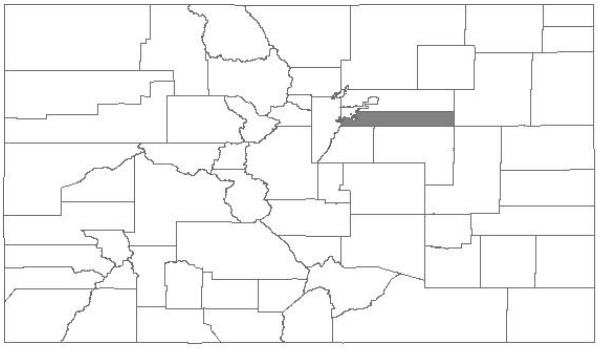
FLOOD INSURANCE STUDY

VOLUME 1 OF 6

ARAPAHOE COUNTY, COLORADO
AND INCORPORATED AREAS

Community Name	Community Number
ARAPAHOE COUNTY UNINCORPORATED AREAS	080011
AURORA, CITY OF	080002
CENTENNIAL, CITY OF	080315
CHERRY HILLS VILLAGE, CITY OF	080013
COLUMBINE VALLEY, TOWN OF	080014
*DEER TRAIL, CITY OF	080015
ENGLEWOOD, CITY OF	085074
*FOXFIELD, TOWN OF	080091
GLENDALE, CITY OF	080247
GREENWOOD VILLAGE, CITY OF	080195
LITTLETON, CITY OF	080017
SHERIDAN, CITY OF	080018

*NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED



REVISED: SEPTEMBER 4, 2020

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
08005CV001E

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.

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 report. 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 report components.

This FIS report was revised on September 4, 2020. Users should refer to Section 10.0, Revisions Description, for further information. Section 10.0 is intended to present the most up- to-date information for specific portions of this FIS report. Therefore, users of this report should be aware that the information presented in Section 10.0 supersedes information in Sections 1.0 through 9.0 of this FIS report.

Initial FIS Report Effective Date:	April 17, 1989
Revised FIS Report Dates:	March 4,1991 December 3, 1993 August 16, 1995 December 17, 2010 February 17, 2017 April 18, 2018 September 28, 2018 September 4, 2020

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FLOOD INSURANCE STUDY
ARAPAHOE COUNTY, COLORADO AND INCORPORATED AREAS

1. 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 Arapahoe County, Colorado including: the Cities of Aurora, Centennial, Cherry Hills Village, Deer Trail, Englewood, Glendale, Greenwood Village, Littleton and Sheridan; the Towns of Columbine Valley and Foxfield; and unincorporated areas of Arapahoe County (hereinafter referred to collectively as Arapahoe County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The Cities of Aurora and Littleton each fall in more than one county, but are included in their entirety in this FIS. The Town of Bennett falls in both Arapahoe and Adams Counties, but is excluded from this FIS and included in its entirety in the Adams County FIS. The Town of Bow Mar falls in both Arapahoe and Jefferson counties, but is excluded from this FIS and included in its entirety in the Jefferson County FIS. 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 Arapahoe County and incorporated areas 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, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence, and the State (or other jurisdictional agency) will be able to explain them.

1.2. Authority and Acknowledgements

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

The original hydrologic and hydraulic analyses for the Flood Insurance Study for the unincorporated areas of Arapahoe County were performed by Gingery and Associates, Inc., for the Federal Insurance Administration (FIA), under Contract No. H-3716. This work was completed in July 1975 (Reference 1).

Hydrologic and hydraulic information for portions of Bear Creek, Big Dry Creek, Blackmer Gulch, Cherry Creek, Dutch Creek, Granby Ditch, Goldsmith Gulch, West Tributary to Goldsmith Gulch, Greenwood Gulch, Lee Gulch, Littles Creek, Little Dry Creek, Quincy Gulch, Sable Ditch and Sable Ditch Overflow, Sand Creek, Slaughterhouse Gulch and its South Tributary, Toll Gate Creek, West Toll Gate Creek, West Toll Gate Creek Tributary, East Toll Gate Creek, Unnamed Creek, West Bijou Creek, Westerly Creek, Columbia Creek, and Side Creek and its Tributary were taken

directly from the existing Flood Insurance Studies for Aurora, Cherry Hills Village, Columbine Valley, Englewood, Greenwood Village, Littleton, and Sheridan (References 2 through 9, respectively).

The hydrologic and hydraulic analyses for portions of First, Piney, Murphy, Lone Tree, Happy Canyon, Cottonwood and Littles Creeks and Lee Gulch were performed by J.F. Sato and Associates, for the Federal Emergency Management Agency (FEMA), under Contract No. EMW84-C-1631. This work was completed in August 1985 (References 10, 11, 12, 13, 14, 15, and 16).

The hydraulic analyses for a portion of Cherry Creek extending from Cherry Creek State Recreation Area to the Arapahoe Douglas County line were performed by Greiner Engineering, as reported in River Run Development, Letter of Map Revision, Arapahoe County, Colorado, (Reference 17).

The revised hydraulic analyses for portions of East Toll Gate and West Toll Gate Creeks were performed by Merrick and Company, Greiner Engineering, and the City of Aurora Engineering Division (References 18, 19, 20, 21, and 22).

The hydraulic analysis for a portion of Unnamed Creek was performed by Holland Corporation (Reference 23).

The hydrologic study of the South Platte River, from Chatfield Dam to the corporate limits of the City and County of Denver, was prepared by Merrick and Company, under contract to the Urban Drainage and Flood Control District (UDFCD), and was completed in May 1983.

The hydraulic analyses for the South Platte River, from the corporate limits of the City and County of Denver, upstream to the U.S. Army Corps of Engineers (COE) Channel Improvement Project, were performed by Wright Water Engineers, under contract to UDFCD, and were completed in September 1985. The hydraulic analyses of the COE Channel Improvement Project were also performed by Wright Water Engineers under contract to UDFCD (completed in September 1987). The hydraulic reanalyses of the South Platte River, from the COE Channel Improvement Project (Fairway Lane) upstream to the Chatfield Dam, were based on the COE September 1979 hydraulic computer model-, using the discharges determined by the May 1983 Merrick hydrologic study and was carried out by the FEMA Technical Evaluation Contractor, in November 1987.

For this countywide FIS report, revised hydrologic and hydraulic analyses were taken from reports prepared for the UDFCD on Box Elder Creek by Wright Water Engineers and CH2MHill (Reference 83), Cherry Creek by URS Corporation (Reference 85), Little Dry Creek and Tributaries by WRC Engineering, Inc. (Reference 86), Goldsmith Gulch by Moser and Associates (Reference 87), SJCD 6200 by Olsson Associates (Reference 90) and Murphy Creek by Moser and Associates (Reference 91). These analyses were completed under contract with the UDFCD.

Base Map information shown on this FIRM was provided by the Arapahoe County GIS. Additional input was provided by the Cities of Aurora and Littleton. These data are current as of 2004.

The coordinate system used for the production of the digital FIRM is Universal

Transverse Mercator referenced to North American Datum of 1983 and the GRS 80 spheroid, Western Hemisphere.

1.3. Coordination

The Arapahoe County Planning Department supplied zoning and corporate boundary maps for areas throughout the county. Conferences were held with the County staff on June 5, July 15, and July 24, 1975. The final community coordination meeting for the original study of the unincorporated areas was held on September 16, 1975.The COE, Omaha District, supplied base mapping, hydrologic input, and information on Chatfield Dam for the study reach of the South Platte River. In addition, conferences were held with the COE, Omaha District, on October 16, 1974, November 27, 1974, and March 21, 1975. Of particular significance to this study was a COE floodplain information study of the Denver Metropolitan Region, dated October 1968 (Reference 24) and a Floodplain Information report prepared by the COE, dated July 1971 (Reference 25).

The U.S. Geological Survey (USGS) was contacted to obtain historical flow data (References 26, 27, and 28). Maps of flood-prone areas prepared by the USGS, showing approximate floodplain boundary delineations at a scale of 1:24,000, were also reviewed (Reference 29).

At a meeting on August 16, 1974, attended by representatives of UDFCD, FIA, and Gingery Associates, Inc., the study reaches were clearly explained with the methodology to be used in the study. An additional meeting was held on January 24, 1975, to further clarify the purpose of the study and methods used for floodplain delineation. UDFCD supplied contour maps at 2-foot intervals for Big Dry Creek, Sand Creek, and Coal Creek along with an interim report entitled Major Drainageway Master Plan--Big Dry Creek (Reference 30).

Numerous other agencies and individuals were contacted for background information, including the Colorado Water Conservation Board (CWCB), which provided published rainfall-runoff data (Reference 31); Colorado Highway Department; Union Pacific Railroad; and U.S. Soil Conservation Service (SCS). Private citizens of Watkins, Strasburg, Byers, and Deer Trail were interviewed regarding past floods, high-water marks, and flood damage.

Prior to the restudy, a meeting was held in early April 1984 with the Arapahoe County Engineering Department and UDFCD to define study reaches; however, no reaches were identified at this meeting. The study reaches were selected at a meeting in late April 1984 attended by the study contractor and FEMA.

An intermediate community coordination meeting for the restudy was held in July 1985 and attended by the County, the study contractor and the FEMA representative to explain the reaches studied and the methods used.

UDFCD provided copies of previous master plans and flood hazard delineation maps that covered some of the stream reaches being studied. The County provided up-to-date road maps and corporate boundary maps.

FEMA authorized a countywide restudy for Arapahoe County in December 1985.

For this countywide FIS report, an initial coordination meeting was attended by FEMA;

Arapahoe County; the Cities of Aurora, Centennial, Cherry Hills Village, Englewood, Glendale, Greenwood Village, Littleton, and Sheridan; the Town of Columbine Valley; the CWCB; the UDFCD; Michael Baker, Jr., the National Service Provider; and Merrick and Co., the study contractor, on October 26, 2004. At this meeting, the communities were notified that their FIS report and FIRMs would be converted to a Digital FIRM (DFIRM) format. Additionally, streams to be added as detailed studies and approximate studies were selected, and base mapping and topographic mapping was provided by Arapahoe County along with the City of Aurora.

The results of this countywide study were reviewed at the final Consultation Coordination Officer (CCO) meeting held on December 18, 2008, at the Southeast Metro Stormwater Authority office in Englewood, Colorado. The meeting was attended by representatives of UDFCD, FEMA, the State of Colorado, FEMA contractors and local communities. All issues raised at that meeting have been addressed.

2. AREA STUDIED

2.1. Scope of Study

This FIS covers the geographic area of Arapahoe County, Colorado including the incorporated towns, cities, and communities which fall within more than one county as described in Section 1.1 (excluding the Towns of Bennett and Bow Mar).

All or portions of the flooding sources listed in Table 1 were studied by detailed methods in previous Flood Insurance Studies (FISs) covering Arapahoe County and Incorporated Areas (References 2 through 11, 88, and 89).

Table 1 – Flooding Sources Studied by Detailed Methods

Stream	Stream
Antelope Creek	Piney Creek
Baranmor Creek	Prairie Dog Draw
Bear Creek	Prentice Gulch
Bear Gulch	Quincy Gulch
Big Dry Creek	Rat Run
Big Dry Creek Tributary A	Sable Ditch
Blackmer Gulch	Sand Creek
Box Elder Creek	Slaughterhouse Gulch
Cardboard Draw	SJCD 6100
Cherry Creek	SJCD 6200
Cherry Creek Spillway Drain	South Platte River
Coal Creek	South Tributary
Coon Creek	Spring Creek
Cottonwood Creek	Slaughterhouse Gulch
Coyote Run	Toll Gate Creek
East Toll Gate Creek	Unnamed Creek
First Creek	West Toll Gate Creek
Goldsmith Gulch	West Toll Gate Creek Tributary
Granby Ditch	West Tributary to Goldsmith Gulch
Greenwood Gulch	Westerly Creek

Stream	Stream
Happy Canyon Creek	Westerly Creek Overflow
Lee Gulch	Willow Creek
Littles Creek	Wolf Creek
Little Dry Creek	Wolf Creek Tributary
Lone Tree Creek	Woodrat Gulch
Murphy Creek	
Muskrat Run	

For the December 17, 2010 countywide FIS, the following streams in Table 2 were either restudied or newly studied by detailed methods.

Table 2 – Flooding Sources Restudied or Newly Studied by Detailed Methods

Stream	Limits of Revised or New Detailed Study
Box Elder Creek	From approximately 1.5 miles downstream of the confluence with Coyote Run to approximately 5.9 miles upstream of I-70
Box Elder Spill 3	From confluence with Box Elder Spill 4 to approximately 3,000 feet upstream
Box Elder Spill 4	From confluence with Coyote Run to approximately 8,000 feet upstream
Box Elder Spill 5	From confluence with Coyote Run to approximately 9,400 feet upstream
Box Elder Split 2	From confluence with Box Elder to approximately 2.7 miles upstream
Box Elder Split 2A	From confluence with Box Elder to approximately 2,100 feet upstream
Box Elder Split 2B	From confluence with Box Elder to approximately 3,800 feet upstream
Box Elder Creek	From approximately 1.5 miles downstream of the confluence with Coyote Run to approximately 5.9 miles upstream of I-70
Box Elder Spill 3	From confluence with Box Elder Spill 4 to approximately 3,000 feet upstream
Bear Gulch	Downstream limits of Aurora to 38th Avenue
Coyote Run	Downstream limits of Aurora to Jewell Ave. extended
Prairie Dog Draw	Confluence to I-70
Rat Run	Confluence to study limit
Muskrat Run	Confluence to upstream of Gun Club Road
Woodrat Gulch	Confluence to study limit
Cardboard Draw	Confluence to study limit
Cherry Creek	Reservoir to Douglas County Line
Little Dry Creek	Clarkson to Quebec Street
Willow Creek	Confluence to Englewood Dam
Greenwood Gulch	Confluence to Holly Street
Quincy Gulch	Confluence to High Line Canal

Blackmer Gulch	Confluence to High Line Canal
Prentice Gulch	Confluence to Holly Street
Goldsmith Gulch	Belleview Avenue to Arapahoe Road
West Trib to Goldsmith	Confluence to Peakview Avenue
SJCD 6200	Confluence to Jefferson County Line
Murphy Creek	Confluence to Study Limit
Cherry Creek (Right Overbank Split Flow)	Station 89292 to Station 91117

All or portions of the streams in Table 3 were studied by approximate methods in previous Flood Insurance Studies for Arapahoe County and Incorporated Areas (References 2 -11, 88, 89).

Table 3 – Flooding Sources Studied by Approximate Methods

Stream
Box Elder Creek (upper reaches)
Coal Creek (upper reaches)
Comanche Creek
Drainageway D in Columbine Valley
East Bijou Creek
Columbia Creek
Deer Trail Creek
Green Acres Tributary
First Creek
Kiowa Creek
Little Comanche Creek
Middle Bijou Creek
Muddy Creek
Upper Reaches of Piney Creek
Senac Creek
Side Creek
Unnamed Tributary to Coal Creek
West Bijou Creek
West Box Elder Creek
West Toll Gate Creek
West Toll Gate Creek Tributary
Wolf Creek

For this countywide FIRM, the existing FIRM was converted to a Digital FIRM (DFIRM). Detailed analyses were taken from the effective FIRM or from existing UDFCD reports. The existing detailed analysis was originally used in developed areas or areas with a high development potential. The existing approximate analysis was originally used to study those areas for which detailed information was not available or those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA, CWCB, UDFCD, Arapahoe County, and the incorporated communities within Arapahoe County. This update also incorporates Letters of Map Revision issued by FEMA.

2.2. Community Description

Arapahoe County is located in central Colorado, just south and east of Denver. The general physical boundary is that of a rectangle 12miles by 72 miles, which extends from near the foothills of the Rocky Mountains to the open plains of eastern Colorado, covering approximately 864 square miles. The City of Aurora lies east of Denver, extending north into Adams County and south into Douglas County. The City of Littleton lies south and west of Denver, extending south into Douglas County and southwest into Jefferson County.

The climate in the study area varies slightly from the Denver metropolitan area to the prairie Lands on the eastern end; but, generally, it is characteristic of the temperate high plains. The mean annual temperature is 50.2°F; the mean annual snowfall is 45 inches, and the mean annual rainfall is 14.05 inches. With a mean growing season of 139 days, agriculture flourishes.

Today, Arapahoe County is still basically an agricultural and residential community, with most of the population concentrated in the western one-third of the county. During the past 25 years, the county population has grown rapidly as a result of Denver metropolitan area urbanization and subsequent extensive suburban development. County population figures for 1970 and 1980 are 161,000 and 293,621, respectively. This kind of suburban development pressure is now, and will continue to be, evident in and along the floodplains of Big Dry Creek, Little Dry Creek, Cottonwood Creek, Cherry Creek, Piney Creek, Sand Creek., Coal Creek, and the South Platte River. Residential growth has also occurred along the banks of Box Elder Creek and Comanche Creek.

The county lies within the South Platte River Basin, with headwaters extending into the Rocky Mountains to elevations of 14,000 feet. The waters of the South Platte River have been appropriated for municipal and irrigation usage. The South Platte River in Arapahoe County flows from south to north along the western edge of the county.

The South Platte River in Arapahoe County is a continuous flowing stream, whereas the tributaries are intermittent flowing streams. The South Platte River has two major flooding characteristics-snowmelt and summer thunderstorms. The tributary basins are narrow and have clayey-loam soils. In the undeveloped portions of the basins, the ground cover consists of buffalo grass, willows, and cottonwood trees.

Development has occurred up to the channels on the tributaries. The floodplain on the South Platte River in the past was mostly agricultural, but today commercial, industrial, and residential development has encroached onto the floodplain. In various reaches of the floodplains, development pressures continue to exist. The county government is working to retain the open space of the floodplain

2.3. Principal Flood Problems

The South Platte River flows through the western edge of Arapahoe County in shifting channels in a broad, shallow bed with low, flat overbanks. Streams tributary to the South Platte River are ephemeral and flow in steep, narrow channels; whereas those in the eastern two-thirds of the county flow in wide, flat channels similar to the South Platte River. Sheetflow occurs within the City of Littleton on the lower reaches of Littles Creek and Slaughterhouse Gulch.

All streams studied have had various structural improvements but the intense and infrequent thunderstorms characteristic of the area can generate floods in excess of existing structural capacities. The flood threat throughout the county has not been adequately defined and urbanization has occurred in certain areas without regard to the hazard.

Major floods have occurred on the South Platte River and its tributaries in Arapahoe County since 1844. During the period, 11 devastating floods have occurred on the South Platte River; 17 have occurred on Cherry Creek; 3 each have occurred on Bijou, Box Elder, Comanche, and Sand Creeks; and 1 has occurred on Toll Gate Creek. Historic flood information on other streams in Arapahoe County is not available.

In 1844 and 1864, reports read, "bottomlands near Denver were covered with water bluff to bluff." By 1876, encroachment into the floodplain had developed to such an extent that on May 23, 1876, the Rocky Mountain News reported, "(The South Platte River) was higher to be sure--several feet higher perhaps in 1864--but it was not able to work such destruction at that time as now. There was not so much town here in 1864, as now, nor as many bridges."

The most significant floods of recent times on the South Platte River occurred in 1912, 1921, 1933, 1935, 1942, 1965 during which discharges of 13,000 cubic feet per second (cfs), 8,790 cfs, 22,000 cfs, 12,320 cfs, 10,200 cfs, and 40,300 cfs, respectively, were recorded. Cherry Creek experienced a similar flood history, with discharges of 25,000 cfs, 34,000 cfs, 10,700 cfs, 17,600 cfs, 10,800 cfs and 39,900 cfs in 1912, 1933, 1945, 1946, 1963, and 1956, respectively, and 2013.

In interviews held in Watkins, Strasburg, Byers, and Deer Trail regarding flood histories on Box Elder Creek, Comanche Creek, West Bijou Creek, and East Bijou Creek, residents recalled severe damage and lost lives in floods occurring in 1905, 1935, and 1965.

All of these floods of record on the South Platte River and tributaries have been generated near their headwaters on the slopes of Monument Divide, a high ridge located between Castle Rock and Colorado Springs and extending from the Rocky Mountains down into the plains near Limon, Colorado. Past floods of the mountain tributaries have resulted from snowmelt. Intensive rainstorms cause flooding in both the mountain tributaries and the eastern tributaries.

In 1912, Cherry Creek swelled to flood stage from cloudbursts centered simultaneously over Denver and the upper reaches of the creek. In 1933, similar circumstances caused the Castlewood Dam above Franktown in Douglas County to fail, sending a 34,000-cfs flow of water thundering down the canyon into Denver.

In 1965, the whole South Platte River Basin was drenched by a unique combination of orographic effects and meteorological conditions that caused the worst flooding in the region's recorded history. Severe thunderstorms had formed over the headwaters of Plum and Cherry Creeks on June 16 and slowly moved northeasterly down the creeks; thus, the heavy rains tended to follow and augment the peak flows. More than 14 inches of rain fell near Monument Divide at Palmer Lake in 4 hours. Overnight, westerly winds shifted the storm front to an orientation over the Kiowa and Bijou Creek basins to meet

with thunderstorms forming just south of Agate, where 5.25 inches fell in 45 minutes. The net result was six persons drowned, two other deaths caused by flood-related activities, and estimated damages in the Denver area were $500 million.

Flood problems in the area have been the result of not only rare storm events but also of improper floodplain development. Visual accounts of floods have noted that the debris transported by floodwater contained natural debris, such as trees, rock, and soil, but consisted chiefly of items foreign to the floodplain, such as houses, bridges, automobiles, heavy equipment, lumber, house trailers, butane storage tanks, and other flotsam. With these items obstructing bridges and culverts, flood levels rose and caused more extensive damage. Property which was not structurally damaged by flood depths and velocities experienced much damage and cleanup cost resulting from mud and silt deposition and erosion.

In September 12th through the 15th of 2013, a slow moving cold front circulated over the state, clashing with warm, humid monsoonal air from the south. During this time 6-18 inches of rain fell across the Front Range Foothills, Palmer Divide, and Urban Corridor. Widespread flooding with record flood stages occurred. Heavy rain concentrated in the Aurora area with up to 3 inches of rain falling in one hour. Devastating flood damage encompassed 4,500 square miles of the Colorado Front Range, left seven dead, forced thousands to evacuate, and destroyed thousands of homes and farms. Record amounts of rainfall generated flash floods that tore up roads and lines of communication, leaving many stranded. Nearly 19,000 homes were damaged, and over 1,500 destroyed. The Colorado Department of Transportation estimated that at least 30 state highway bridges were destroyed and an additional 20 seriously damaged. A preliminary assessment of the state's infrastructure showed damage of $40 million to roads and $112 million to bridges. The projected losses for residential property alone were about $900 million. Another $1 billion was attributed to commercial and government property, including roads and bridges.

2.4. Flood Protection Measures

The first tangible contribution to flood control on the streams flowing through Arapahoe County was made in 1890, when Castlewood Dam, primarily intended for irrigation storage, was completed by the Denver Land and Water Company on Cherry Creek, 35 miles upstream from Denver. The dam, with a storage capacity of 4 billion gallons, was mistakenly regarded by many as protection against deluges. In August 1933, the dam burst under pressure of water from severe thunderstorms in the upper Cherry Creek basin. Flood- control measures were taken on Cherry Creek in 1936 with the completion of the $800,000, 55-foot-high Kenwood Dam, 5 miles southeast of Denver, near Sullivan, Colorado. Despite its apparent guarantee of security, Kenwood Dam was not regarded as the complete answer to flood control on Cherry Creek and was abandoned. In 1950, Cherry Creek Dam was constructed just upstream of the former Kenwood Dam at a cost of $20 million. The dam spans 14,300 feet across the creek at a height of 140 feet, and now serves the community as a park and water recreation area as well as a retarding barrier for floods much larger than the event of June 1965. Cherry Creek Dam was designed and built by the COE to store the Standard Project Flood, which is approximately equivalent to the 500- year flood. The dam eliminates the flood potential from 385 square miles of the total drainage area of 409 square miles.

With the history of major flooding on the South Platte River through 1933, culminating in the planning, design, and construction of the Cherry Creek Reservoir in 1950, citizens of the Denver metropolitan area saw the need for an additional flood -control structure on the South Platte River, just downstream of the confluence with Plum Creek. During the 1950s, the planning and design for a flood-control reservoir were completed for Chatfield Dam. At that time, however, funding was not available to initiate and complete construction. The floods of 1965 changed the minds of many concerning the need for the structure. The loss of 8 lives and property damage assessed at $300 million in the Denver area prompted the release of funds and construction began. In 1973, final closure of the dam was made, and the facility became capable of storing tributary floodwater. All the related reservoir improvements, including recreational facilities, became totally operational in 1976. Chatfield Dam is located approximately 0.5 mile above the City of Littleton corporate limits, in Douglas and Jefferson Counties. The reach of the South Platte River lying within Arapahoe County will still experience flooding from tributary streams at Littleton and downstream.

To assist the COE with needed flood-control measures along the 6.4 miles of the South Platte River that lie adjacent to the City of Littleton, in Arapahoe County, citizens of Littleton voted in 1971 to provide funds to assist the COE in implementing a mutually satisfactory project for flood control (References 32 and 33). In 1984, the City acquired, and annexed property included within the 100-year floodplain limit within this 2-mile reach, and plans to retain the rural, open-space environment of the area.

On the remaining 4.4 miles of the South Platte River that are located in Arapahoe County and the City of Littleton, the COE had proposed a structural solution to flood control, incorporating channelization and diking. State funds have been appropriated for right-of-way acquisition and construction, for the purpose of this study, has been completed. The resulting channelization project contains the accepted 100-year flood discharge and, therefore, this segment of the river presents minimal flood hazard to the county and affected communities.

The UDFCD and City of Littleton constructed a 100-year capacity channel for Littles Creek from its confluence with the South Platte River to the railroad corridor. The UDFCD and City of Littleton constructed a detention facility near Grant Street and storm sewer upstream and downstream on Slaughterhouse Gulch to reduce the frequency and severity of flooding. The Colorado Department of Transportation constructed a 100-year capacity box culvert on Slaughterhouse Gulch from the South Platte River to upstream of Santa Fe drive as part of a transportation project.

A major flood control structure in the City of Aurora is Quincy Dam on West Toll Gate Creek, which was completed in 1974. The dam and reservoir serve as a water storage facility and provide approximately 4,5000-acre feet of storage for flood control. The dam controls the upper 4.5 square miles of the drainage basin.

The UDFCD and Town of Columbine Valley constructed a 100-year capacity channel on Dutch Creek from the South Platte River to Platte Canyon Drive.

Major drainageway planning reports have been completed for all of the major drainageways in the populated areas of the county. These reports designate various

structural measures and nonstructural actions that would be appropriate to alleviate potential flood damage along these streams.

3. 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-, 50-, 100-, or 500-year 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 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, rate floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods of greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 1-percent-annual-chance flood 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 the peak discharge-frequency relationships for each flooding source studied in detail affecting the geographic area of Arapahoe County.

Recorded flood information for the majority of the streams studied by detailed methods within Arapahoe County is nonexistent. Good records do exist for the South Platte River and Cherry Creek. Due to the construction of Chatfield Dam, the recorded information on the South Platte River is not applicable. As a result, synthetically derived hydrographs were computed to determine potential flood magnitudes for those streams with relatively small drainage basins in the Denver metropolitan area. These hydrographs reflect the effects of precipitation, ground cover, slope, drainage area, and other physical characteristics of the drainage basins. The synthetic hydrograph method was used on Big Dry Creek, Piney Creek, Cottonwood Creek, Murphy Creek, Cherry Creek, and South Platte River. Where available, hydrologic data were compared with other studies completed in the area (References 30, 34, and 35).

For the large drainage basins to the east of the Denver metropolitan area, flood magnitudes for the selected frequencies were computed using the USGS regional analysis outlined in Water Supply Paper 1680 (Reference 36) for Region B, Area 10. The relationship between flood magnitude and frequency, as portrayed in the composite frequency curve in Water-Supply Paper 1680, was extrapolated to give a ratio of 100-year flood discharge to mean annual discharge as the basis for the regional curve in Figures 1, 2 , 3, and 4. The streams whose hydrology was derived from this regional analysis were the upper reaches of Piney Creek and Coal Creek, Lone Tree Creek,

Senac Creek, 1-05-4412 Creek, West Box Elder Creek, Box Elder Creek, Kiowa Creek, Wolf Creek., Comanche Creek, Little Comanche Creek, West Bijou Creek, Middle Bijou Creek, and Deer Trail Creek. This curve was used as a comparison for synthetically generated hydrograph flows for each stream in the study. For some streams, the 100-year flood discharge generated by hydrograph methods is higher than the curve would indicate due to the effects of recent urbanization.

The South Platte River peak discharges for the 100- and 500-year floods below the dam were computed to reflect information on the operation of Chatfield Dam. For that reason, the South Platte River does not match the USGS regional data.

Rainfall data for the synthetic hydrologic analyses was taken from the UDFCD Urban Storm Drainage Criteria Manual (Reference 37). Synthetic hydrograph procedures used in the study included the Colorado Urban Hydrograph Procedure (CUHP), outlined in the UDFCD Manual (Reference 37), and the COE HEC-1 Flood Hydrograph Package (Reference 38). The 500-year flood discharges for all detailed-study streams were checked by straight-line extrapolation of frequencies previously determined using the procedure of the USGS (References 27 and 36) and compared to the COE Standard Project Flood data when available.

Hydrologic analyses included in the Flood Insurance Studies for the incorporated communities of Aurora, Cherry Hills Village, Littleton, and Sheridan were incorporated into the restudy in their entirety with the exception of streams or portions of streams which were superseded by more up-to-date information (References 2, 3, and 5 through 9).

In addition, hydrologic data from various engineering reports (discussed in Section 7.0) were used extensively in the restudy of Arapahoe County. The methods used in these reports include CUHP, MITCAT, and Stormwater Management Model (References 10, 11, 12, 13, 14, 15, and 16).

Peak discharge-drainage area relationships for the streams studied by detailed methods within Arapahoe County, except Spring Creek and SJCD 6100, are shown in Table 4 and Figure 1 through Figure 4.

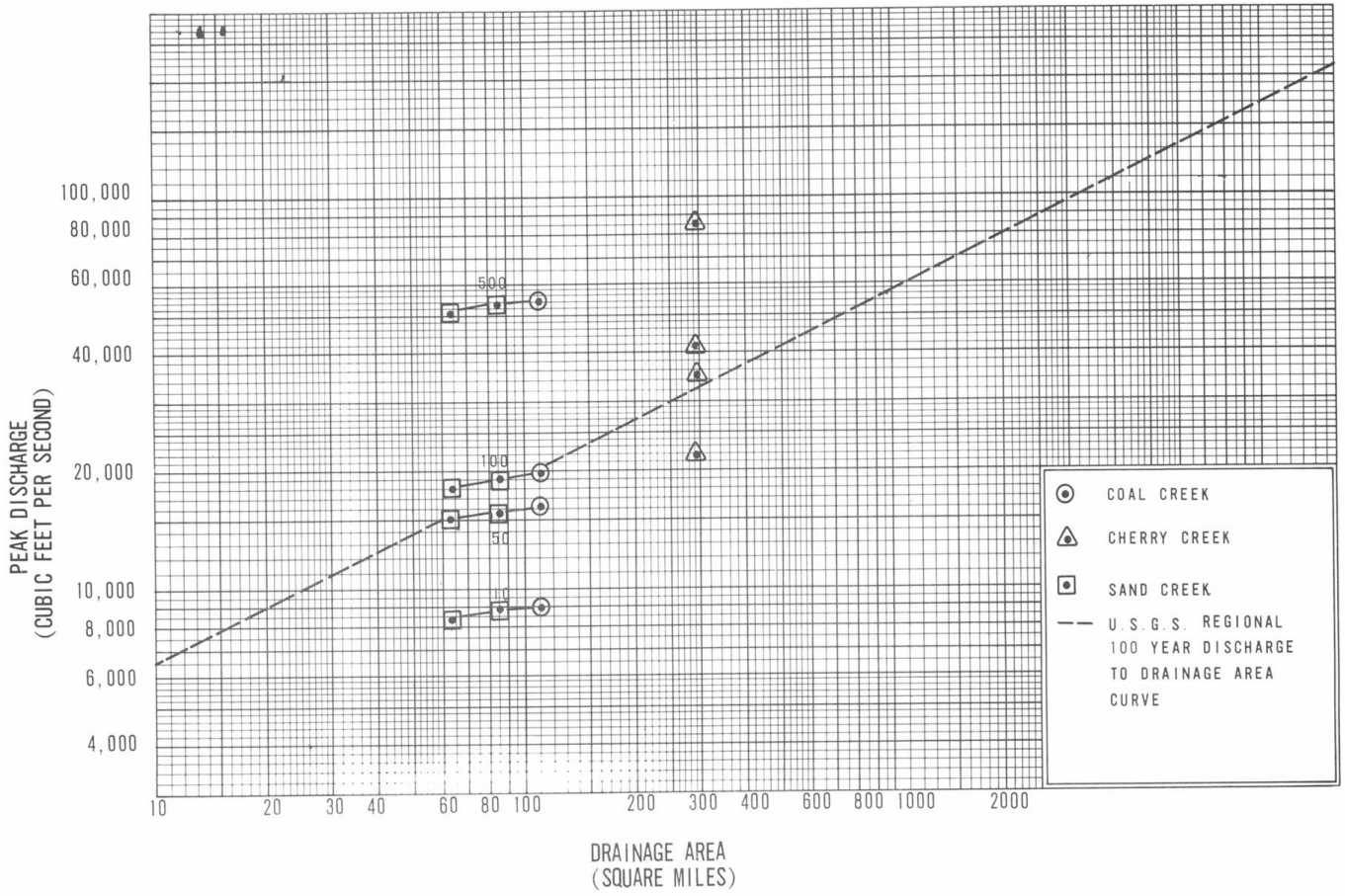

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

COAL CREEK, CHERRY CREEK, SAND CREEK

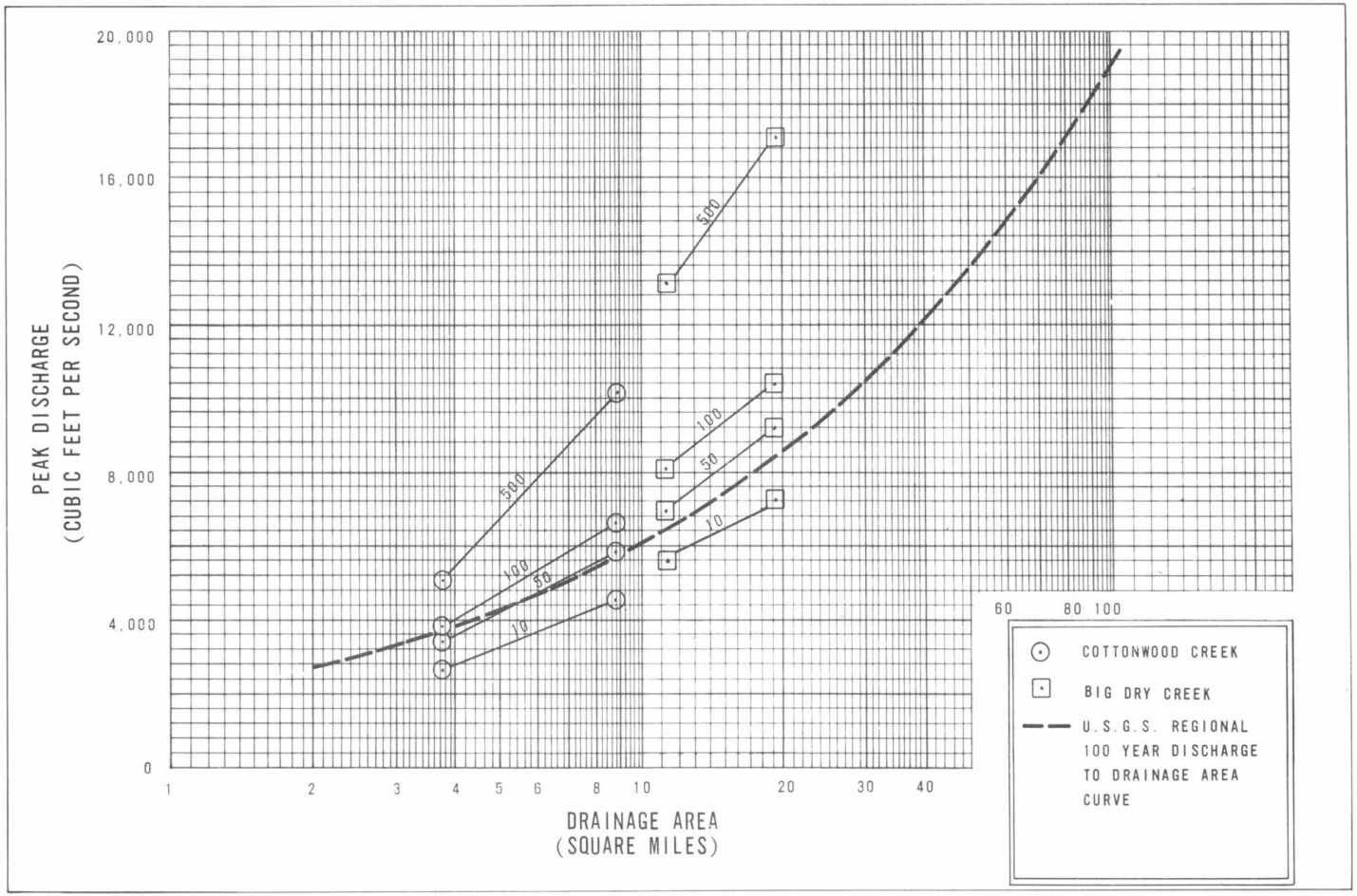

FIGURE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

COTTONWOOD CREEK, BIG DRY CREEK

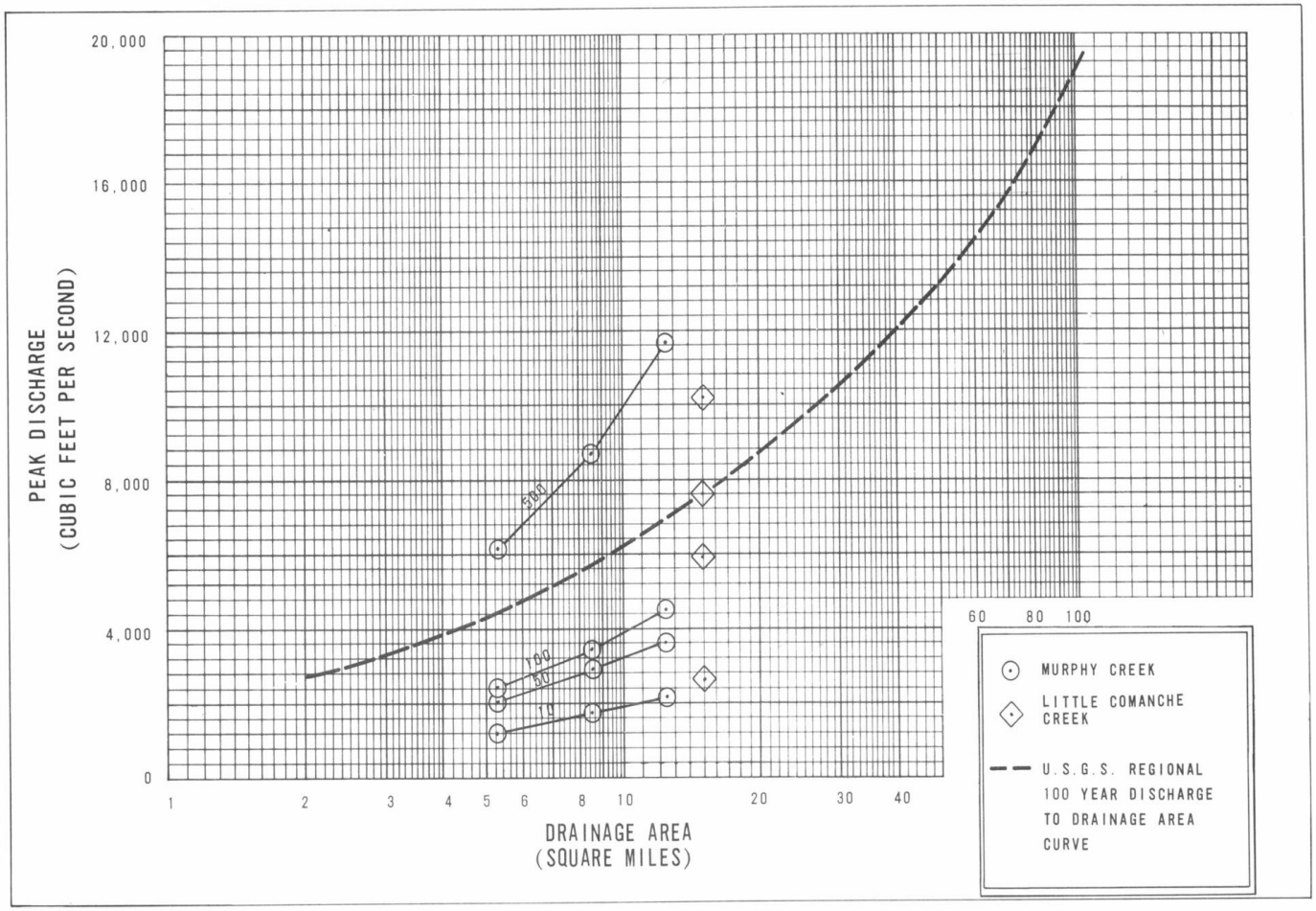

FIGURE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

MURPHY CREEK, LITTLE COMANCHE CREEK

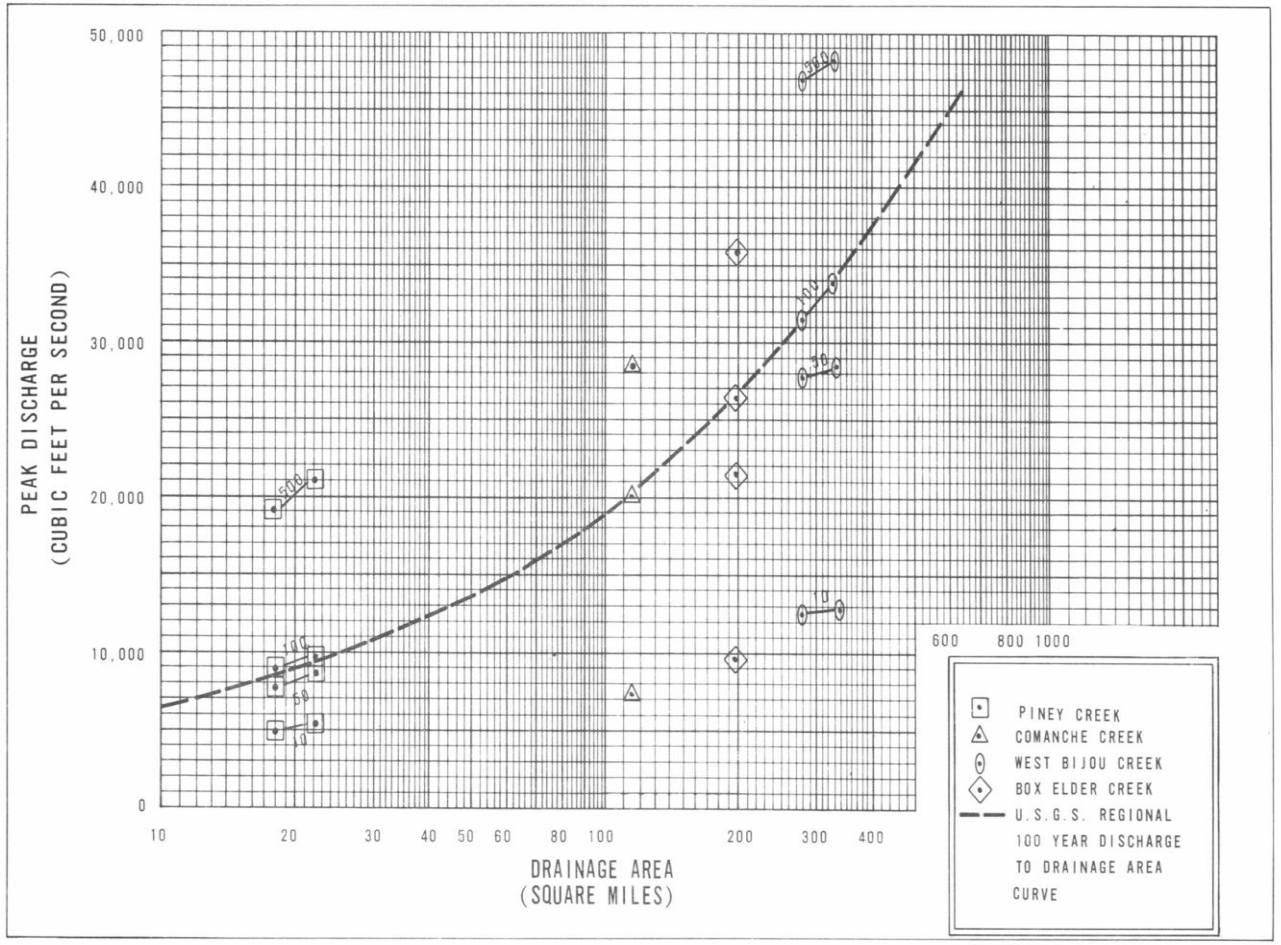

FIGURE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

PINEY CREEK , COMANCHE CREEK
WEST BIJOU CREEK , BOX ELDER CREEK

Table 4 – Summary of Discharges

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Antelope Creek					
At Confluence with Piney Creek	2.5	730	1,820	2,430	4,060
Antelope Creek Split Flow					
At Confluence with Piney Creek	--[1]	--[2]	138	210	428
Baranmor Ditch					
Upstream of Scranton Street	1.39	--[1]	--[1]	1,732	--[1]
Upstream of North Revere Street	1.44	--[1]	--[1]	1,785	--[1]
Upstream of North Peoria Street	1.51	--[1]	--[1]	1,846	--[1]
Downstream of East 30th Avenue	1.75	--[1]	--[1]	2,059	--[1]
Bear Creek					
At Mouth	22	4,170	6,920	8,150	11,280
Bear Gulch					
At Mouth	19.8	1410	4360	6300	10200
Big Dry Creek					
Above Windermere Street	11.0	5,100	7,000	8,100	13,100
At Confluence with South Platte River	19.0	7,100	9,100	10,400	17,200
At Littleton Boulevard	19.5	7,000	9,250	10,400	10,750
Blackmer Gulch					
At Confluence with Greenwood Gulch	2.3	1,390	1,850	1,950	2,330
At Confluence with Quincy Gulch	1.5	780	1,040	1,100	1,330
At Holly Street	0.5	385	500	540	640
Box Elder Creek					
Confluence with Coyote Run	--[1]	1,681	7,522	11,090	15,998
At I-70	--[1]	1,698	7,597	11,138	12,893
Approximately 5.9 miles upstream of I-70	--[1]	1,709	7,640	11,164	12,933
Box Elder Spill 3					
Approximately 2,600 feet upstream of confluence with Box Elder Spill 4	--[1]	0	3	131	240
Box Elder Spill 4					
Approximately 7,100 feet upstream of confluence with Coyote Run	--[1]	0	0	26	108
Approximately 3,700 feet upstream of confluence with Coyote Run	--[1]	133	1,368	2,162	3,035

[1]Data not available [2]No flow at this discharge

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Box Elder Spill 5					
Approximately 9,000 feet upstream of confluence with Coyote Run	--[1]	0	1,285	3,007	3,967
Box Elder Split 2					
Approximately 5,800 feet upstream of confluence with Box Elder	--[1]	572	3,348	4,429	5,439
Approximately 2.6 miles upstream of confluence with Box Elder	--[1]	1,347	7,234	9,680	11,957
Box Elder Split 2A					
Approximately 1,600 feet upstream of confluence with Box Elder	--[1]	775	3,886	5,251	6,518
Box Elder Split 2B					
Approximately 4,000 feet upstream of confluence with Box Elder	--[1]	0	864	1,400	1,950
Cardboard Draw					
At Mouth	2.3	270	710	990	1,520
Cherry Creek below Cherry Creek State Park					
Approximately 645 feet downstream of South Monaco Parkway	--[1]	2,892	4,725	6,000	--[1]
At Colorado Boulevard	--[1]	2,892	5,661	7,320	--[1]
Cherry Creek					
At Downstream Limit of Study	340	10,300	31,000	51,000	150,000
At Upstream Limit of Study	169	3,300	9,300	13,300	63,000
Cherry Creek Spillway Drain					
At Confluence with West Toll Gate Creek	2.0	1,038	2,190	2,780	4,110
At Upstream Limit of Study	1.0	482	776	855	2,292
Cherry Creek (Right Overbank Split Flow)					
At Arapahoe Road	--[1]	1	2,090	7,077	62,211
Coal Creek					
At East Yale Avenue	--[1]	4,972	11,489	14,982	21,714
At Mutchie Creek Confluence	--[1]	4,698	11,003	14,425	20,928
Approximately 2,700 ft Upstream of E. Quincy	--[1]	3,095	9,177	12,656	19,154
At Llama Drow	--[1]	2,505	8,614	11,919	17,916
County Line Road	--[1]	2,495	8,035	10,991	16,351

[1]Data not available

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Coon Creek					
At County Boundary	--[1]	1,215	2,333	2,958	3,982
Cottonwood Creek					
At Peoria Street	--[1]	2,630	3,880	4,690	6,220
Downstream of Peakview Avenue	--[1]	2,340	3,410	3,910	4,760
At Easter Avenue	--[1]	2,070	3,040	3,500	4,220
Downstream of Airport Tributary	--[1]	1,960	3,430	4,200	5,470
Coyote Run					
Approximately 1700 feet upstream of confluence with Box Elder Creek	--[1]	1,920	6,111	8,703	15,349
At I-70	--[1]	1,546	4,190	5,804	6,533
Approximately 7.7 miles upstream of I-70	--[1]	46	109	141	169
Dutch Creek					
At County Boundary	--[1]	1,700	3,213	4,380	6,252
At confluence of Coon Creek	--[1]	2,925	5,826	7,293	10,308
Approximately 320 feet downstream of confluence of three lakes tributary	--[1]	2,947	5,452	7,446	10,561
East Toll Gate Creek					
At Chambers Road	11.05	2,577	4,987	6,384	9,542
At Columbia Creek Tributary	10.75	2,574	5,007	6,409	9,531
At Airport Boulevard	9.71	2,197	4,379	5,592	8,239
At Confluence with East Toll Gate Creek Tributary and Buckley Tributary	9.34	2,146	4,267	5,400	7,922
Approximately 544 feet Upstream of Aspen Boulevard	--[1]	896	2,001	2,660	5,297
At Jewell Avenue	4.25	625	1,425	1,907	4,590
Approximately 866 feet Upstream of East Jewell Avenue	--[1]	599	1,371	1,830	4,518
At East Hampden Avenue	2.56	418	797	1,061	3,804
At South Gun Club Road	1.5	390	860	1,250	2,900
At Aurora Parkway	0.3	130	220	270	1,110
First Creek					
Upstream of Smith Road	--[1]	1,930	--[1]	4,000	--[1]
At I-70	11.6	1,230	3,300	4,790	6,750
At 6th Avenue	4.5	450	1,450	1,910	2,810
First Creek E-470 Split	--[1]	--[1]	--[1]	1,190	3,188

[1]Data not available

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
First Creek Tributary T					
At Picadilly Road	8.1	530	1,770	2,530	4,030
At Harvest Road	2.7	610	1,790	2,510	3,440
Granby Ditch					
At Mouth	3.74	1,800	2,460	2,775	3,450
Above Confluence with Sable Ditch	2.28	935	1,280	1,445	1,800
At Colfax Avenue	1.96	488	876	1,080	1,732
At Laredo Street	1.38	212	372	447	1,170
Goldsmith Gulch					
At Belleview Road	2.6	1,270	1,950	2,250	3,050
Green Acres Tributary					
U/S of Confluence with Happy Canyon Creek	0.19	670	1,183	1,447	1,875
Greenwood Gulch					
At Belleview Road	3.3	1,800	2,550	2,750	3,200
At Confluence with Prentice Creek	2.7	1,700	2,300	2,450	2,800
At Orchard Road	1.2	1,100	1,500	1,600	1,850
Happy Canyon Creek					
U/S of Confluence with Cherry Creek	17.49	3,049	6,970	9,234	13,367
D/S of Jordan Road	17.27	3,049	6,969	9,233	13,359
Havana Tributary					
At confluence with Cottonwood Creek	--[1]	660	1,080	1,360	1,970
Inverness Tributary					
At confluence with Cottonwood Creek	--[1]	530	870	1,100	1,610
Lee Gulch					
At Confluence with South Platte River	2.5	1,900	2,500	2,900	4,500
Little's Creek					
Just Upstream of Dry Creek Road	--[1]	1	145	292	467
Approximately 150 feet upstream of Washington Way	--[1]	8	164	342	617
Just upstream of Washington Way	--[1]	46	190	406	726
Approximately 360 feet downstream of Easter Avenue	--[1]	85	229	468	814
At Pennsylvania Street	--[1]	262	484	702	1,115
At Highline Canal	--[1]	389	619	838	1,258
Just downstream of Highline Canal	--[1]	426	695	900	1,361

[1]Data not available

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little's Creek (continued)					
Just upstream of South Broadway	--[1]	543	833	1,058	1,499
Just downstream of Gallup Street and Peakview Avenue	--[1]	855	1,498	1,900	2,596
At Confluence with South Platte River	--[1]	942	1,676	2,256	3,125
Little Dry Creek					
Upstream of Uinta Street	0.73	755	1,317	1,587	2,140
Upstream of Arapahoe Road	1.55	1,113	2,157	2,673	3,725
Holly Dam	2.07	1,183	2,413	3,076	4,330
Clarkson Street	23.66	2,275	3,750	4,580	5,970
Logan Street	--[1]	2,275[3]	3,210	3,540	5,960
Cinderella Conduit Entrance	--[1]	2,350[3]	3,340	3,660	6,090[3]
South Platte River Confluence	24.96	2,470[3]	3,420	3,770	6,200
Lone Tree Creek					
Downstream of Arapahoe Airport Runway	0.31	54	227	259	--[1]
At Cherry Creek Rec. Area Boundary	1.64	1,085	1,841	2,205	--[1]
Murphy Creek					
Upstream of the Confluence with Murphy Creek Tributary	0.09	86	154	181	234
Downstream of the Confluence with Murphy Creek Tributary	--[1]	329	592	704	874
Approximately 1,093 upstream of East Alexander Drive	0.98	624	1,168	1,425	1,838
At Mouth	--[1]	--[1]	--[1]	4,450	--[1]
Murphy Creek Tributary					
Upstream of the Confluence with Murphy Creek	--[1]	243	438	525	640
Peoria Tributary					
At confluence with Cottonwood Creek	--[1]	430	710	880	1,400
Piney Creek					
At Aurora Parkway	6.68	939	2,525	3,440	5,908
At confluence with Sampson Gulch	9.59	1,370	3,548	4,976	8,845
At E-470	9.74	1,380	3,580	5,050	8,908
At confluence with Saddle Rock Ranches Gulch	12.77	1,565	4,501	6,161	10,902
At Arapahoe Road	14.55	1,822	5,124	7,023	12,419
At confluence with Antelope Creek	17.64	2,514	6,573	9,064	16,236
Upstream of Tower Road	19.36	2,684	6,944	9,622	17,769
At confluence with Cherry Creek	22.11	2,840	7,449	10,257	18,988

[1]Data not available

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Prairie Dog Draw					
At Mouth	6.3	850	2,200	3,020	4,600
Prentice Gulch					
At Mouth	0.8	640	870	920	1,030[2]
Quincy Gulch					
At Confluence with Blackmer Gulch	0.8	610	810	850	1,000
At South Bellaire Street	0.4	320	420	445	550
Rat Run					
At Mouth	2.9	440	1,120	1,530	2,310
Sable Ditch					
At Upstream Side of I-225	1.45	892	1,601	1,951	3,028
At Jasper Street (Detention Pond Outlet)	0.92	234	492	638	1,288
Sand Creek					
At Mouth	147	10,000	22,000	29,000	55,000
At Confluence with Murphy Creek	101.1	6,640	14,851	19,312	28,316
Second Creek					
At downstream Limit of Study	7.7	870	2,871	4,122	6,035
At 56th Avenue	1.8	291	960	1,356	1,933
Senac Creek					
Upstream of Confluence with Haynes Gulch	0.7	789	1,328	1,560	2,006
Upstream of East Quincy Avenue	7.1	1,333	2,385	2,906	3,880
Downstream of Confluence with Baldwin Creek	8.8	1,847	3,583	4,427	5,987
At East Yale Avenue	9.6	2,002	3,788	4,722	6,475
Upstream of Confluence with Coal Creek	9.8	2,048	3,835	4,782	6,547
Slaughterhouse Gulch					
At Confluence with South Platte River	2.0	1,400	1,700	2,000	2,900
South Tributary to Slaughterhouse Gulch					
At Confluence w/ Slaughterhouse Gulch	.37	438	520	550	720
SJCD 6200					
Upstream of Platte Canyon Road	--[1]	--[1]	--[1]	2,280	--[1]

[1]Data not available

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
South Platte River					
Approximately 100 Feet Downstream of Confluence with Bear Creek	--[1]	4,900	10,900	14,600	25,000
Just Upstream of Confluence with Bear Creek	--[1]	4,900	10,300	13,500	23,000
Just Downstream of Confluence with Big Dry Creek	--[1]	4,300	9,500	12,700	22,000
Approximately 100 Feet Upstream of Confluence with Big Dry Creek	--[1]	3,300	6,900	8,900	15,000
Approximately 100 Feet Downstream of Confluence with Dutch Creek	--[1]	2,700	5,000	6,400	10,000
Just Upstream of Confluence with Dutch Creek	--[1]	1,300	2,200	2,700	4,000
Spring Creek					
At Confluence with Willow Creek	1.25	508	1,177	1,603	3,085
At Mineral Avenue	1.11	489	1,158	1,600	3,085
At County Line Road	0.71	401	907	1,259	2,440
Sterne Parkway Overflow					
250 feet downstream of South Broadway	--[1]	--[1]	--[1]	128	--[1]
Three Lakes Tributary					
Approximately 300 feet upstream of confluence with Dutch Creek	--[1]	397	719	882	1,171
Toll Gate Creek					
At Confluence with Sand Creek	18.48	10,000	22,000	29,000	34,008
Downstream of East 17th Place	--[1]	8,767	1,7570	22,697	33,419
Upstream of East Coal Fax Avenue	--[1]	8,745	1,7545	22,676	33,387
At 6th Avenue	--[1]	8,264	16,762	21,815	30,877
At Confluence with East and West Toll Gate Creeks	12.61	7,965	16,242	21,198	29,934
Toll Gate Creek - I-225 Spill					
Above Confluence with Toll Gate Creek	--[1]	--[1]	--[1]	371	10,909
West Toll Gate Creek					
At Limit of Study	--[1]	220	445	555	734
Downstream of South Rivera Way	--[1]	54	221	353	637
Downstream of Picadilly Street	--[1]	112	484	674	762
Upstream of Himalaya Street	--[1]	314	577	817	1,096
Upstream of Quincy Reservoir	--[1]	704	1,383	1,876	2,486
Downstream of Quincy Reservoir	--[1]	766	1,141	1,409	1,807
Downstream of Hampden Avenue	--[1]	1,368	2,512	3,085	4,041

[1]Data not available

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
West Toll Gate Creek (continued)					
Downstream of East Dartmouth Avenue	--[1]	1,737	3,220	3,972	5,142
Upstream of Confluence with Unnamed Creek	--[1]	1,969	3,714	4,577	5,857
Approximately 500 feet Downstream of Confluence with Unnamed Creek	--[1]	3,016	5,867	7,207	9,797
At the Confluence with West Toll Gate Creek Tributary	--[1]	5,046	10,222	12,763	17,066
Approximately 1,260 feet upstream of Mexico Avenue	--[1]	5,923	12,121	15,232	20,368
Just downstream of Mexico Avenue	--[1]	6,141	12,592	15,902	21,265
Just downstream of Mississippi Avenue	--[1]	5,052	1,127	14,576	19,419
Just downstream of Alameda Parkway	--[1]	5,210	11,534	14,882	19,812
Approximately 2,100 feet upstream of South Chambers Road	--[1]	5,210	11,534	14,882	20,165
Approximately 1,340 feet downstream of South Chambers Road	--[1]	5,523	12,090	15,616	20,703
Approximately 1,200 feet upstream of the confluence with Toll Gate Creek	--[1]	5,523	13,106	18,351	28,439
At the Confluence with Toll Gate Creek	--[1]	7,965	16,210	21,140	29,934
West Toll Gate Creek Tributary					
At Mouth	2.6	610	1,950	3,100	7,400
Unnamed Creek					
Upstream of Belleview Detention Pond	--[1]	596	1,161	1,452	1,915
Just downstream of Copperleaf Boulevard	--[1]	191	250	523	1,047
Just upstream of Picadilly Street	--[1]	834	1,567	1,948	2,559
Just downstream of Picadilly Street	--[1]	399	665	1,083	2,086
Downstream of Quincy Avenue Detention Pond	--[1]	614	1,256	1,602	2,629
Just downstream of Quincy Avenue	--[1]	445	785	1,112	2,163
Just upstream of East Hampden Avenue	--[1]	860	1,684	2,100	2,774
Just downstream of East Hampden Avenue	--[1]	605	1,258	1,610	2,279
Approximately 1,100 feet downstream of East Hampden Avenue	--[1]	785	1,642	2,068	2,883
Approximately 2,000 feet upstream of Bates Avenue	--[1]	991	2,040	2,672	3,470
At Mouth	6.0	1,227	2,475	3,104	4,249
Tributary to Unnamed Creek					
Upstream of Picadilly Detention Pond	0.6	--[1]	--[1]	1,290	--[1]
West Tributary to Goldsmith Gulch					
At Orchard Road	1.3	530	840	1,000	1,380

[1]Data not available

Flooding Source/Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Westerly Creek					
At 14th Avenue	10.8	2,700	4,200	5,000	6,800
At Pond A-B	5.8	400	1,150	1,650	2,650
Willow Creek					
At Dry Creek Road	--[1]	3,410	7,000	9,010	12,140
At Quebec Street	--[1]	2,780	5,410	6,830	9,000
At County Line Road	--[1]	2,150	3,500	4,240	5,620
Woodrat Gulch					
At Mouth	3.4	470	1,280	1,780	2,740
Wolf Creek					
Upstream of Interstate 70	82.2	4,485	10,603	14,686	24,966
At Confluence with Wolf Creek Tributary	71.7	4,278	10,233	14,166	24,082
Wolf Creek Tributary					
At Mouth	3.5	571	1,185	1,578	2,683

[1]Data not available

3.2. Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent founded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data Table 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 report in conjunction with the data shown on the FIRM.

Water-surface elevation of floods of the selected recurrence intervals were computed through the use of the COE HEC-2 step backwater computer program (Reference 38). Starting water-surface elevations for the tributaries of the South Platte River were taken from previously computed stage-discharge relationships when available. In many cases, control elevations were shifted upstream to bridges or culverts. Where no other information or control structures were available, the starting water-surface elevations were computed by the slope-area method option of the HEC-2 program.

Detailed cross section data for Cottonwood Creek, Cherry Creek, Piney Creek, Murphy Creek, Coal Creek, Comanche Creek, Little Comanche Creek, West Bijou Creek, and Box Elder Creek were field surveyed and were located at close intervals above and below culverts in order to compute the effects of backwater. For Little Dry Creek, Big Dry Creek, and Sand Creek, cross sections were taken from detailed topographic maps (References 30 and 34). Detailed mapping of the South Platte River was secured from the COE. The USGS topographic mapping, at a scale of 1:24,000, with a contour

interval of 10 feet, was used to supplement field survey data (Reference 29).

Hydraulic analyses included in the Flood Insurance Studies for the incorporated communities of Aurora, Cherry Hills Village, Columbine Valley, Englewood, Greenwood Village, Littleton, and Sheridan were incorporated into the restudy in their entirety with the exception of streams or portions of streams which were superseded by more up-to-date information (References 2, 3, 5 through 9, 88, 89).

Hydraulic analyses for portions of First Creek, Piney Creek, Murphy Creek, Lone Tree Creek, Happy Canyon Creek, Cottonwood Creek, Lee Gulch, and Littles Creek were taken from published UDFCD reports (References 10, 11, 12, 13, 14, 15, and 16).

Additional hydraulic analyses from the various engineering reports discussed in Section 7.0 have been incorporated into the Arapahoe County restudy.

Hydraulic analyses for portions of Big Dry Creek Tributary A, East Tributary to West Toll Gate Creek, First Creek, Sampson Gulch, and Senac Creek were performed using topographic maps at a scale of 1:24,000, with a contour interval of 10 feet (Reference 39). Field surveyed cross sections were used and normal-depth calculations were performed in order to obtain top widths at the selected cross sections. Cross section information for channel geometry and surrounding areas was taken from existing reports (References 40, 41, 42, and 43).

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Insurance Rate Map (Exhibit 2).

For the approximate studies, floodplain limits were defined by normal-depth calculations in approximate, typical cross sections taken from USGS maps.

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.

3.3. Vertical Datum

All FISs 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 (NGVD29). With the finalization of the North American Vertical Datum of 1988 (NAVD88), many FIS reports and FIRMs are being prepared using NAVD88 as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD88. It is important to note that adjacent communities may be referenced to NGVD29. This may result in differences in base flood elevations across the corporate limits between communities.

As noted above, the elevations shown in the FIS report and on the FIRM for Arapahoe County and Incorporated Areas are referenced to NAVD88. Ground, structure, and flood elevations may be compared and/or referenced to NGVD29 by applying a standard

conversion factor.

The conversion from NGVD29 to NAVD88 ranged between 2.60 and 3.06 for this county. Accordingly, due to the range in conversion factors, an average conversion factor was established for the entire county. The elevations shown in the FIS report and on the FIRM were, therefore, converted to NAVD88 using a countywide approach in which an average conversion was established for the county. The conversion factor for NGVD29 to NAVD88 of +2.87 feet was used for each flooding source in the community.

The BFEs shown in the FIRM represent whole-foot rounded values. For example, a BFE of 5202.4 will appear as 5202 on the FIRM and 5202.6 will appear as 5203. Therefore, users who wish to convert the elevations in this FIS to NGVD29 should apply the stated conversion factor to elevations shown on the Flood Profiles and supporting data tables in the FIS report, which are shown at a minimum to the nearest 0.1 foot.

For more information on NAVD88, see the publication entitled, *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* (FEMA Publication FIA-20/June 1992), or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (Internet address http://www.ngs.noaa.gov).

Qualifying bench marks within a given jurisdiction that are cataloged by the National Geodetic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First or 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 catalogued by the NGS and entered into the NSRS vary widely in vertical stability classification. 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 abutments)
- Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monument below frost line)
- Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line or steel witness post)

To obtain up-to-date elevation information on NGS bench marks shown on the FIRM, please contact the Information Services Branch of the NGS at (301) 713- 3242, or visit their website at www.ngs.noaa.gov. Map users should seek verification of non-NGS monument elevations when using these elevations for construction or floodplain management purposes.

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 associated with this FIS report and FIRM for this community. Interested individuals may contact FEMA to access this data.

4. FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each FIS provides 1-percent-annual-chance flood elevations and delineations of the 1- and 0.2-percent-annual-chance floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data table and Summary of Stillwater Elevations Table. Users should reference the data presented in the FIS report as well as additional information that may be available at the local map repository before making flood elevation and/or floodplain boundary determinations.

4.1. Floodplain Boundaries

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 topographic maps at scales of 1:24,000; 1:2,400; 1:6,000; and 1:1,200; with contour intervals of 10 and 2 feet (References 34, 35, 40, 42, 43, 47, and 48).

The 1- and 0.2-percent-annual-chance floodplain boundaries are shown on the FIRM (Exhibit 2). 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 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 due to limitations of the map scale and/or lack of detailed topographic data.

Approximate 1-percent-annual-chance floodplain boundaries in some portions of the study area were taken directly from the Flood Insurance Rate Map for the Town of Deer Trail, Colorado (Reference 59).

For the streams studied by approximate methods, only the 1-percent-annual- chance floodplain boundary is shown on the FIRM (Exhibit 2).

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 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodway presented in this FIS report and on the FIRM was computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations have been tabulated for selected cross sections (Table 4). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown.

The area between the floodway and 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 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 5.

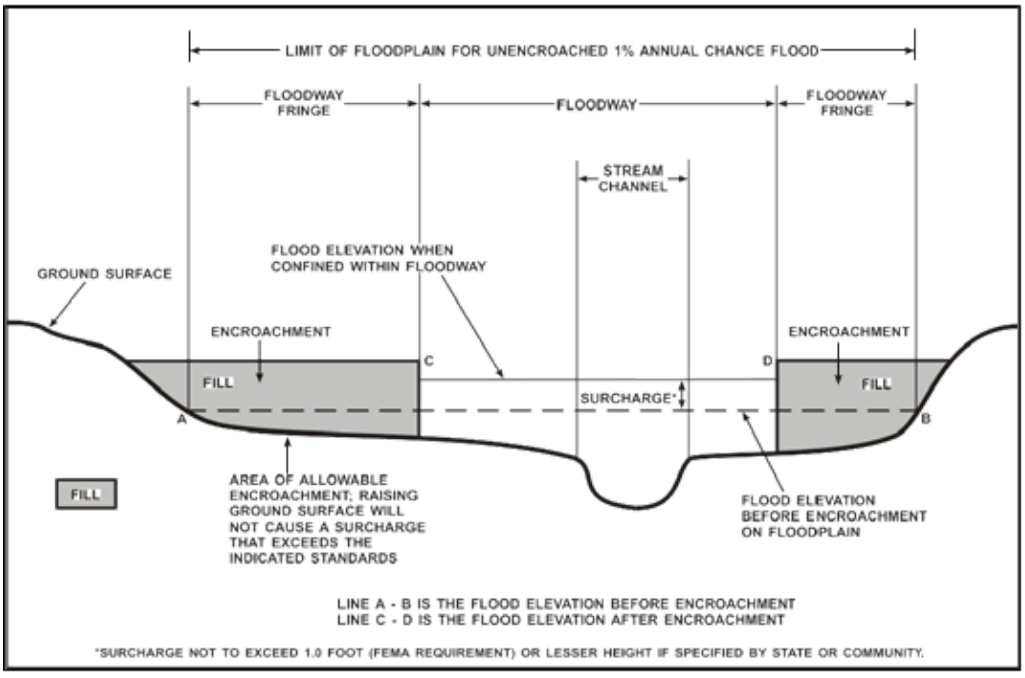

Figure 5 – Floodway Schematic

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Antelope Creek								
A	389	143	500	4.9	5,787.0	5,787.0	5,787.0	0.0
B	750	136	335	7.3	5,789.2	5,789.2	5,789.2	0.0
C	1,440	296	445	5.4	5,799.8	5,799.8	5,799.8	0.0
D	1,922	135	375	6.4	5,804.0	5,804.0	5,804.1	0.1
E	2,388	80	245	9.9	5,809.3	5,809.3	5,809.3	0.0
F	2,836	93	254	9.0	5,816.6	5,816.6	5,816.7	0.1
G	3,417	143	374	6.1	5,822.3	5,822.3	5,822.7	0.4
H	3,890	108	267	8.5	5,829.0	5,829.0	5,829.1	0.1
I	4,364	78	260	8.3	5,834.9	5,834.9	5,835.4	0.5
J	4,839	115	263	8.2	5,843.7	5,843.7	5,843.8	0.1
K	5,281	170	365	5.4	5,849.2	5,849.2	5,849.5	0.3
L	5,747	159	310	6.4	5,855.2	5,855.2	5,855.2	0.0
M	6,233	98	241	8.2	5,862.3	5,862.3	5,862.3	0.0
N	6,676	137	320	5.9	5,868.4	5,868.4	5,868.4	0.0
O	7,139	84	209	9.0	5,875.4	5,875.4	5,875.4	0.0
P	7,382	105	390	7.1	5,880.0	5,880.0	5,880.0	0.0
Q	7,720	160	805	1.8	5,889.3	5,889.3	5,889.3	0.0
R	8,770	151	299	4.8	5,898.3	5,898.3	5,898.8	0.5
S	9,745	74	222	6.4	5,914.6	5,914.6	5,915.0	0.4
T	10,737	101	224	6.4	5,933.6	5,933.6	5,933.9	0.3
U	11,457	69	351	4.1	5,948.0	5,948.0	5,948.1	0.1
V	12,143	165	1,740	0.6	5,968.8	5,968.8	5,968.8	0.0
W	12,982	74	132	7.5	5,975.1	5,975.1	5,975.1	0.0
X	13,402	59	135	7.4	5,983.6	5,983.6	5,983.6	0.0
Y	13,881	98	203	4.9	5,995.2	5,995.2	5,995.2	0.0

[1] Stream distance in feet above confluence with Piney Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

ANTELOPE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Baranmor Ditch								
A	671	96	466	4.0	5,304.2	5,304.2	5,304.2	0.0
B	1,261	112	542	3.4	5,305.2	5,305.2	5,305.2	0.0
C	1,999	111	506	3.7	5,306.4	5,306.4	5,306.4	0.0
D	2,756	75	341	5.4	5,311.4	5,311.4	5,311.4	0.0
E	3,437	58	275	6.7	5,313.6	5,313.6	5,313.6	0.0
F	4,137	74	380	4.7	5,313.6	5,313.6	5,313.6	0.0
G	4,937	55	269	6.6	5,320.6	5,320.6	5,320.6	0.0
H	5,367	133	392	4.4	5,324.2	5,324.2	5,324.2	0.0
I	5,837	79	307	5.6	5,324.9	5,324.9	5,324.9	0.0
J	6,635	58	189	5.9	5,326.9	5,326.9	5,326.9	0.0

[1] Feet above confluence with Sand Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BARANMOR DITCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Bear Creek								
A	-	980	7,535	1.1	5,269.8	5,269.8	5,269.8	0.0
B	370	164	690	11.8	5,271.0	5,271.0	5,271.0	0.0
C	630	140	546	11.3	5,279.8	5,279.8	5,279.8	0.0
D	822	104	531	11.6	5,281.6	5,281.6	5,281.6	0.0
E	1,522	75	461	13.3	5,287.5	5,287.5	5,287.6	0.1
F	2,082	70	529	11.6	5,294.0	5,294.0	5,294.0	0.0
G	2,777	92	878	7.6	5,298.1	5,298.1	5,298.2	0.1
H	3,252	150	1,093	7.5	5,299.0	5,299.0	5,299.1	0.1
I	3,682	89	819	10.0	5,299.9	5,299.9	5,299.9	0.0
J	3,760	114	760	10.7	5,301.2	5,301.2	5,301.2	0.0
K	3,937	295	1,736	4.7	5,301.5	5,301.5	5,301.5	0.0
L	4,492	317	1,565	5.2	5,301.7	5,301.7	5,302.5	0.8
M	5,152	260	1,330	6.1	5,304.3	5,304.3	5,304.5	0.2
N	5,827	120	794	10.3	5,307.2	5,307.2	5,307.2	0.0
O	6,082	56	711	11.5	5,311.9	5,311.9	5,311.9	0.0
P	6,122	70	829	9.8	5,311.9	5,311.9	5,312.2	0.3
Q	6,361	200	1,865	4.4	5,313.8	5,313.8	5,313.9	0.1

[1] Feet Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BEAR CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD88)			
Bear Gulch								
M	27,332	262	942	4.2	5,356.8	5,356.8	5,357.6	0.8
N	29,099	181	529	6.4	5,363.1	5,363.1	5,364.0	0.8
O	31,530	195	604	5.6	5,373.9	5,373.9	5,374.6	0.7
P[2]	33,268	170	1,322	2.3	5,388.2	5,388.2	5,389.1	0.9
Q	35,695	100	360	8.6	5,400.2	5,400.2	5,400.8	0.6
R	38,249	375	2,350	1.0	5,424.8	5,424.8	5,425.4	0.5
S	39,081	93	250	9.3	5,426.3	5,426.3	5,426.4	0.1
T	41,266	91	247	9.4	5,449.2	5,449.2	5,449.7	0.4
U	43,460	230	1,657	1.1	5,481.8	5,481.8	5,482.7	0.9

[1] Feet Above Confluence With Box Elder Creek

[2] Cross Section Is Outside of City of Aurora (Adams County)

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BEAR GULCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET(NAVD88)		
Big Dry Creek								
A	1,178	128	786	11.3	5,317.0	5,317.0	5,317.4	0.4
B	1,476	48	488	18.2	5,320.3	5,320.3	5,320.3	0.0
C	1,998	300	3,496	2.5	5,332.4	5,332.4	5,332.4	0.0
D	2,374	290	2,194	4.1	5,332.4	5,332.4	5,332.4	0.0
E	3,765	133	894	10.0	5,337.5	5,337.5	5,337.6	0.1
F	6,200	141	5,235	1.7	5,357.3	5,357.3	5,357.3	0.0
G	7,359	160	741	12.0	5,363.2	5,363.2	5,363.2	0.0
H	8,107	116	721	12.3	5,368.4	5,368.4	5,368.6	0.2
I	8,951	41	501	17.8	5,374.2	5,374.2	5,374.8	0.6
J	9,446	88	1,338	6.6	5,382.1	5,382.1	5,382.1	0.0
K	9,927	111	1,268	7.0	5,382.6	5,382.6	5,382.6	0.0
L	11,006	62	531	16.8	5,390.1	5,390.1	5,390.1	0.0
M	13,132	149	1,044	8.3	5,410.4	5,410.4	5,410.4	0.0
N	13,683	406	2,172	4.0	5,410.9	5,410.9	5,411.9	1.0
O	14,117	80	572	15.2	5,414.0	5,414.0	5,414.0	0.0
P	14,440	226	801	10.9	5,418.7	5,418.7	5,418.7	0.0
Q	14,832	466	1,895	4.6	5,422.9	5,422.9	5,422.9	0.0
R	15,371	74	849	10.1	5,423.8	5,423.8	5,424.2	0.4
S	16,307	91	711	12.1	5,427.8	5,427.8	5,428.1	0.3
T	17,225	158	1,103	7.8	5,433.7	5,433.7	5,434.7	1.0
U	18,652	89	663	12.8	5,444.7	5,444.7	5,444.7	0.0
V	19,030	309	1,354	6.1	5,449.2	5,449.2	5,450.0	0.8
W	19,476	89	833	10.0	5,450.8	5,450.8	5,451.0	0.2
X	19,728	103	617	13.4	5,452.0	5,452.0	5,452.0	0.0
Y	20,375	78	734	11.0	5,457.5	5,457.5	5,457.5	0.0
Z	20,729	380	1,023	7.9	5,462.7	5,462.7	5,462.7	0.0

[1] Feet Above Confluence With South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BIG DRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET(NAVD88)		
Big Dry Creek (Cont'd)								
AA	20,762	457	2,039	4.0	5,464.0	5,464.0	5,464.0	0.0
AB	21,013	108	878	9.2	5,464.2	5,464.2	5,464.2	0.0
AC	21,388	108	905	8.9	5,464.6	5,464.6	5,465.3	0.7
AD	22,447	182	1,227	6.6	5,473.3	5,473.3	5,474.3	1.0
AE	23,245	233	869	9.3	5,475.8	5,475.8	5,476.3	0.5
AF	23,698	137	685	11.8	5,480.7	5,480.7	5,481.0	0.3
AG	24,310	281	1,496	5.4	5,488.3	5,488.3	5,488.7	0.4
AH	25,194	114	806	9.9	5,492.2	5,492.2	5,492.2	0.0
AI	26,481	347	1,055	7.6	5,498.6	5,498.6	5,499.3	0.7
AJ	26,819	205	746	10.7	5,502.2	5,502.2	5,502.5	0.3
AK	27,756	322	384	5.7	5,517.5	5,517.5	5,517.5	0.0
AL	28,275	72	630	10.3	5,519.1	5,519.1	5,519.3	0.2
AM	28,706	237	2,102	3.1	5,523.3	5,523.3	5,524.0	0.7
AN	29,046	179	1,443	4.5	5,523.4	5,523.4	5,524.1	0.7
AO	29,915	224	808	8.0	5,524.0	5,524.0	5,524.5	0.5
AP	30,542	149	585	10.9	5,529.2	5,529.2	5,529.4	0.2
AQ	31,174	55	496	12.7	5,538.9	5,538.9	5,538.9	0.0
AR	31,791	442	3,631	1.7	5,541.9	5,541.9	5,542.9	1.0
AS	32,159	112	530	11.9	5,542.9	5,542.9	5,543.0	0.1
AT	33,065	151	842	6.4	5,553.2	5,553.2	5,553.2	0.0
AU	33,535	167	579	9.3	5,556.3	5,556.3	5,556.3	0.0
AV	33,906	86	489	11.0	5,559.0	5,559.0	5,559.1	0.1
AW	34,669	106	494	10.9	5,566.1	5,566.1	5,566.1	0.0
AX	36,004	120	486	11.1	5,576.2	5,576.2	5,576.2	0.0
AY	37,333	54	317	13.9	5,585.7	5,585.7	5,585.7	0.0
AZ	38,174	200	746	5.9	5,595.3	5,595.3	5,595.3	0.0

[1] Feet Above Confluence With South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BIG DRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Big Dry Creek (Cont'd)								
BA	38,799	185	489	9.0	5,600.3	5,600.3	5,600.4	0.1
BB	39,936	128	636	6.9	5,608.7	5,608.7	5,608.7	0.0
BC	40,662	126	509	8.3	5,617.5	5,617.5	5,617.5	0.0
BD	41,358	93	410	10.2	5,623.3	5,623.3	5,623.3	0.0
BE	42,909	127	478	8.3	5,637.2	5,637.2	5,637.2	0.0
BF	43,951	175	719	5.0	5,643.6	5,643.6	5,643.6	0.0
BG	45,112	99	371	9.7	5,656.2	5,656.2	5,656.2	0.0
BH	46,785	114	514	7.0	5,670.9	5,670.9	5,670.9	0.0
BI	47,547	331	576	6.2	5,676.3	5,676.3	5,676.3	0.0

[1] Feet Above Confluence With South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BIG DRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD88)			
Big Dry Creek Tributary A								
A	150	62	338	4.6	5,550.8	5,550.8	5,550.8	0.0
B	816	46	154	10.0	5,566.1	5,566.1	5,566.1	0.0
C	2,228	35	134	10.4	5,598.9	5,598.9	5,598.9	0.0
D	3,312	238	2,377	0.5	5,625.4	5,625.4	5,625.4	0.0
E	4,519	90	173	7.0	5,637.0	5,637.0	5,637.0	0.0
F	5,772	65	226	3.5	5,663.5	5,663.5	5,663.5	0.0

[1] Feet Above Confluence With Big Dry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY
ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

BIG DRY CREEK TRIBUTARY A

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BLACKMER GULCH								
A	312	160	530	3.0	5,407.9	5,407.9	5,408.2	0.2
B	1,102	71	247	4.0	5,413.2	5,413.2	5,413.3	0.1
C	1,792	130	161	6.1	5,420.9	5,420.9	5,420.9	0.0
D	3,161	140	193	5.1	5,437.1	5,437.1	5,437.2	0.1
E	3,200	190	859	1.1	5,441.0	5,441.0	5,441.4	0.4
F	4,264	19	81	11.7	5,443.1	5,443.1	5,443.1	0.0
G	4,325	482	1,350	0.7	5,460.0	5,460.0	5,460.0	0.0
H	5,668	69	173	2.3	5,460.8	5,460.8	5,461.3	0.5
I	6,346	41	58	6.8	5,471.4	5,471.4	5,471.4	0.0
J	6,551	180	109	3.7	5,491.0	5,491.0	5,491.0	0.0
K	8,034	50	86	6.0	5,505.7	5,505.7	5,506.3	0.6
L	8,835	33	66	8.0	5,535.6	5,535.6	5,536.6	1.0
M	9,850	57	89	6.0	5,553.4	5,553.4	5,554.1	0.7
N	11,045	22	58	9.0	5,588.1	5,588.1	5,588.4	0.3

[1] Feet Above Confluence With Greenwood Gulch

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

BLACKMER GULCH

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BOX ELDER CREEK								
BD	284,552	912	2,445	4.6	5,367.9	5,367.9	5,368.1	0.2
BE	285,044	1,045	2,136	5.3	5,369.7	5,369.7	5,369.9	0.2
BF	285,774	1,421	2,781	4.0	5,372.3	5,372.3	5,372.4	0.1
BG	286,500	897	2,063	5.4	5,375.5	5,375.5	5,375.5	0.0
BH	287,688	1,185	2,387	4.7	5,379.7	5,379.7	5,379.7	0.0
BI	288,391	810	2,174	5.2	5,382.9	5,382.9	5,382.9	0.0
BJ	289,284	1,130	2,404	4.7	5,386.7	5,386.7	5,386.7	0.0
BK	290,081	963	2,424	4.6	5,389.5	5,389.5	5,389.6	0.1
BL	291,609	674	2,249	5.3	5,395.9	5,395.9	5,395.9	0.0
BM	292,303	1,656[4]	2,568[4]	4.3	5,397.2	5,397.2	5,397.2	0.0
BN	293,373	1,191	2,420	4.6	5,402.5	5,402.5	5,402.5	0.0
BO	293,909	1,082	1,868	5.9	5,405.1	5,405.1	5,405.1	0.0
BP	294,822	1,767	2,690	4.5	5,410.3	5,410.3	5,410.3	0.0
BQ	295,550	1,276	3,025	8.0	5,412.5	5,412.5	5,412.5	0.0
BR	296,608	795	1,721	6.5	5,418.7	5,418.7	5,418.7	0.0
BS	297,514	1,067	2,100	5.3	5,423.8	5,423.8	5,423.8	0.0
BT[2]	301,791	1,507/447[3]	2,539	4.4	5,441.5	5,441.5	5,441.5	0.0
BU	301,791	1,507/447[3]	2,539	4.4	5,441.5	5,441.5	5,441.5	0.0

[1]Feet above confluence with South Platte River

[2]Cross Sections are outside of Arapahoe County

[3]Total floodway width / width within jurisdiction

[4]Combined floodway width / area of Box Elder Creek and Coyote Run

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BOX ELDER CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BOX ELDER CREEK								
BV	303,825	2,074/1,760[2]	3,468	3.2	5,446.0	5,446.0	5,446.0	0.0
BW	304,032	2,096	4,130	3.8	5,446.8	5,446.8	5,446.8	0.0
BX	304,600	3,000[4]	7,527	1.5	5,450.0	5,450.0	5,450.0	0.0
BY	305,922	2,166	2,120	5.2	5,455.0	5,455.0	5,455.0	0.0
BZ	307,283	918	1,815	6.1	5,462.0	5,462.0	5,462.0	0.0
CA	308,256	880	2,752	4.0	5,466.9	5,466.9	5,466.9	0.0
CB	309,898	850	2,144	5.2	5,474.2	5,474.2	5,474.6	0.4
CC	310,865	1,233	2,469	4.5	5,478.7	5,478.7	5,478.7	0.0
CD	312,307	1,843	2,870	3.9	5,484.9	5,484.9	5,484.9	0.0
CE	313,297	1,281	2,275	4.9	5,490.2	5,490.2	5,490.2	0.0
CF	313,984	1,869	3,391	3.3	5,493.2	5,493.2	5,493.2	0.0
CG	315,002	1,062	2,065	5.4	5,497.4	5,497.4	5,497.4	0.0
CH	316,634	1,022/404[2]	2,049	5.4	5,505.1	5,505.1	5,505.1	0.0
CI	317,980	889/280[2]	2,228	5.0	5,512.4	5,512.4	5,512.4	0.0
CJ-CK[3]								
CL	322,297	3,239/3,112[2]	5,281	3.6	5,532.5	5,532.5	5,532.5	0.0
CM	322,931	3,151/2,788[2]	4,550	4.3	5,534.8	5,534.8	5,534.8	0.0

[1]Feet above confluence with South Platte River

[2]Total floodway width / width within jurisdiction

[3]Cross Sections are outside of Arapahoe County

[4]Top width reflects overbank flow from upstream cross section

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BOX ELDER CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BOX ELDER CREEK								
CN	323,521	2,585/2,117[2]	5,443	4.0	5,537.8	5,537.8	5,537.8	0.0
CO	324,137	1,924/1,576[2]	4,216	5.9	5,540.9	5,540.9	5,540.9	0.0
CP	325,392	635	1,660	6.7	5,546.6	5,546.6	5,546.6	0.0
CQ	326,084	580	1,988	5.6	5,549.5	5,549.5	5,549.5	0.0
CR	327,791	823	1,945	5.7	5,559.2	5,559.2	5,559.5	0.3
CS	329,260	782	1,562	7.1	5,567.1	5,567.1	5,567.3	0.2
CT	330,175	802[3]	1,662	6.7	5,571.9	5,571.9	5,572.2	0.3
CU	331,780	724	1,962	5.7	5,581.2	5,581.2	5,581.4	0.2
CV	332,476	720	2,212	5.0	5,585.7	5,585.7	5,585.7	0.0
CW	333,247	870	2,916	3.8	5,588.8	5,588.8	5,589.1	0.3
CX	334,980	1,165	2,540	4.4	5,595.7	5,595.7	5,596.0	0.3
CY	336,029	1,189	2,662	4.2	5,601.3	5,601.3	5,601.5	0.2
CZ	337,560	929[3]	3,389	3.3	5,607.8	5,607.8	5,608.3	0.5
DA	338,067	730	1,930	5.8	5,609.7	5,609.7	5,609.8	0.1
DB	339,776	940	2,304	4.8	5,619.5	5,619.5	5,619.7	0.2
DC	340,477	640	1,903	5.9	5,623.1	5,623.1	5,623.1	0.0
DD	341,354	842	2,194	5.1	5,627.1	5,627.1	5,627.1	0.0
DE	342,555	1,084	2,371	4.7	5,632.9	5,632.9	5,633.0	0.1

[1]Feet above confluence with South Platte River

[2]Total floodway width / width within jurisdiction

[3]Width excludes dry ground between encroachments

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BOX ELDER CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BOX ELDER CREEK								
DF	344,076	1,145	3,081	3.6	5,638.3	5,638.3	5,638.8	0.5
DG	345,121	860[2]	2,437	4.6	5,643.4	5,643.4	5,643.8	0.4
DH	345,869	1,006	2,734	4.1	5,646.5	5,646.5	5,646.9	0.4
DI	346,360	965	2,538	4.4	5,648.7	5,648.7	5,649.1	0.4
DJ	346,802	920	2,574	4.3	5,651.0	5,651.0	5,651.3	0.3
DK	347,076	780	2,084	5.4	5,653.0	5,653.0	5,653.3	0.3
DL	347,928	1,017	2,870	3.9	5,656.2	5,656.2	5,656.5	0.3
DM	348,643	719	1,709	6.5	5,660.0	5,660.0	5,660.1	0.1
DN	349,737	513	1,600	7.0	5,664.8	5,664.8	5,665.1	0.3
DO	350,860	710	2,072	5.4	5,670.5	5,670.5	5,670.5	0.0
DP	351,824	1,398	3,148	3.5	5,674.4	5,674.4	5,674.7	0.3
DQ	353,678	1,895	2,502	4.5	5,682.1	5,682.1	5,682.2	0.1
DR	354,787	1,402	2,303	4.9	5,688.5	5,688.5	5,688.6	0.1
DS	356,060	1,427	2,488	4.5	5,694.4	5,694.4	5,694.4	0.0

[1]Feet above confluence with South Platte River

[2]Width excludes dry ground between encroachments

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

BOX ELDER CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CHERRY CREEK								
A	28,534	123	1,149	6.4	5,337.2	5,337.2	5,337.2	0.0
B	29,901	201	1,143	6.4	5,341.3	5,341.3	5,341.3	0.0
C	30,649	178	1,572	4.6	5,344.8	5,344.8	5,344.8	0.0
D	46,440	120	706	7.1	5,419.7	5,419.7	5,419.7	0.0
E	47,844	106	922	5.4	5,435.6	5,435.6	5,435.6	0.0
F	49,689	124	934	5.4	5,438.1	5,438.1	5,438.1	0.0
G	50,003	127	730	6.9	5,439.8	5,439.8	5,439.8	0.0
H	51,201	126	1,160	4.3	5,447.6	5,447.6	5,447.6	0.0
I	52,066	75	467	10.7	5,449.5	5,449.5	5,449.5	0.0
J	54,021	109	680	7.4	5,457.3	5,457.3	5,457.3	0.0
K	63,762	205	1,335	3.7	5,505.5	5,505.5	5,505.5	0.0

[1] Feet Above Confluence With Mouth

TABLE5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

CHERRY CREEK BELOW CHERRY CREEK STATE PARK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CHERRY CREEK								
A	86,110	1,305	8,472	6.0	5,624.3	5,624.3	5,625.1	0.8
B	86,896	792	5,955	8.5	5,627.9	5,627.9	5,628.5	0.6
C	87,257	745	6,003	8.4	5,629.7	5,629.7	5,630.2	0.5
D	88,111	663	5,979	8.3	5,633.3	5,633.3	5,633.8	0.5
E	88,941	1,053	8,487	5.8	5,635.8	5,635.8	5,636.8	1.0
F	89,292	1,087	8,680	5.7	5,636.9	5,636.9	5,637.8	0.9
G	59,802	579	4,638	9.1	5,638.3	5,638.3	5,639.0	0.7
H	90,126	900	7,564	5.5	5,640.6	5,640.6	5,640.8	0.2
I	90,669	920	6,102	6.8	5,641.8	5,641.8	5,642.0	0.2
J	90,939	829	4,804	10.2	5,643.6	5,643.6	5,643.6	0.0
K	91,358	1,371	11,782	4.9	5,650.0	5,650.0	5,650.0	0.0
L	91,576	1,403	9,850	4.9	5,650.3	5,650.3	5,650.3	0.0
M	93,004	2,017	12,984	3.7	5,653.2	5,653.2	5,653.3	0.1
N	95,434	955	5,822	8.3	5,658.8	5,658.8	5,658.9	0.1
O	96,049	819	5,553	8.6	5,661.3	5,661.3	5,661.6	0.3
P	96,762	941	6,730	7.1	5,664.7	5,664.7	5,664.8	0.1
Q	97,310	784	5,702	8.3	5,667.1	5,667.1	5,667.1	0.0
R	97,989	712	5,599	8.4	5,670.0	5,670.0	5,670.1	0.1
S	98,604	857	7,288	6.5	5,672.4	5,672.4	5,672.5	0.1
T	99,598	705	6,089	7.7	5,675.7	5,675.7	5,676.0	0.3
U	100,260	807	5,405	8.6	5,681.9	5,681.9	5,681.9	0.0
V	101,250	716	7,736	6.5	5,685.6	5,685.6	5,685.6	0.0
W	102,371	1,291	7,189	6.4	5,689.4	5,689.4	5,689.5	0.1
X	103,222	1,237	6,231	7.3	5,692.8	5,692.8	5,693.0	0.2

[1] Feet Above Confluence With Mouth

TABLE5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

CHERRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CHERRY CREEK (Continued)								
Y	104,066	1,020	7,023	6.4	5,696.1	5,696.1	5,696.3	0.2
Z	104,643	744	4,979	9.1	5,697.1	5,697.1	5,697.5	0.4
AA	105,301	865	6,182	7.3	5,700.4	5,700.4	5,700.8	0.4
AB	105,994	757	5,312	8.4	5,702.9	5,702.9	5,703.2	0.3
AC	107,060	881	6,888	6.5	5,707.3	5,707.3	5,707.3	0.0
AD	108,492	1,071	7,528	5.8	5,710.7	5,710.7	5,711.0	0.3
AE	109,251	1,057	7,502	5.9	5,712.5	5,712.5	5,712.7	0.2

[1] Feet Above Confluence With Mouth

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cherry Creek (Right Overbank Splitflow)								
A	462	444	1,815	3.9	5638.7	5638.7	5639.2	0.5
B	937	640	2,329	3.0	5640.1	5640.1	5640.7	0.6
C	1,317	693	1,713	4.1	5642.3	5642.3	5642.7	0.4
D	1,713	738	2,376	3.0	5644.1	5644.1	5644.5	0.4

[1] Feet above confluence with Cherry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

CHERRY CREEK (RIGHT OVERBANK SPLITFLOW)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cherry Creek Spillway Drain								
A	1,285	221	462	6.0	5,520.7	5,520.7	5,520.7	0.0
B	2,241	71	256	10.9	5,531.3	5,531.3	5,531.3	0.0
C	3,219	41	216	12.9	5,565.1	5,565.1	5,565.1	0.0
D	4,707	36	145	11.5	5,596.6	5,596.6	5,596.6	0.0
E	5,830	36	134	10.9	5,615.3	5,615.3	5,615.3	0.0
F	6,718	34	161	9.0	5,621.8	5,621.8	5,621.8	0.0
G	7,785	31	125	6.8	5,627.8	5,627.8	5,627.8	0.0

[1] Stream distance in feet above confluence with West Toll Gate Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Coal Creek								
A	77,150	1,900	2,746	7.1	5,500.5	5,500.5	5,500.5	0.0
B	78,270	3,260	1,907	10.2	5,505.4	5,505.4	5,505.4	0.0
C	80,320	3,160	6,460	3.0	5,514.1	5,514.1	5,515.1	1.0
D	83,150	470	1,900	10.3	5,526.8	5,526.8	5,527.3	0.5
E	84,155	350	2,220	8.8	5,532.3	5,532.3	5,533.3	0.0
F	85,900	600	3,177	6.1	5,539.1	5,539.1	5,539.8	0.7
G	86,005	600	2,747	7.1	5,539.1	5,539.1	5,539.8	0.7
H	87,200	280	1,456	13.4	5,546.4	5,546.4	5,546.4	0.0
I	88,195	480	2,880	6.8	5,553.2	5,553.2	5,553.5	0.3
J	89,990	500	3,100	6.3	5,559.8	5,559.8	5,560.8	1.0
K	91,790	610	2,680	7.3	5,567.4	5,567.4	5,568.3	0.9
L	93,425	600	3,200	6.1	5,575.1	5,575.1	5,576.1	1.0
M	95,125	400	2,540	7.4	5,583.4	5,583.4	5,584.4	1.0
N	96,380	585	2,980	6.3	5,587.5	5,587.5	5,588.2	0.7
O	97,495	270	1,113	16.9	5,593.4	5,593.4	5,593.7	0.3
P	98,380	450	2,640	6.9	5,599.2	5,599.2	5,600.2	1.0
Q	100,095	410	3,200	5.7	5,602.4	5,602.4	5,603.2	0.8
R	101,900	400	1,800	10.1	5,612.8	5,612.8	5,613.5	0.7
S	102,550	440	3,300	5.5	5,617.5	5,617.5	5,618.5	1.0
T	102,650	600	2,573	7.0	5,623.1	5,623.1	5,624.1	1.0
U	103,480	685	5,955	3.0	5,624.2	5,624.2	5,625.0	0.8
V	104,100	800	1,136	15.9	5,625.7	5,625.7	5,625.7	0.0
W	105,150	900	3,482	5.2	5,629.9	5,629.9	5,629.9	0.0
X	106,175	570	1,800	10.1	5,633.9	5,633.9	5,634.0	0.1
Y	106,950	560	3,236	5.3	5,639.4	5,639.4	5,640.1	0.7
Z	107,750	780	3,154	5.4	5,642.4	5,642.4	5,643.0	0.6

[1] Feet Above Mouth of Sand Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COAL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD88)			
Coal Creek (Cont'd)								
AA	108,650	590	2,454	7.0	5,646.2	5,646.2	5,646.8	0.6
AB	109,900	440	1,973	9.1	5,652.0	5,652.0	5,652.5	0.5

[1] Feet Above Mouth of Sand Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COAL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE [1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AC	34,766	687	3,098	4.8	5,658.3	5,658.3	5,658.7	0.4
AD	36,166	405	1,789	8.1	5,663.0	5,663.0	5,663.3	0.3
AE	37,251	363	2,047	7.0	5,670.4	5,670.4	5,670.4	0.0
AF	37,709	293	1,555	9.3	5,671.7	5,671.7	5,672.0	0.3
AG	38,865	375	1,977	7.3	5,676.3	5,676.3	5,676.6	0.3
AH	40,291	336	2,095	6.9	5,689.1	5,689.1	5,689.1	0.0
AI	41,665	440	2,065	7.0	5,693.9	5,693.9	5,694.4	0.5
AJ	42,756	535	2,371	6.1	5,700.4	5,700.4	5,700.4	0.0
AK	44,195	581	2,452	5.9	5,708.4	5,708.4	5,708.4	0.0
AL	45,657	621	2,432	5.2	5,713.1	5,713.1	5,713.1	0.0
AM	47,917	500	1,673	7.6	5,725.7	5,725.7	5,725.8	0.1
AN	48,879	430	1,727	7.3	5,729.6	5,729.6	5,729.8	0.2
AO	49,841	449	2,141	5.9	5,735.7	5,735.7	5,736.0	0.3
AP	50,671	634	2,376	5.3	5,740.5	5,740.5	5,740.5	0.0
AQ	51,582	520	1,969	6.4	5,742.4	5,742.4	5,742.6	0.2
AR	53,194	461	2,249	5.6	5,752.1	5,752.1	5,752.2	0.1
AS	53,975	476	1,775	7.1	5,754.8	5,754.8	5,755.2	0.4
AT	54,632	418	3,781	3.3	5,763.6	5,763.6	5,763.6	0.0
AU	55,802	461	1,657	7.6	5,764.8	5,764.8	5,764.8	0.0
AV	57,691	581	1,857	6.7	5,774.1	5,774.1	5,774.1	0.0
AW	58,630	295	2,113	5.9	5,780.5	5,780.5	5,780.9	0.4

[1] FEET UPSTREAM CONFLUENCE WITH SAND CREEK

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COAL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE [1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AX	60,576	200	1,177	10.6	5,790.2	5,790.2	5,790.2	0.0
AY	60,905	328	2,500	5.0	5,794.1	5,794.1	5,794.1	0.0
AZ	61,210	390	2,718	4.6	5,794.8	5,794.8	5,794.8	0.0
BA	62,003	384	2,304	5.4	5,802.0	5,802.0	5,802.0	0.0
BB	62,871	239	1,431	8.7	5,804.6	5,804.6	5,805.0	0.4
BC	63,246	378	1,971	6.3	5,807.8	5,807.8	5,807.8	0.0
BD	64,099	280	2,117	5.9	5,812.3	5,812.3	5,812.3	0.0
BE	64,754	270	1,378	9.0	5,814.2	5,814.2	5,814.6	0.4
BF	65,217	315	1,857	6.7	5,817.7	5,817.7	5,818.0	0.3
BG	65,833	310	1,437	8.7	5,827.2	5,827.2	5,827.2	0.0
BH	67,151	619	2,899	4.3	5,837.4	5,837.4	5,837.4	0.0
BI	69,018	370	1,545	8.1	5,845.4	5,845.4	5,845.6	0.2
BJ	71,001	681	2,856	4.4	5,860.7	5,860.7	5,860.7	0.0
BK	73,232	476	2,128	5.6	5,871.4	5,871.4	5,871.9	0.5
BL	74,410	420	2,230	5.3	5,877.1	5,877.1	5,877.6	0.5
BM	74,610	400	1,950	6.1	5,877.8	5,877.8	5,878.1	0.3
BN	75,198	317	1,572	7.6	5,880.0	5,880.0	5,880.5	0.5
BO	76,500	480	1,910	6.2	5,893.5	5,893.5	5,893.5	0.0
BP	77,136	565	1,866	6.4	5,896.4	5,896.4	5,896.5	0.1
BQ	78,267	423	1,317	9.0	5,902.3	5,902.3	5,902.4	0.1
BR	78,626	552	2,077	5.7	5,907.5	5,907.5	5,907.9	0.4

[1] FEET UPSTREAM CONFLUENCE WITH SAND CREEK

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COAL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE [1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BS	79,556	614	1,245	9.6	5,912.3	5,912.3	5,912.3	0.0
BT	80,955	318	1,619	7.4	5,924.6	5,924.6	5,924.7	0.1
BU	82,088	397	2,550	4.7	5,930.5	5,930.5	5,930.5	0.0
BV	82,430	295	1,135	9.7	5,931.4	5,931.4	5,931.4	0.0
BW	85,700	492	3,299	3.3	5,952.9	5,952.9	5,953.4	0.5
BX	86,473	525	1,403	7.8	5,954.6	5,954.6	5,954.7	0.1

[1] FEET UPSTREAM CONFLUENCE WITH SAND CREEK

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COAL CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
COON CREEK								
A	100	115	484	6.1	5,398.9	5,398.9	5,398.9	0.0
B	882	142	514	5.8	5,407.3	5,407.3	5,407.5	0.2

[1]Feet above confluence with Dutch Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD88)			
Comanche Creek								
A	147,210	1,900	5,209	3.9	5,372.2	5,372.2	5,372.2	0.0
B	147,830	1,680	5,276	3.8	5,373.5	5,373.5	5,373.5	0.0
C	147,880	1,300	3,049	6.6	5,374.9	5,374.9	5,374.9	0.0
D	148,830	1,736	2,015	9.2	5,376.9	5,376.9	5,376.9	0.0
E	148,980	1,680	1,353	13.7	5,377.0	5,377.0	5,377.0	0.0
F	149,580	2,915	7,514	2.5	5,382.4	5,382.4	5,382.4	0.0
G	150,450	1,220	2,280	8.1	5,385.2	5,385.2	5,385.2	0.0
H	151,650	1,440	5,208	3.6	5,391.4	5,391.4	5,391.4	0.0
I	152,520	1,270	2,340	7.9	5,397.7	5,397.7	5,397.7	0.0

[1] Feet Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COMANCHE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cottonwood Creek								
A	11,171	125	825	5.0	5,627.8	5,627.8	5,627.8	0.0
B	12,163	200	1,455	3.1	5,632.5	5,632.5	5,632.9	0.4
C	12,931	104	510	8.0	5,636.5	5,636.5	5,636.5	0.0
D	14,607	172	823	4.8	5,652.4	5,652.4	5,652.4	0.0
E	15,850	81	561	7.8	5,659.6	5,659.6	5,659.6	0.0
F	16,654	123	677	5.2	5,660.7	5,660.7	5,660.7	0.0
G	16,906	103	739	4.8	5,666.3	5,666.3	5,666.3	0.0
H	18,470	211	1,028	3.4	5,679.9	5,679.9	5,679.9	0.0
I	19,195	156	791	4.4	5,684.9	5,684.9	5,684.9	0.0
J	20,497	330	3,819	1.5	5,711.3	5,711.3	5,711.3	0.0
K	21,229	254	3,459	2.4	5,711.5	5,711.5	5,711.5	0.0
L	22,077	290	1,725	3.5	5,713.4	5,713.4	5,713.4	0.0
M	23,157	106	604	7.6	5,730.9	5,730.9	5,730.9	0.0
N	24,206	110	1,209	3.6	5,739.9	5,739.9	5,740.1	0.2
O	25,105	102	820	6.3	5,746.5	5,746.5	5,746.5	0.0
P	26,251	163	865	4.9	5,757.0	5,757.0	5,757.0	0.0
Q	26,981	200	660	6.5	5,761.3	5,761.3	5,761.3	0.0
R	27,791	133	696	8.8	5,767.6	5,767.6	5,767.6	0.0
S	28,769	98	306	9.6	5,773.7	5,773.7	5,773.7	0.0
T	29,455	62	269	10.7	5,783.0	5,783.0	5,783.0	0.0

[1] Stream distance in feet above mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

COTTONWOOD CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
COYOTE RUN								
A	939	1,656[3]	2,568[3]	3.4	5,397.2	5,397.2	5,397.2	0.0
B	1,464	239	858	10.2	5,401.7	5,401.7	5,401.8	0.1
C	2,653	295	1,334	6.5	5,405.4	5,405.4	5,405.9	0.5
D	3,717	408	2,880	3.8	5,407.7	5,407.7	5,408.1	0.4
E	4,543	220	852	9.9	5,411.0	5,411.0	5,411.1	0.1
F-H[2]								
I	14,225	842	2,333	3.6	5,439.5	5,439.5	5,439.5	0.0
J	14,945	354	936	8.9	5,442.9	5,442.9	5,442.9	0.0
K	17,537	1,628	2,464	3.4	5,449.3	5,449.3	5,449.3	0.0
L	18,456	1,460	2,220	3.6	5,450.6	5,450.6	5,450.6	0.0
M	23,222	1,027	1,738	4.1	5,463.7	5,463.7	5,463.7	0.0
N	26,751	1,589	4,816	1.7	5,476.1	5,476.1	5,476.1	0.0
O	29,332	661	1,484	4.7	5,478.0	5,478.0	5,478.0	0.0
P	30,955	605	1,646	4.3	5,484.1	5,484.1	5,484.2	0.1
Q	33,361	509	1,373	5.1	5,488.7	5,488.7	5,489.2	0.5
R	35,067	570	1,555	5.1	5,494.6	5,494.6	5,494.9	0.3
S	37,854	328	1,068	6.6	5,502.3	5,502.3	5,502.5	0.2
T-Y[2]								
Z	42,815	659	2,470	3.1	5,518.4	5,518.4	5,518.5	0.1
AA	45,284	140	785	7.0	5,523.4	5,523.4	5,523.5	0.1
AB	45,817	207	952	6	5,524.7	5,524.7	5,525.1	0.4

[1]Feet above confluence with Box Elder Creek

[2]Cross Sections are outside of Arapahoe County

[3]Combined floodway width / area of Box Elder Creek and Coyote Run

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COYOTE RUN

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
COYOTE RUN								
AC	47,705	198	1,283	4.3	5,531.3	5,531.3	5,531.4	0.1
AD	50,472	186	992	5.5	5,540.0	5,540.0	5,540.1	0.1
AE	52,031	173	802	6.8	5,544.4	5,544.4	5,544.4	0.0
AF	52,905	143	644	8.3	5,547.7	5,547.7	5,547.7	0.0
AG	52,985	430	1,877	2.9	5,548.5	5,548.5	5,549.0	0.5
AH	53,080	499	1,933	3.2	5,550.3	5,550.3	5,550.4	0.1
AI	54,619	498	1,423	13.5	5,553.9	5,553.9	5,554.0	0.1
AJ	55,939	843	874	5.2	5,559.9	5,559.9	5,560.3	0.4
AK	58,342	951	1,219	3.7	5,574.0	5,574.0	5,574.0	0.0
AL	60,438	994	1,318	3.4	5,587.5	5,587.5	5,587.5	0.0
AM	61,199	690	536	4.9	5,592.1	5,592.1	5,592.2	0.1
AN	61,744	399[2]	576	4.6	5,596.2	5,596.2	5,596.3	0.1
AO	63,475	277	394	6.7	5,604.5	5,604.5	5,604.6	0.1
AP	65,492	544	593	4.3	5,625.0	5,625.0	5,625.2	0.2
AQ	67,053	296	567	3.9	5,636.1	5,636.1	5,636.2	0.1
AR	68,387	240	474	4.7	5,644.3	5,644.3	5,644.5	0.2
AS	69,736	72	223	10.0	5,653.9	5,653.9	5,653.9	0.0
AT	71,250	120	271	8.3	5,661.6	5,661.6	5,661.6	0.0
AU	72,522	129	283	7.7	5,670.6	5,670.6	5,670.6	0.0
AV	72,886	109	257	8.4	5,675.1	5,675.1	5,675.1	0.0
AW	73,198	215	541	1.3	5,677.1	5,677.1	5,677.1	0.0

[1]Feet above confluence with Box Elder Creek

[2]Top width reflects overbank flow from upstream cross section

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COYOTE RUN

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
COYOTE RUN								
AX	73,592	264	638	1.1	5,688.0	5,688.0	5,688.0	0.0
AY	73,650	151	134	5.4	5,689.4	5,689.4	5,689.4	0.0
AZ	75,611	47	97	7.5	5,700.6	5,700.6	5,700.6	0.0
BA	77,345	88	138	5.2	5,719.2	5,719.2	5,719.2	0.0
BB	77,712	41	86	8.4	5,722.5	5,722.5	5,722.5	0.0
BC	78,651	44	73	7.3	5,732.5	5,732.5	5,732.5	0.0
BD	79,878	116	99	5.4	5,758.1	5,758.1	5,758.1	0.0
BE	80,061	121	102	5.2	5,761.5	5,761.5	5,761.5	0.0
BF	80,811	45	73	7.3	5,761.7	5,761.7	5,761.7	0.0
BG	81,355	28	34	4.2	5,769.6	5,769.6	5,769.6	0.0
BH	82,652	34	27	5.1	5,790.9	5,790.9	5,790.9	0.0
BI	83,620	71	38	3.7	5,817.5	5,817.5	5,817.5	0.0

[1]Feet above confluence with Box Elder Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

COYOTE RUN

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
DUTCH CREEK								
A	115	153	785	9.5	5,330.4	5,330.4	5,330.4	0.0
B	1,756	139	776	9.6	5,339.7	5,339.7	5,339.7	0.0
C	2,307	130	682	10.9	5,344.6	5,344.6	5,344.6	0.0
D	4,573	159	1,181	6.3	5,365.0	5,365.0	5,365.0	0.0
E	7,898	163	719	10.2	5,388.2	5,388.2	5,388.4	0.2
F	9,397	133	818	8.9	5,397.6	5,397.6	5,397.6	0.0
G	9,697	151	747	9.8	5,400.2	5,400.2	5,400.3	0.1

[1]Feet above confluence with South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

DUTCH CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
East Toll Gate Creek								
A	1,882	268	1,159	5.5	5,416.9	5,416.9	5,416.9	0.0
B	2,871	143	613	10.4	5,421.3	5,421.3	5,421.3	0.0
C	4,054	113	588	10.9	5,426.9	5,426.9	5,426.9	0.0
D	4,865	335	1,234	5.2	5,434.6	5,434.6	5,434.6	0.0
E	5,607	400	2,080	3.1	5,436.1	5,436.1	5,436.1	0.0
F	6,632	137	567	11.3	5,443.0	5,443.0	5,443.0	0.0
G	7,163	258	1,125	5.7	5,447.0	5,447.0	5,447.0	0.0
H	8,031	314	1,011	6.3	5,448.3	5,448.3	5,448.3	0.0
I	9,310	339	1,111	5.0	5,453.0	5,453.0	5,453.0	0.0
J	11,992	217	731	7.9	5,475.2	5,475.2	5,475.2	0.0
K	13,029	210	665	8.1	5,479.7	5,479.7	5,479.7	0.0
L	14,667	334	1,191	4.5	5,488.9	5,488.9	5,489.0	0.1
M	15,213	215	587	9.2	5,491.5	5,491.5	5,492.0	0.5
N	16,176	334	766	6.2	5,497.2	5,497.2	5,497.6	0.4
O	17,656	120	350	7.6	5,507.5	5,507.5	5,508.0	0.5
P	18,346	45	286	9.4	5,511.4	5,511.4	5,511.8	0.4
Q	19,273	148	287	9.3	5,518.1	5,518.1	5,518.1	0.0
R	20,312	155	816	3.3	5,529.8	5,529.8	5,529.8	0.0
S	21,833	86	298	8.7	5,533.5	5,533.5	5,533.5	0.0
T	24,040	104	419	5.4	5,547.1	5,547.1	5,547.3	0.2
U	25,022	94	506	4.5	5,553.1	5,553.1	5,553.5	0.4
V	26,172	93	287	7.9	5,561.1	5,561.1	5,561.1	0.0
W	27,157	101	253	9.0	5,567.0	5,567.0	5,567.0	0.0
X	28,235	128	413	5.2	5,574.8	5,574.8	5,574.8	0.0

[1] Feet above confluence with Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

EAST TOLL GATE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
East Toll Gate Creek Continued								
Y	29,548	74	349	5.6	5,581.0	5,581.0	5,581.0	0.0
Z	30,395	54	186	10.6	5,584.2	5,584.2	5,584.2	0.0
AA	31,252	48	180	10.9	5,592.7	5,592.7	5,592.7	0.0
AB	32,211	206	409	4.8	5,608.1	5,608.1	5,608.4	0.3
AC	33,011	265	502	3.8	5,615.5	5,615.5	5,615.5	0.0
AD	34,217	287	492	3.9	5,621.7	5,621.7	5,621.7	0.0
AE	35,116	323	900	2.0	5,630.2	5,630.2	5,630.2	0.0
AF	36,499	148	316	5.1	5,636.8	5,636.8	5,636.8	0.0
AG	37,676	199	382	4.2	5,643.2	5,643.2	5,643.2	0.0
AH	38,723	480	425	3.8	5,658.3	5,658.3	5,658.3	0.0
AI	39,680	144	415	3.7	5,661.2	5,661.2	5,661.2	0.0
AJ	40,546	227	848	1.7	5,671.4	5,671.4	5,671.4	0.0
AK	41,489	139	327	4.2	5,676.8	5,676.8	5,676.8	0.0
AL	42,120	134	266	5.1	5,683.1	5,683.1	5,683.1	0.0
AM	42,966	138	274	4.6	5,690.3	5,690.3	5,690.3	0.0
AN	44,034	209	214	5.9	5,697.3	5,697.3	5,697.3	0.0
AO	45,228	296	394	3.2	5,703.4	5,703.4	5,703.4	0.0
AP	46,345	220	307	4.1	5,710.4	5,710.4	5,710.4	0.0
AQ	47,604	390	424	2.5	5,722.1	5,722.1	5,722.1	0.0
AR	48,490	238	311	3.4	5,727.8	5,727.8	5,727.8	0.0
AS	49,159	240	326	3.3	5,732.5	5,732.5	5,732.5	0.0
AT	49,571	148	220	4.8	5,736.5	5,736.5	5,737.0	0.5
AU	50,708	180	223	4.1	5,747.8	5,747.8	5,747.8	0.0

[1] Feet above confluence with West Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

EAST TOLL GATE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
East Toll Gate Creek Continued								
AV	51,759	100	217	4.2	5,755.2	5,755.2	5,755.4	0.2
AW	52,859	92	241	3.8	5,765.7	5,765.7	5,766.1	0.4
AX	54,059	65	189	4.8	5,773.7	5,773.7	5,774.1	0.4
AY	55,340	76	168	5.3	5,782.3	5,782.3	5,782.5	0.2
AZ	56,859	39	113	7.9	5,798.1	5,798.1	5,798.1	0.0
BA	58,359	592	4,895	0.3	5,822.8	5,822.8	5,822.8	0.0
BB	59,331	147	205	5.8	5,826.7	5,826.7	5,826.8	0.1
BC	60,659	77	180	6.7	5,834.7	5,834.7	5,835.0	0.3
BD	61,759	51	170	6.7	5,843.3	5,843.3	5,843.5	0.2
BE	62,909	140	185	6.2	5,854.7	5,854.7	5,854.7	0.0
BF	64,059	95	378	6.6	5,866.8	5,866.8	5,866.8	0.0
BG	65,209	58	122	8.1	5,878.0	5,878.0	5,878.2	0.2
BH	65,809	179	470	1.6	5,887.4	5,887.4	5,887.4	0.0
BI	67,159	54	100	7.6	5,901.5	5,901.5	5,901.9	0.4
BJ	68,359	101	89	3.0	5,918.6	5,918.6	5,918.8	0.2
BK	69,259	37	79	7.5	5,932.2	5,932.2	5,932.2	0.0
BL	69,640	35	77	7.7	5,938.6	5,938.6	5,938.6	0.0
BM	69,884	29	49	7.1	5,941.5	5,941.5	5,941.5	0.0
BN	70,759	36	73	3.7	5,950.6	5,950.6	5,950.6	0.0
BO	71,409	37	39	5.8	5,962.4	5,962.4	5,962.9	0.5

[1] Feet above confluence with West Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

EAST TOLL GATE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
East Toll Gate Creek Continued								
AV	51,759	100	217	4.2	5,755.2	5,755.2	5,755.4	0.2
AW	52,859	92	241	3.8	5,765.7	5,765.7	5,766.1	0.4
AX	54,059	65	189	4.8	5,773.7	5,773.7	5,774.1	0.4
AY	55,340	76	168	5.3	5,782.3	5,782.3	5,782.5	0.2
AZ	56,859	39	113	7.9	5,798.1	5,798.1	5,798.1	0.0
BA	58,359	592	4,895	0.3	5,822.8	5,822.8	5,822.8	0.0
BB	59,331	147	205	5.8	5,826.7	5,826.7	5,826.8	0.1
BC	60,659	77	180	6.7	5,834.7	5,834.7	5,835.0	0.3
BD	61,759	51	170	6.7	5,843.3	5,843.3	5,843.5	0.2
BE	62,909	140	185	6.2	5,854.7	5,854.7	5,854.7	0.0
BF	64,059	95	378	6.6	5,866.8	5,866.8	5,866.8	0.0
BG	65,209	58	122	8.1	5,878.0	5,878.0	5,878.2	0.2
BH	65,809	179	470	1.6	5,887.4	5,887.4	5,887.4	0.0
BI	67,159	54	100	7.6	5,901.5	5,901.5	5,901.9	0.4
BJ	68,359	101	89	3.0	5,918.6	5,918.6	5,918.8	0.2
BK	69,259	37	79	7.5	5,932.2	5,932.2	5,932.2	0.0
BL	69,640	35	77	7.7	5,938.6	5,938.6	5,938.6	0.0
BM	69,884	29	49	7.1	5,941.5	5,941.5	5,941.5	0.0
BN	70,759	36	73	3.7	5,950.6	5,950.6	5,950.6	0.0
BO	71,409	37	39	5.8	5,962.4	5,962.4	5,962.9	0.5

[1] Feet above confluence with West Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

EAST TOLL GATE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
FIRST CREEK								
AM	86,292	354	1,455	3.8	5,444.2	5,444.2	5,444.2	0.0
AN-AT[2]								
AU	95,400	1,168	1,364	3.8	5,483.0	5,483.0	5,483.0	0.0
AV	96,963	460	2,222	1.7	5,495.6	5,495.6	5,495.7	0.1
AW	97,988	400	797	4.9	5,495.7	5,495.7	5,496.1	0.4
AX	100,226	638	4,316	1.2	5,510.9	5,510.9	5,510.9	0.0
AY	102,346	440	2,198	2.0	5,515.7	5,515.7	5,515.7	0.0
AZ	104,036	247	534	8.4	5,519.0	5,519.0	5,519.1	0.1
BA	105,103	400	1,135	3.4	5,525.8	5,525.8	5,526.1	0.3
BB	106,670	210	775	5.0	5,533.9	5,533.9	5,534.2	0.3
BC	108,273	190	633	6.1	5,541.6	5,541.6	5,541.9	0.3
BD	109,650	175	503	7.4	5,546.9	5,546.9	5,547.1	0.2
BE	111,101	205	592	6.3	5,556.2	5,556.2	5,556.5	0.3
BF	113,163	281	593	4.4	5,568.1	5,568.1	5,568.1	0.0
BG	114,490	110	381	6.5	5,573.0	5,573.0	5,573.3	0.3
BH	115,829	111	312	6.1	5,580.0	5,580.0	5,580.1	0.1
BI	116,612	154	429	4.4	5,585.2	5,585.2	5,585.5	0.3
BJ	117,383	100	274	7.0	5,589.7	5,589.7	5,589.9	0.2
BK	117,907	102	331	5.8	5,592.2	5,592.2	5,592.6	0.4
BL	118,856	160	396	4.8	5,597.2	5,597.2	5,597.2	0.0
BM	119,882	104	243	7.8	5,602.9	5,602.9	5,602.9	0.0
BN	120,900	215	448	4.3	5,608.9	5,608.9	5,609.3	0.4
BO	122,142	124	313	4.7	5,617.7	5,617.7	5,618.1	0.4
BP	123,500	105	288	5.1	5,625.4	5,625.4	5,625.4	0.0
BQ	125,026	70	291	5.1	5,633.6	5,633.6	5,633.9	0.3
BR	126,127	80	281	4.9	5,637.6	5,637.6	5,637.8	0.2
BS	126,964	62	270	5.1	5,641.7	5,641.7	5,641.9	0.2

[1] Stream distance in feet above confluence with South Platte River

[2] Cross Sections outside Arapahoe County Corporate Limits

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

FIRST CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
FIRST CREEK (Continued)								
BT	128,000	56	244	5.6	5,646.3	5,646.3	5,646.5	0.2
BU	128,990	59	188	7.3	5,652.0	5,652.0	5,652.1	0.1
BV	129,758	63	187	4.0	5,658.8	5,658.8	5,659.0	0.2
BW	130,710	37	92	8.2	5,661.9	5,661.9	5,662.0	0.1
BX	131,624	46	102	7.4	5,669.4	5,669.4	5,669.4	0.0
BY	132,490	125	146	5.2	5,677.5	5,677.5	5,677.6	0.1
BZ	133,238	107	546	1.4	5,684.9	5,684.9	5,685.0	0.1
CA	134,532	85	212	3.6	5,689.8	5,689.8	5,690.1	0.3
CB	135,480	72	151	5.0	5,698.1	5,698.1	5,698.2	0.1
CC	137,081	59	160	4.7	5,711.9	5,711.9	5,712.3	0.4
CD	138,839	120	163	4.6	5,725.6	5,725.6	5,726.0	0.4
CE	139,702	80	174	4.3	5,735.2	5,735.2	5,735.2	0.0

[1] Stream distance in feet above confluence with South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

FIRST CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
FIRST CREEK E-470 SPLIT								
A	1,214	221	225	5.3	5,501.3	5,501.3	5,501.3	0.0
B	2,428	227	820	2.3	5,506.7	5,506.7	5,507.2	0.5
C	3,342	390	1,877	0.6	5,507.1	5,507.1	5,507.5	0.4

[1] Stream distance in feet above confluence with First Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

FIRST CREEK E-470 SPLIT

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
FIRST CREEK TRIBUTARY T								
A-H[2]								
I	7,655	150	550	4.1	5,419.4	5,419.4	5,419.5	0.1
J	8,577	103	299	7.3	5,422.9	5,422.9	5,422.9	0.0
K	9,959	476	774	2.8	5,434.4	5,434.4	5,434.9	0.5
L	10,705	217	448	3.9	5,437.6	5,437.6	5,437.9	0.3
M	11,975	249	423	4.0	5,444.9	5,444.9	5,445.2	0.3
N	13,747	142	311	5.5	5,451.0	5,451.0	5,451.3	0.3
O[2]								
P	17,337	216	502	8.3	5,470.3	5,470.3	5,470.5	0.2
Q	18,783	355	622	4.3	5,479.7	5,479.7	5,480.0	0.3
R	20,288	475	941	2.7	5,487.3	5,487.3	5,487.7	0.4
S	22,303	250	631	4.0	5,501.3	5,501.3	5,501.4	0.1
T	23,474	130	289	6.4	5,506.8	5,506.8	5,507.0	0.2
U	24,599	264	621	3.0	5,517.3	5,517.3	5,517.7	0.4
V	25,572	24	107	11.4	5,526.8	5,526.8	5,527.2	0.4
W	26,326	141	106	4.8	5,530.2	5,530.2	5,530.5	0.3
X	27,573	75	89	5.8	5,539.3	5,539.3	5,539.3	0.0
Y	29,049	62	60	5.2	5,557.7	5,557.7	5,558.1	0.4

[1] Stream distance in feet above confluence with South Platte River

[2] Cross Sections outside Arapahoe County Corporate Limits

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

FIRST CREEK TRIBUTARY T

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GOLDSMITH GULCH								
A	78	97	372	6.1	5,590.8	5,590.8	5,590.8	0.0
B	516	94	549	4.1	5,595.6	5,595.6	5,595.6	0.0
C	1,406	105	332	6.8	5,602.9	5,602.9	5,602.9	0.0
D	1,644	86	335	6.5	5,608.0	5,608.0	5,608.0	0.0
E	2,068	96	248	8.8	5,610.2	5,610.2	5,610.2	0.0
F	2,630	200	1,064	1.9	5,618.3	5,618.3	5,618.6	0.3
G	3,294	117	453	4.3	5,621.7	5,620.8	5,621.7	0.9
H	3,596	91	520	3.8	5,627.3	5,627.0	5,627.3	0.3
I	3,672	80	505	3.9	5,628.5	5,627.9	5,628.5	0.6
J	4,516	203	302	6.4	5,634.9	5,634.9	5,634.9	0.0
K	4,811	184	598	3.2	5,636.3	5,636.3	5,636.3	0.0
L	5,386	46	230	3.7	5,642.2	5,641.4	5,642.2	0.8
M	6,061	45	104	7.8	5,649.4	5,649.2	5,649.4	0.2
N	6,516	45	105	7.7	5,656.3	5,656.3	5,656.3	0.0
O	6,575	25	98	8.3	5,659.4	5,659.4	5,659.4	0.0
P	6,735	378	1,226	0.8	5,672.4	5,672.4	5,672.4	0.0
Q	7,365	85	312	3.2	5,672.4	5,672.4	5,672.4	0.0
R	7,417	184	90	4.0	5,675.2	5,675.2	5,675.2	0.0
S	7,642	93	75	4.8	5,678.6	5,678.6	5,678.6	0.0
T	7,917	102	84	4.3	5,680.5	5,680.5	5,680.5	0.0
U	8,482	163	868	0.9	5,686.2	5,686.2	5,686.2	0.0
V	8,530	109	648	1.2	5,686.2	5,686.2	5,686.2	0.0
W	8,646	181	149	5.1	5,699.0	5,699.0	5,699.0	0.0
X	9,305	75	207	2.3	5,699.8	5,699.8	5,699.8	0.0
Y	9,740	43	96	4.6	5,704.8	5,704.8	5,704.8	0.0
Z	9,883	54	99	6.6	5,709.0	5,709.0	5,709.0	0.0

[1] Feet Above East Belleview Avenue

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

GOLDSMITH GULCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GOLDSMITH GULCH (Continued)								
AA	10,015	34	69	5.2	5,711.1	5,711.1	5,711.1	0.0
AB	10,063	54	83	4.1	5,711.4	5,711.4	5,711.4	0.0
AC	10,306	37	75	4.5	5,713.2	5,713.2	5,713.2	0.0
AD	10,675	30	63	7.4	5,720.2	5,720.2	5,720.2	0.0
AE	11,092	28	39	6.2	5,732.4	5,732.4	5,732.4	0.0
AF	11,288	23	51	4.8	5,735.4	5,735.4	5,735.4	0.0
AG	11,387	17	49	5.0	5,736.1	5,736.1	5,736.1	0.0
AH	11,586	98	193	2.5	5,742.7	5,742.7	5,742.7	0.0
AI	11,805	17	18	5.9	5,743.3	5,743.3	5,743.3	0.0
AJ	11,988	11	16	6.7	5,746.1	5,746.1	5,746.1	0.0
AK	12,103	13	17	6.3	5,759.0	5,759.0	5,759.0	0.0
AL	12,250	14	17	6.3	5,762.7	5,762.7	5,762.7	0.0
AM	12,683	14	17	6.3	5,773.0	5,773.0	5,773.0	0.0

[1] Feet Above East Belleview Avenue

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

GOLDSMITH GULCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GRANBY DITCH								
A	500	126	337	1.2	5371.2	5371.2	5371.2	0.0
B	800	77	95	4.3	5374.7	5374.7	5375.3	0.5
C	1,050	56	66	6.1	5376.6	5376.6	5376.6	0.0
D	1,550	80	94	6.1	5378.4	5378.4	5378.4	0.0
E	1,915	149	149	3.8	5382.5	5382.5	5382.7	0.1
F	2,400	104	119	5.5	5387.7	5387.7	5387.8	0.0
G	2,800	88	118	5.5	5391.7	5391.7	5392.0	0.3
H	3,200	97	472	2.3	5394.6	5394.6	5395.6	1.0
I	3,800	69	146	7.4	5396.3	5396.3	5396.4	0.2
J	4,200	32	109	8.2	5398.7	5398.7	5399.5	0.8
K	4,550	18	95	7.4	5401.4	5401.4	5401.5	0.1
L	5,000	43	83	6.3	5405.5	5405.5	5405.5	0.0
M	5,248	103	243	2.1	5407.4	5407.4	5407.4	0.0
N	5,600	90	81	5.3	5407.8	5407.8	5407.9	0.0
O	5,900	94	82	5.2	5414.3	5414.3	5414.2	0.0
P	6,200	100	82	4.3	5416.9	5416.9	5416.9	0.0
Q	6,525	70	97	3.6	5420.3	5420.3	5420.7	0.4
R	7,000	52	85	4.1	5422.3	5422.3	5422.8	0.5
S	7,336	16	40	8.8	5426.0	5426.0	5426.0	0.0
T	7,800	69	65	5.4	5428.4	5428.4	5428.4	0.0
U	8,200	78	281	1.6	5432.7	5432.7	5432.8	0.1
V	8,600	63	163	2.3	5433.6	5433.6	5433.6	0.1
W	8,937	101	881	0.4	5447.2	5447.2	5447.5	0.3
X	9,200	70	316	1.2	5447.2	5447.2	5447.5	0.3
Y	9,600	72	293	1.2	5447.2	5447.2	5447.5	0.3
Z	9,890	49	111	3.1	5447.2	5447.2	5447.6	0.3

[1] Feet Above Confluence With Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

GRANBY DITCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Greenwood Gulch								
A	1,079	194	502	5.6	5,344.9	5,344.9	5,345.6	0.7
B	1,924	60	511	5.5	5,349.3	5,349.3	5,349.9	0.6
C	2,883	129	485	5.8	5,353.7	5,353.7	5,354.3	0.6
D	6,077	592	598	5.5	5,373.8	5,373.8	5,373.8	0.0
E	7,160	270	731	4.5	5,380.0	5,380.0	5,380.2	0.2
F	7,745	170	464	7.1	5,386.7	5,386.7	5,387.1	0.4
G	7,852	220	1,219	2.7	5,388.2	5,388.2	5,388.9	0.7
H	8,099	175	1,496	2.2	5,388.4	5,388.4	5,388.9	0.5
I	11,299	300	823	4.0	5,404.1	5,404.1	5,404.4	0.3
J	14,141	125	2,640	1.0	5,428.6	5,428.6	5,428.6	0.0
K	15,057	125	326	8.1	5,429.1	5,429.1	5,429.2	0.1
L	17,852	503	406	6.5	5,453.1	5,453.1	5,453.1	0.0
M	17,979	504	2,400	1.1	5,455.4	5,455.4	5,455.7	0.3
N	18,759	184	713	4.1	5,461.3	5,461.3	5,461.9	0.6
O	19,049	138	680	4.3	5,462.4	5,462.4	5,463.1	0.7
P	19,558	103	513	5.7	5,467.0	5,467.0	5,467.0	0.0
Q	19,882	90	487	6.0	5,468.7	5,468.7	5,469.6	0.9
R	20,108	185	713	4.1	5,469.5	5,469.5	5,470.4	0.9
S	20,149	200	487	6.0	5,476.2	5,476.2	5,476.6	0.4
T	20,524	135	769	3.8	5,478.0	5,478.0	5,478.7	0.7
U	21,503	250	1,270	2.3	5,488.0	5,488.0	5,488.8	0.8
V	22,285	108	289	7.3	5,495.1	5,495.1	5,495.3	0.2
W	22,357	133	1,408	1.5	5,496.1	5,496.1	5,496.6	0.5
X	23,753	160	422	5.0	5,506.3	5,506.3	5,506.9	0.6
Y	24,766	90	480	4.4	5,513.3	5,513.3	5,514.0	0.7

[1] Feet Above Confluence With Little Dry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

GREENWOOD GULCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Greenwood Gulch (Cont'd)								
Z	25,329	166	293	7.2	5,520.4	5,520.4	5,521.0	0.6
AA	25,445	527	850	3.2	5,524.7	5,524.7	5,524.7	0.0
AB	25,499	85	413	5.0	5,524.5	5,524.5	5,524.4	-0.1
AC	26,144	141	288	9.1	5,530.2	5,530.2	5,530.0	-0.2
AD	27,246	62	205	10.8	5,540.5	5,540.5	5,540.7	0.2
AE	27,362	56	314	6.1	5,543.4	5,543.4	5,544.3	0.9

[1] Feet Above Confluence With Little Dry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

GREENWOOD GULCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Greenwood Gulch Bypass								
A	25	307	442	3.6	5,343.9	5,343.9	5,343.9	0.0
B	305	434	2,428	0.7	5,344.2	5,344.2	5,344.2	0.0
C	635	537	2,223	0.7	5,344.2	5,344.2	5,344.2	0.0
D	1,005	577	1,589	1.8	5,344.3	5,344.3	5,344.3	0.0

[1] Feet Above Corporate Limits

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

GREENWOOD GULCH BYPASS

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Happy Canyon Creek								
A	386	354	2,567	5.0	5,687.3	5,687.3	5,687.3	0.0
B	1,200	186	997	9.3	5,692.0	5,692.0	5,692.0	0.0
C	2,248	169	934	9.9	5,697.5	5,697.5	5,697.5	0.0
D	3,287	176	976	8.7	5,718.8	5,718.8	5,718.9	0.1
E	4,200	170	836	10.2	5,723.9	5,723.9	5,723.9	0.0

[1] Feet above confluence with Cherry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

HAPPY CANYON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Havana Tributary								
A	850	82	368	4.3	5,674.5	5,674.5	5,674.5	0.0
B	1,597	72	277	4.5	5,685.2	5,685.2	5,685.2	0.0
C	2,729	65	185	4.5	5,693.9	5,693.9	5,693.9	0.0
D	3,661	110	249	3.3	5,707.9	5,707.9	5,708.3	0.4
E	4,531	20	36	7.5	5,720.2	5,720.2	5,720.3	0.1
F	5,191	134	369	0.9	5,728.9	5,728.9	5,728.9	0.0
G	6,162	71	243	1.4	5,749.4	5,749.4	5,749.4	0.0

[1] Stream distance in feet above confluence with Cottonwood Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

HAVANA TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Inverness Tributary								
A	516	81	187	5.3	5,724.9	5,724.9	5,724.9	0.0
B	1,181	56	126	7.8	5,732.8	5,732.8	5,732.8	0.0
C	1,854	44	97	8.4	5,745.9	5,745.9	5,745.9	0.0
D	2,632	120	328	2.3	5,771.8	5,771.8	5,771.8	0.0
E	3,462	208	688	0.8	5,779.3	5,779.3	5,779.3	0.0
F	4,349	43	55	6.3	5,789.2	5,789.2	5,789.2	0.0

[1] Stream distance in feet above confluence with Cottonwood Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

INVERNESS TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lee Gulch								
A	58	191	368	7.8	5,338.2	5,338.2	5,338.2	0.0
B	384	90	300	9.6	5,349.0	5,349.0	5,349.0	0.0
C	560	111	1,302	2.8	5,351.2	5,351.2	5,351.2	0.0
D	920	44	19	14.7	5,353.5	5,353.5	5,353.5	0.0
E	114	747	7,392	0.4	5,370.0	5,370.0	5,370.0	0.0
F	1,580	162	2,296	1.3	5,370.0	5,370.0	5,370.0	0.0
G	2,572	110	239	12.0	5,375.1	5,375.1	5,375.1	0.0
H	2,680	212	773	3.7	5,387.3	5,387.3	5,387.3	0.0
I	3,180	191	1,880	1.5	5,387.3	5,387.3	5,387.3	0.0
J	3,640	112	963	3.0	5,388.0	5,388.0	5,388.0	0.0
K	4,208	116	465	6.2	5,389.3	5,389.3	5,389.3	0.0
L	4,743	102	405	7.1	5,393.2	5,393.2	5,393.2	0.0
M	5,010	96	427	6.7	5,398.8	5,398.8	5,398.8	0.0
N	5,470	80	345	8.3	5,402.9	5,402.9	5,402.9	0.0
O	6,160	98	195	13.2	5,411.6	5,411.6	5,411.6	0.0
P	6,295	100	198	13.0	5,411.8	5,411.8	5,411.8	0.0
Q	6,580	120	524	4.9	5,417.0	5,417.0	5,417.0	0.0
R	6,610	145	325	7.9	5,420.5	5,420.5	5,420.5	0.0
S	7,080	100	556	4.6	5,425.7	5,425.7	5,425.7	0.0
T	7,730	69	314	8.2	5,429.2	5,429.2	5,429.2	0.0
U	8,330	83	384	6.7	5,434.9	5,434.9	5,434.9	0.0
V	8,810	81	263	9.8	5,443.4	5,443.4	5,443.4	0.0

1 Feet Above Confluence of South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY
ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

LEE GULCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lee Gulch								
W	9,210	95	533	4.8	5,448.8	5,448.8	5,448.8	0.0
X	10,060	65	308	8.3	5,454.5	5,454.5	5,454.5	0.0
Y	10,580	95	437	5.9	5,461.5	5,461.5	5,461.5	0.0
Z	10,850	60	128	11.0	5,467.8	5,467.8	5,467.8	0.0
AA	10,920	70	129	10.9	5,467.9	5,467.9	5,467.9	0.0
AB	11,500	85	329	4.3	5,475.8	5,475.8	5,475.8	0.0
AC	11,940	78	237	5.9	5,479.0	5,479.0	5,479.0	0.0
AD	12,270	50	191	7.4	5,483.8	5,483.8	5,483.8	0.0
AE	12,825	66	216	6.5	5,492.5	5,492.5	5,492.5	0.0
AF	13,380	56	169	8.3	5,500.6	5,500.6	5,500.6	0.0

1 Feet Above Confluence of South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY
ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

LEE GULCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Little Comanche Creek								
A	2,070	1,900	5,209	3.9	5,372.2	5,372.2	5,372.2	0.0
B	2,700	1,680	5,276	3.8	5,373.5	5,373.5	5,373.5	0.0
C	2,770	1,300	3,049	6.6	5,374.9	5,374.9	5,374.9	0.0
D	3,900	1,736	2,015	9.2	5,376.9	5,376.9	5,376.9	0.0
E	4,000	1,680	1,353	13.7	5,377.0	5,377.0	5,377.0	0.0
F	4,770	2,915	7,514	2.5	5,382.4	5,382.4	5,382.4	0.0
G	6,000	230	2,280	8.1	5,385.2	5,385.2	5,385.2	0.0
H	6,450	570	5,208	3.6	5,391.4	5,391.4	5,391.4	0.0
I	7,500	170	1,360	5.4	5,392.5	5,392.5	5,392.5	0.0

[1] Feet Above Confluence With Comanche Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE COMANCHE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD88)			
Little Dry Creek								
A	140	80	358	10.3	5,270.2[2]	5,266.2	5,266.2	0.0
B	250	80	649	5.7	5,270.2[2]	5,268.8	5,268.8	0.0
C	761	99	492	7.5	5,270.2[2]	5,270.1	5,270.2	0.1
D	1,204	47	269	13.8	5,274.0	5,274.0	5,274.0	0.0
E	1,355	75	369	10.0	5,277.3	5,277.3	5,277.3	0.0
F	1,459	47	298	12.4	5,279.8	5,279.8	5,279.8	0.0
G	1,659	49	335	11.0	5,281.9	5,281.9	5,281.9	0.0
H	1,859	49	337	11.0	5,283.9	5,283.9	5,283.9	0.0
I	6,380	122	626	5.8	5,321.3	5,321.3	5,321.3	0.0
J	6,590	105	505	7.2	5,321.7	5,321.7	5,321.7	0.0
K	6,960	50	380	9.6	5,322.6	5,322.6	5,322.6	0.0
L	7,000	75	537	6.8	5,323.4	5,323.4	5,323.4	0.0
M	7,285	89	633	5.8	5,326.6	5,326.6	5,326.6	0.0
N	7,485	166	1,039	3.5	5,327.2	5,327.2	5,327.2	0.0
O	9,250	570	850	8.0	5,336.9	5,336.9	5,336.9	0.0
P	9,342	222	727	4.3	5,339.4	5,339.4	5,339.4	0.0
Q	10,361	54	185	10.5	5,343.2	5,343.2	5,343.2	0.0
R	10,889	60	456	4.2	5,348.6	5,348.6	5,348.6	0.0
S	11,409	130	455	4.3	5,349.6	5,349.6	5,350.4	0.8
T	12,153	65	355	5.5	5,352.9	5,352.9	5,353.3	0.4
U	14,877	173	310	6.2	5,364.6	5,364.6	5,364.6	0.0
V	15,179	65	314	6.2	5,367.0	5,367.0	5,368.0	1.0
W	15,292	72	375	6.2	5,368.5	5,368.5	5,369.3	0.8
X	16,421	80	642	3.6	5,373.7	5,373.7	5,373.7	0.0
Y	17,763	110	611	3.8	5,380.2	5,380.2	5,380.3	0.1

[1] Feet Above Confluence With South Platte River

[2] Elevation Due to Backwater From South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE DRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Little Dry Creek (Cont'd)								
Z	18,223	70	470	4.9	5,381.0	5,381.0	5,381.3	0.3
AA	22,258	30	284	8.1	5,399.7	5,399.7	5,400.4	0.7
AB	22,960	63	545	4.2	5,402.4	5,402.4	5,403.2	0.8
AC	24,901	175	3,160	0.7	5,417.8	5,417.8	5,417.8	0.0
AD	25,208	38	1,748	1.3	5,417.8	5,417.8	5,417.8	0.0
AE	25,528	71	664	3.5	5,417.7	5,417.7	5,418.2	0.5
AF	25,630	71	549	4.2	5,418.2	5,418.2	5,419.2	1.0
AG	26,370	72	644	3.6	5,420.1	5,420.1	5,420.7	0.6
AH	27,826	41	439	5.3	5,426.4	5,426.4	5,426.6	0.2
AI	28,725	41	318	7.3	5,429.7	5,429.7	5,430.6	0.9
AJ	29,810	76	544	4.2	5,436.5	5,436.5	5,437.4	0.9
AK	31,597	62	402	5.2	5,445.7	5,445.7	5,446.5	0.8
AL	33,250	61	301	7.0	5,454.4	5,454.4	5,455.4	1.0
AM	33,341	51	265	8.0	5,454.7	5,454.7	5,455.6	0.9
AN	33,385	39	211	10.0	5,456.1	5,456.1	5,456.1	0.0
AO	33,912	46	270	7.8	5,459.1	5,459.1	5,460.1	1.0
AP	34,843	69	395	5.3	5,465.0	5,465.0	5,466.0	1.0
AQ	35,557	67	412	5.1	5,473.4	5,473.4	5,473.4	0.0
AR	36,691	56	296	7.1	5,475.4	5,475.4	5,475.5	0.1
AS	36,892	48	306	6.9	5,478.8	5,478.8	5,479.0	0.2
AT	37,136	83	696	3.0	5,479.9	5,479.9	5,480.2	0.3
AU	38,750	62	210	8.0	5,494.4	5,494.4	5,494.4	0.0
AV	40,239	62	236	7.1	5,508.2	5,508.2	5,508.2	0.0
AW	41,013	46	210	8.0	5,515.2	5,515.2	5,515.2	0.0

[1] Feet Above Confluence With South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE DRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Little Dry Creek (continued)								
AX	42,397	50	206	4.2	5,527.8	5,527.8	5,528.7	0.9
AY	43,478	36	117	7.4	5,535.0	5,535.0	5,535.1	0.1
AZ	43,757	12	47	5.2	5,537.7	5,537.7	5,537.7	0.0
BA	43,921	27	55	4.3	5,539.6	5,539.6	5,539.6	0.0
BB	47,180	197	806	3.7	5,574.5	5,574.5	5,574.5	0.0
BC	47,545	74	484	5.6	5,576.2	5,576.2	5,576.2	0.0
BD	47,732	61	334	8.0	5,577.1	5,577.1	5,577.1	0.0
BE	48,066	59	294	9.1	5,584.5	5,584.5	5,584.5	0.0
BF	48,225	36	260	10.3	5,587.8	5,587.8	5,587.8	0.0
BG	48,522	33	314	8.5	5,592.2	5,592.2	5,592.2	0.0
BH	48,946	60	273	9.3	5,596.6	5,596.6	5,596.6	0.0
BI	49,584	60	231	11.0	5,603.3	5,603.3	5,603.3	0.0
BJ	50,029	53	220	11.6	5,607.0	5,607.0	5,607.0	0.0
BK	50,475	53	219	11.6	5,616.8	5,616.8	5,616.8	0.0
BL	50,746	252	2,240	2.1	5,632.9	5,632.9	5,632.9	0.0
BM	51,202	170	1,253	1.5	5,633.1	5,633.1	5,633.1	0.0
BN	51,995	75	262	7.1	5,633.3	5,633.3	5,633.3	0.0
BO	52,775	52	164	9.7	5,646.4	5,646.4	5,646.4	0.0
BP	53,494	37	158	10.1	5,657.8	5,657.8	5,657.8	0.0
BQ	54,012	119	550	2.9	5,676.2	5,676.2	5,676.2	0.0
BR	54,558	50	121	8.6	5,681.8	5,681.8	5,681.8	0.0
BS	55,089	75	139	7.5	5,690.0	5,690.0	5,690.0	0.0
BT	55,636	31	50	7.2	5,702.5	5,702.5	5,702.5	0.0
BU	55,987	22	44	8.3	5,711.7	5,711.7	5,711.7	0.0

[1] Feet Above Confluence With South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE DRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Little Dry Creek (continued)								
BV	56,342	60	229	0.8	5,726.1	5,726.1	5,726.1	0.0
BW	56,709	39	34	5.4	5,732.3	5,732.3	5,732.3	0.0
BX	56,912	515	3,776	0.1	5,747.9	5,747.9	5,747.9	0.0
BY	57,113	152	115	4.5	5,752.3	5,752.3	5,752.3	0.0

[1] Feet Above Confluence With South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE DRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Little's Creek								
A	191	90	302	7.5	5320.7	5320.7	5320.8	0.1
B	727	115	540	4.2	5323.5	5323.5	5323.9	0.4
C	1,080	49	207	10.9	5329.4	5329.4	5329.5	0.1
D	1,299	58	466	4.8	5334.6	5334.6	5334.9	0.3
E	1,714	47	334	6.8	5338.2	5338.2	5338.3	0.1
F	2,180	43	284	7.9	5341.6	5341.6	5341.6	0.0
G	2,663	46	388	5.8	5350.6	5350.6	5350.6	0.0
H	3,284	161	816	2.3	5369.8	5369.8	5370.1	0.3
I	3,758	280	1,175	1.6	5374.4	5374.4	5374.6	0.2
J	3,875	365	2,189	0.9	5374.5	5374.5	5374.7	0.2
K	4,437	220	423	4.5	5377.0	5377.0	5377.1	0.1
L	5,281	102	231	8.2	5384.0	5384.0	5384.1	0.1
M	6,099	256	502	3.8	5391.7	5391.7	5391.7	0.0
N	6,541	77	204	9.3	5392.7	5392.7	5392.8	0.1
O	6,977	81	216	8.8	5395.7	5395.7	5395.8	0.1
P	7,408	93	218	8.7	5398.7	5398.7	5398.8	0.1
Q	7,790	98	223	8.5	5403.2	5403.2	5403.4	0.2
R	8,322	166	469	4.1	5408.5	5408.5	5409.0	0.5
S	8,852	133	321	5.9	5411.0	5411.0	5411.2	0.2
T	9,264	73	231	8.2	5414.9	5414.9	5415.2	0.3
U	9,610	118	586	3.2	5419.9	5419.9	5420.2	0.3
V	10,049	110	304	6.3	5421.9	5421.9	5422.2	0.3
W	10,562	72	270	3.9	5425.2	5425.2	5425.5	0.3
X	11,017	83	197	5.4	5428.4	5428.4	5428.4	0.0
Y	11,442	65	175	6.1	5432.8	5432.8	5432.9	0.1
Z	11,904	24	102	10.4	5438.2	5438.2	5438.4	0.2

[1] Feet above confluence with the South Platte River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Little's Creek								
AA	12,312	85	150	7.0	5441.6	5441.6	5441.6	0.0
AB	12,660	62	131	8.1	5445.6	5445.6	5445.8	0.2
AC	12,983	61	152	6.9	5449.5	5449.5	5449.9	0.4
AD	13,333	61	135	7.8	5454.0	5454.0	5454.0	0.0
AE	13,606	45	139	7.6	5457.9	5457.9	5458.1	0.2
AF	13,976	68	137	7.7	5464.3	5464.3	5464.3	0.0
AG	14,560	193	197	5.4	5471.0	5471.0	5471.0	0.0
AH	15,269	153	1,412	0.6	5490.3	5490.3	5490.6	0.3
AI	15,797	195	946	1.6	5491.8	5491.8	5492.3	0.5
AJ	16,314	58	269	3.4	5492.1	5492.1	5492.4	0.3
AK	16,541	212	822	1.1	5495.7	5495.7	5495.9	0.2
AL	17,321	282	940	0.8	5514.1	5514.1	5514.3	0.2
AM	17,680	93	122	5.8	5519.7	5519.7	5519.7	0.0
AN	18,186	253	192	2.4	5522.9	5522.9	5523.2	0.3
AO	18,632	64	75	6.2	5532.4	5532.4	5532.4	0.0
AP	19,261	45	69	6.8	5537.2	5537.2	5537.2	0.0
AQ	19,933	66	80	5.1	5545.7	5545.7	5545.7	0.0
AR	20,778	69	57	5.2	5559.1	5559.1	5559.1	0.0
AS	21,410	61	55	5.3	5572.4	5572.4	5572.5	0.1
AT	22,110	62	55	5.3	5591.1	5591.1	5591.1	0.0
AU	22,667	95	64	4.5	5604.8	5604.8	5604.8	0.0

[1] Feet above confluence with the South Platte River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

LITTLES CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lone Tree Creek								
A	2,165	67	218	10.1	5,635.8	5,635.8	5,635.8	0.0
B	2,774	106	447	4.9	5,640.3	5,640.3	5,640.3	0.0
C	4,446	96	399	5.2	5,655.1	5,655.1	5,655.1	0.0
D	4,968	82	276	7.5	5,661.7	5,661.7	5,661.9	0.2
E	5,991	115	1,009	1.8	5,674.4	5,674.4	5,674.4	0.0
F	6,544	123	1,165	1.6	5,679.6	5,679.6	5,679.7	0.1
G	7,245	99	428	3.1	5,679.7	5,679.7	5,679.7	0.0
H	7,933	53	132	7.8	5,682.0	5,682.0	5,682.0	0.0
I	8,447	49	101	8.2	5,688.2	5,688.2	5,688.2	0.0
J	8,895	48	101	8.3	5,694.0	5,694.0	5,694.0	0.0
K	9,468	56	106	7.8	5,705.5	5,705.5	5,705.5	0.0
L	10,041	52	93	5.9	5,714.8	5,714.8	5,714.8	0.0
M	11,116	241	1,178	1.0	5,727.9	5,727.9	5,727.9	0.0
N	11,815	86	209	4.4	5,736.9	5,736.9	5,737.1	0.2
O	12,377	128	534	1.7	5,749.2	5,749.2	5,749.3	0.1
P	12,917	56	48	5.4	5,751.2	5,751.2	5,751.2	0.0
Q	13,568	86	58	4.5	5,765.4	5,765.4	5,765.4	0.0

[1] Feet Above Cherry Creek Lake

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

LONE TREE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Murphy Creek								
A	3,290	1,000	755	5.6	5,514.8	5,514.8	5,515.0	0.2
B	3,990	770	1,248	3.4	5,517.7	5,517.7	5,517.9	0.2
C	4,440	600	730	5.8	5,519.7	5,519.7	5,519.7	0.0
D	4,940	420	1,101	3.9	5,523.2	5,523.2	5,523.2	0.0
E	7,124	460	1,315	3.1	5,524.5	5,524.5	5,525.0	0.5
F	7,500	535	1,345	3.0	5,524.9	5,524.9	5,525.5	0.6
G	8,116	236	584	7.0	5,527.8	5,527.8	5,527.9	0.1
H	9,032	208	569	7.2	5,533.5	5,533.5	5,534.2	0.7
I	9,545	245	872	4.7	5,536.6	5,536.6	5,537.0	0.4
J	10,211	245	585	7.0	5,539.9	5,539.9	5,540.1	0.2
K	10,586	300	770	5.3	5,542.9	5,542.9	5,543.4	0.5
L	11,008	275	559	7.3	5,545.1	5,545.1	5,545.6	0.5
M	11,300	333	1,571	2.6	5,552.0	5,552.0	5,552.0	0.0
N	11,666	396	1,017	4.0	5,551.9	5,551.9	5,551.9	0.0
O	11,837	137	495	8.3	5,552.9	5,552.9	5,552.9	0.0
P	12,313	255	637	6.4	5,555.9	5,555.9	5,556.1	0.2
Q	13,366	439	895	4.6	5,560.3	5,560.3	5,560.5	0.2
R	13,968	431	685	5.2	5,562.7	5,562.7	5,563.4	0.7
S	14,650	538	837	4.2	5,567.2	5,567.2	5,567.7	0.5
T	15,062	723	499	7.1	5,568.7	5,568.7	5,569.0	0.3
U	15,377	691	625	5.7	5,572.9	5,572.9	5,572.7	-0.2
V	15,755	723	396	9.0	5,573.7	5,573.7	5,573.8	0.1
W	15,808	724	877	4.0	5,576.2	5,576.2	5,576.5	0.3
X	16,080	356	389	9.0	5,577.1	5,577.1	5,577.2	0.1
Y	16,367	120	687	5.4	5,578.8	5,578.8	5,578.8	0.0
Z	16,640	136	949	3.9	5,579.3	5,579.3	5,579.3	0.0

[1] Feet Above Confluence With Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Murphy Creek (Cont'd)								
AA	16,900	136	1,018	3.6	5,583.4	5,583.4	5,583.4	0.0
AB	17,663	110	594	6.2	5,584.9	5,584.9	5,584.8	-0.1
AC	18,250	57	300	12.3	5,586.7	5,586.7	5,586.7	0.0
AD	18,678	58	401	9.2	5,590.5	5,590.5	5,590.5	0.0
AE	19,022	159	834	4.4	5,592.2	5,592.2	5,592.4	0.2
AF	19,400	172	479	7.7	5,594.9	5,594.9	5,594.9	0.0
AG	20,036	102	539	6.8	5,597.1	5,597.1	5,597.1	0.0
AH	20,480	104	422	8.6	5,598.2	5,598.2	5,598.8	0.6
AI	21,133	252	491	7.4	5,601.0	5,601.0	5,601.0	0.0
AJ	21,402	210	393	9.3	5,603.0	5,603.0	5,603.4	0.4
AK	21,575	140	1,386	2.6	5,614.1	5,614.1	5,614.1	0.0
AL	22,029	351	2,323	1.6	5,614.3	5,614.3	5,614.3	0.0
AM	22,552	157	813	4.5	5,614.2	5,614.2	5,614.2	0.0
AN	22,800	185	809	4.5	5,614.3	5,614.3	5,614.3	0.0
AO	23,026	283	2,136	1.7	5,621.2	5,621.2	5,621.2	0.0
AP	23,879	200	721	4.3	5,621.5	5,621.5	5,621.5	0.0
AQ	24,523	158	430	7.2	5,623.0	5,623.0	5,623.1	0.1
AR	25,048	85	336	9.2	5,625.9	5,625.9	5,626.2	0.3
AS	25,370	98	474	6.5	5,628.5	5,628.5	5,629.1	0.6
AT	25,907	76	317	9.8	5,631.7	5,631.7	5,631.7	0.0
AU	26,775	124	444	7.0	5,636.4	5,636.4	5,636.8	0.4
AV	27,292	191	943	3.3	5,638.3	5,638.3	5,638.6	0.3
AW	27,775	111	361	8.6	5,641.6	5,641.6	5,641.6	0.0
AX	28,210	119	487	6.3	5,644.1	5,644.1	5,644.5	0.4
AY	28,473	145	573	5.4	5,644.9	5,644.9	5,645.6	0.7
AZ	28,690	110	346	8.9	5,646.2	5,646.2	5,646.1	-0.1

[1] Feet Above Confluence With Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
Murphy Creek (Cont'd)								
BA	28,937	147	614	5.0	5,648.3	5,648.3	5,648.4	0.1
BB	29,511	104	342	9.0	5,649.9	5,649.9	5,650.0	0.1
BC	29,856	33	214	13.8	5,654.3	5,654.3	5,654.3	0.0
BD	30,330	71	641	4.6	5,658.3	5,658.3	5,658.6	0.3
BE	30,688	84	525	5.6	5,658.3	5,658.3	5,658.8	0.5
BF	31,620	157	409	7.2	5,661.8	5,661.8	5,661.8	0.0
BG	31,740	346	1,696	1.7	5,670.5	5,670.5	5,670.9	0.4
BH	32,750	128	804	2.9	5,670.8	5,670.8	5,671.0	0.2
BI	33,614	51	207	11.4	5,672.8	5,672.8	5,672.8	0.0
BJ	34,050	63	221	10.7	5,676.8	5,676.8	5,676.9	0.1
BK	34,758	70	413	5.7	5,681.3	5,681.3	5,681.3	0.0
BL	34,857	91	406	5.8	5,681.6	5,681.6	5,681.6	0.0
BM	35,529	63	229	10.3	5,683.4	5,683.4	5,683.3	-0.1
BN	35,646	129	544	4.3	5,685.4	5,685.4	5,685.4	0.0
BO	36,209	315	677	3.5	5,687.0	5,687.0	5,687.0	0.0
BP	36,324	338	605	3.9	5,693.6	5,693.6	5,693.6	0.0
BQ	36,886	135	636	3.7	5,694.1	5,694.1	5,694.1	0.0
BR	37,724	156	569	4.2	5,694.7	5,694.7	5,695.2	0.5
BS	38,400	84	251	9.4	5,697.0	5,697.0	5,697.1	0.1
BT	39,039	115	281	8.4	5,699.4	5,699.4	5,699.4	0.0
BU	39,172	131	501	4.7	5,705.4	5,705.4	5,705.4	0.0
BV	40,079	199	422	5.6	5,709.3	5,709.3	5,709.8	0.5
BW	40,164	186	855	2.8	5,713.9	5,713.9	5,713.9	0.0
BX	40,239	192	997	2.4	5,716.2	5,716.2	5,716.4	0.2
BY	40,828	103	278	7.9	5,716.4	5,716.4	5,716.5	0.1
BZ	41,818	82	261	8.4	5,721.4	5,721.4	5,721.8	0.4

[1] Feet Above Confluence With Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Murphy Creek (Continued)								
CA	42,910	73	223	9.9	5,728.3	5,728.3	5,728.4	0.1
CB	43,723	246	408	5.4	5,732.5	5,732.5	5,732.9	0.4
CC	44,495	73	284	7.8	5,737.9	5,737.9	5,738.5	0.6
CD	46,117	304	445	5.0	5,748.6	5,748.6	5,748.7	0.1
CE	47,044	74	242	9.1	5,753.2	5,753.2	5,753.6	0.4
CF	48,410	270	617	3.6	5,760.2	5,760.2	5,760.3	0.1
CG	49,284	85	279	7.9	5,766.2	5,766.2	5,766.1	-0.1
CH	50,383	342	184	12.0	5,772.0	5,772.0	5,772.0	0.0
CI	50,452	298	1,847	1.2	5,780.8	5,780.8	5,780.8	0.0
CJ	50,913	156	387	5.5	5,780.9	5,780.9	5,780.9	0.0
CK	51,428	200	445	4.8	5,782.9	5,782.9	5,782.9	0.0
CL	52,239	42	213	8.2	5,791.6	5,791.6	5,791.8	0.2
CM	52,393	44	468	3.7	5,801.8	5,801.8	5,801.8	0.0
CN	53,352	160	388	4.3	5,802.2	5,802.2	5,802.2	0.0
CO	53,700	179	157	10.7	5,804.5	5,804.5	5,804.5	0.0
CP	53,800	266	275	6.1	5,811.0	5,811.0	5,811.0	0.0
CQ	54,485	276	548	4.0	5,811.0	5,811.0	5,811.0	0.0
CR	55,283	69	242	8.4	5,815.6	5,815.6	5,815.6	0.0
CS	55,491	81	220	9.3	5,818.5	5,818.5	5,818.5	0.0
CT	56,694	113	364	5.6	5,830.1	5,830.1	5,830.0	-0.1
CU	57,443	62	201	10.1	5,835.7	5,835.7	5,835.7	0.0
CV	57,880	49	184	11.1	5,840.3	5,840.3	5,840.4	0.1
CW	58,141	245	1,355	1.5	5,850.1	5,850.1	5,850.1	0.0
CX	58,851	110	260	5.5	5,850.4	5,850.4	5,850.4	0.0
CY	60,041	52	147	9.7	5,861.4	5,861.4	5,861.4	0.0
CZ	60,805	116	196	7.3	5,871.9	5,871.9	5,871.9	0.0

[1] Stream distance in feet above confluence with Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
					(FEET NAVD88)			
Murphy Creek (Cont'd)								
DA	61,931	58	157	9.1	5,882.0	5,882.0	5,882.0	0.0
DB	63,301	46	132	10.8	5,901.1	5,901.1	5,901.1	0.0
DC	64,610	22	76	9.3	5,920.0	5,920.0	5,920.0	0.0
DD	65,485	23	71	9.9	5,941.6	5,941.6	5,941.6	0.0
DE	66,309	30	77	9.2	5,961.0	5,961.0	5,961.0	0.0
DF	67,238	33	108	6.5	5,977.0	5,977.0	5,977.0	0.0
DG	67,774	14	26	7.1	5,988.2	5,988.2	5,988.3	0.1
DH	68,594	18	26	6.8	6,011.4	6,011.4	6,011.4	0.0

[1] Feet Above Confluence With Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
					(FEET NAVD88)			
Murphy Creek Tributary								
A	220	30	81	6.4	5,981.4	5,981.4	5,981.4	0.0
B	320	27	61	8.5	5,983.2	5,983.2	5,983.2	0.0
C	520	22	57	9.2	5,992.4	5,992.4	5,992.4	0.0

[1] Feet Above Confluence With Murphy Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Peoria Tributary								
A	562	41	100	8.2	5,627.8	5,627.8	5,627.8	0.0
B	1,414	38	98	8.5	5,636.4	5,636.4	5,636.4	0.0
C	2,004	54	218	3.8	5,646.1	5,646.1	5,646.1	0.0
D	2,707	71	176	4.2	5,660.0	5,660.0	5,660.0	0.0
E	3,120	69	155	4.7	5,663.3	5,663.3	5,663.3	0.0
F	4,436	272	1,369	0.5	5,691.8	5,691.8	5,691.8	0.0
G	5,224	174	270	2.0	5,696.3	5,696.3	5,696.3	0.0
H	5,787	353	813	0.7	5,707.0	5,707.0	5,707.0	0.0
I	6,461	126	251	1.8	5,717.4	5,717.4	5,717.4	0.0

[1] Stream distance in feet above confluence with Cottonwood Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

PEORIA TRIBUTARY