickereel Lake (Peshtigo Brook Watershed)	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Pickereel Lake Tributary	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Plantation Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Porcupine Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Ranch Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Reservoir Pond	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Rost Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Round Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Savage Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Gillett, City of
Second South Branch Oconto River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Shadow Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Shay Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Smoke Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
South Branch Beaver Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
South Branch Beaver Creek Tributary No. 1	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
South Branch Oconto River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
	07/06/1982	SCS	IAA-H-9-76, Project Order No. 11	September 1979	Oconto County, Unincorporated Areas
South Branch Oconto River Tributary No. 7	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
South Branch Oconto River Tributary No. 18	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
South Fork Thunder River	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
South Fork Thunder River Tributary No. 2	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Splinter Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Splinter Creek Tributary No. 1	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Splinter Creek Tributary No. 2	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Splinter Creek Tributary No. 3	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Spring Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Spring Creek Tributary No. 6	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Spring Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Squaw Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Star Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Surprise Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Thomas Slough	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Tibbet Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Town Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Townsend Flowage	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Ucil Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Underwood Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Upper Island Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Upper Wapato Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Wapato Lake Tributary	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Waubee Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (*continued*)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Waupee Creek	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Waupee Flowage	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Wescott Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Wheeler Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
White Potato Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Winslow Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas
Wiscoble Lake	10/06/2010	WIDNR	NMH00000763 and NMI00000486	January 2009	Oconto County, Unincorporated Areas

7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table 29. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

Table 29: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Gillett, City of	10/06/2010	07/17/2007	Scoping	FEMA, Wisconsin Department of Natural Resources (WIDNR), Atkins, and the communities
		05/20/2009	Final CCO	FEMA, WIDNR, and the communities
Lena, Village of	10/06/2010	07/17/2007	Scoping	FEMA, WIDNR, Atkins and the communities
		05/20/2009	Final CCO	FEMA, WIDNR, and the communities
Oconto, City of	03/21/2023	08/22/2017	Flood Risk Review Meeting	FEMA, WIDNR, STARR, Oconto County and the City of Oconto
		09/24/2020	Final CCO	To Be Determined
Oconto County, Unincorporated Areas	03/21/2023	08/22/2017	Flood Risk Review Meeting	FEMA, WIDNR, STARR, Oconto County and the City of Oconto
		09/24/2020	Final CCO	To Be Determined
Oconto Falls, City of	10/06/2010	07/17/2007	Scoping	FEMA, WIDNR, Atkins and the communities
		05/20/2009	Final CCO	FEMA, WIDNR, and the communities
Pulaski, Village of	10/06/2010	07/17/2007	Scoping	FEMA, WIDNR, Atkins and the communities
		05/20/2009	Final CCO	FEMA, WIDNR, and the communities
Suring, Village of	10/06/2010	07/17/2007	Scoping	FEMA, WIDNR, Atkins, and the communities
		05/20/2009	Final CCO	FEMA, WIDNR, and the communities

SECTION 8.0 – ADDITIONAL INFORMATION

Information concerning the pertinent data used in the preparation of this FIS Report can be obtained by submitting an order with any required payment to the FEMA Engineering Library. For more information on this process, see www.fema.gov.

Table 30 is a list of the locations where FIRMs for Oconto County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

Table 30: Map Repositories

Community	Address	City	State	Zip Code
Gillett, City of	City Hall 150 North McKenzie Avenue	Gillett	WI	54124
Lena, Village of	Village Hall 117 East Main Street	Lena	WI	54139
Oconto, City of	City Hall 1210 Main Street	Oconto	WI	54153
Oconto County, Unincorporated Areas	Oconto County Courthouse 301 Washington Street	Oconto	WI	54153
Oconto Falls, City of	City Hall 500 North Chestnut Avenue	Oconto Falls	WI	54154
Pulaski, Village of	Village Municipal Building 585 East Glenbrook Drive	Pulaski	WI	54162
Suring, Village of	Village Office 604 Main Street	Suring	WI	54174

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM Databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 31.

Table 31 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the State NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of State and local GIS data in their state.

Table 31: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	https://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/engineering-library
NFIP website	https://www.fema.gov/national-flood-insurance-program
NFHL Dataset	https://msc.fema.gov
FEMA Region V	536 South Clark Street Chicago, Illinois 60605 (312) 408-5500
Other Federal Agencies	
USGS website	www.usgs.gov
Hydraulic Engineering Center website	www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Michelle Staff, CFM Wisconsin Department of Natural Resources Post Office Box 7921 Madison, Wisconsin 53707 (608) 266-3093 michelle.staff@wisconsin.gov
State GIS Coordinator	Curtis Pulford Geographic Information Officer State of Wisconsin DOA Division of Enterprise Technology 101 East Wilson Street Post Office Box 7844 Madison, Wisconsin 53707-7844 (608) 261-5042 curtis.pulford@wisconsin.gov

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 32 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

Table 32: Bibliography and References

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
ADCIRC	U.S. Army Corps of Engineers, Engineer and Research Development Center (ERDC)	<i>ADvanced CIRCulation Model</i>	ERDC	Vicksburg, Mississippi		
CSHORE	U.S. Army Corps of Engineers, ERDC	<i>Cross-Shore Numerical Model</i>	N. Kobayashi et. al	Vicksburg, Mississippi	April 2014	
DIM	Federal Emergency Management Agency	<i>Coastal Flood Hazard Analysis and Mapping for the Pacific Coast of the United States, Section D.4.2 – Study Methodology</i>	FEMA	Washington, D.C.	January 2005	https://www.fema.gov/media-library/assets/documents/34953
FEMA 1981a	Federal Emergency Management Agency	<i>Flood Insurance Study, City of Oconto, Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	August 1981	https://msc.fema.gov
FEMA 1981b	Federal Emergency Management Agency	<i>Flood Insurance Study, City of Oconto Falls, Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	July 1981	https://msc.fema.gov
FEMA 1981c	Federal Emergency Management Agency	<i>Effective FIRM, City of Oconto Falls, Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	July 1981	https://msc.fema.gov

Table 32: Bibliography and References (continued)

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
FEMA 1981d	Federal Emergency Management Agency	<i>Effective FIRM, City of Oconto, Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	August 1981	https://msc.fema.gov
FEMA 1983a	Federal Emergency Management Agency	<i>Effective FIRM, Unincorporated Areas, Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	January 1983	https://msc.fema.gov
FEMA 1983b	Federal Emergency Management Agency	<i>Effective FIRM, Village of Suring, Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	December 1983	https://msc.fema.gov
FEMA 1983c	Federal Emergency Management Agency	<i>Flood Insurance Study, Village of Suring, Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	December 1983	https://msc.fema.gov
FEMA 1983d	Federal Emergency Management Agency	<i>Flood Insurance Study, Unincorporated Areas, Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	January 1983	https://msc.fema.gov
FEMA 2010a	Federal Emergency Management Agency	<i>Flood Insurance Study, Oconto County, Wisconsin, and Unincorporated Areas</i>	FEMA	Washington, D.C.	October 2010	https://msc.fema.gov
FEMA 2010b	Federal Emergency Management Agency	<i>Effective DFIRM Database for Oconto County, Wisconsin</i>	FEMA	Washington, D.C.	October 2010	https://msc.fema.gov

Table 32: Bibliography and References (*continued*)

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
HEC-HMS	U.S. Army Corps of Engineers, Hydrologic Engineering Center	<i>HEC-HMS Hydrologic Modeling System, Version 2.2.2</i>	FUSACE	Davis, California	Varies	https://www.hec.usace.army.mil/software/hecras/downloads.aspx
HEC-RAS	U.S. Army Corps of Engineers, Hydrologic Engineering Center	<i>HEC-RAS River Analysis System, Version 3.1.3</i>	FUSACE	Davis, California	May 2005	https://www.hec.usace.army.mil/software/hecras/downloads.aspx
JALBTCX 2013	Joint Airborne LiDAR Bathymetry Technical Center of Expertise (JALBTCX)	<i>Lake Michigan LiDAR</i>	FJALBTCXA	Kiln, Mississippi	2013	
NEH 1972	U.S. Department of Agriculture, Soil Conservation Service	<i>National Engineering Handbook, Section 4, Hydrology, Part I, Watershed Planning</i>	V. Mockus, et. al.	Washington, D.C.	1972	https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=18393.wb
Oconto County 2005	Oconto County Land Information Office	<i>LiDAR ASCII Point Elevations and 2-Foot Interval Contours</i>	Oconto County	Oconto, Wisconsin	2005	
STARR 2017	STrategic Alliance for Risk Reduction (STARR)	<i>Oconto County Lake Michigan Coastal Update</i>	FSTARR	Calverton, Maryland	2017	
STARR II 2019	STrategic Alliance for Risk Reduction II (STARR II)	<i>Oconto County Effective DFIRM Database updates and capture</i>	FSTARR II	Calverton, Maryland	2019	

Table 32: Bibliography and References (continued)

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Stockdon, et al., 2006	Coastal Engineering, Volume 53	<i>Empirical Parameterization of Setup, Swash, and Runup</i>	H.F. Stockdon, et. al.		2006	https://pubs.er.usgs.gov/publication/70030520
SWAN	Delft University of Technology	<i>Simulating WAVes Nearshore Model</i>	Booij, et. al.	The Netherlands		
TR-55	U.S. Department of Agriculture, Soil Conservation Service (SCS)	<i>Technical Release No. 55: Urban Hydrology for Small Watersheds</i>	FSCS	Washington, D.C.	January 1975	https://www.nrcs.usda.gov/Internet/FSE_DOCUMENT/S/stelprdb1044171.pdf
USACE 1984	U.S. Army Corps of Engineers, ERDC	<i>Shore Protection Manual</i>	FUSACEA	Vicksburg, Mississippi	1984	https://usace.contentdm.oclc.org/digital/collection/p16021coll11/id/1932
USACE 2012	U.S. Army Corps of Engineers, Chicago District	<i>USACE Structures</i>	FUSACE	Chicago, Illinois	September 2012	http://www.lrc.usace.army.mil/
U.S. Census 2018	U.S. Census Bureau	<i>Oconto County Transportation</i>	U.S. Census Bureau.	Washington, D.C.	January 2018	http://www.census.gov/cgi-bin/geo/shapefiles2012/main
USDA-FSA 2017	U.S. Department of Agriculture, Farm Service Agency (USDA/FSA)	<i>Digital Ortho Mosaic</i>	FFSAA	Salt Lake City, Utah	2017	https://www.fsa.usda.gov/programs-and-services/aerial-photography/imagery-programs/naip-imagery/
USDA-NRCS 2017	U.S. Department of Agriculture, Natural Resources Conservation Service (USDA/NRCS)	<i>HUC-8 Watershed Shapefiles</i>	NRCS	Fort Worth, Texas	2017	https://datagateway.nrcs.usda.gov

Table 32: Bibliography and References (*continued*)

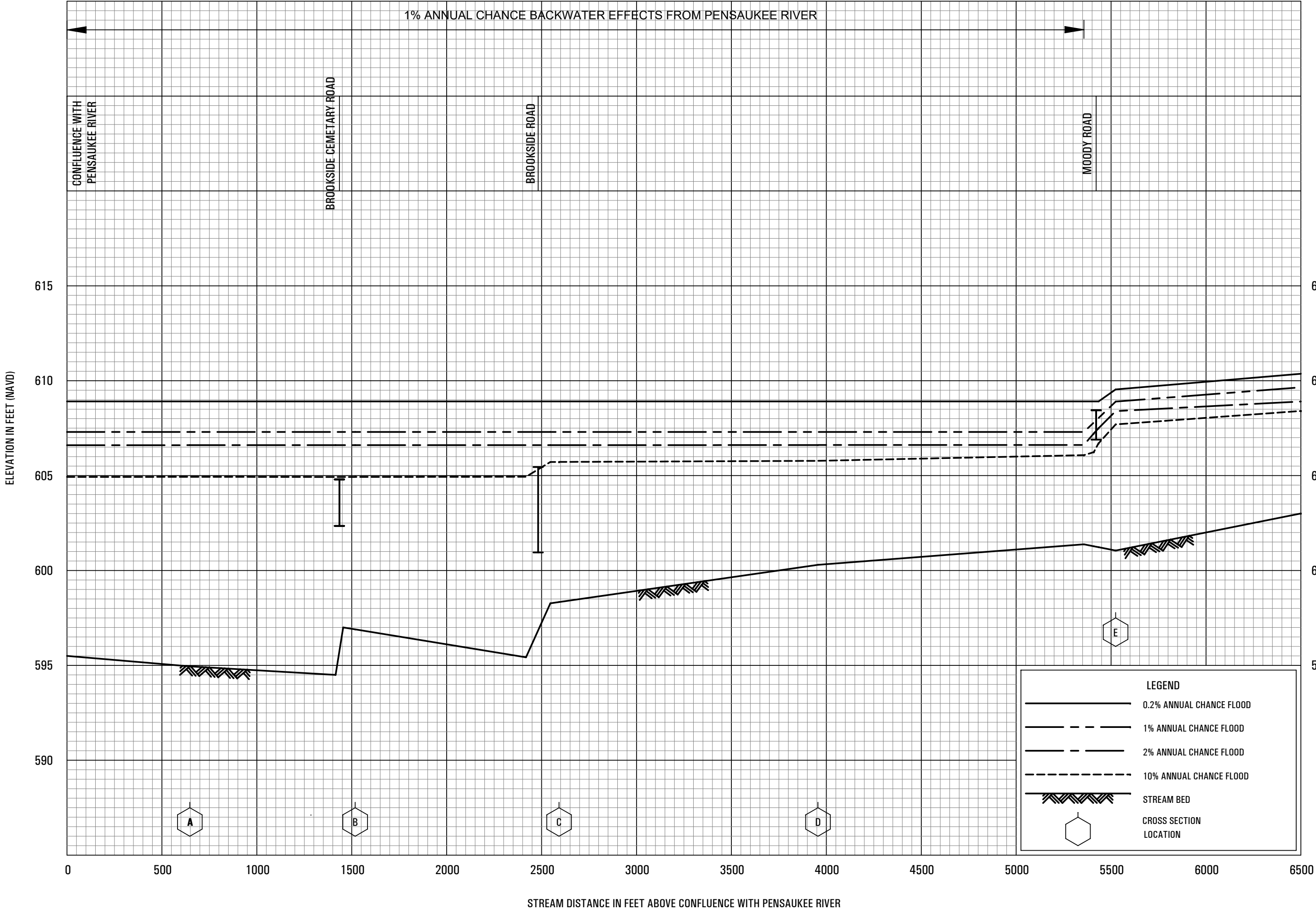
Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USGS 2019	United States Geological Survey	<i>USGS Water Data for the Nation</i>	USGS	Reston, Virginia	Retrieved January 29, 2019	https://nwis.waterdata.usgs.gov
Van Gent 2001	Journal of Waterway, Port, Coastal, Engineering, Volume 127 (5)	<i>Wave Runup on Dikes with Shallow Foreshores</i>	M.R.A. van Gent		2001	
WIDNR 2002	Wisconsin Department of Natural Resources	<i>USACE 2002 Limited Map Maintenance Project (LMMP): City of Oconto Tributary 4 and 4A</i>	WIDNR	Madison, Wisconsin	May 2002	
WIDNR 2010a	Wisconsin Department of Natural Resources	<i>Pensaukee River WIDNR Revision (CTH J - approx 3000' downstream of Sandlewood Road)</i>	WIDNR	Madison, Wisconsin	October 2010	
WIDNR 2010b	Wisconsin Department of Natural Resources	<i>S_BASE_INDEX</i>	WIDNR	Madison, Wisconsin	October 2010	
WIDNR 2010c	Wisconsin Department of Natural Resources	<i>Pensaukee River WIDNR Revision (approx 3000' downstream of Sandlewood Rd and Oconto-Safain Rd)</i>	WIDNR	Madison, Wisconsin	October 2010	
WIDNR 2010d	Wisconsin Department of Natural Resources	<i>Pensaukee River WIDNR Revision (approx 3000' downstream of Sandlewood Rd and Oconto-Safain Rd.)</i>	WIDNR	Madison, Wisconsin	October 2010	
WIDNR 2010e	Wisconsin Department of Natural Resources	<i>Flood Insurance Study Approximate Study Modeling and Mapping, Oconto County and Incorporated Areas, WI</i>	WIDNR	Madison, Wisconsin	October 2010	

Table 32: Bibliography and References (*continued*)

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
WIDNR 2010f	Wisconsin Department of Natural Resources	<i>Flood Insurance Study, Oconto County and Incorporated Areas, WI</i>	WIDNR	Madison, Wisconsin	October 2010	
WIDNR 2010g	Wisconsin Department of Natural Resources	<i>FIRM Panel Index for Oconto Countywide Study</i>	WIDNR	Madison, Wisconsin	October 2010	
WIDNR 2010h	Wisconsin Department of Natural Resources	<i>Anderson Lake, Crooked Lake, Round Lake, Wescott Lake</i>	WIDNR	Madison, Wisconsin	October 2010	
WHAFIS	Federal Emergency Management Agency	<i>Wave Height Analysis for Flood Insurance Studies – WHAFIS Version 4.0</i>	D. Divoky	Washington, D.C.	August 2007	https://www.fema.gov/wave-height-analysis-floodinsurance-studiesversion-40
WIDNR 1996	Wisconsin Department of Natural Resources	<i>PLSS Lines and Area for Oconto Countywide Study</i>	WIDNR	Madison, Wisconsin	January 1996	
WIDNR 1999	Wisconsin Department of Natural Resources	<i>Oconto River Letter of Map Revision (LOMR) 99-05-131</i>	WIDNR	Madison, Wisconsin	August 1999	
WIDNR 2007a	Wisconsin Department of Natural Resources	<i>Wisconsin Rivers and Shorelines</i>	WIDNR	Madison, Wisconsin	June 2007	
WIDNR 2007b	Wisconsin Department of Natural Resources	<i>Roads for Oconto Countywide Study</i>	WIDNR	Madison, Wisconsin	January 2007	
WIDNR 2018	Wisconsin Department of Natural Resources	<i>Green Bay Shoreline</i>	WIDNR	Madison, Wisconsin	January 2018	

Table 32: Bibliography and References (*continued*)

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
WIDNR 2019	Wisconsin Department of Natural Resources	<i>WIDNR Terrain</i>	WIDNR	Madison, Wisconsin	July 2019	
WSP-2	U.S. Department of Agriculture, SCS	<i>WSP-2 Computer Program, Technical Release No. 61</i>	SCS	Washington, D.C.	May 1976	https://www.wcc.nrcs.usda.gov/ftpref/wntsc/H&H/other/neh630_31.pdf

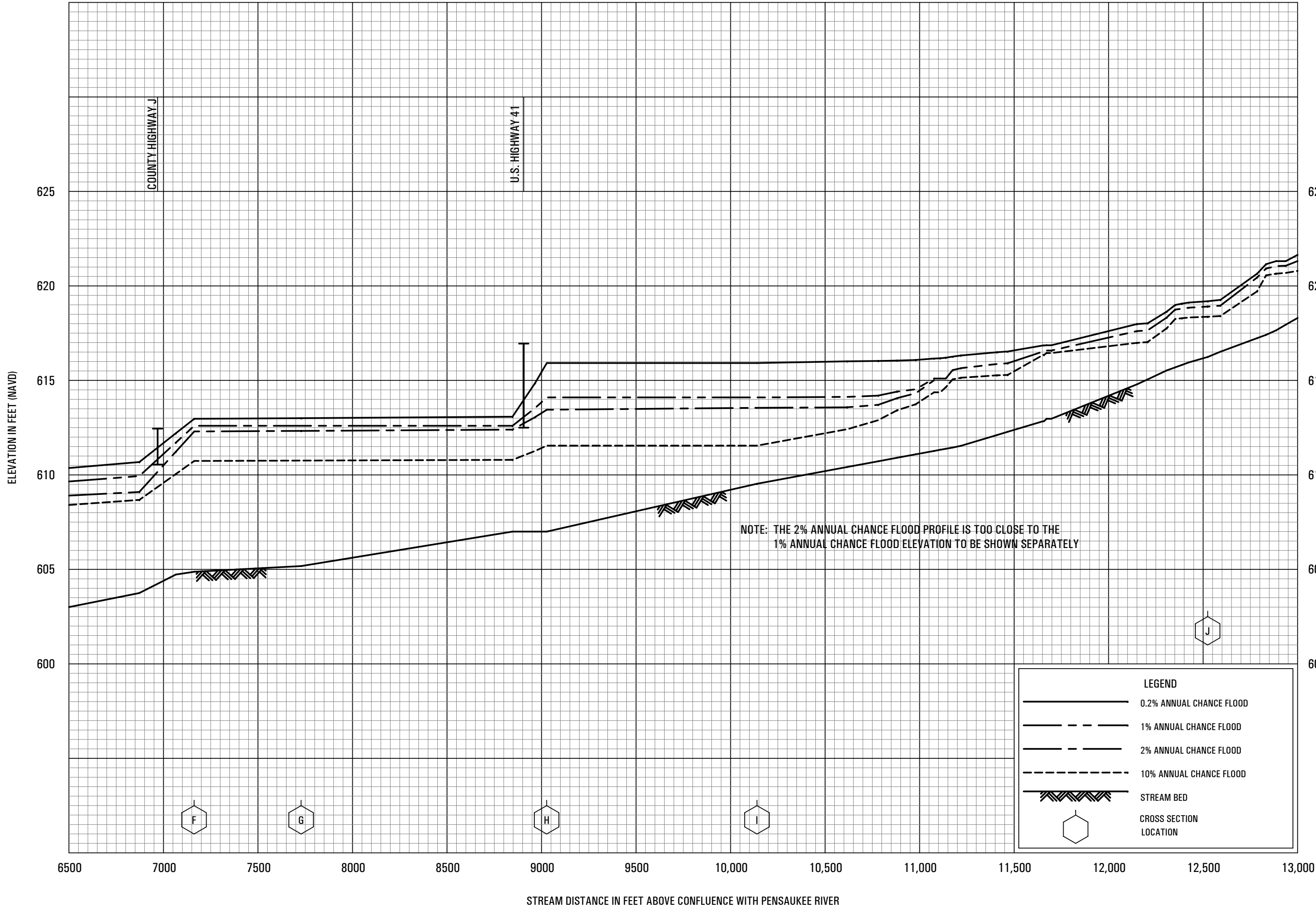


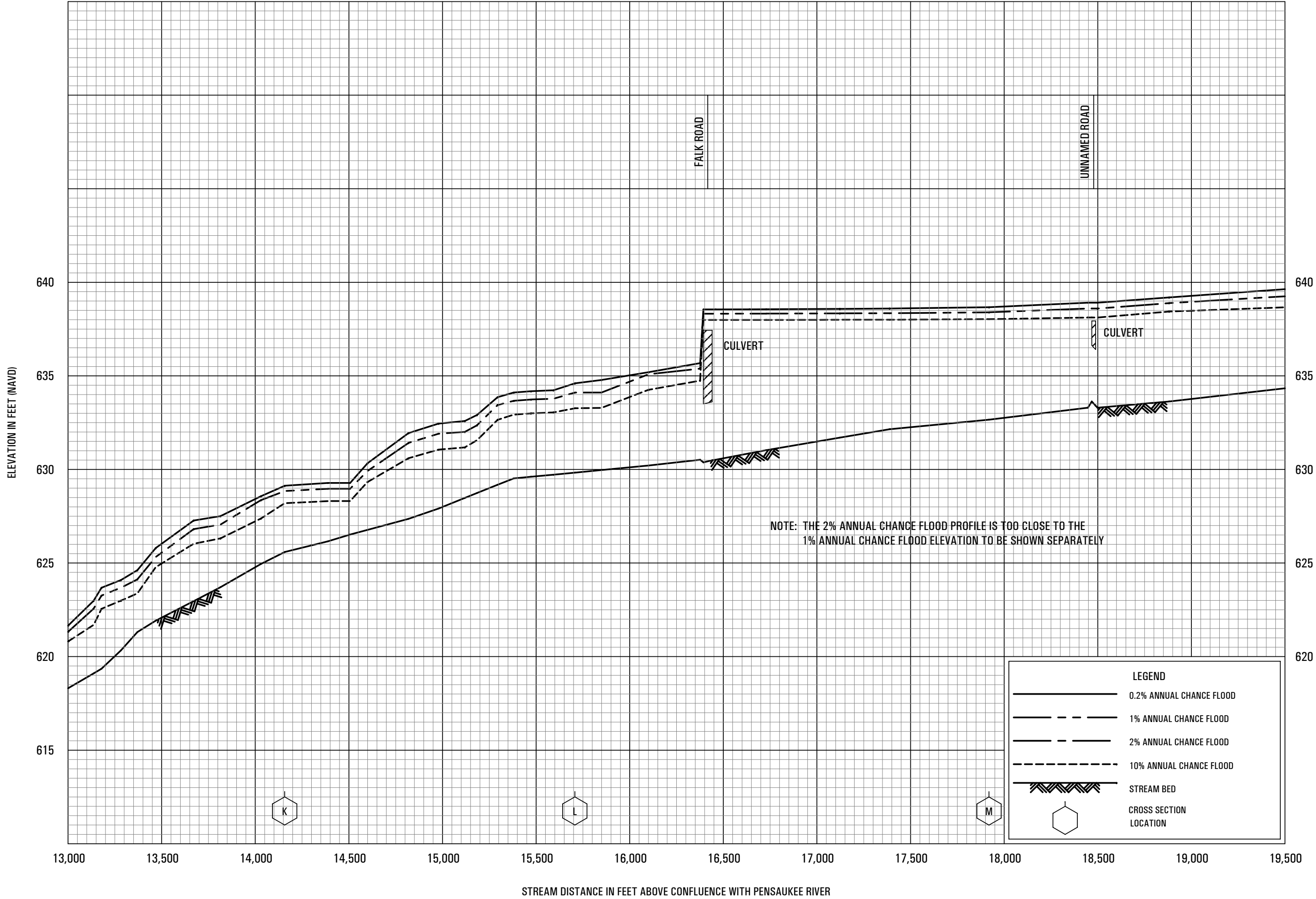
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BROOKSIDE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS



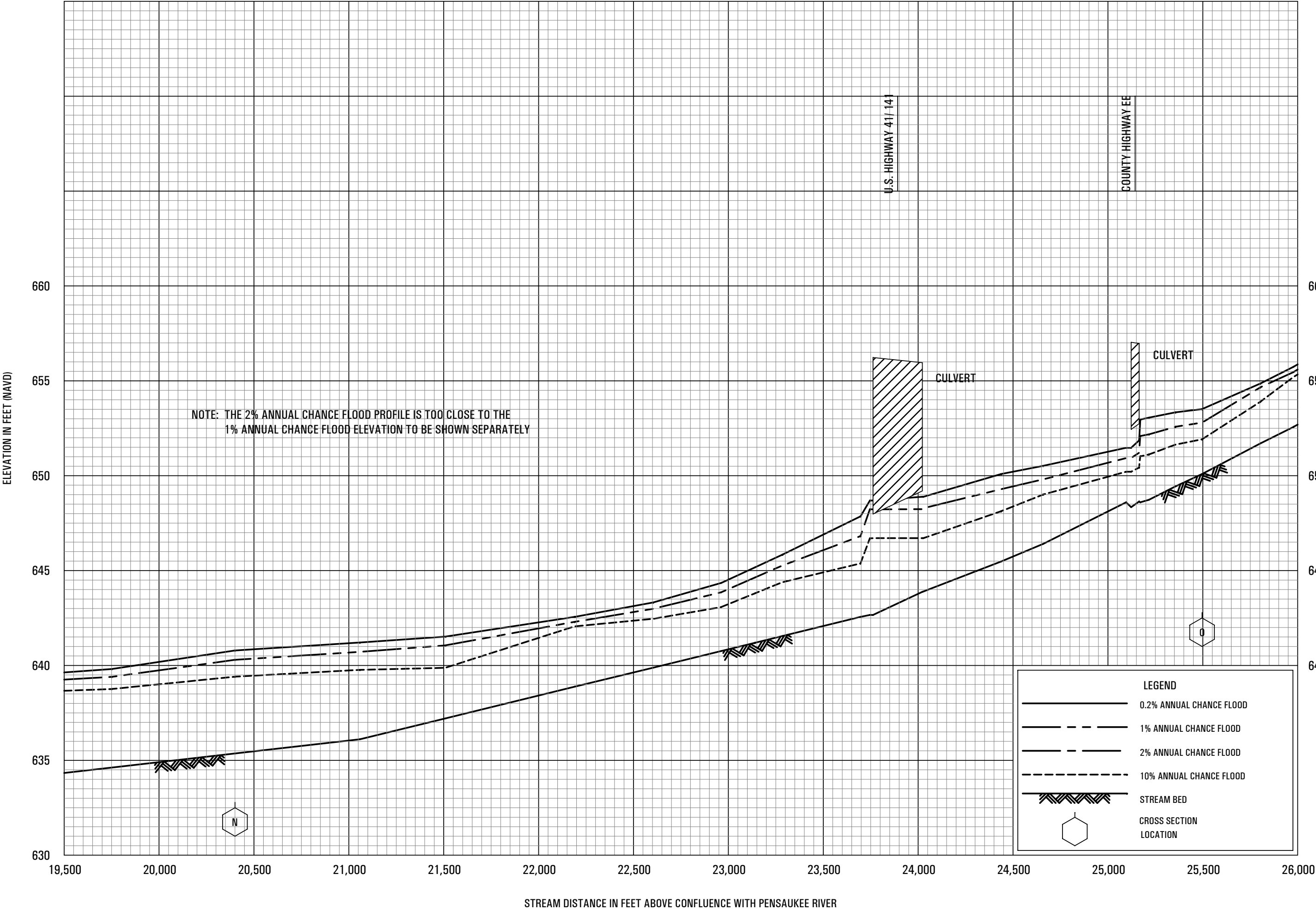


FLOOD PROFILES

BROOKSIDE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

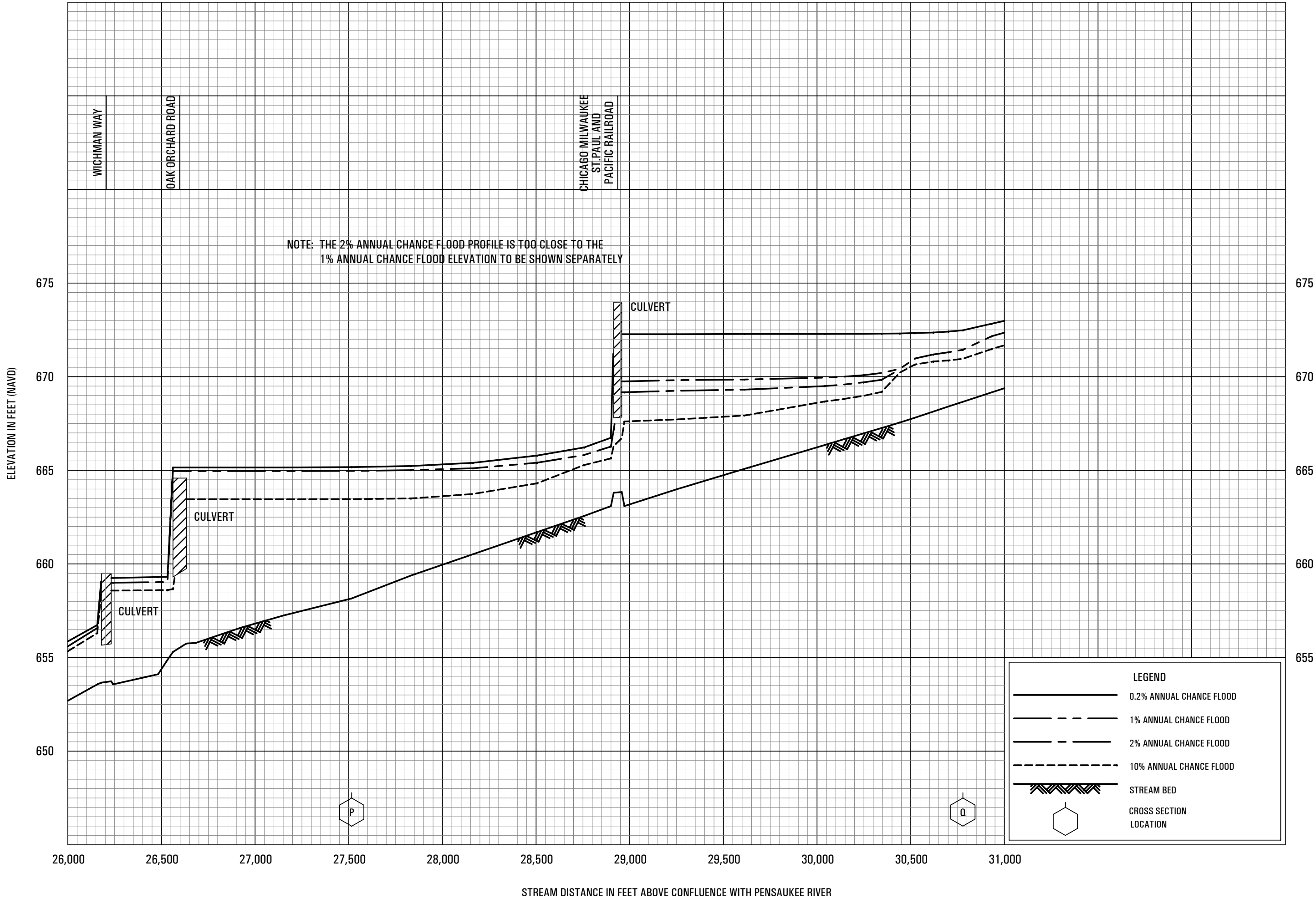
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AND INCORPORATED AREAS

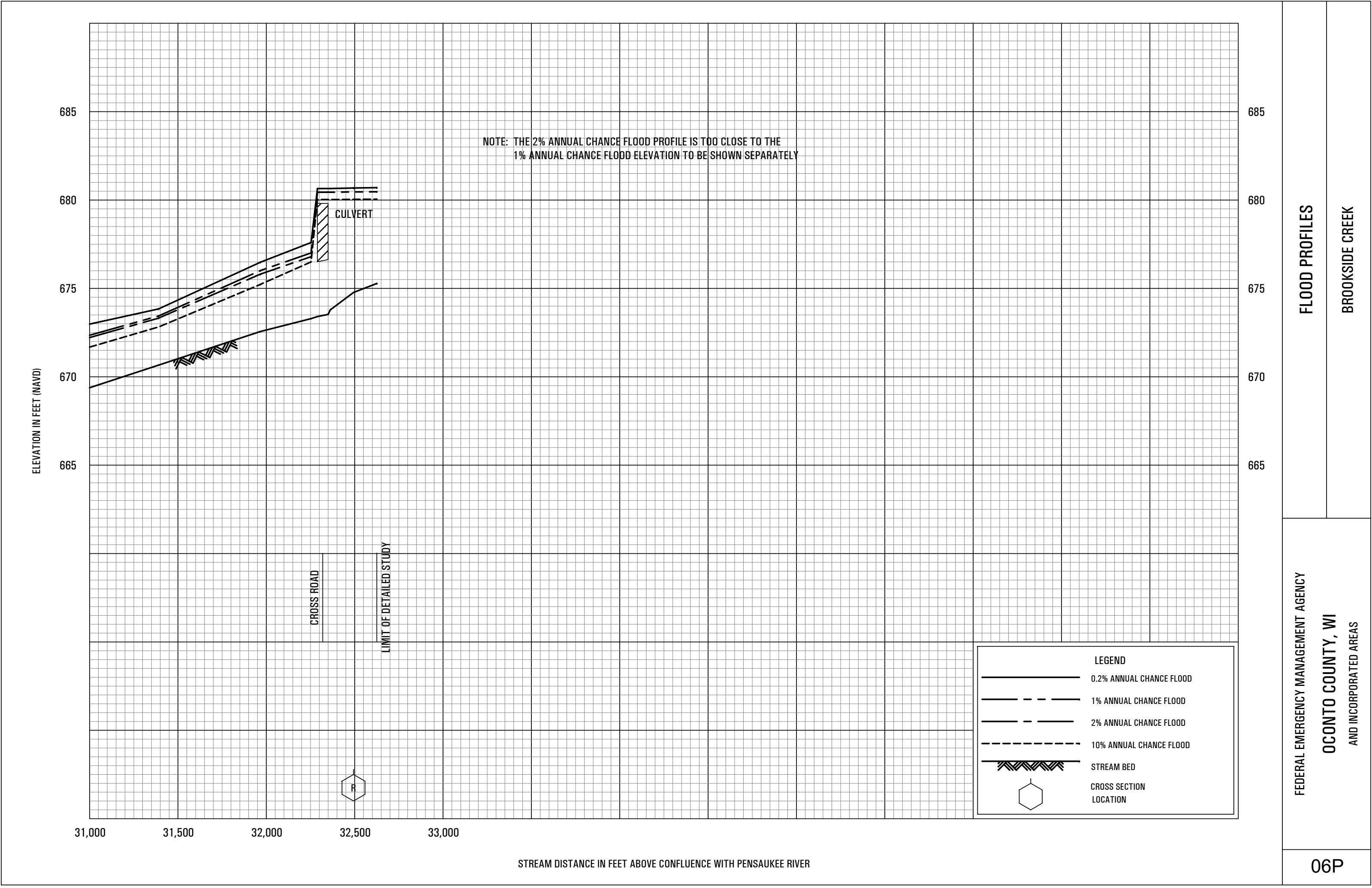


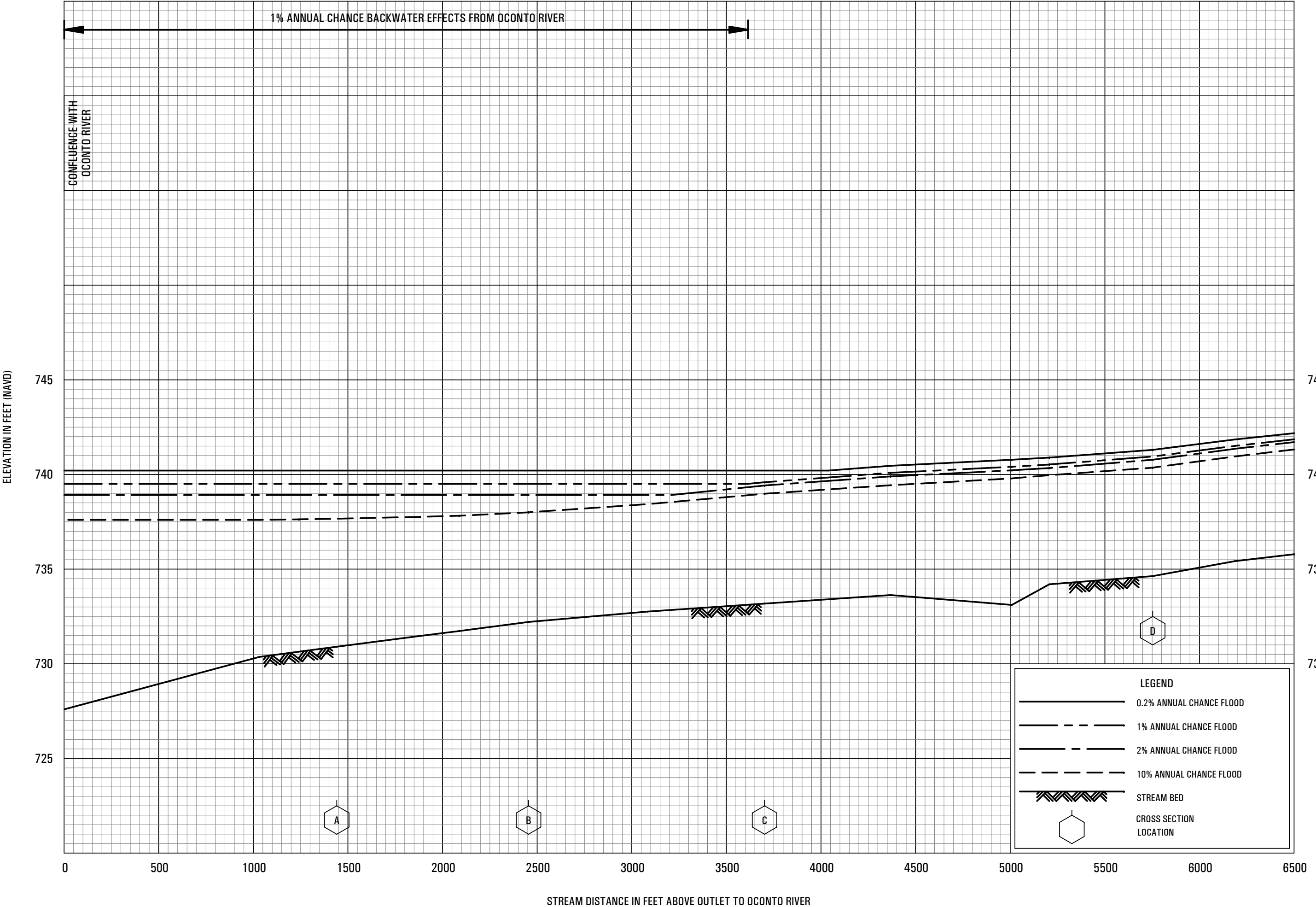
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BROOKSIDE CREEK

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AND INCORPORATED AREAS





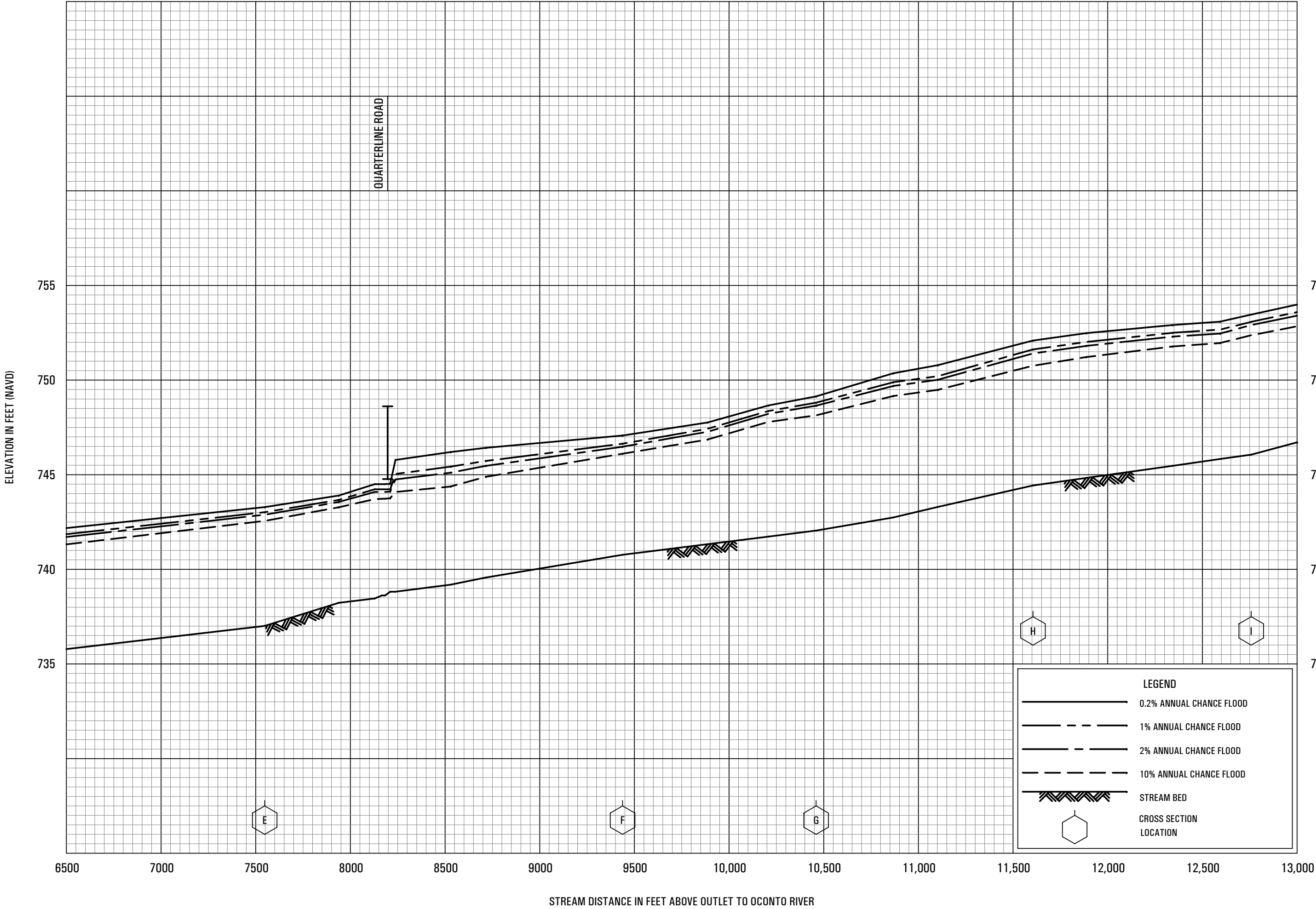


FLOOD PROFILES

CHRISTIE BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS



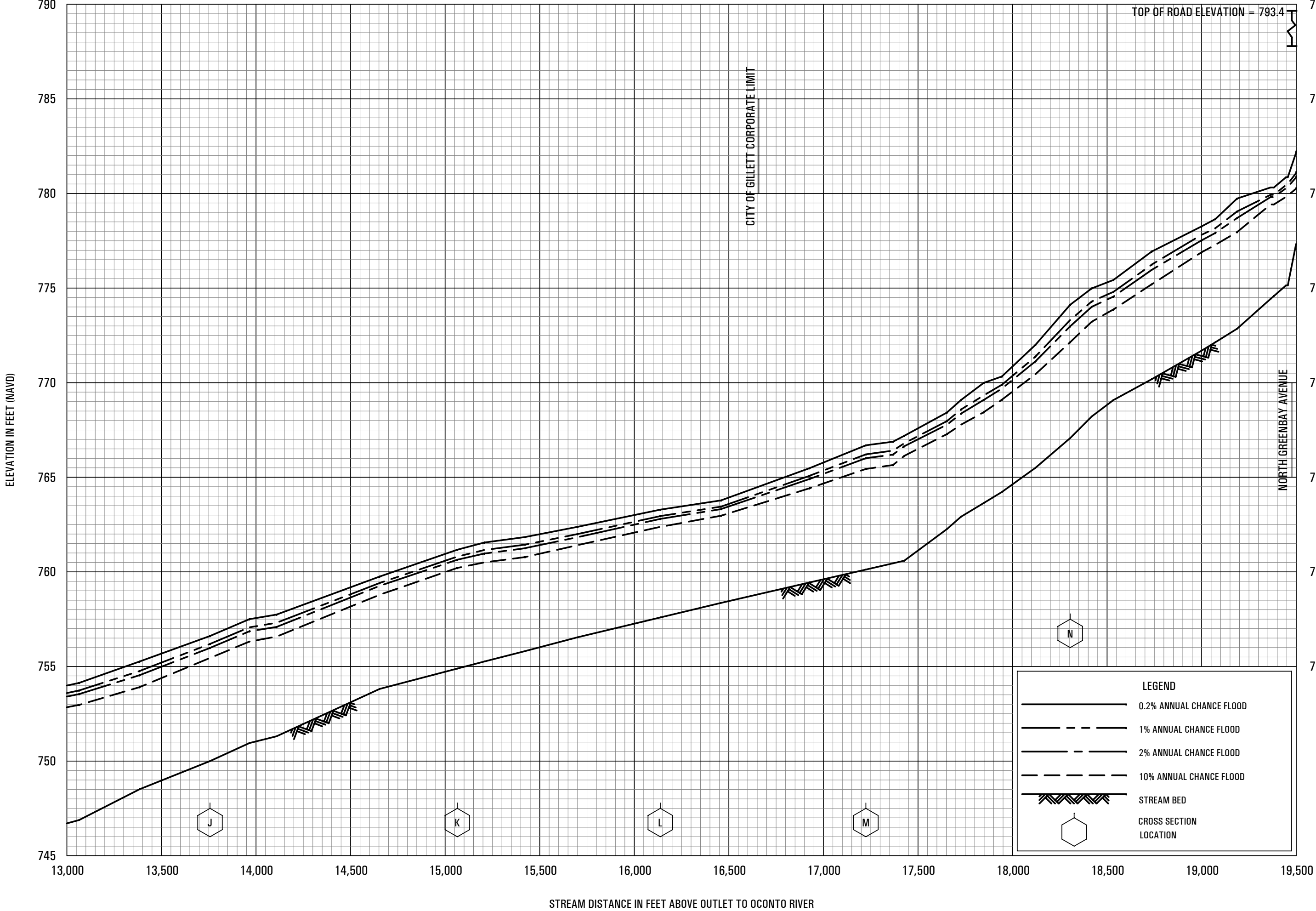
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CHRISTIE BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS

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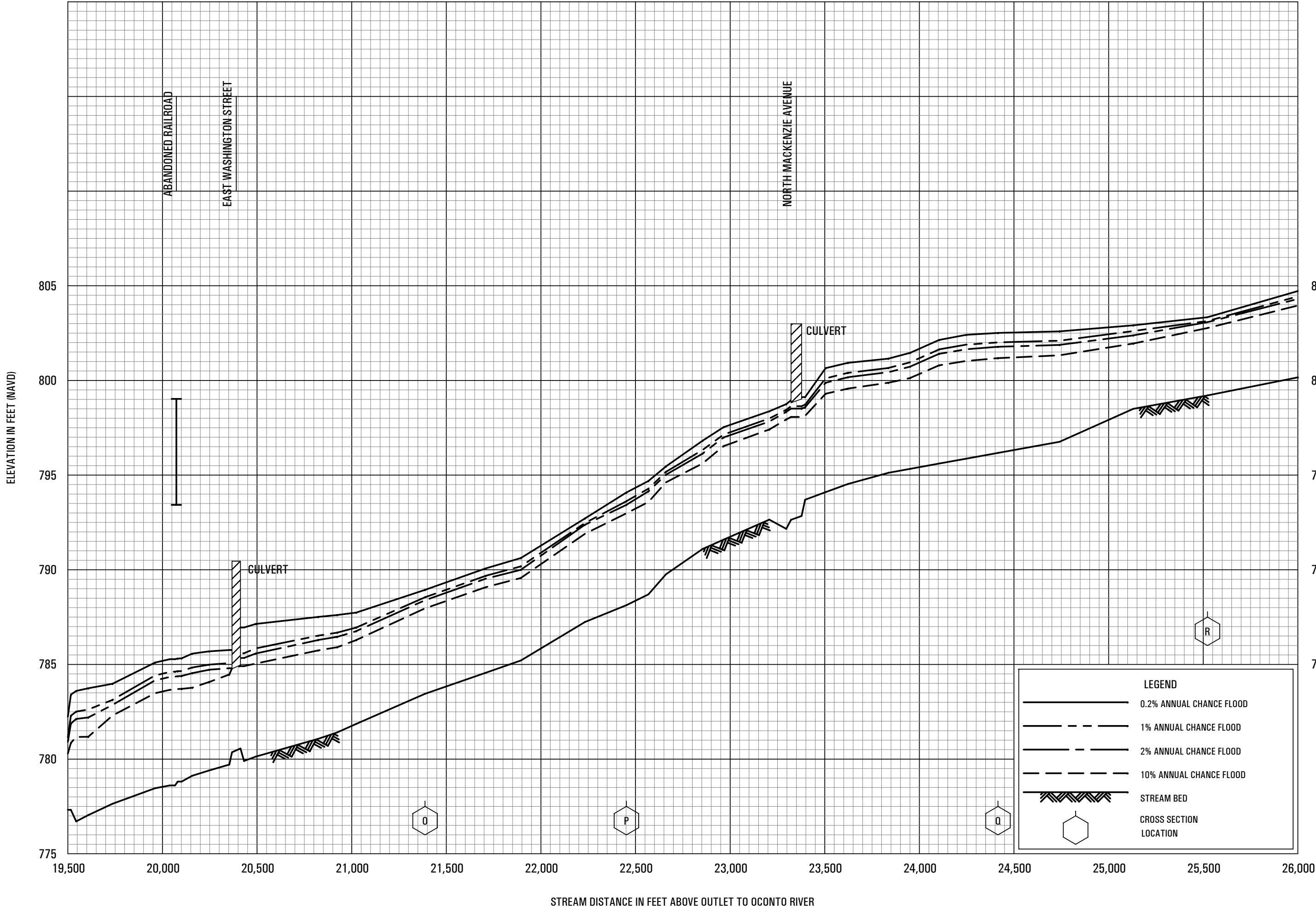


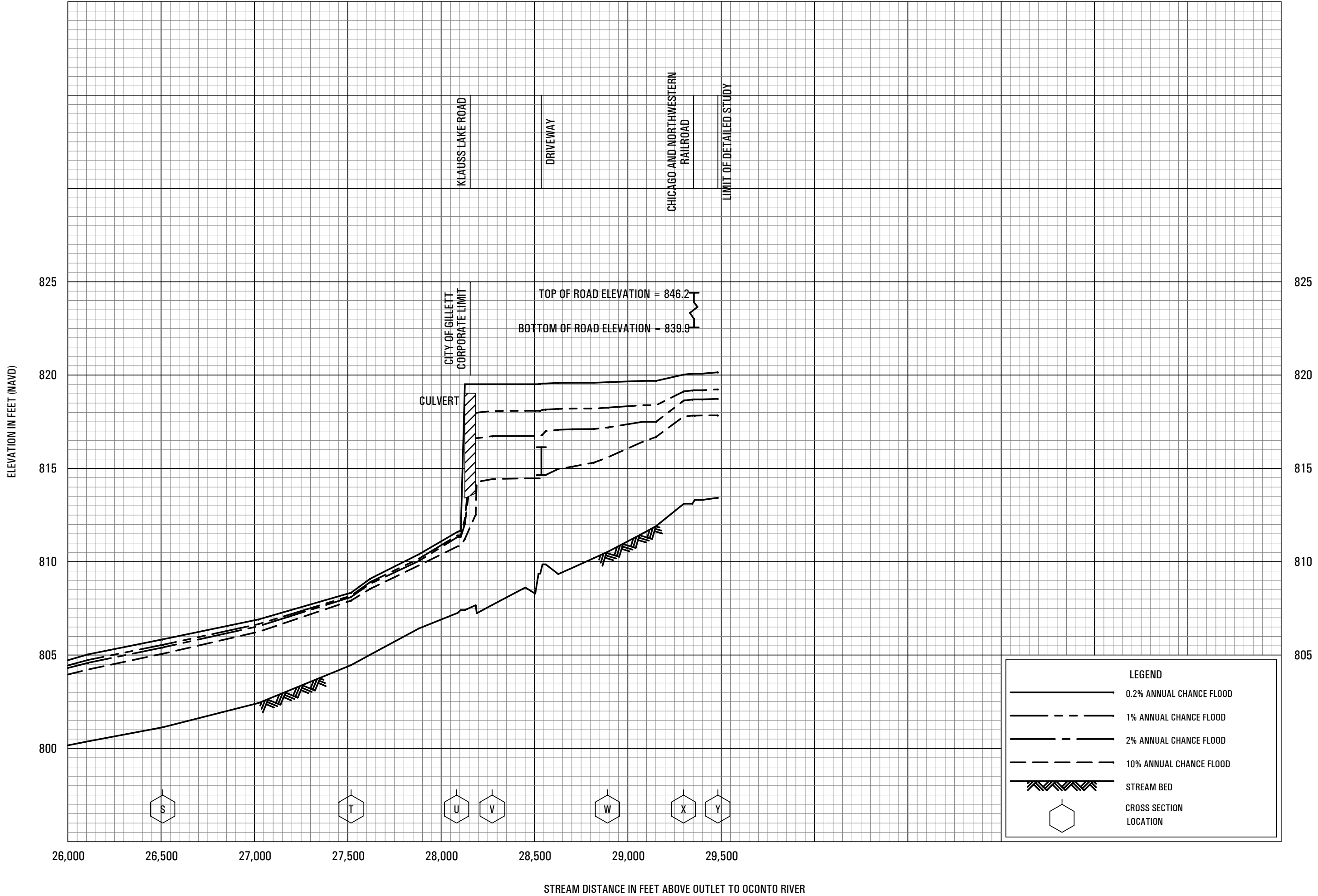
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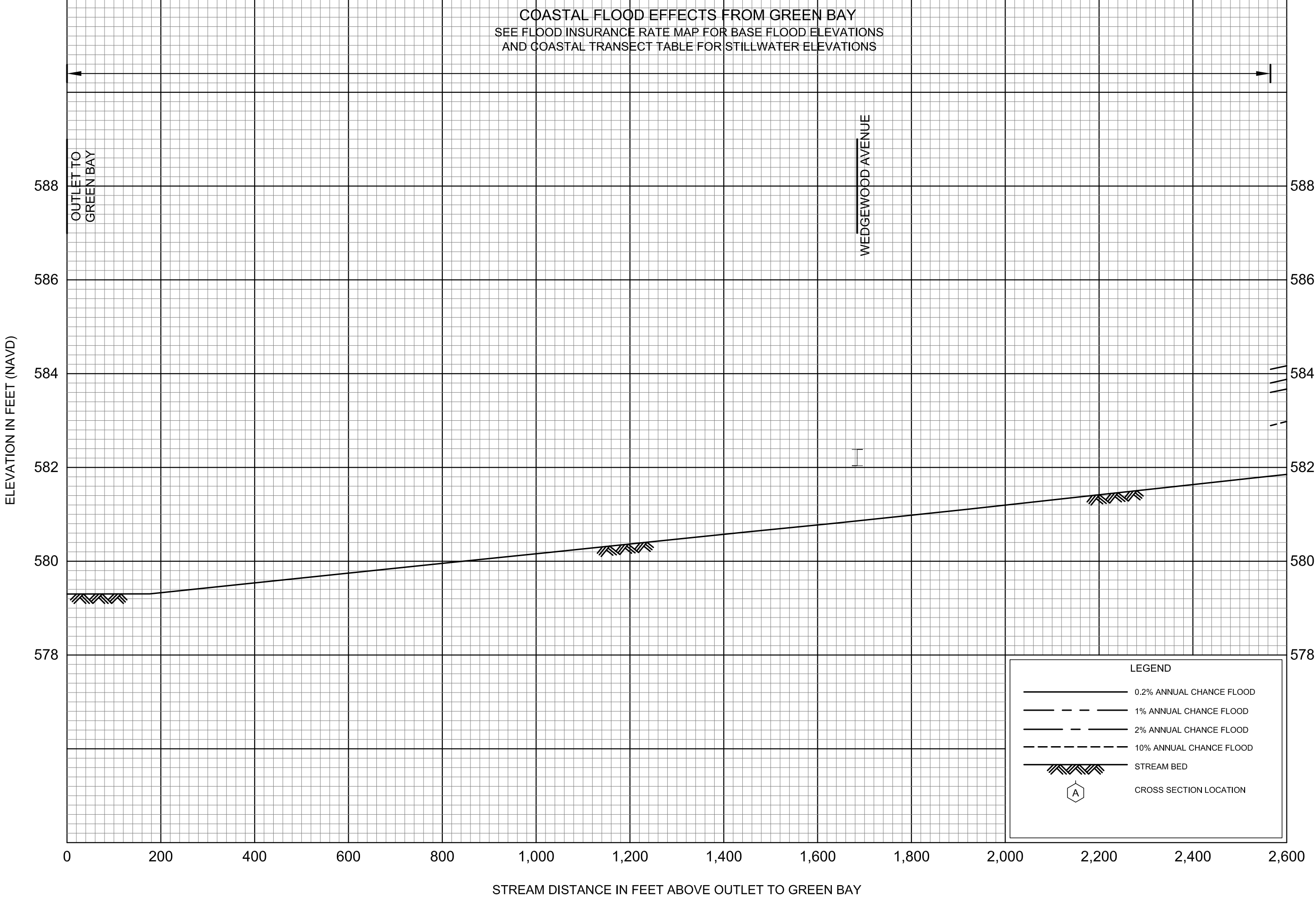
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FEDERAL EMERGENCY MANAGEMENT AGENCY

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AND INCORPORATED AREAS



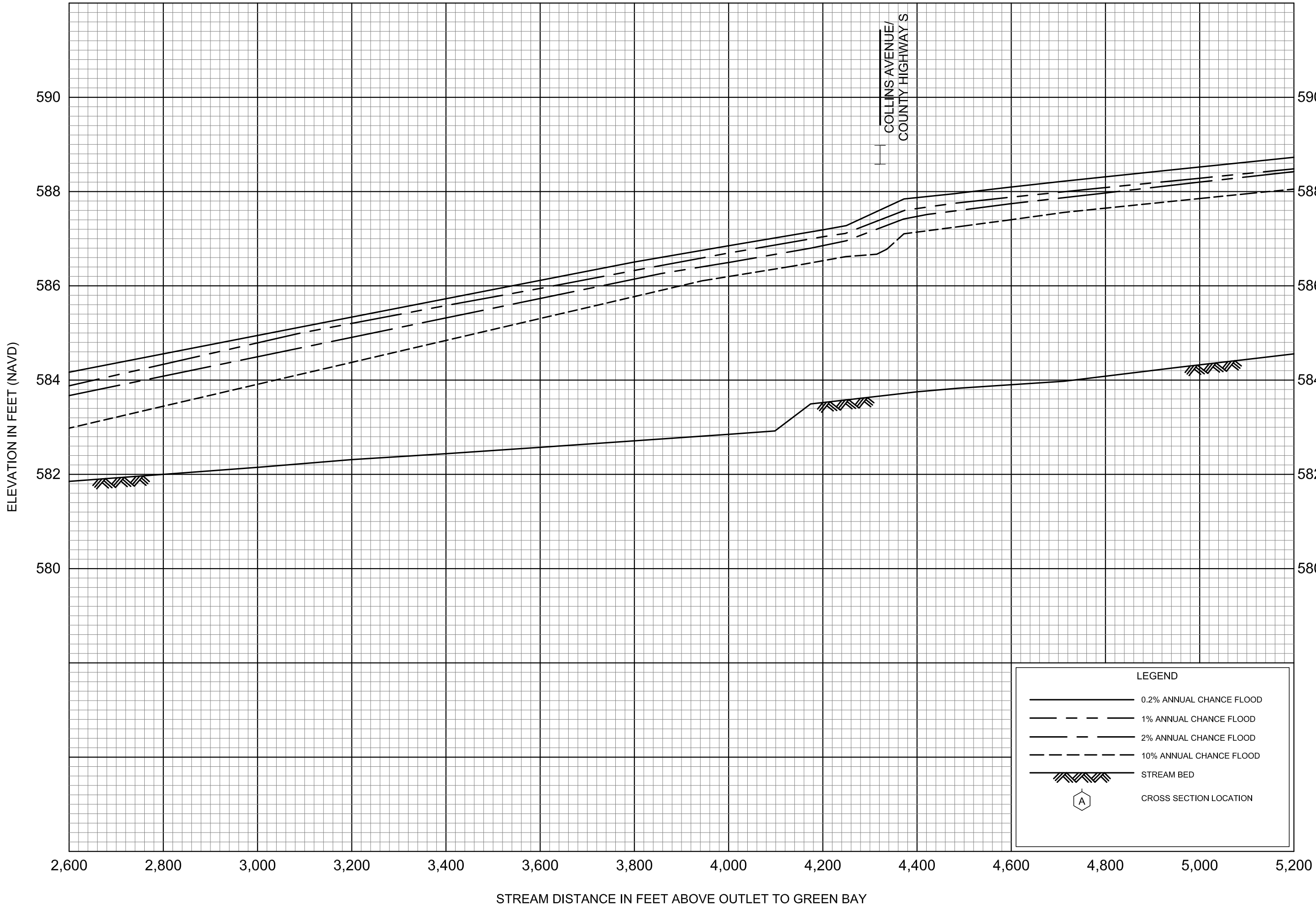




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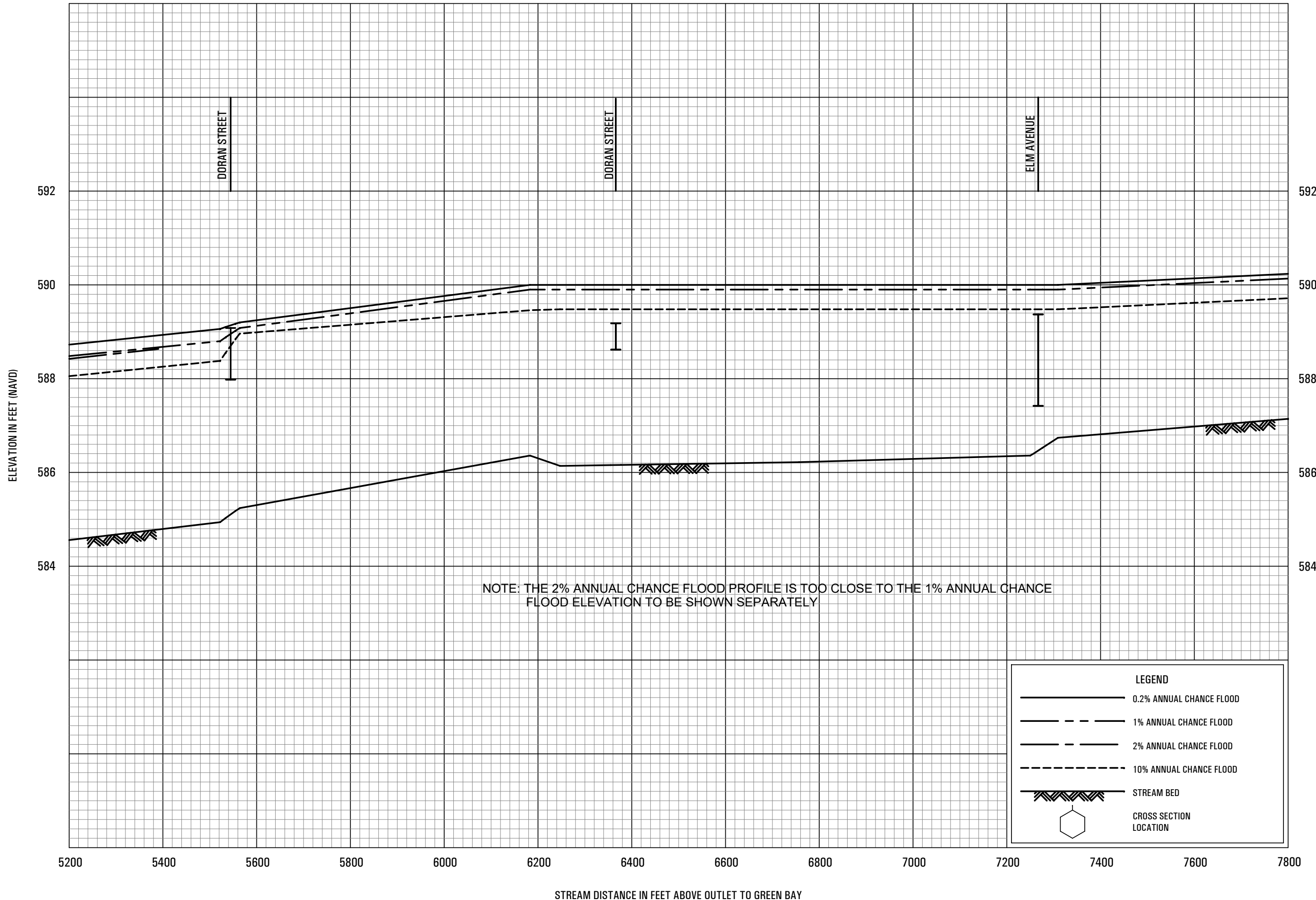
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OCONTO COUNTY, WISCONSIN
AND INCORPORATED AREAS



FLOOD PROFILES

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OCONTO COUNTY, WISCONSIN
AND INCORPORATED AREAS

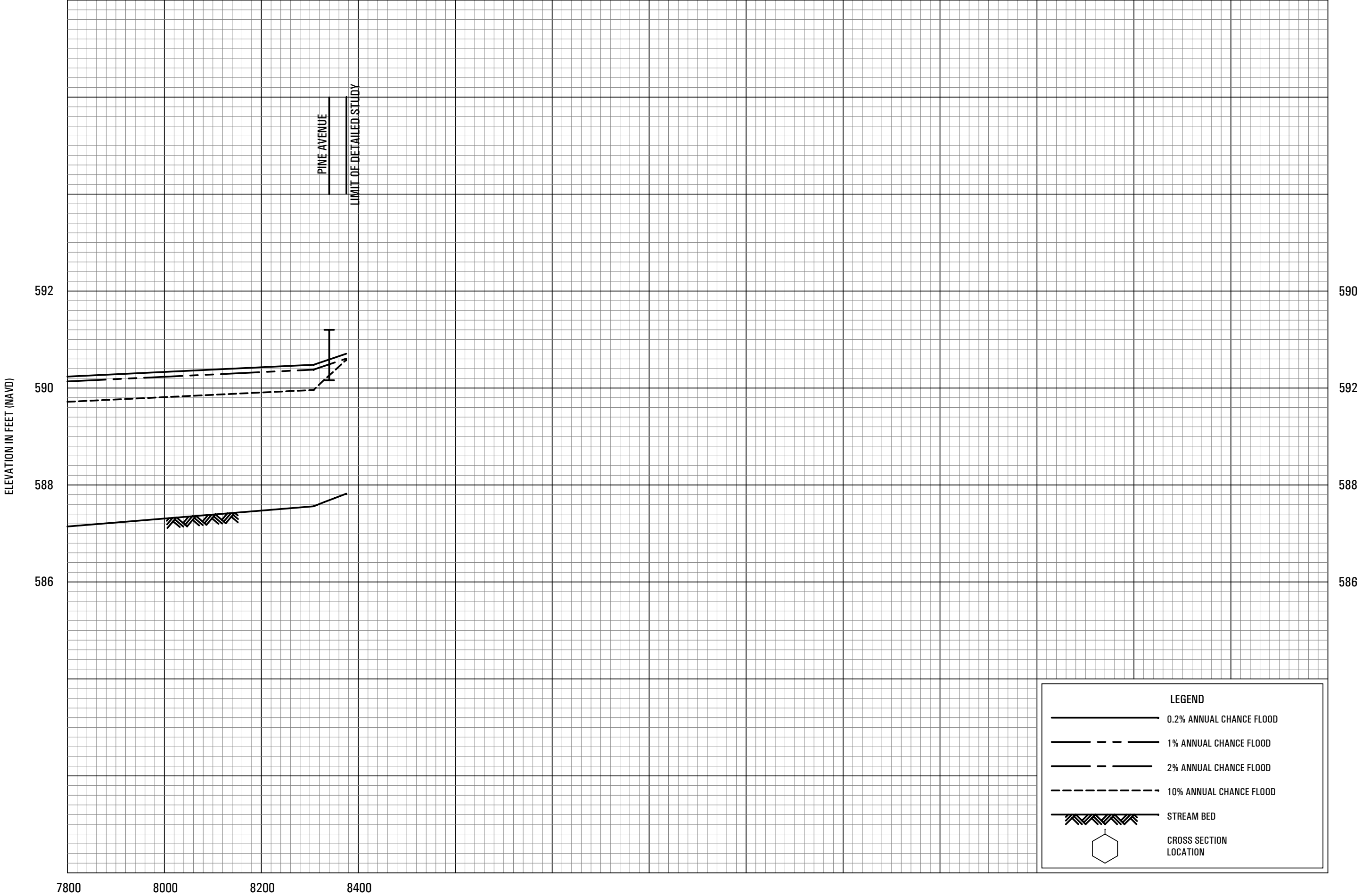


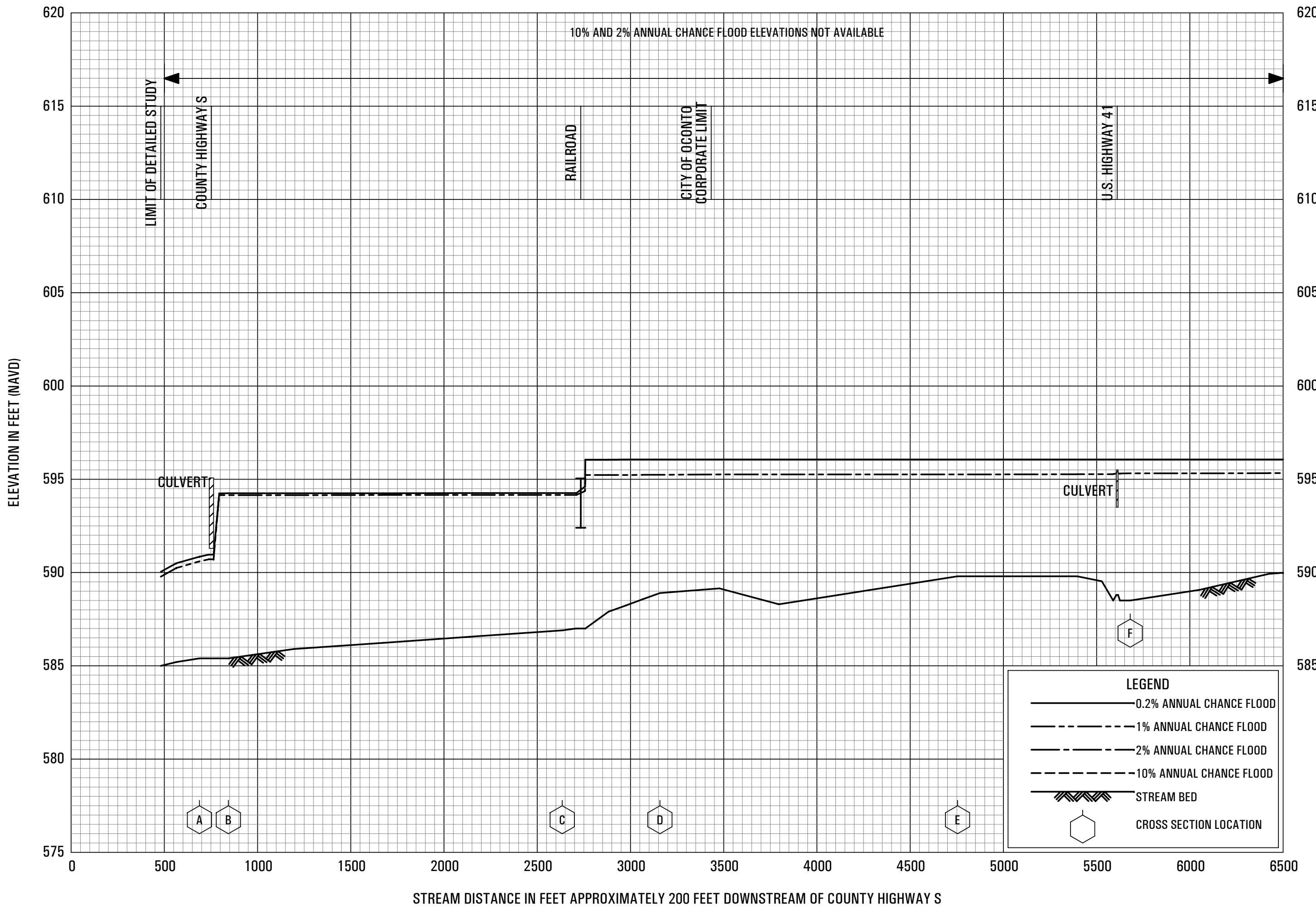
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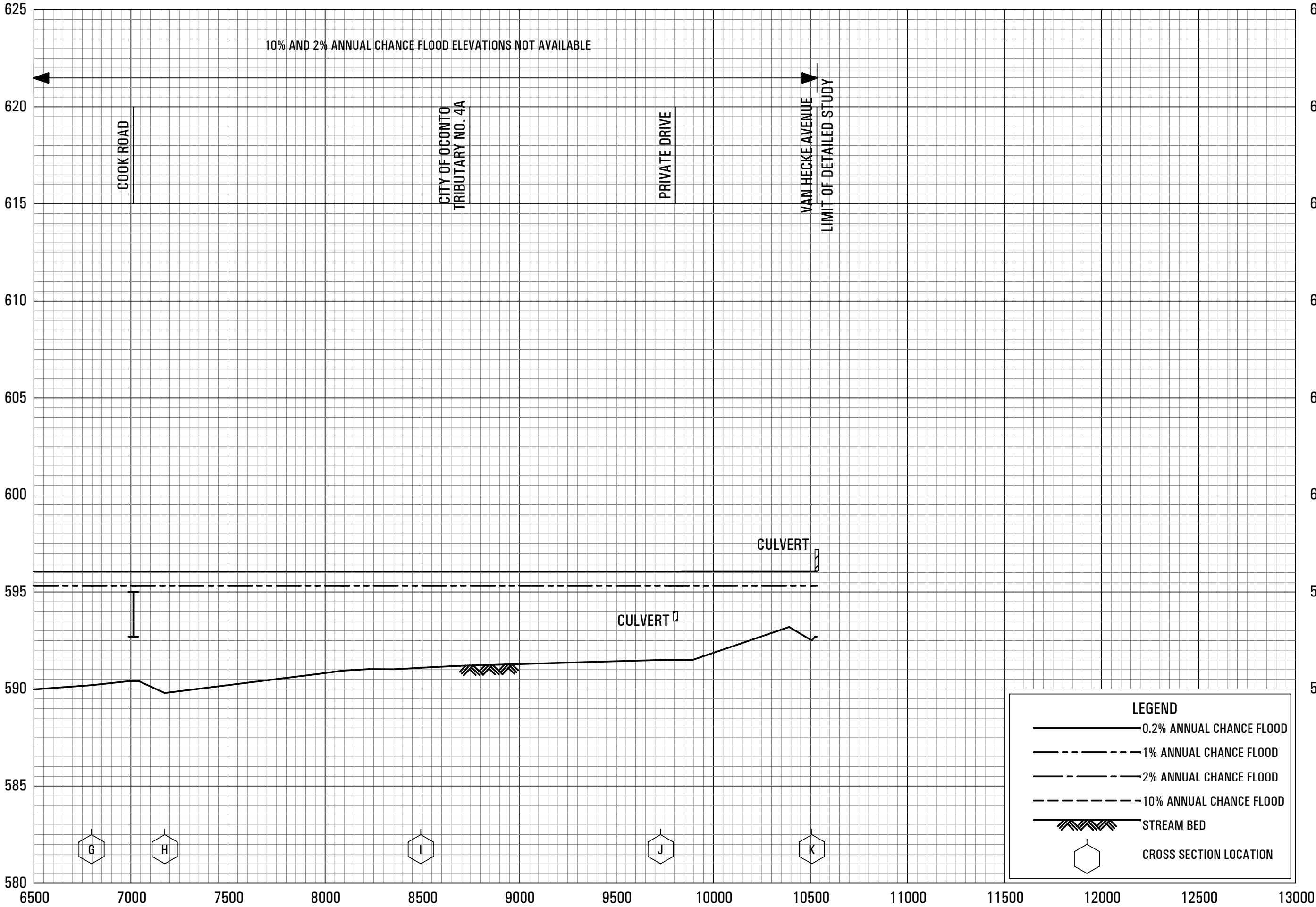
FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS





ELEVATION IN FEET (NAVD)



STREAM DISTANCE IN FEET APPROXIMATELY 200 FEET DOWNSTREAM OF COUNTY HIGHWAY S

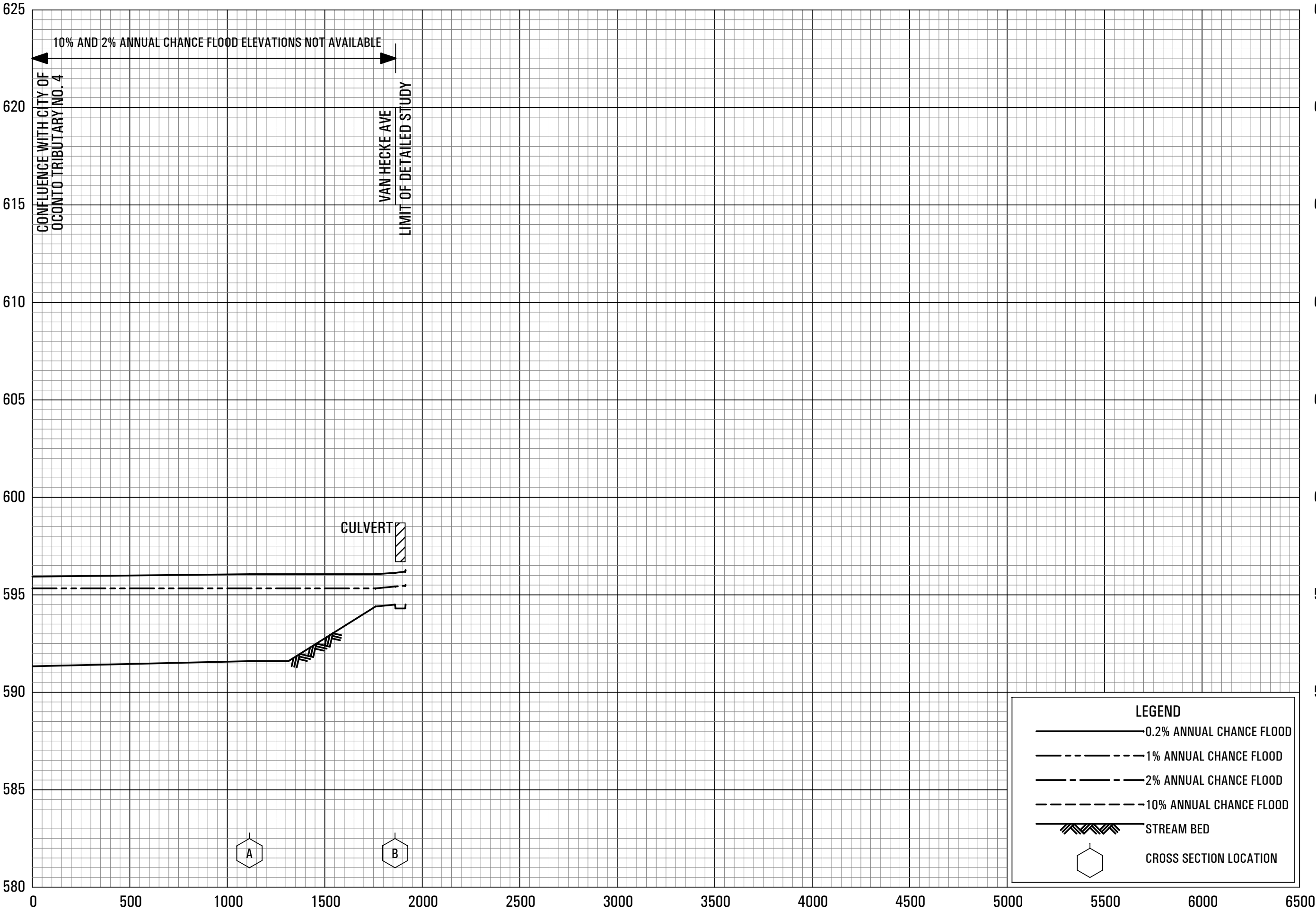
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FLOOD PROFILES

CITY OF OCONTO TRIBUTARY NO. 4

OCONTO COUNTY, WI
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



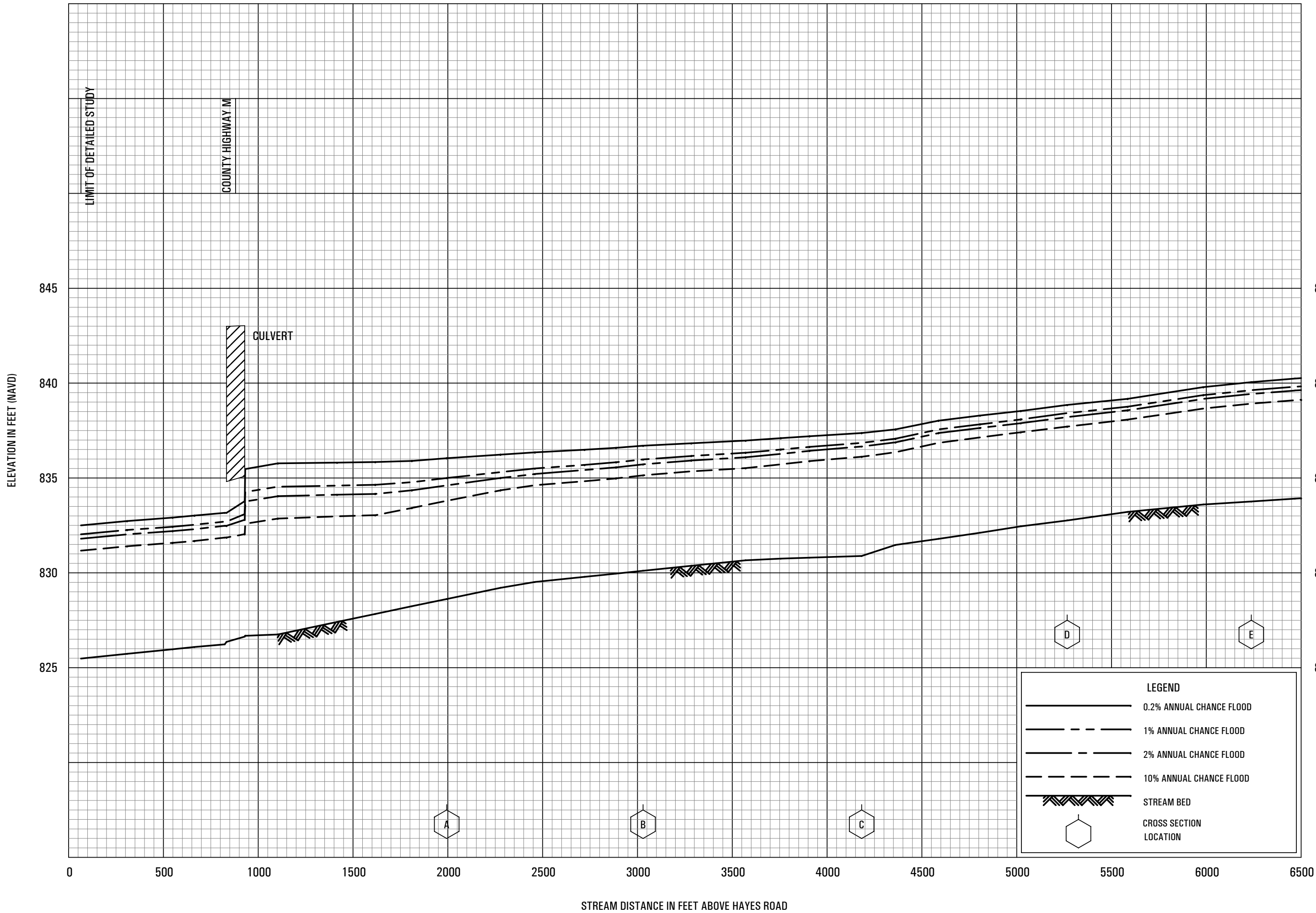
STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH CITY OF OCONTO TRIBUTARY NO. 4

FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS

CITY OF OCONTO TRIBUTARY NO. 4A

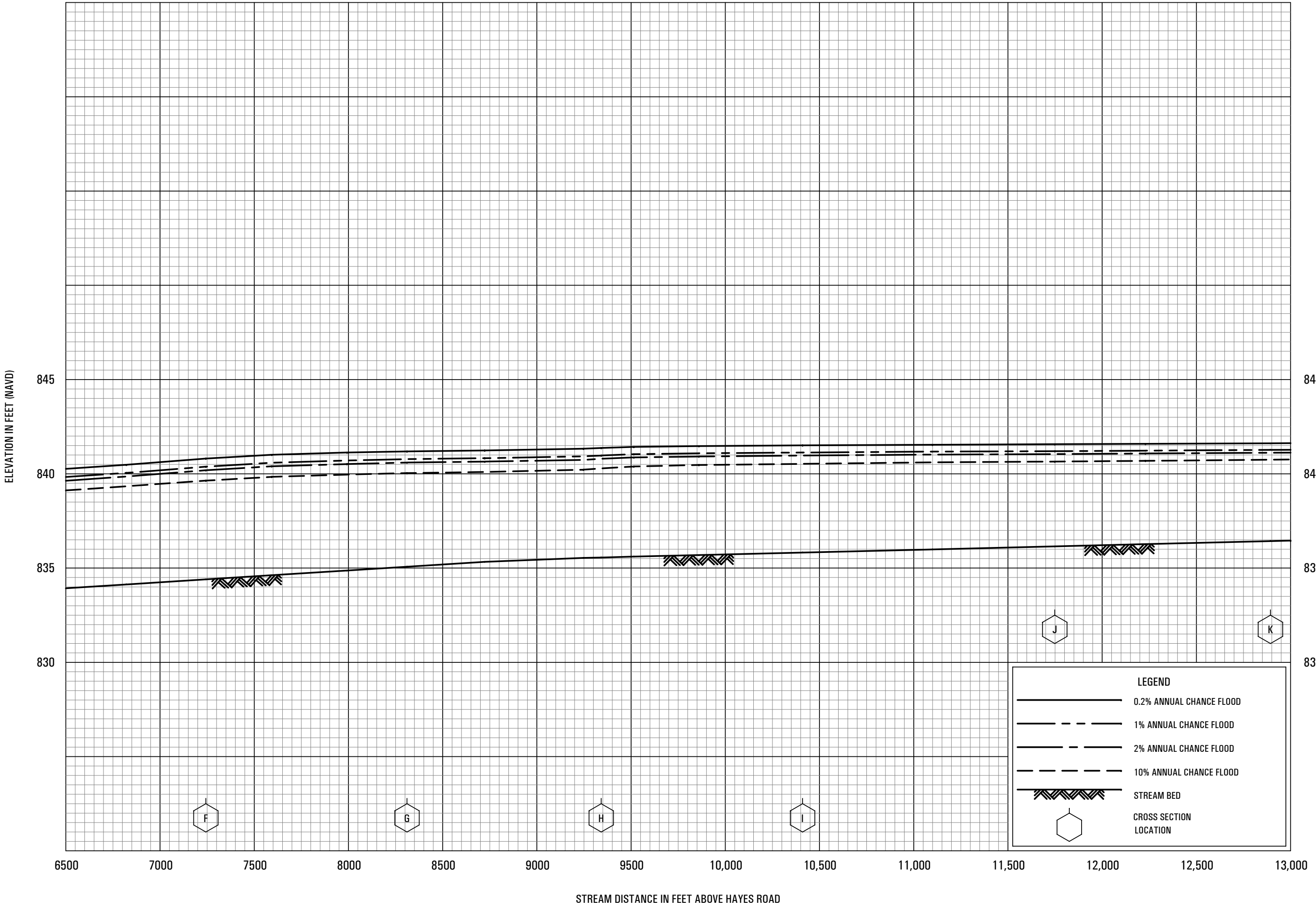


FLOOD PROFILES

HAYES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS



FLOOD PROFILES

HAYES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
OCONTO COUNTY, WI
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)

845
840
835

845
840
835

13,000 13,500 14,000 14,500 15,000 15,500 16,000 16,500 17,000 17,500 18,000

STREAM DISTANCE IN FEET ABOVE HAYES ROAD



0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

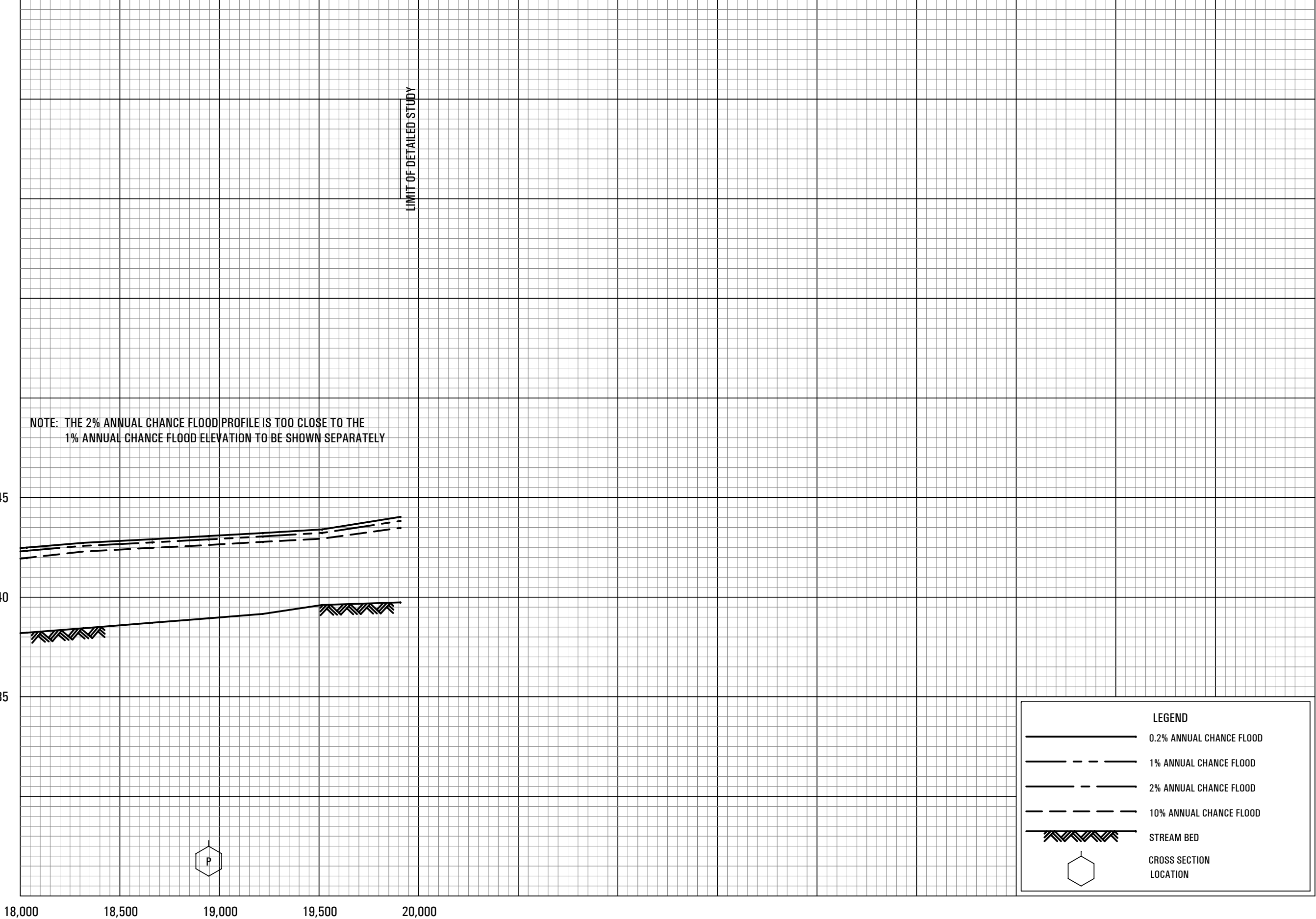
CROSS SECTION LOCATION

FLOOD PROFILES

HAYES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
OCONTO COUNTY, WI
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



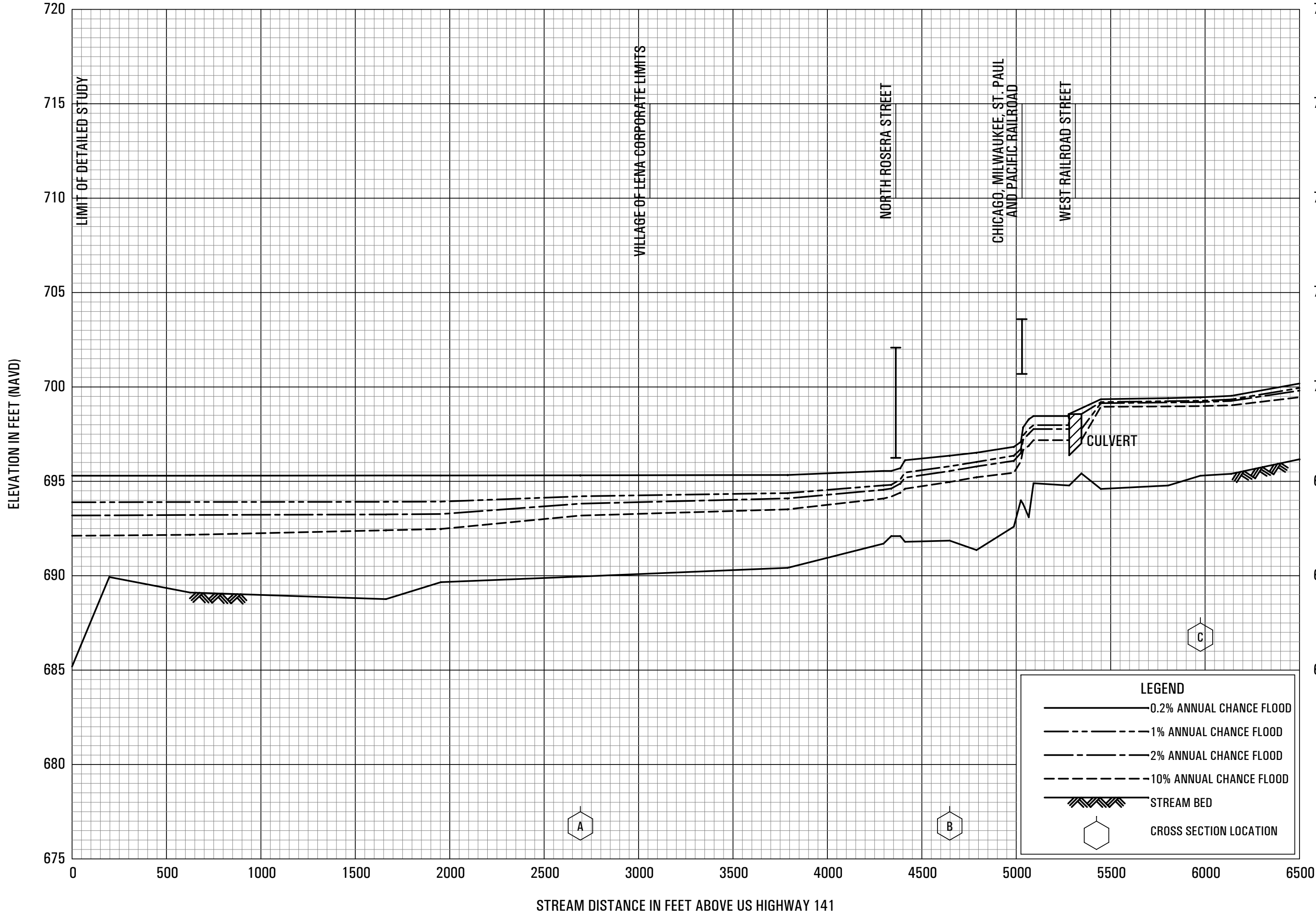
LEGEND

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

FLOOD PROFILES

HAYES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
OCONTO COUNTY, WI
AND INCORPORATED AREAS



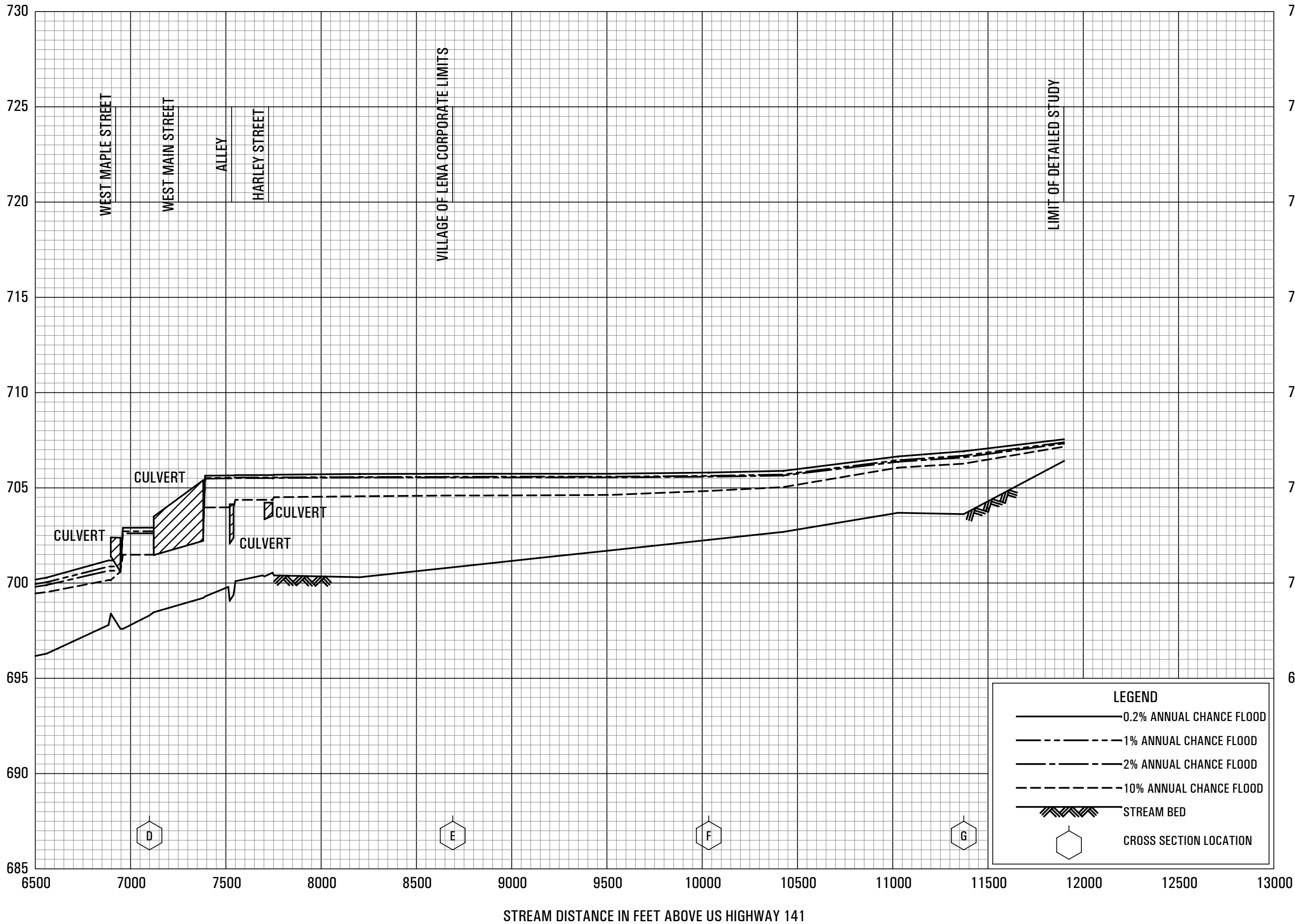
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JONES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCOONTO COUNTY, WI
AND INCORPORATED AREAS

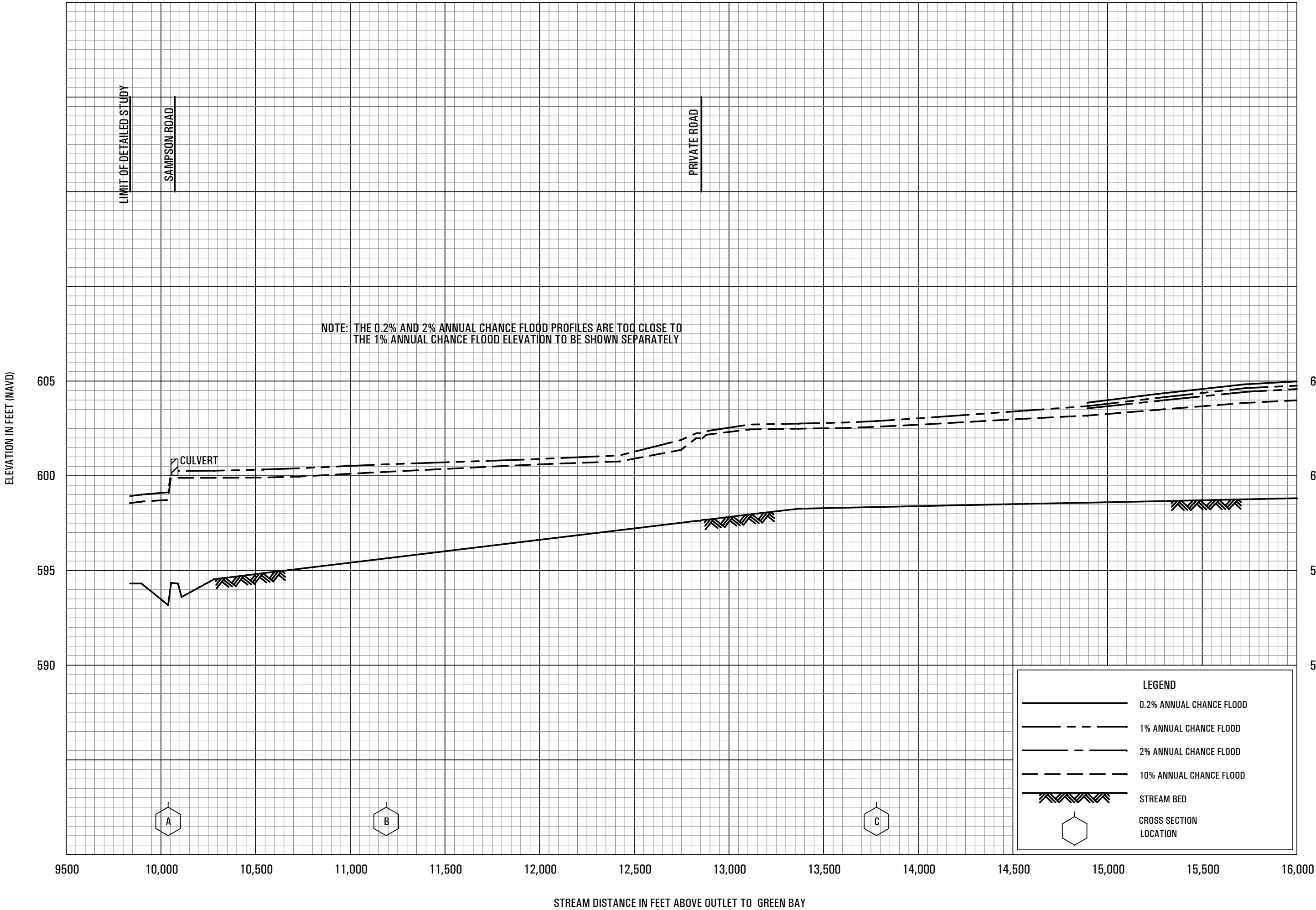
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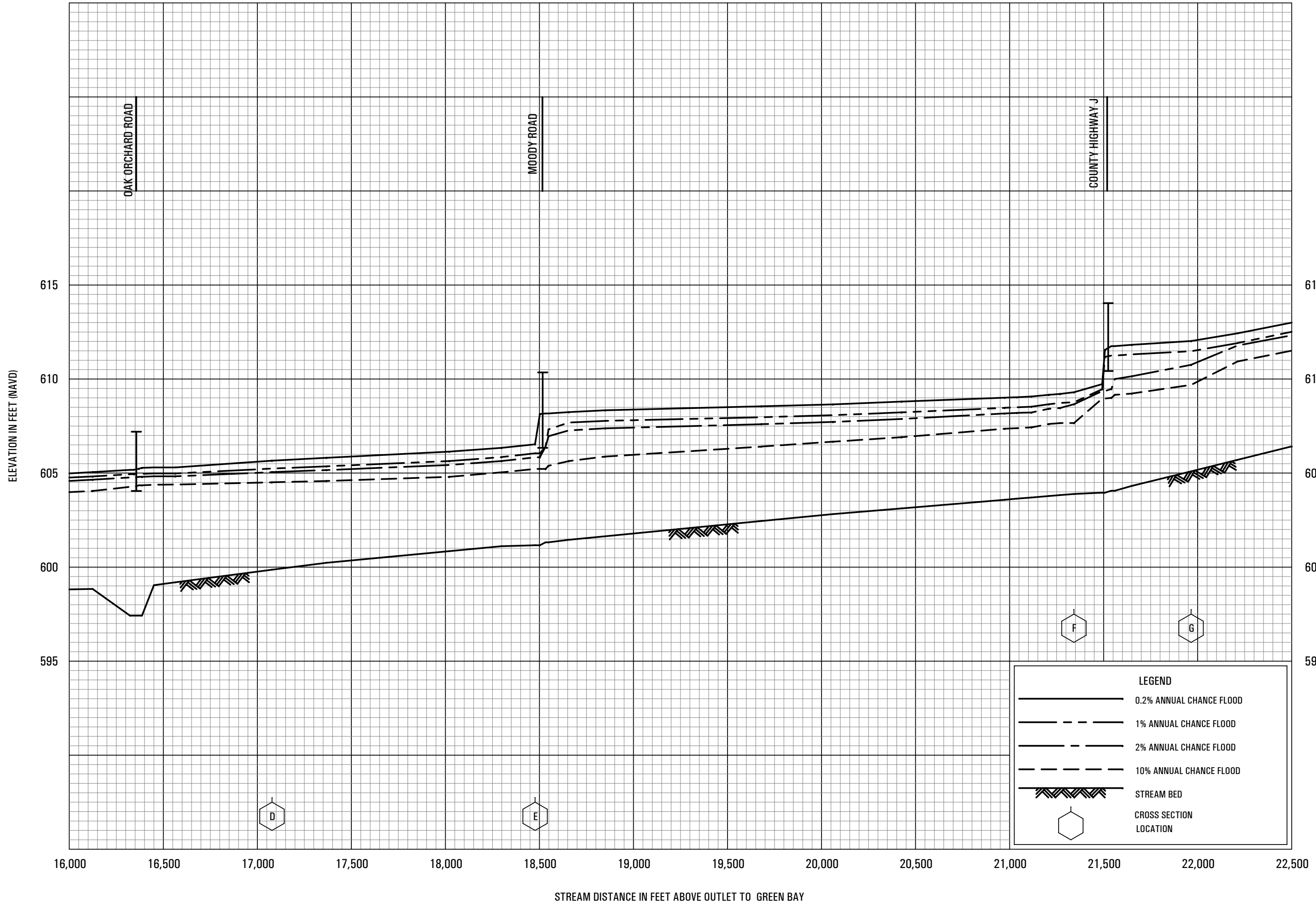


FLOOD PROFILES

JONES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
OCONTO COUNTY, WI
AND INCORPORATED AREAS



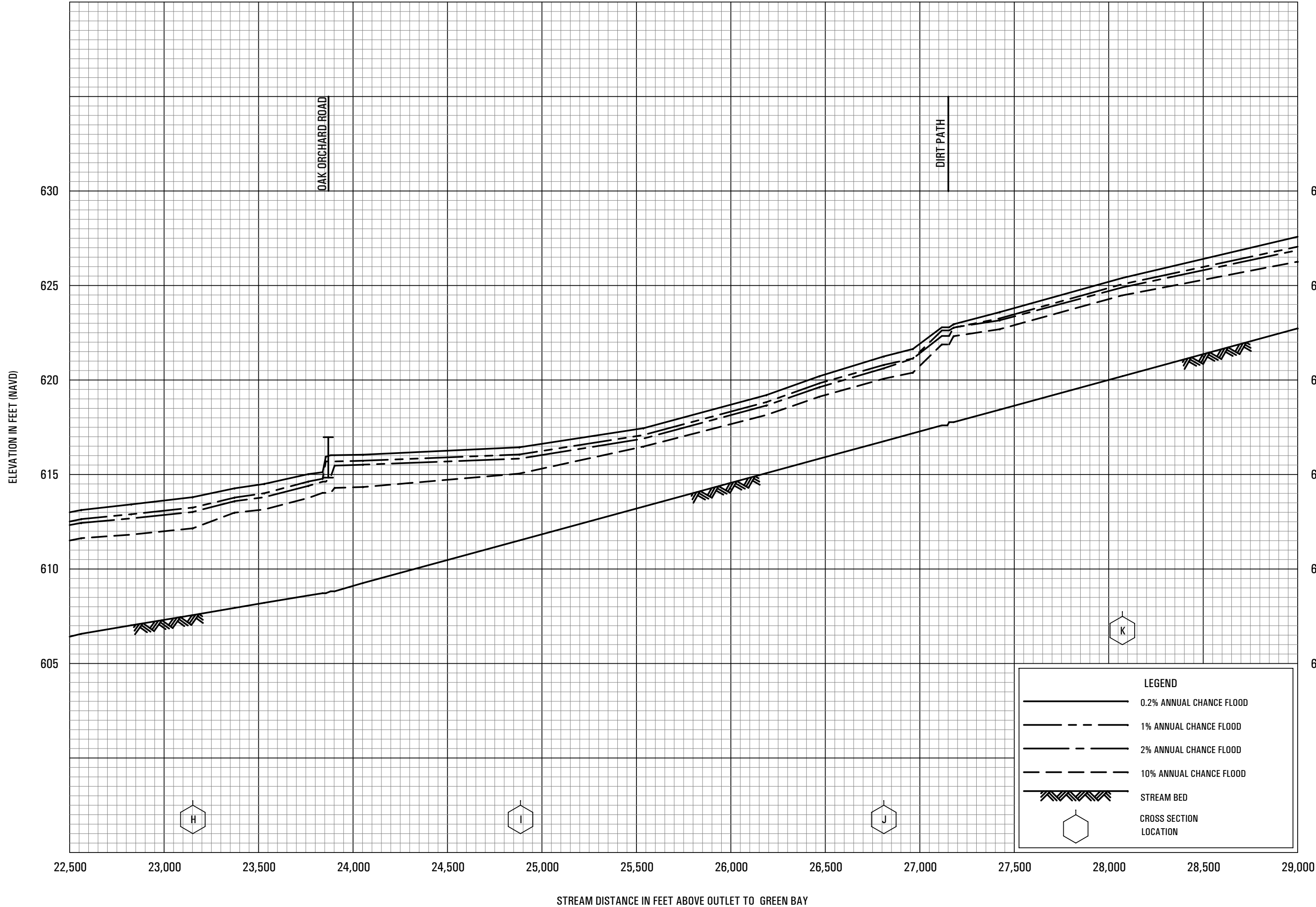


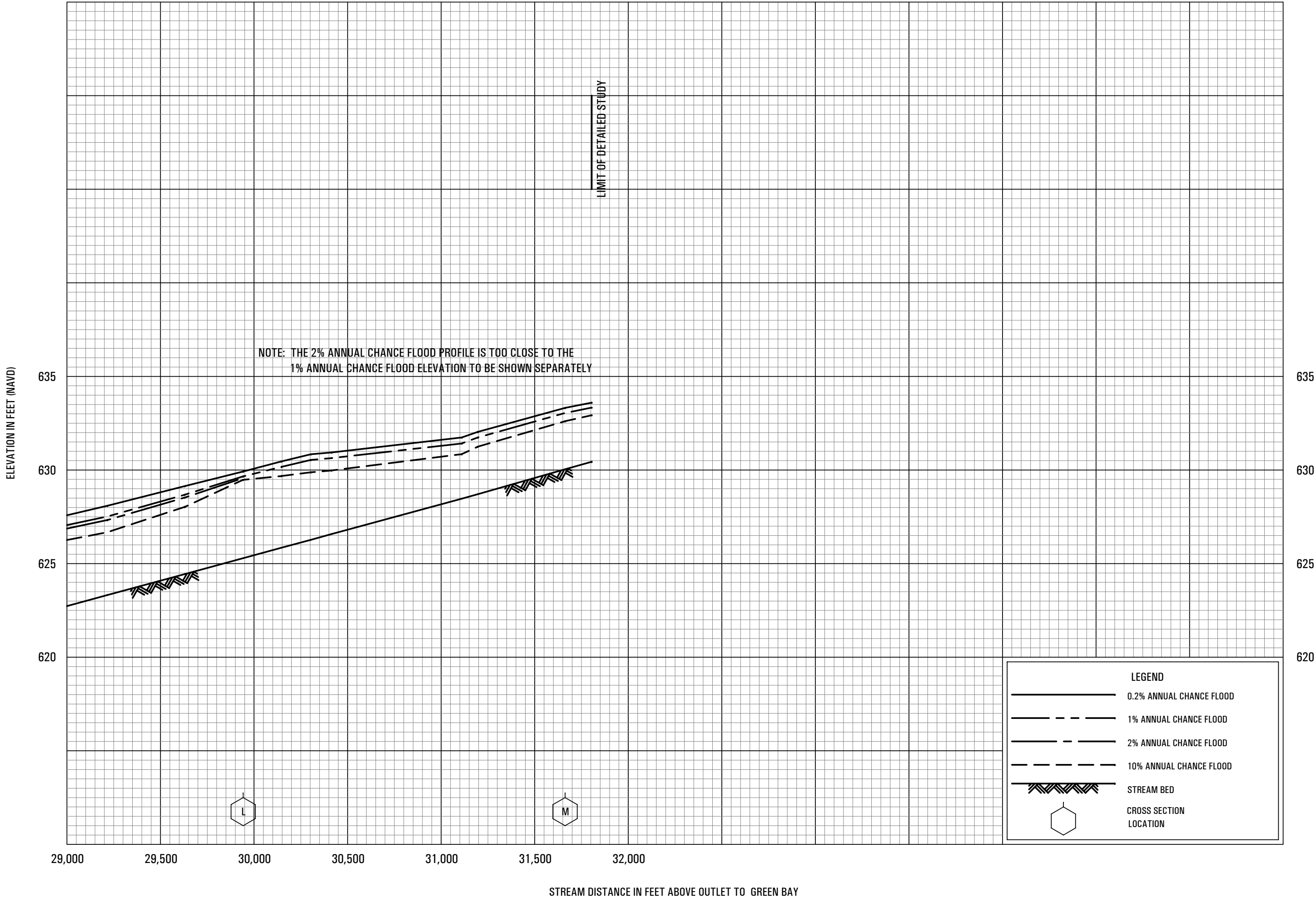
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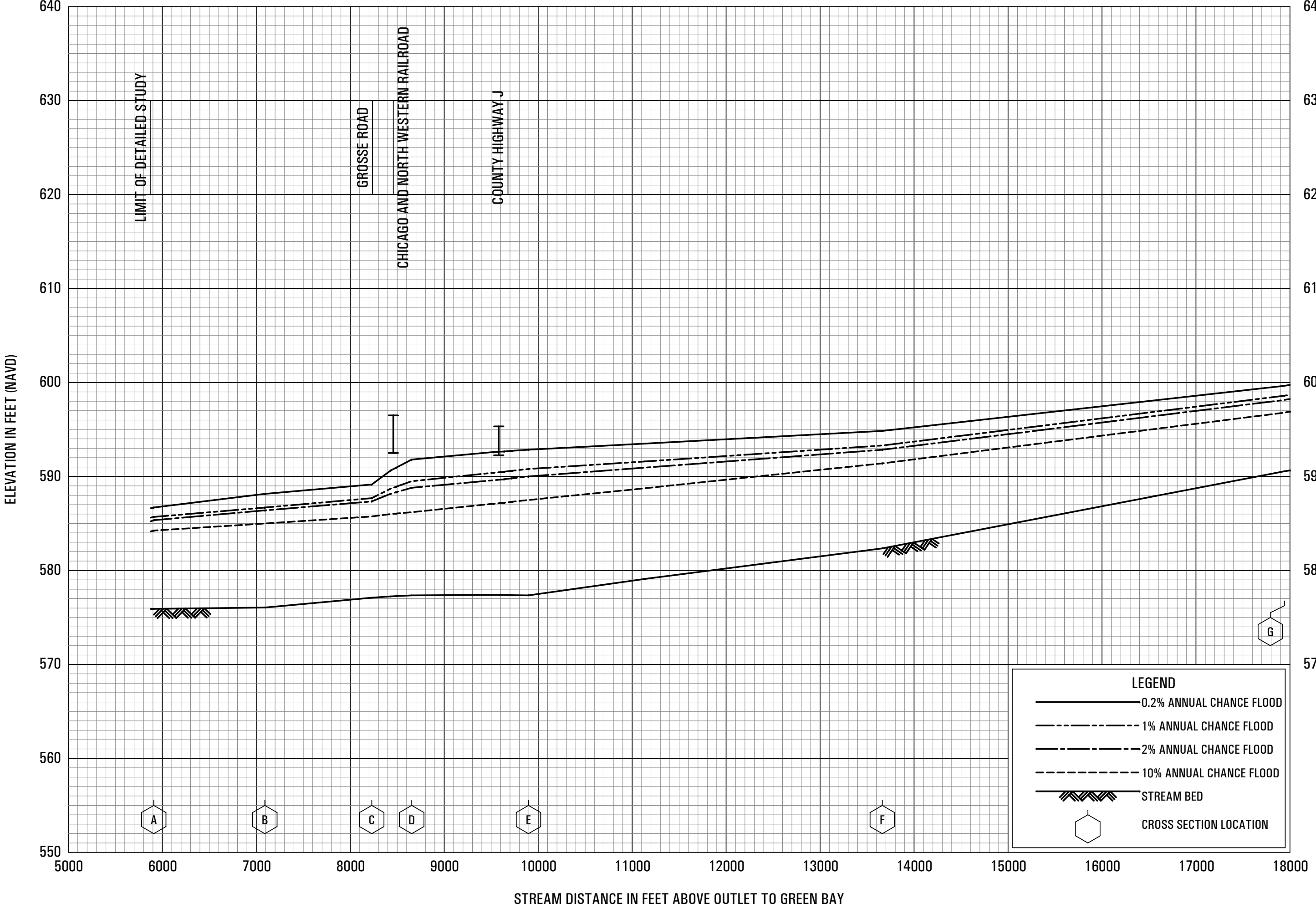
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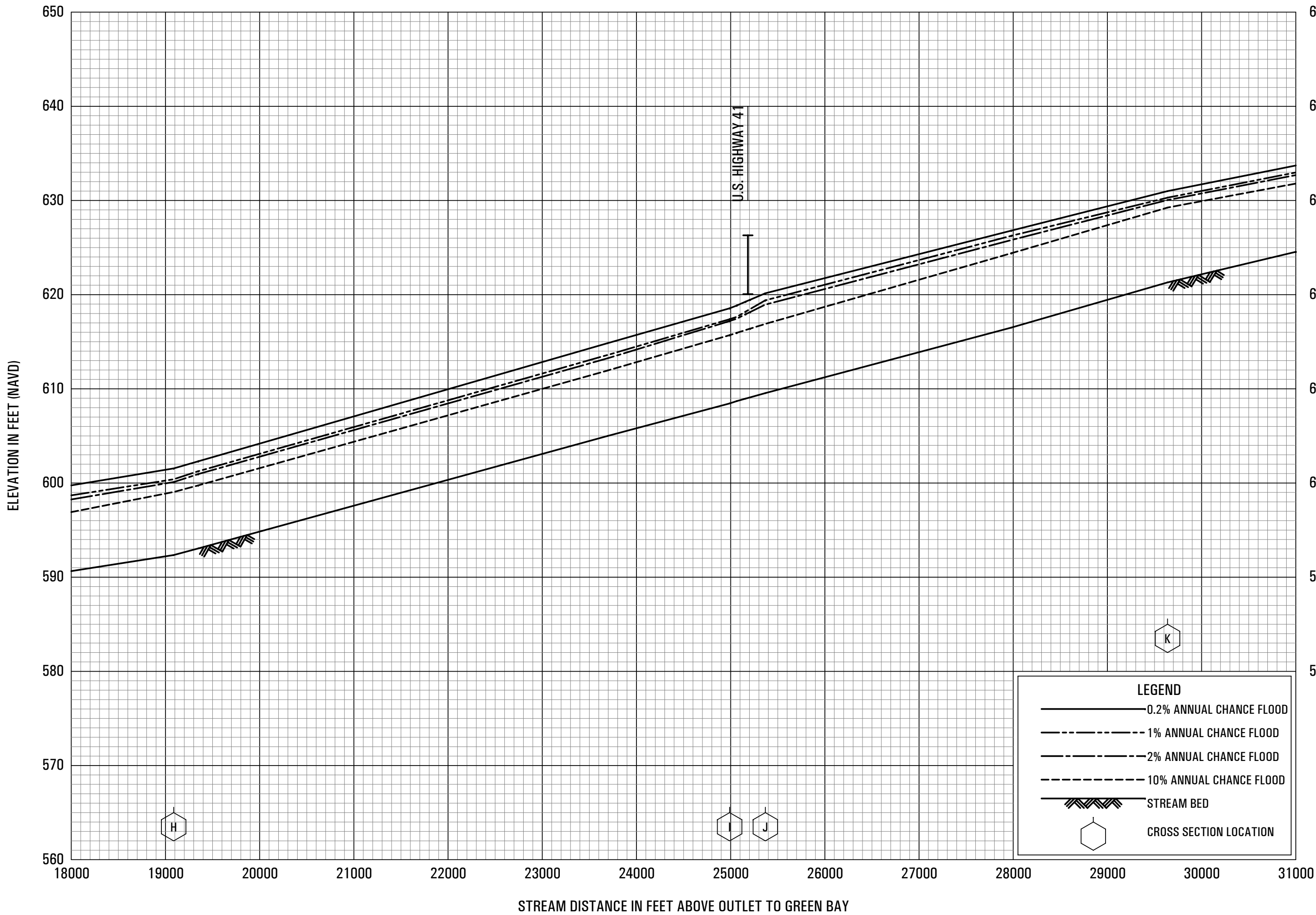
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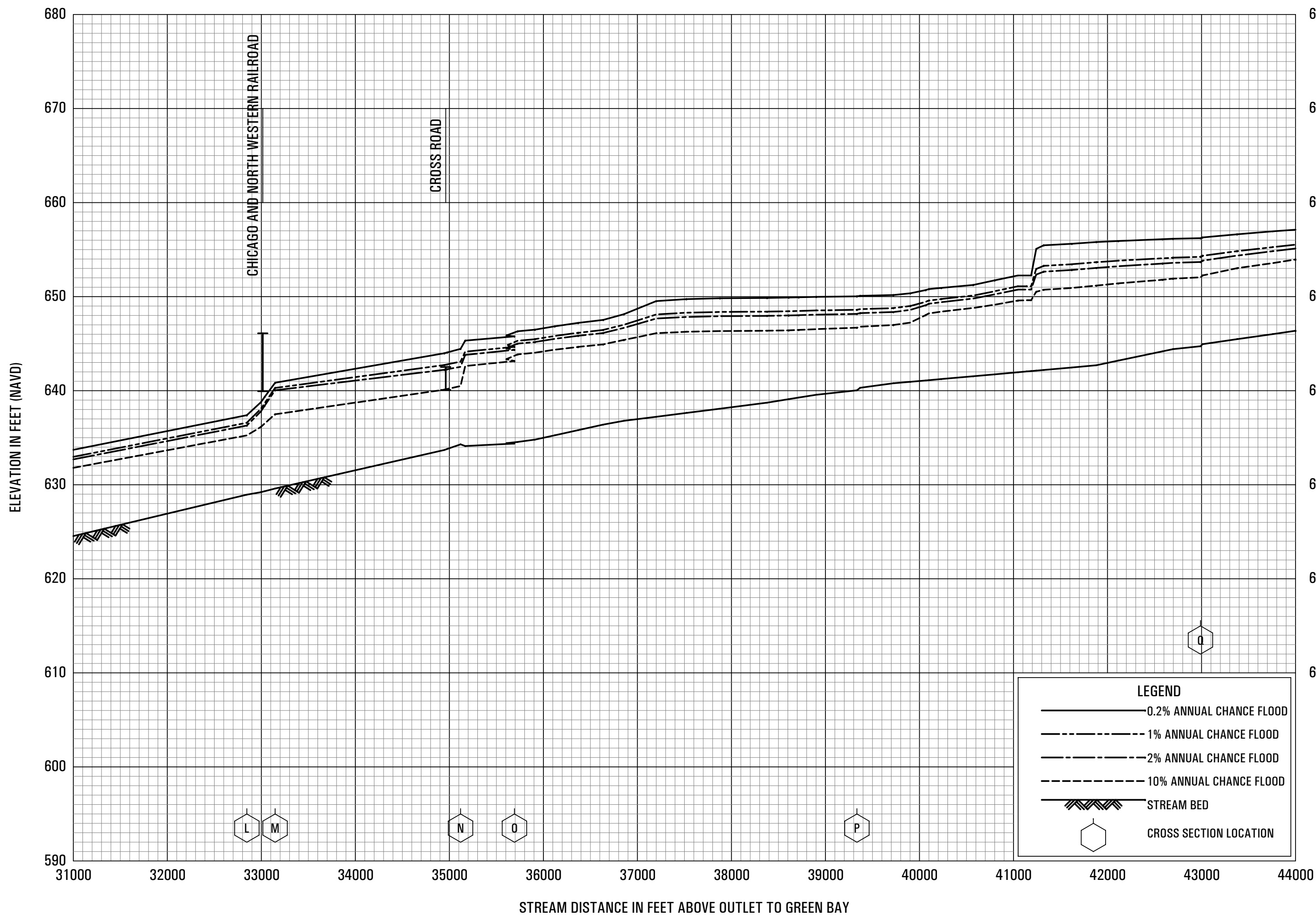


FLOOD PROFILES

LITTLE SUAMICO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS

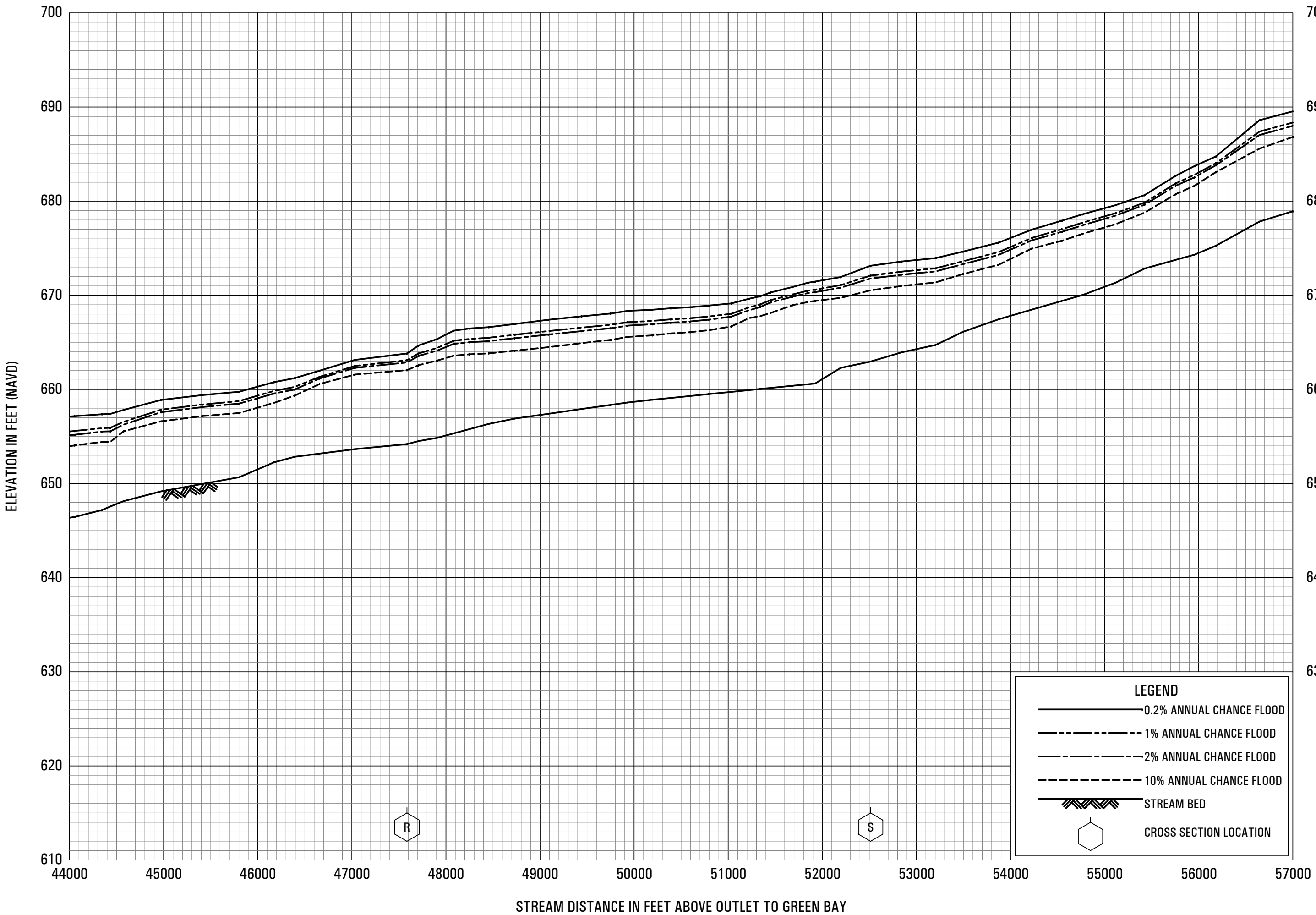


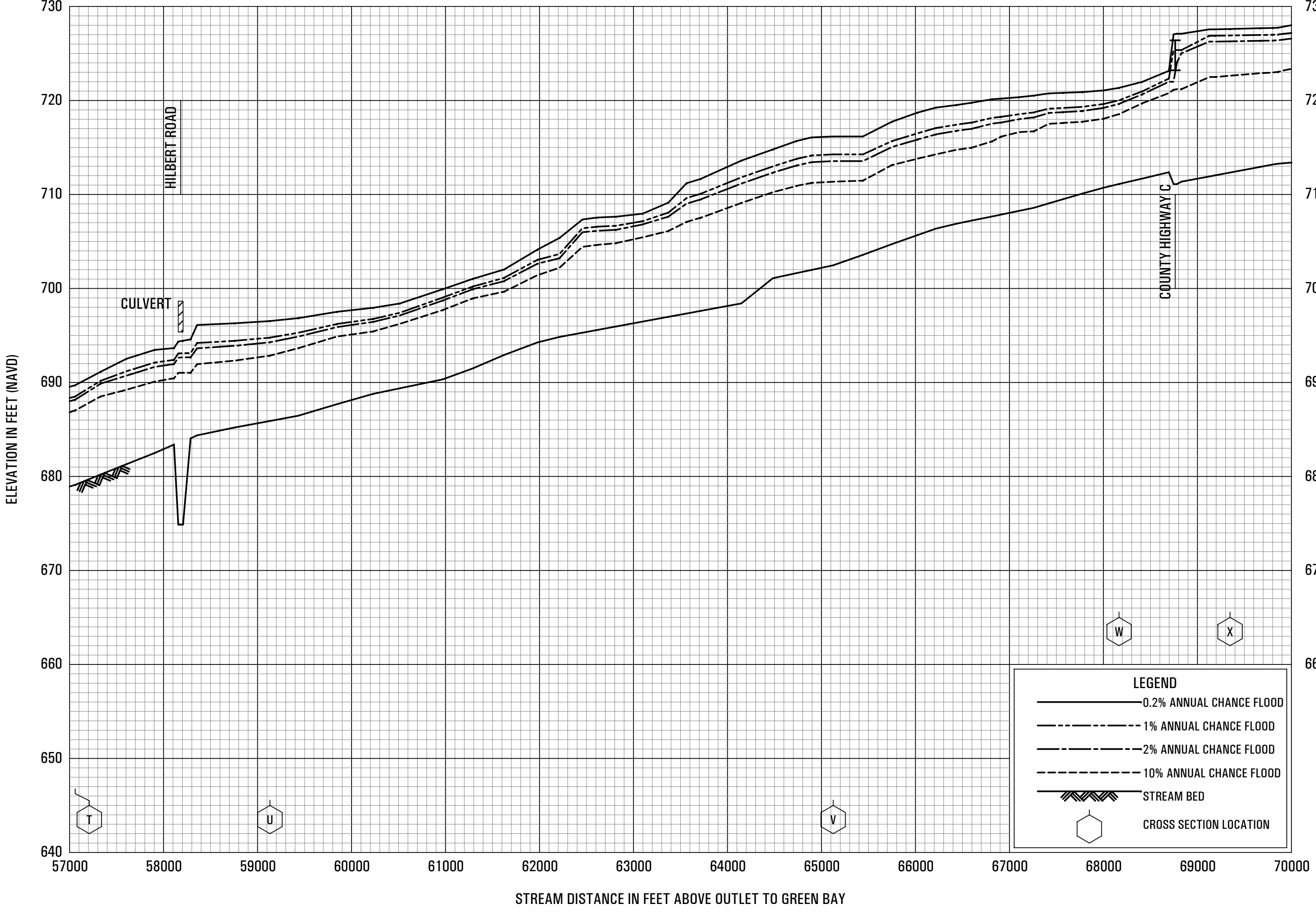
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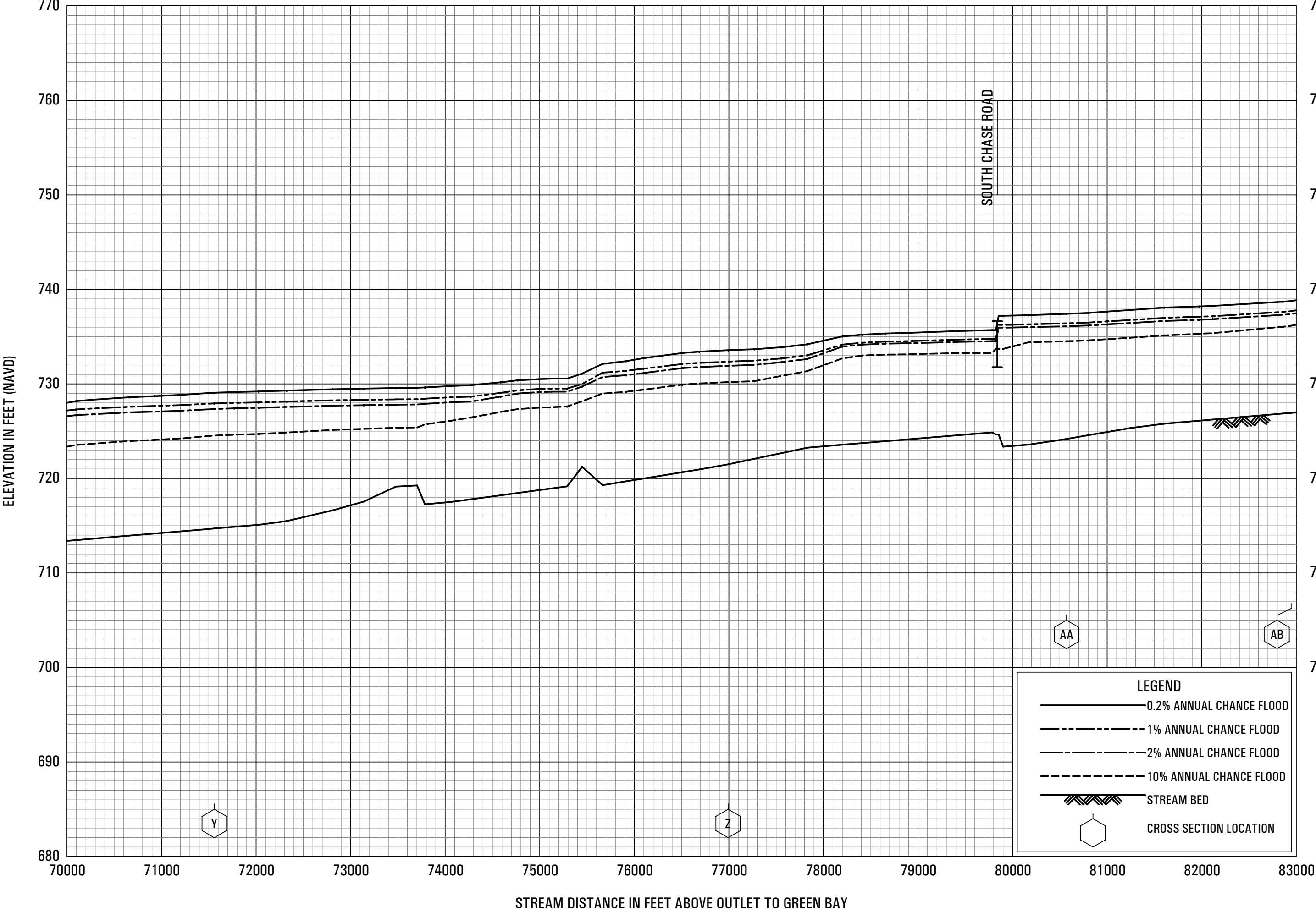
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AND INCORPORATED AREAS





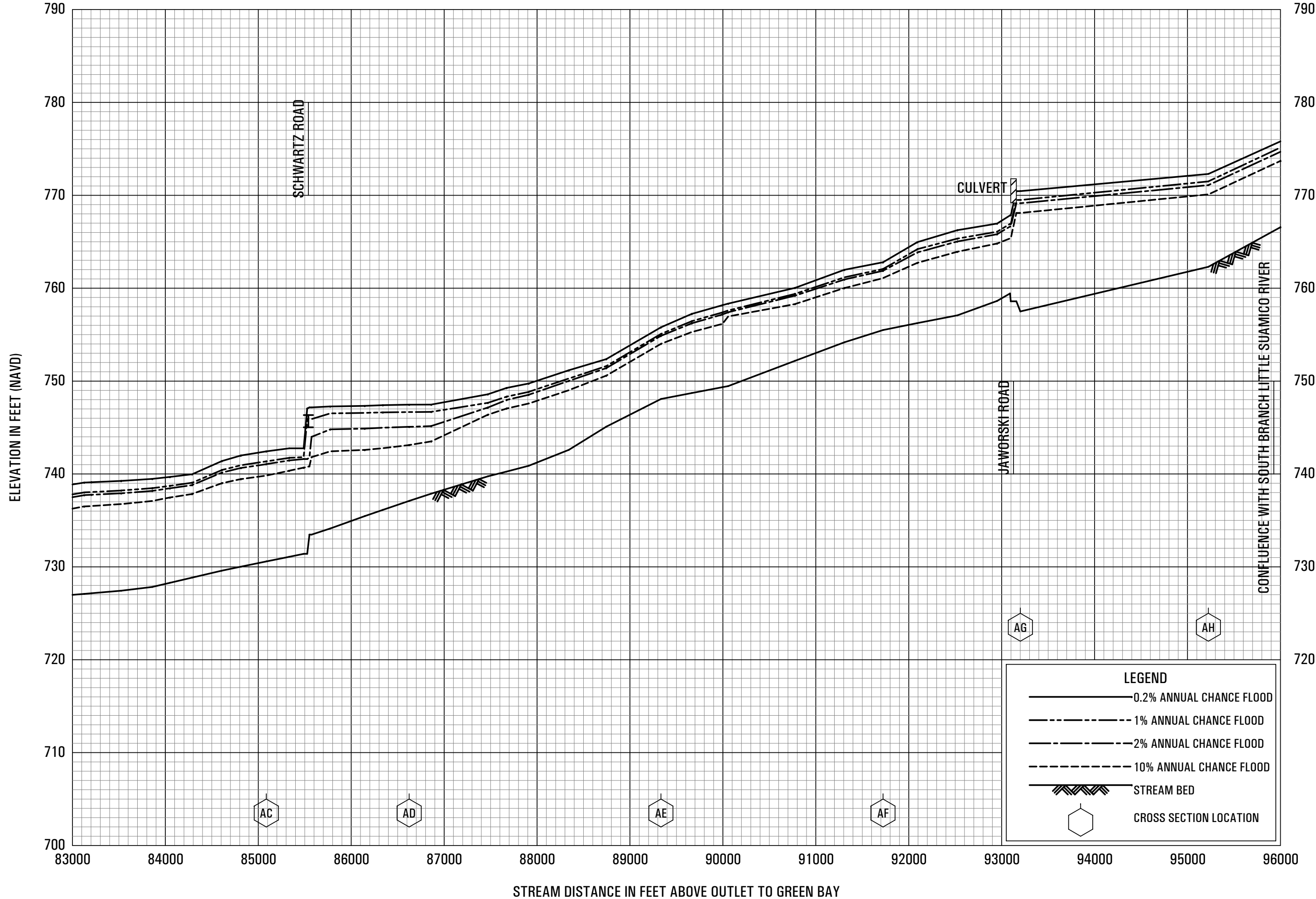


FLOOD PROFILES

LITTLE SUAMICO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS

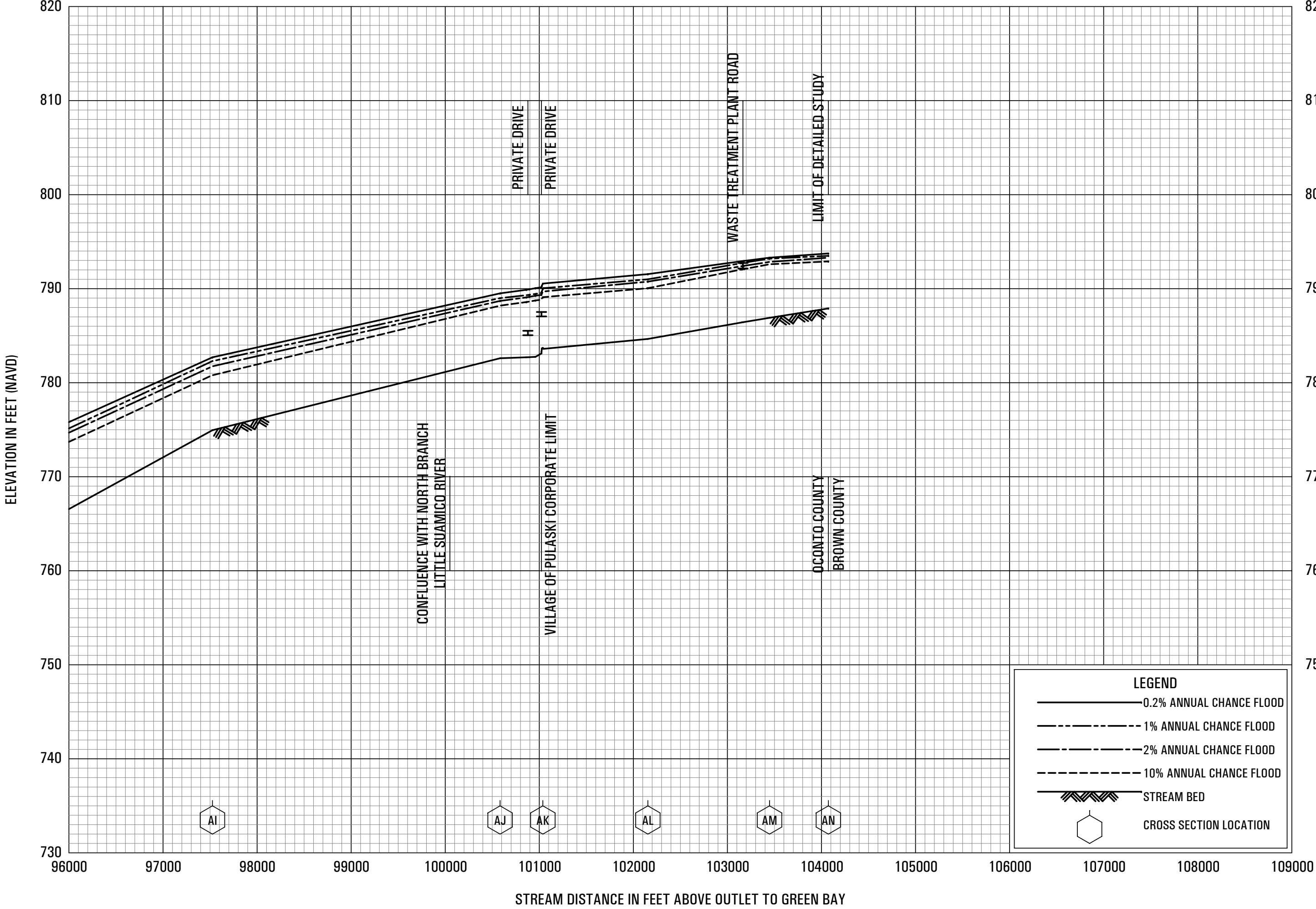


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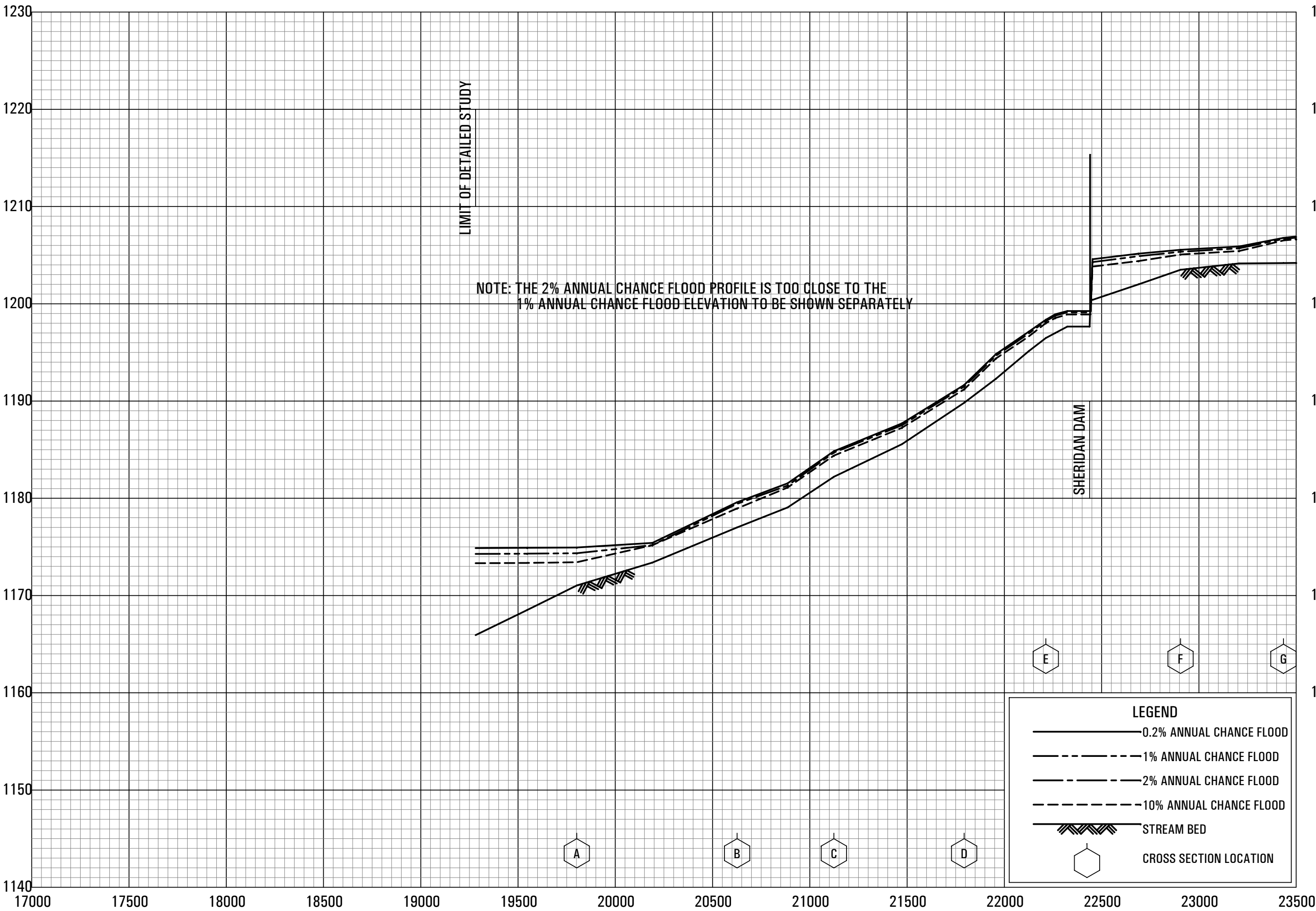
LITTLE SUAMICO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS



ELEVATION IN FEET (NAVD)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH NORTH BRANCH OCONTO RIVER

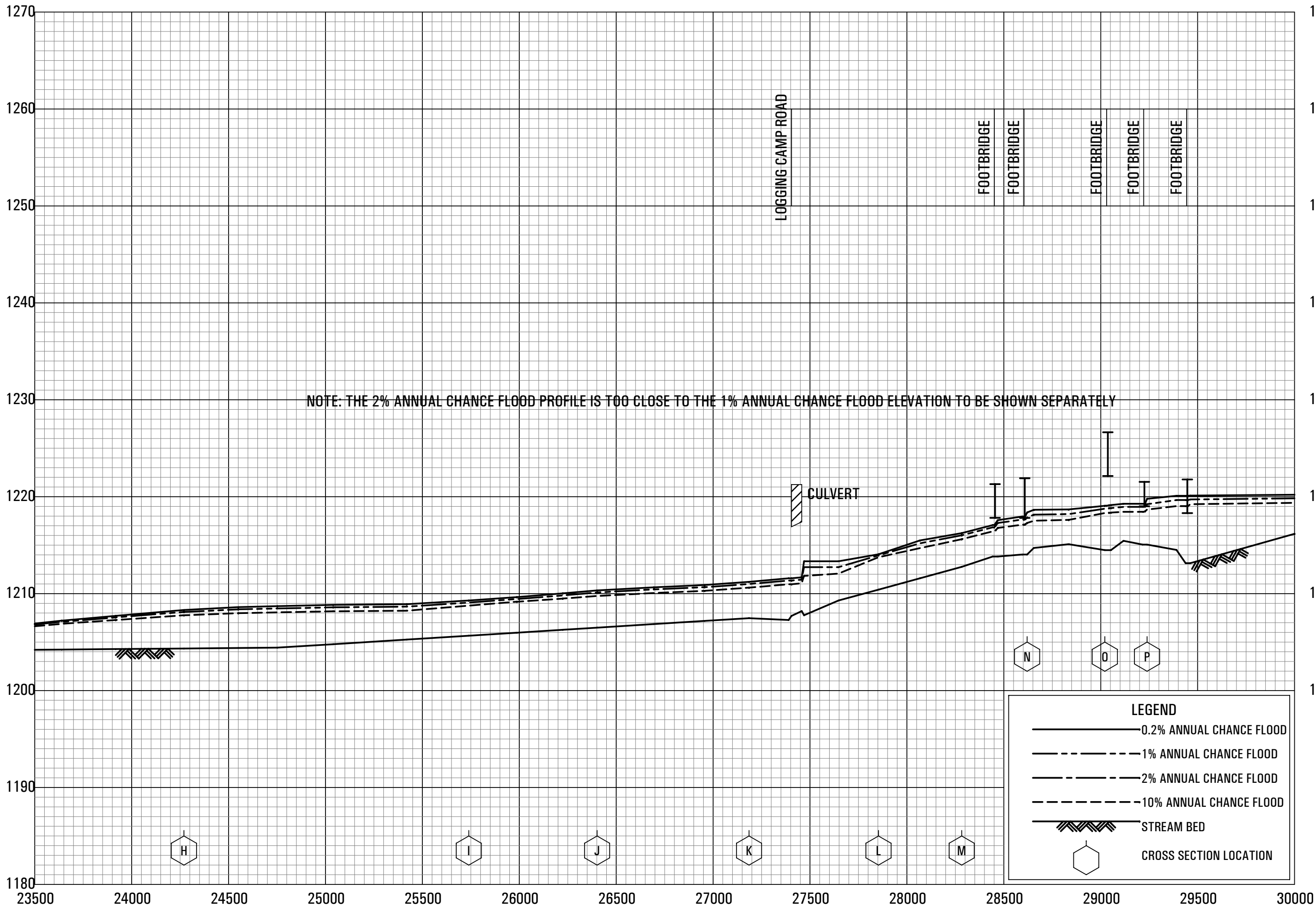
FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS

FLOOD PROFILES

MCCASLIN BROOK

ELEVATION IN FEET (NAVD)



NOTE: THE 2% ANNUAL CHANCE FLOOD PROFILE IS TOO CLOSE TO THE 1% ANNUAL CHANCE FLOOD ELEVATION TO BE SHOWN SEPARATELY

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

CROSS SECTION LOCATION

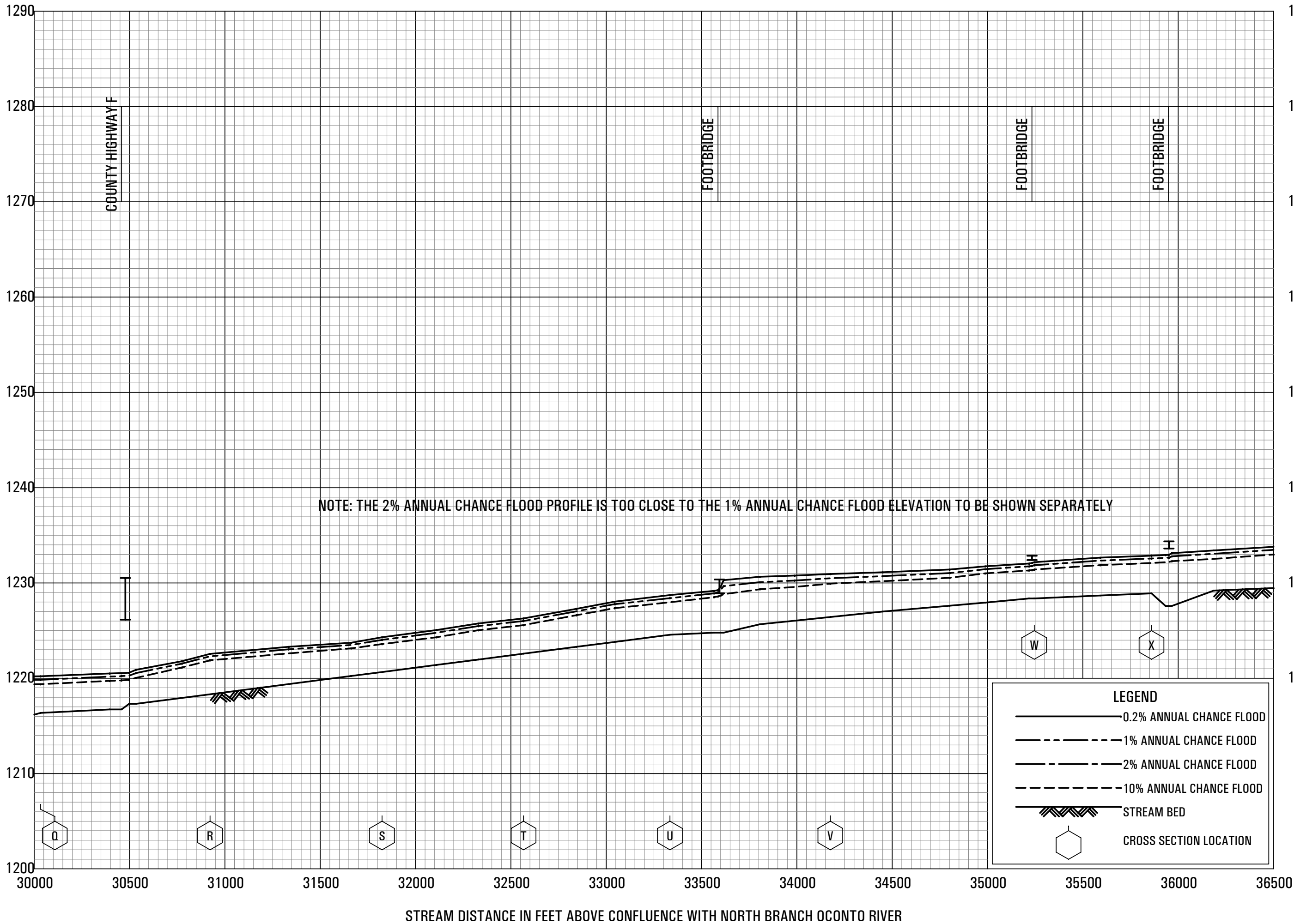
FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS

FLOOD PROFILES

MCCASLIN BROOK

ELEVATION IN FEET (NAVD)



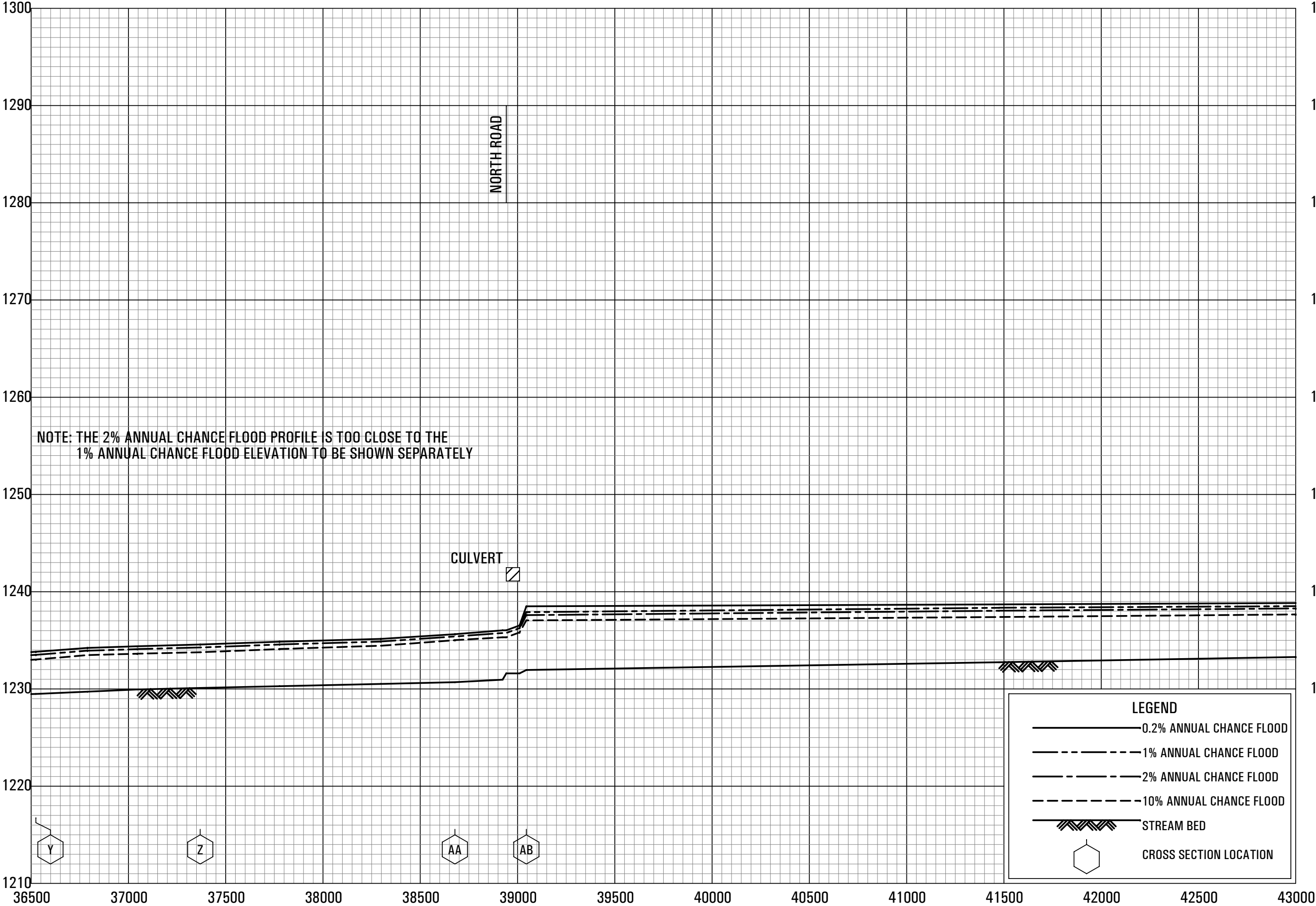
FLOOD PROFILES

MCCASLIN BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



NOTE: THE 2% ANNUAL CHANCE FLOOD PROFILE IS TOO CLOSE TO THE 1% ANNUAL CHANCE FLOOD ELEVATION TO BE SHOWN SEPARATELY

NORTH ROAD

CULVERT

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

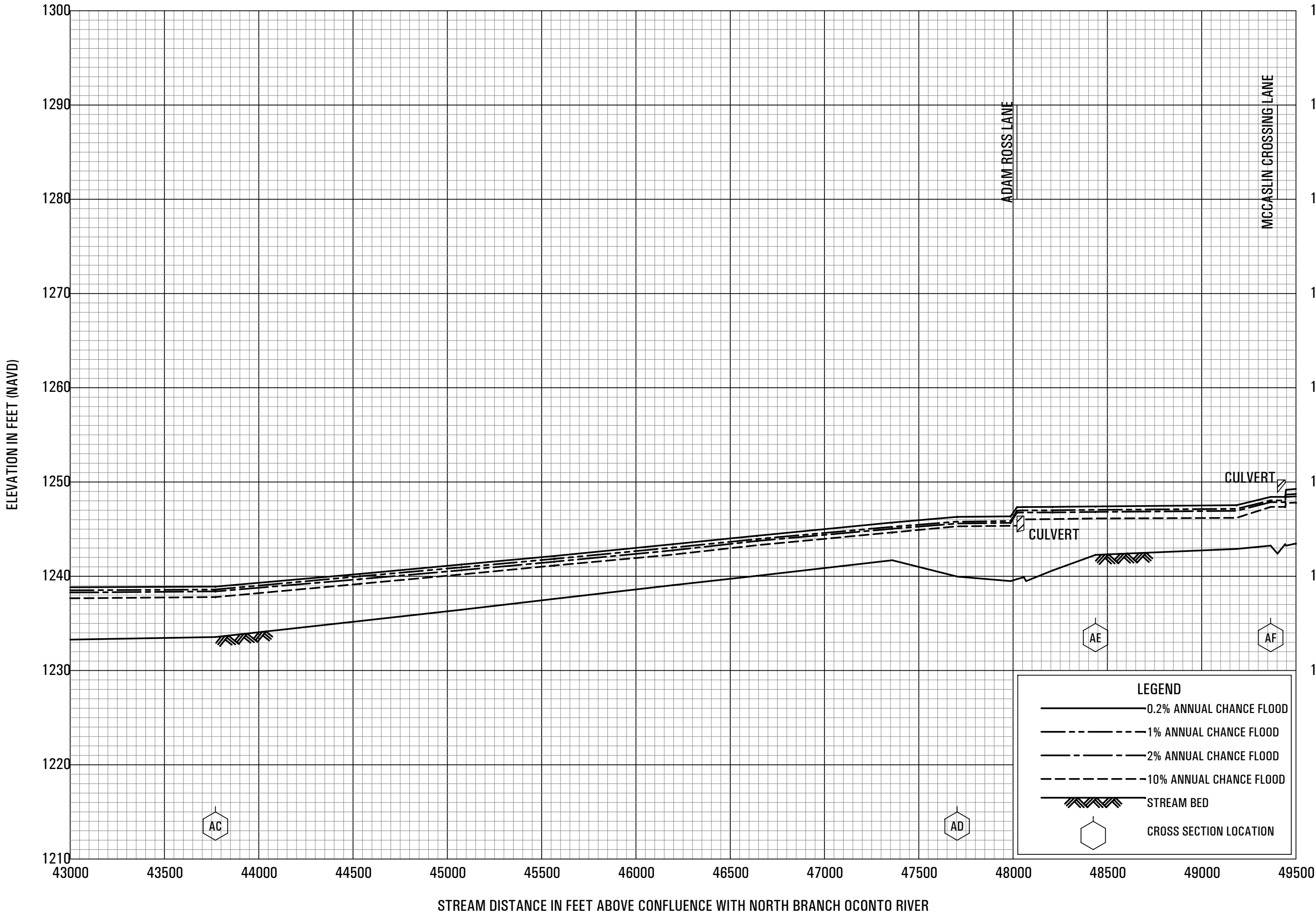
STREAM BED

CROSS SECTION LOCATION

FLOOD PROFILES

MCCASLIN BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY
OCONTO COUNTY, WI
AND INCORPORATED AREAS

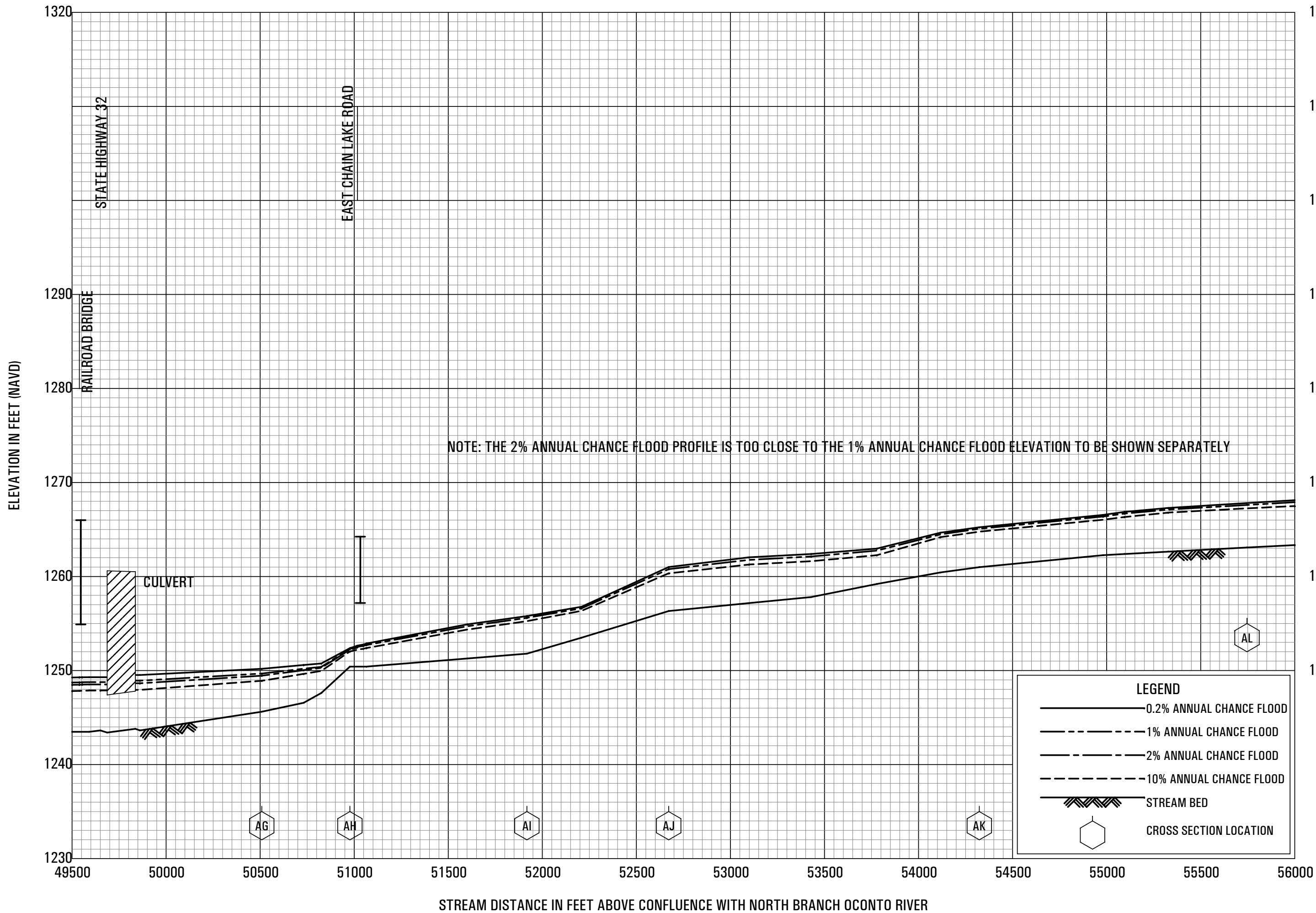


FLOOD PROFILES

MCCASLIN BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY

OCONTO COUNTY, WI
AND INCORPORATED AREAS

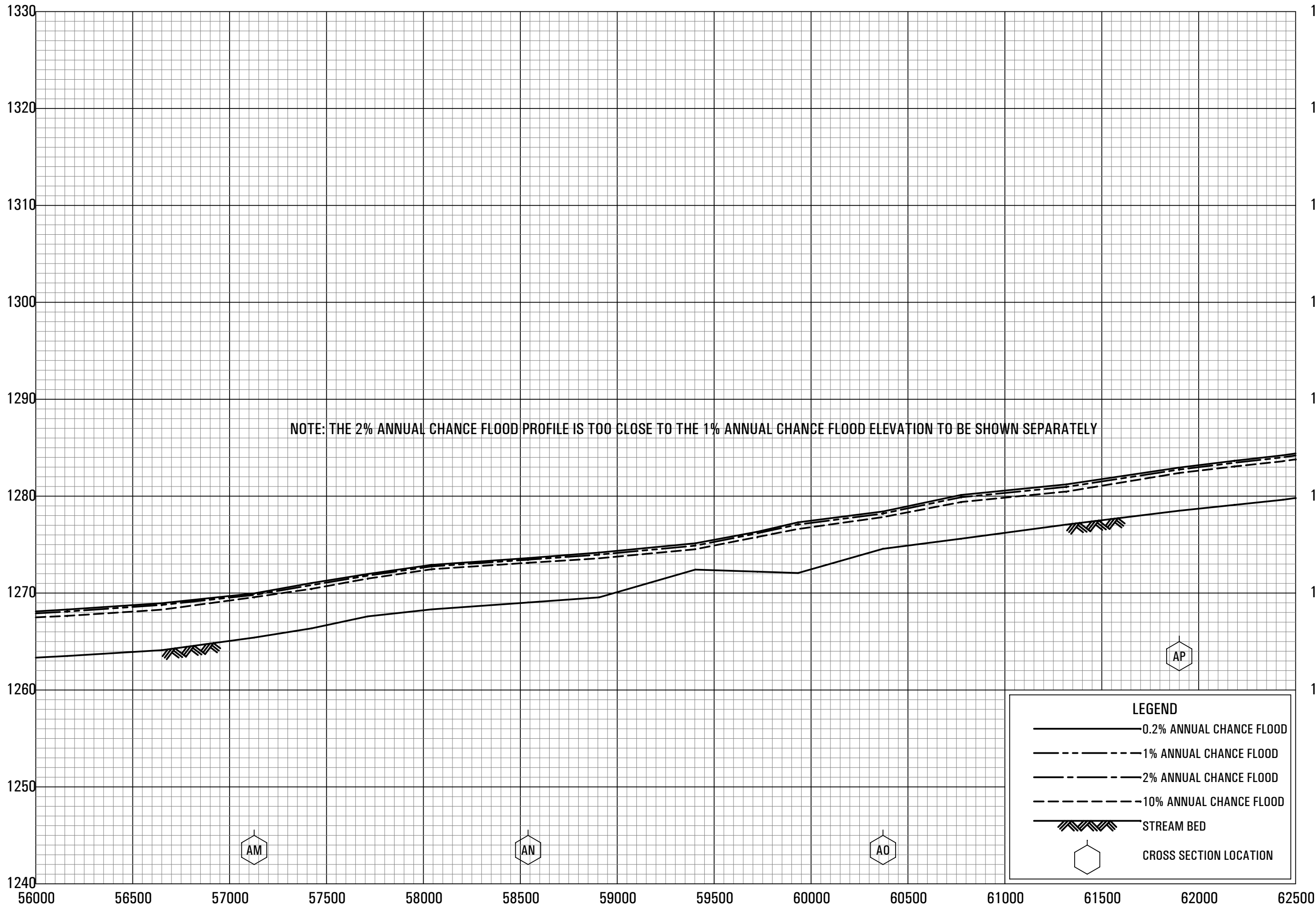


FLOOD PROFILES

MCCASLIN BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY
OCONTO COUNTY, WI
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



NOTE: THE 2% ANNUAL CHANCE FLOOD PROFILE IS TOO CLOSE TO THE 1% ANNUAL CHANCE FLOOD ELEVATION TO BE SHOWN SEPARATELY

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

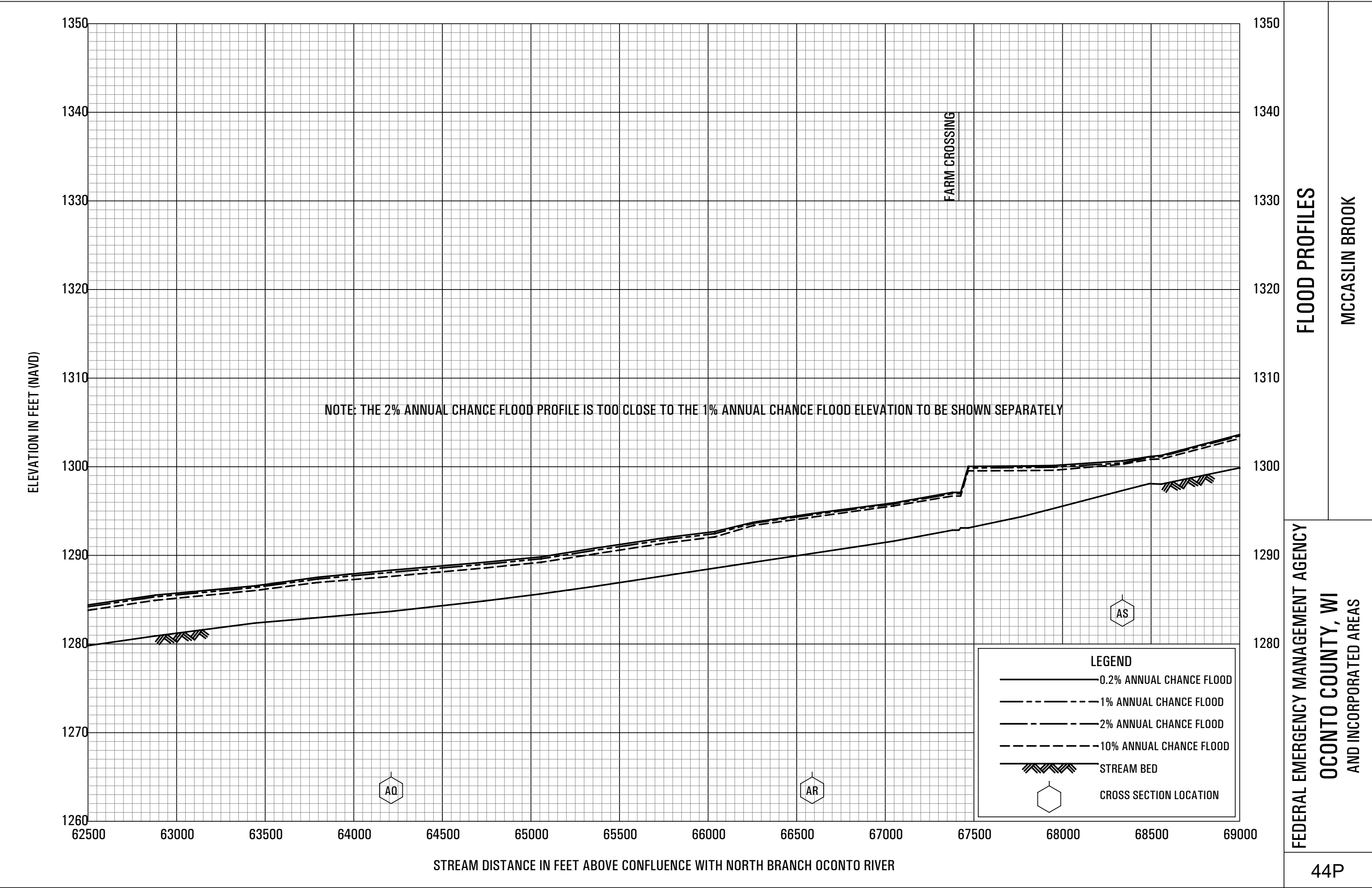
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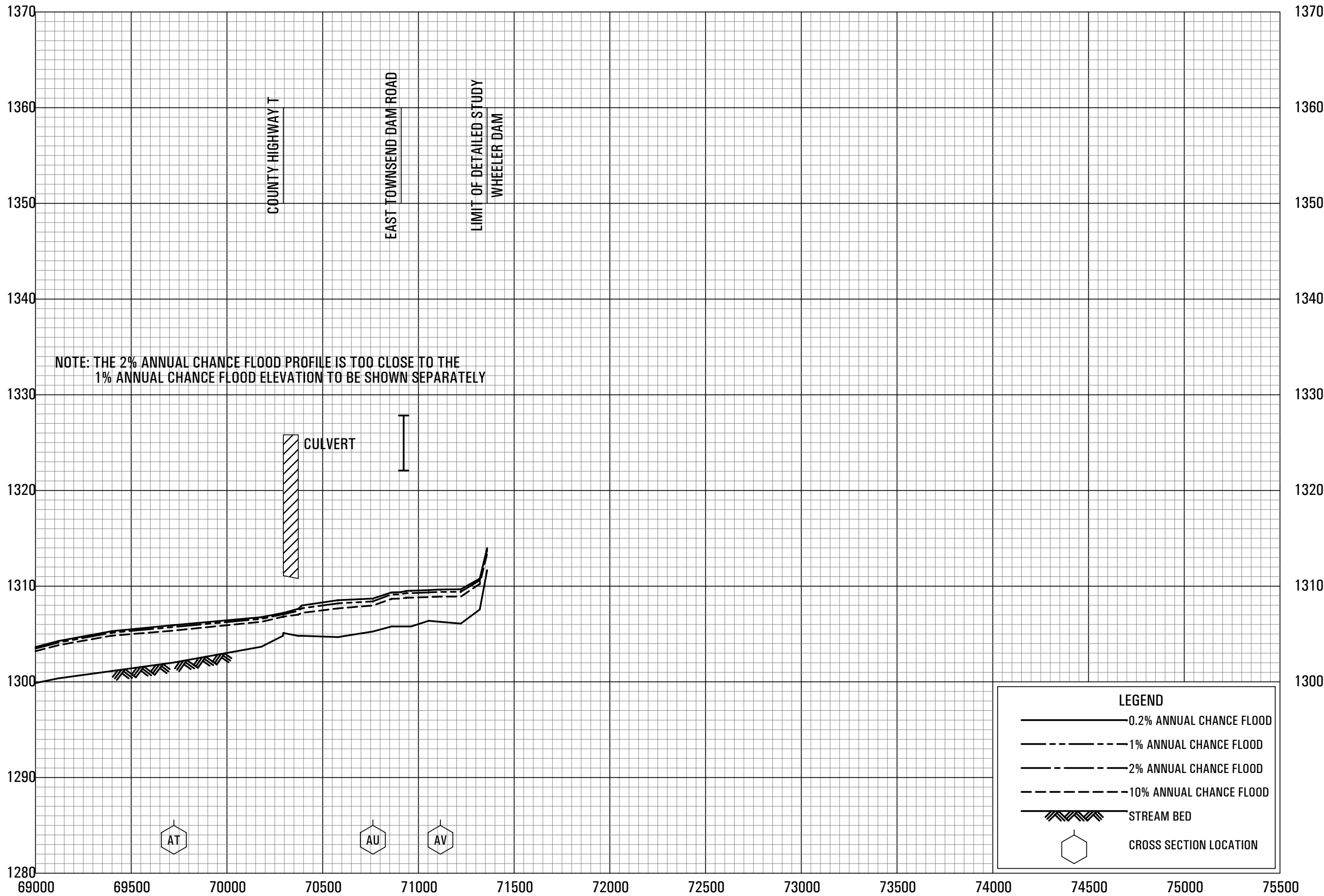
OCONTO COUNTY, WI
AND INCORPORATED AREAS

FLOOD PROFILES

MCCASLIN BROOK



ELEVATION IN FEET (NAVD)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH NORTH BRANCH OCONTO RIVER

FLOOD PROFILES

MCCASLIN BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY
OCONTO COUNTY, WI
AND INCORPORATED AREAS