

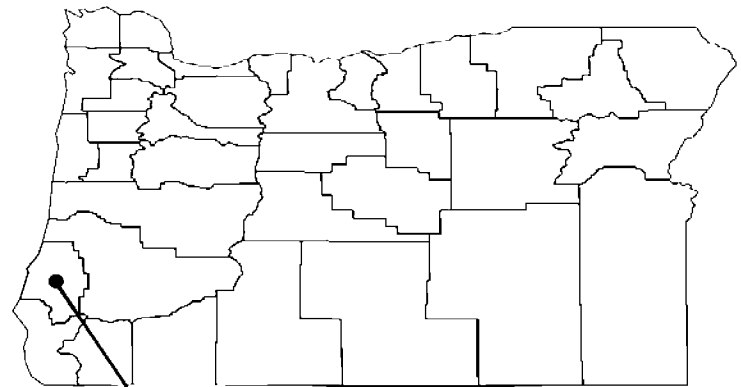
FLOOD INSURANCE STUDY

Volume 2 of 2



COOS COUNTY, OREGON AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
BANDON, CITY OF	410043
CONFEDERATED TRIBES OF COOS, LOWER UMPQUA AND SIUSLAW	410292
COOS BAY, CITY OF	410044
COOS COUNTY (UNINCORPORATED AREAS)	410042
COQUILLE, CITY OF	410045
COQUILLE INDIAN TRIBE	410102
LAKESIDE, CITY OF	410278
MYRTLE POINT, CITY OF	410047
NORTH BEND, CITY OF	410048
POWERS, CITY OF	410049



Coos County

REVISED:
DECEMBER 7, 2018



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
41011CV002C

NOTICE TO FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) report may not contain all data available within the Community Map Repository. Please contact the Community Map Repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this FIS report at any time. In addition, FEMA may revise part of this FIS report by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS report. Therefore, users should consult with community officials and check the Community Map Repository to obtain the most current FIS report components.

Initial Countywide FIS Effective Date: September 25, 2009

Revised Countywide FIS Date: March 17, 2014
December 7, 2018

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December 7, 2018
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Exhibits

Exhibit 1 - Flood Profiles

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Calloway Creek	01P
Cunningham Creek	02P
Coquille River	03P-09P
South Fork Coquille River	10P-11P
Millacoma River	12P
East Fork Millacoma River	13P
West Fork Millacoma River	14P
Pony Creek	15P-16P
Tenmile Creek	17P-18P

Exhibit 2 - Flood Insurance Rate Map Index Flood Insurance Rate Map

**FLOOD INSURANCE STUDY
COOS COUNTY, OREGON AND INCORPORATED AREAS**

10.0 REVISION DESCRIPTIONS

10.1 First Revision

a. Authority and Acknowledgments

This Physical Map Revision (PMR) was revised to incorporate approximately 515 miles of approximate (Zone A) analyses in Coos County, Oregon, including the Cities of Bandon, Coos Bay, Coquille, Lakeside, Myrtle Point, North Bend, and Powers; the in the Unincorporated Areas of Coos County; the Coquille Indian Tribe; and the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw. The engineering for this project was initiated in 2014 by the Oregon Department of Geology and Mineral Industries (DOGAMI) and was completed by the Strategic Alliance for Risk Reduction (STARR II) in 2016 under contract HSFE60-15-D-0005.

b. Coordination

The results of the Coos County, Oregon PMR were reviewed at a meeting held on December 13, 2016, and attended by representatives of FEMA, OR DLCDC, STARR, Coos County, and the Cities of Bandon, Coos Bay, Myrtle Point, and North Bend. All problems raised at that meeting have been addressed.

c. Scope of Study

The effective FIS for Coos County (FEMA, 2014) was performed by DOGAMI for FEMA under Contract No. EMS-2008-GR-0013 in 2008. Following the 2014 Coos County update, concerns were raised regarding the overall modeling approach that had been previously used for the approximate streams in the county. Items of concern included the boundary conditions, the Manning's "n" values, the bank stations, and the ineffective flow areas that had been used. For this revised countywide FIS report, an approximate hydraulic analysis was performed using HEC-RAS hydraulic software which utilized LiDAR data. The update was completed in order to revise areas of concern as well as produce flood maps for previously unstudied areas within Coos County.

d. Important Considerations

Figures 17, 18, and 19 present important considerations for using the information contained in this revised FIS report and the FIRM and is provided in response to changes in format and content.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the USGS 8-digit Hydrologic Unit Code (HUC-8) sub-basins affecting each, are shown in Table 16. The FIRM panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

Table 17 is a list of the locations where FIRMs for Coos 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.

Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on the map. However, the FIRM panel does not contain enough space to show all notes that may be relevant in helping to better understand the information on the panel. Figure 17 contains the full list of these notes.

Figure 17. FIRM Notes to Users

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

For community and countywide map dates, refer to Table 15 in this FIS Report.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

Figure 17. FIRM Notes to Users (continued)

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.3 "Non-Levee Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.

PROJECTION INFORMATION: The projection used in the preparation of the map was Universal Transverse Mercator (UTM Zone 18). The horizontal datum was North American Datum 1983. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/>

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 16 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM was provided by various sources. For information about base maps, refer to Section 6.2 "Base Map" in this FIS Report.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Coos County, Oregon and Incorporated Areas, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 15 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Coos County, Oregon and Incorporated Areas, effective date December 7, 2018.

Figure 17. FIRM Notes to Users (*continued*)

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

Each FIRM panel contains an abbreviated legend for features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 18 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Coos County.

Figure 18. Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: *The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.*

Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)

- Zone A The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
- Zone AE The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone, either at cross section locations or as static whole-foot elevations that apply throughout the zone.
- Zone AH The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
- Zone AO The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
- Zone AR The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

Figure 18. Map Legend for FIRM (continued)





<p>Zone A99</p> <p>Zone V</p> <p>Zone VE</p>	<p>The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.</p> <p>The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.</p> <p>Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.</p> <p>Regulatory Floodway determined in Zone AE.</p>
<p>OTHER AREAS OF FLOOD HAZARD</p> <p>Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.</p> <p>Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.</p> <p>Zone X Protected by Accredited Levee: Areas protected by an accredited levee, dike or other flood control structures. See Notes to Users for important information.</p>	
<p>OTHER AREAS</p> <p>Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible</p>	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">NO SCREEN</div>	<p>Unshaded Zone X: Areas determined to be outside the 0.2% annual chance floodplain</p>
<p>FLOOD HAZARD AND OTHER BOUNDARY LINES</p>	
	<p>Flood Zone Boundary (white line)</p>
	<p>Limit of Study</p>
	<p>Jurisdiction Boundary</p>
	<p>Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet</p>

Figure 18. Map Legend for FIRM (continued)

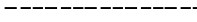



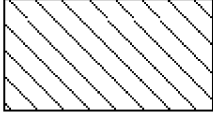
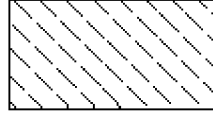

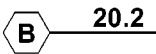
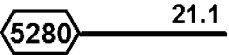
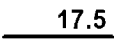
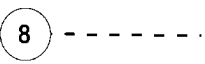
GENERAL STRUCTURES	
 <i>Aqueduct</i> <i>Channel</i> <i>Culvert</i> <i>Storm Sewer</i>	Channel, Culvert, Aqueduct, or Storm Sewer
 <i>Dam</i> <i>Jetty</i> <i>Weir</i>	Dam, Jetty, Weir
	Levee, Dike or Floodwall
 <i>Bridge</i>	Bridge
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA): <i>CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas. See Notes to Users for important information.</i>	
 CBRS AREA 09/30/2009	Coastal Barrier Resources System Area: Labels are shown to clarify where this area shares a boundary with an incorporated area or overlaps with the floodway.
 OTHERWISE PROTECTED AREA 09/30/2009	Otherwise Protected Area
REFERENCE MARKERS	
 22.0	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
 20.2	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
 21.1	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
 17.5	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
 8	Coastal Transect

Figure 18. Map Legend for FIRM (*continued*)



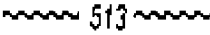
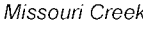









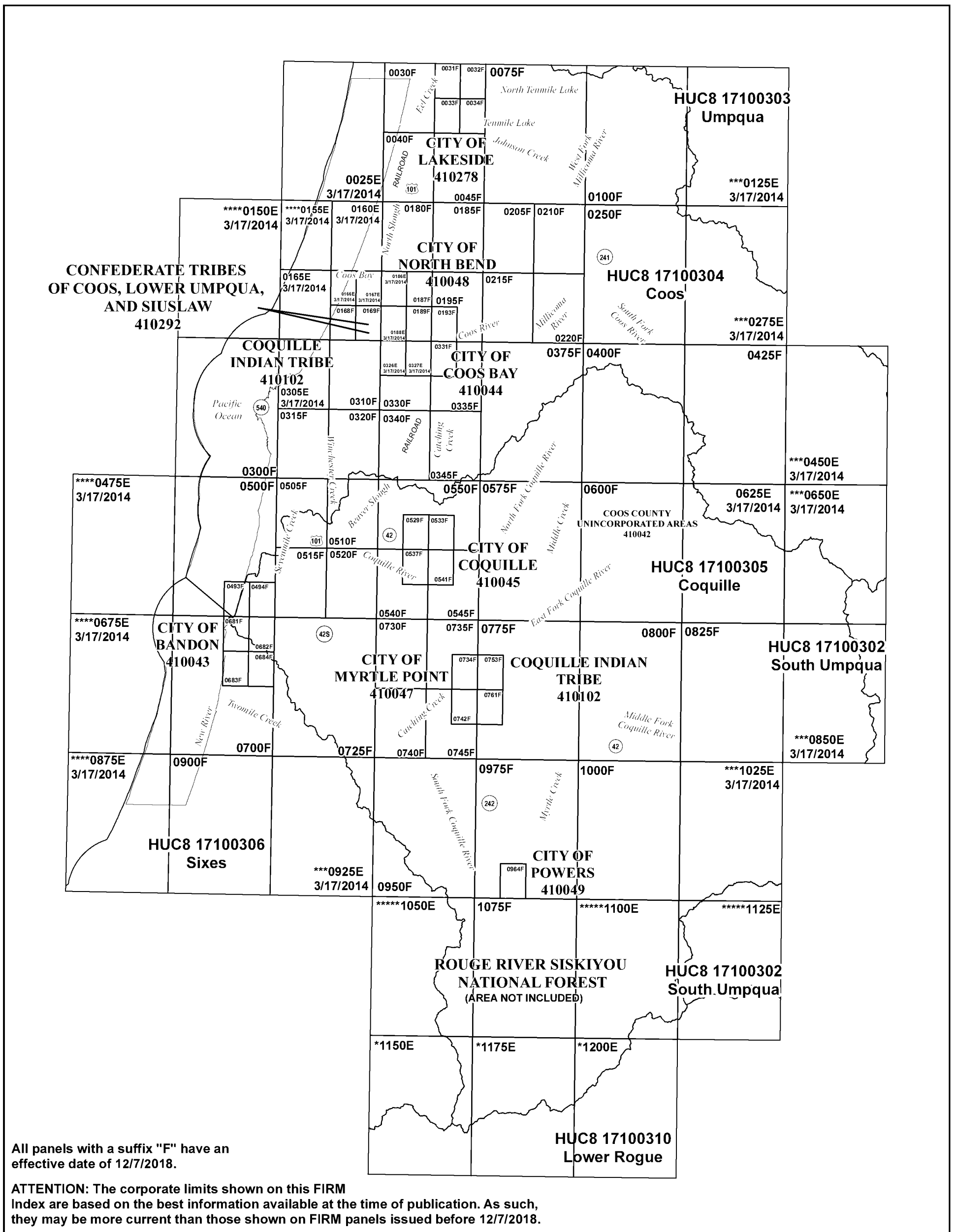
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
	Base Flood Elevation Line (shown for flooding sources for which no cross sections or profile are available)
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway
	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
4276^{000m} E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16' 52.5"	Corner Coordinates (Latitude, Longitude)

Figure 19. FIRM Index



1 inch = 30,000 feet

Map Projection:
Universal Transverse Mercator Zone 10 North;
North American Datum of 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

[HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

COUNTY LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM

COOS COUNTY, OR AND INCORPORATED AREAS

PANELS PRINTED:

0025, 0030, 0031, 0032, 0033, 0034, 0040, 0045, 0075, 0100, 0160, 0165, 0166, 0167, 0168, 0169, 0180, 0185, 0186, 0187, 0188, 0189, 0193, 0195, 0205, 0210, 0215, 0220, 0250, 0300, 0305, 0310, 0315, 0320, 0326, 0327, 0330, 0331, 0335, 0340, 0345, 0375, 0400, 0425, 0493, 0494, 0500, 0505, 0510, 0515, 0520, 0529, 0533, 0537, 0540, 0541, 0545, 0550, 0575, 0600, 0625, 0681, 0682, 0683, 0684, 0700, 0725, 0730, 0734, 0735, 0740, 0742, 0745, 0753, 0761, 0775, 0800, 0825, 0900, 0950, 0964, 0975, 1000, 1075

MAP NUMBER
41011CINDOC

MAP REVISED
DECEMBER 7, 2018

* PANEL NOT PRINTED - AREA NOT INCLUDED
 ** PANEL NOT PRINTED - AREA NOT INCLUDED/NO SPECIAL FLOOD HAZARD AREAS
 *** PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS
 **** PANEL NOT PRINTED - OPEN WATER AREA
 ***** PANEL NOT PRINTED - NO SFHA EXCEPT NATIONAL FOREST WHICH IS AREA NOT INCLUDED

Table 16. Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Bandon, City of	410043	17100305 17100306	41011C0493F, 41011C0494F, 41011C0681F, 41011C0682F, 41011C0683F	
Confederated Tribes of Coos, Lower Umpqua and Siuslaw	410292	17100304	41011C0169F, 41011C0195F, 41011C0186E, 41011C0188E, 41011C0310F	
Coos Bay, City of	410044	17100304	41011C0167E, 41011C0168F, 41011C0169F, 41011C0187F, 41011C0188E, 41011C0189F, 41011C0193F, 41011C0310F, 41011C0326E, 41011C0327E, 41011C0331F	
Coos County (Unincorporated Areas)	410042	17100302 17100303 17100304 17100305 17100306 17100310	41011C0025E, 41011C0030F, 41011C0031F, 41011C0032F, 41011C0033F, 41011C0034F, 41011C0040F, 41011C0045F, 41011C0075F, 41011C0100F, 41011C0125E*, 41011C0150E*, 41011C0155E*, 41011C0160E, 41011C0165E, 41011C0166E, 41011C0167E, 41011C0168F, 41011C0169F, 41011C0180F, 41011C0185F, 41011C0186E, 41011C0187F, 41011C0188E, 41011C0189F, 41011C0193F, 41011C0195F, 41011C0205F, 41011C0210F, 41011C0215F, 41011C0220F, 41011C0250F, 41011C0275E*, 41011C0300F, 41011C0305E, 41011C0310F, 41011C0315F, 41011C0320F, 41011C0326E, 41011C0327E, 41011C0330F, 41011C0331F, 41011C0335F, 41011C0340F, 41011C0345F, 41011C0375F, 41011C0400F, 41011C0425F, 41011C0450E*, 41011C0475E*, 41011C0493F, 41011C0494F, 41011C0500F, 41011C0505F, 41011C0510F, 41011C0515F, 41011C0520F, 41011C0529F, 41011C0533F, 41011C0537F, 41011C0540F, 41011C0541F, 41011C0545F, 41011C0550F,	

Table 16. Listing of NFIP Jurisdictions (*continued*)

Coos County (Unincorporated Areas) (<i>continued</i>)			41011C0575F, 41011C0600F, 41011C0625E, 41011C0650E*, 41011C0675E*, 41011C0681F, 41011C0682F, 41011C0683F, 41011C0684F, 41011C0700F, 41011C0725F, 41011C0730F, 41011C0734F, 41011C0735F, 41011C0740F, 41011C0742F, 41011C0745F, 41011C0753F, 41011C0761F, 41011C0775F, 41011C0800F, 41011C0825F, 41011C0850E*, 41011C0875E*, 41011C0900F, 41011C0925E*, 41011C0950F, 41011C0964F, 41011C0975F, 41011C1000F, 41011C1025E*, 41011C1050E*, 41011C1075F, 41011C1100E*, 41011C1125E*, 41011C1150E*, 41011C1175E*, 41011C1200E*	
Coquille, City of	410045	17100305	41011C0529F, 41011C0533F, 41011C0537F, 41011C0541F	
Coquille Indian Tribe	410102	17100304 17100305	41011C0168F, 41011C0169F, 41011C0188E, 41011C0189F, 41011C0310F, 41011C0600F, 41011C0681F, 41011C0775F, 41011C0800F, 41011C0975F, 41011C1000F	
Lakeside, City of	410278	17100304	41011C0030F, 41011C0031F, 41011C0033F, 41011C0034F	
Myrtle Point, City of	410047	17100305	41011C0734F, 41011C0742F, 41011C0753F, 41011C0761F	
North Bend, City of	410048	17100304	41011C0167E, 41011C0169F, 41011C0186E, 41011C0187F, 41011C0188E, 41011C0189F	
Powers, City of	410049	17100305	41011C0964F	

*Panel not printed

Table 17. Map Repositories

Community	Address	City	State	Zip Code
Bandon, City of	City Hall, 555 Highway 101	Bandon	OR	97411
Confederated Tribes of Coos, Lower Umpqua and Siuslaw	Tribal Headquarters, 1245 Fulton Avenue	Coos Bay	OR	97420
Coos Bay, City of	City Hall, 500 Central Avenue	Coos Bay	OR	97420
Coos County (Unincorporated Areas)	Coos County Courthouse, 250 North Baxter Street	Coquille	OR	97423
Coquille, City of	City Hall, 851 North Central Boulevard	Coquille	OR	97423
Coquille Indian Tribe	Administration Building, 3050 Tremont Avenue	North Bend	OR	97459
Lakeside, City of	City Hall, 915 North Lake Road	Lakeside	OR	97449
Myrtle Point, City of	City Hall, 424 5 th Street	Myrtle Point	OR	97458
North Bend, City of	City Hall, 835 California Street	North Bend	OR	97459
Powers, City of	City Hall, 275 Fir Street	Powers	OR	97466

e. Flood Protection Measures

According to the National Levee Database, there are no levees in Coos County that have been demonstrated by the community or levee owner(s) to meet the requirements of 44 CFR Part 65.10 of the NFIP regulations, as it relates to the levee's capacity to provide 1% annual chance flood protection. Please refer to the Notice to Flood Insurance Study Users page at the front of this FIS report for more information.

f. Hydrology

DOGAMI estimated the discharges that were used for the model, except for the Coquille River between the cities of Riverton and Myrtle Point, where effective discharges were available for a detailed portion of study located within the area of approximate study.

Portions of the Coquille River were previously mapped as Zone A, and detailed (Zone AE) study on the effective FIRM, with considerable differences in the discharges for the Zone A and Zone AE reaches. Because of these differences, water surface elevations did not match at the tie-in areas between these reaches. In order to resolve the discrepancies, the Set Water Surface Elevation option was used in the HEC-RAS models in order to match the water surface elevations.

g. Hydraulics

The hydraulic model used for this flood study was the USACE Hydraulic Engineering Center River Analysis System (HEC-RAS), version 4.1.0 (USACE, 2010). Steady flow HEC-RAS models were developed for the 50-, 20-, 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance-flood events.

Topographic data for the floodplain models was developed using LiDAR data from Oregon Department of Geology and Mineral Industries (Oregon LiDAR Consortium, 2009). Topographic data was converted into 1-meter and 3-meter digital elevation models (DEM). The data is in UTM Zone 10 coordinates system, (units feet), horizontal datum NAD83, vertical datum NAVD 88, (units feet). No field survey data was used in this analysis.

The downstream starting water-surface elevations in the HEC-RAS models were estimated assuming normal depth.

Stream and valley cross sections were placed at representative locations along the stream centerline perpendicular to the flow direction. Cross section spacing varied for all streams. Cross section geometries were obtained from the DEM topography.

Use of ineffective flow areas were limited for this analysis. Ineffective flow areas were used only for areas of extreme expansion and contraction, and for areas of divided flow.

For this analysis, Manning's "n" values of 0.03-0.04 were used for channel areas, and 0.05-0.12 were used on overbank areas.

Expansion and contraction values of 0.1 and 0.03 were used at all cross sections in this analysis.

h. Letters of Map Revision

There were no Letters of Map Change (LOMCs) incorporated during this processing of this PMR.

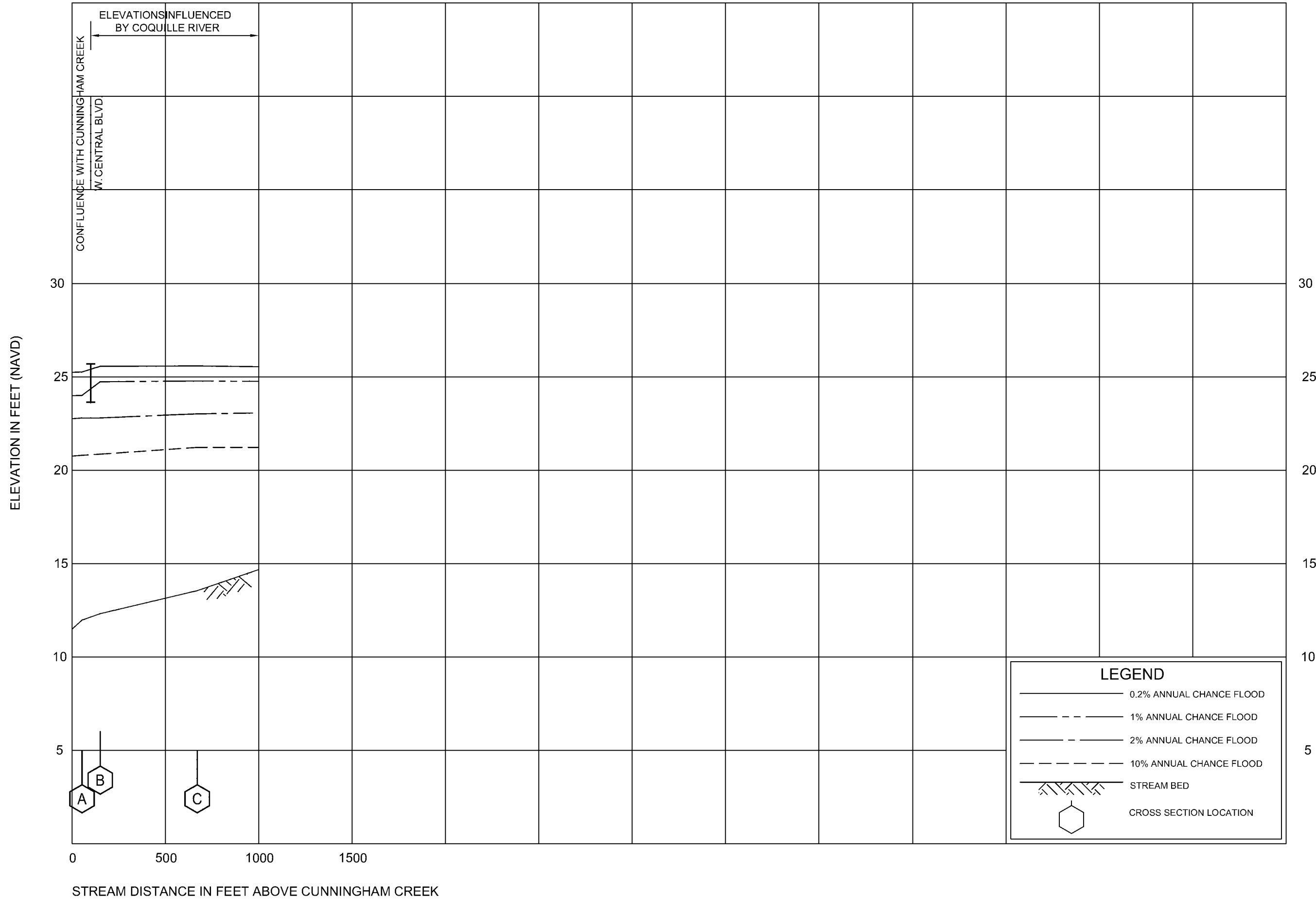
i. Bibliography for the First Revision

Federal Emergency Management Agency, Flood Insurance Study, Coos County, OR and Incorporated Areas, March 17, 2014.

Federal Emergency Management Agency, Guidelines and Specifications for Flood Hazard Mapping Partners, U.S. Department of Homeland Security, November, 2009.

Hydrologic Engineering Center, HEC-RAS River Analysis System, Version 4.1, U.S. Army Corps of Engineers, Davis, California, Jan 2010.

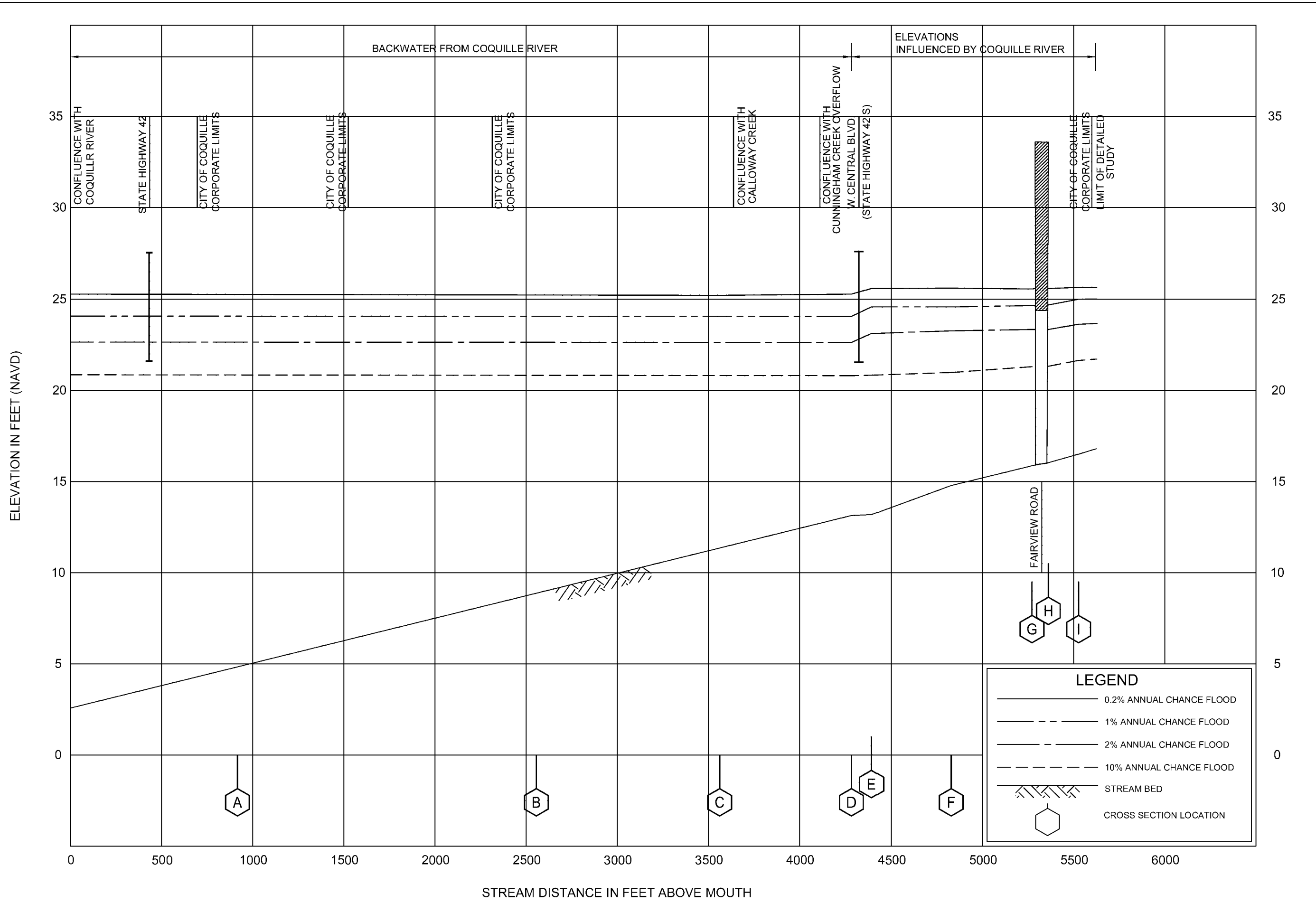
Oregon LiDAR Consortium, 1-Meter Resolution Bare Earth LiDAR Digital Elevation Models for Coos County, Oregon South Coast Project, Acquired June-August 2008, May 2009.



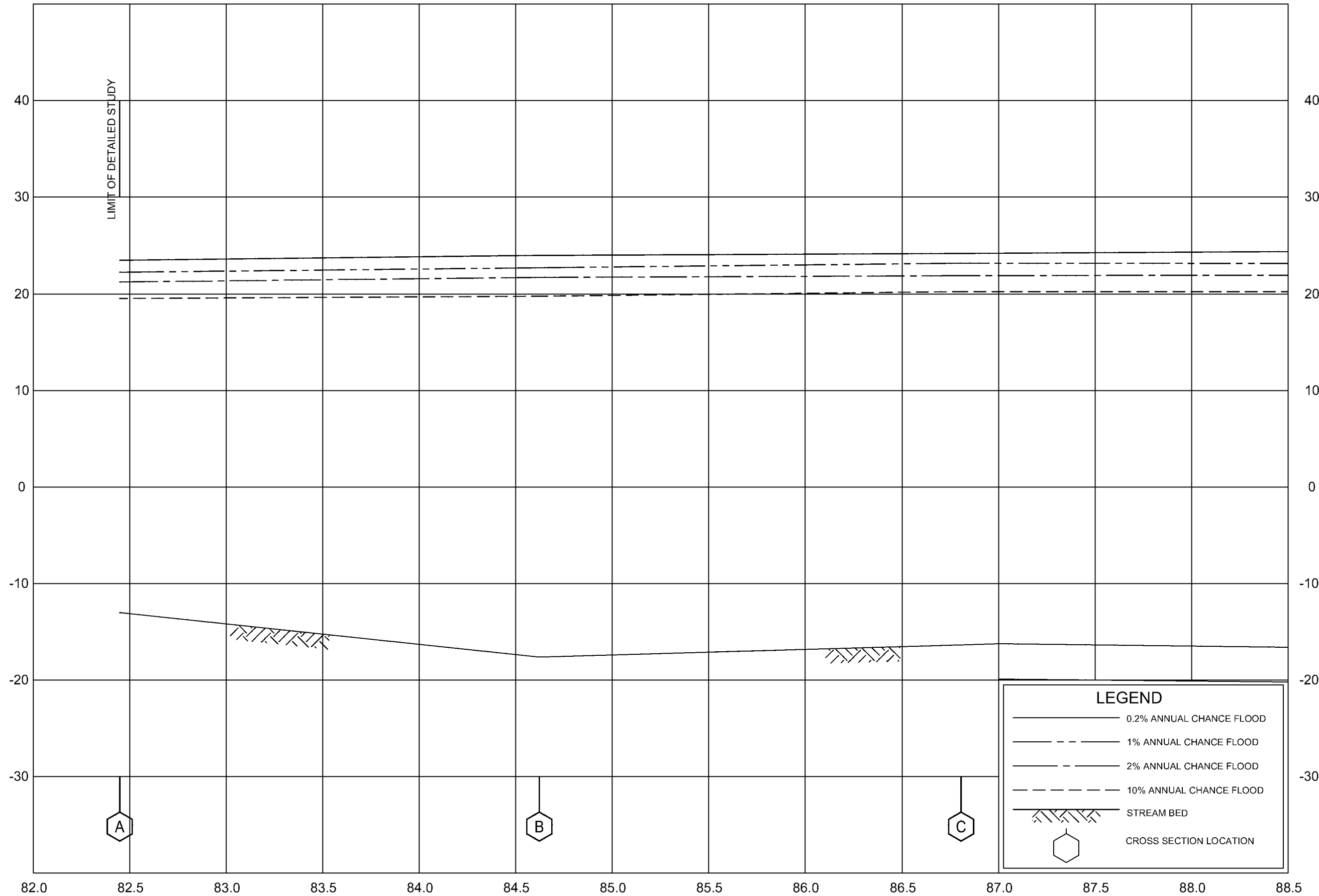
FLOOD PROFILES

CALLOWAY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
 AND INCORPORATED AREAS



ELEVATION IN FEET (NAVD)

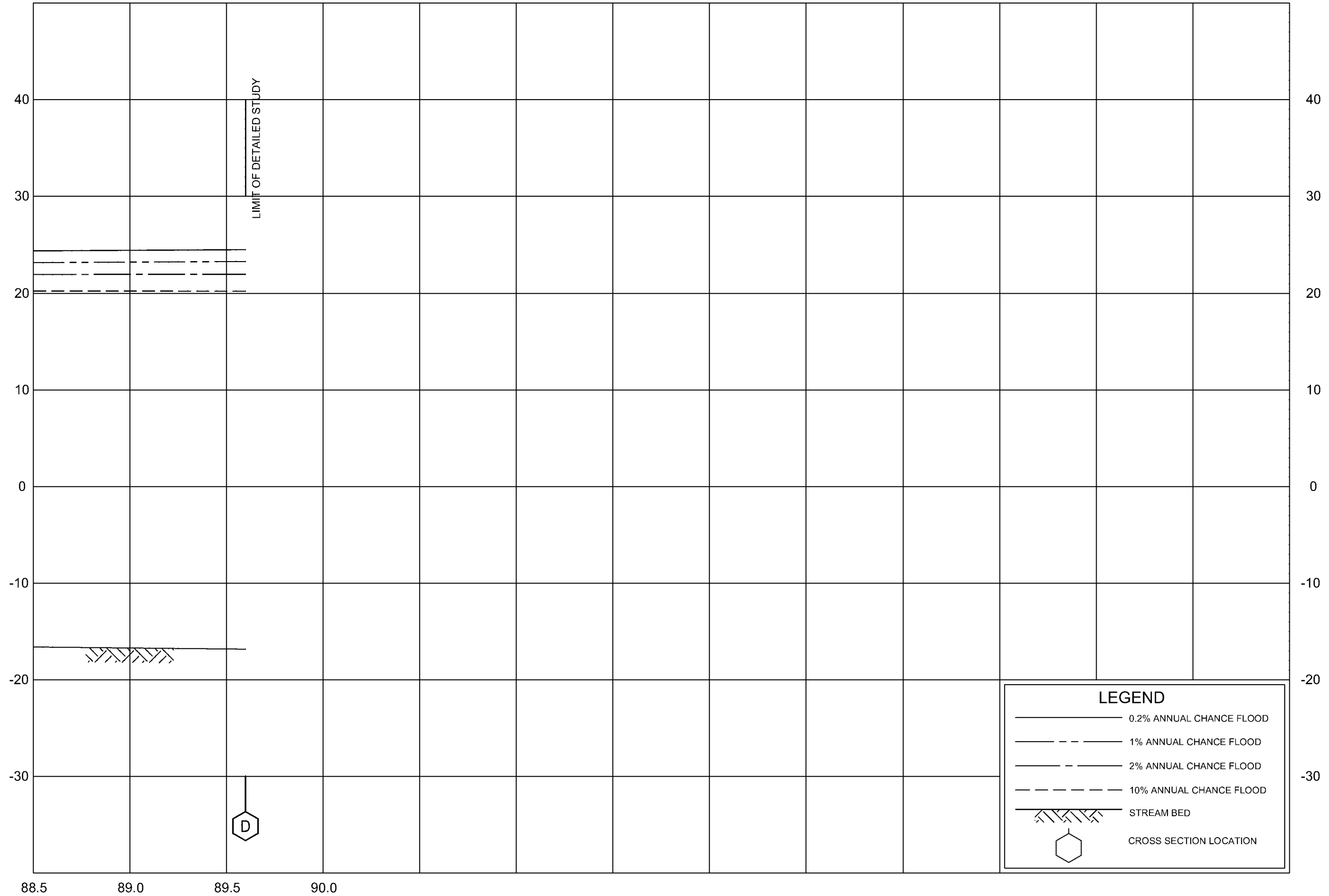


STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MOUTH

FLOOD PROFILES
COQUILLE RIVER AT RIVERTON

FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



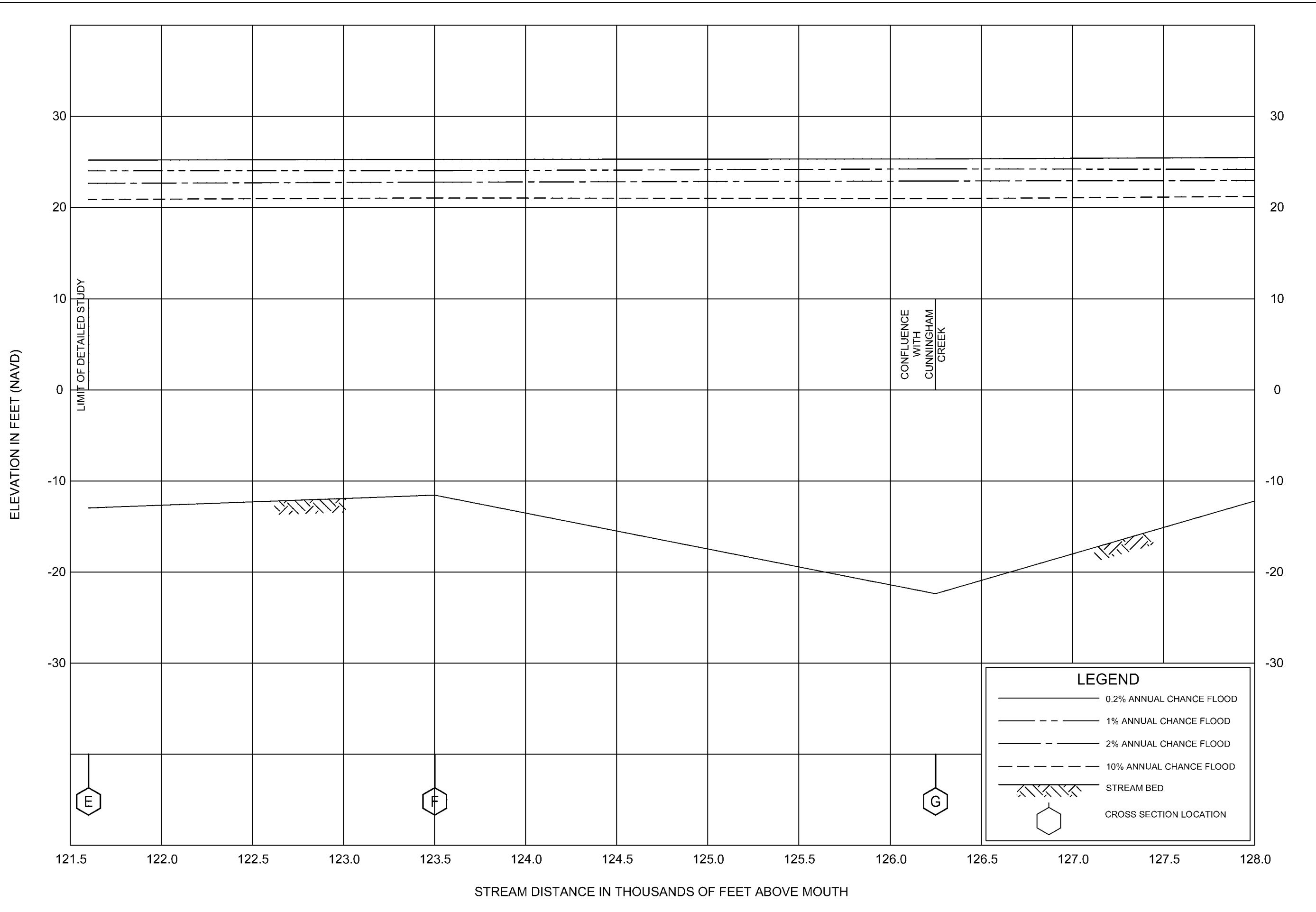
88.5 89.0 89.5 90.0

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MOUTH

40 30 20 10 0 -10 -20 -30

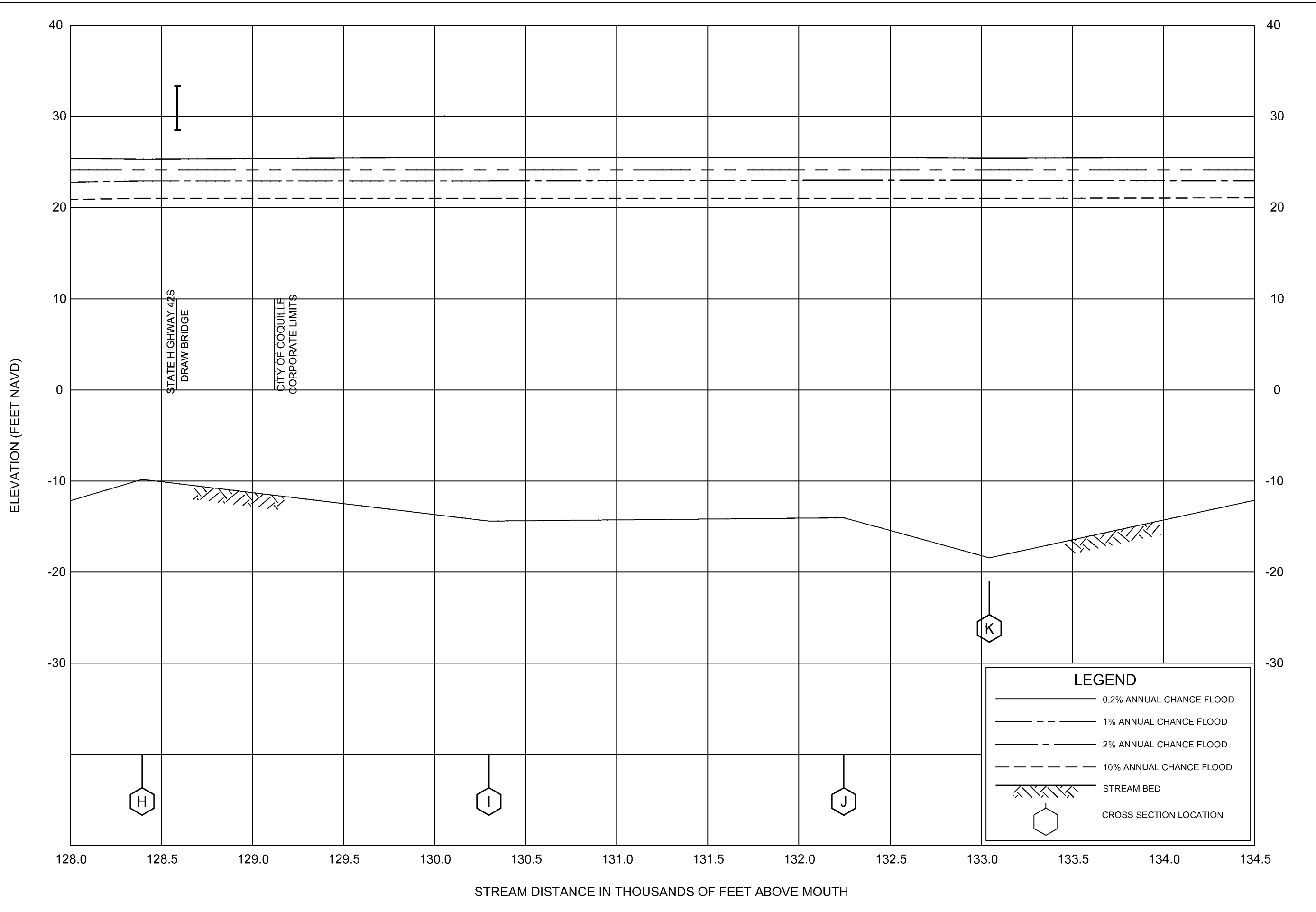
FLOOD PROFILES
COQUILLE RIVER AT RIVERTON

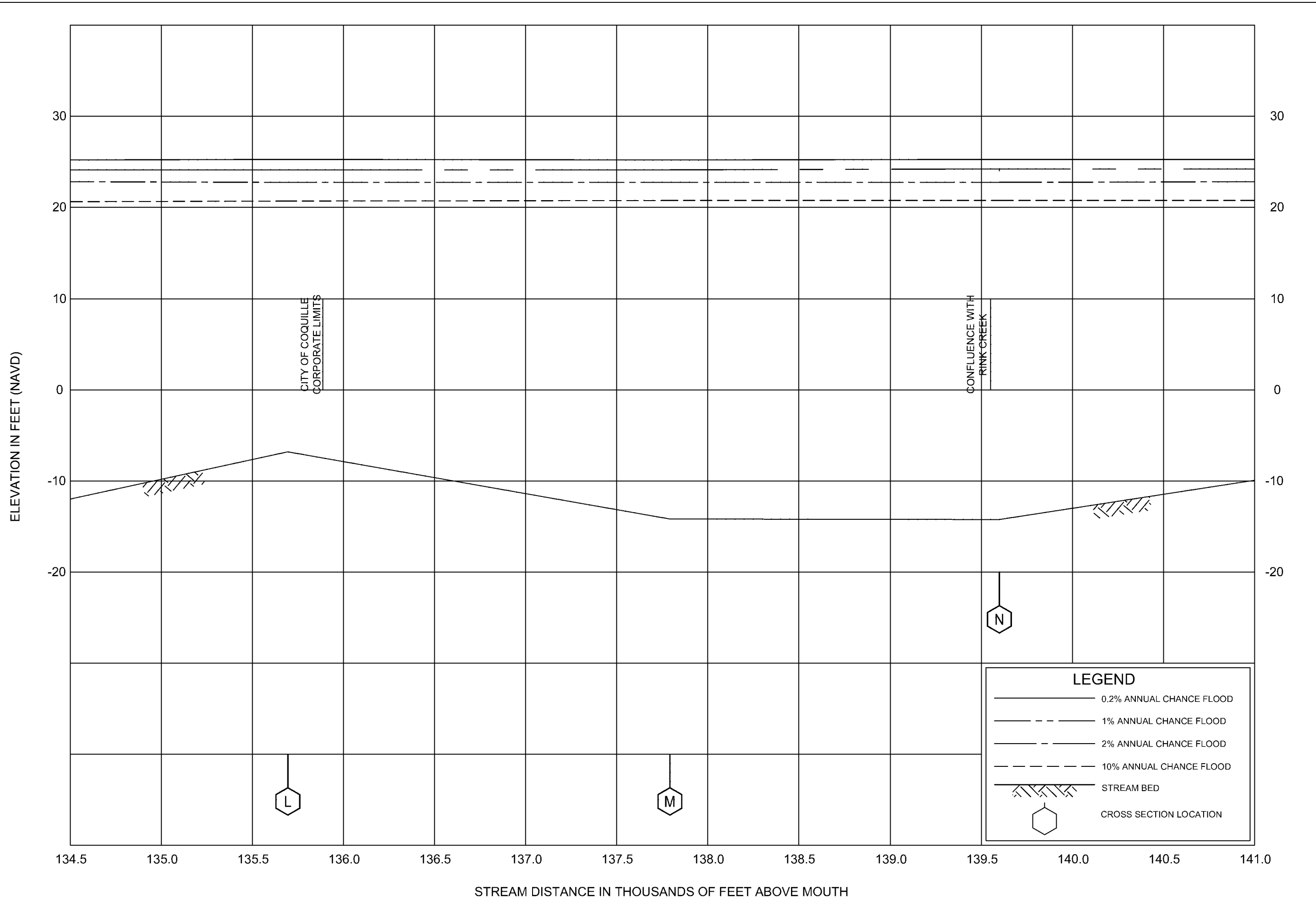
FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
AND INCORPORATED AREAS



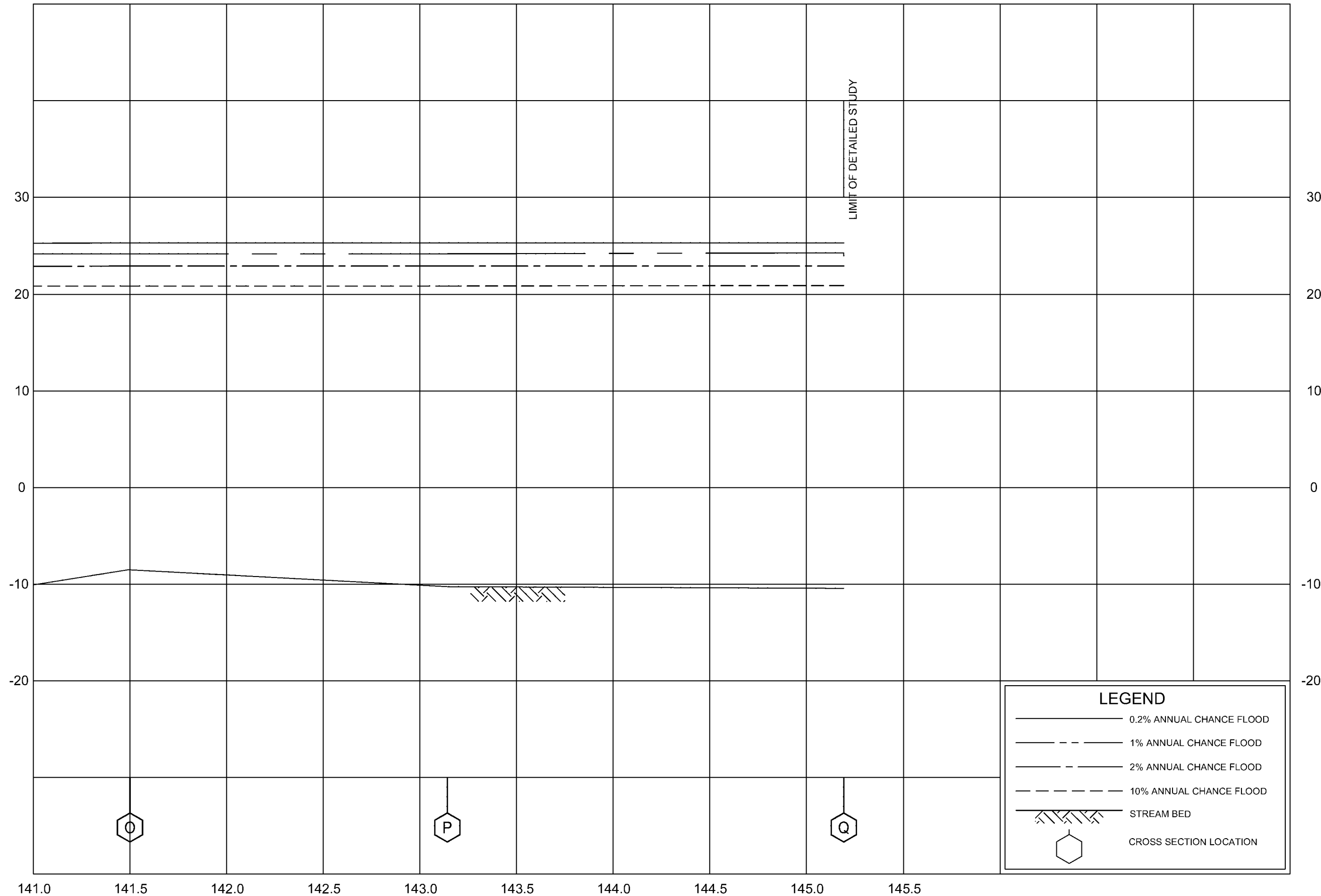
FLOOD PROFILES
COQUILLE RIVER AT COQUILLE

FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
 AND INCORPORATED AREAS





ELEVATION IN FEET (NAVD)



141.0 141.5 142.0 142.5 143.0 143.5 144.0 144.5 145.0 145.5

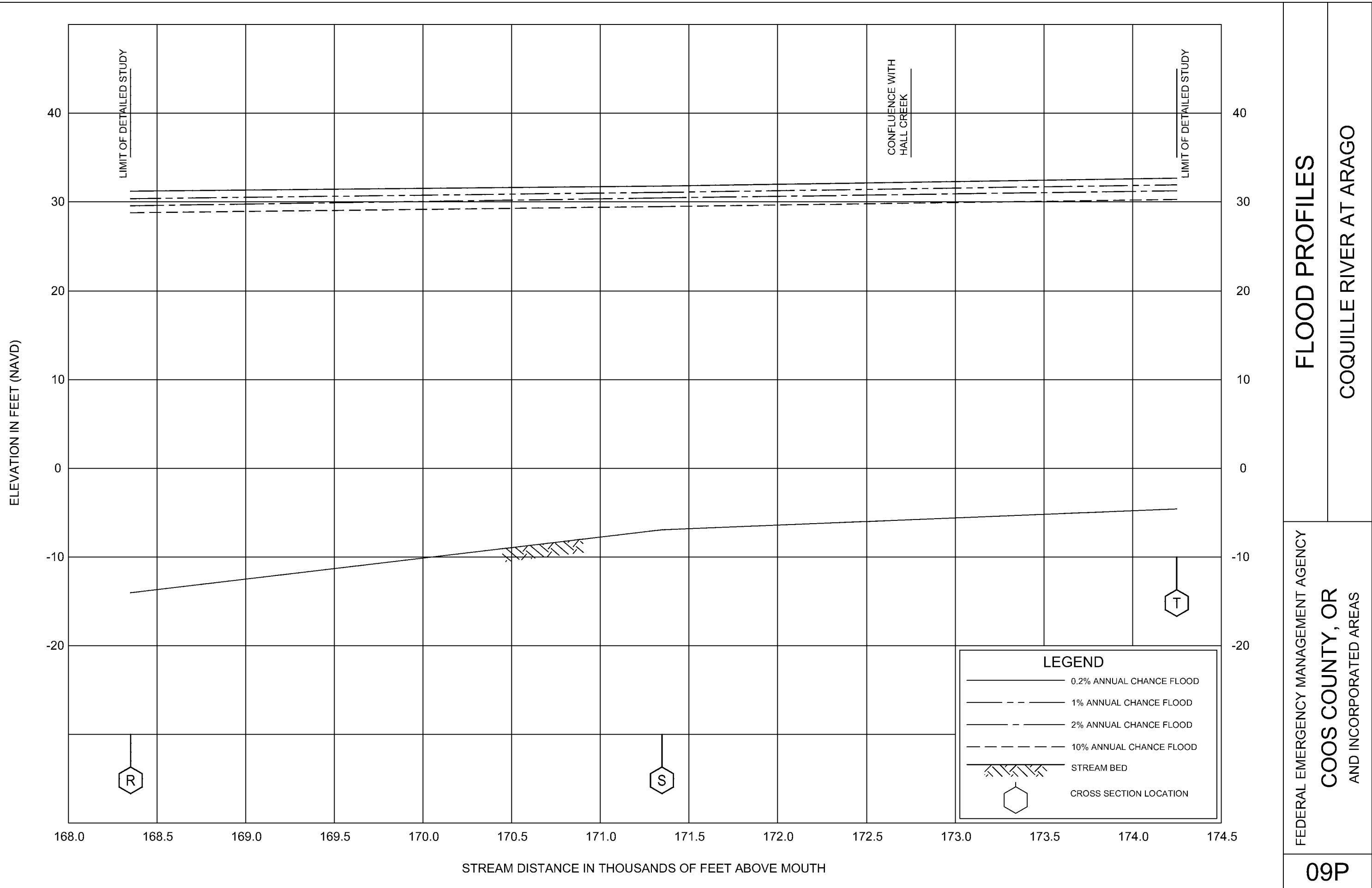
STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MOUTH

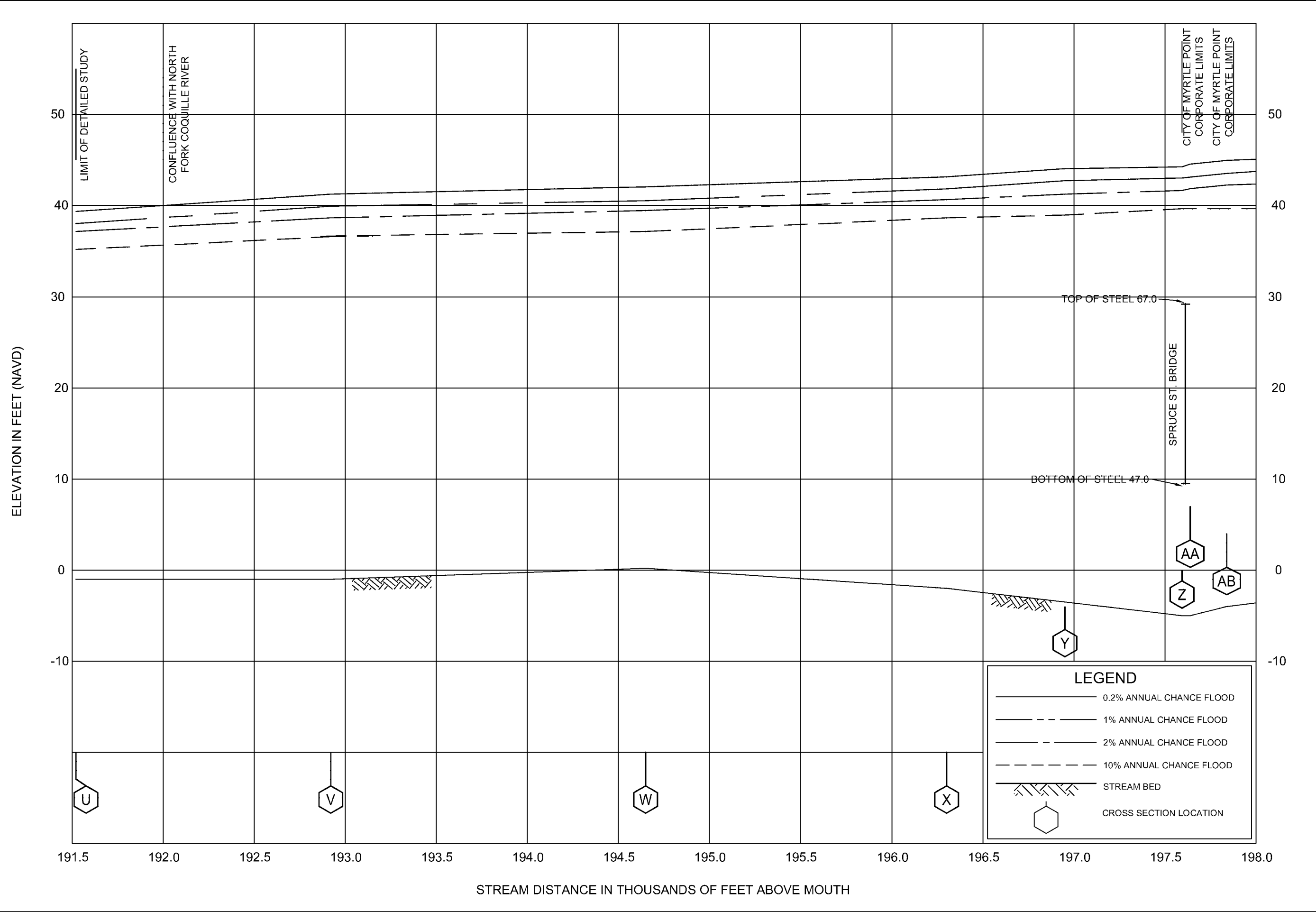
LEGEND

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

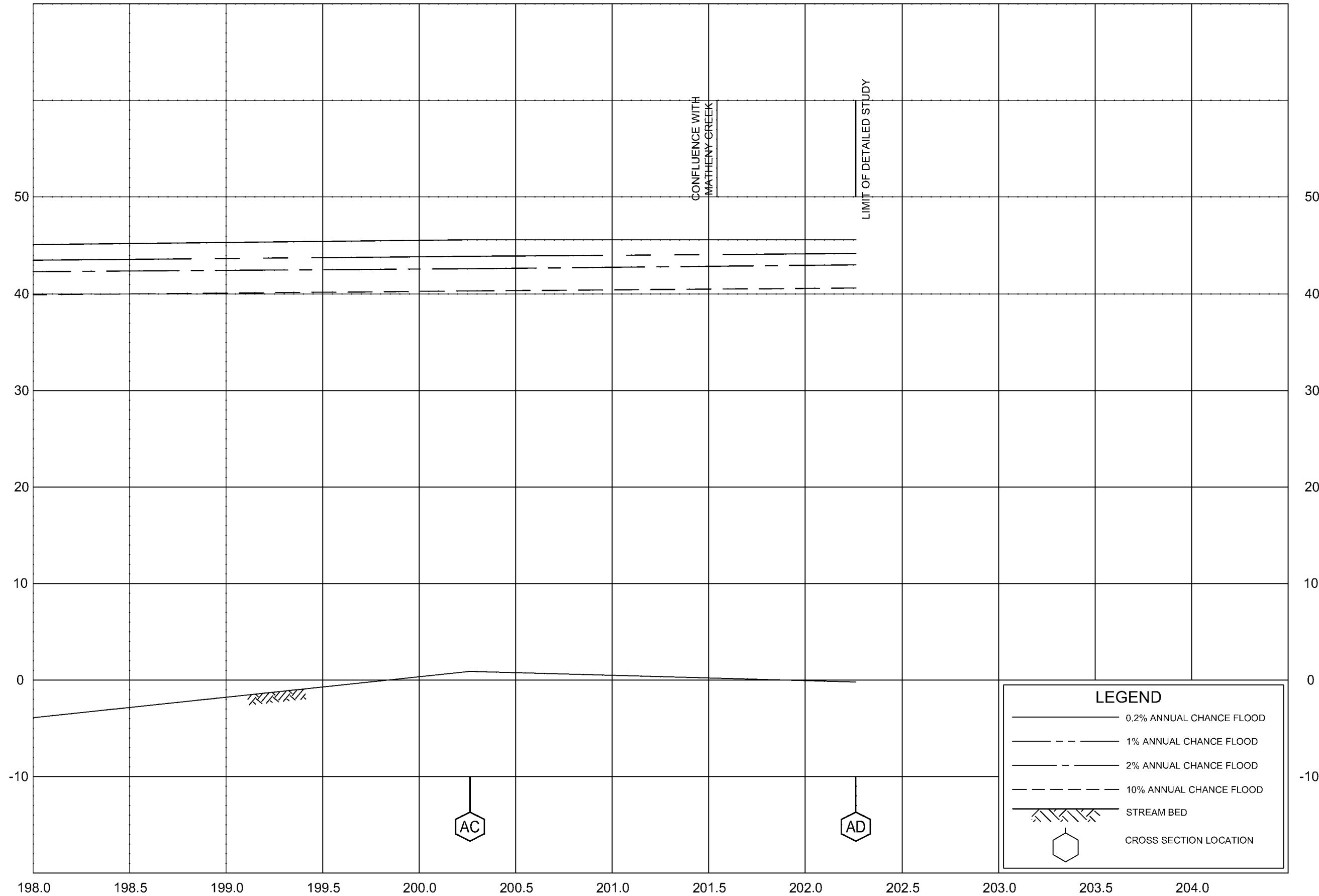
FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES
COQUILLE RIVER AT COQUILLE





ELEVATION IN FEET (NAVD)



198.0 198.5 199.0 199.5 200.0 200.5 201.0 201.5 202.0 202.5 203.0 203.5 204.0

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MOUTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

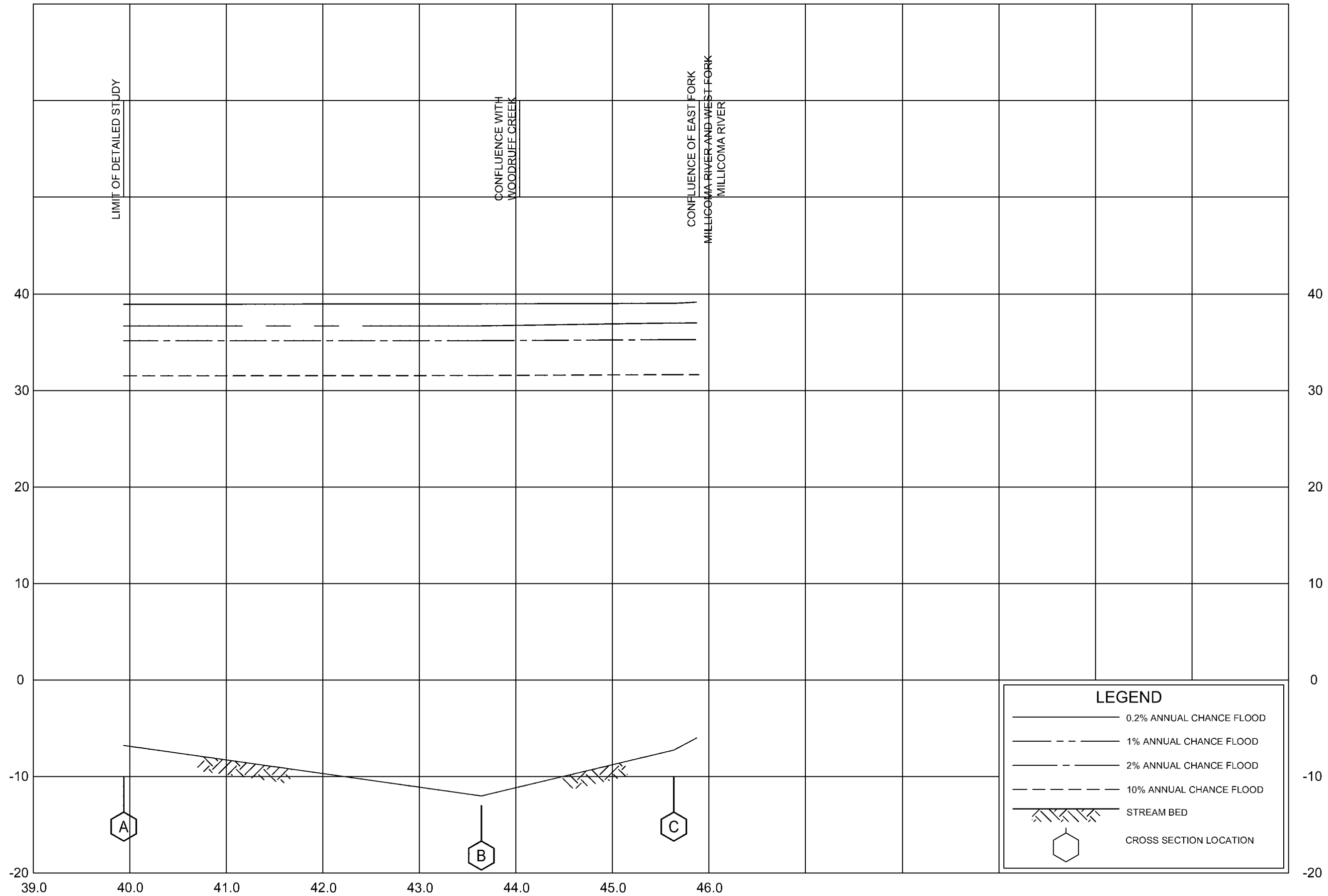
COOS COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

SOUTH FORK COQUILLE RIVER AT MYRTLE POINT

11P

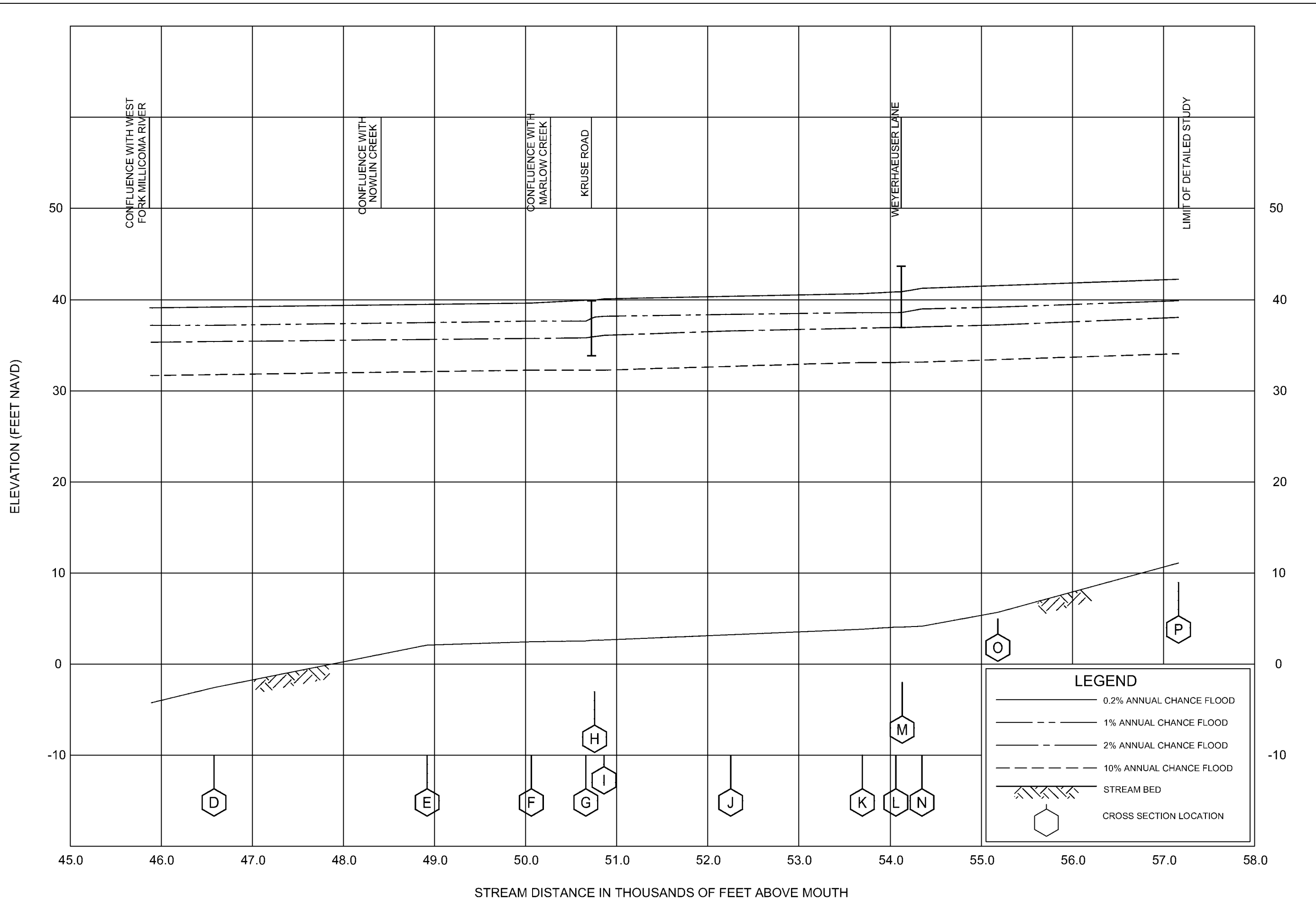
ELEVATION IN FEET (NAVD)



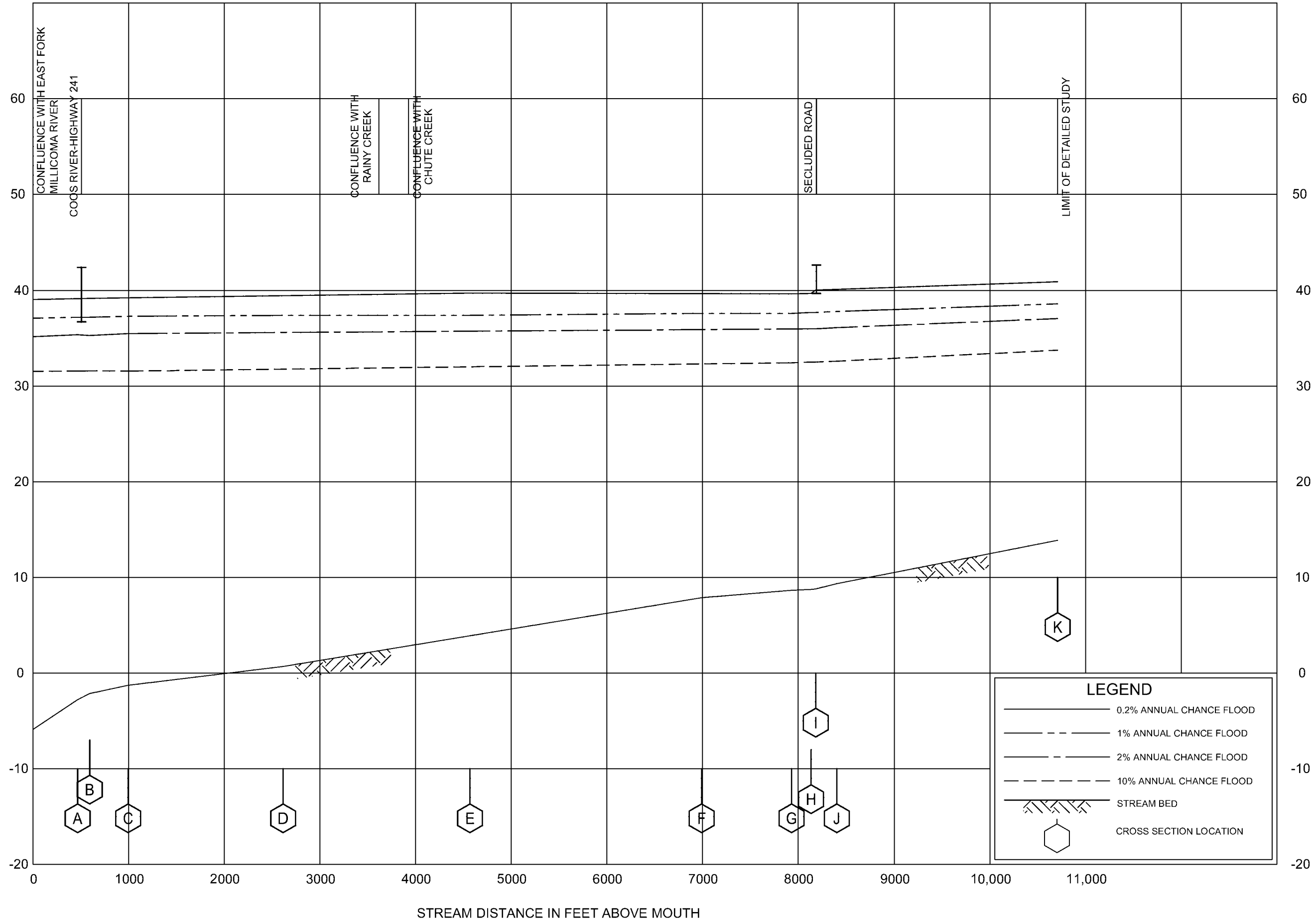
STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MOUTH

FLOOD PROFILES
MILLICOMA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
AND INCORPORATED AREAS



ELEVATION IN FEET (NAVD)



FLOOD PROFILES
WEST FORK MILLICOMA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
AND INCORPORATED AREAS

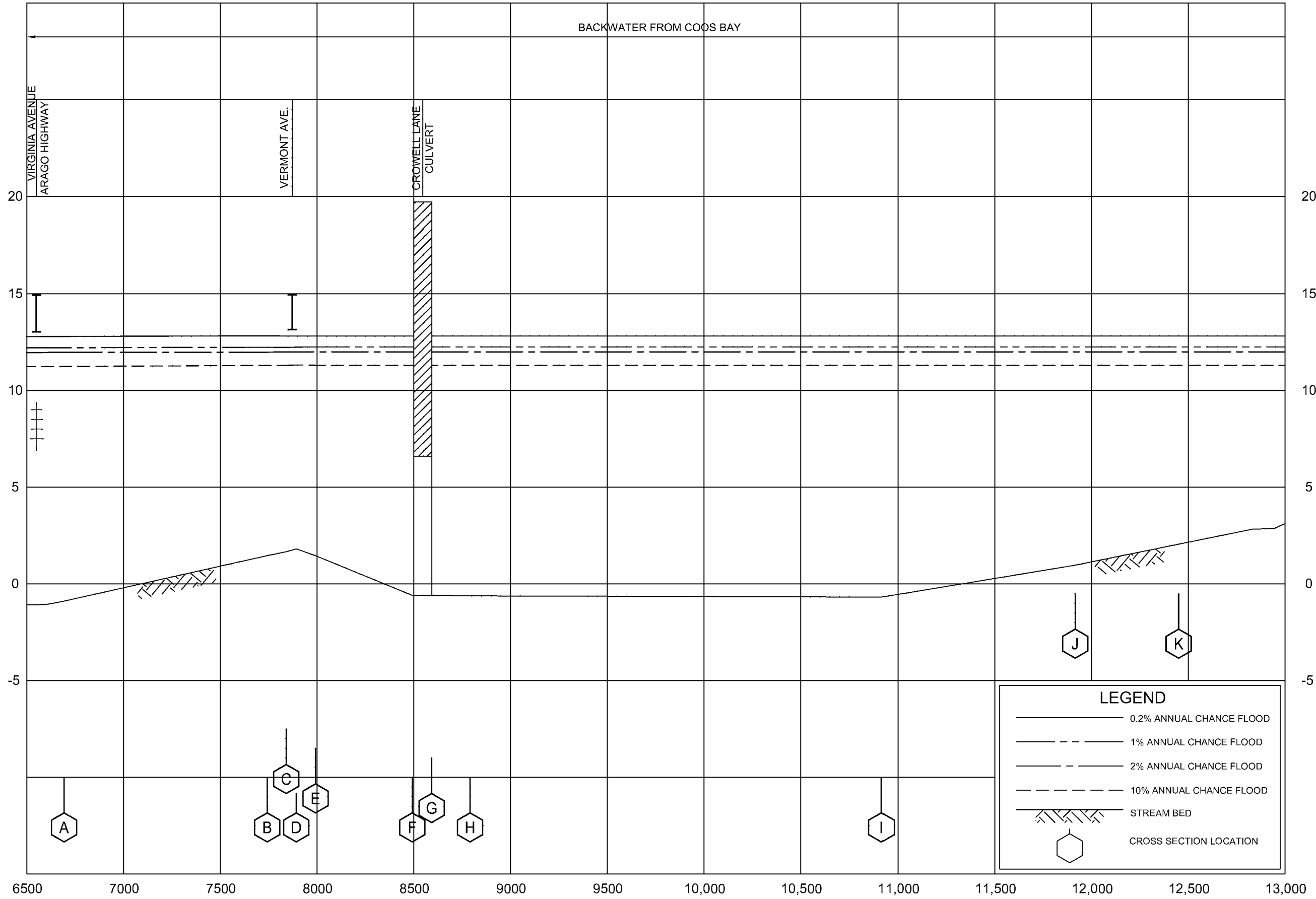
BACKWATER FROM COOS BAY

VIRGINIA AVENUE
ARAGO HIGHWAY

VERMONT AVE.

CROWELL LANE
CULVERT

ELEVATION IN FEET (NAVD)

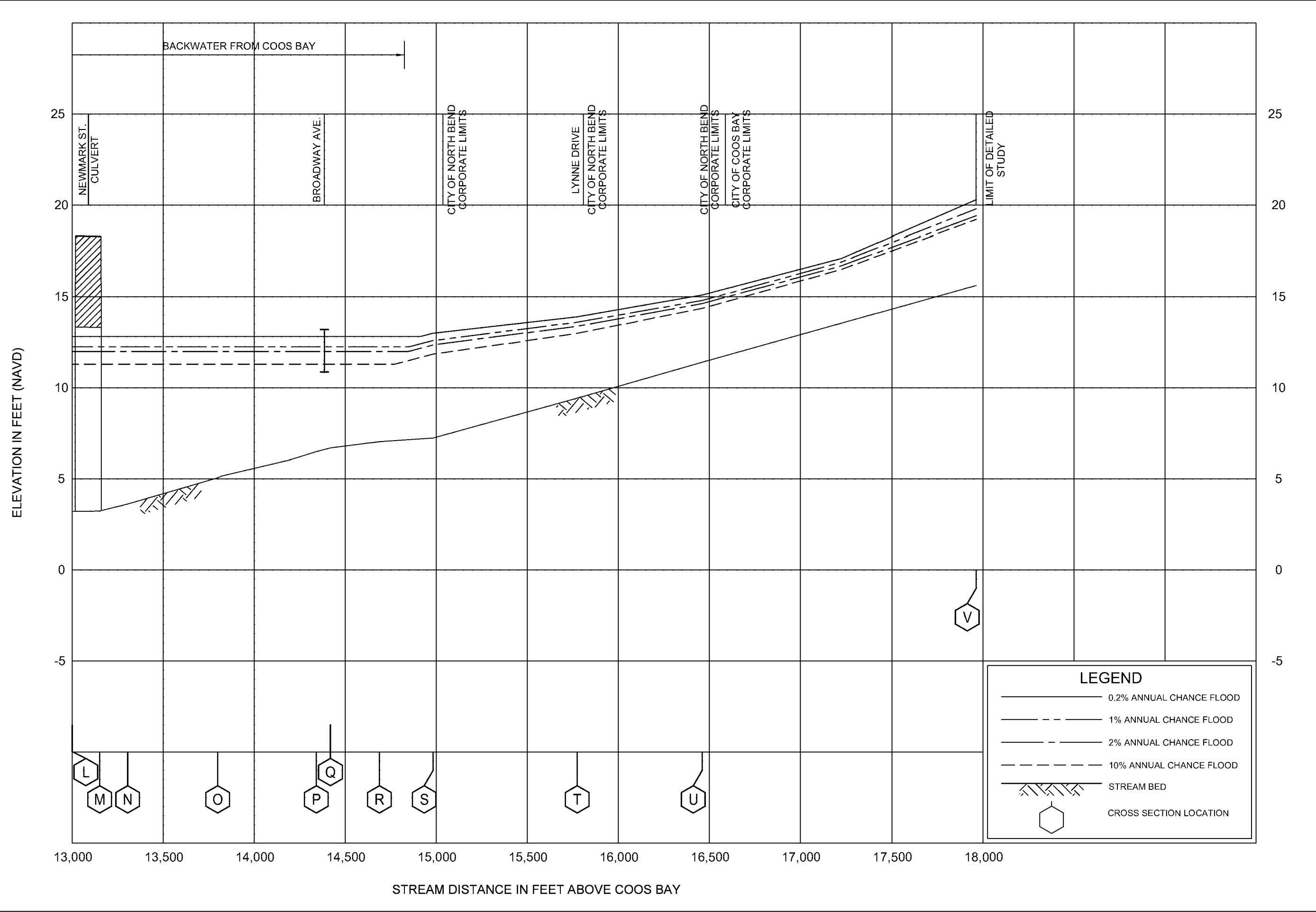


FLOOD PROFILES

PONY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

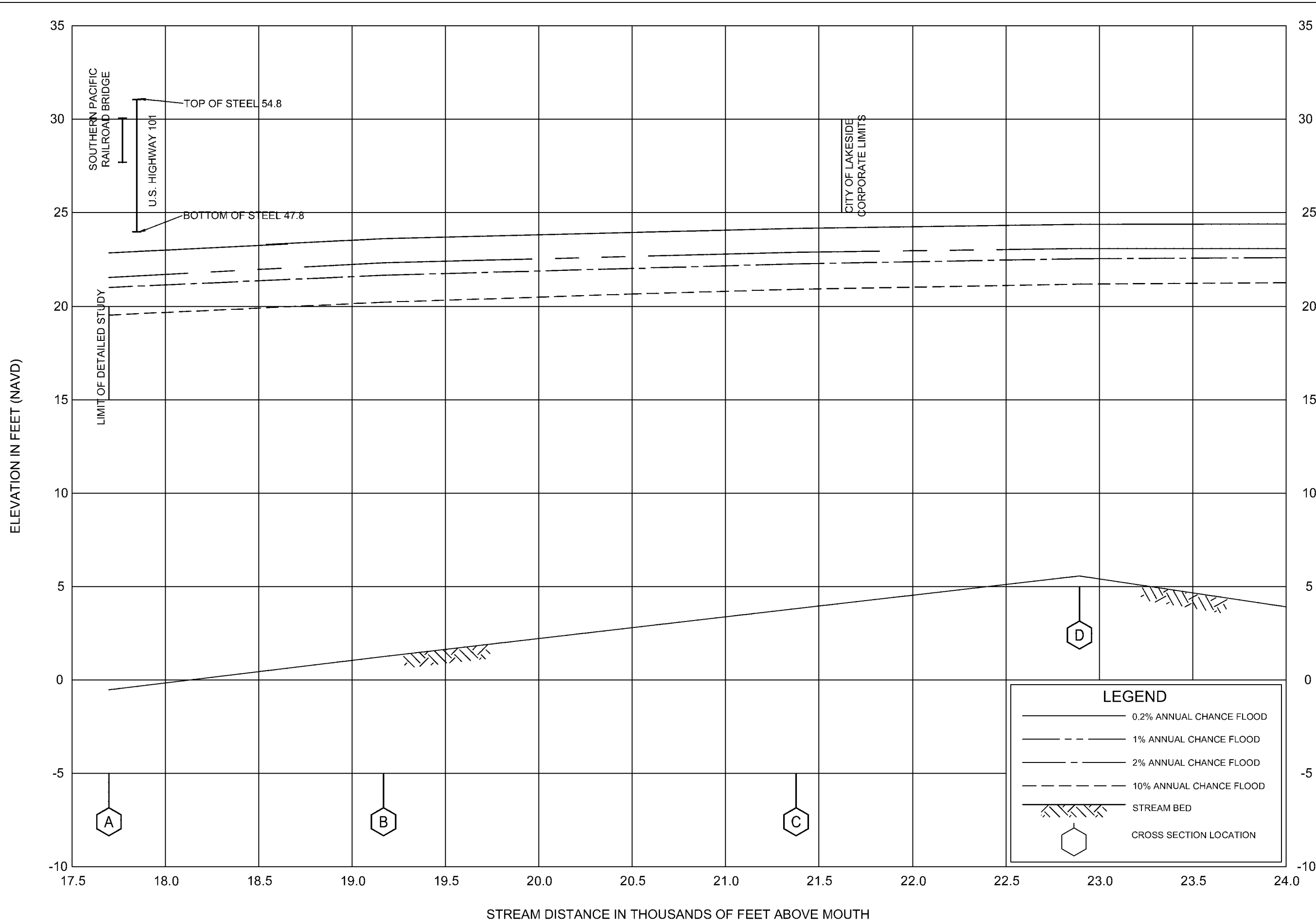
COOS COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

PONY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
 AND INCORPORATED AREAS



FLOOD PROFILES

TENMILE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
COOS COUNTY, OR
 AND INCORPORATED AREAS

