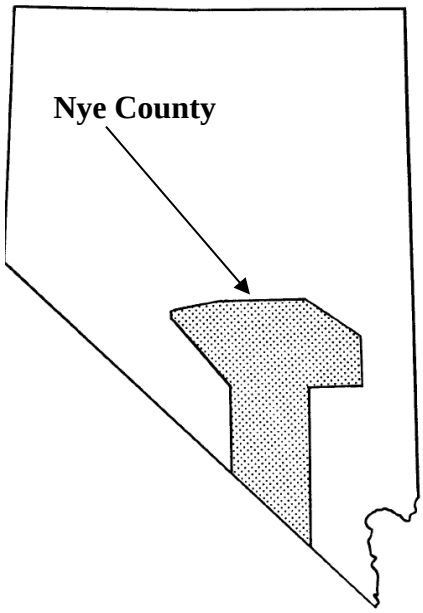
FLOOD INSURANCE STUDY

NYE COUNTY, NEVADA
(ALL JURISDICTIONS)



COMMUNITY NAME	COMMUNITY NUMBER
NYE COUNTY (UNINCORPORATED AREAS)	320018

REVISED: MARCH 6, 2020

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
32023CV000C

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) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Selected Flood Insurance Rate Map (FIRM) panels for the community contain information that was previously shown separately on the corresponding Flood Boundary and Floodway Map (FBFM) panels (e.g. floodways, cross sections). In addition, former flood hazard zone designations have been changed as follows:

Old Zone	New Zone
A1 through A30	AE
B	X (Shaded)
C	X (Unshaded)

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS components.

Initial Countywide FIS Effective Date: February 17, 2010
Revised Countywide FIS Effective Date: December 2, 2015, March 6, 2020

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PUBLISHED SEPARATELY: Flood Insurance Rate Map Index
Flood Insurance Rate Map

FLOOD INSURANCE STUDY
NYE COUNTY, NEVADA (ALL JURISDICTIONS)

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and supersedes the FIS reports and/or Flood Insurance Rate Maps (FIRMs) in the geographic area of Nye County, Nevada, all jurisdictions (hereinafter referred to collectively as Nye County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates. This information will also be used by Nye County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than those on which this federally supported study is based. These criteria take precedence over the minimum Federal criteria for purposes of regulating development in the flood plain, as set forth in the Code of Federal Regulations at 44 CFR, 60.3(c). In such cases, however, it shall be understood that the State (or other jurisdictional agency) shall be able to explain these requirements and criteria.

1.2 Authority and Acknowledgments

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The FIS was prepared to include all jurisdictions within Nye County in a countywide format. Information on the authority and acknowledgements for each jurisdiction included in this countywide FIS, as compiled from their previously printed FIS reports, is shown below.

The original hydrologic and hydraulic analyses for this study were performed by James M. Montgomery, Consulting Engineers, Inc., for the Federal Emergency Management Agency (FEMA), under Contract No. EMW-83-C-1197. This study was completed in September 1985.

A restudy for hydrologic and hydraulic analyses of Slime Wash was conducted by the U.S. Geological Survey (USGS) under Interagency Agreement Nos. EMW-91-E-3535 and EMW-92-E-3847. This study was completed in June 1998.

In February 2009, HDR Engineering Inc. completed a countywide DFIRM and FIS for the County of Nye. HDR Engineering Inc. was hired as a study contractor for FEMA Region IX under contract number EMF-2003-CO-0045, Task Order 28. The DFIRM process included digitizing flood zone boundaries from the effective paper FIRM panels and fitting them to a digital base map, thus converting the existing manually produced FIRM panels to a digitally produced FIRM, referred to as a DFIRM.

A new study of reaches in Nye County included hydrologic and hydraulic analyses performed by BakerAECOM for the Federal Emergency Management Agency (FEMA) under contract number HSFEHQ-09-D-0368, task order number HSFE09-09-J-0002. BakerAECOM was contracted in September 2010, to create a FIRM map revision within Nye County on panels 8720, 8725, 8740, 8750, 8805, 8815, 8825, 8850, 8895, 8915, 8930, and 8940. New detailed studies were performed on Front Sight Wash and Shadow Mountain Wash replacing Zone A areas. A new detailed study was performed on Pahrump Wash revising Zone AO areas.

This revision incorporates updated mapping based on new hydraulic analyses in the Mountain Falls and Hafen Ranch area near Pahrump, Nevada performed by BakerAECOM for FEMA under contract number HSFEHQ-09-D-0368. Updates were made to the Peak Springs Wash for the Federal Emergency Management Agency (FEMA) under regional task order HSFE09-14-J-0025. New detailed studies were performed on Gamebird Road Channel and Yucca Springs Channel replacing Zone A areas. Adjustments were made to the Zone AO delineations for the Mountain Falls, Burson Ranch, and Hafen Ranch developments. The 2018 update to Mountain Falls Lane Split was incorporated by STARR II for FEMA under contract number HSFE60-15-D-0005. The update also included incorporation of Central Interior Conveyance Channel and North Interior Conveyance Channel. The work was completed in November 2018.

Planimetric base map information was provided in digital format for FIRM panels. Public Land Survey System (PLSS) and information on roads and political boundaries were provided by the Bureau of Land Management (BLM) and Nye County. The National Quad Index was provided by United States Geological Survey (USGS). National Agricultural Imagery Program (NAIP) aerial imagery was provided by U.S. Department of Agriculture (USDA). Aerial imagery was used to verify road locations. Users of this FIRM should be aware that minor adjustments may have been made to specific base map.

The coordinate system used for the production of this FIRM is Universal Transverse Mercator (UTM) Zone 11N, North American Datum of 1983 (NAD 83), and GRS 1980 spheroid. Corner coordinates shown on the FIRM are in latitude and longitude referenced to NAD 83. Differences in datum and spheroid used in the production of FIRMs for adjacent counties may result in slight positional differences in map features and at the county boundaries. These differences do not affect the accuracy of information shown on the FIRM.

1.3 Coordination

Consultation Coordination Officer's (CCO) meetings may be held for each jurisdiction in this countywide FIS. An initial CCO meeting is held typically with representatives of FEMA, the community, and the study contractor to explain the nature and purpose of a FIS, and to identify the streams to be studied by detailed methods. A final CCO meeting is typically held with the representatives of FEMA, the community, and the study contractor to review the results of the study.

For the original study of Nye County, flooding sources requiring study by detailed methods were identified at a meeting attended by representatives of the study contractor, FEMA, and Nye County on April 15 and 16, 1983.

Results of the hydrologic analyses were coordinated with the Natural Resources Conservation Service (NRCS), formerly known as U.S. Soil Conservation Service (SCS), Nye County Planning

Department, and Pahrump Conservation District, U.S. Army Corps of Engineers (USACE), State of Nevada Division of Emergency Management, and the USGS.

On August 15, 1989, the results of the study were reviewed at a final meeting attended by representatives of Nye County, FEMA, and the study contractor.

This study was revised on June 8, 1998 to provide detailed flood-hazard information for Slime Wash along U.S. Highway 95, from the Nye-Esmeralda County line to approximately 0.2 mile upstream of U.S. Highway 6.

An initial CCO meeting was held on July 24, 1991 to identify areas requiring detailed flooding analyses. This meeting was attended by representatives of FEMA, the USGS, the study contractor, and the community.

An intermediate CCO meeting was held on September 26, 1995 to discuss the results of the study. This meeting was attended by representatives of FEMA, the study contractor, and the community.

A final CCO meeting was held on May 7, 1997, and was attended by representatives of FEMA, Nye County, and the study contractor. All problems raised at that meeting have been addressed in this restudy.

The dates of the initial and final CCO meetings held for Nye County and the incorporated communities in its boundaries are shown in Table 1, "Initial and Final CCO Meetings."

Table 1 – Initial and Final CCO Meetings

Community Name	Initial CCO Date	Final CCO Date
Nye County,	April 15 & 16, 1983	August 15, 1989
(Unincorporated Areas)	July 24, 1991	May 7, 1997

In 2008, the Community of Gabbs disincorporated from the NFIP and mapping for this area is shown under the unincorporated areas of Nye County.

On June 5, 2008, the initial CCO meeting for the Nye countywide DFIRM and FIS was held. Attending the meeting were representatives of FEMA Region IX, HDR Engineering Inc. the study contractor, and Nye County.

The final CCO meeting for the 2010 Nye Countywide DFIRM and FIS was held on April 14, 2009. This meeting was attended by representatives of FEMA, HDR Engineering Inc., and Nye County.

A final CCO meeting for the 2015 map revision took place on September 20, 2012, and was attended by representatives of FEMA, the community, and the study contractor.

The final CCO meeting for this revision was held on April 27, 2016. This meeting was attended by representatives of FEMA, BakerAECOM, and Nye County.

For the Mountain Falls PMR, an Open House was held on February 23, 2017 at the Nye County Pahrump Planning Office. The Open House was attended by representatives of FEMA, the community, and the study contractor.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Nye County, NV, all jurisdictions. The scope and methodologies used in preparation of this FIS were agreed upon in joint consultation between FEMA and Nye County. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction.

All or portions of the flooding sources listed in Table 2, "Flooding Sources Studied by Detailed Methods," were studied by detailed methods. Limits of detailed study are indicated on the Flood Profiles (Exhibit 1) and on the FIRM.

Table 2 – Flooding Sources Studied By Detailed Methods

Amargosa River	Irene Wash
Bell Vista Wash	Last Chance Wash
Central Interior Conveyance Channel	Mountain Falls Lane Split
Conejo Canyon Creek	North Interior Conveyance Channel
Dry Canyon Creek	Pahrump Valley Wash
First Chance Wash	Pahrump Wash
Fluorspar Canyon	Peak Springs Wash
Front Sight Wash Central	Shadow Mountain Wash
Front Sight Wash North	Slime Wash
Front Sight Wash South	Wheeler Wash
Gamebird Road Channel	Wood Canyon Creek
High Peak Wash	Yucca Springs Channel

Approximate analyses were used to study only those areas having low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and Nye County. All or portions of the flooding sources listed in Table 3, "Flooding Sources Studied by Approximate Methods," were studied by approximate methods.

Table 3 – Flooding Sources Studied By Approximate Methods

Adams-McGill Reservoir	Amargosa River	Bald Mountain Wash
Barley Creek	Beatty Wash	Big Spring Wash
Blackrock Canyon Creek	Bonnie Claire Lake	Box Canyon Creek
Bull Creek	Carson Slough	Clear Creek
Clover Creek	Cockalorum Wash	Corcoran Creek
Craig Canyon Creek	Currant Creek	Dacey Reservoir

Table 3–Flooding Sources Studied By Approximate Methods (continued)

Danville Creek	Dry Canyon Creek	Dry Lake
Duck Water Creek	Ellsworth Canyon Creek	Fortymile Wash
Fourmile Canyon Creek	Gabbs Wash	Germany Canyon Creek
Hay Meadow Reservoir	Hicks Station Wash	Hot Creek
Hunts Canyon Creek	Indian Creek	Jumbled Rock Gulch
Lebeau Creek	Little Smokey Valley	Lunar Lake
Luther Waddles Wash	Marble Falls Canyon Creek	Meadow Creek
Milton Canyon Creek	Mission Canyon Creek	Moon River
Moores Station Wash	Mosquito Creek	Mountain View Canyon Creek
Mud Lake	Orange Lichen Creek	Peak Springs Wash
Peavine Creek	Pine Creek	Pritchards Canyon Creek
Reese River	Rock Valley Wash	Sand Springs Wash
Savory Creek	Sevenmile Wash	Silver Creek
Snowball Creek	Spanish Canyon Creek	Stargo Creek
Sunnyside Creek	The Big Wash	Topopah Wash
Tulle Creek	Tule Field Reservoir	Twin Spring Slough
Tybo Creek	Water Canyon Creek	Wheeler Wash
White River	White River Pass Canyon Creek	Willow Creek
Big Cow Canyon Creek	Big Fault Wash	Big White Sage Canyon Creek
Chimney Canyon Creek	Cloverdale Creek	Corral Canyon Creek
Cottonwood Creek	Cottonwood Wash	Granite Canyon Creek
Hacksaw Canyon Creek	Hilderbrand Canyon Creek	Horse Canyon Creek
Idlewild Creek	Ikes Canyon Creek	Illinois Creek
June Canyon Creek	Kiln Canyon Creek	Little Cottonwood Canyon Creek
Little Cow Creek	Little Fish Lake	Little White Sage Canyon Creek

Table 3–Flooding Sources Studied By Approximate Methods (continued)

Morey Canyon Creek	Neversweat Canyon Creek	Old Dominion Canyon Creek
Round Spring Canyon Creek	Sawmill Creek	South Six Mile Canyon Creek
Stewart Creek	Stoneberger Creek	Troy Creek
Upper Fish Lake	Wood Canyon Creek	

2.2 Community Description

Nye County is located in southern Nevada and is bordered by Churchill, Lander, and Eureka Counties to the north; White Pine, Lincoln, and Clark Counties to the east; Mineral and Esmeralda Counties to the west; and Inyo County, California, to the south. Nye is the third largest county in the United States based on land area, covering some 11,614,080 acres or nearly 18,147 square miles. The county was established in 1864 and is mostly rural in nature. Of the approximately 11.6 million acres within the county, 98% of the land is owned by the federal government. A large part of the remaining 2% is made up of six main communities, based on population. Those communities are the towns of Tonopah, Amargosa Valley, Beatty, Gabbs, Pahrump, and Round Mountain/Smoky Valley. Tonopah, located 207 miles northwest of the City of Las Vegas, is the county seat. The Cities of Beatty and Pahrump are 112 miles and 59 miles from the City of Las Vegas, respectively. The majority of Nye County's development has occurred in the Pahrump Valley, located in southeastern Nye County. There has also been significant development in the Beatty area, located in southwestern Nye County and in the Tonopah area, located in west-central Nye County.

The weather in Nye County is arid, characterized by sparse rainfall, low humidity, and wide extremes in daily temperatures. The rainfall and ambient temperatures for the county vary greatly based on elevation. The terrain in Nye County is characterized by a series of ridges and valleys, especially in the northern half of the county. Valley bottoms are mostly above 4000 feet in elevation. The mountain ranges are generally more than 10,000 feet in elevation. As a result, much of the counties precipitation falls as snow in the higher elevations. In many areas of the county, rainfall averages are less than 10 inches annually. Temperatures rarely fall below -15°F in winter and frequently exceed 100°F in summer.

Winter storms in the area are regional in nature. These storms are associated with broad low-pressure systems that develop over the Pacific Ocean and move easterly. Precipitation from these storms is generally widespread and is intense only on rare occasions.

Summer storms, however, occur as localized thunderstorms and can be intense. These local convective storms are associated with moisture from the Gulf of California and the southern Pacific Ocean that move northeasterly. Floods occurring in the valleys are generally associated with precipitation from the summer convective thunderstorms in the mountains, known locally as "cloudbursts". These storms may bring to a locality as much rain in a few hours as would normally fall in several months. (U.S. Department of the Interior, 1832, 1967, U.S. Department of the Interior, Geological Survey, 1980, and Western Regional Climate Center, 2018).

Due to the aridity of the desert in which Nye County is located, the area is dry except during and shortly after a storm. When a major storm does move into the area, water collects rapidly as surface runoff and reaches the area in a short period of time. Consequently, resultant flood flows are of the flash type, having sharp peaks and short durations.

Because the area exhibits such drastic elevation changes from its valleys to its peaks and from the south to the north, the region supports a variety of vegetative species ranging from those adapted to the desert to those adapted to forest and alpine environments. The landscape and vegetation in the county varies greatly depending on location. In the southern reaches of the county, vegetation is relatively sparse. In the northern half of the county, vegetation is more continuous and varied, depending on elevation. A series of mountain ranges that run from north to south create conditions favorable for forests dominated primarily by pinyon-juniper that give way to brush and grasses in the lower elevations. Soils vary from sandy to rocky and are mostly of volcanic origin. Native vegetation in the county is adapted to the area's highly variable precipitation pattern. It is common for periods of drought to be followed by one or more wet years. Native perennial shrubs and grasses have adapted to these unusual conditions by developing deep root systems and other characteristics designed to conserve moisture.

Up until the late 1960s, agriculture was the primary base of the economy, with cotton and alfalfa being the principal crops. Since then, much of the privately-owned land has been taken out of agricultural production and subdivided for real estate development, which became a major factor in the economy of the Pahrump Valley (U.S. Department of the Interior, Geological Survey, 1982). Throughout the 1970's and the early 1980's, commercial development was made up mainly of lumber yards, hardware stores, gas stations, restaurants, and motels along the highways. Additionally, residential development, consisting primarily of retirement homes, was occurring in and around the Pahrump Valley. Since then, Nye County, as a whole, has developed a varied economic base which includes Natural Resources (agriculture) and Mining; Government; Leisure and Hospitality; and Trade, Transportation and Utilities. Additional sectors influencing Nye County's economy include Health and Education Services and Construction.

The population of Nye County is heavily concentrated in the Pahrump Valley. The unincorporated community of Pahrump is located in the southern portion of Nye County, and is approximately 59 miles west of Las Vegas. It is situated in the north-central part of the Pahrump Valley, with the majority of the approximately 364 square miles of the township having developed west of State Highway 160. According to the 1980 census (U.S. Department of Commerce, Bureau of the Census, 1980, 1981), an estimated 1,375 people populated the township of Pahrump. The estimated population of the unincorporated areas of Nye County was 16,170 in July 1988 (U.S. Department of Commerce, Bureau of the Census, July 1988). In 2000, the population had doubled to 32,485 (U.S. Census Bureau 2000).

As of April 1, 2010, the population of Pahrump was 36,441 (U.S. Census Bureau 2010), approximately 83% of the total population of Nye County, 43,946 (U.S. Census Bureau 2010). The current total population estimate for Nye County as of July 1, 2017 is 44,202 (U.S. Census Bureau V2017), an estimated population growth of 0.6% over 7 years (U.S. Census Bureau V2017).

According to the National Weather Service records for the climatological station maintained by the University of Nevada at the Pahrump Ranch since 1958, temperatures in the Pahrump Valley have ranged from a high of 106°F in July to a low of 17 ºF in January. The average monthly temperature is 62°F. Total rainfall in the area ranges from approximately 1 to 10 inches per year. The annual average rainfall is 5.07 inches. There has been no measurable snowfall recorded in the valley (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Climatological Data, State of Nevada, and U.S. Climate Data).

The topography affecting flooding along the southern part of the Pahrump Valley differs markedly from that along the north. The southeast side of the valley is characterized by large

alluvial fans; the northwest by playas, or "dry lakes". Soils in the valley are derived from the unconsolidated and partly consolidated deposits which form the valley fill. This includes boulders, gravel, sand, silt, clay, and mudflow debris (U.S. Department of the Interior, Geological Survey, 1982).

Natural vegetation in the valley is typical of the Mojave Basin desert region and includes creosote bush, a variety of yuccas, mesquite, and sagebrush.

2.3 Principal Flood Problems

Floodwater in the Pahrump Valley originates in the mountains surrounding the valley. Each mountain side watershed is affected dramatically by the downstream alluvial fans which split and spread flows before reaching the Pahrump Valley. Alluvial fans typically cause sudden lateral migration as high velocity, sediment laden watercourses deposit and scour new flow paths. State Highway 160, which skirts the bottom of these alluvial fans, intercepts and redirects most small to intermediate flows before they reach the Pahrump Valley bottom. Existing drainage structures along Highway 160 are not large enough, or in substantial enough number to convey even the 25yr, 24hr storm events. Therefore, large storm events are assumed to overtop the Highway and are not significantly channeled or diverted. Once these flows pass Highway 160 they proceed across the Pahrump Valley in a southwesterly direction and are affected greatly by street and urban development. Analyses of topography patterns reveal that shallow flooding may occur all around the valley, particularly in the eastern, central, and western portions. Flows eventually exit the Pahrump Valley at the junction of Highway 372 and the Nevada-California state line into a naturally flat dry lake bed. The primary flooding sources are Wheeler Wash, Pahrump Valley Wash, and various other unnamed washes (Nevada Flood Risk Portfolio, September 2013).

In August 1983, water from a storm in excess of a 1.3% annual chance event originated in the north andflooded approximately 14 miles of State Highway 160, and then flowed through the western side of the township of Pahrump (State of Nevada, Department of Transportation, August 18, 1983, October 1983).

In September 1997, Pahrump experienced historic rainfall from a series of thunderstorms which produced flash floods throughout the region.

In June and September 2003, Pahrump experienced major flash flooding with reported depths of 3-4’ in some areas.

The Gabbs Valley Watershed remains largely undeveloped. The small town of Gabbs is the population center. Just two highways bisect this basin, Hwy 361, north-south, and Hwy 722, east-west. There are numerous un-named washes flowing out of the hills into the valley. The highest potential source of flooding in Gabbs is from flash floods.

The Amargosa River has a drainage area of 459 square miles and a 1% annual chance peak discharge of 18,400 cfs and is the major flooding source for the Upper Amargosa HUC-8 watershed. Thereare numerous mapped drainages that cross Highway 95 and have the potential to cause roadclosures. There are some Special Flood Hazard Zones mapped in the town of Beatty.

In March 1995, flood waters from the Fortymile Wash caused flash flooding near the Department of Energy’s Yucca Mountain Complex which was a cause of major concern. The 1995 streamflow was dominated by high-magnitude runoff of relatively short duration in the Beatty and Fortymile Washes, probably enhanced by localized precipitation on snowpack in the upper

altitudes of the Nevada Test Site (NTS). In Fortymile Wash, a peak streamflow of about 3,000 ft^3/s severely scoured and eroded the channel and caused extensive road damage on the NTS and to U.S. Highway 95 (Tanko and Glancy, 2001).

In February 1998, a regional storm produced 1.10-2.81 inches of measured precipitation, which resulted in minor flooding throughout the Amargosa River drainage basin. The February 1998 flooding was attributed to persistent, widespread precipitation, over several days, which eventually caused streamflow in most major tributaries to Fortymile Wash and the Amargosa River. Although snowpack accumulation was observed at higher altitudes within the region during February 1998, snowpack melting was not a major factor during the 1998 flood (Tanko and Glancy, 2001).

Southern Big Smokey Valley is a sparsely populated HUC-8 watershed. The Southern Big Smokey Valley watershed is mainly in Nye and Esmeralda Counties. There are no significant watercourses. FEMA Special Flood Hazard Areas cover some of the Big Smokey Valley floor. These flood zones are caused by flash floods originating in the surrounding hills. Tonopah is the only significantly populated place within the watershed and has mapped high hazard zones along Main Street (Highway 95). The flood zones depicted along Hwy 95 in central Tonopah include some street front properties.

The Ralston-Stone Cabin watershed is very sparsely populated. Flood hazard zones are mapped along some of the valley floors and major washes. Highway 6 bisects this watershed. There are flood zones along the highway that suggest possible road closures during significant flooding events.

The fans in the Shadow Mountain area are generally low relief, ranging in slope from about 1-4% longitudinally. The upstream contributing areas are also fairly small. Except immediately downstream of the fan apex, the fans in the Shadow Mountain area likely exhibit a low debris flow risk. Downstream, the fans terminate at a very broad, flat alluvial valley where most of the residences and structures are located.

2.4 Flood Protection Measures

The special flood hazard areas of Pahrump are subject to periodic inundation that results in loss of property, creates health and safety hazards, disrupts commerce and governmental services, causes extraordinary public expenditures for flood protection and relief, and impairs the County and District's tax base; all of which adversely affect public health, safety, and general welfare. To avoid, minimize, and/or mitigate damage or destruction due to flooding, the Nye County Board of Commissioners adopted Nye County Ordinance No. 149. This Ordinance, known as the Nye County Flood Damage Prevention Ordinance was put into effect February 1, 1993 (Pahrump Regional Planning District Master Plan, 2010). The Nye County Flood Damage Prevention Ordinance was implemented in accordance with the National Flood Insurance Program (NFIP) regulations. These regulations require that no person shall be allowed to begin any construction or development (i.e., erection, addition, alteration or change in a building or land surface including grading) within any area of special flood hazard without first obtaining a Flood Damage Prevention Permit from Nye County.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the community, standard hydrologic and hydraulic study methods were used to determine the flood-hazard data required for this study.

Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 2-, 1-, or 0.2-percent annual chance period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent annual chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at shorter intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) in any 50-year period is approximately 40 percent (4 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish peak discharge-frequency relationships for flooding sources studied by detailed methods affecting the community.

Nye County has a previously printed FIS report. The hydrologic analyses described in that report is summarized below.

The initial approach for modeling the hydrology of the Pahrump Valley watershed involved the USGS regional regression equations. However, investigations showed that available USGS methods applicable to many regions in Nevada were not applicable to the study area due to lack of reliable regression relationships, or to limitations on the range of parameters (e.g., drainage area) allowed by particular equations. Because of this, a TR-20 analysis of the Pahrump Valley completed by the Las Vegas Office of the NRCS in 1984 was evaluated (U.S. Department of Agriculture, Soil Conservation Service, 1982). Since the NRCS flows appeared to be based on more reliable data (watershed area, time of concentration, curve number), the TR-20 modeling approach of the NRCS was used to estimate the peak flows for this restudy. Data from USGS topographic maps, the NOAA Precipitation Atlas (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1973), and the existing TR-20 model of the Pahrump Valley provided by the Las Vegas Office of the NRCS were incorporated into the analysis of the hydrology for this study.

For the Amargosa River watershed, the proposed method for modeling its hydrology also involved the USGS regional regression equations. As with the Pahrump Valley hydrologic analysis, the regression equations were not applicable to the study area. The size of the drainage area (459 square miles) also precluded the use of the TR-55 graphical or tabular hydrograph methods for the Amargosa River watershed. Thus, a TR-20 model of the Amargosa River above Beatty was developed using data from USGS topographic maps, and the NOAA Precipitation Atlas (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1973).

In the June 1998 restudy, hydrologic analyses were carried out to establish peak discharge frequency relationships for Slime Wash. Drainage-basin parameters for the watershed were determined using USGS 7.5-minute series topographic maps (U.S. Department of the Interior, 1987). Precipitation data were obtained from the following National Oceanic and Atmospheric Administration (NOAA) publications: "Climatological Summary, Tonopah, Nevada" (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather

Service, Climatological Summary, Tonopah, Nevada); NOAA Atlas 2, "Precipitation-Frequency Atlas of the Western United States, Volume VII-Nevada" (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1973); and "Hourly Precipitation Data, Nevada" (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Hourly Precipitation Data, Nevada). Additional information for the flood-frequency analyses was provided by the USGS with OpenFile Reports 80-963, "Flood Potential of Topopah Wash and Tributaries, Eastern Part of Jackass Flats, Nevada Test Site, Southern Nevada," and 93-419, "Methods for Estimating Magnitude and Frequency of Floods in the Southwestern United States" (U.S. Department of the Interior, 1980 and U.S. Department of the Interior, 1994, respectively).

Estimates of the 1-percent annual chance flood-frequency value for the study area were performed using a Log-Pearson Type III analysis (U.S. Department of Commerce, 1982) of the annual peak record from 12 area stations. This analysis resulted in a peak discharge-frequency relationship and included regression analyses of drainage area vs. peak discharge. One estimate of discharge was 950 cubic feet per second (cfs), while another was 2,900 cfs (U.S. Department of the Interior, Geological Survey, 1983 and Arteaga, F.E., Unpublished, 1994, respectively).

For the June 1998 restudy, the USACE HEC-l computer program (U.S. Department of the Army, Corps of Engineers, 1981) was used to develop the hydrograph and routing for the watershed. Using HEC-l, the discharge was determined to be 2,300 cfs at the downstream limit of the watershed. Discharges computed using the HEC-l computer program were used in the hydraulic analyses for this restudy.

For recent revisions to the county-wide FIS, hydrologic analyses were performed to establish peak discharge-frequency relationships for each of the restudied streams. These discharges were developed as part of the "Hydrologic Analysis, Pahrump Valley PMR, Nye County, Nevada," prepared by BakerAECOM. Flood hydrographs and peak discharge values for the flood events were performed using the US Army Corps of Engineers (USACE) HEC-HMS, version 3.5, computer modeling program.

This hydrologic analysis includes hydrologic modeling of the Pahrump Valley watershed upstream of the Nevada/California boundary, where flows affect development near the City of Pahrump, Nevada. The total contributing area of the watershed modeled is approximately 531 square miles.

Precipitation values were taken from the National Oceanic and Atmospheric Agency's (NOAA) Atlas 2. NOAA Atlas 14 data was also considered, but was ultimately disregarded when preliminary analysis showed that peak discharges were being overestimated for high elevation subbasins. Due to the large size of the watershed, depth area reduction factors were used.

Precipitation losses were calculated using the SCS Curve Number method. Land use types were taken from the USDA/NRCS National Land Cover Dataset (NLCD) and hydrologic soil group values were taken from the USDA soil surveys.

The SCS Unit Hydrograph Method was used to model runoff transformation. Lag time calculations were based on recommendations from the Clark County, Nevada, Regional Flood Control District Drainage Manual.

Channel routing was modeled using the Muskingum-Cunge routing method. Parameters for channel characteristics were estimated using two-foot contour data and aerial imagery provided by Nye County.

A summary of the drainage area-peak discharge relationships for streams studied by detailed methods is shown in Table 4, “Summary of Peak Discharges.”

Table 4 - Summary of Peak Discharges

Flooding Source and Location	Drainage Area (sq. mi.)	Peak Discharges (cfs) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Amargosa River					
At Beatty	459.0	7,490	15,000	18,400	27,000
Bell Vista Fan					
At Fan Apex	1.8	70	232	223	1,120
First Chance Fan					
At Fan Apex	0.2	35	76	98	210
At N. Corbin Street	1.0	143	308	384	820
Front Sight Wash					
At State Hwy 16	63.7	2,429	4,545	5,623	10,600
At Nevada-California state line	64.9	2,437	4,566	5,632	10,600
High Peak Fan					
At Fan Apex	0.8	112	256	334	760
At N. Warren Street	2.5	147	383	538	1,390
Approximately 600 feet upstream of N. Murphy Street	3.9	147	424	605	1,730

Table 4 - Summary of Peak Discharges (continued)

Flooding Source and Location	Drainage Area (sq. mi.)	Peak Discharges (cfs) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Central Interior Conveyance Channel					
At Outlet	*	*	*	190	*
Irene Wash					
Approximately 1,300 feet upstream of Irene Street	0.4	17	60	86	290
Last Chance Fan					
At Fan Apex	1.0	122	259	332	700
At Jarvis Road	2.4	185	452	594	1,460
Pahrump Wash					
At Hwy 372	224.9	7,277	14,944	20,038	41,900
Approximately 2,400 feet downstream of Hwy 372	232.9	7,264	14,965	19,994	41,700
At Nevada-California state line	233.4	7,232	14,878	19,938	41,500
Gamebird Road Channel					
At Outlet	*	*	*	200	*

Table 4 - Summary of Peak Discharges (continued)

Flooding Source and Location	Drainage Area (sq. mi.)	Peak Discharges (cfs) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Peak Springs Wash					
At Fan Apex	9.7	1,094	2,268	2,971	6,100
Approximately 7,200 feet upstream of Hafen Ranch Road	45.8	2,098	4,459	6,484	14,200
Shadow Mountain Wash					
Approximately 1.9 miles upstream of N. Corbin Road	4.6	393	906	1,192	2,750
Upstream of N. Corbin Road	6.1	413	997	1,344	3,250
Downstream of N. Corbin Road	10.3	652	1,652	2,202	5,500
Slime Wash					
Approximately 1,500 feet downstream of the Nye-Esmeralda County Line	3.29	*	*	2300	*
Approximately 1,100 feet upstream of the Nye-Esmeralda County Line	2.15	*	*	1530	*
Approximately 2,000 feet upstream of the Nye-Esmeralda County Line	1.84	*	*	1360	*
At Florence Ave	1.45	*	*	1130	*
At Magnolia Ave	0.87	*	*	700	*

Table 4 - Summary of Peak Discharges (continued)

Flooding Source and Location	Drainage Area (sq. mi.)	Peak Discharges (cfs) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Wheeler Wash Fan					
At Fan Apex	79.08	10,206	19,032	22,660	30,752
North Interior Conveyance Channel					
At Outlet	*	*	*	220	*
Mountain Falls Lane Split					
At Outlet	*	*	*	676	*
Yucca Springs Channel					
At Outlet	*	*	*	1,500	*

*Data Not Computed

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were performed to provide estimates of the flood elevations of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

Cross sections were determined from topographic maps and field surveys. All bridges, dam, and culverts were field surveyed to obtain elevation data and structural geometry. All topographic mapping used to determine cross sections are referenced in Section 4.1.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles. For stream segments for which a floodway was computed (see Section 4.2), selected cross-section locations are also shown on the FIRM.

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All qualifying bench marks within a given jurisdiction that are cataloged by the National Geodectic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First of Second Order Vertical and have a vertical stability classification of A, B, or C are shown and labeled on the FIRM with their 6-character NSRS Permanent Identifier.

Bench marks cataloged by the NGS and entered into the NSRS vary widely in vertical stability classifications. NSRS vertical stability classifications are as follows:

- Stability A: Monuments of the most reliable nature, expected to hold position/elevation well (e.g., mounted in bedrock)
- Stability B: Monuments which generally hold their position/elevation well (e.g., concrete bridge abutment)
- Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monument blow frost line)
- Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

In addition to NSRS bench marks, the FIRM may also show vertical control monuments established by a local jurisdiction; these monuments will be shown on the FIRM with the appropriate designations. Local monuments will only be placed on the FIRM in the community has requested that they be included, and if the monuments meet the aforementioned NSRS inclusion criteria.

To obtain current elevation, description, and/or location information for bench marks shown on the FIRM for this jurisdiction, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Nye County has a previously printed FIS report. The hydraulic analyses described in that report is summarized below.

Cross sections for the backwater analyses for Amargosa River were obtained from an aerial survey conducted in May 1984. This information was augmented by relative channel sections obtained by field measurements.

Roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment and based on field observations of the stream and floodplain areas. Roughness values for the main channel of Amargosa River ranged from 0.030 to 0.040, while floodplain values ranged from 0.030 to 0.045.

Water-surface elevations of floods of the selected recurrence intervals were computed using the USACE HEC-2 step-backwater computer program (U.S. Department of the Army, Corps of Engineers, September 1982).

Flood profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals. The starting water-surface elevation for Amargosa River was calculated using the slope-area method. The initial hydraulic analysis indicated that certain portions of Amargosa River will experience supercritical flows. However, for flood insurance purposes the water-surface elevations shown in the Flood Profiles (Exhibit 1) represent the subcritical analyses.

The FEMA alluvial fan methodology was used to determine the flood depths and velocities on the Wheeler Wash alluvial fan (Federal Emergency Management Agency, Office of Natural and Technological Hazards, 1982). For portions of this fan, it was determined that flood events consist of multiple channels. Therefore, the methodology for multiple flood channels was used to analyze the multiple channel regions.

For the shallow flooding areas of East and West Pahrump Valley, the preliminary hydraulic analyses indicated that 1-percent annual chance flooding consisted of sheet flow with average depths of 3.0 feet or less. Depths or elevations of shallow flooding in these areas were computed using backwater analyses performed utilizing the USACE HEC-2 computer program (U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, 1982), normal depth calculations, topographic data, and historical information. Computed flow paths and flood depths were compared with accounts of historical flooding and the results of previous studies whenever possible.

Shallow flooding is often characterized by highly unpredictable flow directions, caused by low relief or shifting channels and high debris loads. Where such conditions exist, the entire area susceptible to this unpredictable flow was delineated as a zone of equal risk. Small-scale topographic variations were averaged across inundated areas to determine flood depths.

Approximate Zone A areas were determined based on historical records of flooding and using engineering judgment. Areas studied by approximate methods include: Peak Springs, Unnamed Western Wash fans, and an area approximately 4 miles southwest of the Town of Pahrump.

For the June 1998 restudy, hydraulic analyses were performed using the Federal Highway Administration WSPRO computer program (U.S. Department of Transportation, Federal Highway Administration, 1988) for the purpose of determining 1-percent annual chance base flood elevations along Slime Wash.

Cross sections for the WSPRO program were obtained from an aerial survey conducted in July 1992 (Boundy Land Surveying, Aerial Photographs: 1992 and Federal Emergency Management Agency 1990).

Roughness factors (Manning's "n" values) used in the hydraulic computations were chosen by engineering judgment and based on observations of channel and floodplain areas as shown on the aerial photographs. Roughness values for the main channel and overbanks ranged from 0.025 to 0.045. Obstructions in overbank areas were noted and given considerably higher "n" values, as high as 0.500.

Hydraulic Analyses Included in the December 2, 2015 Revision

Terrain data for hydraulic modeling was based on Digital Elevation Models (DEMs) and contours provided by Nye County. The terrain data is based on Light Detection and Ranging (LiDAR) data collected by Aero-Graphic, Inc. on October 25, 2010. Field survey data for channels and structures was collected by Harned Surveying and Engineering, Inc. in March 2011. All topographic data is referenced to the North American Vertical Datum of 1988 (NAVD 1988).

For Front Sight Wash, Pahrump Wash, and Shadow Mountain Wash, hydraulic analysis was performed using USACE's computer modeling program HEC-RAS, version 4.1. Manning's "n" roughness values were set to 0.035 for most cross-section locations, indicative of the mostly arid, sandy terrain with little to no vegetation. Higher manning's "n" roughness values (0.045 or 0.055) were used in areas with light or moderate vegetation. Normal depth was used as the downstream boundary condition.

Preliminary analysis on Front Sight Wash indicated that flooding, even during large storm events, would be separated into three distinct channels (Front Sight Wash North, Front Sight Wash Central, and Front Sight Wash South). These three channels were analyzed separately. The North and South Washes eventually confluence with Front Sight Wash Central in a flat, unconfined area approximately 2,000 feet upstream of the Nevada-California state line.

Floodways were calculated for Front Sight Wash, Pahrump Wash, and Shadow Mountain Wash using the equal conveyance reduction method. Floodway delineation was created using engineering judgment between modeled cross sections.

Bell Vista Wash, First Chance Wash, High Peak Wash, and Last Chance Wash all exhibit signs of active alluvial fan flooding. The FAN computer modeling program was used to calculate average flooding depths and velocities for the 1-percent-annual-chance flooding event. Avulsion factors of 1.0 and 1.5, manning's "n" values of 0.035 and 0.05, and multiple and single channel conditions were modeled to determine applicability of resulting flood hazard determinations based on field conditions. Modeled slopes were determined from terrain data.

Hydraulic analysis of the Shadow Mountain Wash alluvial plain was performed using the FLO-2D computer modeling program, version 2009.06. Grid cells 50 feet were used for Shadow Mountain Wash. Precipitation and precipitation losses were determined using methods consistent with the hydrologic analysis for this area. Width reduction factors were applied where large structures spanned more than half of a grid cell. The levee option was used to model hydraulic impacts of masonry fences, with failure criteria set to an adjacent flow depth of 2.5 feet. Model simulation duration was extended to capture peak discharge at all outflow cells. A maximum allowable Froude number was set to 0.8-0.9 to maintain subcritical flow throughout the model domain. Flood hydrographs for the 1-percent-annual-chance flooding event were evenly distributed across representative inflow cells. Outflow cells were assigned to the down gradient boundary of the model domain. The starting water-surface elevation was

determined using critical depth. Hydraulic analyses indicate that portions of the flood-hazard area will experience supercritical flows. However, for flood insurance purposes, areas of supercritical flow are plotted at critical depth on the flood profiles.

New Hydraulic Analyses Included in this Revision

Hydraulic analysis of the Peak Springs Wash alluvial plain was performed using the FLO-2D computer modeling program, version 2009.06. Grid cells of 150 feet were used for undeveloped or single lot development areas. Grid cells of 15 feet were used in developed areas where drainage infrastructure exists. Within the overall Peak Springs Wash area, Gamebird Road Channel, Yucca Springs Channel, Central Interior Conveyance Channel, North Interior Conveyance Channel, and Mountain Falls Lane Split were identified as distinct detailed reaches. Precipitation and precipitation losses were determined using methods consistent with the hydrologic analysis for this area. Width reduction factors were applied where large structures spanned more than half of a grid cell. The levee option was used to model hydraulic impacts of masonry fences, with failure criteria set to an adjacent depth of 2.5 feet. Model simulation duration was extended to capture peak discharge at all outflow cells. A maximum allowable Froude number was set to 0.8-0.9 to maintain subcritical flow throughout the model domain. Flood hydrographs for the 1-percent-annual-chance flooding event were evenly distributed across representative inflow cells. Outflow cells were assigned the down gradient boundary of the model domain. The terrain data for the detailed Mountain Falls model includes a blend of higher accuracy aerial topographic survey data in the western portion of the model, provided by Taney Engineering in April 2018. All topographic data is referenced to the North American Vertical Datum of 1988 (NAVD 1988).

Exhibit 1, "Flood Profiles," was modified to reflect the changes resulting from the new study.

A summary of Manning's "n" values used in this countywide FIS study are contained in Table 5, "Manning's "n" Values."

Table 5 – Manning's "n" Values

Stream	Left Overbank "n"	Channel "n"	Right Overbank "n"
Amargosa River	0.030-0.045	0.030-0.040	0.030-0.045
Central Interior Conveyance Channel	0.02-0.50	0.04	0.02-0.50
Front Site Wash	0.035	0.035	0.035
Gamebird Road Channel	0.02-0.50	0.04	0.02-0.50
Mountain Falls Lane Split	0.02-0.50	0.04	0.02-0.50
North Interior Conveyance Channel	0.02-0.50	0.04	0.02-0.50
Pahrump Wash	0.035	0.035-0.055	0.035
Shadow Mountain Wash	0.035	0.035	0.035
Slime Wash	0.025-0.500	0.025-0.045	0.025-0.500
Yucca Springs Channel	0.02-0.50	0.04	0.02-0.50

Embankments Hazard Analysis

Some flood hazard information presented in prior FIRM panels and in prior FIS reports for Nye County was based on flood protection provided by embankments. Based on the information

available and the mapping standards of the NFIP at the time that the prior FISs and FIRM panels were prepared, FEMA accredited the embankments as providing protection from the flood that has a 1-percent-chance of being equaled or exceeded in any given year. For FEMA to continue to accredit the identified embankments with providing protection from the base flood, the embankments must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled "Mapping of Areas Protected by Levee Systems."

On August 22, 2005, FEMA issued *Procedure Memorandum No. 34 - Interim Guidance for Studies Including Levees*. The purpose of the memorandum was to help clarify the responsibility of community officials or other parties seeking recognition of an embankment by providing information identified during a study/mapping project. Often, documentation regarding levee design, accreditation, and the impacts on flood hazard mapping is outdated or missing altogether. To remedy this, *Procedure Memorandum No. 34* provides interim guidance on procedures to minimize delays in near-term studies/mapping projects, to help our mapping partners properly assess how to handle embankment mapping issues.

While 44 CFR Section 65.10 documentation is being compiled, the release of more up-to-date FIRM panels for other parts of a community or county may be delayed. To minimize the impact of the embankment recognition and certification process, FEMA issued *Procedure Memorandum No. 43 - Guidelines for Identifying Provisionally Accredited Levees* on March 16, 2007. These guidelines will allow issuance of preliminary and effective versions of FIRMs while the embankment owners or communities are compiling the full documentation required to show compliance with 44 CFR Section 65.10. The guidelines also explain that preliminary FIRMs can be issued while providing the communities and embankment owners with a specified timeframe to correct any maintenance deficiencies associated with an embankment and to show compliance with 44 CFR Section 65.10.

Table 6, "List of Embankments Requiring Flood Hazard Revisions" lists all Embankments shown on the FIRM for which corresponding flood hazard revisions were made.

Approximate analyses of "behind embankment" flooding were conducted for all the embankments in Table 6 to indicate the extent of the "behind embankment" floodplains. The methodology used in these analyses is discussed below.

The approximate embankment analysis was conducted using information from existing hydraulic models (where applicable) and USGS topographic maps.

The extent of the 1-percent-annual-chance flood in the event of embankment failure was determined. Base flood elevations and topographic information (where available) were used to estimate an approximate 1-percent-annual-chance floodplain and traced along the contour line representing the base flood elevation. If base flood elevations were not available, they were estimated from effective FIRM maps and available information. Topographic features such as highways, railroads, and high ground were used to refine approximate floodplain boundary limits.

Table 6 - List of Embankments Requiring Flood Hazard Revisions

Community	Flood Source	Embankment Inventory ID	Coordinates Latitude/Longitude	FIRM Panel	USACE Levee
Nye County	Hicks Station Wash	10	38.83/-116.24 38.81/-116.24	32023C1950E	No
Nye County	The Big Wash	18	38.64/-115.59 38.68/-115.55	32023C2675E	No
Nye County	Paveline Creek	21a	38.55/-117.26 38.53/-117.26	32023C2900E	No
Nye County	Undetermined	24	38.50/-116.94 38.52/-116.93	32023C2975E	No
Nye County	Hunts Canyon Creek	35	38.49/-116.83 38.49/-116.82	32023C3550E	No
Nye County	Undetermined	36	38.48/-116.05 38.47/-116.03	32023C3700E	No
Nye County	Undetermined	39	38.38/-117.47 38.33/-117.47	32023C3425E 32023C3950E	No
Nye County	Twin Springs Slough	45	38.19/-116.16 38.16/-116.13	32023C2700E	No
Nye County	Undetermined	47	37.97/-116.82 37.98/-116.82	32023C5500E	No
Nye County	Undetermined	51	37.06/-116.78 37.06/-116.77	32023C7425E	No
Nye County	Amargosa River	54a	36.92/-116.75 36.92/-116.75	32023C7695E	No
Nye County	Undetermined	57a	36.49/-116.16 36.49/-116.15	32023C8600E	No
Nye County	Undetermined	61	36.18/-116.08 36.19/-116.06	32023C8825E	No
Nye County	Undetermined	65	38.85/-117.93 38.87/-117.92	32023C1600E	No

Table 6 - List of Embankments Requiring Flood Hazard Revisions (continued)

Community	Flood Source	Embankment Inventory ID	Coordinates Latitude/Longitude	FIRM Panel	USACE Levee
Nye County	Undetermined	66	38.87/-117.92 38.87/-117.91	32023C1600E	No
Nye County	Undetermined	67	38.87/-117.91 38.87/-117.90	32023C1600E	No
Nye County	Undetermined	68	36.70/-116.58 36.69/-116.56	32023C8200E	No
Nye County	Wheeler Wash	69	36.18/-115.93 36.16/-115.91	32023C8850E	No

3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD). With the finalization of the North American Vertical Datum of 1988 (NAVD), many FIS reports and FIRMs are being prepared using NAVD as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD. Structure and ground elevations in the community must, therefore, be referenced to NAVD. It is important to note that adjacent communities may be referenced to NGVD. This may result in differences in Base (1-percent-annual-chance) Flood Elevations (BFEs) across the corporate limits between the communities.

The conversion factor for each stream studied by detailed methods is shown below in Table 7, "Stream Conversion Factors."

Table 7 - Stream Conversion Factor

Stream Name	Elevation (feet NAVD above NGVD)
Amargosa River	+2.9
Central Interior Conveyance Channel	+2.5
Front Sight Wash North	+2.5
Front Sight Wash Central	+2.5
Front Sight Wash South	+2.5
Gamebird Road Channel	+2.5
Mountain Falls Lane Split	+2.5
North Interior Conveyance Channel	+2.5
Pahrump Wash	+2.4
Pahrump Valley Wash	+2.5
Peak Springs Wash	+2.5
Shadow Mountain Wash	+2.5
Slime Wash	+4.0
Wheeler Wash	+2.5
Yucca Springs Channel	+2.5

These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the NGVD and NAVD, visit the National Geodetic Survey website at www.ngs.noaa.gov.

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook (TSDN) associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access this data.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. To assist in this endeavor, each FIS provides 1-percent annual chance floodplain data, which may include a combination of the following: 10-, 2-, 1-, and 0.2-percent annual chance flood elevations; delineations of the 1-percent annual chance and 0.2-percent annual chance floodplains; and 1-percent annual chance floodway. This information is presented on the FIRM and in many components of the FIS, including Flood Profiles, Floodway Data Tables, and Summary of Stillwater Elevation Tables. Users should reference the data presented in the FIS as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Flood Boundaries

Nye County has a previously printed FIS report. The floodplain boundary information described in that report is summarized below.

To provide a national standard without regional discrimination, the 1-percent annual chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods, the 1- and 0.2-percent annual chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using rectified photo-topographic maps at a scale of 1:4,800, with a contour interval of 4 feet (Cooper Aerial of Nevada, 1983). Shallow and alluvial fan flooding boundaries were delineated using the same set of maps.

For the flooding sources studied by approximate methods, the boundaries of the 1-percent annual chance floodplains were delineated using topographic maps taken from the previously printed FIS reports, FHBMs, and/or FIRMS for all jurisdictions within Nye County.

For recent revisions to the countywide FIS, DEMs provided by Nye County were used within HEC-GeoRAS software to assist in developing floodplain boundaries from the HEC-RAS hydraulic model solutions for Front Sight Wash, Pahrump Wash and Peak Springs Wash. Mapping of the FLO-2D results was developed using GIS shapefiles generated by the FLO-2D Mapper interface, and the various AO zone depth and velocity boundaries were determined per FAN model results.

The 1- and 0.2-percent annual chance floodplain boundaries are shown on the FIRM. On this map, the 1-percent annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, AH, and AO), and the 0.2-percent annual chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1- and 0.2-percent annual chance floodplain boundaries are close together, only the 1-percent annual chance floodplain boundary has been shown. Small areas within the floodplain

boundaries may lie above the flood elevations but cannot be shown because of limitations of the map scale and/or lack of detailed topographic data.

Only the 1-percent annual chance floodplain boundary is shown on the FIRM for streams studied by approximate methods.

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent annual chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent annual chance flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced. Floodways are presented to local agencies as minimum standards that can be adopted directly or used as a basis for additional floodway studies.

Floodways were calculated for certain stream segments on the basis of equal-conveyance reduction from each side of the floodplain. The results of these computations are tabulated at selected cross sections for each stream segment for which a floodway is computed (Table 8).

Floodway widths are normally computed at cross sections. Between cross sections, the floodway boundaries are interpolated. In cases where the floodway and 1-percent annual chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

Near the mouths of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body. Therefore, "Without Floodway" elevations normally presented for certain downstream cross sections are lower than the regulatory flood elevations in that area, which must take into account the 1-percent annual chance flooding due to backwater from other sources.

Encroachment into areas subject to inundation by floodwater having hazardous velocities aggravates the risk of flood damage and heightens potential flood hazards by further increasing velocities. In order to reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside floodway.

Because of the high velocities which were computed for the Amargosa River 1-percent annual chance flood-condition, no encroached floodway was computed, and the entire 1-percent annual chance year floodplain has been designated as floodway for the reach approximately 205 feet downstream of Cedar Street to approximately 1,090 feet downstream of Vanderbilt Road.

No floodways were computed for Slime Wash during the June 1998 restudy because the majority of flow through the Town of Tonopah is channeled along U.S. Highway 95. Much of this area already has undergone extensive development.

The area between the floodway and the boundary of the 1-percent annual chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of

the 1-percent annual chance flood by more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

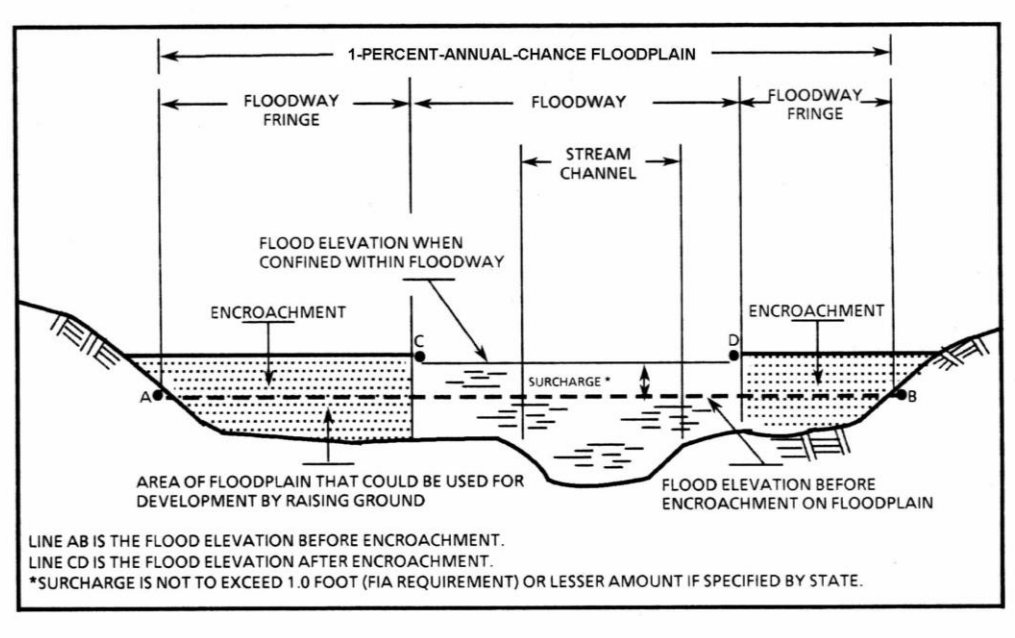

Figure 1 – Floodway Schematic

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Front Sight Wash Central								
A	906	419	930	6.1	2,612.1	2,612.1	2,613.1	1.0
B	2,317	181	658	8.6	2,625.9[2]	2,625.9	2,626.5	0.6
C	3,380	80	186	3.5	2,644.0[2]	2,633.8	2,633.8	0.0
D	4,388	65	169	3.8	2,644.4[2]	2,644.3	2,644.4	0.1
E	5,479	60	142	4.5	2,653.6	2,653.6	2,653.7	0.1
F	6,712	30	99	6.5	2,667.5	2,667.5	2,667.6	0.1
G	8,252	40	127	5.1	2,684.7	2,684.7	2,684.9	0.2
H	9,258	44	145	4.4	2,695.7	2,695.7	2,695.8	0.1
I	10,847	61	340	1.9	2,708.5	2,708.5	2,708.5	0.0
J	11,402	32	74	8.7	2,787.8	2,787.8	2,787.8	0.0
K	12,244	34	76	8.4	2,801.0	2,801.0	2,801.0	0.0
L	13,644	138	189	3.4	2,825.0	2,825.0	2,825.0	0.0
M	14,824	85	178	3.6	2,835.8	2,835.8	2,835.9	0.1
N	15,963	95	179	3.6	2,845.7	2,845.7	2,845.8	0.1
O	17,077	214	321	3.1	2,857.1	2,857.1	2,857.1	0.0
P	18,073	225	206	3.1	2,866.1	2,866.1	2,866.1	0.0
Q	19,213	109	149	4.3	2,878.2	2,878.2	2,878.2	0.0
R	20,625	93	172	3.8	2,895.3	2,895.3	2,895.3	0.0

[1]Stream distance in feet above Nevada State Boundary

[2] Water surface elevations controlled by Front Sight Wash South

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NEVADA
(ALL JURISDICTIONS)

FLOODWAY DATA

FRONT SIGHT WASH CENTRAL

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Front Sight Wash North								
A	2,278	24	56	4.5	2,623.3	2,623.3	2,623.6	0.3
B	3,682	35	60	4.2	2,636.9	2,636.9	2,637.0	0.1
C	5,401	29	66	3.8	2,653.0	2,653.0	2,653.3	0.3
D	7,638	25	43	5.9	2,672.7	2,672.7	2,672.9	0.2
E	9,520	20	54	4.7	2,697.6	2,697.6	2,698.0	0.4
F	10,863	30	62	4.0	2,717.0	2,717.0	2,717.4	0.4
G	11,915	15	31	8.2	2,748.0	2,748.0	2,748.0	0.0
H	12,214	20	82	3.7	2,784.1	2,784.1	2,784.1	0.0
I	15,144	30	65	3.9	2,818.3	2,818.3	2,818.7	0.4
J	17,117	34	68	3.7	2,836.9	2,836.9	2,837.4	0.5
K	18,121	30	61	4.1	2,846.8	2,846.8	2,847.2	0.4

[1]Stream distance in feet above Nevada State Boundary

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NEVADA

(ALL JURISDICTIONS)

FLOODWAY DATA

FRONT SIGHT WASH NORTH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Front Sight Wash South								
A	1,747	164	735	7.1	2,633.2	2,633.2	2,633.3	0.1
B	3,188	115	656	8.0	2,651.2	2,651.2	2,651.4	0.2
C	4,626	80	472	11.1	2,666.2	2,666.2	2,666.3	0.1
D	6,352	144	672	7.8	2,687.6	2,687.6	2,687.6	0.0
E	7,954	94	489	10.7	2,708.2	2,708.2	2,708.4	0.2
F	10,183	90	424	12.4	2,749.7	2,749.7	2,749.7	0.0
G	10,804	107	568	11.5	2,802.2	2,802.2	2,802.2	0.0
H	13,717	255	886	5.9	2,837.2	2,837.2	2,837.3	0.1
I	15,135	313	1,073	5.6	2,851.0	2,851.0	2,851.0	0.0
J	16,833	190	710	7.4	2,870.6	2,870.6	2,870.6	0.0
K	18,036	76	558	13.1	2,888.9	2,888.9	2,888.9	0.0
L	19,759	152	920	8.0	2,912.2	2,912.2	2,912.2	0.0

[1]Stream distance in feet above Nevada State Boundary

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NEVADA

(ALL JURISDICTIONS)

FLOODWAY DATA

FRONT SIGHT WASH SOUTH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pahrump Valley Wash								
A	199	378	2,480	8.1	2,499.5	2,499.5	2,500.1	0.6
B	1,100	301	1,877	10.7	2,502.7	2,502.7	2,502.8	0.1
C	2,005	395	2,239	9.0	2,507.3	2,507.3	2,507.3	0.0
D	2,908	600	2,544	7.9	2,511.8	2,511.8	2,512.1	0.3
E	3,815	1108	4,229	4.7	2,515.3	2,515.3	2,515.7	0.4
F	4,716	612	2,761	7.3	2,517.1	2,517.1	2,517.5	0.4
G	5,646	451	3,614	5.5	2,520.5	2,520.5	2,521.1	0.6
H	6,532	972	5,269	3.8	2,521.5	2,521.5	2,522.3	0.8
I	7,509	1064	6,920	2.9	2,522.6	2,522.6	2,523.5	0.9
J	8,329	1274	6,761	3.0	2,523.3	2,523.3	2,524.0	0.7

[1]Stream distance in feet above Nye County Corporate Limits

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NEVADA

(ALL JURISDICTIONS)

FLOODWAY DATA

PAHRUMP WASH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Shadow Mountain Wash								
A	235	68	157	8.5	2,638.8	2,638.8	2,639.1	0.3
B	714	68	157	8.6	2,646.3	2,646.3	2,647.1	0.8
C	1,367	66	155	8.7	2,656.9	2,656.9	2,657.3	0.4
D	1,794	63	156	8.6	2,664.4	2,664.4	2,665.1	0.7
E	2,202	97	178	7.6	2,671.4	2,671.4	2,672.0	0.6
F	2,773	143	209	6.4	2,680.1	2,680.1	2,680.9	0.8
G	3,512	66	155	8.6	2,692.8	2,692.8	2,693.6	0.8
H	4,500	118	214	6.3	2,707.7	2,707.7	2,708.0	0.3
I	5,156	119	209	6.4	2,718.8	2,718.8	2,719.0	0.2
J	6,475	115	209	6.4	2,739.5	2,739.5	2,739.6	0.1
K	7,489	120	205	6.6	2,754.6	2,754.6	2,754.7	0.1
L	8,437	80	164	8.2	2,769.7	2,769.7	2,770.3	0.6
M	9,750	65	158	8.5	2,790.7	2,790.7	2,790.7	0.0
N	10,731	66	155	8.7	2,807.3	2,807.3	2,807.3	0.0

[1]Stream distance in feet above North Corbin Street

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NEVADA

(ALL JURISDICTIONS)

FLOODWAY DATA

SHADOW MOUNTAIN WASH

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 1-percent annual chance floodplain that is determined in the FIS report by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no BFEs or base flood depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 1-percent annual chance floodplain that is determined in the FIS report by detailed methods. Whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH

Zone AH is the flood insurance risk zone that corresponds to the areas of 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AO

Zone AO is the flood insurance risk zone that corresponds to the areas of 1-percent annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average Whole-foot base flood depths derived from the detailed hydraulic analyses are within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2-percent annual chance floodplain, areas within the 0.2-percent annual chance floodplain, areas of 1-percent annual chance flooding where average depths are less than 1 foot, areas of 1-percent annual chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent annual chance flood by levees. No BFEs or base flood depths are shown within this zone.

Zone D

Zone D is the flood insurance risk zone that corresponds to unstudied area where flood hazards are undetermined, but possible.

6.0 FLOOD INSURANCE RATE MAP

The FIRM is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 1-percent annual chance floodplains that were studied by detailed

methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols the 1- and 0.2-percent annual chance floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The current FIRM presents flooding information for the entire geographic area of Nye County. Previously, FIRMs were prepared for each incorporated community and the unincorporated areas of the county identified as flood-prone. The countywide FIRM also includes flood hazard information that was presented separately on Flood Boundary and Floodway Maps (FBFMs), where applicable. Historical data relating to the maps prepared for each community are presented in Table 9, "Community Map History."

7.0 OTHER STUDIES

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Nye County has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FIS Reports, FBFMs, and FIRMs for all jurisdictions within Nye County.

A Flood Insurance Study has been prepared for Clark County, Nevada (Federal Emergency Management Agency, September 6, 1989), to the east of Nye County. The results of this study are in agreement with the results of the Clark County study.

This report either supersedes or is compatible with all previous studies published on streams studied in this report and should be considered authoritative for the purposes of the NFIP.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISION DATE(S)	FLOOD INSURANCE RATE MAP EFFECTIVE DATE	FLOOD INSURANCE RATE MAP REVISION DATE(S)
Nye County (Unincorporated Areas)	October 18, 1974	October 24, 1978	April 12, 1983	September 28, 1990 June 8, 1998

TABLE 9

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

COMMUNITY MAP HISTORY

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting FEMA, Region IX, Federal Insurance and Mitigation Administration, 1111 Broadway, Suite 1200, Oakland, California 94607-4052.

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APPENDIX A

Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on that map. However, the FIRM panel does not contain enough space to show all the notes that may be relevant in helping to better understand the information on the panel. Figure 2 contains the full list of these notes.

Figure 2: 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 Flood Map Service Center website at 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 Flood 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 Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 9 in this FIS Report.

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.

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

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 Non-Coastal 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.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to “Embankments Hazards Analysis’ in Section 3.2 of this FIS Report for information on flood control structures for this jurisdiction.

Figure 2: FIRM Notes to Users (continued)

NOTES TO USERS

PROJECTION INFORMATION: The projection used in the preparation of the map was Universal Transverse Mercator (UTM) Zone 11N**.** The horizontal datum was NAD83, GRS1980 spheroid. 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 the 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 the North American Vertical Datum of 1988**,** visit the National Geodetic Survey website at www.ngs.noaa.gov.

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the Nye County Planning Department.

BASE MAP INFORMATION: Base map information shown on the FIRM was provided by Nye County at a scale of 1:12,000. For additional information about base maps, refer to the FIRM Index.

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 Nye County, Nevada, USA, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to the FIRM Index 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.

Figure 2: FIRM Notes to Users (continued)

NOTES TO USERS

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Nye County, Nevada, effective March 6, 2020.

ACCREDITED LEVEE: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit www.fema.gov/national-flood-insurance-program.

PROVISIONALLY ACCREDITED LEVEE: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1- percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by March 6, 2020. If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit www.fema.gov/national-flood-insurance-program.

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 the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Nye County.

Figure 3: 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.
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.
OTHER AREAS OF FLOOD HAZARD	
	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.
	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.
	Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood.
	Area with Flood Risk due to Levee: Areas where a non-accredited levee, dike, or other flood control structure is shown as providing protection to less than the 1% annual chance flood.
OTHER AREAS	
	Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

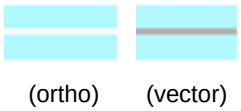
Figure 3: Map Legend for FIRM (continued)

OTHER AREAS

Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

Unshaded Zone X: Areas of minimal flood hazard.

FLOOD HAZARD AND OTHER BOUNDARY LINES



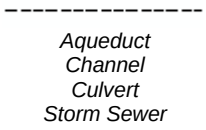
Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)

Limit of Study

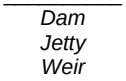
Jurisdiction Boundary

Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet

GENERAL STRUCTURES

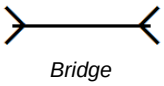


Channel, Culvert, Aqueduct, or Storm Sewer



Dam, Jetty, Weir

Levee, Dike, or Floodwall

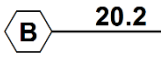


Bridge

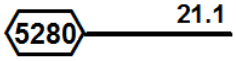
REFERENCE MARKERS

River mile Markers

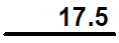
CROSS SECTION & TRANSECT INFORMATION



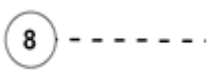
Lettered Cross Section with Regulatory Water Surface Elevation (BFE)



Numbered Cross Section with Regulatory Water Surface Elevation (BFE)



Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)



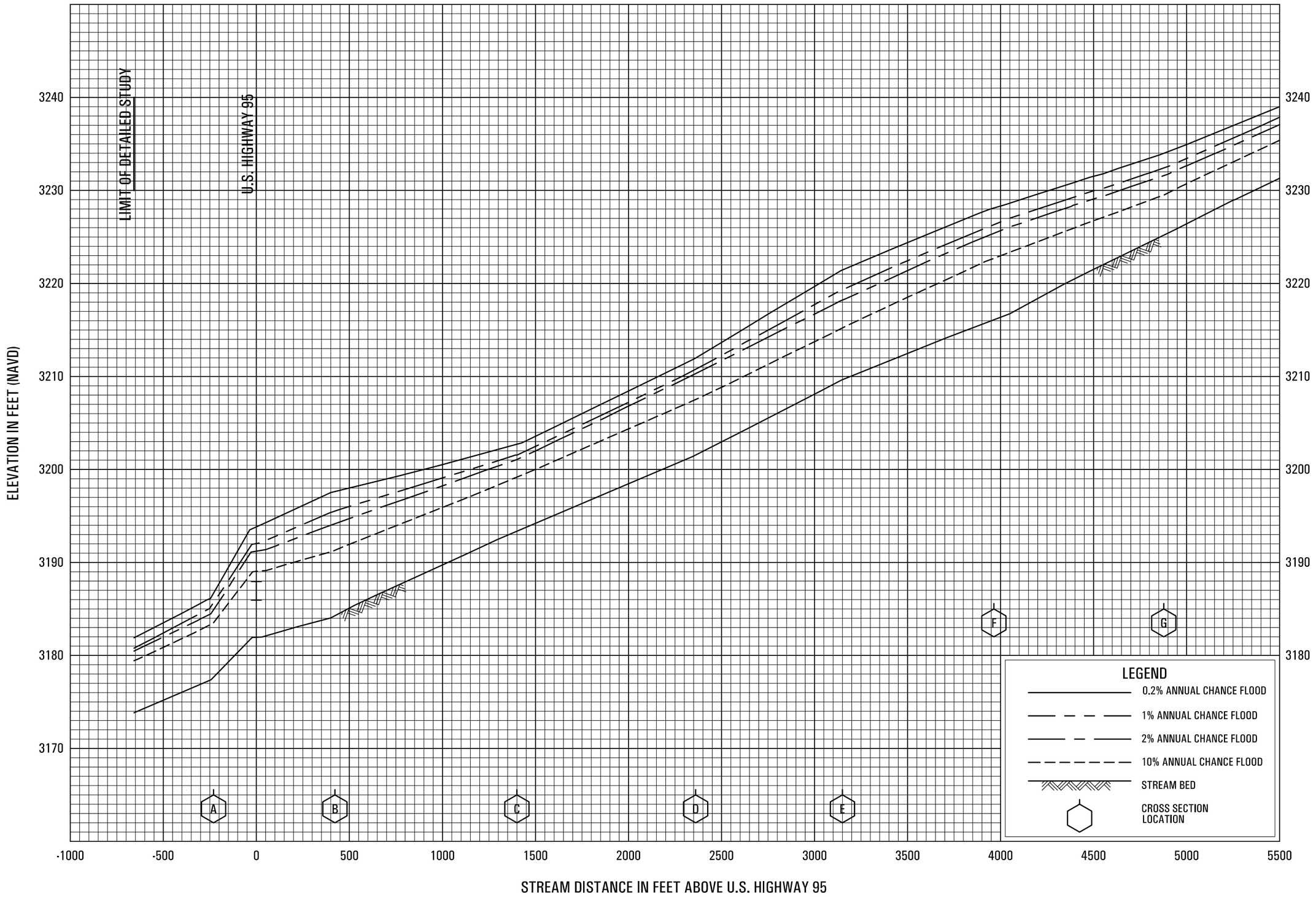
Coastal Transect

Figure 3: 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.
513	Base Flood Elevation Line
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	
Missouri Creek	River, Stream or Other Hydrographic Feature
234	Interstate Highway
234	U.S. Highway
234	State Highway
234	**Figure 3: Map Legend for FIRM (continued)**
MAPLE LANE	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
RAILROAD	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
$^{42}76^{000m}E$	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)

Figure 3: Map Legend for FIRM (continued)

MAPLE LANE	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
RAILROAD	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
$^{42}76^{000m}E$	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16' 52.5"	Corner Coordinates (Latitude, Longitude)



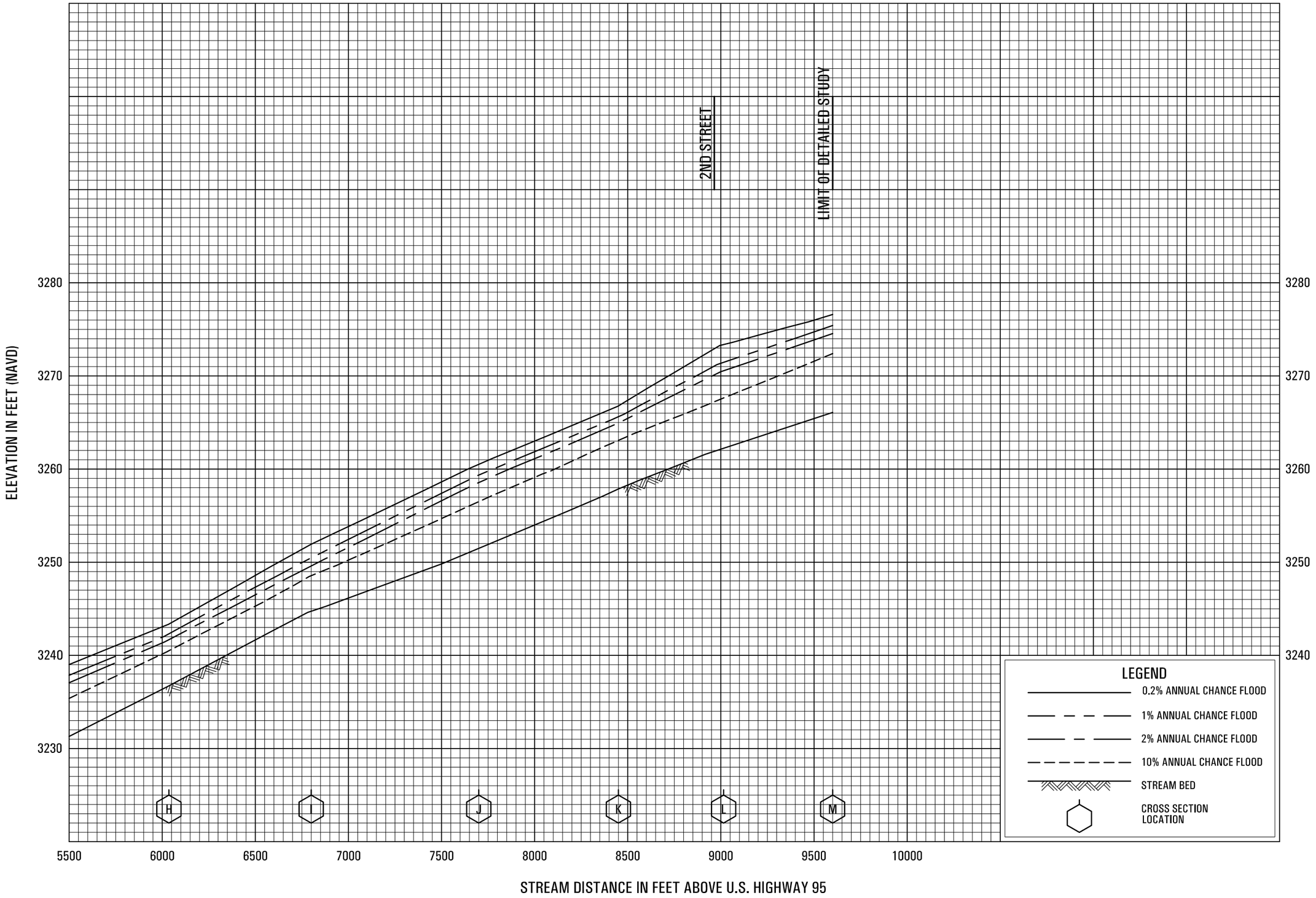
FLOOD PROFILES

AMARGOSA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

01P



FLOOD PROFILES

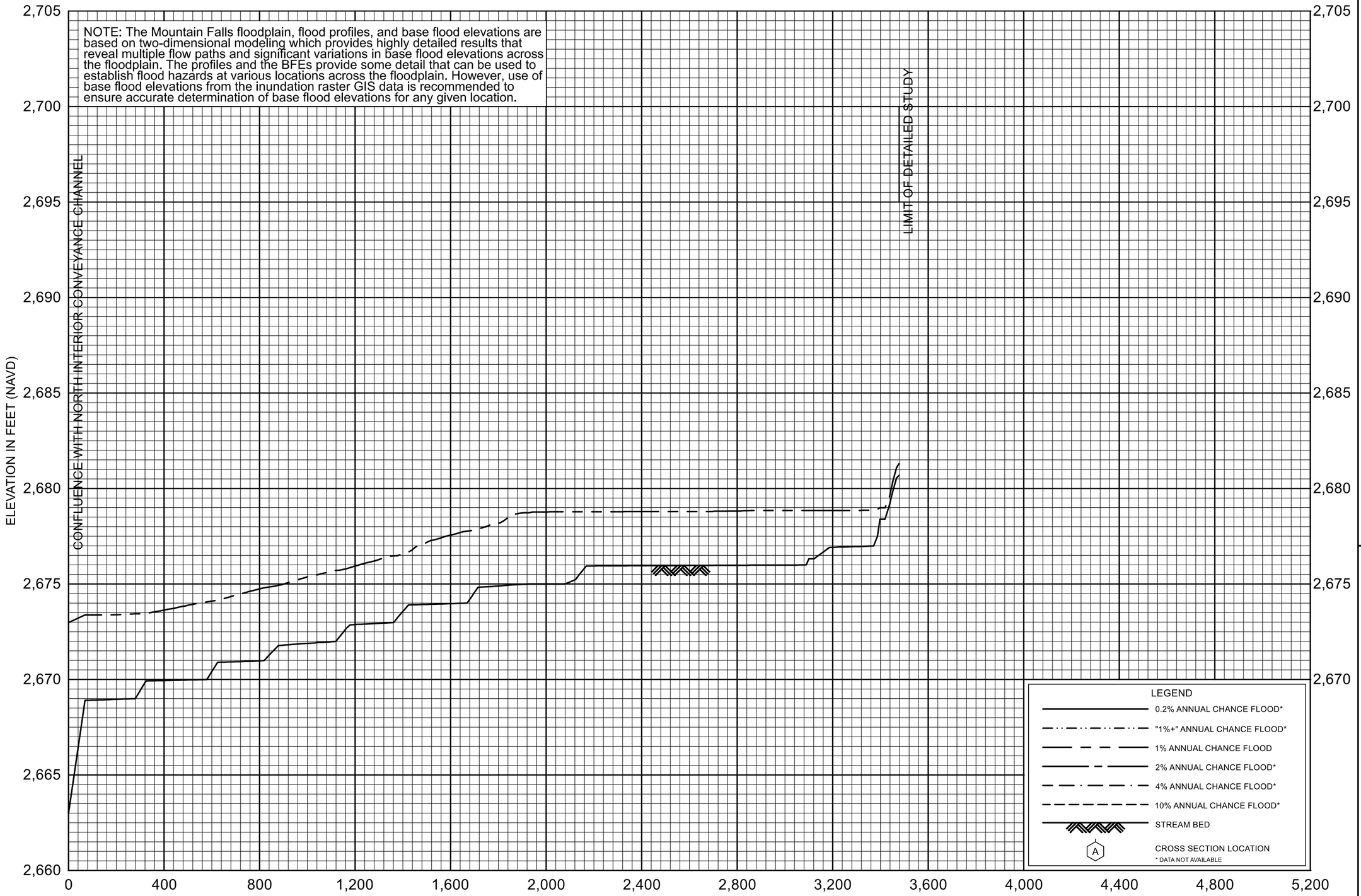
AMARGOSA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

02P

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.



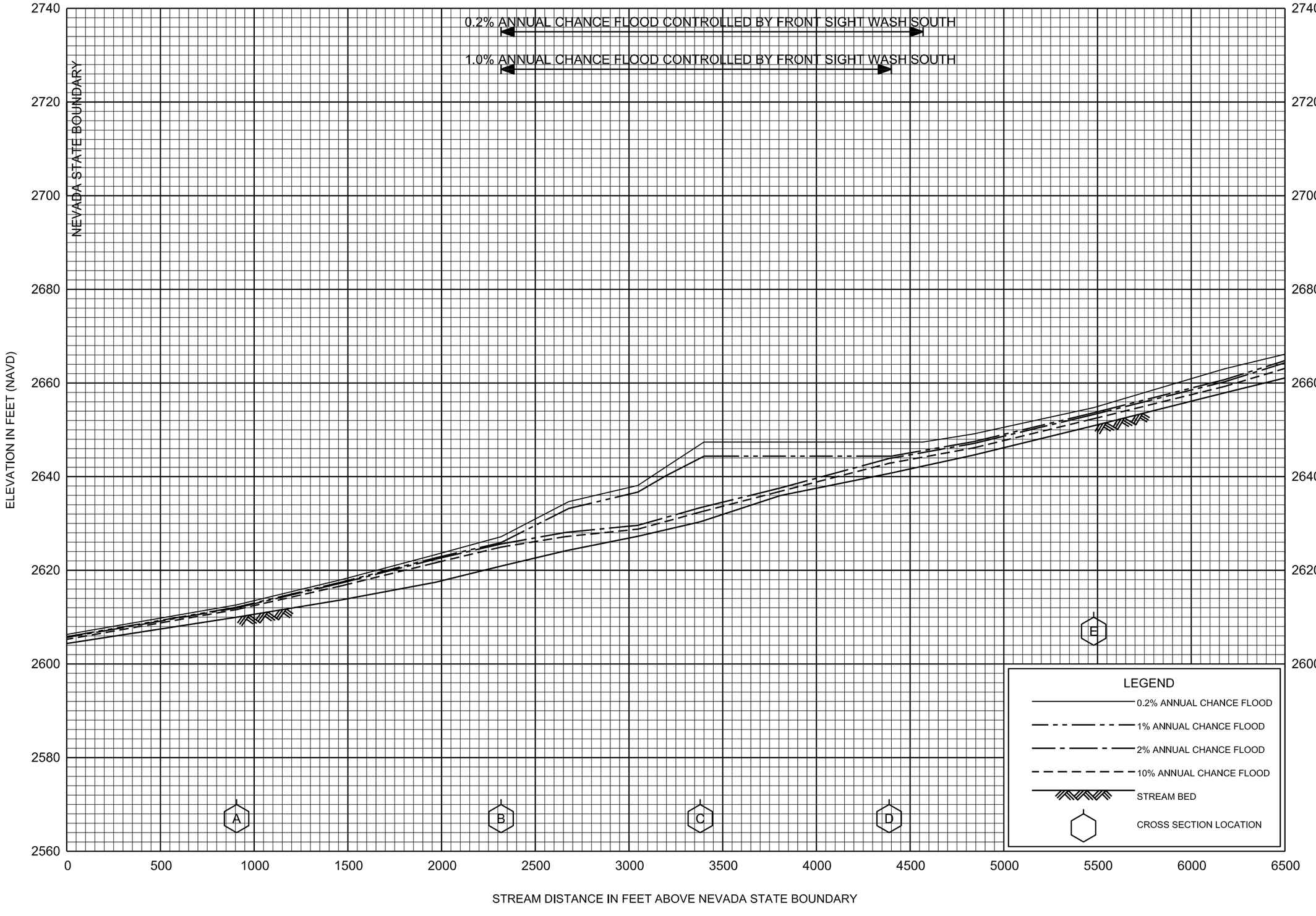
FLOOD PROFILES

CENTRAL INTERIOR CONVEYANCE CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV

(ALL JURISDICTIONS)



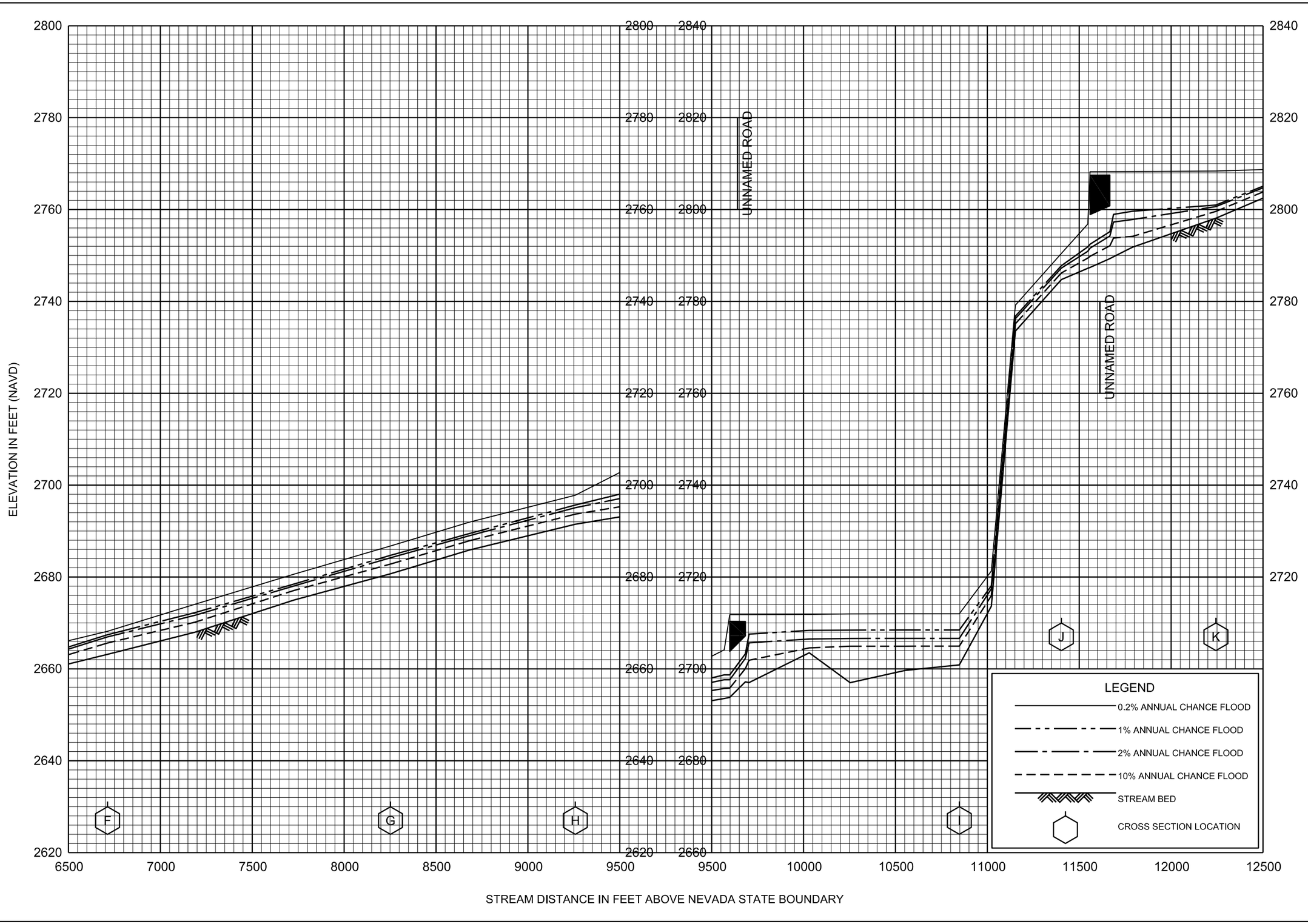
FLOOD PROFILES

FRONT SIGHT WASH CENTRAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

04P



FLOOD PROFILES

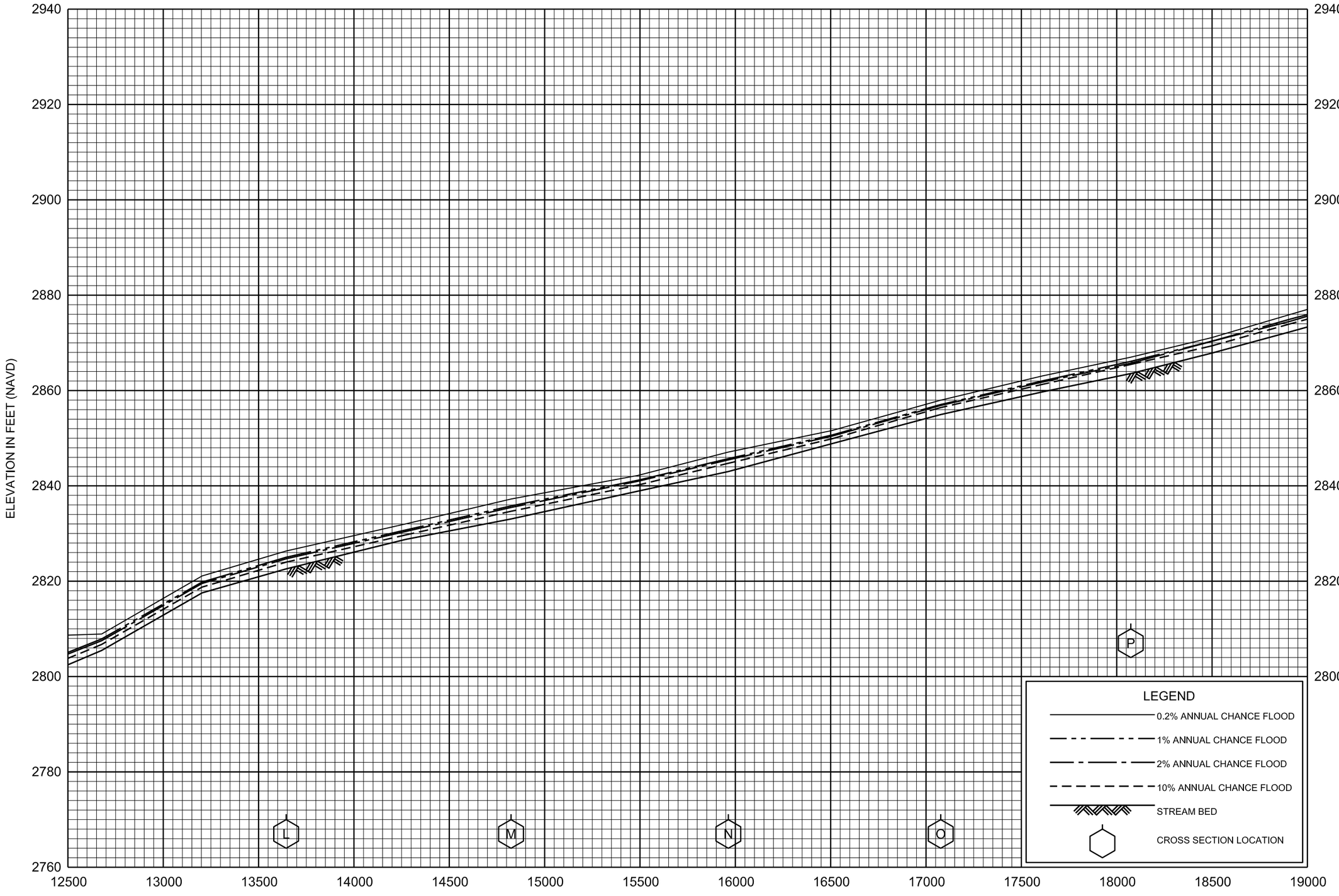
FRONT SIGHT WASH CENTRAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV

(ALL JURISDICTIONS)

05P



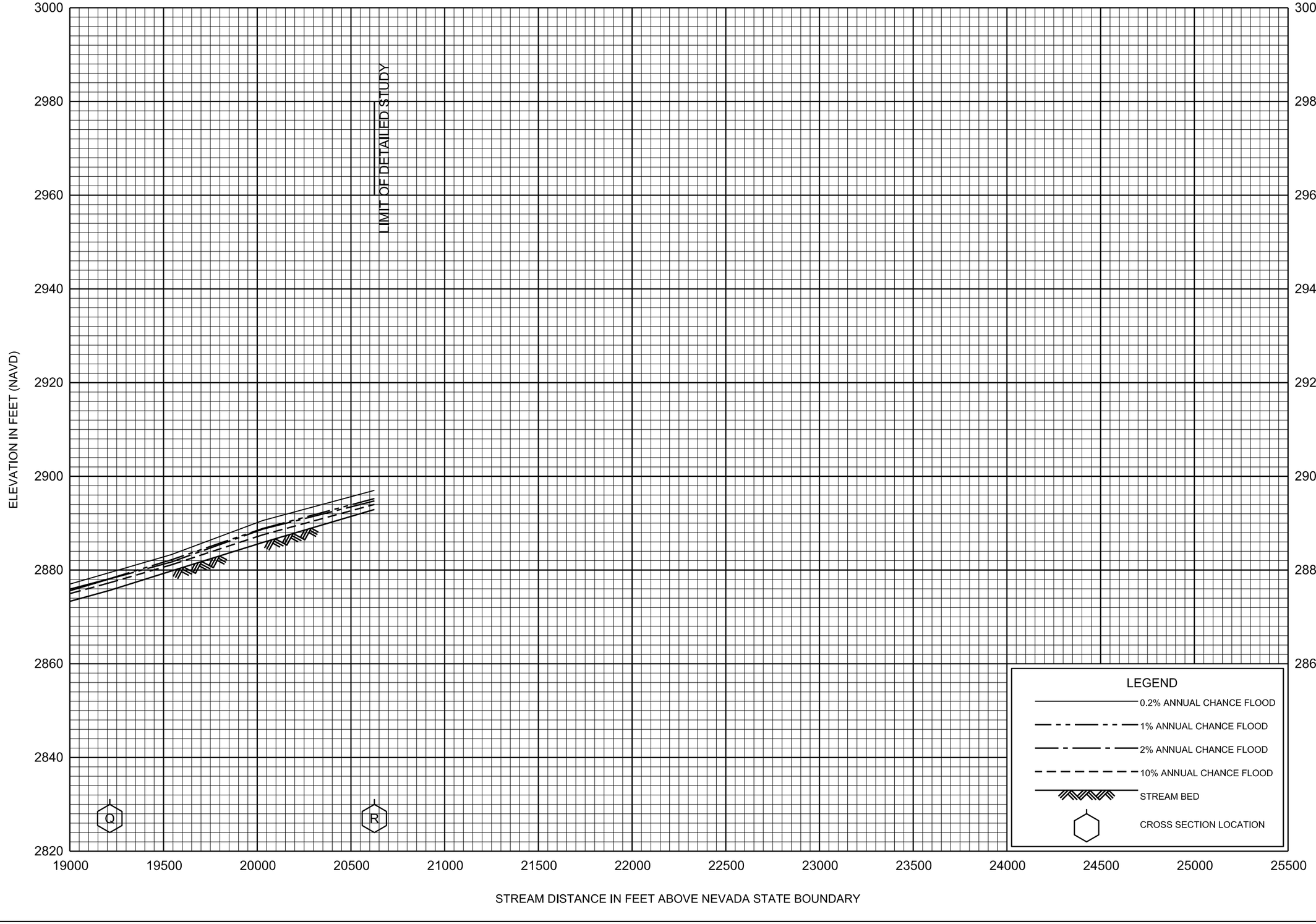
FLOOD PROFILES

FRONT SIGHT WASH CENTRAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

06P



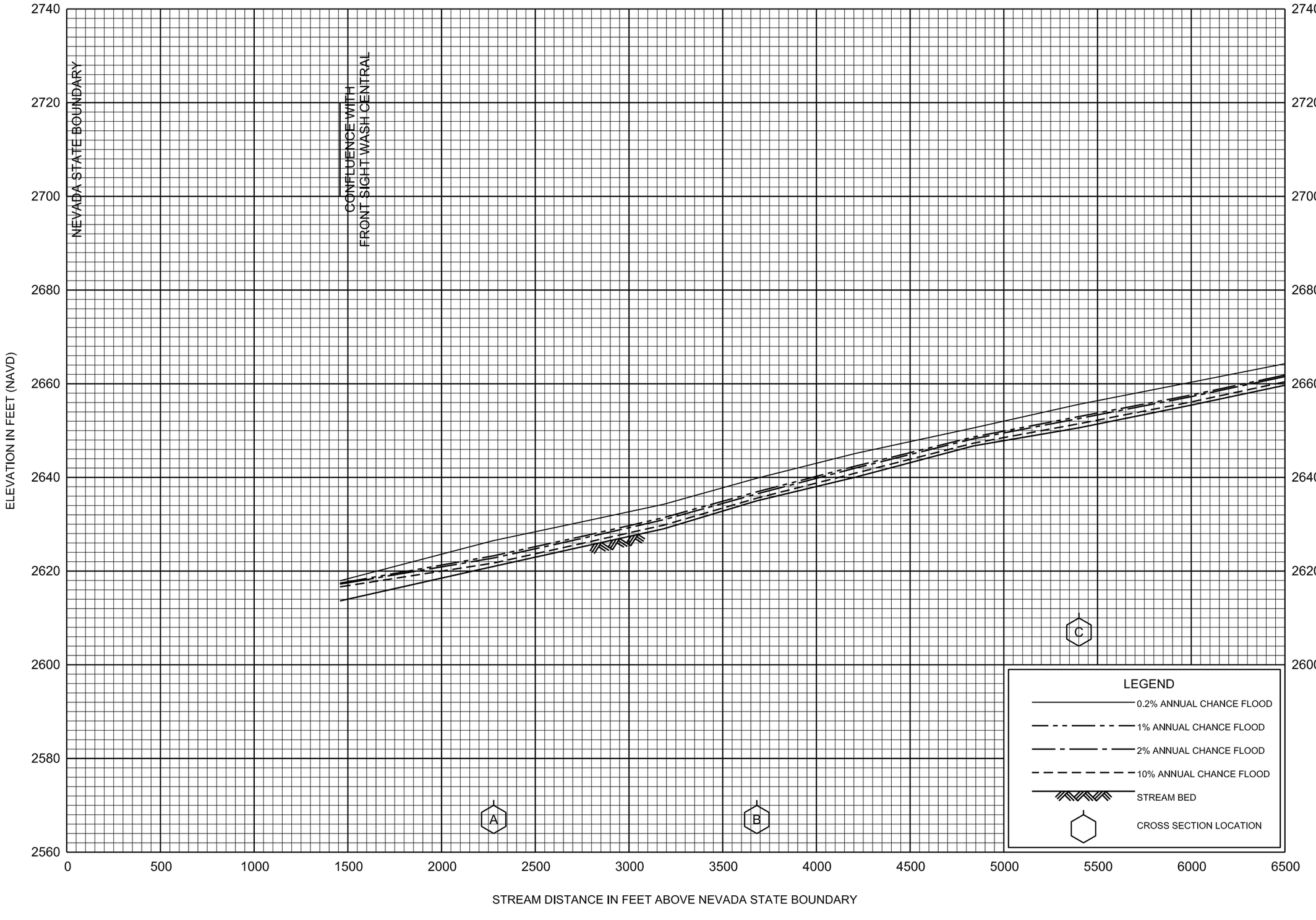
FLOOD PROFILES

FRONT SIGHT WASH CENTRAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

07P



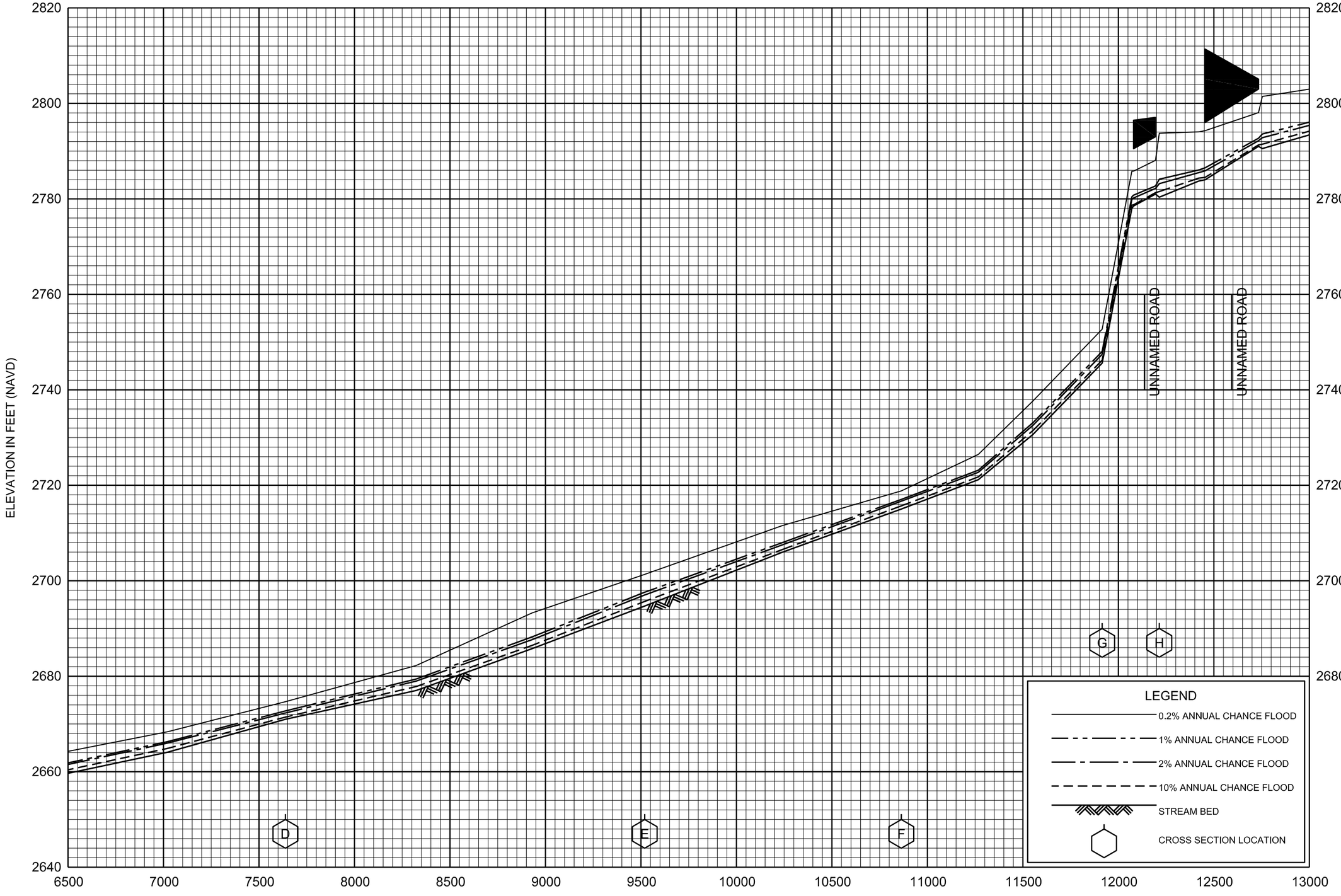
FLOOD PROFILES

FRONT SIGHT WASH NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

08P



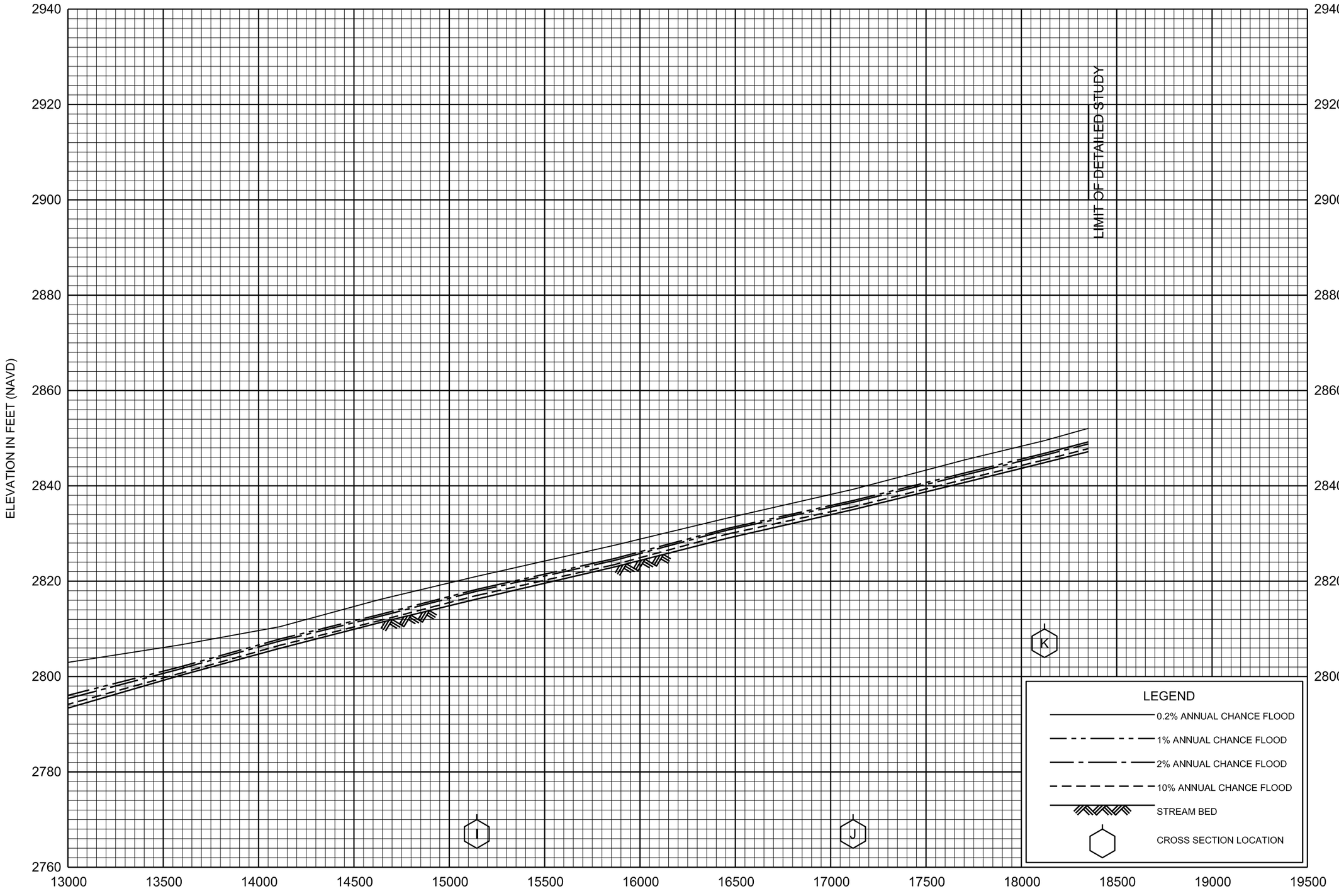
FLOOD PROFILES

FRONT SIGHT WASH NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

09P



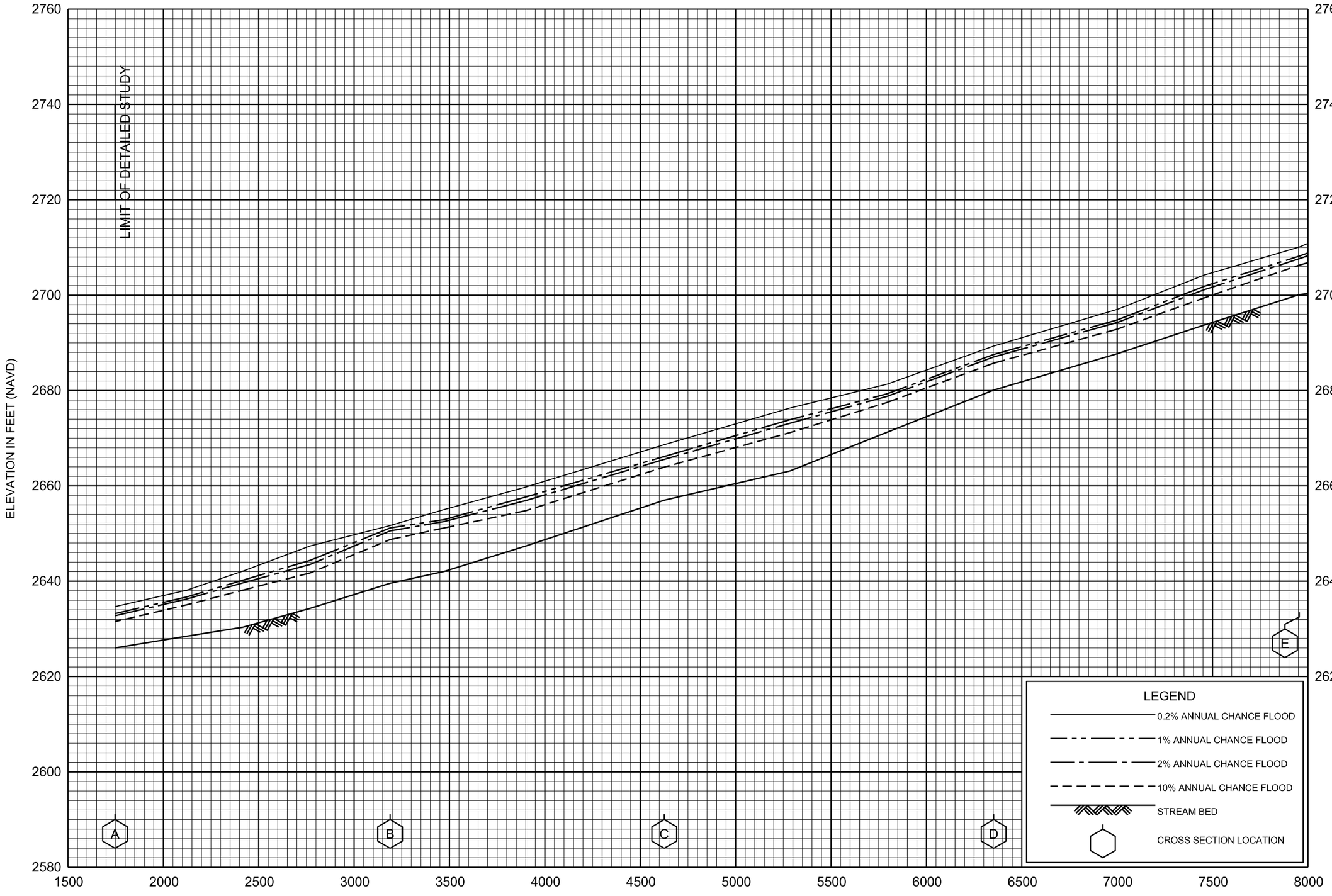
FLOOD PROFILES

FRONT SIGHT WASH NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

10P



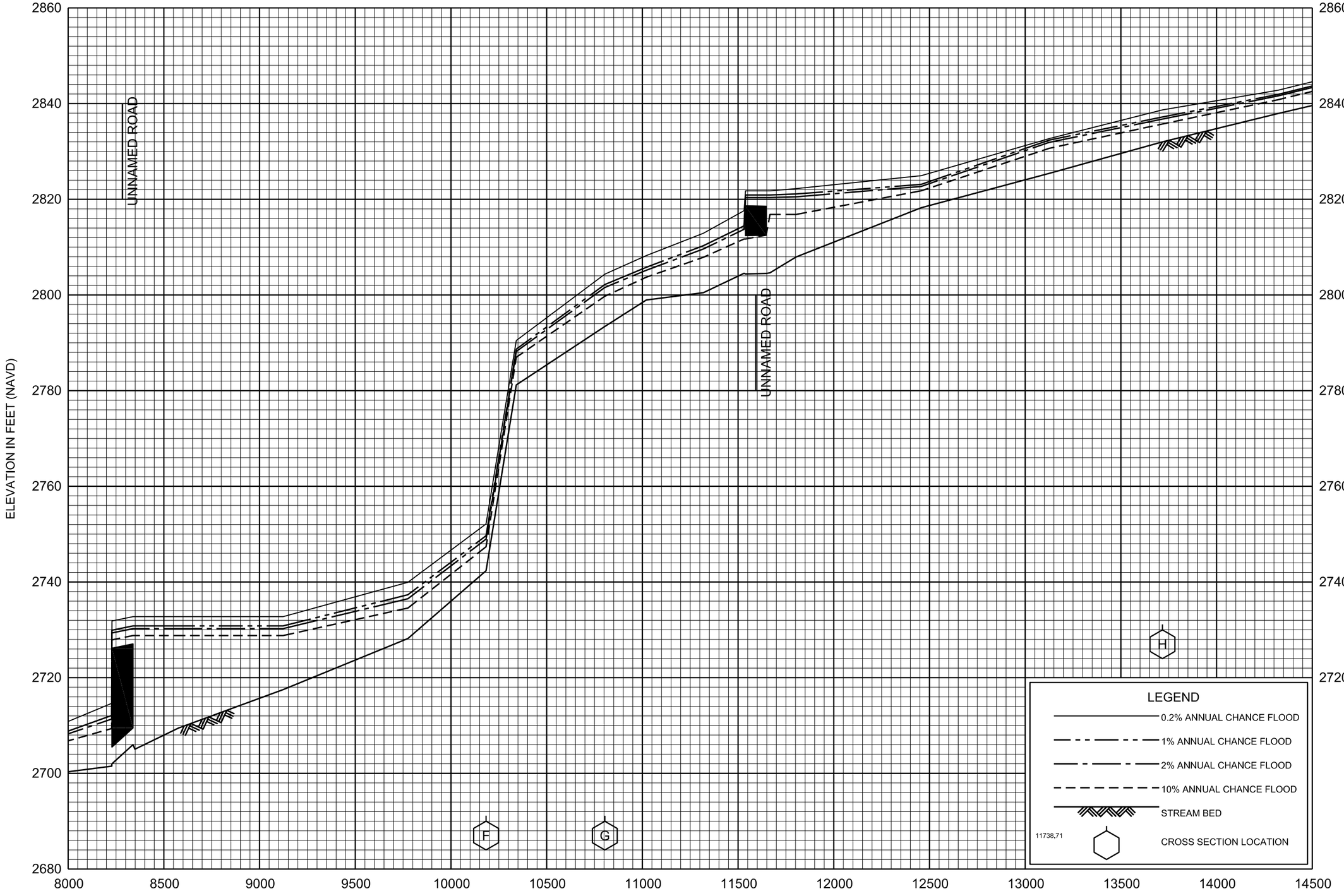
FLOOD PROFILES

FRONT SIGHT WASH SOUTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

11P



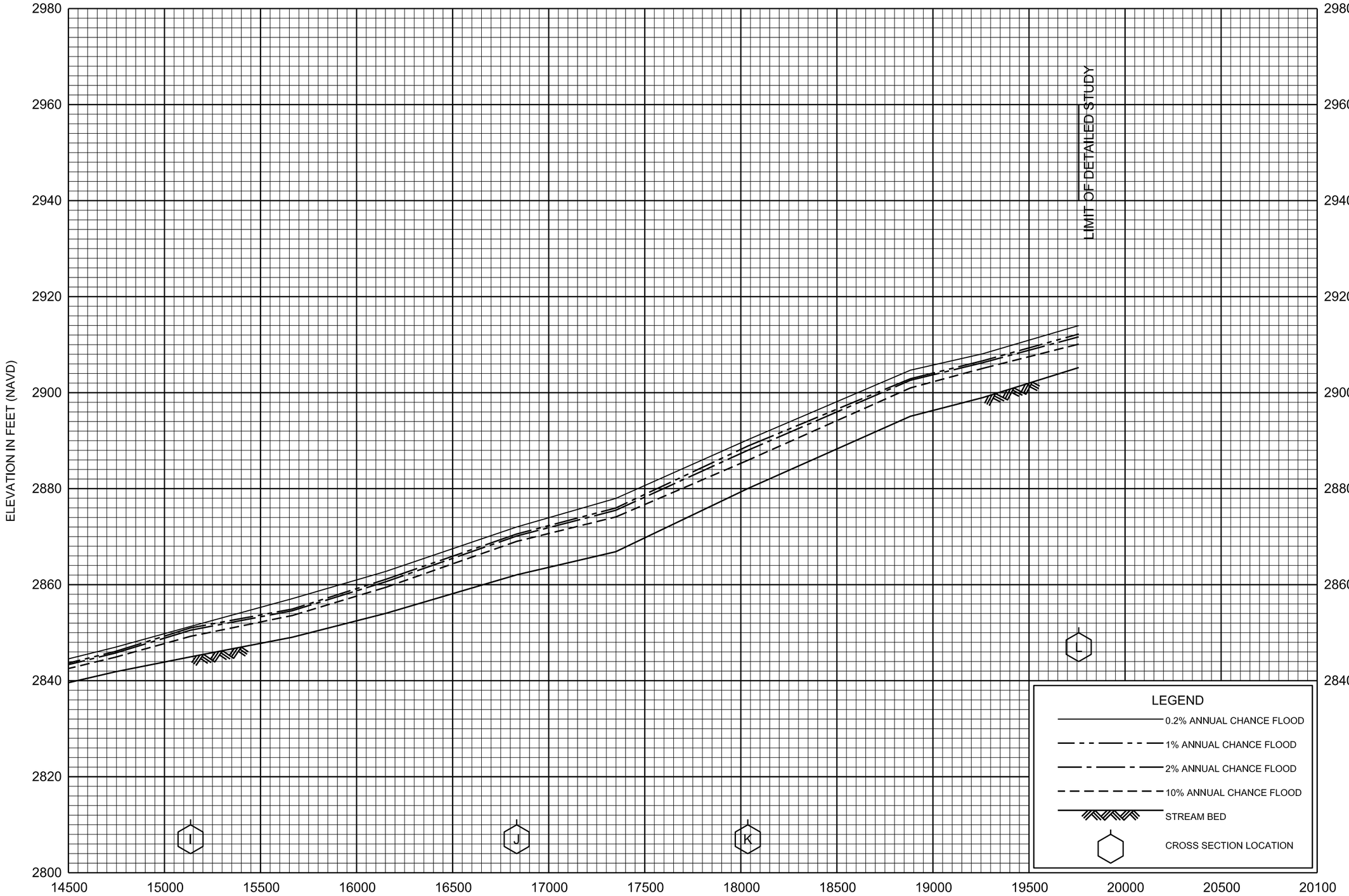
FLOOD PROFILES

FRONT SIGHT WASH SOUTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

12P



FLOOD PROFILES

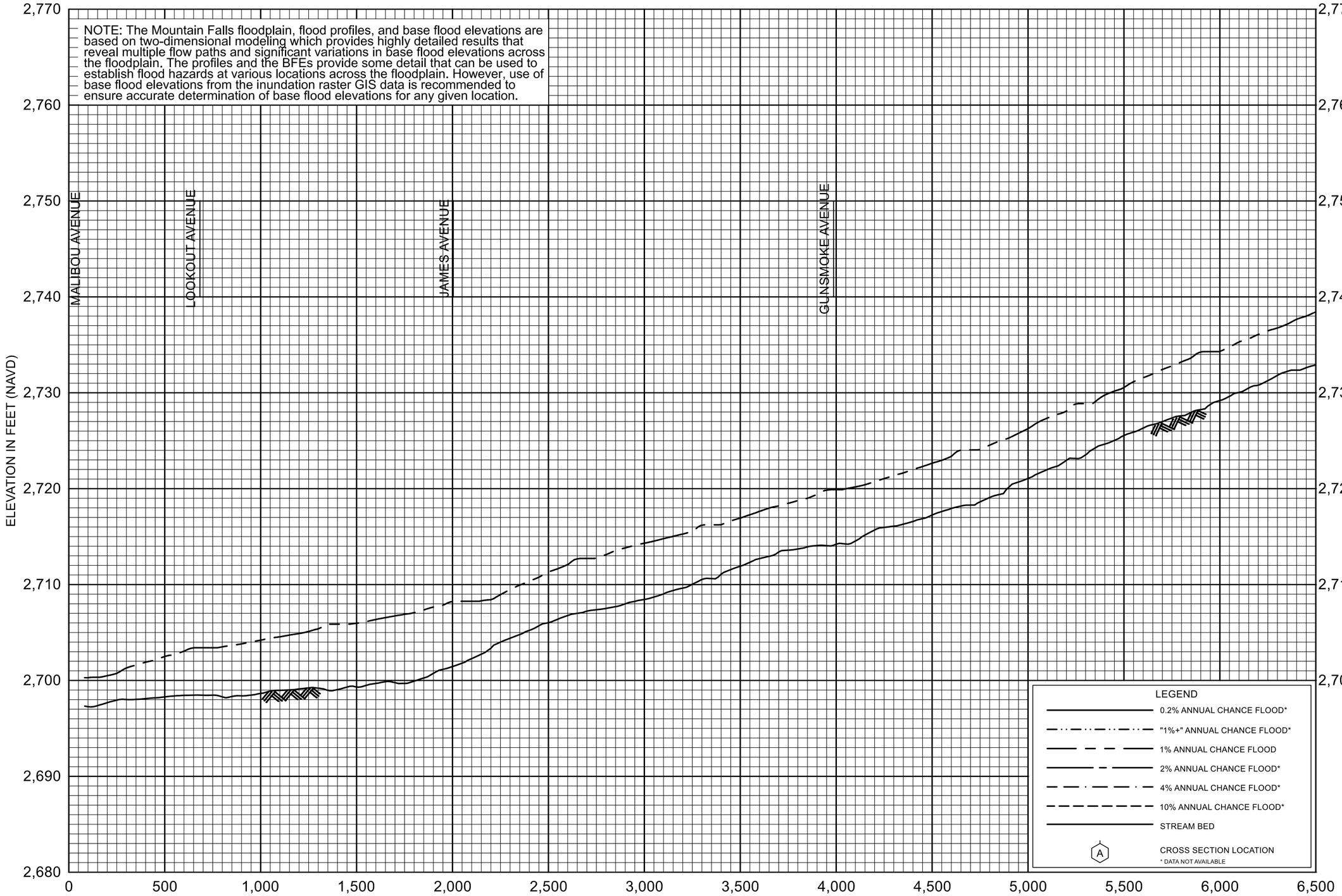
FRONT SIGHT WASH SOUTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

13P

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.



FLOOD PROFILES

GAMEBIRD ROAD CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

14P

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.

CLANTON AVENUE

PANHANDLE PLACE

LIMIT OF DETAILED STUDY

ELEVATION IN FEET (NAVD)

2,810
2,800
2,790
2,780
2,770
2,760
2,750
2,740
2,730
2,720

6,500 7,000 7,500 8,000 8,500 9,000 9,500 10,000 10,500 11,000 11,500 12,000 12,500 13,000

STREAM DISTANCE IN FEET ABOVE MALIBOU AVENUE

LEGEND

- 0.2% ANNUAL CHANCE FLOOD*
- "1%+" ANNUAL CHANCE FLOOD*
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD*
- 4% ANNUAL CHANCE FLOOD*
- 10% ANNUAL CHANCE FLOOD*
- STREAM BED
- A — CROSS SECTION LOCATION

* DATA NOT AVAILABLE

FLOOD PROFILES

GAMEBIRD ROAD CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV

(ALL JURISDICTIONS)

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.

LIMIT OF DETAILED STUDY

ELEVATION IN FEET (NAVD)

2,730
2,725
2,720
2,715
2,710
2,705
2,700
2,695
2,690
2,685

0 400 800 1,200 1,600 2,000 2,400 2,800 3,200 3,600 4,000 4,400 4,800 5,200

STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY

LEGEND

- 0.2% ANNUAL CHANCE FLOOD*
- "1%+" ANNUAL CHANCE FLOOD*
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD*
- 4% ANNUAL CHANCE FLOOD*
- 10% ANNUAL CHANCE FLOOD*
- STREAM BED
- A CROSS SECTION LOCATION

* DATA NOT AVAILABLE

FLOOD PROFILES

MOUNTAIN FALLS LANE SPLIT

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

16P

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.

ELEVATION IN FEET (NAVD)

2,755
2,750
2,745
2,740
2,735
2,730
2,725
2,720
2,715
2,710

5,200 5,600 6,000 6,400 6,800 7,200 7,600 8,000 8,400 8,800 9,200 9,600 10,000 10,400

STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY

LIMIT OF DETAILED STUDY

LEGEND
- 0.2% ANNUAL CHANCE FLOOD*
- "1%+" ANNUAL CHANCE FLOOD*
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD*
- 4% ANNUAL CHANCE FLOOD*
- 10% ANNUAL CHANCE FLOOD*
- STREAM BED
- A CROSS SECTION LOCATION

* DATA NOT AVAILABLE

FLOOD PROFILES

MOUNTAIN FALLS LANE SPLIT

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.

ELEVATION IN FEET (NAVD)

2,700
2,695
2,690
2,685
2,680
2,675
2,670
2,665
2,660
2,655

CONFLUENCE WITH RAPID INFILTRATION BASIN

LIMIT OF DETAILED STUDY

0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
6,000
6,500

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH RAPID INFILTRATION BASIN

LEGEND
- 0.2% ANNUAL CHANCE FLOOD*
- "1%+" ANNUAL CHANCE FLOOD*
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD*
- 4% ANNUAL CHANCE FLOOD*
- 10% ANNUAL CHANCE FLOOD*
- STREAM BED
- A — CROSS SECTION LOCATION

* DATA NOT AVAILABLE

FLOOD PROFILES

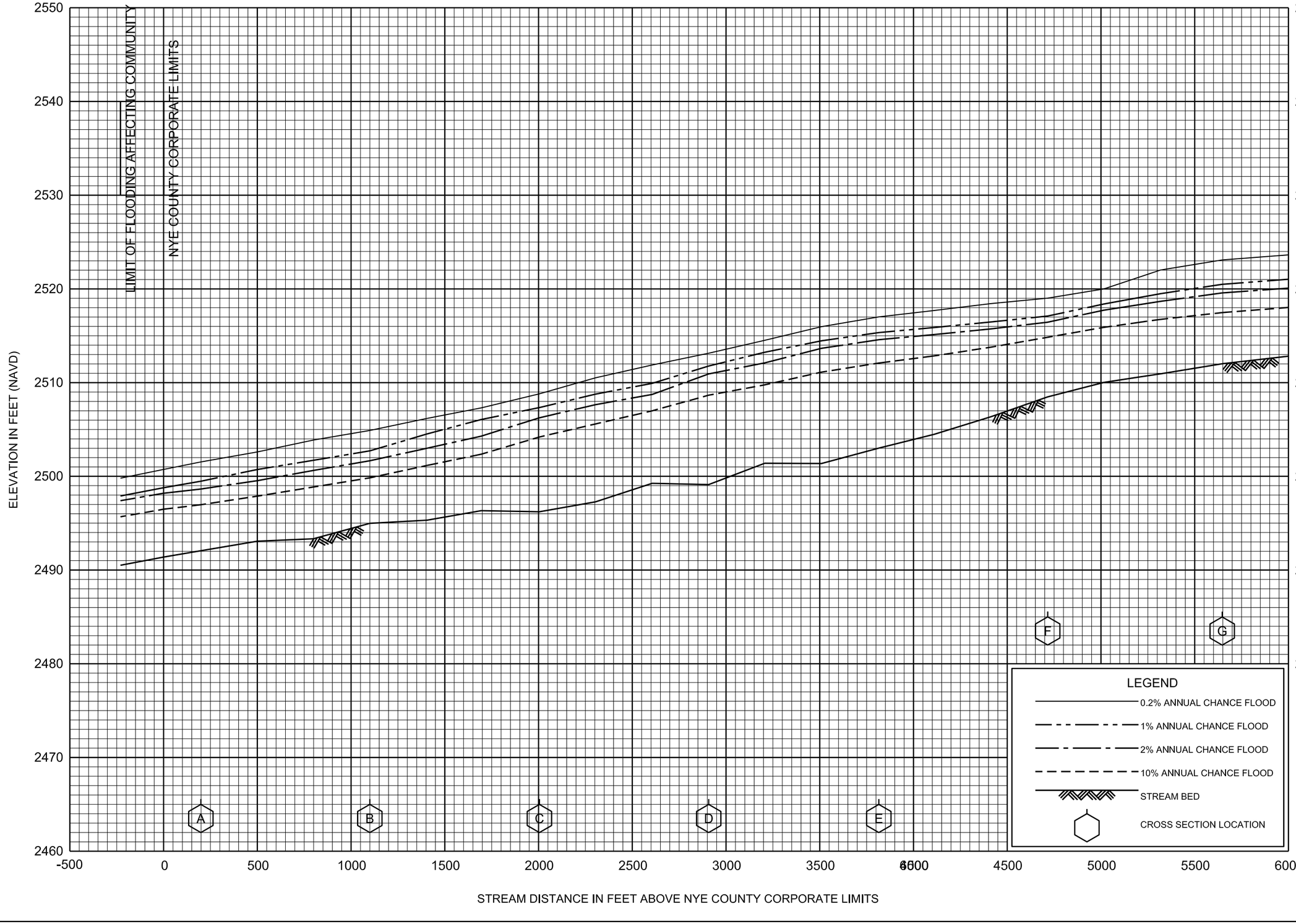
NORTH INTERIOR CONVEYANCE CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV

(ALL JURISDICTIONS)

18P



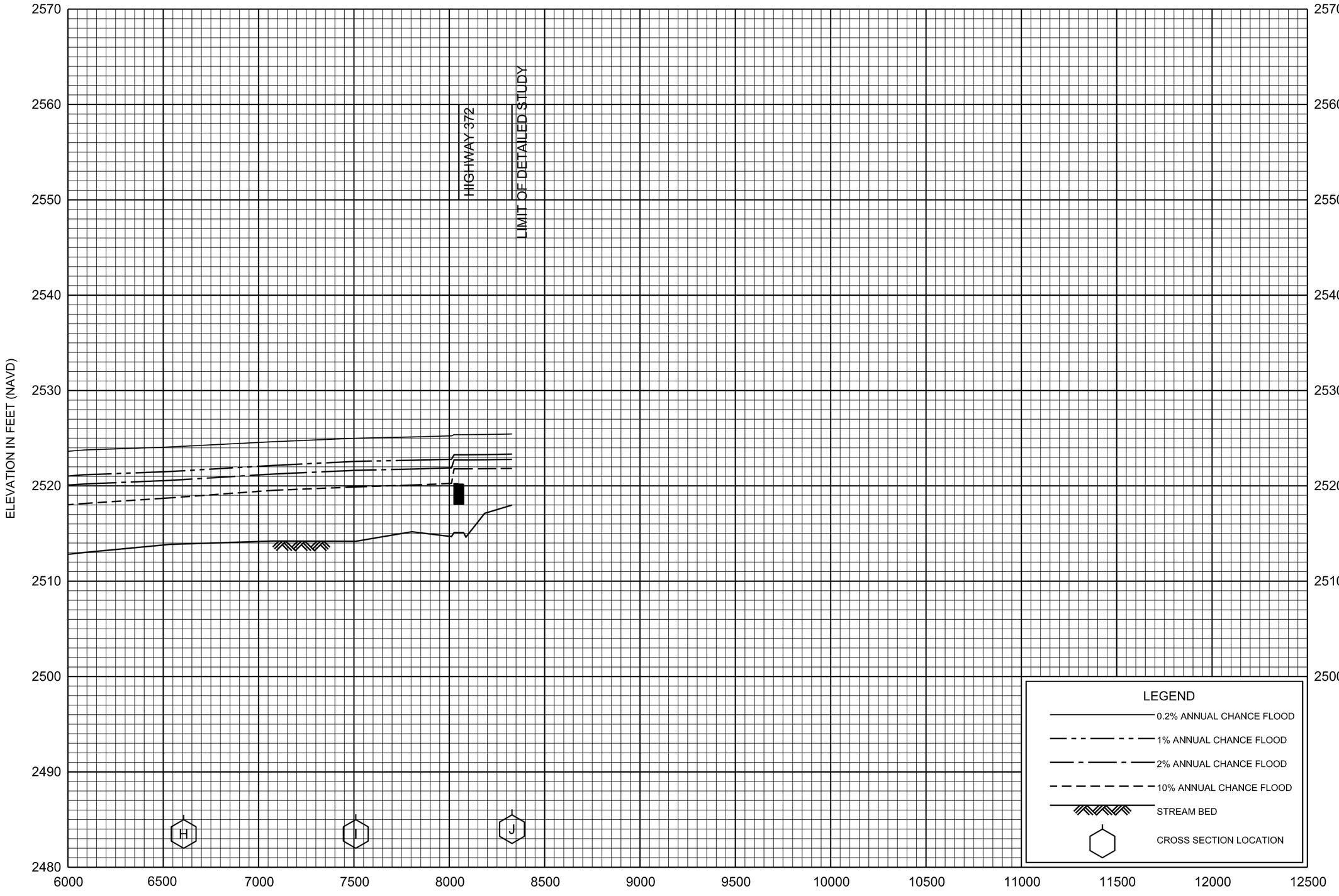
FLOOD PROFILES

PAHRUMP WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

19P



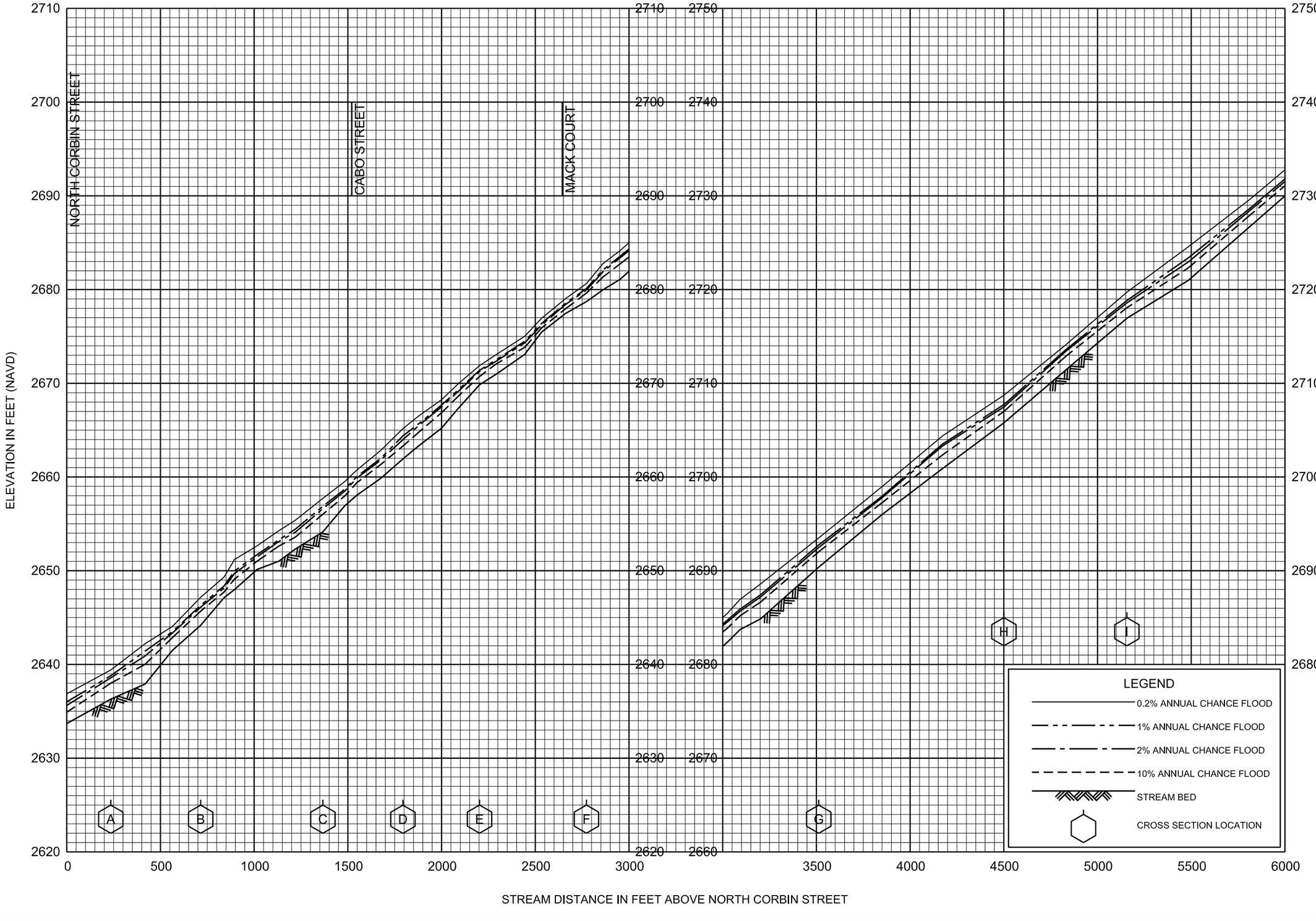
FLOOD PROFILES

PAHRUMP WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

20P



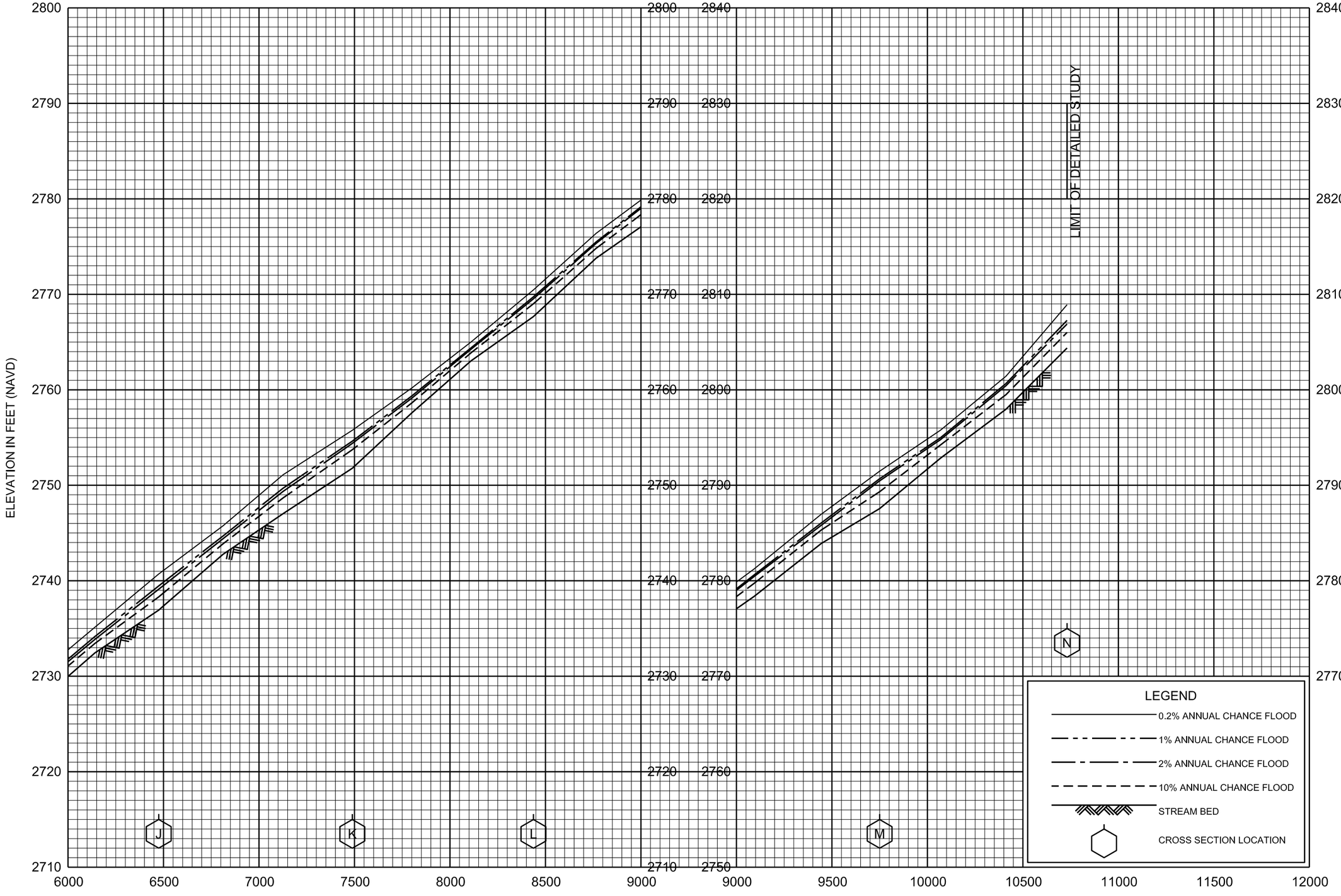
FLOOD PROFILES

SHADOW MOUNTAIN WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

21P



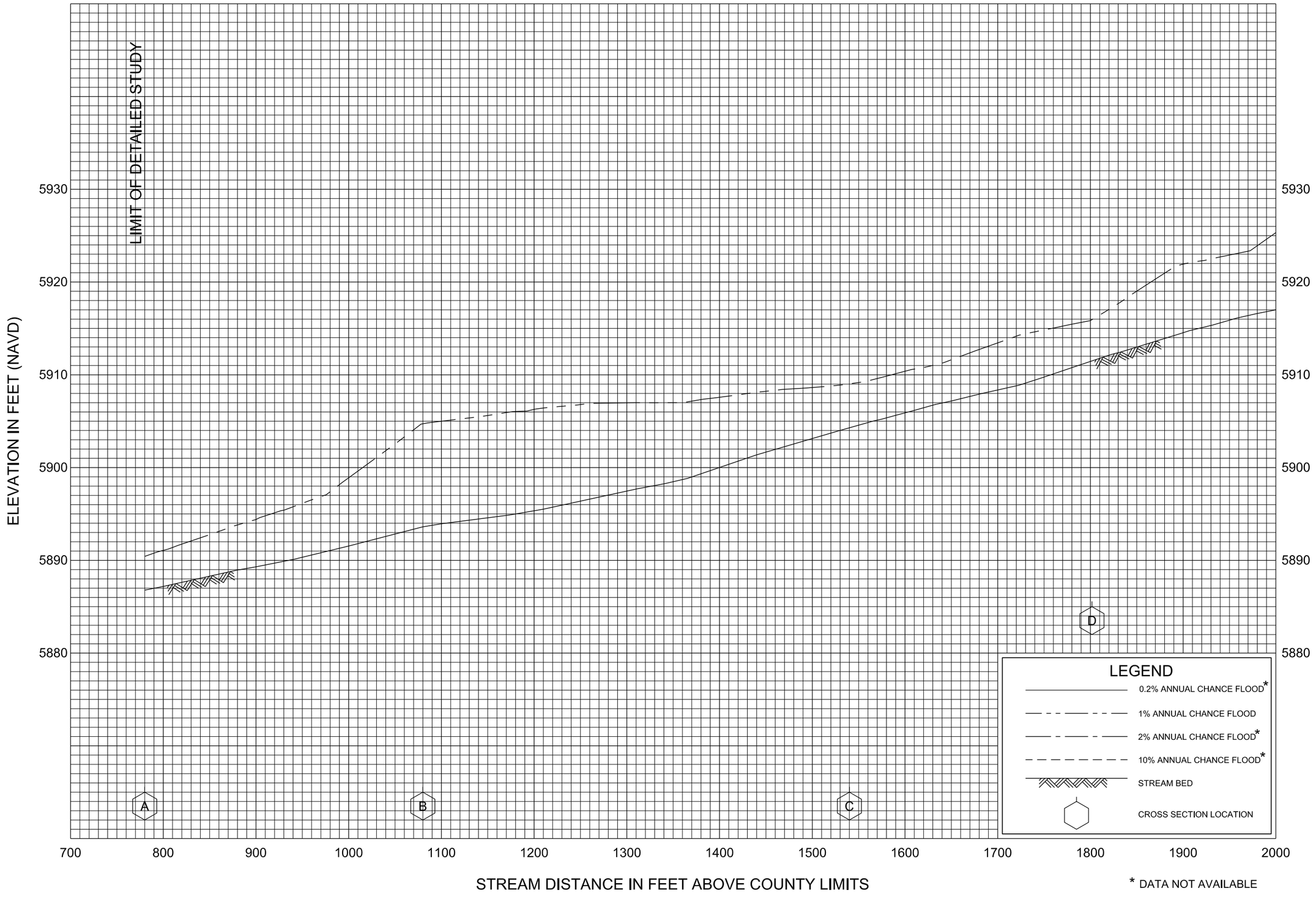
FLOOD PROFILES

SHADOW MOUNTAIN WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

22P



* DATA NOT AVAILABLE

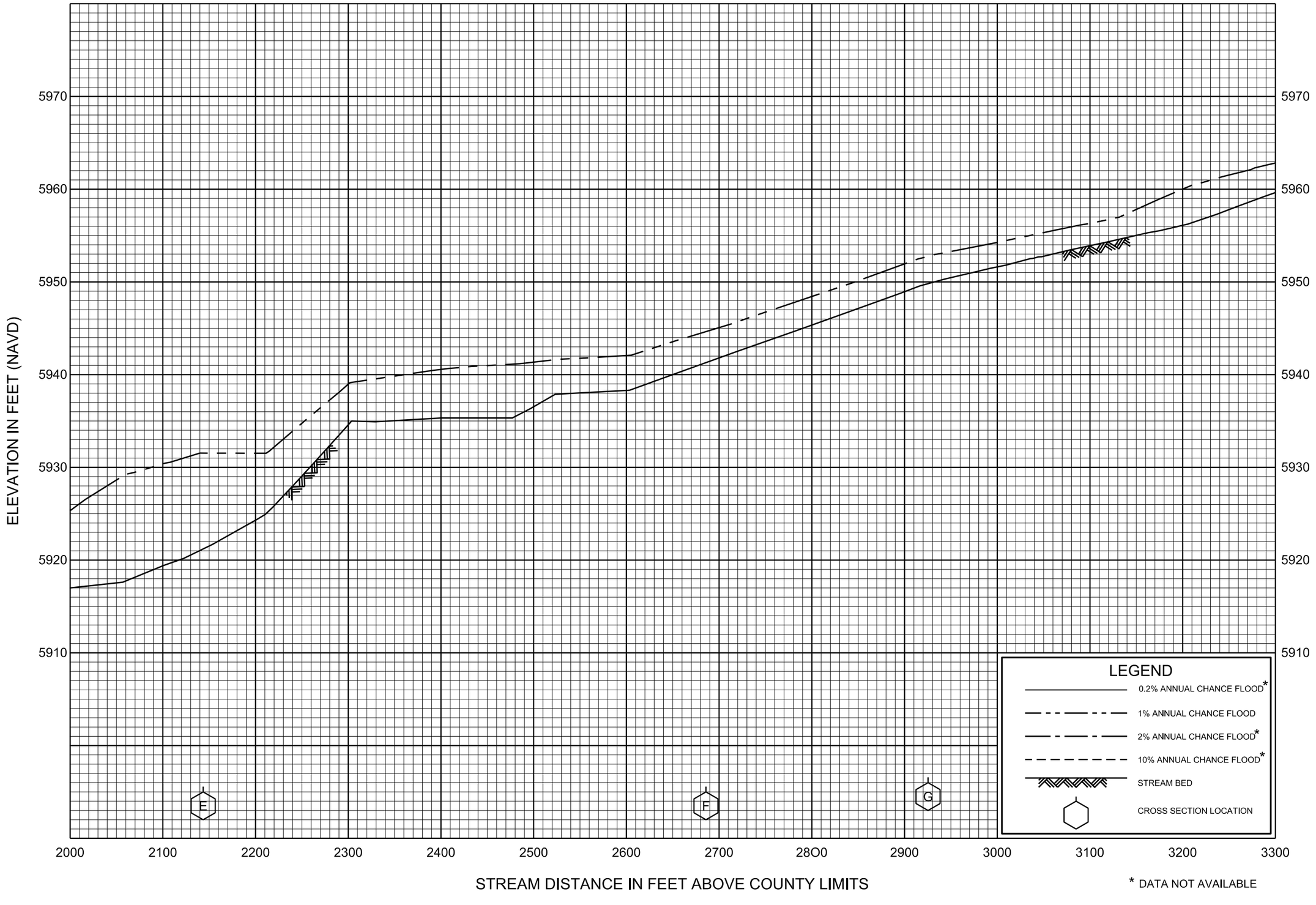
FLOOD PROFILES

SLIME WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV

(ALL JURISDICTIONS)



FLOOD PROFILES

SLIME WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

FLOOD PROFILES

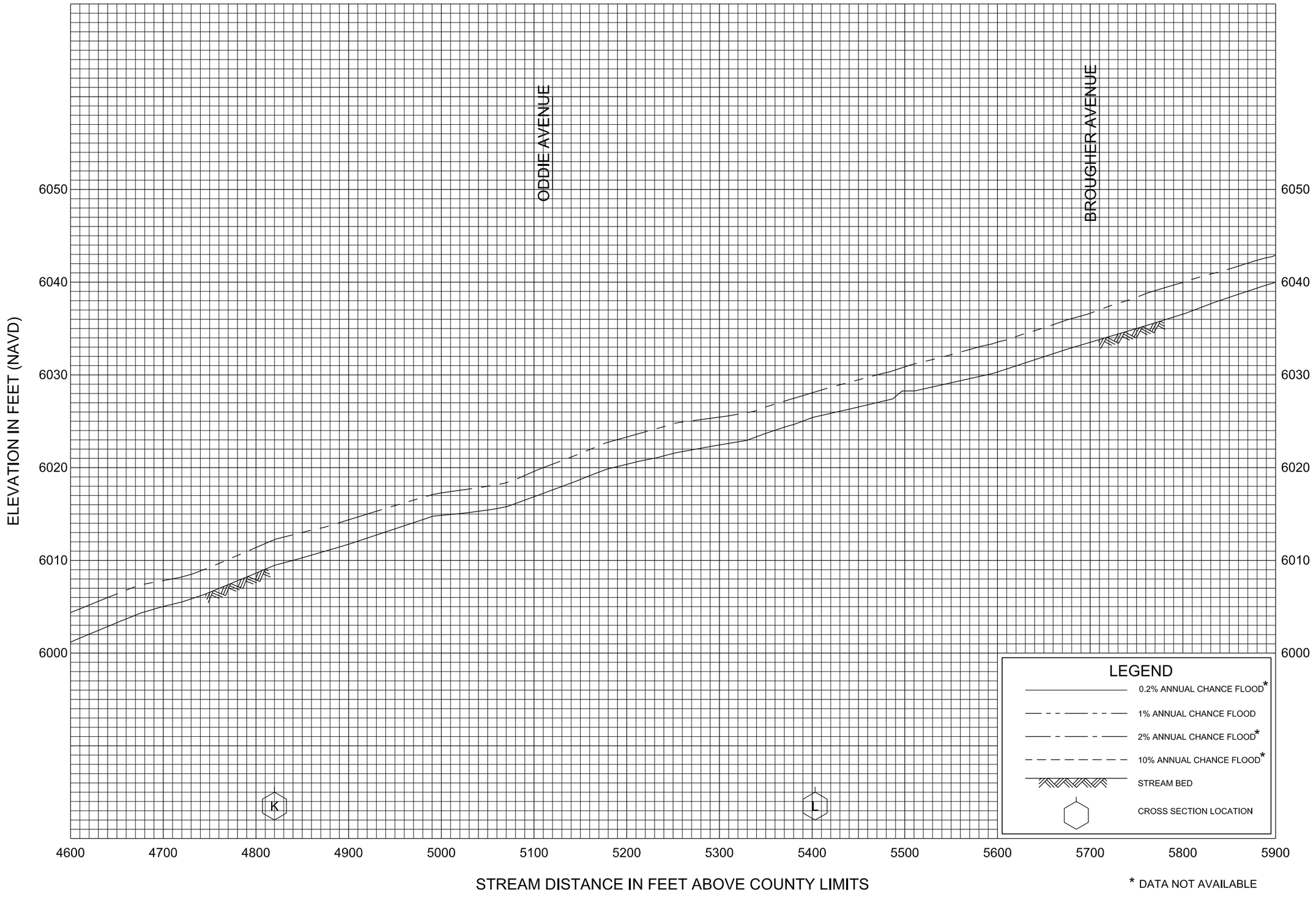
SLIME WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV

(ALL JURISDICTIONS)

25P



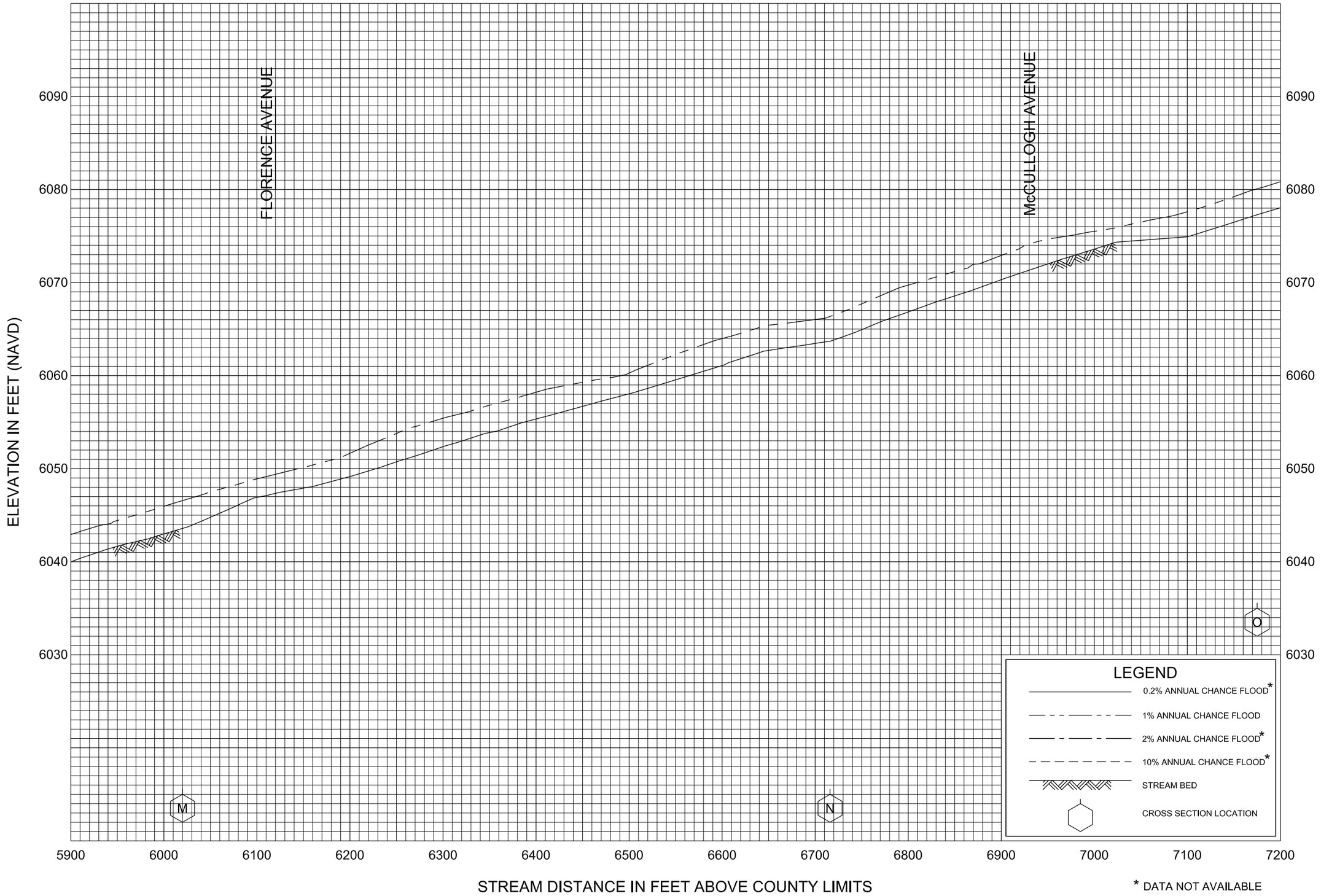
FLOOD PROFILES

SLIME WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV

(ALL JURISDICTIONS)



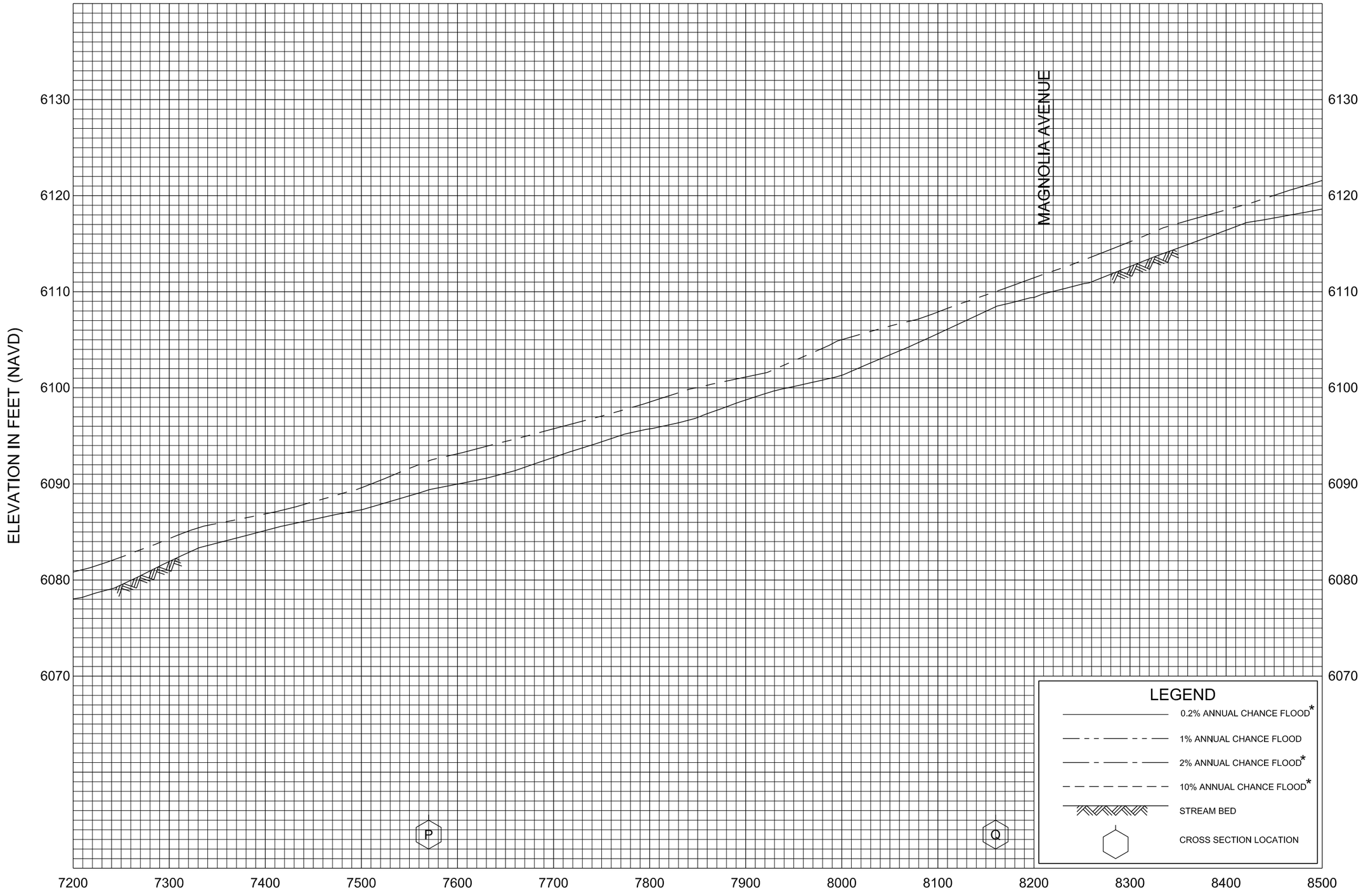
FLOOD PROFILES

SLIME WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

27P

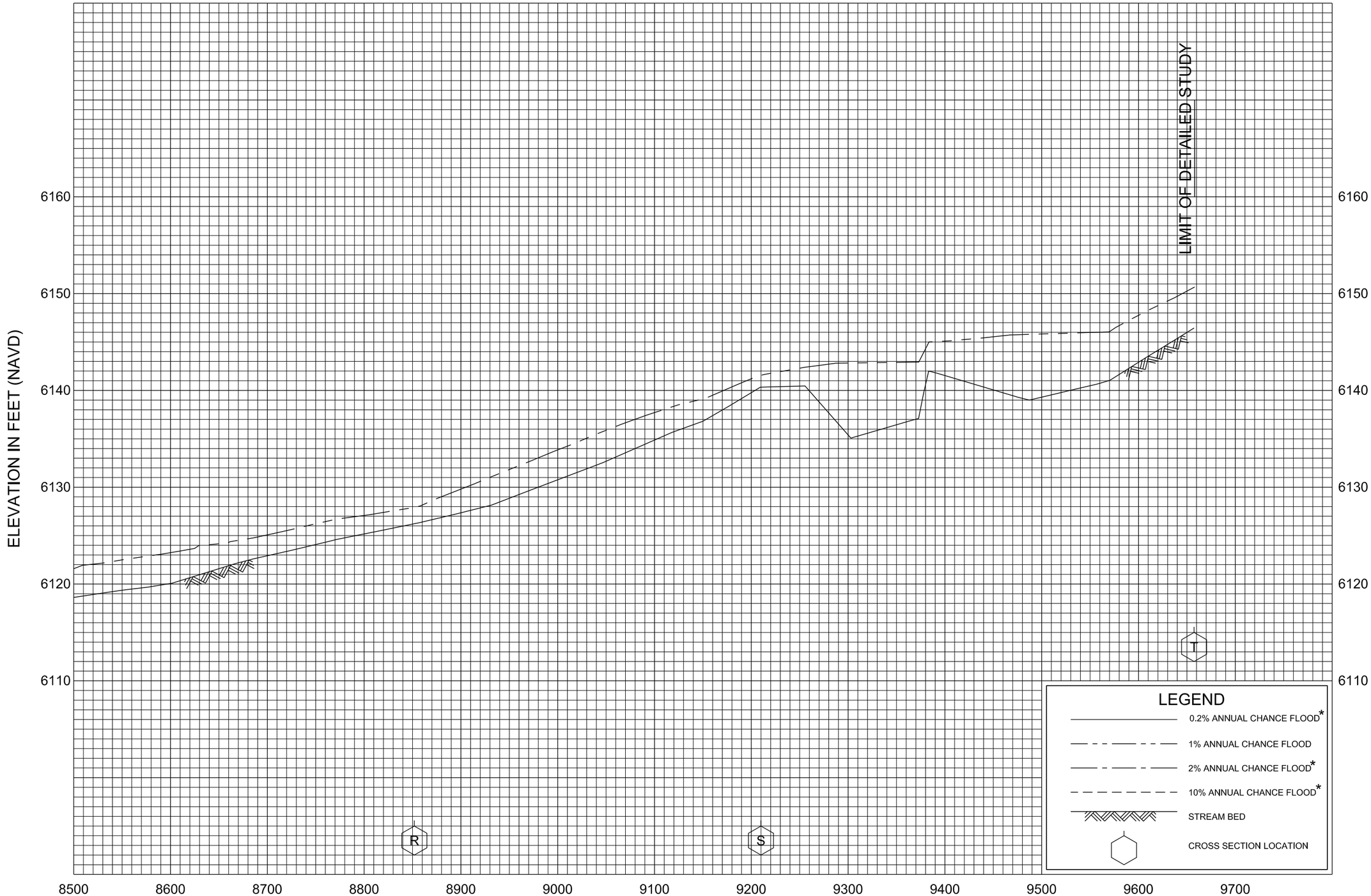


FLOOD PROFILES

SLIME WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)



FLOOD PROFILES

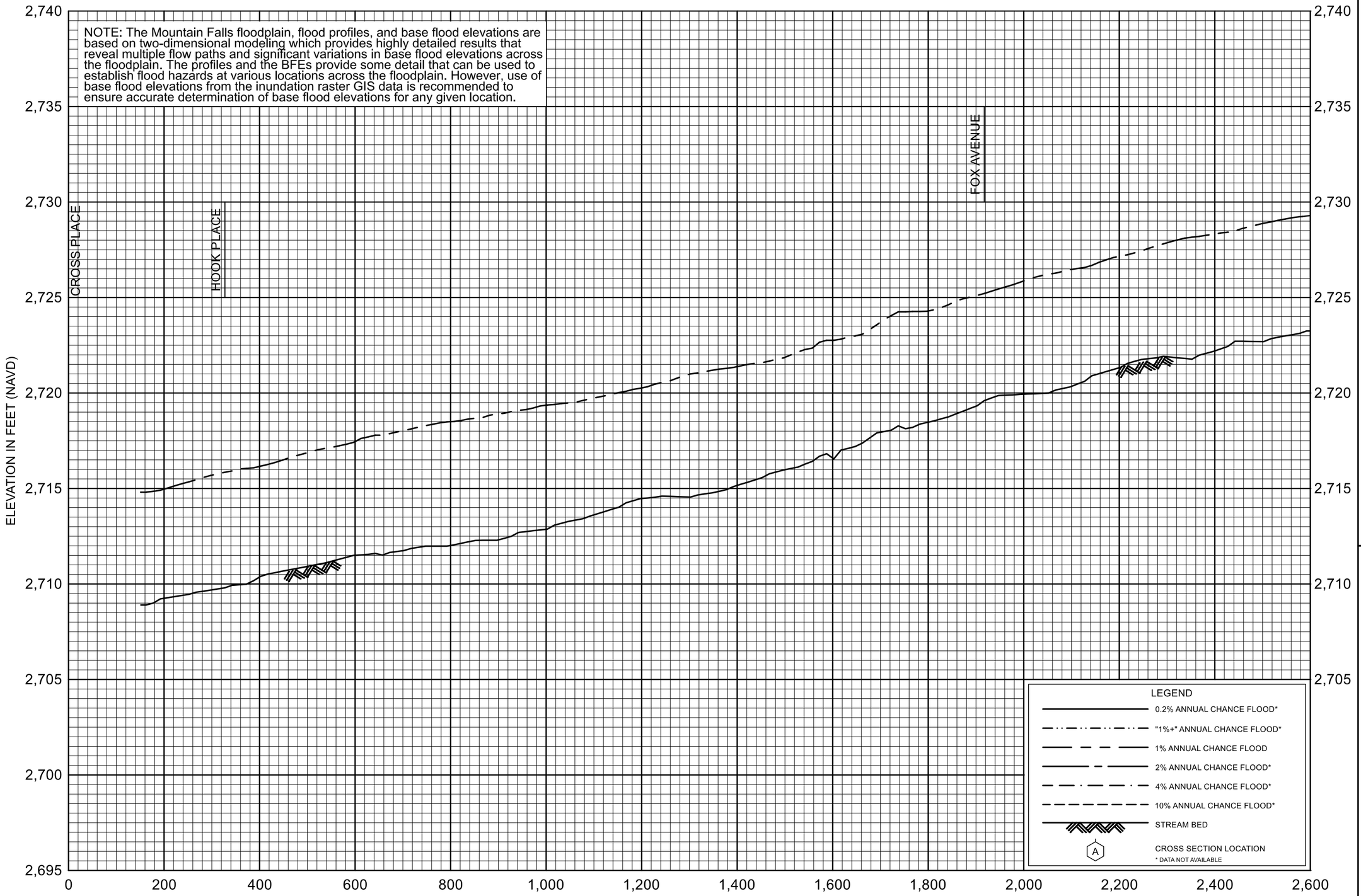
SLIME WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

29P

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.



FLOOD PROFILES

YUCCA SPRINGS CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

30P

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.

CLANTON AVENUE

SANDY LANE

ELEVATION IN FEET (NAVD)

2,755
2,750
2,745
2,740
2,735
2,730
2,725
2,720
2,715
2,710

2,600 2,800 3,000 3,200 3,400 3,600 3,800 4,000 4,200 4,400 4,600 4,800 5,000 5,200

STREAM DISTANCE IN FEET ABOVE CROSS PLACE

LEGEND

- 0.2% ANNUAL CHANCE FLOOD*
- "1%+" ANNUAL CHANCE FLOOD*
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD*
- 4% ANNUAL CHANCE FLOOD*
- 10% ANNUAL CHANCE FLOOD*
- STREAM BED
- A — CROSS SECTION LOCATION

* DATA NOT AVAILABLE

FLOOD PROFILES

YUCCA SPRINGS CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV
(ALL JURISDICTIONS)

NOTE: The Mountain Falls floodplain, flood profiles, and base flood elevations are based on two-dimensional modeling which provides highly detailed results that reveal multiple flow paths and significant variations in base flood elevations across the floodplain. The profiles and the BFEs provide some detail that can be used to establish flood hazards at various locations across the floodplain. However, use of base flood elevations from the inundation raster GIS data is recommended to ensure accurate determination of base flood elevations for any given location.

RANDY PLACE

LIMIT OF DETAILED STUDY

ELEVATION IN FEET (NAVD)

2,770
2,765
2,760
2,755
2,750
2,745
2,740
2,735
2,730
2,725

5,200
5,400
5,600
5,800
6,000
6,200
6,400
6,600
6,800
7,000
7,200
7,400
7,600
7,800

STREAM DISTANCE IN FEET ABOVE CROSS PLACE

LEGEND

- 0.2% ANNUAL CHANCE FLOOD*
- "1%+" ANNUAL CHANCE FLOOD*
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD*
- 4% ANNUAL CHANCE FLOOD*
- 10% ANNUAL CHANCE FLOOD*
- STREAM BED
- A — CROSS SECTION LOCATION

* DATA NOT AVAILABLE

FLOOD PROFILES

YUCCA SPRINGS CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

NYE COUNTY, NV

(ALL JURISDICTIONS)

32P