Flood Control District of Maricopa County, Arizona
APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY OF WATERSHED "OO"
(FCD 2000C019)

Coyote Wash and Tributaries

TECHNICAL DATA NOTEBOOK
VOLUME 1 of 2

Submitted by:

JE Fuller / Hydrology and Geomorphology, Inc.
6101 S. Rural Road, Suite 110
Tempe, Arizona 85283
(480) 752-2124

In Association With:

Wood, Patel & Associates, Inc.
2051 West Northern Ave, Suite 100
Phoenix, Arizona 85021
(602) 335-8500

On behalf of:

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, AZ 85009
(602) 506-1501

May 2003

NATIONAL FLOOD INSURANCE PROGRAM

FEMA MAP COORDINATION CONTRACTOR

DEC 23 2004

Mr. Mike Duncan, P.E., CFM
Principal Civil Engineer
Flood Delineation Group
Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, AZ 85009-6399

IN REPLY REFER TO:
Case No.: 04-09-0659P
Communities: Town of Buckeye and Maricopa County, AZ
Community Nos.: 040039 and 040037

JACKRABBIT
PHASE 2

316-INTc

Dear Mr. Duncan:

This is in regard to your February 20, 2004, request that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a Letter of Map Revision for the above-referenced community. In our letter to you dated June 30, 2004, we indicated we were reviewing the data submitted in support of your request and, within 60 days of the date of that letter, we would notify you if we needed additional data or if we encountered delays. Because we have encountered such delays, we will need additional time to complete our review. Therefore, we will inform you of our findings within 30 days of the date of this letter.

If you have general questions about your request, FEMA policy, or the National Flood Insurance Program, please call the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627). If you have specific questions concerning your request, please call the Revisions Coordinator for your State, Mr. Craig Kennedy, who may be reached at (703) 960-8800, ext. 3091.

Sincerely,

Sheila M. Norlin
National LOMC Manager
Michael Baker Jr., Inc.

FLOOD CONTROL DISTRICT
RECEIVED
DEC 27 '04
C-F & GT | FINANCE
PIO | LANDS
ADMIN | O & M
REC | P & PM
ENG | FILE
CONTRACTS
MWD

cc: Mr. Brian Cosson
NFIP Coordinator
Arizona Department of Water Resources

Mr. Ted Collins
Principal
Floodplain Administration
Flood Control District of Maricopa County

Mr. Woodrow Scoutten, P.E.
Town Engineer
Town of Buckeye

3601 Eisenhower Avenue, Alexandria, Virginia 22304-6425 PH: 703.960.8800 FX: 703.960.9125

Michael Baker Jr., Inc., under contract with the FEDERAL EMERGENCY MANAGEMENT AGENCY, is a Map Coordination Contractor for the National Flood Insurance Program

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May 2003

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Registered Professional Engineer (Civil) CERTIFICATE NO. 22208 JACK K. MOODY Date Signed 5/30/03 ARIZONA, U.S.A.

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Registered Professional Engineer (Civil) CERTIFICATE NO. 22208 JACK K. MOODY Date Signed 5/30/03 ARIZONA, U.S.A.

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VOLUME 2 OF 2

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Exhibit A: Hydrology Study Work Map
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PREFACE

This approximate Zone A floodplain delineation study was conducted for the Flood Control District of Maricopa County (FCDMC) by JE Fuller / Hydrology and Geomorphology, Inc. (JEF) in association with Wood, Patel & Associates, Inc. (Wood/Patel), and Argus Consulting (Argus). JEF was responsible for the overall management and integration of the work products from the other team members as well as for the performance of the hydrology for the entire study area and the approximate Zone A floodplain delineation of Hassayampa River Tributaries and Lower Jackrabbit Wash Tributaries located on the Hassayampa Plain. Wood/Patel concurrently performed the approximate Zone A floodplain delineations for both Coyote Wash and Upper Jackrabbit Wash and their tributaries. Argus assisted JEF with portions of the approximate Zone A floodplain delineation of Hassayampa River Tributaries and Lower Jackrabbit Wash Tributaries. All team members contributed to the development of the reconnaissance report. This study is presented in TDN format for Coyote Wash and Tributaries.

SECTION 1: INTRODUCTION

1.1 Purpose of Study

The purpose of this floodplain delineation study is to identify the approximate extents (Zone A) of the 100-year floodplains associated with the Coyote Wash and tributaries within Watershed "OO", which is also referred to as the Jackrabbit Wash Watershed. The reaches included in this study have not been previously studied and are expected to be subject to increasing growth pressure as the population of Maricopa County continues to expand.

The information presented in this study will be used to update existing Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), and will also be used by local and regional planners and floodplain administrators to further promote sound land use practices and floodplain development.

This study is one of 3 current submittals that cover Watershed "OO". Table 1.1 presents the 3 separate studies prepared for Watershed "OO":

Table 1.1: Watershed "OO" Approximate Zone A Floodplain Delineation Studies

Sub-Watershed	Miles of Delineation
Hassayampa River Tributaries & Lower Jackrabbit Wash Tributaries	210.2
Coyote Wash and Tributaries	**45.3**
Upper Jackrabbit Wash and Tributaries	100.4
Total Area	**355.9**

1.2 Authority for Study

JE Fuller / Hydrology and Geomorphology, Inc. (JEF) in association with Wood Patel & Associates, Inc. (Wood/Patel) and Argus Consulting performed this study under contract with the Flood Control District of Maricopa County (FCDMC). JEF's Project Manager for this project is Brian Iserman, P.E. The contract number is FCD 2000C019. Wood, Patel & Associates, Inc. prepared the study for Coyote Wash and tributaries as a sub-consultant to JEF. The Project Manager for Wood/Patel is Jack K. Moody, P.E. The FCDMC is located at 2801 West Durango Street, Phoenix, AZ 85009 (602) 506-1501. The Project Manager for the FCDMC is Michael Duncan, P.E.

1.3 Location of Study Reach

Watershed "OO" is located in western Maricopa County, Arizona (see Figure 1.3.1 and Figure 1.3.2). The watershed encompasses approximately 450 square miles. This study

includes 10 distinct study reaches within the Coyote Wash and tributaries. Table 1.3-1 presents a listing of the study reaches and mileages.

Table 1.3-1: Study Reaches

Reach	Mileage
T3-R5-S12	1.3
T3-R5-S18	17.5
T3-R6-S02	6.9
T3-R6-S13	1.8
T4-R6-S22	4.2
T4-R6-S27	1.7
T4-R6-S35	2.2
T4-R7-S11	3.8
T4-R7-S13	5.4
T4-R7-S22	0.5
Total	45.3

The climate in the area is semi-arid desert with an average annual precipitation of approximately 8 inches. Precipitation is typically divided into two seasons of comparative rainfall depths: summer and winter. The summer storms are associated with warm, moist tropical air masses that enter the state from the Gulf of Mexico producing moderate to intense afternoon and evening thundershowers. Winter precipitation originates from the Pacific Ocean and produces light to moderate precipitation over relatively large areas.

1.4 Methodology

1.4.1 Hydrology

100-year peak discharge values were provided by the Flood Control District of Maricopa County (FCDMC) in the Technical Data Notebook for the study entitled *Jackrabbit Wash Floodplain Delineation Study, FCD 90-05*[2] performed by Burgess & Niple, Inc. Subsequent modifications to the original HEC-1 model were performed by the FCDMC. These modifications are described in the Technical Data Notebook for the study entitled *Powerline Wash and Tank Wash Flood Delineation Study, FCD 92-09*[8]. p.4-13

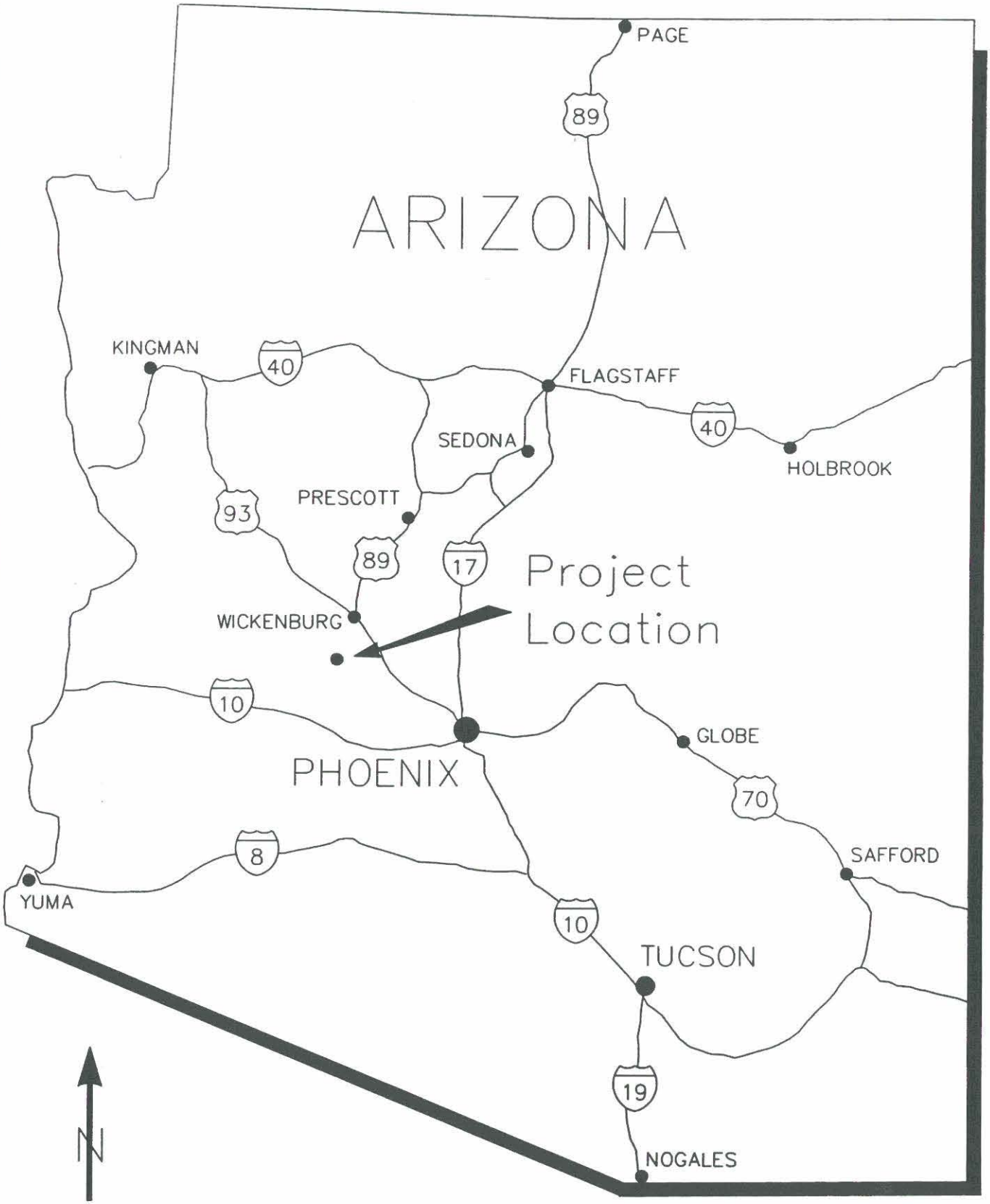
100-year peak discharge values at additional concentration points were determined using discharge-drainage area relationships based on the earlier HEC-1 modeling performed by Burgess & Niple and the subsequent modifications made by FCDMC. Additional concentration point locations were discussed and mutually agreed upon between the FCDMC and JE Fuller/Hydrology & Geomorphology, Inc. (JEF).

1.4.2 Hydraulics

The U.S. Army Corps of Engineers computer program, HEC-RAS 3.0.1, was used to perform hydraulic calculations at each cross section to determine approximate 100-year floodplain limits and approximate administrative floodway limits. The floodplain limits were drafted using AutoCAD Land Development Desktop Release 3. Cross section locations are shown on the study work maps, which are located in Exhibit B, Volume 2 of this TDN.

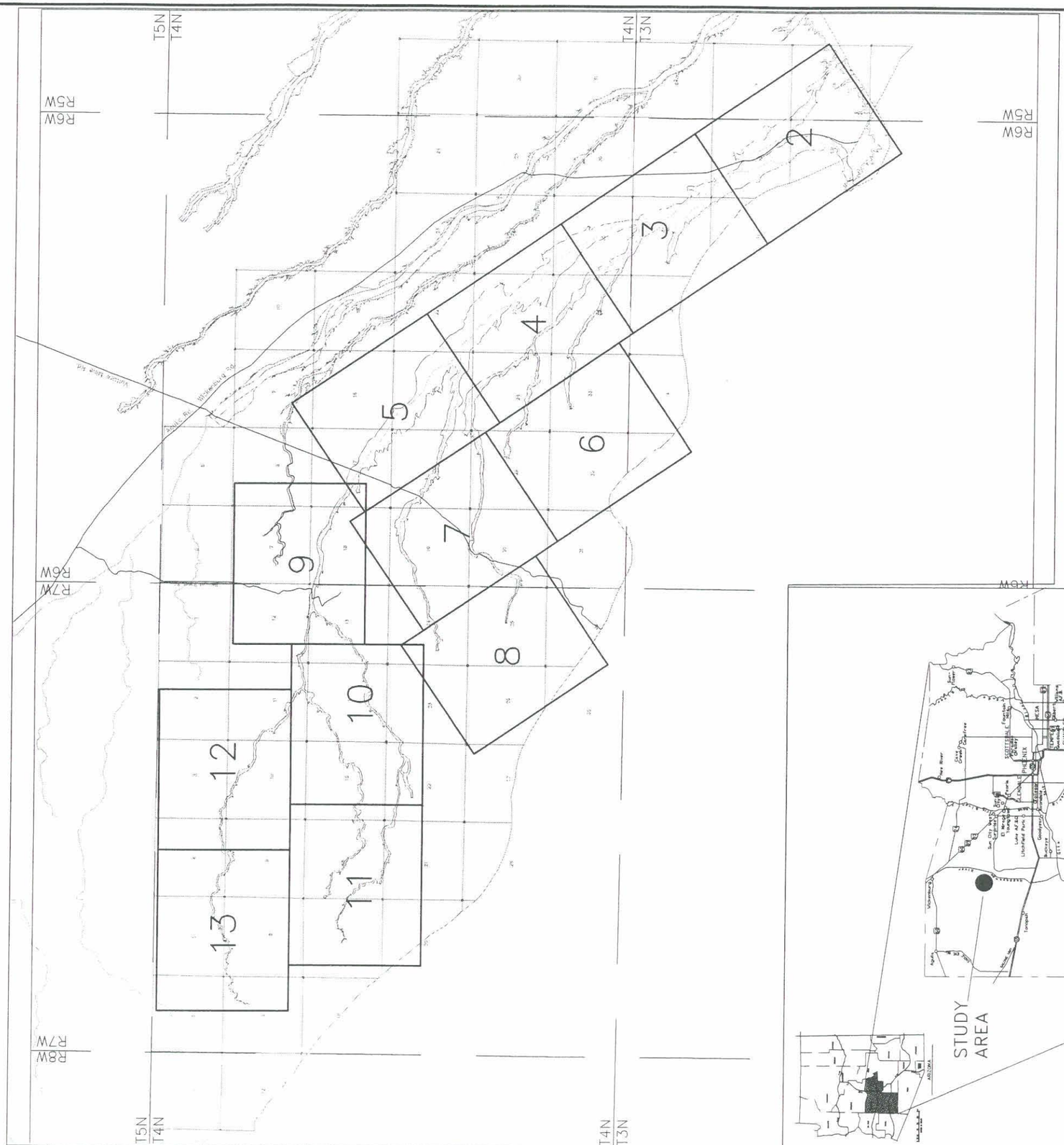
1.5 Study Results

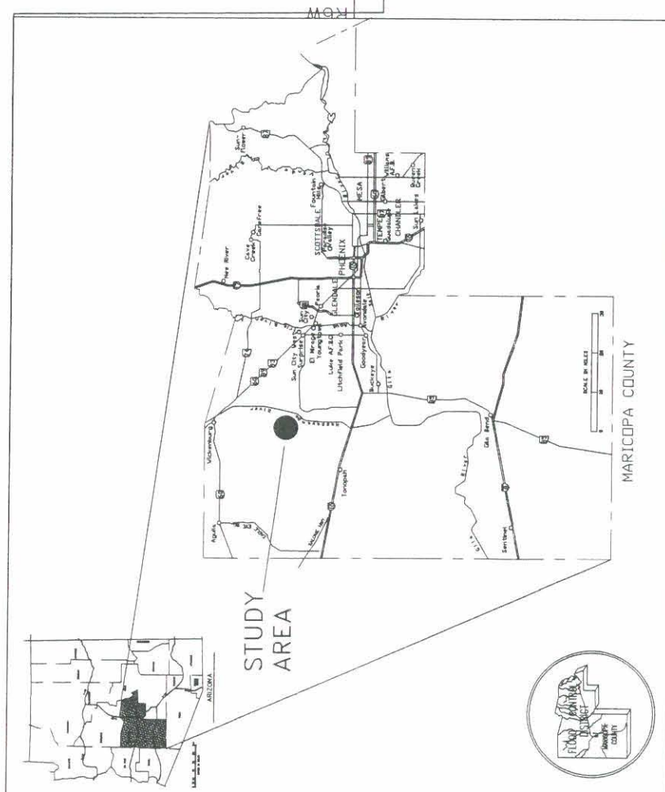
This study resulted in the new delineation of approximately 45.3 miles of approximate Zone A floodplain on the Coyote Wash and tributaries, portion of Watershed "OO" (Jackrabbit Wash) study area. The Zone A delineation areas for the newly delineated floodplains are shown in the reduced-scale maps in Section 5 and in large-scale maps contained in Exhibit B, Volume 2 of this TDN.



Approximate Zone A Floodplain Delineation Study of Watershed "OO", FCD 2000C019

Figure 1.3.1
Location Map





LEGEND

SECTION BOUNDARY	
STUDY REACH AND REACH ID	T5 R5 S36
ROAD	Carefree Hwy.
SHEET OUTLINE AND NUMBER	5

SCALE

3750' 0' 3750' 7500'

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

WATERSHED "OO"

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

Coyote Wash and Tributaries

JE FULLER
HYDROLOGY & GEOMORPHOLOGY, INC.
TEMPE, ARIZONA - 480-752-2124

IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES
Civil Engineers
Hydrologists
Land Surveyors
(602) 336-6600

ARGUS CONSULTING
A CIVIL ENGINEERING COMPANY,
L.L.C.
480-596-7137

Figure 1.3.2: Project Area Vicinity

SECTION 2: ADWR/FEMA Forms and Local Government/ADWR Abstracts

2.1 Study Documentation Abstract for FEMA Submittals

Study Documentation Abstract For FEMA Submittals	Initial Study	Restudy	CLOMR	LOMR	X Other

Section 2.1: Study Documentation Abstract for FEMA Submittals		
2.1.1	Date Study Accepted	
2.1.2	Study Prime Contractor	JE Fuller / Hydrology and Geomorphology, Inc.
	Contact(s)	Brian R. Iserman, P.E., Jonathan E. Fuller, P.E.
	Address	6101 S. Rural Rd., Suite 110 Tempe, AZ 85283
	Phone	(480) 752-2124
	Internal Reference Number	
2.1.2	Study Sub-Contractor	Wood, Patel & Associates, Inc.
	Contact(s)	Jack K. Moody, P.E.
	Address	2051 West Northern, Suite 100 Phoenix, AZ 85021
	Phone	(602) 335-8500
	Internal Reference Number	WP# 001218
2.1.2	Study Sub-Contractor	Argus Consulting
	Contact(s)	Jorge R. Garré, P.E.
	Address	16738 North 109th Street Scottsdale, AZ 85259
	Phone	480-596-1131
	Internal Reference Number	
2.1.3	FEMA Technical Review Contractor	Michael Baker, Jr., Inc.
	Contact(s)	Pernille Buch-Pederson
	Address	3600 Eisenhower Ave. Suite 600 Alexandria, VA 22304
	Phone	703-317-6224
	Internal Reference Number	
2.1.4	FEMA Regional Reviewer	Michael Baker, Jr., Inc.
	Phone	(703) 960-8800
2.1.5	State Technical Reviewer	Arizona Department of Water Resources
	Phone	(602) 417-2445
2.1.6	Local Technical Reviewer	Flood Control District of Maricopa County (FCDMC)
	Phone	(602) 506-1501
2.1.7	Reach Description	Coyote Wash and Tributaries
2.1.8	USGS Quad Sheet(s) with original photo date & latest photo revision date	Aguila, AZ - 1951/1960, 1990 Belmont Mountain, AZ - 1951/1960, 1989 Black Butte, AZ - 1951/1960, 1990 Daggs Tank, AZ - 1984, 1988 Flatiron Mountain, AZ - 1951/1960, 1990 Forepaugh Peak, AZ - 1951/1960, 1990

		Hummingbird Sring, AZ - 1960, 1990 Outlaw Hill, AZ - 1951/1960, 1990 Star Well, AZ - 1951/1960, 1989 Tiger Well, AZ - 1951/1960, 1990 Vulture Mine, AZ - 1951/1960, 1990 Vulture Peak, AZ - 1951/1960, 1990 Wagner Wash Well, AZ - 1984, 1988 Wickenburg, AZ - 1962, 1978 Wickenburg SW, AZ - 1962, 1965 Wildcat Well, AZ - 1951 & 1960/1990
2.1.9	Unique Conditions and Problems	
2.1.10	Coordination of Peak Discharges (Agency, Date, Comments)	HEC-1 from 1990 Flood Control District of Maricopa County study (FCD 90-05), and from drainage area/discharge relationships developed for this study based on the earlier HEC-1.

FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 3067-0148
Expires September 30, 2005

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hour per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (3067-0148). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

A. REQUESTED RESPONSE FROM FEMA

This request is for a (check one):

☐ CLOMR: A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).

☒ LOMR: A letter from FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See Parts 60 & 65 of the NFIP Regulations.)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Ex: 480301 480287	City of Katy Harris County	TX TX	480301 48201C	0005D 0220G	02/08/83 09/28/90
040037	Unincorporated Maricopa County	AZ	04013C	1025 D 1035 G 1050 E	07/19/01
040037	Unincorporated Maricopa County	AZ	04013C	1065 G 1510 H 1525 G	07/19/01

2. Flooding Source: Coyote Wash and Tributaries

3. Project Name/Identifier: Watershed "OO" Zone A Study -- Coyote Wash and Tributaries

4. FEMA zone designations affected: A (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

☐ Physical Change ☐ Improved Methodology/Data

☐ Regulatory Floodway Revision ☐ Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following types of flooding and structures (check all that apply)

Types of Flooding: ☒ Riverine ☐ Coastal ☐ Shallow Flooding (e.g., Zones AO and AH)

☐ Alluvial fan ☐ Lakes ☐ Other (Attach Description)

Structures: ☐ Channelization ☐ Levee/Floodwall ☐ Bridge/Culvert

☐ Dam ☐ Fill ☐ Other, Attach Description

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☐ Yes Fee amount: $_____

☐ No, Attach Explanation

Please see the FEMA Web site at http://www.fema.gov/mit/tsd/frm_fees.htm **for Fee Amounts and Exemptions.**

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Michael Duncan, P.E., Project Manager	Company: Flood Control Dist. of Maricopa County	
Mailing Address: 2801 W. Durango St. Phoenix, AZ 85009	Daytime Telephone No.: 602-506-4732	Fax No.: 602-506-4601
	E-Mail Address: mwd@mail.maricopa.gov	
Signature of Requester (required): Michael Duncan		Date: 12-12-03

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Michael S. Ellegood, P.E., Chief Engineer and General Manager		Telephone No.: 602-506-1501
Community Name: Flood Control District of Maricopa County	Community Official's Signature (required):	Date: 12/12/04

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Jack K. Moody, P.E., Project Mgr.	License No.: 22208	Expiration Date: 9/30/2006
Company Name: Wood, Patel & Associates, Inc.	Telephone No.: 602-335-8500	Fax No.: 602-335-8580
Signature: Jack K. Moody		Date: 12-12-3

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if ...
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☐ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Seal (Optional)

FEDERAL EMERGENCY MANAGEMENT AGENCY

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040039	Town of Buckeye	AZ	04013C	1065G	07/19/01
040039	Town of Buckeye	AZ	04013C	1510H 1525 G	07/19/01 07/19/01

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4. FEMA zone designations affected: A (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

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☐ Dam ☐ Fill ☐ Other, Attach Description

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Mailing Address: 2801 W. Durango St. Phoenix, AZ 85009	Daytime Telephone No.: 602-506-4732	Fax No.: 602-506-4601
	E-Mail Address: mwd@mail.maricopa.gov	
Signature of Requester (required): Michael Duncan		Date: 12-12-03

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Community Official's Name and Title: WOODROW SCOUTTEN, TOWN ENGINEER		Telephone No.: 623-547-4661 x222
Community Name: Town of Buckeye	Community Official's Signature (required):	Date: 12-12-03

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Jack K. Moody, P.E., Project Mgr.	License No.: 22208	Expiration Date: 9/30/2006
Company Name: Wood, Patel & Associates, Inc.	Telephone No.: 602-335-8500	Fax No.: 602-335-8580
Signature: Jack K. Moody		Date: 12-12-3

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if ...
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☐ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Seal (Optional)

FEDERAL EMERGENCY MANAGEMENT AGENCY ***HYDROLOGIC ANALYSIS FORM***	O.M.B No. 3067-0148 Expires April 30, 2001

Public reporting burden for this form is estimated to average ***3.67*** hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

Note: Fill out one form for each flooding source studied

Community Name: Unincorporated Maricopa County, Arizona

Flooding Source: Coyote Wash and Tributaries

Project Name/Identifier: Approximate Zone A Floodplain Delineation Study of Watershed "OO" (Jackrabbit Wash)

1. REASON FOR NEW HYDROLOGIC ANALYSIS

☒ No existing analysis ☒ Improved data ☐ Changed physical condition of watershed

☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☒ Other

For the reason stated above, please attach a detailed explanation. If a computer program/model was used in revising the hydrologic analysis, ***please provide a diskette with the input files*** for the same flood recurrence intervals contained in the FIS for that stream; and at least for the 1% annual chance (base) flood where no detailed study exists.

Explanation provided: ☒ Yes ☐ No ***Diskettes provided:*** ☒ Yes ☐ No

2. METHODOLOGY FOR NEW ANALYSIS

Indicate Method	Required Data	***Data Included***
☐ Statistical Analysis of Gage Records	Form 3 – Attachment A	☐ Yes ☐ No
☐ Regional Regression Equations	Form 3 – Attachment C	☐ Yes ☐ No
☐ Precipitation/Runoff Model	Form 3 – Attachment D	☐ Yes ☐ No
☒ Other	Back-up computations and supporting data	☒ Yes ☐ No

3. APPROVAL OF ANALYSIS

The hydrologic analysis has already been approved by a local, state, or Federal Agency. ☐ Yes ☐ No ☒ Not Required

If Yes, attach evidence of approval. ☐ ***Approval attached.*** If No, attach explanation. ☐ ***Explanation attached.***

4. COMPARISON OF BASE FLOOD DISCHARGES

Location:	Drainage Area (SqMi)	FIS(cfs)	Revised (cfs)
CP 74	6.252	5900	3000
CP 75	6.252	2100	4700
CP 79	5.615	4000	3000
CP 87	6.983	2000	3500

Note: When revised discharges are not significantly different than the FIS discharges, FEMA may require a confidence limits analysis (see attachment B) at a later date to complete the review.

If only a portion of a detailed study area was revised please attach an explanation describing the transition from the proposed discharges to the effective discharges. ☐ ***Explanation Included*** ☒ ***Explanation Not Required***

5. HISTORICAL FLOODING INFORMATION

If historical data are available for the flooding source please provide: Location, peak discharges/water-surface elevations and dates, and source of information. ☐ ***Data Attached*** ☒ ***Data Not Available***

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

		FIS:	Revised:
1.	Method or model used:	HEC-1	Basin Area/Discharge based on FIS HEC-1 and Split Flow Analyses
	Version:	4.0	NA
	Date:	September 1990	NA
2.	Source of rainfall depth:	NOAA Atlas II	NA
3.	Source of rainfall distribution:	SCS Type II, and FCDMC Design Manual	NA
4.	Rainfall duration:	6 and 24 hr	NA
5.	Areal adjustment to precipitation (%):	USACOA1954 Queen Creek aerial reduction curve for 6-hour storms, NOAA TM HYDRO-40 for 24-Hr Storms	NA
6.	Maximum overland flow length is	N/A	NA
7.	Hydrograph development method:	Clark Unit Hydrograph & S-Graphs	NA
8.	Loss rate method:	Green & Ampt	NA
	Source of soils information:	Soil Survey of Central Maricopa County, SCS, 1977, and Soile Survey of Aquila-Carefree Area, SCS 1986	NA
	Source of land use information:	FCDMC, Hillslope, Desert & Rangeland, Mountain	NA
9.	Channel routing method:	Normal Depth	NA
10.	Reservoir routing:	Modified Puls	NA
11.	Base flow considerations:	☐ Yes ☒ No	☐ Yes ☒ No
	If Yes, explain below how base flow was determined:		
	_____		
12.	Snowmelt considerations:	☐ Yes ☒ No	☐ Yes ☒ No
13.	Model calibration:	☐ Yes ☒ No	☐ Yes ☒ No
	If Yes, explain below how calibration was performed		
	_____		
14.	Future land use condition:	☐ Yes ☒ No	☐ Yes ☒ No
	If Yes, explain why below		
	_____		

15. ***Attach precipitation/runoff model, hydrologic model schematic, curve number calculations, time of concentration calculations, and supporting maps, delineating the watershed boundary and drainage area divides.***

Information and Maps provided? ☐ Yes ☒ No

NOTE: FEMA policy is to base flooding on existing conditions.

FEDERAL EMERGENCY MANAGEMENT AGENCY ***RIVERINE HYDRAULIC ANALYSIS FORM***	O.M.B No. 3067-0148 Expires April 30, 2001

Public reporting burden for this form is estimated to average 2.25 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

Note: Fill out one form for each flooding source studied

Community Name: Unincorporated Maricopa County, Arizona

Flooding Source: Coyote Wash andTributaries

Project Name/Identifier: Approximate Zone A Floodplain Delineation Study of Watershed "OO" (Jackrabbit Wash)

1. REACH TO BE REVISED

Describe the limits of the revision OR submit a copy of the FIRM with the revision area clearly highlighted.
Copy of FIRM(s) attached depicting area of the revision (highlighted, or circled)? ☒ Yes

Downstream Limit: See FIRMs

Upstream Limit: See FIRMs

2. MODELS SUBMITTED

Requirements: for areas which have detailed flooding:	***for areas which do not have detailed flooding***:
Full input and output listings along with files on diskette for each of the models listed below (items 1-4) and a summary of the source of input parameters used in the models must be provided. The summary must include a description of any changes made from model to model (e.g., Duplicate Effective model to Corrected Effective model). At a minimum, the Duplicate Effective (item 1) and the Revised or Post-Project Conditions (item 4) models must be submitted. See instructions for directions on when other models may be required.	Only the 100-year (Base) flood profile is required. A hydraulic model is not required for areas which do not have detailed flooding; however, BFEs may not be added to the revised FIRM. If a hydraulic model is developed for the area, items 3 and 4 described below must be submitted.

If hydraulic models are not developed, hydraulic analyses (including all calculations) for existing or pre-project conditions and revised or post-project conditions must be submitted.

1. Duplicate Effective Model ☐ ***Natural*** ***File Name*** ___ ☐ ***Floodway*** ***File Name***
Copies of the hydraulic analysis used in the effective FIS, referred to as the effective models (10-, 50-, 100-, and 500-year multi-profile runs and the floodway run) must be obtained and then reproduced on the requester's equipment to produce the Duplicate Effective model. This is required to assure that the effective models input data has been transferred correctly to the requester's equipment and to assure that the revised data will be integrated into the effective data to provide a continuous FIS model upstream and downstream of the revised reach.

2. Corrected Effective Model ☐ ***Natural*** ***File Name*** ___ ☐ ***Floodway*** ***File Name***
The Corrected Effective model is the model that corrects any errors that occur in the Duplicate Effective model, adds any additional cross sections to the Duplicate Effective model, or incorporates more detailed topographic information than that used in the currently effective model. The Correctly Effective model must not reflect any man-made physical changes since the date of the effective model. An error could be a technical error in the modeling procedures, or any construction in the floodplain that occurred prior to the date of the effective model but was not incorporated into the effective model.

3. Existing or Pre-Project Conditions Model ☐ ***Natural File Name*** _____ ☐ ***Floodway*** ***File Name*** _____
The Duplicate Effective model or Corrective Effective model is modified to produce the Existing or Pre-Project Conditions model to reflect any modifications that have occurred within the floodplain since the date of the Effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the Corrected Effective model or Duplicate Effective model.

4. Revised or Post-Project Conditions Model ☐ ***Natural File Name*** ___ ☐ ***Floodway*** ***File Name***
The Existing or Pre-Project Conditions model (or Duplicate Effective model or Corrected Effective model, as appropriate) is revised to reflect revised or post-project conditions. This model must incorporate any physical changes to the floodplain since the effective model was produced as well as the effects of the project. When the request is for the proposed project this model must reflect proposed conditions.

5. Other – Please attach a sheet describing all other models submitted along with the file names. ☐ ***Natural*** ☐ ***Floodway***

3. STARTING WATER-SURFACE ELEVATIONS

Explain how they were determined. Explanation Attached? ☒ Yes ☐ No

NOTE: If the effective study is an approximate study, the slope/area method is recommended.
For detailed analysis studies, using a known water-surface elevation is recommended. See Section 3 explanation attached.

4. RESULTS (from the model used to revise the 100-year water surface elevations)

If the results indicate any of the following, attach an explanation - to this form, or to the hydraulic model printout- as to the reasonableness of the situation.

☐ Supercritical depth ☐ Critical Depth ☐ Drawdowns ☐ Negative Floodway Surcharges

☐ Floodway Surcharges Greater Than Maximum Allowed by Community/State

☐ Water surface elevations higher than the end points of cross sections.

☐ Floodway discharge is different than the Natural 100-year (base) flood discharge.

☐ Project causes 100-year floodplain or floodway elevations to increase (state if increases are located off the requester's property)

Explanation attached with Form ☐ ***Explanation provided on attached printout*** ☐
If Hydraulic model used is HEC-2, has it been checked with FEMA'S CHECK-2 computer program ☐ ***Yes*** ☐ ***No***
(see instructions for information on how to obtain CHECK-2)

5. REVISED FIRM/FBFM AND FLOOD PROFILES

1. Profile Transition

a. 100-Year Water-Surface Elevations - indicate the difference in water surface elevations where the project 100-year elevations tie into the existing 100-year water surface elevations at each end of the project.

Downstream End: _____ within _____ (feet) Upstream End ___ within ___ (feet)

b. Floodway Elevations – indicate the difference in water surface elevations where the project floodway elevations tie into the existing floodway water surface elevations at each end of the project.

Downstream End: _____ within _____ (feet) Upstream End ___ within ___ (feet)

c. Floodway widths – indicate the difference in floodway widths where the project floodway widths tie into the existing floodway width at each end of the project.

Downstream End _____ within _____ (feet) Upstream End ___ within ___ (feet)
Cross-Section # *Cross-Section #*

2. Profile Checklist (check box if information has been provided on profile)

The following information (unless in parentheses) must be included at the same scale as the existing profiles for this project:

☐ Stream Name ☐ Community Name ☐ Corporate Limits labeled ☐ Study limits labeled

☐ Confluences labeled ☐ Channel Stationing ☐ Streambed profiled ☐ Cross Sections labeled

☐ Horizontal/Vertical Scales indicated ☐ 100-year elevs profiled*

☐ Road Crossings ☐ Labeled ☐ Low Chord Elevations ☐ Top of Road Elevations

*All recurrence intervals in the effective study must also be profiled.

Floodway Data Table

Attach a Floodway Data Table for each cross section listed in the published Floodway Data table in the FIS report.

Floodway Data Table Attached ☐ ***Yes*** ☒ ***Not Required***

FEDERAL EMERGENCY MANAGEMENT AGENCY ***RIVERINE / COASTAL MAPPING FORM***	O.M.B No. 3067-0148 Expires April 30, 2001

Public reporting burden for this form is estimated to average 1.5 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

Note: Fill out one form for each flooding source studied

Community Name: Unincorporated Maricopa County, Arizona

Flooding Source: Coyote Wash and Tributaries

Project Name/Identifier: Approximate Zone A Floodplain Delineation Study of Watershed "OO" (Jackrabbit Wash)

This is a ☒ Manual ☐ Digital submission. *Digital map submissions may be used to update digital FIRMs (DFIRMs). For updating DFIRMs, these submissions must be coordinated with FEMA Headquarters as far in advance as possible.*

1. MAPPING CHANGES

1. A topographic work map must be submitted showing the following information (check N/A when not applicable):

a. Revised approximate 100-year floodplain boundaries (Zone A)	☒ Yes	☐ No	☐ N/A
b. Revised detailed 100- and 500-year floodplain boundaries.	☐ Yes	☐ No	☒ N/A
c. Revised floodway boundaries	☒ Yes	☐ No	☐ N/A
d. Location and alignment of all cross sections with stationing control indicated.	☒ Yes	☐ No	☐ N/A
e. Stream alignments, road alignments and dam alignments.	☒ Yes	☐ No	☐ N/A
Current community boundaries.	☒ Yes	☐ No	☐ N/A
g. Effective 100- year floodplain and floodway boundaries from FIRM/FBFM reduced or enlarged to the scale of the topographic workmap	☒ Yes	☐ No	☐ N/A
h. Tie-ins between the effective and revised 100-, 500-year and floodway boundaries	☒ Yes	☐ No	☐ N/A
i. The requester's property boundaries and community easements	☒ Yes	☐ No	☐ N/A
j. The signed certification of a registered professional engineer	☒ Yes	☐ No	☐ N/A
k. Location and description of reference marks	☒ Yes	☐ No	☐ N/A
l. Vertical datum (example: NGVD, NAVD)	☒ Yes	☐ No	☐ N/A
m. Coastal zone designations tie into adjacent areas not being revised	☐ Yes	☐ No	☒ N/A
n. Location and alignment of all coastal transects used to revise the coastal analyze	☐ Yes	☐ No	☒ N/A
o. V-zone has been delineated to extend landward to the heel of the primary frontal dune	☐ Yes	☐ No	☒ N/A

If any items are marked No or N/A please attach an explanation.

2. What is the source and date of the updated topographic information (example: orthophoto maps, July 1985; filed survey, May 1979, beach profile, June 1987 etc.)? Aerial mapping provided by FCDMC, Spring 2001

3. What is the scale and contour interval of the following workmaps?

Effective FIS Scale NA Contour Interval NA

Revision Request Scale 1" = 400' Contour Interval 10'

NOTE: Revised topographic information must be of equal or greater detail than effective.

4. Attach an annotated FIRM/FBFM at the scale of the effective FIRM/FBFM showing the revised 100- and 500-year floodplain and the floodway boundaries and how they tie into those shown on the effective FIRM/FBFM downstream and upstream of the revisions or adjacent to the area of revision for coastal studies. ***FIRM/FBFM attached?*** ☒ ***Yes*** ☐ ***No***

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

2. EARTH FILL PLACEMENT

1. The fill is: ☐ Existing ☐ Proposed ☒ N/A

2. Has fill been/will be placed in the regulatory floodway? ☐ Yes ☐ No
If Yes, please attach completed Riverine Hydraulic Analysis Form (Form 4).

3. Has fill been/will be placed in floodway fringe (*area between the floodway and 100-year floodplain boundaries*)? ☐ Yes ☐ No

If Yes, then complete A, B, C, and D below.

a. Are fill slopes for granular materials steeper than one vertical on one-and-one-half horizontal? ☐ Yes ☐ No

If Yes, justify steeper slopes _____

b. Is adequate erosion protection provided for fill slopes exposed to moving flood waters? (*Slopes exposed to flows with velocities of up to 5 feet per second (fps) during the 100-year flood must, at a minimum, be protected by a cover of grass, vines, weeds, or similar vegetation; slopes exposed to flows with velocities greater than 5 fps during the 100-year flood must, at a minimum, be protected by stone or rock riprap.)*

☐ Yes ☐ No

If No, describe erosion protection provided _____

c. Has all fill placed in revised 100-year floodplain been compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test Method or acceptable equivalent method? ☐ Yes ☐ No

d. Can structures conceivably be constructed on the fill at any time in the future? ☐ Yes ☐ No

Yes, attach certification of fill compaction (item 3c. above) by the community's NFIP permit official, a registered professional engineer, or an accredited soils engineer in accordance with Subparagraph 65.5(a)(6) of the NFIP regulations.

Fill certification attached ☐ ***Yes*** ☐ ***No***

4. Has fill been/will be placed in a V zone? ☐ Yes ☐ No

If Yes, is the fill protected from erosion by a flood control structure such as a revetment or seawall?

☐ Yes ☐ No

If Yes, attach the Coastal Structures Form (Form 10).

SECTION 3: SURVEY AND MAPPING INFORMATION

3.1 Field Survey Information

Field survey work associated with the mapping was performed by RBF Consulting of Phoenix, Arizona under contract with the FCDMC. Split flow analyses were performed for 17 significant flow splits using field survey data collected by JEF staff using a Sokia $C3_2$ Auto Level.

3.2 Mapping

The topographic mapping and aerial photography was provided by Landata Airborne Systems of Irvine California, under contract with the FCDMC.

SECTION 4: HYDROLOGY

4.1 Method Description

100-year peak discharge values were provided by the Flood Control District of Maricopa County (FCDMC) in the Technical Data Notebook for the study entitled *Jackrabbit Wash Floodplain Delineation Study, FCD 90-05*[2] performed by Burgess & Niple, Inc. Subsequent modifications to the original HEC-1 model were performed by the FCDMC. These modifications are described in the Technical Data Notebook for the study entitled *Powerline Wash and Tank Wash Flood Delineation Study, FCD 92-09*[8].

100-year peak discharge values at additional concentration points were determined using discharge-drainage area relationships based on the earlier HEC-1 modeling performed by Burgess & Niple and the subsequent modifications made by FCDMC. Additional concentration point locations were discussed and mutually agreed upon between the FCDMC and JE Fuller/Hydrology & Geomorphology, Inc. (JEF). Concentration points are included at the following general locations:

- At the limits of this study
- At significant tributaries
- At significant road crossings.

Discharge-drainage area regression relationships were developed for 5 general physiographic regions within Watershed "OO" for 100-year 6-hour and 24-hour events (see Figure 4.1: Study Area). Each physiographic region was defined based on a number of general physical and geographical considerations (i.e., elevation, soils and surficial geology, vegetation, slope, channel types, general sub-basin shapes, drainage network development, etc.). The 5 physiographic regions include:

- Vulture Mountains
- Northwest Mountains
- Belmont Mountains
- Belmont Foothills
- Piedmont

Generally, only sub-basin 100-year discharge values were used to develop the regression relationships rather than 100-year-discharge values at concentration points because additional concentration points for this study are the result of sub-basins which are much smaller (i.e., 1 to 5 square miles) than the sub-basins defined in the original Burgess & Niple HEC-1. The exception is for the piedmont area where additional sub-basins were needed for very large drainage areas (i.e., 15 to 20 square miles). A separate discharge-area relationship was developed for the Piedmont Physiographic Region using only concentration points rather than sub-basins.

Some discharge-drainage area regression relationships for selected physiographic regions were developed for specific discharge ranges (i.e., less than 1 square mile, between 1 and 4 square miles, etc.) in order to get a better relationship for the specific range of discharges. Additionally, because there were very few small-watershed delineations in the original Burgess & Niple HEC-1, discharge-area regression relationships were developed using various ranges of small watersheds from the entire Watershed "OO" (i.e., less than 1 square mile, between 1 and 4 square miles, etc.). Table 4.1-1 presents all the discharge-drainage area relationships developed for this project.

Table 4.1-1: List of Discharge-Drainage Area Relationships

Physiographic Region	Discharge – Drainage Area Relationship
Vulture Mountains	24-Hour Peak Discharge
	6-Hour Peak Discharge
Northwest Mountains	24-Hour Peak Discharge
	6-Hour Peak Discharge
Belmont Mountains	24-Hour Peak Discharge
	6-Hour Peak Discharge
	24-Hour Peak Discharge <6.5 Square Miles
	6-Hour Peak Discharge <6.5 Square Miles
Belmont Foothills	24-Hour Peak Discharge
	6-Hour Peak Discharge
Piedmont	24-Hour Peak Discharge >1 Square Mile
	6-Hour Peak Discharge >1 Square Mile
	24-Hour Peak Discharge, Concentration Points
Watershed OO (Jackrabbit Wash)	6-Hour Peak Discharge <1 Square Mile
	24-Hour Peak Discharge 1<x<4 Square Mile
	6-Hour Peak Discharge 1<x<4 Square Mile
	24-Hour Peak Discharge 4<x<10 Square Mile
	6-Hour Peak Discharge 4<x<10 Square Mile

These discharge-drainage area relationships are included in Appendix D.

Flow splits or bifurcations were analyzed to determine the flow distribution of each split or bifurcation. Split flow analyses were performed for 17 significant flow splits using field survey data, existing 2' contour interval mapping[8] and HEC-RAS. The field surveys were performed by JEF staff using a Sokia $C3_2$ Auto Level. The flow distribution at an additional split, split 15, was assumed due to the extremely complicated pattern of diverging flow paths at that site. Table 4.1-2 (next page) presents a summary of the results of the split flow analyses.

Field surveys typically consisted of one cross-section aligned perpendicularly across the expected 100-year floodplain, and additional points upstream and downstream along the thalweg to determine the average slope of the reaches associated with the flow bifurcation. The cross sections were placed as close to the actual point of flow division as possible.

N-values were estimated at each flow split using the guidelines developed for this project in the Task 6.7 Technical Memorandum dated February 9, 2001, (see Appendix B). The field survey notes, attendant calculations and HEC-RAS output associated with the flow splits are included in Appendix D.

Table 4.1-2: Split Flow Summary Table

Split #	Left Discharge (cfs)	Right Discharge (cfs)	Total Discharge (cfs)	Notes
1	2500	400	2900	Surveyed
2	2300	1300	3600	Surveyed
3	900	1400	2300	Surveyed
4	500	300	800	Surveyed
5	2800	1000	3800	Surveyed
6	2600	2100	4700	Surveyed
7	1100	2200	2200	Surveyed, but due to a high degree of uncertainty of the flow distribution at this split, it is assumed that 2200 cfs goes to the right split, and 1100 cfs goes to the left split
8	600	700	1300	Surveyed
9	800	900	1700	Surveyed
10	700	3100	3800	Surveyed
11	1900	1100	3000	Surveyed
12	1700	1100	2800	Surveyed
13	700	600	1300	Data from existing topographic mapping
14	2300	1100	3400	Data from existing topographic mapping
15	3000	3000	5200	Due to the uncertainty of the flow distribution at this split, it is assumed that 3000 cfs (approx. 60% of 74B) goes down each side of the split.
16	400	600	1000	Surveyed
17	500	1000	1500	Surveyed
18	300	400	700	Surveyed
20	200	3900	4100	Data from existing topographic mapping (FCDMC)
21	700	3200	3900	Data from existing topographic mapping (FCDMC)
22	1400	2000	3400	Data from existing topographic mapping (FCDMC)
23	2300	1300	3600	Data from existing topographic mapping (FCDMC)
24	1200	1600	2800	Data from existing topographic mapping (FCDMC)
25	1700	600	2300	Data from existing topographic mapping (FCDMC), additional 100 cfs added to each side to account for uncertainty

Figure 4.1, Project Area

LEGEND

PYSIOGRAPHIC REGION

ROAD — Carefree Hwy.

SCALE

4000' 0' 4000' 8000'

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

WATERSHED "OO"

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

Coyote Wash and Tributaries

JE FULLER HYDROLOGY & GEOMORPHOLOGY, INC.
TEMPE, ARIZONA – 480-730-8184

IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES
Civil Engineers
Hydrologists
Land Surveyors
(602) 955-6500

ARGUS CONSULTING

Figure 4.1: Study Area

4.2 Parameter Estimation

4.2.1 Drainage Area Boundaries

The original basin delineation work by Burgess & Niple was based on US Geological Survey (USGS) 7½ minute Quad maps (see references 16 through 23). Additional basin delineation work was performed for this study using the same USGS quad maps as a base (see Exhibit A: Hydrology Work Map, Volume 2 of this TDN). Since the original Burgess & Niple delineation was not available electronically, JEF digitized these information before adding concentration points and attendant basin delineations.

In the course of digitizing the original Burgess & Niple delineation, JEF used digital aerial photography[4] of the study area to check the delineations around flow splits. In some cases, the original delineation was modified based on the more recent aerial photography.

4.2.2 Watershed Work Maps

The base map for the watershed work map found at the back of this chapter is USGS digital raster graphics (DRG) projected to Stateplane North American Datum of 1983 and tiled by FCDMC. The subbasin naming convention is an expansion of the naming convention presented in the original Burgess & Nipple TDN entitled *Jackrabbit Wash Floodplain Delineation Study, FCD 90-05*[2].

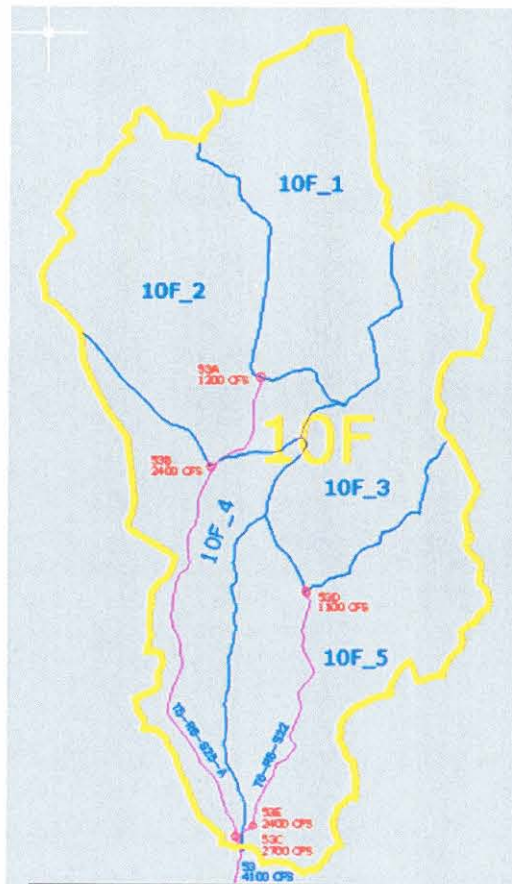

Figure 4.2.2, Example Delineation

The original Burgess & Niple HEC-1 naming convention is based on 18 major basins, with sub-basins being denoted with a letter (i.e., 1H, 1I, 4A, 4B etc.). Additional basins added for this study are denoted by adding a number after the letter (i.e., 1H_1, 1I_5, 4A_2, 4B_1, etc.).

Concentration point identification numbers are likewise an expansion of the previous Burgess & Niple hydrology numbering scheme, which simply numbers the concentration points sequentially from 1 to 119. Additional concentration points are denoted by adding a letter after the numeral; for example: Watershed 10F corresponded to Concentration Point 53 in the original Burgess & Niple hydrology. Additional concentration points 53A, 53B, 53C, 53D and

53E were added upstream of concentration point 53, resulting in the delineation of sub-watersheds 10F_1, 10F_2, 10F_3, 10F_4 and 10F_5 (see Figure 4.2.2, Example Delineation).

4.2.3 Gauge Data

4.2.3.1 Precipitation Gauging:

Two precipitation gauges are operated by the Flood Control District of Maricopa County in the Jackrabbit Wash watershed. Gauge 5195, Dead Horse Wash, was installed November 1, 2000, Gauge 5215, Jackrabbit Wash was installed September 14, 1982. An additional gauge, 5260 Vulture Mine, which is located just north of the study area, was installed October, 1981.

4.2.3.2 Stream Gauging:

The US Geological Survey publishes annual peak discharges measured at Jackrabbit Wash Near Tonopah, AZ (USGS Gauge number 09516800). Annual peak flow data are available from 1964 to the present. The largest flow measured at this site to date occurred on October 22, 2000, resulting in an estimated discharge of 27,000 cfs with a gage height of 15.1 foot according to preliminary USGS analyses

The Flood Control District of Maricopa County operates a stream gauge on Jackrabbit Wash; Gauge 5218. This gauge was installed October 31, 2000 approximately 5 miles upstream of the USGS gauge. Based on high water marks and a cross-section survey performed on 10/31/00, the FCDMC estimated a discharge of 32,400 cfs.

4.2.4 Statistical Parameters

4.2.4.1 Precipitation Statistics:

No precipitation statistical parameters were used for this hydrologic analysis.

4.2.4.2 Discharge Statistics:

No discharge statistics were used in this analysis, however, the following general information is available: Streamflow statistics are published by the USGS for Jackrabbit Wash Near Tonopah, AZ (USGS Gauge number 09516800) in *Statistical Summaries of Streamflow Data and Characteristics of Drainage Basins for Selected Streamflow-Gaging Stations in Arizona Through Water Year 1996*[7]. This publication present the results of a log-Pearson Type II analysis for the gauging station noted in section 4.2.3.2.

The streamflow statistics for the gauge located on Jackrabbit Wash, which is presented in the above publication, were not used to develop the peak discharge estimates used in this study for Jackrabbit Wash nor its tributaries.

4.2.5 Precipitation and Runoff

4.2.5.1 Historical Precipitation Records

The Flood Control District of Maricopa County (FCDMC) operates 2 precipitation gauges in Watershed "OO"; Gauge number 5195, Dead Horse Wash and 5215, Jackrabbit Wash (see Figure 4.1). Gauge number 5195 was installed November 2000, and is situated at an elevation of 2350 feet mean sea level. Gauge number 5215 was installed September 1982 and is situated at an elevation of 1798 feet mean sea level. Monthly statistics based on 18 years of record through March, 2001 for Gauge 5215 are presented in Table 4.2.5.1-2 below.

Table 4.2.5.1-1: Monthly Precipitation Summary for FCDMC Gauge 5215, Jackrabbit Wash

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average Precip. (in.)	1.0	1.17	0.87	0.28	0.07	0.09	0.72	1.20	0.65	0.26	0.42	0.90	7.63

The FCDMC also operates 2 precipitation gauges which are located just outside the project area; number 5260, Vulture Mine just north of the project area near Wickenburg and number 5130, Upper Tiger Wash, just west of the project area. The Vulture Mine gauge was installed in October 1981 and is at an elevation of 2311 feet mean sea level. Monthly statistics based on 20 years of record at this gauge through March 2001 are presented in Table 4.2.5.1-2 below. The Upper Tiger Wash Gauge was installed November 1981. Monthly statistics based on 20 years of record at this gauge through March 2001 are presented in Table 4.2.5.1-3 below.

Table 4.2.5.1-2: Monthly Precipitation Summary for Gauge 5260, Vulture Mine

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average Precip. (in.)	1.04	1.21	0.99	0.27	0.14	0.14	1.04	1.63	0.90	0.36	0.52	0.76	8.97

Table 4.2.5.1-3: Monthly Precipitation Summary for Gauge 5130, Upper Tiger Wash

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average Precip. (in.)	1.12	1.15	0.82	0.31	0.09	0.14	0.64	1.06	0.94	0.34	0.46	0.81	7.88

4.2.5.2 Historic Flooding

Due to the overall remoteness of this area, no detailed historical flooding accounts have been found. In general, the study area experiences two distinct precipitation seasons; summer monsoons (July-October) and winter frontal storms (December-March).

The monsoon season precipitation events tend to be convective and are relatively shorter in duration. The monsoon storms are typically more intense than winter storms, and are usually highly variable, both spatially and temporally. Winter storms tend to be frontal and are relatively longer in duration, less intense than summer storms, and tend to have less spatial and temporal variability throughout the area impacted by the storm.

In the region surrounding the study area, it is generally observed that the smaller watersheds (less than 5 square miles) tend to yield the largest peak flows as a result of the more intense, short duration storm events. Likewise, the larger basins (greater than 10 square miles) tend to yield the largest peak flows as a result of the storms having greater spatial and temporal distribution than the summer storms.

4.2.5.3 Rainfall Depth and Distribution

No rainfall depth or distribution parameters were used in this analysis.

4.2.5.4 Areal Precipitation Reduction

No areal precipitation reduction was applied in this analysis.

4.2.5.5 Comparison to Historical Recorded Extremes

Based on the period of record for this gauge (USGS Gauge number 09516800) 1964-79, 1983, and 1991-96, the published[7] 100-year peak flow at this site is 33,900 cubic feet per second (cfs). A note accompanying this statistic indicates that the reliability of this value "*is uncertain, and potential errors are large*". The peak flow published in the Technical Data Notebook from the original Burgess & Niple HEC-1 for this same location is 21,100 cfs.

4.2.6 Physical Parameters

Other than basin areas, as described in section 4.2.1 and 4.2.2, no other physical parameters were gathered for this analysis.

4.3 Problems Encountered During Study

4.3.1 Special Problems and Solutions

The original Burgess and Niple HEC-1 did not take into account diversions resulting from flow splits or bifurcations. As a result, certain downstream HEC-1 concentration points may be under or over estimated. Table 4.3.1 presents a qualitative estimate of the expected impact to the HEC-1 concentration points which are susceptible to significant changes in the 100-year discharge as a result of flow splits. Only those changes which impact existing detailed floodplain delineations are shown in Table 4.3.1.

At a minimum, the downstream areas impacted by significant net increases in the estimated 100-year discharges (i.e., Jackrabbit Wash, Star Wash West Tributary and Daggs Wash) should be restudied.

Table 4.3.1: Impacted Downstream HEC-1 Concentration Points

Split Location	Impacted Downstream HEC-1 Concentration Points	Predicted Impact on the Q_{100}
1	8,10,11,12,21,22,32,33,34,37,38,94,97,98, Jackrabbit Wash	Increase
7	61, Tank Wash	Decrease
7	63, Star Wash West Tributary	Increase
5, 12	79, Star Wash East Tributary	Decrease
12	87, Daggs Wash	Increase
2, 12	88, Daggs Wash	Increase

4.3.2 Modeling Warning and Error Messages

No additional hydrologic modeling was performed during the course of this study.

4.4 Calibration

No calibrations were performed for this study.

4.5 Final Results

Computed 100-year discharges are presented in Table 4.5. Results are also shown on the Hydrology Work Map found in Exhibit A, Volume 2 of this TDN.

4.5.1 Verification of Results

The Burgess & Niple results and the additional resulting calculated 100-year discharge estimates from this report were plotted on *Figures 10-3, 10-4 and 10-5, 100-Year Peak Discharge by LP3 Analysis (LP3 Q100) and Maximum Recorded Discharge (Q_m Record) vs. Drainage Area* from the ADOT Drainage Design Manual[1]. Values from both studies fall within the cloud of common values from the various sources presented on Figure 10-3, 10-4 and 10-5. The results of this verification are shown in Appendix D.

fall within the cloud of common values from the various sources presented on Figure 10-3, 10-4 and 10-5. The results of this verification are shown in Appendix D.

Table 4.5: Computed 100-Year Discharges

Approximate Zone A Floodplain Delineation Study of Jackrabbit Wash (FCD 2000C019)
Table 4.5: Computed 100-Year Discharges

Concentration Point	Area (sq. mi.)	Calculated Q (cfs)	Rounded Q (cfs)	Unit Discharge (cfs/sq mi)	Discharge Source or Graph
Vulture Mountains					
53	5.700		4,100	719	FCD 90-05
53A (10F_1)	1.063	1,245	1,200	1,129	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
53B (10F_1+10F_2)	2.361	2,397	2,400	1,016	Vulture Mountains HEC-1 Results, 24 hr
53C (10F_1+2+4)	3.256	2,716	2,700	829	Vulture Mountains HEC-1 Results, 24 hr
53D (10F_3)	0.912	1,084	1,100	1,206	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
53E (10F_3+5)	2.249	2,357	2,400	1,067	Vulture Mountains HEC-1 Results, 24 hr
59A (10F-1+2+3+4+5+10G_1)	6.675	3,934	4,100	614	For Consistency, Discharge Assumed to Equal 53)
60	6.900		3,500	507	FCD 90-05
60A (10I_1)	0.771	965	1,000	1,297	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
60B (10I_1+2)	1.172	1,281	1,300	1,109	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
60C (10I_1+2+3)	1.696	2,160	2,200	1,298	Vulture Mountains HEC-1 Results, 24 hr
60D (10I_4)	0.793	984	1,000	1,261	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
60E (10I_4+5)	1.709	2,165	2,200	1,287	Vulture Mountains HEC-1 Results, 24 hr
60F (10I_1+2+3+4+5+6)	3.591	2,835	2,800	780	Vulture Mountains HEC-1 Results, 24 hr (Note: Split 7 ignored, see Split Flow Calculation Sheet)
62 (10K1+50% of 60C)	1.701	2,162	2,200	1,293	Vulture Mountains HEC-1 Results, 24 hr (Note: 10K1 is in the piedmont area, but derives most of its contributing drainage area from the Vulture Mountains)
65	1.900		2,400	1,263	FCD 90-05 (Note: part of this watershed is in the piedmont area, but derives most of its contributing drainage area from the Vulture Mountains)
67A (10M1+M3_1)	3.759	2,895	2,900	771	Vulture Mountains HEC-1 Results, 24 hr
73	3.100		3,200	1,032	FCD 90-05
73A (10O_1)	1.429	1,366	1,400	980	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
74	9.200		5,900	641	FCD 90-05 (Note: an assumed discharge of 3,000 cfs will be used instead due to assumed upstream split distribution of 60%/60%)
74A (10O_1+2+10P_1)	4.338		3,700	853	Area Weighted Discharge Based on Discharges at CP73 and CP74 (5900 before adjustments) in order to remain consistent with upstream and downstream HEC-1 results.
74B (10O_1+2+10P_1+2)	7.543		5,200	689	Area Weighted Discharge Based on Discharges at CP73 and CP74 (5900 before adjustments) in order to remain consistent with upstream and downstream HEC-1 results.
75 (includes 60% of 74B area)	6.252		4,700	752	752 cfs per sq mi (based on weighted avg of unit discharges from 74B & 75) in order to maintain better consistency with contributing area.
75A (10Q_1)	1.676	1,448	1,400	835	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
76A (10Q_1+2+10R_2)	3.585	2,833	2,800	781	Vulture Mountains HEC-1 Results, 24 hr
76B			3,000		From assumed Distribution at Split 15
76C			4,900		Direct addition of re-joining split (Split 6)
78	5.300		3,800	717	FCD 90-05
78A (10W_1)	1.504	1,391	1,400	931	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
78B (10W_2)	1.187	1,286	1,300	1,095	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
78C (10W_2+3)	2.428	2,421	2,400	989	Vulture Mountains HEC-1 Results, 24 hr
86	4.900		3,600	735	FCD 90-05
86A (12A_1)	4.093	3,014	3,000	733	Vulture Mountains HEC-1 Results, 24 hr
87A (12B_1)	0.639	848	800	1,252	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
88A (12A_1+2+12C_1)	5.038	3,351	3,600	715	For Consistency, Discharge Assumed to Equal 86)
88B			2,700		Direct addition of re-joining splits (Splits 2 and 3)
88C (12A_1+2+12C_1+2 -25% of 88A)	4.635	3,207	3,200	690	Vulture Mountains HEC-1 Results, 24 hr
120 (20A)	1.038	1,237	1,200	1,156	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
121 (20A+20B)	1.727	2,171	2,200	1,274	Vulture Mountains HEC-1 Results, 24 hr
122 (21A)	0.846	1,029	1,000	1,183	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
123 (21A+21B)	1.766	2,185	2,200	1,246	Vulture Mountains HEC-1 Results, 24 hr
124 (22_1+2)	1.847	1,504	1,500	812	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
124A (22_1)	1.421	1,364	1,400	985	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
125 (22A)	2.136	2,317	2,300	1,077	Vulture Mountains HEC-1 Results, 24 hr
126 (22A+B)	3.482	2,796	2,800	804	Vulture Mountains HEC-1 Results, 24 hr
127 (22A+B+C)	5.702	3,587	3,600	631	Vulture Mountains HEC-1 Results, 24 hr
128 (22A+B+C+D)	7.764	4,322	4,300	554	Vulture Mountains HEC-1 Results, 24 hr
129 (23A)	1.313	1,328	1,300	990	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
130 (24A+25% of 88A Area)	4.175	3,043	3,000	719	Vulture Mountains HEC-1 Results, 24 hr
131 (23A+B+24A+B+25% of 88A Area)	7.161	4,107	4,100	573	Vulture Mountains HEC-1 Results, 24 hr
Northwest Mountains					
8A (1H_1)	0.983	1,141	1,100	1,119	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
8B (1H_1+2)	5.040	2,948	2,900	575	Jackrabbit Wash HEC-1 Results 4<x<10sq mi, 24hr
8C (1H_1+2+3 Less 15% of 1H_1+2)	7.407	4,230	4,200	567	Jackrabbit Wash HEC-1 Results 4<x<10sq mi, 24hr
11A (1K_1)	1.493	1,387	1,400	938	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
11B (1K_1+2)	3.271	1,990	2,000	611	Jackrabbit Wash HEC-1 Results 4<x<10sq mi, 24hr
11C (1K_4)	0.624	834	800	1,283	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
11D (1K_3+4)	1.162	1,278	1,300	1,119	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr

Approximate Zone A Floodplain Delineation Study of Jackrabbit Wash (FCD 2000C019)
Table 4.5: Computed 100-Year Discharges

Concentration Point	Area (sq. mi.)	Calculated Q (cfs)	Rounded Q (cfs)	Unit Discharge (cfs/sq mi)	Discharge Source or Graph
11E (1K_1+2+3+4)	4.432	2,619	2,600	587	Jackrabbit Wash HEC-1 Results 4<x<10sq mi, 24hr
19	6.000	3,468	3,500	583	Jackrabbit Wash HEC-1 Results 4<x<10sq mi, 24hr
19A (3A_1)	0.860	1,041	1,000	1,163	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
19B (3A_1+2)	1.088	1,253	1,300	1,194	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
19C (3A_1+2+3)	2.420	1,694	1,700	703	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
19D (3A_1+2+3+4)	3.370	2,043	2,000	594	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 24hr
19E (3A_5)	0.164	332	300	1,833	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
19F (3A_5+6)	1.474	1,381	1,400	950	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
Upper Jackrabbit Wash Main Stem					
1	6.700		7,400	1,104	FCD 90-05
2	12.400		9,000	726	FCD 90-05
4	16.500		8,900	539	FCD 90-05
7	23.200		8,900	384	FCD 90-05
8	30.800		11,400	370	FCD 90-05
10	37.600		13,500	359	FCD 90-05
11	45.200		13,200	292	FCD 90-05
12	79.100		18,800	238	FCD 90-05
21	102.100		21,100	207	FCD 90-05
22	105.000		20,800	198	FCD 90-05
32	134.500		21,400	159	FCD 90-05
Belmont Mountains					
6A (1F_1)	1.135	1,201	1,200	1,058	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
9A (1I_1)	1.135	1,201	1,200	1,057	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
9B (1I_2)	0.873	1,051	1,100	1,261	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
9D (1I_3)	0.362	574	600	1,656	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
9C (1I_1+2+5)	3.418	2,165	2,200	644	Belmont Mountains HEC-1 Results, 24hr
9E (1I_3+4)	1.068	1,184	1,200	1,124	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
9F (1I_1+2+3+4+5+6)	4.597	2,803	2,800	609	Belmont Mountains HEC-1 Results, 24hr
13	7.800		5,700	731	FCD 90-05
13A (2A_1)	0.985	1,143	1,100	1,116	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
13B (2A_2)	1.239	1,229	1,200	968	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
13C (2A_1+2+3)	2.837	1,851	1,900	670	Belmont Mountains HEC-1 Results, 24hr
13D (2A_4)	2.898	1,884	1,900	656	Belmont Mountains HEC-1 Results, 24hr
13E (2A_1+2+3+4+5)	6.075	3,604	3,600	593	Belmont Mountains HEC-1 Results, 24hr
13F (2A_6)	1.059	1,181	1,200	1,133	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
14A (2B_1)	0.547	762	800	1,463	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
14B (2B_2)	0.955	1,118	1,100	1,152	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
14C (2B_1+2+3)	1.825	1,383	1,400	767	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
15A (2C_1)	1.381	1,266	1,300	941	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
17A (2D_1)	0.968	1,129	1,100	1,136	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
23D (4A_1)	0.532	748	700	1,315	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
23E (4A_1+3)	0.840	1,024	1,000	1,190	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
23F (4A_2)	0.258	454	500	1,936	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
23G (4A_2+4)	0.712	914	900	1,264	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
23H (4A_1+2+3+4)	1.552	1,311	1,300	837	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
39	4.600		2,700	587	FCD 90-05
39A (9A_1)	0.587	800	800	1,362	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
40	13.100		6,500	496	FCD 90-05
40A (9B_1)	0.564	778	800	1,419	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
40B (9B_1+2)	2.006	1,431	1,400	698	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
40C (9B_3)	1.304	1,246	1,200	920	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
40D (9B_1+2+3+4)	3.619	2,274	2,300	636	Belmont Mountains HEC-1 Results, 24hr
40E (9B_1+2+3+4+5)	5.399	3,238	3,200	593	Belmont Mountains HEC-1 Results, 24hr
40F (9B_6)	0.468	684	700	1,496	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
40G (9B_6+7)	1.655	1,338	1,300	785	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
40H (9B_6+7+8)	2.491	1,663	1,700	682	Belmont Mountains HEC-1 Results, 24hr
40I (9A+9B_6+7+8+9)	7.245	4,408	4,400	607	Belmont Mountains HEC-1 Results, 24hr
41	20.500		5,900	288	FCD 90-05
41A (9C_1)	1.406	1,273	1,300	925	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr

Approximate Zone A Floodplain Delineation Study of Jackrabbit Wash (FCD 2000C019)
Table 4.5: Computed 100-Year Discharges

Concentration Point	Area (sq. mi.)	Calculated Q (cfs)	Rounded Q (cfs)	Unit Discharge (cfs/sq mi)	Discharge Source or Graph
41B (9C_1+2)	3.335	2,120	2,100	630	Belmont Mountains HEC-1 Results, 24hr
42	6.200		3,800	613	FCD 90-05
42A (9D_1)	1.189	1,215	1,200	1,009	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
42B (9D_1+2)	2.417	1,623	1,600	662	Belmont Mountains HEC-1 Results, 24hr
42C (9D_1+2+3)	4.128	2,550	2,500	606	Belmont Mountains HEC-1 Results, 24hr
42D (9D_4)	1.302	1,245	1,200	922	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
42E (9D_4+5)	1.985	1,425	1,400	705	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
43	26.700		7,900	296	FCD 90-05
43A (9E_1)	0.587	800	800	1,363	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
43B (9E_1+2)	2.274	1,546	1,500	660	Belmont Mountains HEC-1 Results <6.5 SQ MI, 24hr
43C (9D+9E_1+2+3)	8.893	5,378	5,400	607	Belmont Mountains HEC-1 Results, 24hr
44	34.200		7,900	231	FCD 90-05
44A (9F_1)	1.391	1,269	1,300	935	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
45	35.500		4,100	115	FCD 90-05
Belmont Foothills					
3	0.800		1,500	1,875	FCD 90-05
5	1.100	1,233	1,200	1,091	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
6	3.100		2,300	742	FCD 90-05
7A (1E+1F_1+2+1G_1)	4.339	2,744	2,700	622	Belmont Foothills HEC-1 Results, 24hr
9	6.900		3,400	493	FCD 90-05
12A (2F_1)	1.009	1,162	1,200	1,189	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
12B (2F_1+2)	2.622	2,243	2,200	839	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
12C (C12.2)	28.000	7,916	7,900	283	FCD 90-05
14	12.100		7,600	628	FCD 90-05
15	15.900		7,600	478	FCD 90-05
16	2.100		1,600	762	FCD 90-05
16A (2E_1)	0.938	1,105	1,100	1,173	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
17	21.000		7,500	357	FCD 90-05
17B (2D-1+2)	3.055	1,707	1,700	556	Belmont Mountains HEC-1 Results, <6.5 sq mi, 6hr
18	23.100		7,700	333	FCD 90-05
23	11.500		4,300	374	FCD 90-05
23A (4B_1)	0.769	964	1,000	1,300	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
23B (4B_1+2)	2.925	2,109	2,100	718	Belmont Foothills HEC-1 Results, 24hr
23C (4B_1 +2+3)	4.054	2,622	2,600	641	Belmont Foothills HEC-1 Results, 24hr
23I (4A_1+2+3+4+5)	2.230	1,760	1,800	807	Belmont Foothills HEC-1 Results, 24hr
23J (4A_1+2+3+4+5+6)	6.188	3,478	3,500	566	Belmont Foothills HEC-1 Results, 24hr
24	14.200		5,300	373	FCD 90-05
25	119.100		21,900	184	FCD 90-05
32A (5A_1)	0.678	883	900	1,327	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
32B (5A_1+2)	4.232	2,699	2,700	638	Belmont Foothills HEC-1 Results, 24hr
32C (5B_1)	0.910	1,082	1,100	1,209	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
32D (5B_1+2)	3.398	2,331	2,300	677	Belmont Foothills HEC-1 Results, 24hr
32E (5A)	8.000	3,847	3,800	479	FCD 90-05
33A (5C_1)	0.569	783	800	1,406	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
33B (5C_1+2)	1.614	1,494	1,500	929	Belmont Foothills HEC-1 Results, 6hr
35A (6A-1)	1.370	1,386	1,400	1,022	Belmont Foothills HEC-1 Results, 6hr
35B (6A-2)	1.010	1,163	1,200	1,188	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
35C (6A_1+2+3)	2.837	2,066	2,100	740	Belmont Foothills HEC-1 Results, 24hr
39B (9A_1+2)	3.467	2,362	2,400	692	Belmont Foothills HEC-1 Results, 24hr
Piedmont					
21A (3C_1)	6.847	3,423	3,400	497	Piedmont HEC-1 Results, >1 sq mi, 24hr
21B (3C_1+2+3D)	10.427		5,100	489	485 cfs per sq mi (from avg of 3C & 3D original delineation), used instead for consistent results.
26	5.200		3,600	692	FCD 90-05
27	11.300		3,400	301	FCD 90-05
27A (7A+7B_2)	5.790		4,000	691	692 CFS PER SQ MI (FROM 7A ORIGINAL DELINEATION)
27B (7B_1)	3.441	2,081	2,100	610	Piedmont HEC-1 Results, >1 sq mi, 24hr
29A (7C+7D_1)	7.631		4,000	524	529 PER SQ MI (FROM 7C ORIGINAL DELINEATION)
52	4.500		2,900	644	FCD 90-05
52A (10D_1)	1.121	1,264	1,300	1,160	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr

Approximate Zone A Floodplain Delineation Study of Jackrabbit Wash (FCD 2000C019)
Table 4.5: Computed 100-Year Discharges

Concentration Point	Area (sq. mi.)	Calculated Q (cfs)	Rounded Q (cfs)	Unit Discharge (cfs/sq mi)	Discharge Source or Graph
52B (10D_1+2)	1.361	1,343	1,300	955	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
59B (10F+10G+10H_1) +26% of CP60	11.640	3,750	4,100	352	Piedmont Concentration Points HEC-1 Results, 24hr (For Consistency, Discharge Assumed to Equal 59A)
59C (10D_1+2+3+10E)	7.507	3,658	3,700	493	Piedmont HEC-1 Results, >1 sq mi, 24hr
59D (10D +10E+10F+10G+10H_1+2) +26% of CP60	22.300	4,843	4,800	215	Piedmont Concentration Points HEC-1 Results, 24hr
61A (10I+10J_1+2) - 26% of CP60	6.891	3,438	3,400	493	Piedmont HEC-1 Results, >1 sq mi, 24hr
61B			5,700		Direct Discharge Addition from assumed coincident peaks from 59B & Split 14
63	5.400	2,883	2,900	537	Piedmont HEC-1 Results, >1 sq mi, 24hr
63A (10K_1)	1.120	1,264	1,300	1,161	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
63B (FROM CP62 AND 63A)			2,900		Direct Discharge Addition from Non-Attenuating Reaches
63C			3,500		Direct Discharge Addition from Non-Attenuating Reaches (3100 cfs from Split 10 and 400 cfs from Split 18)
67	6.200			3,800	FCD 90-05
69	3.800		2,600	684	FCD 90-05
69A (10T_1)	1.869	1,512	1,500	803	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
69B			900		Direct Discharge Addition from Non-Attenuating Reaches (300 cfs from Split 18 and 600 cfs from Split 16)
69C			900		Direct Discharge Addition from Non-Attenuating Reaches (400 cfs from Split 16 and 500 cfs from Split 17)
70	3.900		3,200	821	FCD 90-05
70A (10S_1)	0.835	1,020	1,000	1,198	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
76	16.800		6,600	393	FCD 90-05
79 (10W+10X -45% of 10W due to split)	5.615	2,965	3,000	534	FCD 90-05 Q was 4000 cfs, revised using Piedmont HEC-1 Results, >1 sq mi, 24hr
83	1.600	1,423	1,400	875	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
84A (10AA+10AB_1)	3.376	2,053	2,100	622	Piedmont HEC-1 Results, >1 sq mi, 24hr
87 (87B+87C +12B_4)	6.983	3,472	3,500	501	Piedmont HEC-1 Results, >1 sq mi, 24hr (Was 4.8 sq mi, 2,000 cfs in FCD 90-05)
87B (12B_1+2-57% of 12B_1+45% of 78)	4.948	2,706	2,700	546	Piedmont HEC-1 Results, >1 sq mi, 24hr
87C (12B_3 +57% of 12B_1)	0.996	1,152	1,200	1,205	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
90A (12E_1)	0.780	973	1,000	1,282	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
90B (12E_1+2)	1.390	1,353	1,400	1,007	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
91	0.900		1,600	1,778	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
132 (25A)	0.709	912	900	1,269	Jackrabbit Wash HEC-1 Results <1sq mi, 6hr
133 (25A+B)	1.435	1,368	1,400	976	Jackrabbit Wash HEC-1 Results 1<x<4sq mi, 6hr
South of CAP					
95	2.095		1,500	716	FCD 90-05
95A (15A_1)	0.802		600	748	716 cfs per Square Mile (Based on Unit Discharge From CP95), in order to maintain consistency with CP95 Q100 & upstream reservoir routing.
95B (15B_1)	1.612		1,200	744	716 cfs per Square Mile (Based on Unit Discharge From CP95), in order to maintain consistency with CP95 Q100 & upstream reservoir routing.
100	2.200		1,600		FCD 90-05
CAP 6	2.200	69	69		FCD 90-05
CAP 7	2.200	69	69		FCD 90-05
CAP 6+7	2.200	138	138		FCD 90-05
CAP 9	0.900	163	163		FCD 90-05

4.6 References

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SECTION 5: HYDRAULIC ANALYSIS

5.1 Method Description

The U.S. Army Corps of Engineers computer program, HEC-RAS 3.0.1, was used to perform hydraulic calculations at each cross section to determine approximate 100-year floodplain limits and approximate administrative floodway limits. Cross section spacing depends on the variability of the channel geometry along the study reach. On average, the cross section spacing is approximately 1700 feet. Cross section data were collected from the base map using various software tools available in AutoCAD Land Development Desktop Version 3. The base map used included that described in Section 5.2 (below). The floodplain and administrative floodway limits were drafted using AutoCAD Land Development Desktop Release 3. Cross section locations are shown on the study work maps, which are located in Exhibit B, Volume 2 of this TDN.

An emphasis was placed on interpretation of surficial geology observed from the aerial base mapping and during field visits. Additionally, low-flow channel geometry was estimated using the aerial base as a guide, along with field visits and the survey data described in Section 3.1 of this Technical Data Notebook.

5.2 Study Work Maps

The Zone A delineation for Coyote Wash and tributaries is presented on a 1"=400', 10' contour interval base map with attendant orthographic aerial photography (see reference 3 of Chapter 4). The study work maps are presented with this Technical Data Notebook (TDN) on 13-24"x36" sheets. Reduced-scale copies of the study work maps are included at the end of this section. The full-size sheets are contained in Exhibit B, Volume 2 of the TDN.

The study work maps include cross-section locations, floodplain boundaries, zone designations, road names, section lines, corporate boundaries and stream names/numbers.

5.3 Parameter Estimation

5.3.1 Roughness Coefficients

Manning's roughness coefficient (n value) describes the friction attributable to the channel, banks and overbank areas. The n value generally varies with depth of flow, so it is determined assuming a flow depth associated with the 100-year discharge.

Manning's "n" values were determined using the methodology outlined in the USGS report titled, "Estimating Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona" by B.W. Thomsen and H.W. Hjalmarson, (April, 1991)[3].

Field reconnaissance was undertaken to photograph typical reaches in the study area and to document channel and overbank conditions. The findings of these field investigations were summarized in a separate Manning's n value report produced by JEF in association with Wood, Patel & Associates and Argus Consulting for this study for the FCDMC (see Appendix E.1).

The field reconnaissance was performed by personnel from the three firms noted above. In order to assure consistency in n-value estimates, the members of the project team participated in a one-day joint reconnaissance meeting which included stops at a variety of reach types. A technical memorandum, written to describe the results from the meeting, is included in Appendix E.1.

5.4 Cross-Section Descriptions

Cross section data were collected from the base map using various software tools available in AutoCAD Land Development Desktop Version 3. The base map used included that described in Section 5.2 (above).

Cross sections are labeled numerically in intervals of 100 increasing in the upstream direction. Cross sections are typically spaced at approximately 1,500 to 2,000-foot intervals. Cross section stationing is from left to right if viewed in the downstream direction.

Low-flow channel geometry was estimated using the aerial base as a guide, from observations of surficial geology from the aerial photos and during reconnaissance, and the survey data described in Section 3.1 of this Technical Data Notebook.

5.5 Modeling Considerations

5.5.1 Hydraulic Jump and drop analysis

No hydraulic jump or drop analyses were conducted in this study.

5.5.2 Bridge or Culverts

No bridges or culverts are located in this study area.

5.5.3 Levees and Dikes

No levees or dikes are modeled in this study area.

5.5.4 Islands and Flow Splits

In general, small islands were not delineated on the study work maps. Numerous flow splits were identified in the study area, and since the topography at splits tends to be relatively subtle, cross sections were surveyed at these locations to more accurately determine the flow distribution. See section 4.1 for a more detailed description of how flow splits were analyzed.

5.5.5 Ineffective Flow Areas

The effect of ineffective flow areas was simulated by increasing the Manning's n value in those areas of the cross section thought to be ineffective.

5.5.6 Supercritical Flow

Supercritical flow does not occur for significant lengths along any reach in this study.

5.6 Floodway Modeling

Using HEC-RAS, a method 4 profile (equal conveyance encroachment) was run with a one-foot surcharge target to define the administrative floodway. Floodway surcharge targets for individual cross sections were adjusted to minimize surcharges less than zero and greater than one foot and to avoid exclusion of active channels from the administrative floodway zones. As with the floodplain delineation, the administrative floodway delineation was further refined by observation of geomorphic features identified from the aerial base mapping and during field visits.

Since this is an approximate Zone A delineation, administrative floodway tables are not included in this TDN.

5.7 Special Problems Encountered During the Study

In a few limited cases, discrepancies exist between the aerial photo and the 10-foot contour mapping. The discrepancies generally consist of the contour data showing high ground or no change in relief where an obvious drainage path exists on the aerial photo. Cross sections located in reaches which display this discrepancy were adjusted to reflect the actual conditions of the channel based on observations of the aerial photography and field verification.

5.8 Calibration

No hydraulic calibration was performed during this study.

5.9 Final Results

5.9.1 Hydraulic Analysis Results

A summary of the hydraulic analysis results is provided in the following HEC-RAS summary tables below (Table 5.9.1). Appendix E.2 presents cross section plots.

Table 5.9.1 Hydraulic Results Summary

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S12

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S12	50	Floodplain	1300.00	1486.00	1489.24	1488.64	1489.60	0.008001	5.13	306.55	182.03	0.55
T3-R5-S12	50	Floodway	1300.00	1486.00	1489.54	1488.54	1489.99	0.008003	5.37	242.01	81.00	0.55
T3-R5-S12	100	Floodplain	1300.00	1498.00	1500.22	1499.94	1500.64	0.017373	5.19	265.97	264.14	0.74
T3-R5-S12	100	Floodway	1300.00	1498.00	1500.28	1499.95	1500.68	0.016116	5.11	254.55	161.00	0.72
T3-R5-S12	200	Floodplain	1300.00	1504.00	1507.15		1507.33	0.003835	3.50	397.68	202.87	0.38
T3-R5-S12	200	Floodway	1300.00	1504.00	1507.18		1507.38	0.003980	3.56	365.17	137.00	0.38
T3-R5-S12	300	Floodplain	1300.00	1514.00	1515.30	1515.21	1515.73	0.026901	5.40	257.17	246.01	0.88
T3-R5-S12	300	Floodway	1300.00	1514.00	1515.41	1515.27	1515.86	0.025285	5.43	239.62	191.88	0.86

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S18

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S18	100	Floodplain	4100.00	1386.00	1391.90	1391.25	1392.75	0.011005	7.66	608.70	240.77	0.68
T3-R5-S18	100	Floodway	4100.00	1386.00	1392.12	1391.13	1393.06	0.011008	7.77	527.77	126.00	0.67
T3-R5-S18	200	Floodplain	4100.00	1396.00	1401.70	1399.90	1401.86	0.003177	3.21	1310.07	454.84	0.32
T3-R5-S18	200	Floodway	4100.00	1396.00	1401.78		1401.94	0.003054	3.18	1289.24	392.00	0.31
T3-R5-S18	300	Floodplain	4100.00	1406.00	1409.42	1409.42	1410.11	0.017193	6.73	637.71	501.95	0.99
T3-R5-S18	300	Floodway	4100.00	1406.00	1409.42	1409.42	1410.16	0.018331	6.89	595.34	413.43	1.01
T3-R5-S18	400	Floodplain	4100.00	1418.00	1422.02		1422.22	0.004172	3.62	1180.43	586.06	0.43
T3-R5-S18	400	Floodway	4100.00	1418.00	1422.11		1422.31	0.004067	3.60	1140.00	506.42	0.42
T3-R5-S18	500	Floodplain	4100.00	1430.00	1433.14	1433.14	1433.98	0.014065	7.78	643.15	449.44	0.84
T3-R5-S18	500	Floodway	4100.00	1430.00	1433.03	1433.03	1434.33	0.020514	9.15	448.03	174.00	1.00
T3-R5-S18	600	Floodplain	7900.00	1442.00	1445.12		1445.37	0.006269	4.14	2070.41	1229.71	0.52
T3-R5-S18	600	Floodway	7900.00	1442.00	1445.36		1445.60	0.005483	3.97	1991.30	992.46	0.49
T3-R5-S18	700	Floodplain	7900.00	1454.00	1456.78	1456.27	1457.11	0.007803	4.75	1804.88	1101.46	0.59
T3-R5-S18	700	Floodway	7900.00	1454.00	1456.77	1456.22	1457.16	0.008810	5.02	1572.46	785.00	0.63
T3-R5-S18	800	Floodplain	7900.00	1462.00	1467.51	1466.48	1467.76	0.004680	4.05	1969.68	959.86	0.50
T3-R5-S18	800	Floodway	7900.00	1462.00	1468.17	1466.98	1468.45	0.004729	4.21	1875.34	821.92	0.49
T3-R5-S18	900	Floodplain	7900.00	1472.00	1477.90	1477.90	1478.61	0.012828	6.85	1247.70	982.53	0.96
T3-R5-S18	900	Floodway	7900.00	1472.00	1477.98	1477.87	1478.68	0.012340	6.70	1179.68	727.95	0.93
T3-R5-S18	1000	Floodplain	7900.00	1480.00	1486.83	1485.47	1487.18	0.003709	4.89	1891.65	1178.48	0.54
T3-R5-S18	1000	Floodway	7900.00	1480.00	1486.95		1487.34	0.003857	5.00	1581.10	629.12	0.56
T3-R5-S18	1100	Floodplain	7900.00	1492.00	1497.44	1497.44	1498.37	0.017789	8.03	1155.05	697.30	0.84
T3-R5-S18	1100	Floodway	7900.00	1492.00	1497.52	1497.24	1498.63	0.019434	8.46	933.85	321.47	0.87
T3-R5-S18	1200	Floodplain	7800.00	1508.00	1512.62	1511.12	1512.93	0.004126	4.62	1875.13	672.47	0.42
T3-R5-S18	1200	Floodway	7800.00	1508.00	1512.86	1511.09	1513.20	0.003952	4.67	1670.75	421.00	0.41
T3-R5-S18	1300	Floodplain	7700.00	1520.00	1523.44	1523.18	1524.30	0.013821	7.62	1113.97	545.67	0.79
T3-R5-S18	1300	Floodway	7700.00	1520.00	1523.49	1523.10	1524.44	0.014436	7.84	982.00	338.00	0.81
T3-R5-S18	1400	Floodplain	7600.00	1528.00	1533.33	1531.88	1533.50	0.003598	3.47	2446.14	1208.61	0.38
T3-R5-S18	1400	Floodway	7600.00	1528.00	1533.65	1532.06	1533.85	0.003641	3.63	2092.28	754.31	0.38

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S18 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S18	1500	Floodplain	7500.00	1542.00	1544.74	1544.57	1545.12	0.014527	4.92	1531.04	1322.83	0.80
T3-R5-S18	1500	Floodway	7500.00	1542.00	1544.80	1544.56	1545.14	0.013082	4.72	1589.04	1304.23	0.75
T3-R5-S18	1600	Floodplain	7300.00	1555.00	1558.14	1557.42	1558.27	0.006045	2.85	2549.32	2207.01	0.47
T3-R5-S18	1600	Floodway	7300.00	1555.00	1558.36	1557.72	1558.52	0.006705	3.19	2287.62	1741.79	0.49
T3-R5-S18	1700	Floodplain	7100.00	1568.00	1573.33	1572.66	1573.71	0.008902	5.03	1475.33	882.53	0.63
T3-R5-S18	1700	Floodway	7100.00	1568.00	1573.49	1572.63	1573.84	0.007766	4.76	1492.77	726.78	0.58
T3-R5-S18	1800	Floodplain	6900.00	1585.00	1588.09	1587.50	1588.37	0.007963	4.75	1710.97	1326.34	0.78
T3-R5-S18	1800	Floodway	6900.00	1585.00	1588.56	1588.30	1589.00	0.009843	5.32	1295.87	909.81	0.79
T3-R5-S18	1900	Floodplain	6700.00	1600.00	1603.26		1603.52	0.008807	4.18	1718.30	1039.54	0.53
T3-R5-S18	1900	Floodway	6700.00	1600.00	1603.54		1603.79	0.006837	4.00	1676.76	754.35	0.47
T3-R5-S18	2000	Floodplain	6500.00	1615.00	1617.45	1617.11	1617.95	0.010180	5.81	1258.23	805.80	0.68
T3-R5-S18	2000	Floodway	6500.00	1615.00	1617.35	1617.02	1618.00	0.013461	6.48	1002.76	466.00	0.78
T3-R5-S18	2100	Floodplain	6500.00	1628.00	1631.13	1630.77	1631.51	0.006915	5.76	1722.89	1389.69	0.61
T3-R5-S18	2100	Floodway	6500.00	1628.00	1631.98	1630.92	1632.63	0.006408	6.48	1003.15	276.00	0.60
T3-R5-S18	2200	Floodplain	6500.00	1642.00	1645.27	1645.09	1645.96	0.012467	6.65	977.83	546.89	0.88
T3-R5-S18	2200	Floodway	6500.00	1642.00	1645.32	1645.10	1645.97	0.011619	6.47	1004.11	551.86	0.85
T3-R5-S18	2300	Floodplain	6500.00	1664.00	1666.66	1666.46	1667.11	0.013151	5.52	1280.08	951.59	0.80
T3-R5-S18	2300	Floodway	6500.00	1664.00	1666.71	1666.52	1667.24	0.014362	5.83	1114.46	731.00	0.83
T3-R5-S18	2400	Floodplain	6500.00	1676.00	1679.22	1678.69	1679.56	0.005639	4.96	1634.11	1217.72	0.61
T3-R5-S18	2400	Floodway	6500.00	1676.00	1679.46	1678.68	1679.86	0.005457	5.08	1280.76	585.84	0.60
T3-R5-S18	2500	Floodplain	6500.00	1692.00	1696.91	1696.91	1697.64	0.014695	6.93	1002.02	755.00	0.96
T3-R5-S18	2500	Floodway	6500.00	1692.00	1696.89	1696.89	1697.70	0.016222	7.24	897.32	560.00	1.01
T3-R5-S18	2600	Floodplain	6500.00	1710.00	1713.83	1713.07	1714.34	0.005637	6.09	1319.11	635.50	0.57
T3-R5-S18	2600	Floodway	6500.00	1710.00	1714.17	1712.96	1714.79	0.005514	6.34	1025.11	267.00	0.57
T3-R5-S18	2700	Floodplain	6500.00	1722.00	1728.03	1728.03	1729.62	0.012241	10.21	665.32	244.91	0.98
T3-R5-S18	2700	Floodway	6500.00	1722.00	1728.01	1728.01	1729.69	0.012774	10.40	624.87	188.00	1.01
T3-R5-S18	2800	Floodplain	6500.00	1738.00	1742.62	1741.82	1743.52	0.006942	7.70	892.57	263.50	0.68
T3-R5-S18	2800	Floodway	6500.00	1738.00	1742.76	1741.80	1743.68	0.006804	7.67	847.38	208.00	0.67

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S18 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S18	2900	Floodplain	6500.00	1746.00	1752.07	1751.65	1753.76	0.010193	10.49	640.96	156.44	0.85
T3-R5-S18	2900	Floodway	6500.00	1746.00	1752.12	1751.60	1753.83	0.010241	10.50	619.05	129.00	0.84
T3-R5-S18	3000	Floodplain	6500.00	1758.00	1765.94	1764.51	1766.50	0.006293	6.05	1105.85	304.31	0.52
T3-R5-S18	3000	Floodway	6500.00	1758.00	1766.01	1764.49	1766.58	0.006269	6.04	1076.09	254.00	0.52
T3-R5-S18	3100	Floodplain	6500.00	1776.00	1780.70	1780.53	1782.26	0.013682	10.01	651.11	186.01	0.93
T3-R5-S18	3100	Floodway	6500.00	1776.00	1780.71	1780.52	1782.26	0.013604	9.98	651.12	179.00	0.92
T3-R5-S18	3200	Floodplain	6500.00	1788.02	1794.02		1795.13	0.005371	8.96	843.33	175.20	0.65
T3-R5-S18	3200	Floodway	6500.00	1788.02	1794.29	1792.76	1795.66	0.005772	9.56	716.61	115.84	0.67
T3-R5-S18	3300	Floodplain	6500.00	1800.12	1805.86	1805.86	1807.84	0.014239	11.54	628.52	216.68	0.99
T3-R5-S18	3300	Floodway	6500.00	1800.12	1805.86	1805.86	1807.84	0.014239	11.54	628.52	216.68	0.99
T3-R5-S18	3400	Floodplain	5000.00	1812.14	1819.90	1818.91	1820.96	0.007281	12.43	710.05	153.11	0.79
T3-R5-S18	3400	Floodway	5000.00	1812.14	1819.90	1818.91	1820.96	0.007281	12.43	710.05	153.11	0.79
T3-R5-S18	3500	Floodplain	4800.00	1826.07	1832.59	1832.09	1834.44	0.009809	12.84	501.99	100.36	0.89
T3-R5-S18	3500	Floodway	4800.00	1826.07	1832.59	1832.09	1834.44	0.009809	12.84	501.99	100.36	0.89
T3-R5-S18	3600	Floodplain	4600.00	1840.04	1845.67	1845.39	1847.21	0.011996	12.87	545.00	144.68	0.96
T3-R5-S18	3600	Floodway	4600.00	1840.04	1845.67	1845.39	1847.21	0.011996	12.87	545.00	144.68	0.96
T3-R5-S18	3700	Floodplain	4400.00	1854.00	1859.53		1860.94	0.007678	10.11	508.65	116.97	0.76
T3-R5-S18	3700	Floodway	4400.00	1854.00	1859.53		1860.94	0.007678	10.11	508.65	116.97	0.76
T3-R5-S18	3800	Floodplain	3000.00	1882.03	1886.71	1886.71	1888.32	0.020049	11.78	334.81	106.28	0.96
T3-R5-S18	3800	Floodway	3000.00	1882.03	1886.71	1886.71	1888.32	0.020049	11.78	334.81	106.28	0.96
T3-R5-S18	3900	Floodplain	2700.00	1903.97	1909.46	.	1910.20	0.009127	8.84	465.46	151.00	0.66
T3-R5-S18	3900	Floodway	2700.00	1903.97	1909.46		1910.20	0.009127	8.84	465.46	151.00	0.66
T3-R5-S18	4000	Floodplain	2600.00	1926.06	1931.09	1931.00	1932.44	0.018301	11.81	328.15	112.12	0.93
T3-R5-S18	4000	Floodway	2600.00	1926.06	1931.09	1931.00	1932.44	0.018301	11.81	328.15	112.12	0.93
T3-R5-S18	4100	Floodplain	2500.00	1950.03	1955.90		1956.71	0.009913	9.60	400.88	118.46	0.70
T3-R5-S18	4100	Floodway	2500.00	1950.03	1955.90		1956.71	0.009913	9.60	400.88	118.46	0.70
T3-R5-S18	4200	Floodplain	2500.00	1975.00	1979.09	1979.01	1980.37	0.021562	11.16	309.70	113.95	0.97
T3-R5-S18	4200	Floodway	2500.00	1975.00	1979.09	1979.01	1980.37	0.021562	11.16	309.70	113.95	0.97

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S18 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S18	4300	Floodplain	2400.00	1997.00	2001.98		2002.64	0.008142	7.82	417.49	126.68	0.62
T3-R5-S18	4300	Floodway	2400.00	1997.00	2001.98		2002.64	0.008142	7.82	417.49	126.68	0.62
T3-R5-S18	4400	Floodplain	2400.00	2017.00	2022.09	2022.09	2024.04	0.022368	13.15	235.96	62.53	1.03
T3-R5-S18	4400	Floodway	2400.00	2017.00	2022.09	2022.09	2024.04	0.022368	13.15	235.96	62.53	1.03
T3-R5-S18	4500	Floodplain	2200.00	2050.02	2056.40	2055.86	2057.60	0.019759	14.37	264.69	73.59	1.00
T3-R5-S18	4500	Floodway	2200.00	2050.02	2056.40	2055.86	2057.60	0.019759	14.37	264.69	73.59	1.00
T3-R5-S18	4600	Floodplain	2000.00	2078.00	2083.81	2083.06	2084.75	0.012773	10.86	292.36	86.63	0.79
T3-R5-S18	4600	Floodway	2000.00	2078.00	2083.81	2083.06	2084.75	0.012773	10.86	292.36	86.63	0.79
T3-R5-S18	4700	Floodplain	1800.00	2102.00	2106.86	2106.39	2107.83	0.014927	10.41	256.15	84.00	0.83
T3-R5-S18	4700	Floodway	1800.00	2102.00	2106.86	2106.39	2107.83	0.014927	10.41	256.15	84.00	0.83
T3-R5-S18	4800	Floodplain	1600.00	2137.00	2140.46	2140.41	2141.56	0.024016	10.53	211.83	90.74	1.00
T3-R5-S18	4800	Floodway	1600.00	2137.00	2140.46	2140.41	2141.56	0.024016	10.53	211.83	90.74	1.00
T3-R5-S18	4900	Floodplain	1400.00	2170.00	2173.03	2172.76	2173.94	0.017322	8.19	197.65	82.32	0.83
T3-R5-S18	4900	Floodway	1400.00	2170.00	2173.03	2172.76	2173.94	0.017322	8.19	197.65	82.32	0.83
T3-R5-S18	5000	Floodplain	1200.00	2215.00	2217.40	2217.40	2218.38	0.027773	8.86	161.84	83.95	1.01
T3-R5-S18	5000	Floodway	1200.00	2215.00	2217.40	2217.40	2218.38	0.027773	8.86	161.84	83.95	1.01
T3-R5-S18	5100	Floodplain	1000.00	2251.00	2254.23	2253.92	2254.99	0.016638	8.37	162.27	75.75	0.82
T3-R5-S18	5100	Floodway	1000.00	2251.00	2254.23	2253.92	2254.99	0.016638	8.37	162.27	75.75	0.82
T3-R5-S18	5200	Floodplain	800.00	2296.02	2298.86	2298.86	2299.72	0.023215	9.03	126.64	76.44	0.95
T3-R5-S18	5200	Floodway	800.00	2296.02	2298.86	2298.86	2299.72	0.023215	9.03	126.64	76.44	0.95

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R6-S02

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R6-S02	100	Floodplain	5400.00	1508.00	1511.11	1510.89	1511.57	0.014002	6.09	1155.21	871.65	0.77
T3-R6-S02	100	Floodway	5400.00	1508.00	1511.47	1511.13	1512.19	0.014000	6.80	794.25	343.00	0.79
T3-R6-S02	200	Floodplain	5100.00	1524.00	1528.68	1528.22	1529.33	0.007164	7.08	1052.53	592.00	0.62
T3-R6-S02	200	Floodway	5100.00	1524.00	1529.29	1528.02	1530.19	0.007339	7.63	667.99	144.00	0.62
T3-R6-S02	300	Floodplain	4700.00	1540.00	1543.17	1542.67	1543.62	0.008495	5.62	977.11	551.10	0.63
T3-R6-S02	300	Floodway	4700.00	1540.00	1543.42	1542.61	1543.91	0.007538	5.60	838.70	304.00	0.59
T3-R6-S02	400	Floodplain	4400.00	1554.00	1557.88	1557.40	1558.40	0.009111	6.09	882.00	495.96	0.65
T3-R6-S02	400	Floodway	4400.00	1554.00	1557.99	1557.39	1558.67	0.010406	6.61	665.58	238.00	0.70
T3-R6-S02	500	Floodplain	4100.00	1566.05	1572.59	1571.86	1573.32	0.006517	7.40	755.82	312.44	0.60
T3-R6-S02	500	Floodway	4100.00	1566.05	1573.31	1571.66	1574.22	0.006266	7.65	536.19	100.00	0.58
T3-R6-S02	600	Floodplain	3800.00	1580.07	1586.75		1588.14	0.011064	9.77	454.04	146.51	0.79
T3-R6-S02	600	Floodway	3800.00	1580.07	1587.14		1588.61	0.010936	9.72	391.12	76.00	0.75
T3-R6-S02	700	Floodplain	2500.00	1600.04	1606.10	1605.26	1606.83	0.007607	7.02	403.65	154.96	0.63
T3-R6-S02	700	Floodway	2500.00	1600.04	1606.33	1605.18	1607.09	0.007520	7.01	356.73	88.00	0.61
T3-R6-S02	800	Floodplain	2500.00	1616.06	1621.68	1621.66	1622.96	0.016751	9.29	302.90	135.30	0.91
T3-R6-S02	800	Floodway	2500.00	1616.06	1621.83	1621.57	1623.19	0.016934	9.35	267.44	79.00	0.90
T3-R6-S02	900	Floodplain	2500.00	1634.00	1637.65	1636.87	1638.03	0.005471	5.33	685.99	521.74	0.52
T3-R6-S02	900	Floodway	2500.00	1634.00	1638.03	1636.78	1638.53	0.005601	5.68	440.04	122.00	0.53
T3-R6-S02	1000	Floodplain	2400.00	1648.00	1650.46	1650.46	1650.97	0.018031	6.38	516.86	532.83	0.86
T3-R6-S02	1000	Floodway	2400.00	1648.00	1650.65	1650.57	1651.50	0.021319	7.40	324.17	169.00	0.94
T3-R6-S02	1100	Floodplain	2300.00	1668.00	1669.95	1669.35	1670.21	0.007002	4.31	590.78	363.74	0.54
T3-R6-S02	1100	Floodway	2300.00	1668.00	1670.19	1669.40	1670.48	0.006174	4.32	532.04	243.00	0.51
T3-R6-S02	1200	Floodplain	2200.00	1684.00	1687.06	1687.06	1687.77	0.016009	7.10	382.02	309.07	0.80
T3-R6-S02	1200	Floodway	2200.00	1684.00	1686.90	1686.89	1688.03	0.025649	8.56	257.10	113.00	1.00
T3-R6-S02	1300	Floodplain	2100.00	1706.00	1709.41		1710.02	0.010453	6.38	355.29	177.97	0.70
T3-R6-S02	1300	Floodway	2100.00	1706.00	1709.66	1708.94	1710.15	0.007439	5.73	402.17	188.34	0.60
T3-R6-S02	1400	Floodplain	2000.00	1728.00	1731.70		1732.54	0.012815	7.50	287.35	119.28	0.75
T3-R6-S02	1400	Floodway	2000.00	1728.00	1731.32	1731.28	1732.46	0.019979	8.66	243.98	110.79	0.92

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R6-S02 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R6-S02	1500	Floodplain	1900.00	1746.00	1749.57	1748.92	1750.08	0.007776	5.94	363.75	186.51	0.61
T3-R6-S02	1500	Floodway	1900.00	1746.00	1749.79		1750.21	0.005835	5.41	407.54	198.78	0.54
T3-R6-S02	1600	Floodplain	1800.00	1774.00	1775.86	1775.85	1776.54	0.026522	6.62	271.84	198.88	1.00
T3-R6-S02	1600	Floodway	1800.00	1774.00	1775.85	1775.85	1776.54	0.026643	6.63	271.41	198.76	1.00
T3-R6-S02	1700	Floodplain	1700.00	1799.00	1802.17	1801.53	1802.74	0.008723	6.21	295.24	124.75	0.65
T3-R6-S02	1700	Floodway	1700.00	1799.00	1802.17	1801.53	1802.74	0.008700	6.21	295.49	124.79	0.65
T3-R6-S02	1800	Floodplain	1600.00	1818.00	1820.26	1820.26	1820.88	0.018675	6.41	272.79	263.30	0.87
T3-R6-S02	1800	Floodway	1600.00	1818.00	1820.26	1820.26	1820.88	0.018675	6.41	272.79	263.30	0.87
T3-R6-S02	1900	Floodplain	1400.00	1852.00	1854.92	1854.69	1855.72	0.015287	7.23	199.75	99.35	0.83
T3-R6-S02	1900	Floodway	1400.00	1852.00	1854.92	1854.69	1855.72	0.015287	7.23	199.75	99.35	0.83
T3-R6-S02	2000	Floodplain	1200.00	1869.00	1872.23	1872.14	1873.24	0.015951	8.53	164.01	78.42	0.88
T3-R6-S02	2000	Floodway	1200.00	1869.00	1872.23	1872.14	1873.24	0.015951	8.53	164.01	78.42	0.88

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R6-S13

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R6-S13	100	Floodplain	3600.00	1398.00	1400.91	1400.56	1401.45	0.009006	6.00	679.52	485.78	0.71
T3-R6-S13	100	Floodway	3600.00	1398.00	1400.98	1400.50	1401.55	0.009009	6.08	591.90	259.00	0.71
T3-R6-S13	200	Floodplain	3600.00	1407.00	1411.07	1410.34	1411.28	0.004285	3.78	1115.42	776.28	0.48
T3-R6-S13	200	Floodway	3600.00	1407.00	1411.20	1410.40	1411.44	0.004332	3.93	916.91	444.00	0.48
T3-R6-S13	300	Floodplain	3600.00	1418.00	1421.30	1421.20	1421.74	0.016205	5.56	736.65	694.69	0.87
T3-R6-S13	300	Floodway	3600.00	1418.00	1421.42	1421.26	1421.92	0.015880	5.66	635.57	474.47	0.86
T3-R6-S13	400	Floodplain	3600.00	1430.00	1433.29		1433.51	0.004373	3.83	1010.58	626.46	0.48
T3-R6-S13	400	Floodway	3600.00	1430.00	1433.35		1433.58	0.004359	3.85	935.29	472.67	0.48

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4-R6-S22

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4-R6-S22	100	Floodplain	2100.00	1632.00	1634.91	1634.81	1635.38	0.011016	5.96	481.32	529.84	0.70
T4-R6-S22	100	Floodway	2100.00	1632.00	1635.14	1634.62	1635.76	0.011003	6.29	333.81	134.00	0.70
T4-R6-S22	200	Floodplain	2100.00	1654.00	1656.95	1656.77	1657.33	0.009229	5.70	527.67	444.17	0.65
T4-R6-S22	200	Floodway	2100.00	1654.00	1657.48		1658.15	0.009597	6.53	321.57	109.00	0.67
T4-R6-S22	300	Floodplain	2100.00	1676.00	1678.54	1677.98	1678.87	0.008378	4.64	470.44	321.82	0.59
T4-R6-S22	300	Floodway	2100.00	1676.00	1678.62	1677.98	1678.93	0.007531	4.51	465.84	234.80	0.56
T4-R6-S22	400	Floodplain	2100.00	1688.02	1691.40	1690.91	1691.98	0.009281	6.30	377.62	205.27	0.66
T4-R6-S22	400	Floodway	2100.00	1688.02	1691.44	1690.82	1692.12	0.010518	6.64	316.06	112.00	0.70
T4-R6-S22	500	Floodplain	2100.00	1708.00	1710.56	1710.25	1710.87	0.010752	5.33	521.28	371.78	0.67
T4-R6-S22	500	Floodway	2100.00	1708.00	1711.48		1712.20	0.010715	6.77	310.13	108.00	0.70
T4-R6-S22	600	Floodplain	2000.00	1727.00	1729.50	1729.27	1730.14	0.014290	6.65	332.36	198.26	0.79
T4-R6-S22	600	Floodway	2000.00	1727.00	1729.70	1729.27	1730.36	0.012752	6.54	305.59	128.00	0.75
T4-R6-S22	700	Floodplain	1900.00	1743.00	1746.07	1745.45	1746.41	0.009146	4.70	405.71	255.19	0.61
T4-R6-S22	700	Floodway	1900.00	1743.00	1746.03		1746.39	0.009832	4.81	395.33	222.00	0.63
T4-R6-S22	800	Floodplain	1800.00	1760.00	1761.68	1761.33	1761.93	0.012795	5.28	491.47	429.81	0.72
T4-R6-S22	800	Floodway	1800.00	1760.00	1762.61	1762.55	1763.18	0.013864	7.17	353.77	238.31	0.78
T4-R6-S22	900	Floodplain	1700.00	1780.00	1782.97	1782.63	1783.50	0.012945	7.77	326.43	171.31	0.79
T4-R6-S22	900	Floodway	1700.00	1780.00	1783.97	1783.12	1784.83	0.012009	8.25	231.81	61.34	0.73
T4-R6-S22	1000	Floodplain	1600.00	1799.00	1801.61	1801.18	1802.17	0.011324	6.09	274.09	135.34	0.71
T4-R6-S22	1000	Floodway	1600.00	1799.00	1801.72	1801.18	1802.28	0.010624	5.97	268.12	112.00	0.68
T4-R6-S22	1100	Floodplain	1500.00	1816.07	1819.23	1818.89	1820.09	0.013476	7.49	207.49	88.61	0.80
T4-R6-S22	1100	Floodway	1500.00	1816.07	1819.24	1818.87	1820.13	0.014409	7.58	197.80	72.00	0.81
T4-R6-S22	1200	Floodplain	1400.00	1835.00	1837.85	1837.23	1838.30	0.009479	6.47	283.13	129.78	0.67
T4-R6-S22	1200	Floodway	1400.00	1835.00	1838.70		1839.43	0.009996	7.38	208.00	57.66	0.68
T4-R6-S22	1300	Floodplain	1300.00	1858.00	1860.74	1860.65	1861.59	0.017552	8.56	196.90	100.97	0.91
T4-R6-S22	1300	Floodway	1300.00	1858.00	1861.68		1863.03	0.016693	9.51	142.80	38.91	0.87

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4-R6-S27

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4-R6-S27	100	Floodplain	1400.00	1590.00	1595.55	1594.86	1596.97	0.012609	9.84	157.29	38.42	0.75
T4-R6-S27	100	Floodway	1400.00	1590.00	1596.46	1594.86	1597.72	0.012606	9.00	155.60	25.00	0.64
T4-R6-S27	200	Floodplain	1400.00	1604.00	1609.49	1608.37	1610.18	0.007169	7.12	243.23	86.55	0.57
T4-R6-S27	200	Floodway	1400.00	1604.00	1610.40		1611.16	0.007409	7.00	199.94	35.00	0.52
T4-R6-S27	300	Floodplain	1400.00	1628.00	1631.01	1630.72	1631.40	0.011568	5.47	319.89	221.78	0.64
T4-R6-S27	300	Floodway	1400.00	1628.00	1631.45	1630.72	1631.97	0.010647	5.79	241.70	90.00	0.62
T4-R6-S27	400	Floodplain	1300.00	1646.00	1649.47		1649.89	0.009003	5.42	273.17	153.34	0.58
T4-R6-S27	400	Floodway	1300.00	1646.00	1649.60		1650.09	0.009374	5.58	233.05	83.00	0.59
T4-R6-S27	500	Floodplain	1300.00	1660.00	1663.58		1664.22	0.011274	7.38	228.53	93.98	0.69
T4-R6-S27	500	Floodway	1300.00	1660.00	1664.19		1665.03	0.011722	7.72	180.83	44.24	0.66
T4-R6-S27	600	Floodplain	1200.00	1681.00	1682.63	1682.43	1682.86	0.015884	5.18	343.17	339.88	0.72
T4-R6-S27	600	Floodway	1200.00	1681.00	1682.68	1682.43	1682.89	0.013712	4.91	360.52	341.67	0.67

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R6S35

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R6S35	100	Floodplain	1500.00	1524.00	1528.27	1527.84	1529.02	0.015010	9.58	273.31	144.74	0.82
T4R6S35	100	Floodway	1500.00	1524.00	1528.27	1527.84	1529.02	0.015010	9.58	273.31	144.74	0.82
T4R6S35	200	Floodplain	1400.00	1534.00	1539.38	1537.98	1539.78	0.006193	7.18	357.67	158.62	0.55
T4R6S35	200	Floodway	1400.00	1534.00	1539.38		1539.78	0.006193	7.18	357.67	158.62	0.55
T4R6S35	300	Floodplain	1300.00	1546.00	1550.45	1549.72	1550.97	0.008208	7.29	281.86	127.06	0.61
T4R6S35	300	Floodway	1300.00	1546.00	1550.45	1549.72	1550.97	0.008208	7.29	281.86	127.06	0.61
T4R6S35	400	Floodplain	1200.00	1566.00	1569.33	1569.02	1569.86	0.012521	7.42	261.50	167.55	0.72
T4R6S35	400	Floodway	1200.00	1566.00	1569.33	1569.02	1569.86	0.012521	7.42	261.50	167.55	0.72
T4R6S35	500	Floodplain	1100.00	1581.00	1583.92	1583.27	1584.24	0.008311	5.54	287.37	167.23	0.57
T4R6S35	500	Floodway	1100.00	1581.00	1583.92	1583.27	1584.24	0.008311	5.54	287.37	167.23	0.57
T4R6S35	600	Floodplain	1000.00	1598.00	1599.90	1599.67	1600.30	0.017197	5.97	224.73	182.04	0.76
T4R6S35	600	Floodway	1000.00	1598.00	1599.90	1599.67	1600.30	0.017197	5.97	224.73	182.04	0.76
T4R6S35	700	Floodplain	900.00	1626.00	1628.25	1627.88	1628.66	0.014200	6.08	230.78	243.73	0.71
T4R6S35	700	Floodway	900.00	1626.00	1628.25	1627.88	1628.66	0.014200	6.08	230.78	243.73	0.71
T4R6S35	800	Floodplain	800.00	1640.00	1644.50	1644.50	1645.67	0.018039	9.39	109.58	55.26	0.86
T4R6S35	800	Floodway	800.00	1640.00	1644.50	1644.50	1645.67	0.018039	9.39	109.58	55.26	0.86

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R7S11

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R7S11	100	Floodplain	1700.00	1867.00	1871.42	1870.83	1872.29	0.010004	8.89	260.99	90.10	0.75
T4R7S11	100	Floodway	1700.00	1867.00	1871.42	1870.83	1872.29	0.010004	8.89	260.99	90.10	0.75
T4R7S11	200	Floodplain	1700.00	1892.00	1896.31	1896.31	1897.67	0.015587	10.92	217.73	86.64	0.93
T4R7S11	200	Floodway	1700.00	1892.00	1896.31	1896.31	1897.67	0.015587	10.92	217.73	86.64	0.93
T4R7S11	300	Floodplain	1600.00	1907.00	1911.38		1912.11	0.008339	8.07	263.19	86.51	0.68
T4R7S11	300	Floodway	1600.00	1907.00	1911.38		1912.11	0.008339	8.07	263.19	86.51	0.68
T4R7S11	400	Floodplain	1500.00	1930.00	1933.72	1933.72	1935.11	0.017525	10.49	177.57	67.02	0.96
T4R7S11	400	Floodway	1500.00	1930.00	1933.72	1933.72	1935.11	0.017525	10.49	177.57	67.02	0.96
T4R7S11	500	Floodplain	1400.00	1950.00	1953.56	1952.92	1954.31	0.009525	7.51	219.23	79.03	0.70
T4R7S11	500	Floodway	1400.00	1950.00	1953.56	1952.92	1954.31	0.009525	7.51	219.23	79.03	0.70
T4R7S11	600	Floodplain	1300.00	1978.00	1980.95	1980.95	1981.96	0.020161	9.64	181.90	89.77	0.99
T4R7S11	600	Floodway	1300.00	1978.00	1980.95	1980.95	1981.96	0.020161	9.64	181.90	89.77	0.99
T4R7S11	700	Floodplain	1300.00	1999.00	2003.19	2002.51	2003.97	0.010186	8.66	206.73	72.67	0.75
T4R7S11	700	Floodway	1300.00	1999.00	2003.19	2002.51	2003.97	0.010186	8.66	206.73	72.67	0.75
T4R7S11	800	Floodplain	1200.00	2026.00	2028.86	2028.86	2030.01	0.019366	9.26	153.34	71.17	0.96
T4R7S11	800	Floodway	1200.00	2026.00	2028.86	2028.86	2030.01	0.019366	9.26	153.34	71.17	0.96
T4R7S11	900	Floodplain	1100.00	2057.00	2060.40	2059.87	2060.99	0.010960	7.82	198.15	84.99	0.75
T4R7S11	900	Floodway	1100.00	2057.00	2060.40	2059.87	2060.99	0.010960	7.82	198.15	84.99	0.75
T4R7S11	1000	Floodplain	1000.00	2093.00	2094.90	2094.90	2095.59	0.025705	8.12	164.64	118.11	1.04
T4R7S11	1000	Floodway	1000.00	2093.00	2094.90	2094.90	2095.59	0.025705	8.12	164.64	118.11	1.04
T4R7S11	1100	Floodplain	900.00	2117.00	2119.76	2119.17	2120.19	0.009798	6.43	184.72	88.33	0.68
T4R7S11	1100	Floodway	900.00	2117.00	2119.76	2119.17	2120.19	0.009798	6.43	184.72	88.33	0.68
T4R7S11	1200	Floodplain	800.00	2143.00	2145.73	2145.73	2146.69	0.022319	9.63	113.00	59.00	1.03
T4R7S11	1200	Floodway	800.00	2143.00	2145.73	2145.73	2146.69	0.022319	9.63	113.00	59.00	1.03
T4R7S11	1300	Floodplain	700.00	2175.00	2177.62	2177.39	2178.23	0.015807	7.88	126.72	74.09	0.86
T4R7S11	1300	Floodway	700.00	2175.00	2177.62	2177.39	2178.23	0.015807	7.88	126.72	74.09	0.86

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R7S13

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R7S13	100	3200.00	1808.00	1812.64	1812.39	1814.02	0.010017	10.34	390.43	118.68	0.85
T4R7S13	100	3200.00	1808.00	1812.64	1812.39	1814.02	0.010017	10.34	390.43	118.68	0.85
T4R7S13	200	3100.00	1825.00	1829.20	1828.64	1830.34	0.009057	9.20	398.67	119.55	0.79
T4R7S13	200	3100.00	1825.00	1829.20	1828.64	1830.34	0.009059	9.20	398.64	119.54	0.79
T4R7S13	300	3000.00	1840.00	1845.12	1845.12	1847.07	0.012354	12.26	307.94	83.49	0.96
T4R7S13	300	3000.00	1840.00	1845.12	1845.12	1847.07	0.012354	12.26	307.94	83.49	0.96
T4R7S13	400	2900.00	1864.00	1869.15	1869.15	1870.80	0.011827	12.05	336.33	98.32	0.94
T4R7S13	400	2900.00	1864.00	1869.15	1869.15	1870.80	0.011827	12.05	336.33	98.32	0.94
T4R7S13	500	2700.00	1890.00	1894.54	1894.54	1896.13	0.012228	11.26	313.18	100.60	0.93
T4R7S13	500	2700.00	1890.00	1894.54	1894.54	1896.13	0.012228	11.26	313.18	100.60	0.93
T4R7S13	600	2600.00	1915.00	1919.62	1919.62	1921.29	0.013690	12.05	292.14	88.92	0.99
T4R7S13	600	2600.00	1915.00	1919.62	1919.62	1921.29	0.013690	12.05	292.14	88.92	0.99
T4R7S13	700	2500.00	1934.00	1939.09	1939.04	1940.57	0.010616	11.33	321.10	109.18	0.88
T4R7S13	700	2500.00	1934.00	1939.09	1939.04	1940.57	0.010616	11.33	321.10	109.18	0.88
T4R7S13	800	2400.00	1955.00	1959.20	1958.99	1960.51	0.012890	10.98	311.77	111.58	0.94
T4R7S13	800	2400.00	1955.00	1959.20	1958.99	1960.51	0.012890	10.98	311.77	111.58	0.94
T4R7S13	900	2300.00	1988.00	1991.96	1991.96	1993.47	0.013909	10.96	268.14	93.49	0.97
T4R7S13	900	2300.00	1988.00	1991.96	1991.96	1993.47	0.013909	10.96	268.14	93.49	0.97
T4R7S13	1000	1400.00	2008.00	2010.42	2010.37	2011.41	0.015679	8.38	189.71	95.02	0.95
T4R7S13	1000	1400.00	2008.00	2010.42	2010.37	2011.41	0.015679	8.38	189.71	95.02	0.95
T4R7S13	1100	1400.00	2036.00	2038.69	2038.69	2039.68	0.019949	9.01	195.45	101.70	0.97
T4R7S13	1100	1400.00	2036.00	2038.69	2038.69	2039.68	0.019949	9.01	195.45	101.70	0.97
T4R7S13	1200	1400.00	2062.00	2065.64	2065.36	2066.59	0.012990	8.90	206.58	86.69	0.82
T4R7S13	1200	1400.00	2062.00	2065.64	2065.36	2066.59	0.012990	8.90	206.58	86.69	0.82
T4R7S13	1300	1300.00	2086.00	2088.61	2088.61	2089.54	0.019596	8.76	192.85	111.74	0.96
T4R7S13	1300	1300.00	2086.00	2088.61	2088.61	2089.54	0.019596	8.76	192.85	111.74	0.96
T4R7S13	1400	1200.00	2109.00	2112.42	2111.92	2113.18	0.010680	7.75	191.97	76.86	0.74
T4R7S13	1400	1200.00	2109.00	2112.42	2111.92	2113.18	0.010680	7.75	191.97	76.86	0.74

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R7S13 (Continued)

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R7S13	1500	1100.00	2137.00	2139.42	2139.42	2140.40	0.021684	8.77	151.30	80.48	0.99
T4R7S13	1500	1100.00	2137.00	2139.42	2139.42	2140.40	0.021684	8.77	151.30	80.48	0.99
T4R7S13	1600	1000.00	2175.00	2178.17	2178.17	2179.29	0.018226	9.62	135.39	64.41	0.95
T4R7S13	1600	1000.00	2175.00	2178.17	2178.17	2179.29	0.018226	9.62	135.39	64.41	0.95
T4R7S13	1700	900.00	2209.00	2211.94	2211.94	2213.11	0.020951	9.81	113.99	50.58	1.01
T4R7S13	1700	900.00	2209.00	2211.94	2211.94	2213.11	0.020951	9.81	113.99	50.58	1.01
T4R7S13	1800	800.00	2262.00	2265.16	2265.16	2266.31	0.018433	9.66	106.04	49.19	0.96
T4R7S13	1800	800.00	2262.00	2265.16	2265.16	2266.31	0.018433	9.66	106.04	49.19	0.96

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R7S22

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R7S22	100	Floodplain	1200.00	1988.00	1991.12	1990.60	1991.61	0.010018	7.05	284.14	220.80	0.70
T4R7S22	100	Floodway	1200.00	1988.00	1991.12	1990.60	1991.61	0.010018	7.05	284.14	220.80	0.70
T4R7S22	200	Floodplain	1200.00	1998.00	2000.99	2000.68	2001.71	0.012776	7.74	199.09	97.25	0.79
T4R7S22	200	Floodway	1200.00	1998.00	2000.99	2000.68	2001.71	0.012778	7.74	199.07	97.25	0.79
T4R7S22	300	Floodplain	1200.00	2006.00	2008.63	2008.47	2009.35	0.015713	7.89	199.32	108.44	0.86
T4R7S22	300	Floodway	1200.00	2006.00	2008.63	2008.47	2009.35	0.015710	7.89	199.33	108.44	0.86
T4R7S22	400	Floodplain	1200.00	2016.00	2019.43	2019.11	2020.44	0.013373	8.68	162.91	62.12	0.83
T4R7S22	400	Floodway	1200.00	2016.00	2019.43	2019.11	2020.44	0.013375	8.68	162.90	62.11	0.83

5.10 References

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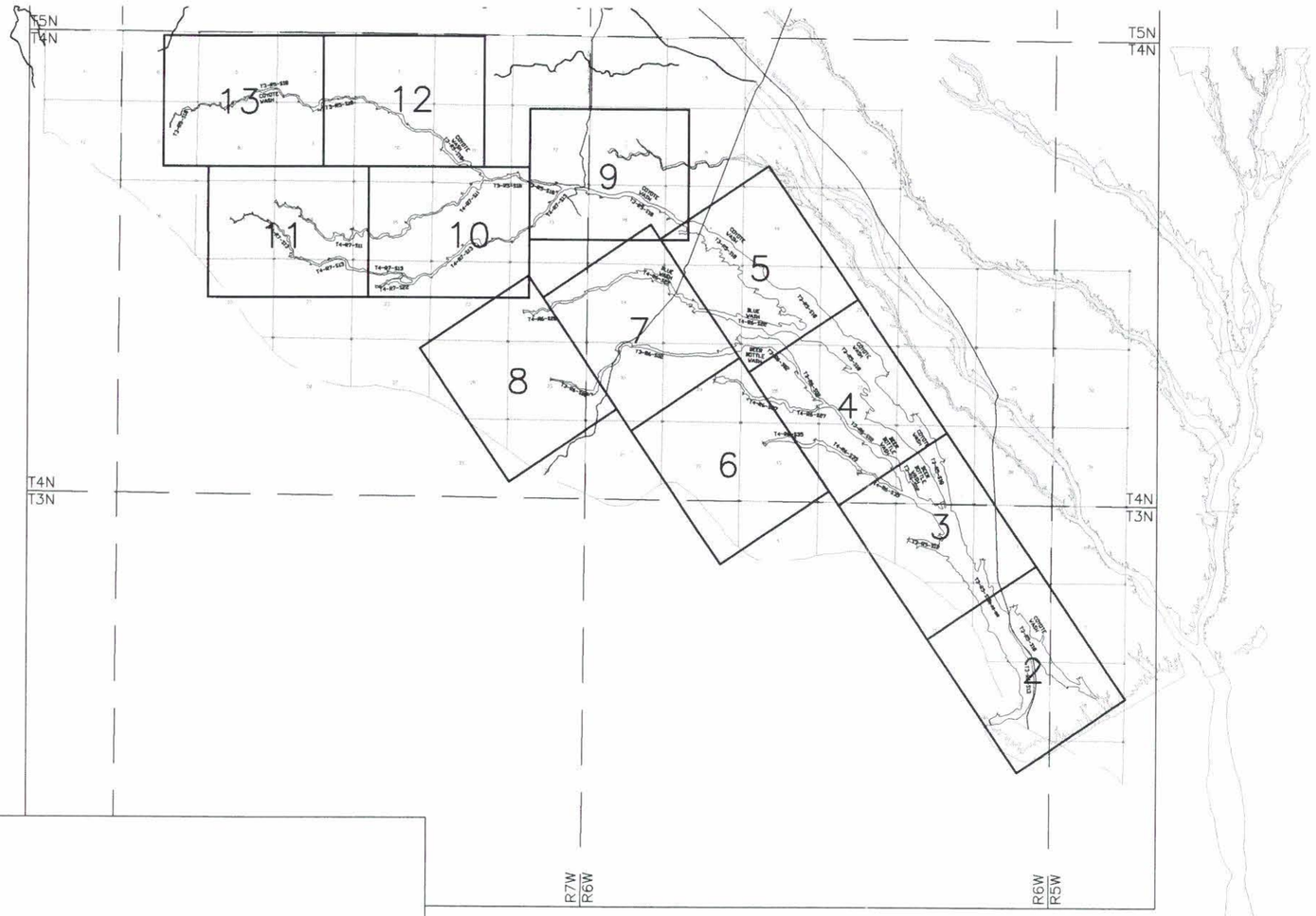
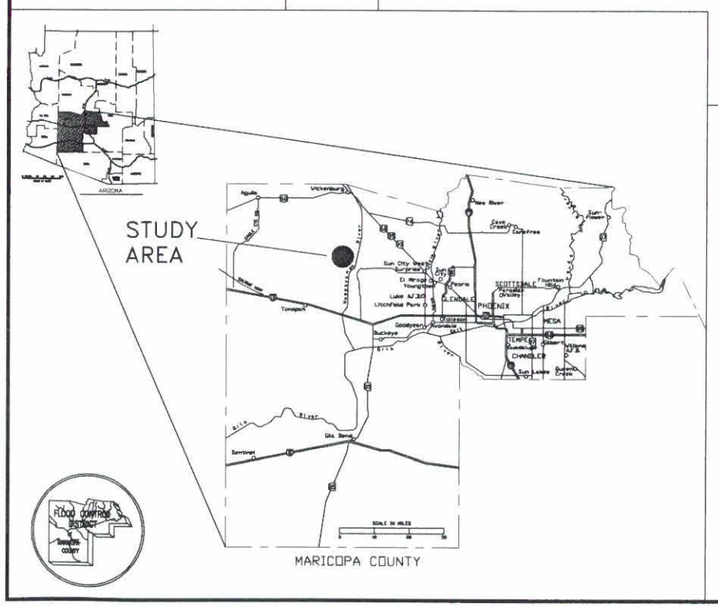
2. Thomsen, B.W. and Hjalmarson, H.W., 1991, *Estimated Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona*. U.S. Geological Survey: Tucson, Arizona, 126 p.

3. U.S. Army Corps of Engineers, HEC-RAS River Analysis System Users Manual, Version 3.0, January, 2001.

4. U.S. Army Corps of Engineers, HEC-RAS River Analysis System Hydraulic Reference Manual, Version 3.0, January, 2001

5. U.S. Army Corps of Engineers, HEC-RAS River Analysis System, Version 3.0, January, 2001.





LEGEND

SECTION BOUNDARY

STUDY REACH AND REACH ID — T5 R5 S36

ROAD — Carefree Hwy.

SHEET OUTLINE AND NUMBER — 5

NOTES

1. HORIZONTAL PROJECTION IS ARIZONA STATE PLANE CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.
2. ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

STATEMENT OF PROFESSIONAL REGISTRATION

THE APPROXIMATE ZONE A FLOODPLAIN AND FLOODWAY DELINEATION WERE PREPARED UNDER MY DIRECT SUPERVISION USING HYDROLOGY FROM FCD 90-05 AND NEW HYDROLOGY UNDER THIS CONTRACT.

SCALE
3750' 0' 3750' 7500'

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019
WATERSHED "OO"
MAY 2003

JE FULLER HYDROLOGY & GEOMORPHOLOGY, INC.
TEMPE, ARIZONA • 480-753-2126

IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES
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Land Planners
(602) 335-8400

ARGUS CONSULTING
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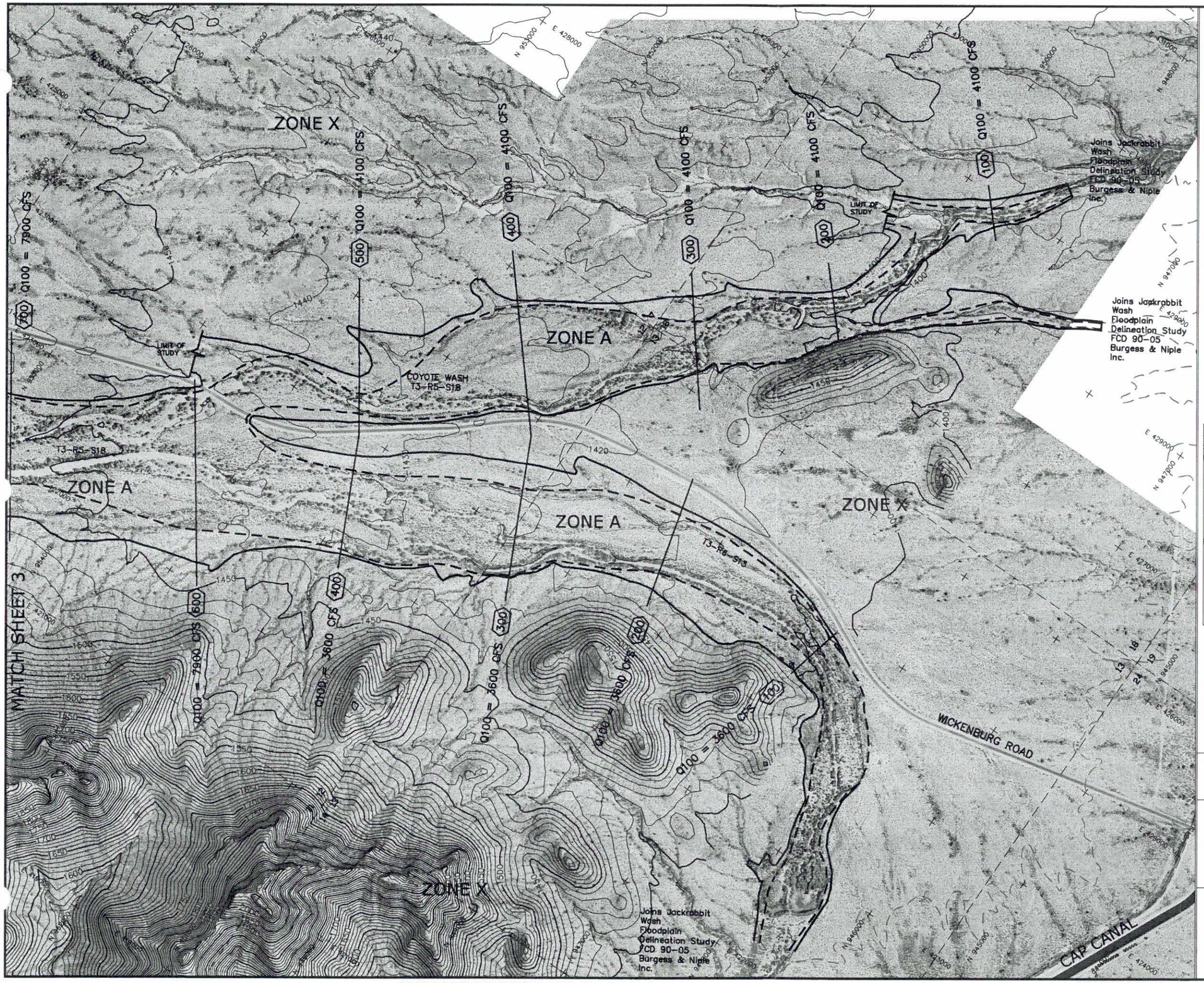
Scottsdale, Arizona 480-483-1337

WP# 001218



LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 7 / 13 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

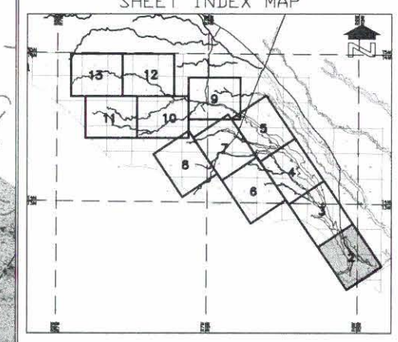
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3586	4GK2	981265.843	423857.208	1492.940

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

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ARGUS CONSULTING
A CIVIL ENGINEERING COMPANY, L.L.C.
Scottsdale, Arizona 480-994-1157

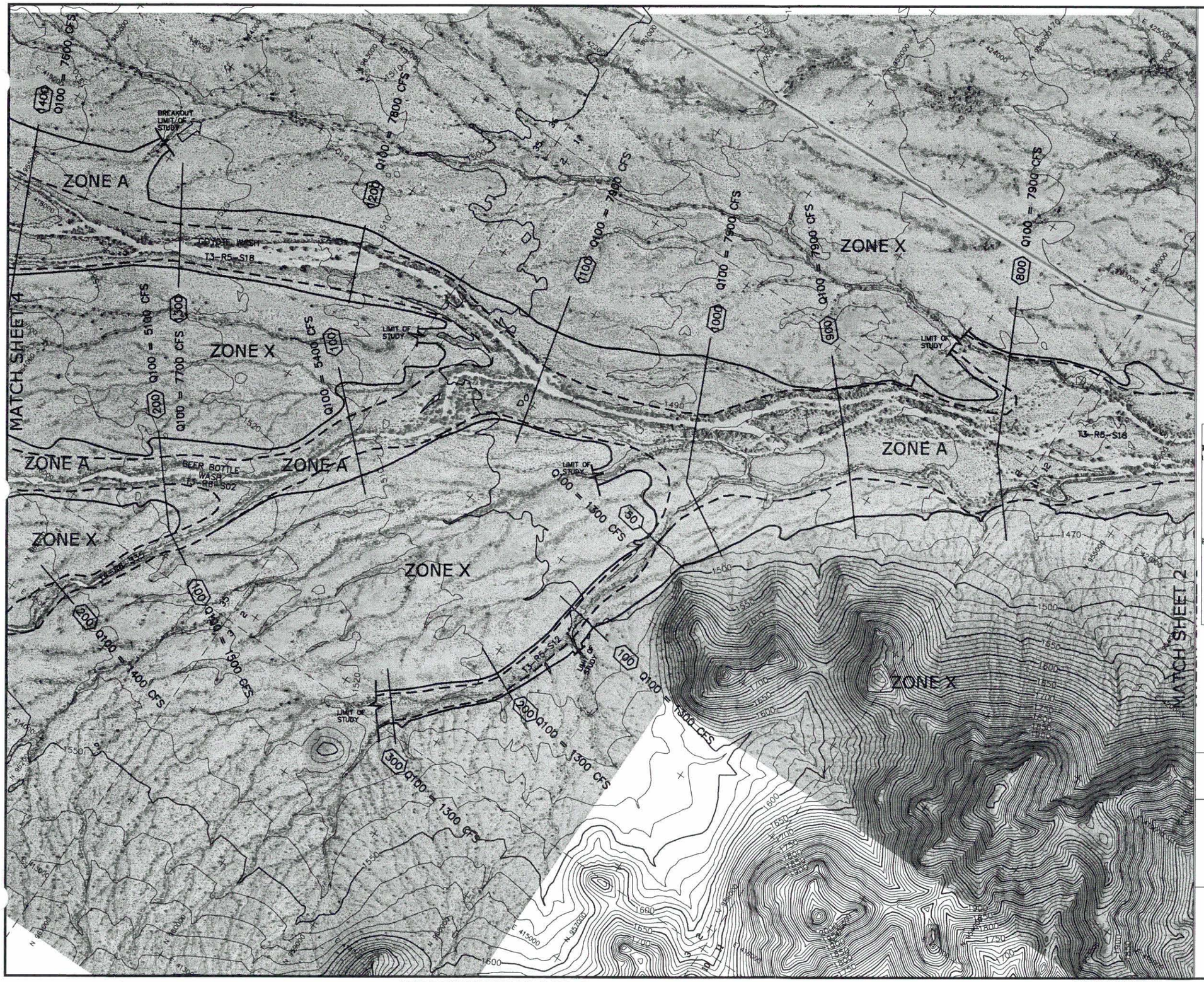
WP# 001218

SHEET 2 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA



LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 | 7 / 13 | 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

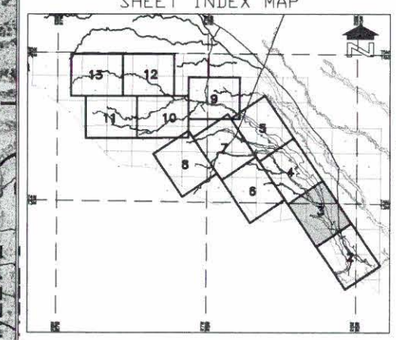
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3588	4GK2	981265.843	423657.208	1492.940

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

JE FULLER HYDROLOGY & GEOMORPHOLOGY, INC.

TEMPE, ARIZONA – 480-753-2124

IN ASSOCIATION WITH

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Hydrologists
Land Surveyors
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ARGUS CONSULTING

A CITIES INFORMATION COMPANY, L.L.C.

WP# 001218

SHEET 3 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA

LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 | 7 / 13 | 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

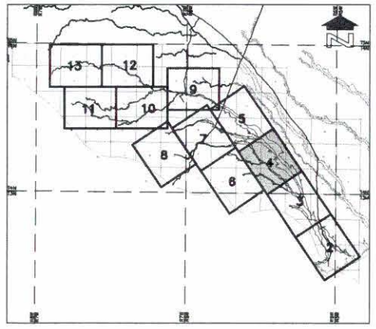
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3586	4GK2	981265.843	423857.208	1492.940

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

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IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES

ARGUS CONSULTING

WP# 001218

SHEET 4 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA
PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA

LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 7 / 13 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

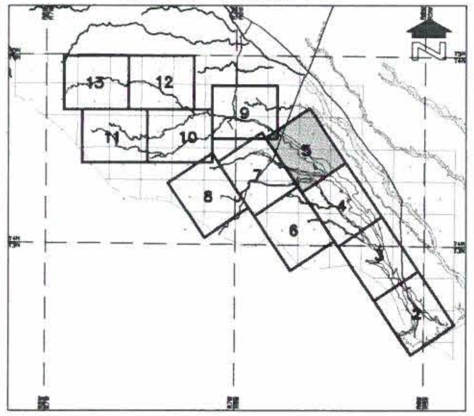
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3587	4GM5	864277.848	393713.018	2062.507

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'
SCALE: 1"= 400 FEET
CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019
WATERSHED "OO"
MAY 2003

JE FULLER HYDROLOGY & GEOMORPHOLOGY, INC.
TEMPE, ARIZONA

IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES Civil Engineers Hydrologists Land Surveyors

ARGUS CONSULTING

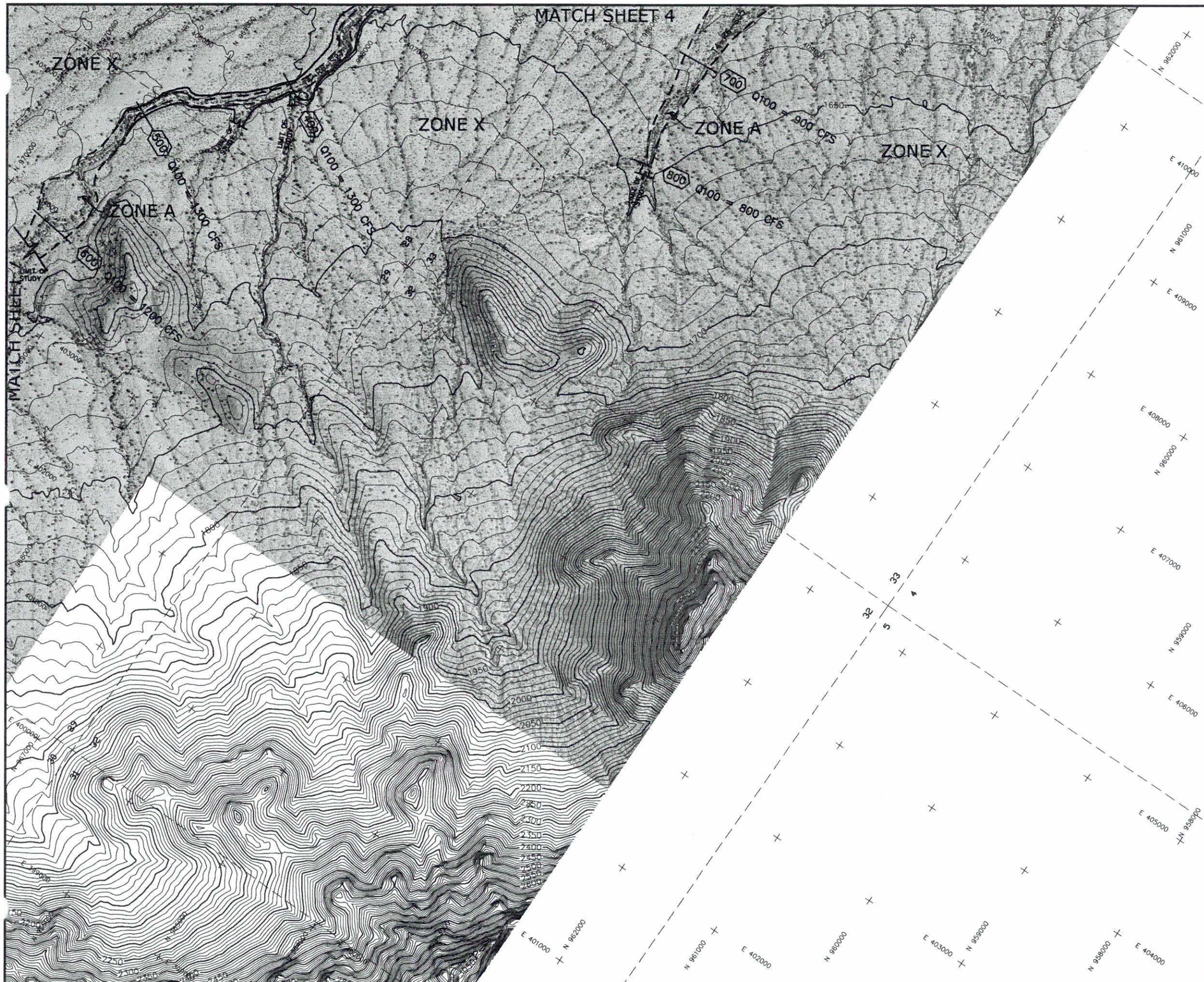
WP# 001218

SHEET 5 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA



LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 7 / 13 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

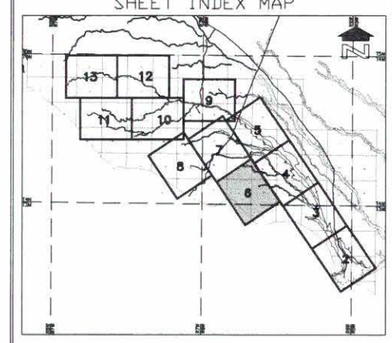
NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3587	4GM5	984277.848	393713.018	2062.507
(Not Shown, Outside Boundary of Sheet)				

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

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Scottsdale, Arizona 480-994-1167

WP# 001218

SHEET 6 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA
PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA

LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 | 7 / 13 | 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

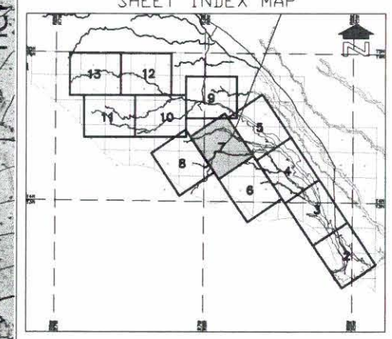
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3587	4GM5	964277.848	393713.018	2062.507

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

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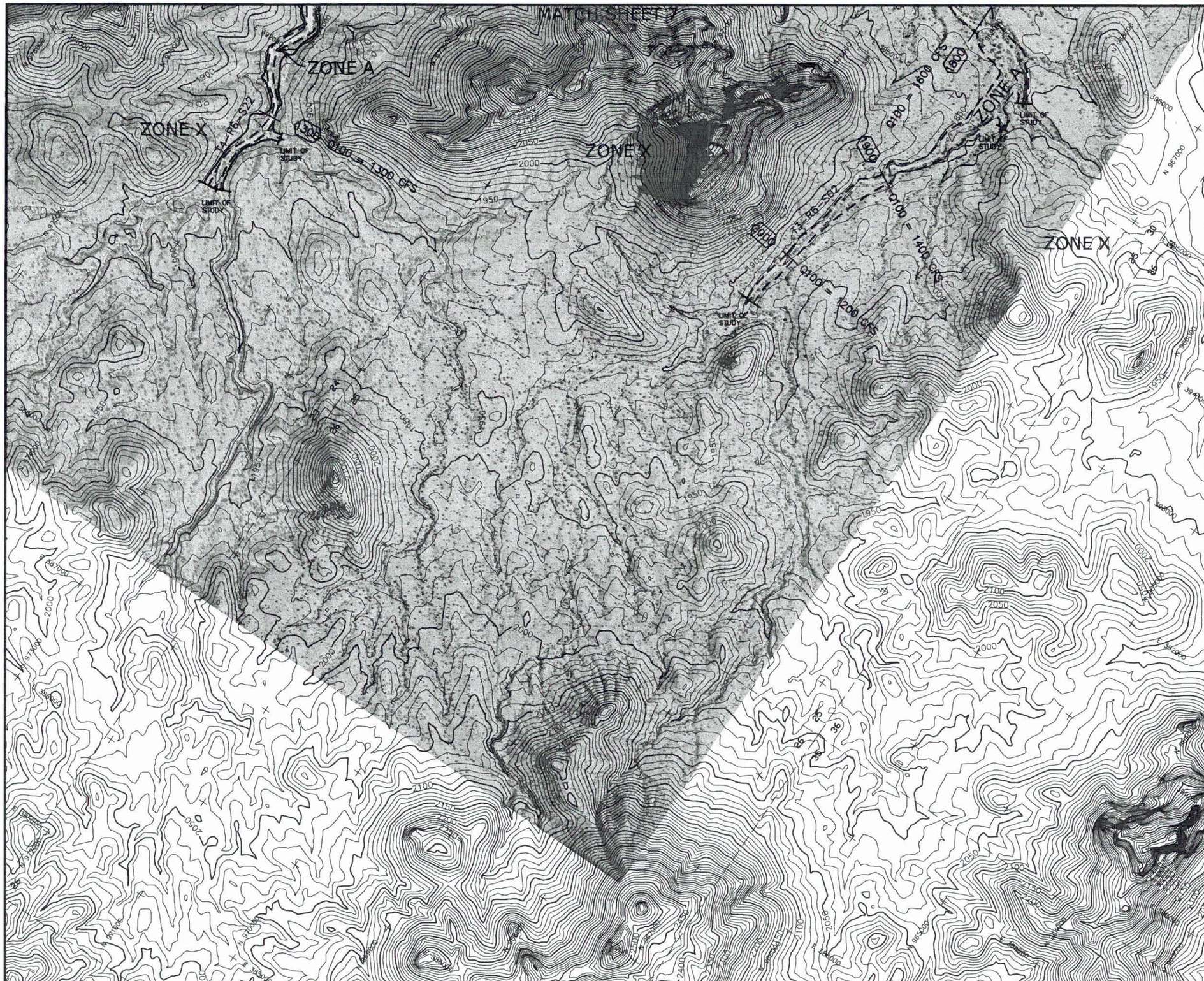
Scottsdale, Arizona 480-991-1120

WP# 001218

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA
PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA


MATCH SHEET 7
ZONE A
ZONE X
ZONE X
ZONE A
ZONE X
LIMIT OF STUDY
LIMIT OF STUDY
LIMIT OF STUDY
LIMIT OF STUDY
LIMIT OF STUDY
Q100 = 1300 CFS
Q100 = 1400 CFS
Q100 = 1200 CFS
Q100 = 1600 CFS
Q100 = 1900 CFS
Q100 = 1800 CFS
1A-R6-S22
1A-R6-S32
N 987000
N 986000
N 985000
E 380000
E 381000
E 382000
E 383000
E 384000
E 385000
E 386000
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E 388000
E 389000
E 390000
E 391000
E 392000
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E 394000
E 395000
E 396000
E 397000
E 398000
E 399000
E

LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 7 / 13 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

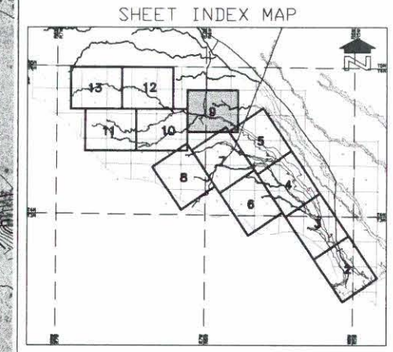
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3594	4HN2	976701.821	378906.644	2059.646

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET
CONTOUR INTERVAL = 10 FEET
FLIGHT DATES: DECEMBER, 2000

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019
WATERSHED "OO"
MAY 2003

JE FULLER STRUCTURAL & GEOTECHNOLOGY, INC.
TEMPE, ARIZONA - 480-752-2124

IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES
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Hydrologists
Land Surveyors
(602) 335-8500

ARGUS CONSULTING
A CIVIL ENGINEERING CONSULTANT, L.L.C.
Scottsdale, Arizona 480-607-1227

WP# 001218

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA

GROUND CONTROL SURVEY DATA PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA

LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 7 / 13 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

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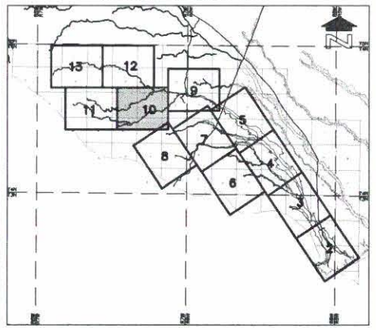
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3594	4HN2	976701.821	378906.844	2059.646

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

JE FULLER HYDROLOGY & GEOMORPHOLOGY, INC.

TEMPE, ARIZONA – 480-752-2124

IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES

ARGUS CONSULTING

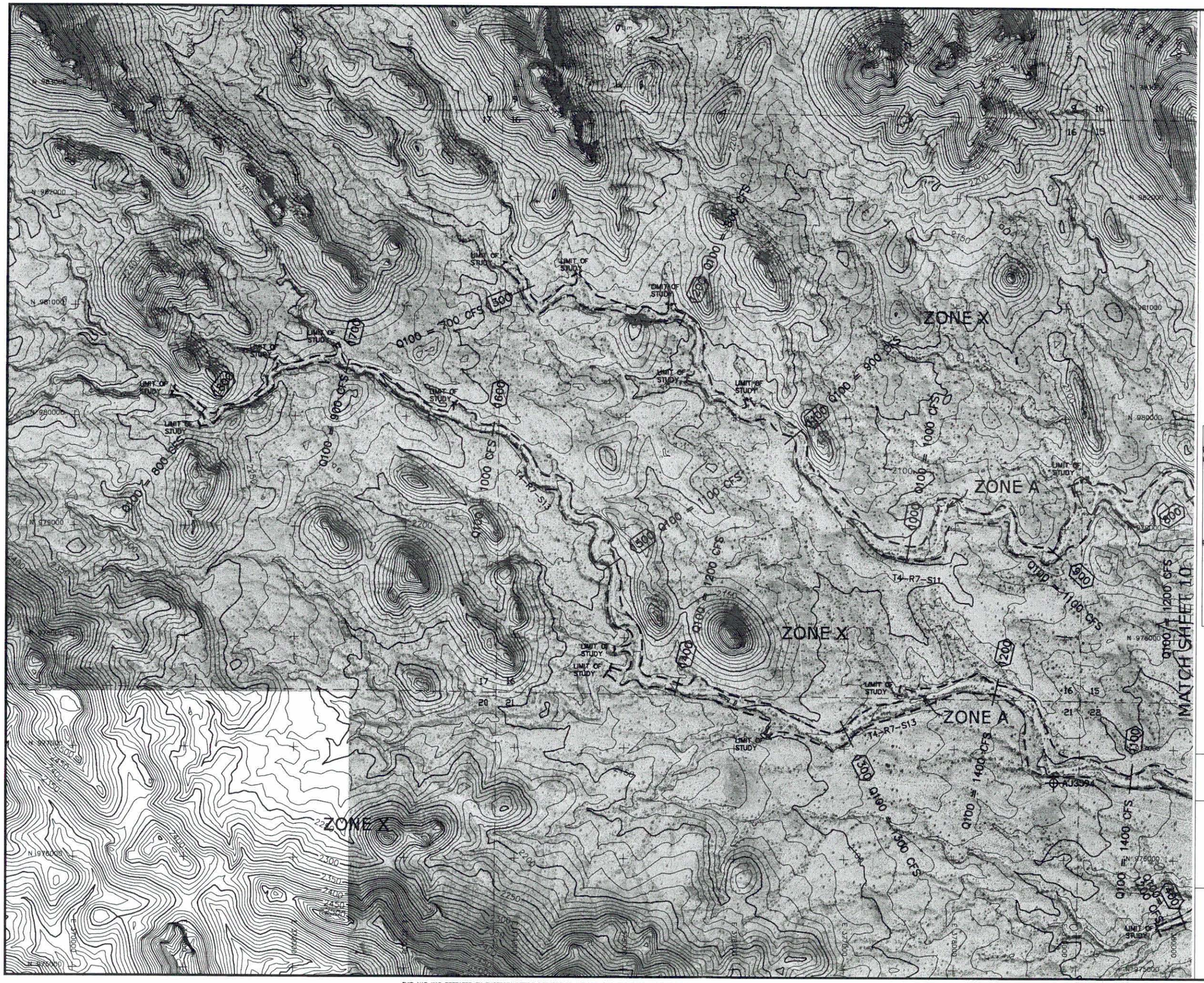
WP# 001218

SHEET 10 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA
PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA



LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
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CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 | 7 / 13 | 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

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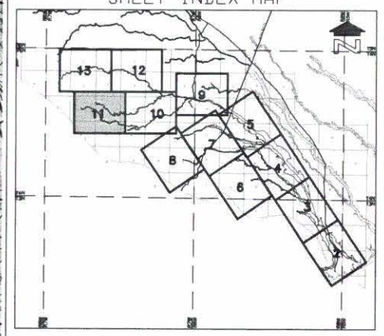
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3594	4HN2	976701.821	378906.644	2059.646

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

JE FULLER HYDROLOGY & GEOMORPHOLOGY, INC.

TEMPE, ARIZONA - 480-752-2124

IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES
Civil Engineers
Hydrologists
Land Surveyors
(602) 335-8500

ARGUS CONSULTING
A GPCS ENVIRONMENT COMPANY, L.L.C.
Residentially authorized 480-494-1132

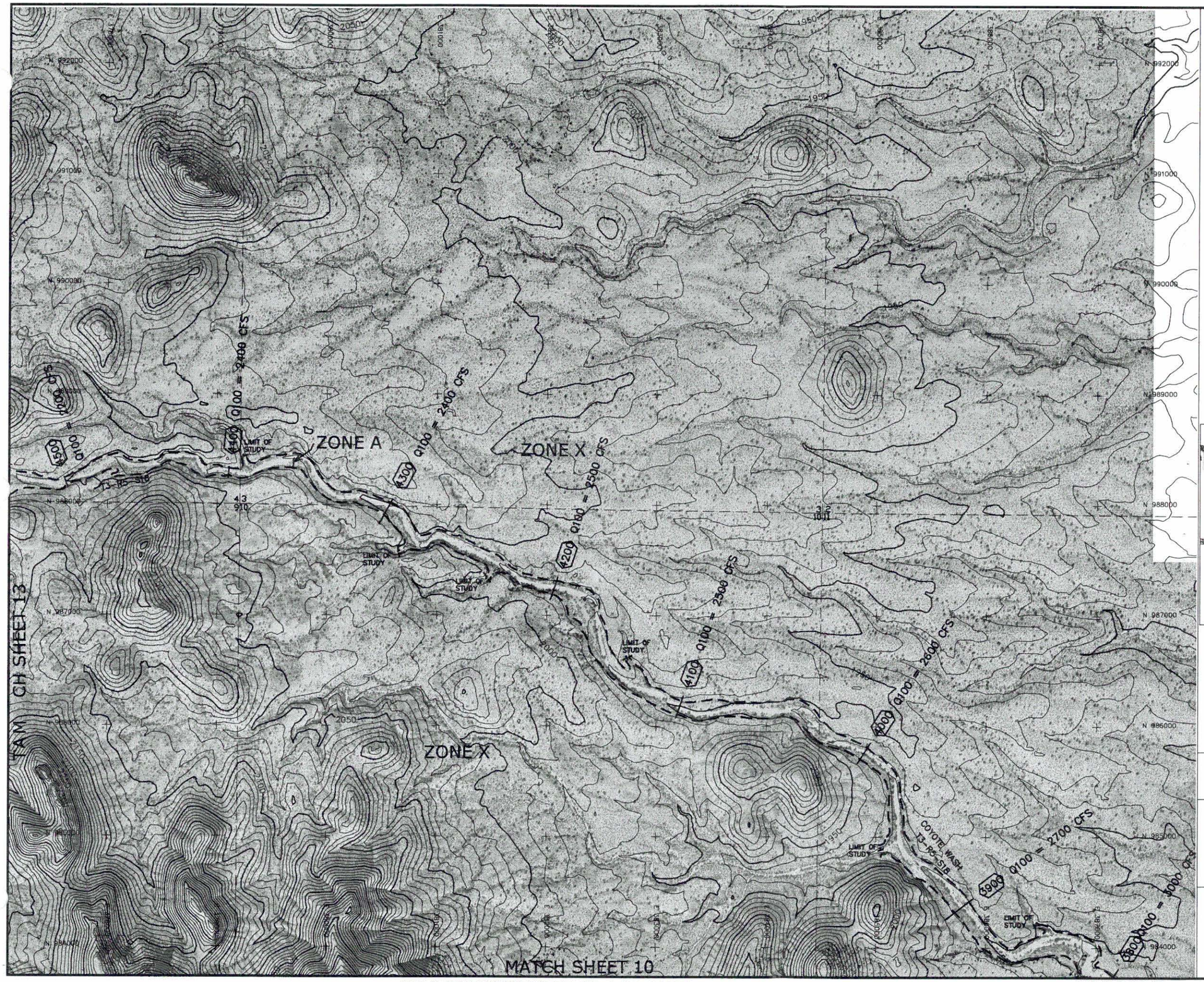
WP# 001218

SHEET 11 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA
PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA



LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 | 7 / 13 | 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

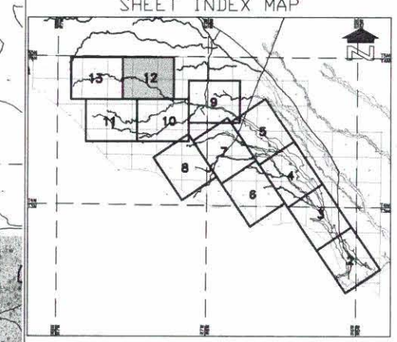
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3594	4HN2	976701.821	378906.644	2059.848

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

JE FULLER HYDROLOGY & GEOMORPHOLOGY, INC.

TEMPE, ARIZONA - 480-752-2124

IN ASSOCIATION WITH

WOOD/PATEL ASSOCIATES

ARGUS CONSULTING

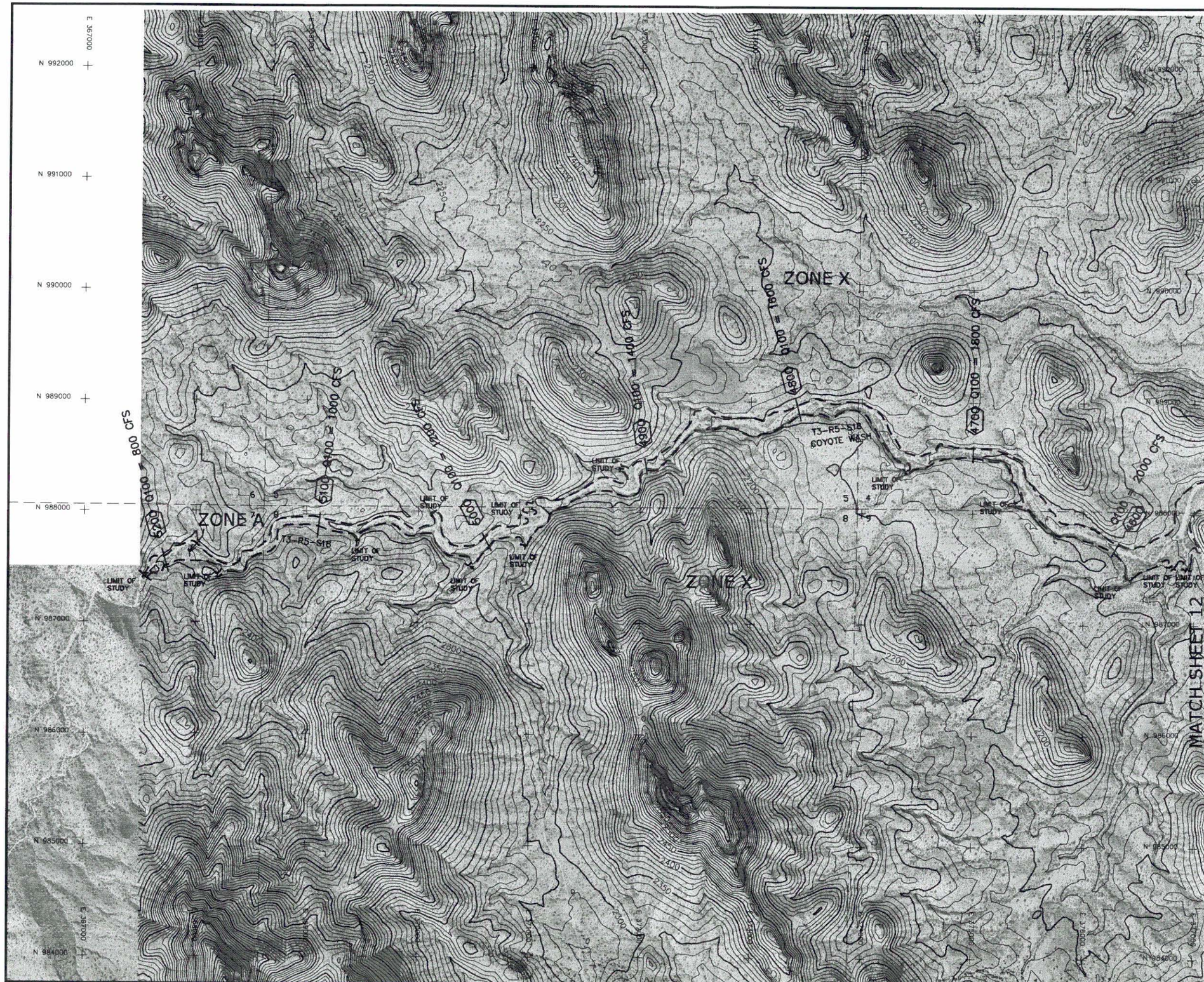
WP# 001218

SHEET 12 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA
PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA



LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR ADMINISTRATIVE FLOODWAY	
100-YR FLOODPLAIN BOUNDARY (EXISTING OR CONCURRENT STUDY)	
100-YR ADMINISTRATIVE FLOODWAY (EXISTING OR CONCURRENT STUDY)	
CROSS SECTION	200
ZONE DESIGNATIONS	ZONE A
CORPORATE LIMITS	Corporate Limits
COUNTY BOUNDARY	County Boundary
SECTION BOUNDARY	12 7 / 13 18
ELEVATION REFERENCE MARK	AJ3594

NOTES

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1988.

NOTE: ALL NORTHING AND EASTING MARKS ARE IN NAD83 STATE PLANE COORDINATE SYSTEM

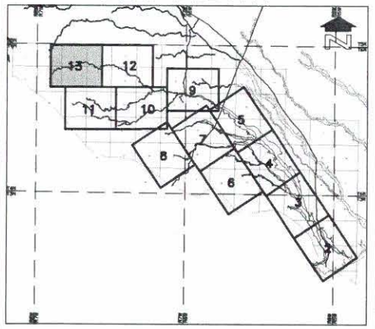
ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

NGS PID	Station Designation	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NAVD 88 Elevation (feet)
AJ3594	4HN2	976701.821	378906.544	2059.646

(Not Shown, Outside Boundary of Sheet)

SHEET INDEX MAP



400' 0' 400' 800'

SCALE: 1"= 400 FEET

CONTOUR INTERVAL = 10 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

COYOTE WASH AND TRIBUTARIES

APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY, FCD 2000C019

WATERSHED "OO"

MAY 2003

JE FULLER HYDROLOGY & GEOMORPHOLOGY, INC.
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ARGUS CONSULTING
A CITIZENS-COMMISSIONED COMPANY, L.L.C.
Scottsdale, Arizona 480-991-1177

WP# 001218

SHEET 13 OF 13

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 500' HORIZONTAL SCALE AND 10' CONTOUR INTERVALS.

LANDATA AIRBORNE SYSTEMS, IRVINE, CALIFORNIA
FLIGHT DATES: DECEMBER 2000

GROUND CONTROL SURVEY DATA
PROVIDED BY RBF CONSULTING, PHOENIX, ARIZONA

SECTION 6: EROSION AND SEDIMENT TRANSPORT

No erosion or sediment transport analyses were conducted as part of this study.

SECTION 7: DRAFT FIS REPORT DATA

7.1 Summary of Discharges

See Chapter 4 and Table 4.5 for detail regarding the origin of the discharges presented below.

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs)			
		10-Year	50-year	100-Year	500-Year
Vulture Mountains					
53	5.700	--1	--1	4,100	--1
53A (10F_1)	1.063	--1	--1	1,200	--1
53B (10F_1+10F_2)	2.361	--1	--1	2,400	--1
53C (10F_1+2+4)	3.256	--1	--1	2,700	--1
53D (10F_3)	0.912	--1	--1	1,100	--1
53E (10F_3+5)	2.249	--1	--1	2,400	--1
59A (10F-1+2+3+4+5+10G_1)	6.675	--1	--1	4,100	--1
60	6.900	--1	--1	3,500	--1
60A (10I_1)	0.771	--1	--1	1,000	--1
60B (10I_1+2)	1.172	--1	--1	1,300	--1
60C (10I_1+2+3)	1.696	--1	--1	2,200	--1
60D (10I_4)	0.793	--1	--1	1,000	--1
60E (10I_4+5)	1.709	--1	--1	2,200	--1
60F (10I_1+2+3+4+5+6)	3.591	--1	--1	2,800	--1
62 (10K1+23% of 60C)	1.243	--1	--1	2,000	--1
65	1.900	--1	--1	2,400	--1
67A (10M1+M3_1)	3.759	--1	--1	2,900	--1
73	3.100	--1	--1	3,200	--1
73A (10O_1)	1.429	--1	--1	1,400	--1
74	9.200	--1	--1	5,900	--1
74A (10O_1+2+10P_1)	4.338	--1	--1	3,700	--1
74B (10O_1+2+10P_1+2)	7.543	--1	--1	5,200	--1
75 (includes 60% of 74B area)	6.252	--1	--1	4,700	--1
75A (10Q_1)	1.676	--1	--1	1,400	--1
76A (10Q_1+2+10R_2)	3.585	--1	--1	2,800	--1
76B	--2	--1	--1	3,000	--1
76C	--2	--1	--1	4,900	--1
78	5.300	--1	--1	3,800	--1
78A (10W_1)	1.504	--1	--1	1,400	--1
78B (10W_2)	1.187	--1	--1	1,300	--1
78C (10W_2+3)	2.428	--1	--1	2,400	--1
86	4.900	--1	--1	3,600	--1
86A (12A_1)	4.093	--1	--1	3,000	--1
87A (12B_1)	0.639	--1	--1	800	--1
88A (12A_1+2+12C_1)	5.038	--1	--1	3,600	--1
88B	--2	--1	--1	2,700	--1
88C (12A_1+2+12C_1+2)	5.898	--1	--1	1,500	--1
120 (20A)	1.038	--1	--1	1,200	--1
121 (20A+20B)	1.727	--1	--1	2,200	--1

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs)			
		10-Year	50-year	100-Year	500-Year
122 (21A)	0.846	--1	--1	1,000	--1
123 (21A+21B)	1.766	--1	--1	2,200	--1
124 (22_1+2)	1.847	--1	--1	1,500	--1
124A (22_1)	1.421	--1	--1	1,400	--1
125 (22A)	2.136	--1	--1	2,300	--1
126 (22A+B)	3.482	--1	--1	2,800	--1
127 (22A+B+C)	5.702	--1	--1	3,600	--1
128 (22A+B+C+D)	7.764	--1	--1	4,300	--1
129 (23A)	1.313	--1	--1	1,300	--1
130 (24A+66% of 88A Area)	6.809	--1	--1	4,000	--1
131 (23A+B+24A+B+66% of 88A Area)	9.795	--1	--1	5,000	--1
Northwest Mountains					
8A (1H_1)	0.983	--1	--1	1,100	--1
8B (1H_1+2)	5.040	--1	--1	2,900	--1
8C (1H_1+2+3 Less 15% of 1H_1+2)	7.407	--1	--1	4,200	--1
11A (1K_1)	1.493	--1	--1	1,400	--1
11B (1K_1+2)	3.271	--1	--1	2,000	--1
11C (1K_4)	0.624	--1	--1	800	--1
11D (1K_3+4)	1.162	--1	--1	1,300	--1
11E (1K_1+2+3+4)	4.432	--1	--1	2,600	--1
19	6.000	--1	--1	3,500	--1
19A (3A_1)	0.860	--1	--1	1,000	--1
19B (3A_1+2)	1.088	--1	--1	1,300	--1
19C (3A_1+2+3)	2.420	--1	--1	1,700	--1
19D (3A_1+2+3+4)	3.370	--1	--1	2,000	--1
19E (3A_5)	0.164	--1	--1	300	--1
19F (3A_5+6)	1.474	--1	--1	1,400	--1
Upper Jackrabbit Wash Main Stem					
1	6.700	--1	--1	7,400	--1
2	12.400	--1	--1	9,000	--1
4	16.500	--1	--1	8,900	--1
7	23.200	--1	--1	8,900	--1
8	30.800	--1	--1	11,400	--1
10	37.600	--1	--1	13,500	--1
11	45.200	--1	--1	13,200	--1
12	79.100	--1	--1	18,800	--1
21	102.100	--1	--1	21,100	--1
22	105.000	--1	--1	20,800	--1
32	134.500	--1	--1	21,400	--1
Belmont Mountains					
6A (1F_1)	1.135	--1	--1	1,200	--1
9A (1I_1)	1.135	--1	--1	1,200	--1
9B (1I_2)	0.873	--1	--1	1,100	--1
9D (1I_3)	0.362	--1	--1	600	--1

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs)			
		10-Year	50-year	100-Year	500-Year
9C (1I_1+2+5)	3.418	--1	--1	2,200	--1
9E (1I_3+4)	1.068	--1	--1	1,200	--1
9F (1I_1+2+3+4+5+6)	4.597	--1	--1	2,800	--1
13	7.800	--1	--1	5,700	--1
13A (2A_1)	0.985	--1	--1	1,100	--1
13B (2A_2)	1.239	--1	--1	1,200	--1
13C (2A_1+2+3)	2.837	--1	--1	1,900	--1
13D (2A_4)	2.898	--1	--1	1,900	--1
13E (2A_1+2+3+4+5)	6.075	--1	--1	3,600	--1
13F (2A_6)	1.059	--1	--1	1,200	--1
14A (2B_1)	0.547	--1	--1	800	--1
14B (2B_2)	0.955	--1	--1	1,100	--1
14C (2B_1+2+3)	1.825	--1	--1	1,400	--1
15A (2C_1)	1.381	--1	--1	1,300	--1
17A (2D_1)	0.968	--1	--1	1,100	--1
23D (4A_1)	0.532	--1	--1	700	--1
23E (4A_1+3)	0.840	--1	--1	1,000	--1
23F (4A_2)	0.258	--1	--1	500	--1
23G (4A_2+4)	0.712	--1	--1	900	--1
23H (4A_1+2+3+4)	1.552	--1	--1	1,300	--1
39	4.600	--1	--1	2,700	--1
39A (9A_1)	0.587	--1	--1	800	--1
40	13.100	--1	--1	6,500	--1
40A (9B_1)	0.564	--1	--1	800	--1
40B (9B_1+2)	2.006	--1	--1	1,400	--1
40C (9B_3)	1.304	--1	--1	1,200	--1
40D (9B_1+2+3+4)	3.619	--1	--1	2,300	--1
40E (9B_1+2+3+4+5)	5.399	--1	--1	3,200	--1
40F (9B_6)	0.468	--1	--1	700	--1
40G (9B_6+7)	1.655	--1	--1	1,300	--1
40H (9B_6+7+8)	2.491	--1	--1	1,700	--1
40I (9A+9B_6+7+8+9)	7.245	--1	--1	4,400	--1
41	20.500	--1	--1	5,900	--1
41A (9C_1)	1.406	--1	--1	1,300	--1
41B (9C_1+2)	3.335	--1	--1	2,100	--1
42	6.200	--1	--1	3,800	--1
42A (9D_1)	1.189	--1	--1	1,200	--1
42B (9D_1+2)	2.417	--1	--1	1,600	--1
42C (9D_1+2+3)	4.128	--1	--1	2,500	--1
42D (9D_4)	1.302	--1	--1	1,200	--1
42E (9D_4+5)	1.985	--1	--1	1,400	--1
43	26.700	--1	--1	7,900	--1
43A (9E_1)	0.587	--1	--1	800	--1
43B (9E_1+2)	2.274	--1	--1	1,500	--1
43C (9D+9E_1+2+3)	8.893	--1	--1	5,400	--1
44	34.200	--1	--1	7,900	--1
44A (9F_1)	1.391	--1	--1	1,300	--1

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs)			
		10-Year	50-year	100-Year	500-Year
45	35.500	--1	--1	4,100	--1
Belmont Foothills					
3	0.800	--1	--1	1,500	--1
5	1.100	--1	--1	1,200	--1
6	3.100	--1	--1	2,300	--1
7A (1E+1F_1+2+1G_1)	4.339	--1	--1	2,700	--1
9	6.900	--1	--1	3,400	--1
12A (2F_1)	1.009	--1	--1	1,200	--1
12B (2F_1+2)	2.622	--1	--1	2,200	--1
12C (C12.2)	28.000	--1	--1	7,900	--1
14	12.100	--1	--1	7,600	--1
15	15.900	--1	--1	7,600	--1
16	2.100	--1	--1	1,600	--1
16A (2E_1)	0.938	--1	--1	1,100	--1
17	21.000	--1	--1	7,500	--1
17B (2D-1+2)	3.055	--1	--1	1,700	--1
18	23.100	--1	--1	7,700	--1
23	11.500	--1	--1	4,300	--1
23A (4B_1)	0.769	--1	--1	1,000	--1
23B (4B_1+2)	2.925	--1	--1	2,100	--1
23C (4B_1 +2+3)	4.054	--1	--1	2,600	--1
23I (4A_1+2+3+4+5)	2.230	--1	--1	1,800	--1
23J (4A_1+2+3+4+5+6)	6.188	--1	--1	3,500	--1
24	14.200	--1	--1	5,300	--1
25	119.100	--1	--1	21,900	--1
32A (5A_1)	0.678	--1	--1	900	--1
32B (5A_1+2)	4.232	--1	--1	2,700	--1
32C (5B_1)	0.910	--1	--1	1,100	--1
32D (5B_1+2)	3.398	--1	--1	2,300	--1
32E (5A)	8.000	--1	--1	3,800	--1
33A (5C_1)	0.569	--1	--1	800	--1
33B (5C_1+2)	1.614	--1	--1	1,500	--1
35A (6A-1)	1.370	--1	--1	1,400	--1
35B (6A-2)	1.010	--1	--1	1,200	--1
35C (6A_1+2+3)	2.837	--1	--1	2,100	--1
39B (9A_1+2)	3.467	--1	--1	2,400	--1
Piedmont					
21A (3C_1)	6.847	--1	--1	3,400	--1
21B (3C_1+2+3D)	10.427	--1	--1	5,100	--1
26	5.200	--1	--1	3,600	--1
27	11.300	--1	--1	3,400	--1
27A (7A+7B_2)	5.790	--1	--1	4,000	--1
27B (7B_1)	3.441	--1	--1	2,100	--1
29A (7C+7D_1)	7.631	--1	--1	4,000	--1
52	4.500	--1	--1	2,900	--1

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs)			
		10-Year	50-year	100-Year	500-Year
52A (10D_1)	1.121	--1	--1	1,300	--1
52B (10D_1+2)	1.361	--1	--1	1,300	--1
59B (10F+10G+10H_1) +26% of CP60	11.640	--1	--1	4,100	--1
59C (10D_1+2+3+10E)	7.507	--1	--1	3,700	--1
59D (10D +10E+10F+10G+10H_1+2) +26% of CP60	22.300	--1	--1	4,800	--1
61A (10I+10J_1+2) - 26% of CP60	6.891	--1	--1	3,400	--1
61B	--2	--1	--1	5,700	--1
63 (63C+63D+10K_5)	12.724	--1	--1	5,400	--1
63A (10K_1)	1.120	--1	--1	1,300	--1
63B (10K1+10K_2+46% OF 10K_1+23% of 60C)	2.727	--1	--1	1,800	--1
63C (10K1+10K_2+10K_1+23% of 60C+10K_3)	4.529	--1	--1	2,500	--1
67	6.2			3,800	--1
69	3.800	--1	--1	2,600	--1
69A (10T_1)	1.869	--1	--1	1,500	--1
69B	--2	--1	--1	900	--1
69C	--2	--1	--1	900	--1
70	3.900	--1	--1	3,200	--1
70A (10S_1)	0.835	--1	--1	1,000	--1
76	16.800	--1	--1	6,600	--1
79 (10W+10X -45% of 10W due to split)	5.615	--1	--1	3,000	--1
83	1.600	--1	--1	1,400	--1
84A (10AA+10AB_1)	3.376	--1	--1	2,100	--1
87 (87B+87C +12B_4)	6.983	--1	--1	3,500	--1
87B (12B_1+2-57% of 12B_1+45% of 78)	4.948	--1	--1	2,700	--1
87C (12B_3 +57% of 12B_1)	0.996	--1	--1	1,200	--1
90A (12E_1)	0.780	--1	--1	1,000	--1
90B (12E_1+2)	1.390	--1	--1	1,400	--1
91	0.900	--1	--1	1,600	--1
132 (25A)	0.709	--1	--1	900	--1
133 (25A+B)	1.435	--1	--1	1,400	--1
South of CAP					
95	2.095	--1	--1	1,500	--1
95A (15A_1)	0.802	--1	--1	600	--1
95B (15B_1)	1.612	--1	--1	1,200	--1
100	2.2	--1	--1	1,600	--1
CAP 6	2.2	--1	--1	115	--1
CAP 7	2.2	--1	--1	130	--1
CAP 6+7	2.2	--1	--1	245	--1
CAP 9	0.9	--1	--1	210	--1

[1] Not Computed
[2] Area not computed due to flow split.

7.2 Floodway Data

Floodway data tables are not presented in this TDN.

7.3 Annotated Flood Insurance Rate Maps

See Exhibit C, Volume 2 of this TDN

7.4 Flood Profiles

Flood profiles are not presented in this TDN.

APPENDIX A: REFERENCES

A.1 Data Collection Summary

JE Fuller/Hydrology & Geomorphology, Inc., (JEF) has collected and reviewed data which are pertinent to the hydrology and hydraulics of the Watershed "OO" (Jackrabbit Wash) project study area (see Figure 4.1, Project Area). These data have come from the Flood Control District of Maricopa County and from outside sources. The categories of data which were sought include: previous flood hazard reports and hydrology for the study area; existing topographic mapping; historical flooding information; as-built plans for existing structures; FEMA Flood Hazard Boundary Maps and any Letters of Map Amendment and/or Revision; and other pertinent data.

Previous Flood Hazard Reports and Hydrology Studies:

1. A-N West, Inc, August 1993, Daggs Wash Floodplain Delineation Study, FCD 92-08, Prepared for the Flood Control District of Maricopa County.

2. Burgess & Niple, Inc., January, 1991, Report on Manning's "n" Values: Jackrabbit Wash Floodplain Delineation Study, FCD 90-05, Prepared for the Flood Control District of Maricopa County.

3. Burgess & Niple, Inc., February 1991, Jackrabbit Wash Floodplain Delineation Study: Hydraulics, Volumes 1 and 2, FCD 90-05, Prepared for the Flood Control District of Maricopa County.

4. Burgess & Niple, Inc., February 1991, Jackrabbit Wash Floodplain Delineation Study: Hydrology, Volumes 1 and 2, FCD 90-05, Prepared for the Flood Control District of Maricopa County.

5. Burgess & Niple, Inc., July, 1991, Jackrabbit Wash Floodplain Delineation Study, Contract Amendment Number One: Hydrologic Model Sensitivity Analyses, FCD 90-05, Prepared for the Flood Control District of Maricopa County.

6. Kimley-Horn and Associates, Inc., April, 2000, Master Drainage Study: Douglas Ranch, Prepared for Douglas Land Company, LLC.

7. Stanley Consultants, Inc., April, 1994, Powerline Wash and Tank Wash Flood Delineation Study, FCD 92-09, Prepared for the Flood Control District of Maricopa County.

8. Wood, Patel & Associates, Inc., August, 1993, Star Wash & Tributaries Floodplain Delineation Study, Volumes 1 and 2, FCD 92-06, Prepared for the Flood Control District of Maricopa County.

Existing Topographic Mapping:

1. Kimley-Horn and Associates, Inc., April, 2000, Douglas Ranch Master Drainage Study, Onsite Drainage Area Map, Scale: 1"=2000', CI=10'.

2. Kimley-Horn and Associates, Inc., April, 2000, Douglas Ranch Master Drainage Study, Existing Onsite Floodway/Floodplain Map, Scale: 1"=2000', CI=10'.

3. Severdrup Corporation, September 9, 1991, Location Plan for Site Drainage, Scale: 1"=1000', CI=2'.

4. Severdrup Corporation, September 9, 1991, Toyota Arizona Proving Ground Drainage Subarea Boundaries and Concentration Points, Scale: 1"=2000', CI=20'

5. U.S. Geological Survey, May 4, 1997, Aerial Photograph, Roll 9873, Frame 13.

6. U.S. Geological Survey, May 24, 1997, Aerial Photographs, Roll 9877, Frames 27-28, 30-34, 47-57, 74-85, 100-111, 125-135, 150-159.

7. U.S. Geological Survey, May 31, 1997, Aerial Photographs, Roll 9883, Frames 12-20, 39-47, 67-74.

8. U.S. Geological Survey, June 29, 1997, Aerial Photographs, Roll 9898, Frames 20-22.

9. U.S. Geological Survey, 1964, Photoinspected 1978, 7.5 Minute Series (Topographic), Wickenburg quadrangle: 1"=2000', CI=20'/10'.

10. U.S. Geological Survey, Provisional 1988, 7.5 Minute Series (Topographic), quadrangles include Daggs Tank and Wagner Wash Well, Scale: 1"=2000', CI=20'.

11. U.S. Geological Survey, Provisional 1989, 7.5 Minute Series (Topographic), Star Well quadrangle, Scale: 1"=2000', CI=10'.

12. U.S. Geological Survey, Provisional 1989, 7.5 Minute Series (Topographic), Belmont Mountain quadrangle, Scale: 1"=2000', CI=40'.

13. U.S. Geological Survey, Provisional 1990, 7.5 Minute Series (Topographic), quadrangles include Outlaw Hill, Forepaugh Peak, Aguila, and Wickenburg SW, Scale: 1"=2000', CI=20'/10'.

14. U.S. Geological Survey, Provisional 1990, 7.5 Minute Series (Topographic), quadrangles include Vulture Mine, Wildcat Well, Flatiron Mountain, and Hot Rock Mountain, Scale: 1"=2000', CI=20'.

15. U.S. Geological Survey, Provisional 1990, 7.5 Minute Series (Topographic), quadrangles include Tiger Well and Black Butte, Scale: 1"=2000', CI=40'/20'.

16. U.S. Geological Survey, Provisional 1990, 7.5 Minute Series (Topographic), quadrangles include Vulture Peak, Little Horn Peak, and Hummingbird Spring, Scale: 1"=2000', CI=40'.

Historical Flooding Information

No historical flooding information was readily available for this project area.

As-Built Plans for Existing Structures:

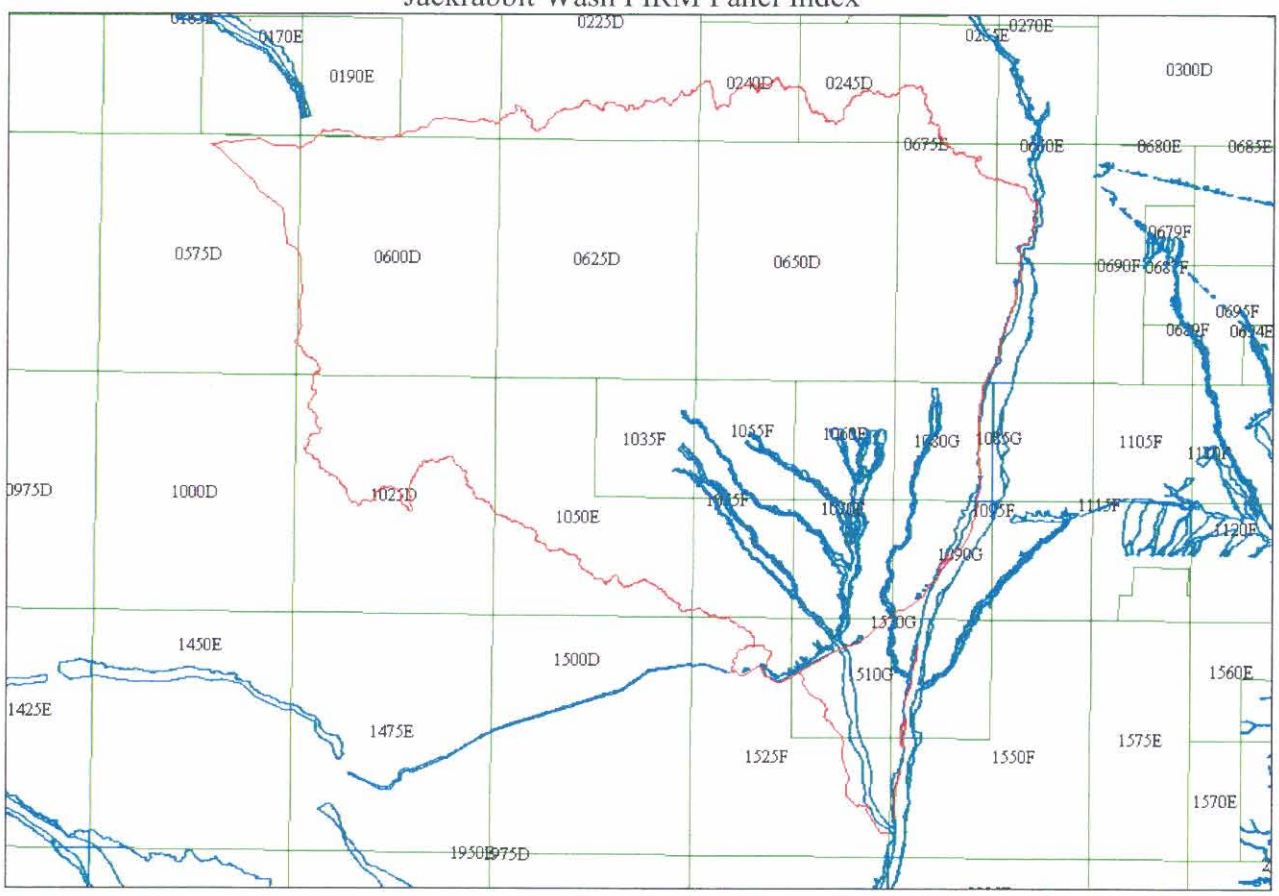
No as-built plans have been collected for this project.

FEMA Flood Hazard Boundary Maps, LOMAs, LOMRs:

The Jackrabbit Wash Study area is located within FEMA community ID 04013C. FIRM panel numbers located within the study area include:

0190F	0200E*	0225D*	0240E	0245E	0265F	0575D*	0600D*
0625D*	0650D*	0675F	1000D*	1025D*	1035G	1050E	1055G
1060G	1065G	1070G	1080H	1090H	1510H	1525G	1530H
1540G	1550G	* Panel Not Printed					

Jackrabbit Wash FIRM Panel Index



Other Pertinent Data:

GIS data supplied digitally by the Flood Control District of Maricopa County included:

- Soils data for the project area
- Land use data for the project area
- Roads and section lines for the project area
- Existing hydrologic delineations in the project area
- Existing floodplain mapping in the project area
- Existing digital topography by Aerial Mapping Company, Inc. Flight Date: December 12, 1996, Sections 28 & 29, T6N, R4E, projected by the Maricopa County Flood Control District from NAD 27 to NAD 83
- USGS DEM data in the project area in comma delimited text projected by the Maricopa County Flood Control District from NAD 27 to NAD 83
- USGS DRG data for the project area, projected by the Maricopa County Flood Control District from NAD 27 to NAD 83.

Stream Gauging:

The US Geological Survey publishes annual peak discharges measured at Jackrabbit Wash Near Tonopah, AZ (USGS Gauge number 09516800). Annual peak flow data are available from 1964 to the present. The largest flow measured at this site to date occurred on October 22, 2000, resulting in an estimated discharge of 27,000 cfs with a gage height of 15.1 foot.

The Flood Control District of Maricopa County operates a stream gauge on Jackrabbit Wash; Gauge 5218. This gauge was installed October 31, 2000.

Precipitation Gauging:

Two precipitation gauges are operated by the Flood Control District of Maricopa County in the Jackrabbit Wash watershed. Gauge 5195, Dead Horse Wash, was installed November 1, 2000, and Gauge 5215, Jackrabbit Wash was installed September 14, 1982.

Future Drainage Improvements:

There are no significant known future drainage improvements in the project area.

APPENDIX B: GENERAL DOCUMENTATION AND CORRESPONDENCE

TABLE OF CONTENTS
— APPENDIX B
VOLUME 1 OF 2 OF THE TDN

B.1 Special Problem Reports

B.2 Contact (telephone) Reports

B.3 Meeting Minutes or Reports

B.4 General Correspondence

B.5 Contract Documents

B.1 Special Problem Reports

There are no additional special problems to report for this study.

B.2 Contact (telephone) Reports

Phone conversations of substance have been noted in memorandums contained in Appendix B.4. No other contact reports are recorded here.

B.3 Meeting Minutes or Reports

Memorandum JE Fuller/ Hydrology & Geomorphology, Inc.

DATE: December 22, 2000

TO: Mike Duncan, P.E., FCDMC

FROM: Brian Iserman, P.E. BLI 12/22/00

RE: Approximate Zone A Floodplain Delineation Study of Watershed "OO": Meeting Minutes

CC: Jack Moody, P.E., WPA
Jorge Garre, Argus
Project File

Following are my notes from our scheduling meeting of December 22, 2000.

Attendance:

Joe Tram, P.E., FCDMC
Mike Duncan, P.E., FCDMC
Jon Fuller, P.E., JEF
Ted Lehman, P.E., JEF
Brian Iserman, P.E., JEF
Jack Moody, P.E., WPA

Joe Tram noted that the county-wide mapping project is being done by Landata Airborne Systems, Inc., is scheduled to be completed by May, and that some of the mapping may be available by March 1st, 2001. The county-wide mapping project will be tied into MCDOT's 6-mile network of reference marks, will be 10-foot C.I., and will have digital rectified orthophotos. Joe noted that we should be able to get 4 or 2 foot C.I. mapping from the mass-points and breaklines. (I followed up with David Boggs, P.E. of FCDMC for more information. He said that approximately 20 panels will be used county-wide, and that the photography is referenced by aerial GPS. Mass points and breaklines are developed using Softmap, automated aerotriangulation and digital elevation measurement software).

After a short discussion, it was decided that it would be beneficial to put the approximate zone delineation off until the new mapping is available. It was also decided that notice to proceed should be given now so that preliminary work such as hydrology and reconnaissance can begin.

A kickoff meeting time was briefly discussed. A tentative date of Wednesday, January 3rd, 2001 was selected by those in attendance. Mike Duncan will ask Marta Dent, FCDMC and John Stock, P.R.L.S., FCDMC to attend the kickoff meeting as well, to discuss mapping and survey issues. Mike Duncan will coordinate the meeting time and location.

There was some discussion regarding supplemental cross section surveying, and whether a registered land surveyor is needed since the study is an approximate zone study. The consultant team agreed to determine how supplemental surveying could be done efficiently. One idea discussed included having hydrologists carry an RTK unit with them while doing field work, with technical support provided by a registered surveyor. Another idea was to actually have a surveyor accompany team members in the field.

Memorandum JE Fuller/ Hydrology & Geomorphology, Inc.

DATE: January 4, 2001

TO: Mike Duncan, P.E., FCDMC

FROM: Brian Iserman, P.E. Bri 1/4/01

RE: **Approximate Zone A Floodplain Delineation Study of Watershed "OO": Meeting Minutes**

CC: Joe Tram, P.E., FCDMC
Jack Moody, P.E., WPA
Jorge Garré, P.E., Argus
Marta Dent, FCDMC
John Stock, PRLS, FCDMC

Following are my notes from our kickoff meeting of January 3, 2001.

Attendance:

Joe Tram, P.E., FCDMC
Mike Duncan, P.E., FCDMC
Jon Fuller, P.E., JEF
Brian Iserman, P.E., JEF
Jack Moody, P.E., WPA
Jorge Garré, P.E., Argus
Marta Dent, FCDMC
John Stock, PRLS, FCDMC

The following items were discussed during the referenced kickoff meeting.

Schedule

Brian I. Handed out copies of the project schedule and noted that there will be two phases to the project including 4 separate TDNs. The project schedule shows two separate FEMA review periods. Brian also noted that digital data (GIS) submissions will be made for each task, rather than at the end of the project.

Base Map

Marta D. noted that the County mapping contract ends in May, and that we may have the mapping for this study area as early as March. She also noted that the map accuracy will be ± 5', and that only a DTM (Digital Terrain Model) consisting of mass points and breaklines (stream lines only, no ridge tops) will be delivered from Landata. Marta said that FCD will develop TIN, and provide the mass points and breaklines in AutoCAD format along with the ortho photo overlay, which will match the topo by ± 5' horizontally. Brian I. Noted that the project team would cut cross sections off of the TIN using AutoCAD compatible software, and that if FCDMC generates the TIN, then there will be consistency among the team members and with other FCD projects. Marta D. Also noted that the new mapping will be NGVD 88 vert. and NAD 83 hor. The project team agreed that since this is an approximate zone study, we should not be concerned with the vertical datum.

Marta D. noted that the county will not generate a TIN and topo county-wide from the Landata DTM; only on a project basis. Topo that the FCDMC generates from the Landata DTM will not have culture such as roads, buildings, fences, etc. However, Marta D. will be providing separate themes including roads, section lines, municipal boundaries, public land ownership, etc. There was some additional discussion among the project team regarding what FEMA will be expecting on the base map. The team agreed that what the District provides (i.e., roads, section lines, municipal boundaries, etc.) should be sufficient, since that is all that is typically on the USGS base maps.

Marta D. noted that she could provide an advance copy of the non-rectified Landata orthophotography to the team for use in the field. The team members agreed that having the advanced copy would be usefull. (Until then, the project team will use the digital 1999 photos previously provided by the District). Brian I. noted to Jack M. and to Jorge G. that he would be getting them a digital copy of the 1999 photos soon.

There was quite a bit of discussion all around regarding who takes responsibility for the base map provided by FCDMC. Marta D. noted that Landata will seal the DTM (i.e., mass point and breakline files); however, that seal or certification does not extend to maps produced by FCDMC using the DTM according to John S. John S. and Joe T. agreed that they will resolve the issue together. Joe T. noted that time is of the essence since this is not the only study which will be using the new county-wide mapping soon.

Administrative

Brian I. gave the first monthly billing estimate and project status to Mike D. Brian I. noted that the legal ads have been ordered, and will run on January 10th and 17th. Mike D. gave Brian I. a original Study Notification/Right of Entry letter along with a mailing list on disk and assessor's index maps for use by JEF in the mass mailing to property owners. Mike D. requested that he always receive a copy of the monthly project status in advance of the monthly billing, and that monthly billings should be directed to the attention of Nancy Cavallo.

Brian I. gave CDs to Jack M. and Jorge G. which contain USGS DRGs of study area, JEF's hydrology basin delineation and study reach designation drawing containing concentration points and discharge values.

Field Survey

Brian I. noted that field measurements of structures will be made by hand, and that the results of the measurements will be provided to the District by way of a sketch for each significant structure on a 11"x17" sheet for inclusion into the TDN (per the contract). Mike D. & Jack M. agreed that we should ignore small structures which are likely to clog.

Jorge G. asked if the current hydrology includes structures (i.e., culverts). Brian I. noted that there are no structures in the study area which are big enough to have a significant impact upon the hydrology. Jorge G. made the point that if they are not significant hydrologically, then they probably should not be included in our modeling. There was general consensus among the team members that it would be best to assume that all structures clog completely during the 100-year flood event except for very large culverts.

John S. asked how we will locate structures. Jack M. and Jon F. agreed that team members should GPS significant culverts and note the location on field maps such as plots of ortho photos.

The question came up regarding whether or not there is a need to note locations of other structures (i.e., homes, buildings) in the floodplain. After some discussion, it was decided that the Regulatory branch at FCD would get that information from the aerial photos, and that there would be no need for the project team to record such data.

Brian I. noted that where necessary (i.e., where topographic data are not adequate), the project team will perform cross-sectional surveys in the field using hand-levels and tapes to determine typical low-flow bottom widths/depths, bank heights, etc.

John S. gave an update regarding the District's in-house survey capabilities, noting that the District intends to be available to help trouble shoot survey problems and provide help/guidance to consultants. He noted that he can provide to Marta D. location/elevation for the county's densified control network.

Hydrology

Brian I. noted that JEF proposes to submit one Hydrology Report to cover all the TDN submittals. Mike D. noted that his only concern would be if a problem was found or a change needed based on review of the first TDN by FEMA. Brian I. noted that JEF will simply have to make it right for all submittals. Joe T. noted that it might not be smooth to submit one Hydrology Report with two different analyses in it, (i.e., area/discharge calculations and a HEC-1 for the east area). Brian I. responded by saying that if JEF needs to do a HEC-1 for the east area, then yes, JEF would probably need to submit that separately. Brian I. noted that for now, JEF is planning to use the area/discharge method for the entire study area, but that the relationship will not be the same for all regions within the study area.

Marta D. asked if there would be a digital submittal for hydrology. Brian I. noted that there is no provision for that in the contract if JEF uses the area/discharge method throughout the study area. He also noted, however, that JEF has digitized the existing Jackrabbit Hydrology basins and concentration points for internal use, and that JEF will be doing additional basin delineations digitally anyway. So he will make that data available to the District in a format which will be compatible with the District's GIS data delivery specifications. However, the digitization may not be as precise as a formal submittal (i.e., snapping, point identifiers, and the attendant Excel files). Marta D. said that it would be helpful to get the data anyway.

Brian I. noted to Mike D. that the scope calls for three hydrology meetings; the first one being a field meeting to check key points in the watershed. Mike D. said that he does want to accompany JEF in the field, but that we can worry about scheduling that meeting later (i.e., sometime after the meeting). Mike D. noted that Bing Zhao (Hydrologist, FCDMC) has done some work using WMS (Watershed Modeling System) software in the east watershed area (i.e., that area in the project area lying west of the Hassayampa River and east of the original extent of the Jackrabbit Wash Hydrology study area), and that they have soils data available for that area which he can provide to JEF. Mike D. noted that the east area topography may lend itself well to the WMS software, but also added that the WMS software is not perfect, and can be problematic at times, especially in gradual terrain.

Optional Floodway Delineations

Brian I. noted that there are two optional floodway delineation tasks; 6.5 and 6.6. While Optional Task 6.5 can be performed in the second phase of the contract, or later, Task 6.6 (if the District decides to approve this option) would be performed in both Phase One and Phase Two of the project. Therefore, JEF needs some indication from the District fairly soon whether Option 6.6 will be approved by the District. Joe T. responded by requesting from JEF a written approach to delineating the floodways under Task 6.6. He requested that JEF remember to consider possible conflicts with the FCDMC regulatory 2 ft depth floodway limit. Additionally, Joe T. mentioned that he would like to see bank stations shown on the cross sections when the cross section locations/alignments are submitted for review by FCDMC.

Reconnaissance

Brian I. noted that JEF proposes to submit one Reconnaissance Report for later inclusion in all TDNs for this project. Mike D. responded by saying that that would be ok except for piedmont areas. Brian I. noted that the team will use the FCDMC provided Manning's "n" value form to determine and present "n" values in the Reconnaissance Report. Brian I. gave the project team copies of the form. Jack M. noted that the team members (JEF, WPA & Argus) should have one field meeting together in order to normalize interpretation of channel types for assignment of "n" values.

Brian I. noted that the team members should get out into the project area as soon as possible to determine accessible routes, and noted that since JEF's and Argus' project areas overlap somewhat, he will advise Argus regarding access.

John S. noted that he and Dave Gardner have performed a detailed survey of Jackrabbit Wash at the FCDMC ALERT gauge (upstream of Vulture Mine Road); they noted an approximate 8' highwater mark. This highwater mark is probably the result of flooding during October, 2000.

Other Optional Task

Brian I. noted that Optional Task 6.1.5 can be done later in the project during the Phase 2 FEMA review or later.

Additional Study Reach

Mike D. noted that there is an additional study reach downstream of the CAP canal which should have been added into the study. Brian I. said he would check into it.

Memorandum JE Fuller/ Hydrology & Geomorphology, Inc.

DATE: February 3, 2001

TO: Mike Duncan, P.E., FCDMC

FROM: Brian Iserman, P.E. Bri 2/5/01

RE: **Approximate Zone A Floodplain Delineation Study of Watershed "OO": Meeting Minutes**

CC: Joe Tram, P.E., FCDMC
Jon Fuller, P.E., FCDMC

Following are my notes from our meeting of February 1, 2001.

Attendance

Joe Tram, P.E., FCDMC	Mike Duncan, P.E., FCDMC	Jon Fuller, P.E., JEF
Ted Lehman, P.E., JEF	Brian Iserman, P.E., JEF	

Approximate Zone Floodway (Optional Task 6.6)

Joe Tram indicated that our proposed approach for this task dated January 25, 2001 did not emphasize enough the importance of utilizing the District's regulatory policy regarding the two (2) foot depth criteria for areas included in the floodway. Joe indicated that instead of using this criteria as just one of the tools for defining the approximate zone floodway limit (in addition to geomorphic indicators), he would rather see the two-foot-depth criteria used as the primary definition of the floodway. Additionally, Joe indicated that once this primary definition is applied, then geomorphic indicators would be used to refine the approximate zone floodway.

Those in attendance agreed that before the District approves funds for this optional task, JEF will provide a revised memo which outlines the above noted modified approach and presents the results of this approach as applied to a few test reaches. The test reaches might typically be one mile in length and include a variety of reach types (i.e., terraced, braided, sheet flow and canyon). The revised memo and attendant test analyses will be produced after the new mapping is made available by the District.

Alternate Approximate Zone A Methodology Comparison (Optional Task 6.15)

Jon Fuller explained in more detail, the proposed approach to this task as outlined in the memo dated January 31, 2001. Mike Duncan asked for clarification regarding the scope of the storm analysis and supplemental indirect method verifications. Brian Iserman presented a little more detail for these task items, and brought along examples from past analyses done by JEF, Inc. Joe Tram indicated that the District would like to pursue both methods presented in the January 31, 2001 memo along with the additional storm analysis and indirect discharge estimates. He also indicated that since these tasks together are more than the budget for Optional Task 6.15, the work should be done under JEF's on-call contract as Task 8. Ted Lehman noted that there is approximately $80,000 left on that contract with the current flood warning element accounted for.

Those in attendance agreed that JEF will provide a detailed fee proposal for both methods plus the additional storm analysis and indirect discharge estimates.

B.4 General Correspondence

FLOOD CONTROL DISTRICT of MARICOPA COUNTY 1959

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
Fax (602) 506-4601
TT (602) 506-5897

BOARD OF DIRECTORS
Jan Brewer
Fulton Brock
Andrew Kunasek
Don Stapley
Mary Rose Garrido Wilcox

January 3, 2001

Re: Study Notification/Right of Entry for Surveying & Reconnaissance Purposes

Dear Property Owner:

The Flood Control District of Maricopa County has contracted with JE Fuller/Hydrology & Geomorphology, Inc., (JEF) to perform an approximate zone floodplain delineation study for Watershed "OO". The project area is bounded on the east by the Hassayampa River, on the south by the CAP canal and Jackrabbit Wash, on the southwest by the Belmont Mountains and on the north by the Vulture Mountains. The purpose of this study is to determine flood related hazard zones and delineate areas that may be subject to inundation during a "100-year flood" event. According to records at the Maricopa County Assessor's office, you own one or more parcels of land within the limits of the study area.

The intent of this letter is to notify you of the commencement of surveying and reconnaissance activities in support of the above-mentioned study. In order to perform these surveys, it may be necessary to briefly enter or cross your property. This activity should not result in any inconvenience to you or damage to your property. If you have any objection to the entry onto your property, please notify Mr. Michael Duncan, of the Flood Control District at (602)-506-4732. Otherwise, it will be assumed that you consent to the entry onto your property.

The study and resulting maps will be used for floodplain management purposes and submitted to the Federal Emergency Management Agency (FEMA) for flood insurance information and revisions of Flood Insurance Rate Maps. This study should be available to the public for review and comment in approximately 12 to 15 months.

The Flood Control District and its representatives appreciate your help in assuring the accuracy of this study by allowing us access to your property and by providing any information you may have regarding past flooding or related problems.

If you have any questions regarding this study or the right of entry, or if you have information regarding flooding in the area, please contact Mr. Michael Duncan, P.E., of the Flood Control District at 602-506-4732, or Mr. Brian Iserman, P.E., of JEF at 480-752-2124.

Very Truly Yours,

Michael Duncan

Michael Duncan, P.E., Floodplain Delineation Branch, Engineering Division

Flood Control District of Maricopa County
Approximate A Zone Study of Watershed "OO" (Jackrabbit Wash, FCD 2000CO19)
Mailing List for Property Owner Notification/Right-of-Entry (1/9/2001)

RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
1	506 57 005	A F BUDGE /MINING/ LIMITED	4300 N MILLER RD	, #121	SCOTTSDALE	AZ	85251	3620
2	503 26 006B	A T & S F R/R	PO BOX 961089		FORT WORTH	TX	76161	
3	503 22 035	A T & S F R/R	1 SANTA FE PLZ 5200 E SHEILA ST		LOS ANGELES	CA	90040	
4	503 90 550	ABBEY JAMES G & JOYCE E	14008 N 52ND AVE		GLENDALE	AZ	85306	
5	503 94 842	ABBOTT RANDY M	148 WINFIELD COURT		BELLEVUE	OH	44811	
6	503 90 808	ABILES NADINE/URBINA E D/PEREIRA HIPOLITO/MES	PO BOX 1816		GLENDALE	AZ	85311	
7	503 92 607	ABRAHAM ASSAD JR AND COLETTE C FAMILY TR	1025 E MADDOCK RD		PHOENIX	AZ	85027	8487
8	503 90 616	ADAGE INVESTMENTS LLC	318 W BEVERLY LN		PHOENIX	AZ	85023	
9	503 92 266	ADAMEK FRANK J & MARY C	6222 EGYPT DR		PASADENA	TX	77505	4019
10	503 92 527	ADAMS CURTIS N & JEAN M	3503 HILTON RD		BALTIMORE	MD	21215	
11	503 93 151	ADAMS WALTER E & MARGARET E	2740 CHARLES PL		TRAVERSE CITY	MI	49684	
12	503 91 252	AGEE CARROLL W/JOSEPHINE	820 W CARIBBEAN LN		PHOENIX	AZ	85022	
13	503 90 618	AGEE CARROLL W/JOSEPHINE	840 W CARIBBEAN		PHOENIX	AZ	85023	
14	503 92 394	AGEE LEIGH ANN	840 W CARIBBEAN LANE		PHOENIX	AZ	85023	
15	503 92 279	AGEE W CARROLL/JOSEPHINE	310000 W CLOUD RD		WHITMAN	AZ	85361	
16	503 91 095	AGEE W CARROLL/JOSEPHINE	PO BOX 821		WHITTMAN	AZ	85361	
17	503 92 427	AGUIRRE ANGELICA CHRISTINA/JAVIER	3811 W MORELAND		PHOENIX	AZ	85009	
18	503 91 428	AHEARN JAMES F & FLORENCE	32308 RED CLOVER RD		FARMINGTON	MI	48024	
19	503 92 409	AHRENS GORDON E	P O BOX 269		OLIVE HILL	TN	38475	
20	503 94 828	AIMAR ALBERT K	21762 FAIRLANE CIR		HUNTINGTON BEACH	CA	92646	
21	503 93 033	AKEO ALVIN L K & JUNE D	PO BOX 62535		COLORADO SPRINGS	CO	80962	2535
22	503 90 895	AKEY SANDY J	PO BOX 579		WITTMAN	AZ	85361	
23	503 90 904	ALBECK PAUL F & RUTH M	2516 HESSING ST		RIVER GROVE	IL	60171	
24	503 92 441	ALBRIGHT ROBERT F/JOANNE R TR	11662 INDIAN CREEK RD		INDIANAPOLIS	IN	46236	
25	503 90 576	ALBRITTON BILLY RAY JR	5616 W HUBBELL ST		PHOENIX	AZ	85035	
26	503 93 039	ALESSIO VINCENT B/JOANN R	1717 E UNION HILLS DR 1086		PHOENIX	AZ	85024	
27	503 92 310	ALEXANDER THOMAS R & CAROL M	626 GARIN		HAYWARD	CA	94544	
28	503 92 720	ALFINO CHRIS/LISA	8421 JOMILLA AVE		WINNETKA	CA	91306	
29	503 92 637B	ALIOTO TOM & BERNICE	6645 LOCKSLEY LN		CEDARBURG	WI	53012	
30	503 94 827	ALLEN NANCY ROBERTA	9517 LINDEN AVE		BETHESDA	MD	20814	
31	503 91 340	ALLEN NORBERTO H & IRENE M	15426 GREASEWOOD ST		SURPRISE	AZ	85374	
32	503 24 009Q	ALLEN RICHARD E/GRETCHEN C	44639 N SAN DOMINGO PARK TR		WICKENBURG	AZ	85390	
33	503 90 646	ALLEN RICHARD N & BERNICE P	12609 DEAN RD		SILVER SPRING	MD	20906	
34	503 90 948	ALLEN SHARON L TR	20 E ECHO LN		PHOENIX	AZ	85020	
35	503 92 532	ALLES RONALD J & DEWEY JOHN STRAIGHT	2010 10TH AVE N		BILLINGS	MT	59111	
36	503 94 873	ALLGEIER EDNA E TR	9109 LOCKWOOD HILL RD		CINCINNATI	OH	45247	
37	503 94 119	ALLGEIER HOWARD E/EVELYN	1109 CANYON POINT CIR		ROSWELL	GA	30076	
38	503 92 273	ALLRED DOUGLAS E	3521 E CORTEZ		PHOENIX	AZ	85028	
39	503 93 500	ALMCRANTZ KARL ARNOLD & FLORENCE A	7516 PADOVA DR		GOLETA	CA	93017	
40	503 91 271	ALONZO JUANA BERNABE	6901 E PINCHOT		PHOENIX	AZ	85023	
41	503 92 285	ALREAD MICHAEL R/LONA LISA	8820 W MERCER		PEORIA	AZ	85382	
42	506 37 002	ALTMAN BRADLEY/E/JEFREY/BIALAC CARY/LISA	PO BOX 1256		CARE FREE	AZ	85377	
43	503 92 775	ALVARADO CARLOS/MARYANN	1521 W CHEYENNE		CHANDLER	AZ	85224	
44	503 92 420	ALVAREZ PABLO RUIZ/OROZCO MARTINA GLORIA	6322 W KEIM DR		GLENDALE	AZ	85301	
45	503 91 415	ALVEY KENNETH R & IDA A TR	5182 MARTINGALE		LAS VEGAS	NV	89109	
46	503 24 020	AMARAL KEN R/JULIE A	44623 N HIGHWAY 60		WICKENBURG	AZ	85390	
47	503 91 326	AMARO PEDRO PABLO C/RAYMUNDO C	1814 N 36TH AVE		PHOENIX	AZ	85009	
48	503 90 745	AMATRADING PATRICIA	5441 W GLENROSA AVE		PHOENIX	AZ	85031	1936
49	503 92 267	AMBURGEY EUGENE & GLENNA C	8006 RICHMOND AVE		HOUSTON	TX	77063	
50	503 94 592	AMOS ROBERT F/NADINE A TR	10321 E MICHIGAN AVE		SUN LAKES	AZ	85248	
51	503 90 798	ANAST GEORGE & ANGELINE K	217 HEATHER LN		WILMETTE	IL	60091	
52	503 93 014	ANAYA FRANCISCO M & RACHEL	407 1/2 S 4TH ST		AVONDALE	AZ	85323	
53	503 92 185	ANDERSEN DONALD M & BERENICE	920 KNOLLWOOD DR		GRAND RAPIDS	MN	55744	
54	503 91 010N	ANDERSON ANNA M	11215 N 3750 W		DEWEYVILLE	UT	84309	
55	503 94 860	ANDERSON EVERETT R/DORIS E	PO BOX 1246		WICKENBURG	AZ	85358	
56	503 90 828	ANDERSON HELEN B	4101 FINCH CT NE		CEDAR RAPIDS	IA	52402	
57	503 92 338	ANDERSON JE/FITZGERALD TP/SD/JA	915 SANDERS DR		LARAMIE	WY	82070	
58	503 91 308	ANDERSON JOE E	8828 MAMOO PL		DIAMOND HEAD	MS	39525	
59	503 91 373	ANDERSON LOUIS P	PSC 78 BOX 972		APO	AP	96326	
60	503 91 008C	ANDERSON RANDY E/JANICE F	2108 W SOLANO DR		PHOENIX	AZ	85015	
61	503 93 170	ANDERSON ROLAND G	5124 W WELLS		MILWAUKEE	WI	53208	
62	503 94 705	ANDERSON SHIRLEY E	PO BOX 345		LEMING	TX	78050	
63	503 90 906	ANDERSON YVONNE	1770 N GREENVALLEY PARKWAY		HENDERSON	NV	89014	
64	503 94 691	ANDRE LOWELL G & DOROTHY H	13373 N PLAZA DELRIO BLVD #3337		PEORIA	AZ	85381	4873
65	503 91 369	ANDREWS CATHELINE H/RONALD	12417 W GRAND RIVER AVE		EAGLE	MI	48822	
66	503 94 090	ANDREWS DAVID W	3380 HARMONY LANE		ZANESVILLE	OH	43701	
67	503 91 050	ANDREWS UNIVERSITY	9026 FOURTH ST		BERRIEN SPRINGS	MI	49103	
68	503 90 867	ANGELL JOHN P & RENEE H	1444 ELLEN AVE		MADISON	WI	53716	1578
69	503 90 070	ANIOL DENNIS MICHAEL	8905 W VERNON		PHOENIX	AZ	85037	
70	503 90 844	ANSANI THEODORE J & ELIZABETH V	1234 S LINCOLN AVE		PARK RIDGE	IL	60068	
71	503 22 020Z	ANSON JERRY A ETAL	PO BOX 935		PT REYES STATION	CA	94956	
72	503 22 020M	ANTHES ROBERT J/KAREN F	P O BOX 1600		WICKENBURG	AZ	85358	
73	503 91 471	ANTONIO JOSE M T MDPC TR	13536 KNOTTY LOG COURT		CHANTILLY	VA	22021	
74	503 90 361	ARCURIO DOMINICK & MARIE	103 GALL CT		ELMWOOD PARK	NJ	07407	
75	503 91 012L	AREA WEST INC	PO BOX 18114		FOUNTAIN HILLS	AZ	85268	
76	503 25 010	ARIZONA STATE OF 016951	400 STATE OFFICE BLDG		PHOENIX	AZ	85007	
77	503 94 610	ARKAWI STEVE	11820 N 28TH ST		PHOENIX	AZ	85028	
78	503 94 667	ARNOLD THOMAS C & BARBARA J	4734 W CHRISTY DR		GLENDALE	AZ	85304	
79	503 93 241	ASKREN LYLE FRANCIS	3650 W PECAN RD		PHOENIX	AZ	85041	
80	503 92 606	ASSAD ABRAHAM III & CYNTHIA L	43491 N FRIEND AVE		QUEEN CREEK	AZ	85242	
81	503 93 485	ASSAD ABRAHAM JR	6215 W BLOOMFIELD RD		GLENDALE	AZ	85304	
82	503 93 320	ASTORGA JOSE ALFONZO-GARCIA	PO BOX 775		EL MIRAGE	AZ	85335	
83	503 90 051	ATKINSON WAYNE S & BARBARA P	ON048 JEFFERSON		WINIFIELD	IL	60190	
84	503 90 326	AUERBACH MOSHE Y & FAY	1187 E 12 ST		BROOKLYN	NY	11230	
85	503 90 683	AUGUST ANN	8416 ROCKY MOUNT RD		BALTIMORE	MD	21237	
86	503 93 400	AUGUSTINIYAK VERA	PO BOX 240		TOLEDO	OH	43697	
87	503 93 525	AUSTAD LARRY A & VADIS L	9681 208TH ST		LAKEVILLE	MN	55044	
88	503 94 694	AXFORD LEONARD & KATHLEEN	36001 N 7TH ST		PHOENIX	AZ	85027	8869
89	503 92 199	AYALA JOSE A/GUADALUPE L	PO BOX 224		WITTMANN	AZ	85361	
90	503 91 330	AYALA MARIA DOLORES/TERESA DE JESUS ETAL	10229 N 15TH DR		PHOENIX	AZ	85021	
91	503 91 353	AYALO JUAN JOSE	PO BOX 36741		PHOENIX	AZ	85067	
92	503 91 003C	AYDON JOHN EDWIN/IOLA MAE	BOX 1249		POINT ROBERTS	WA	98281	
93	503 90 573	AYLESWORTH KENNETH H/BARBARA L	30319 W DELORES RD		WITTMANN	AZ	85311	
94	503 92 095	AYOTTE ALLAN E/JOSEPHINE M	29224 URSULINE		SAINT CLAIR SHORE	MI	48081	
95	503 90 839	AZ BOYS RANCH INC	650 N 1ST AVE		PHOENIX	AZ	85003	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
96	503 94 825	B F T COMPANY	5625N 12TH AVE		PHOENIX	AZ	85013	1753
97	503 90 648	BABCOCK GRANT M/SUE ANN TR	P O BOX 32341		PHOENIX	AZ	85064	
98	503 92 677	BABCOCK THEODORE R	4630 N 30TH PL		PHOENIX	AZ	85016	
99	503 94 736	BABEL RALPH M JR & DOLORES M ETAL	10438 W ALICE AVE		PEORIA	AZ	85345	
100	503 90 704	BACHMAN DUANE DENNIS	6627 LOST TREE CT		INDIANAPOLIS	IN	46268	
101	503 90 696	BACHMEIER PHILIP/OPAL M	9300 HWY 52 S		MINOT	ND	58701	2425
102	503 92 959	BAER THEODORE C	543 WAVERLY		BENTON HARBOR	MI	49022	
103	503 91 005F	BAGBY RICHARD/SUSAN JUNE	3638 W VERMONT		PHOENIX	AZ	85019	
104	503 90 348	BAGLEY LINDA	114 ASTOR ST		HOLLY HILL	FL	32117	
105	503 91 352	BAIETTO STEFFANIE S	8260 W MONROE ST		PEORIA	AZ	85345	
106	503 91 059	BAILEY HERBERT S/MATILDA J	4401 GREEN CEDAR LN		RICHMOND	VA	23237	
107	503 92 295	BAILEY ROSE O & JANICE R TAIT	2600 SOUTHERN AVE		BALTIMORE	MD	21214	
108	503 94 556	BAIRD DAVID M & DONNIE L	3710 HASH KNIFE CIR		TUCSON	AZ	85749	
109	503 94 525	BAJSA MICHAEL G/EVELYN A TR	16123 VANDERDILT DR		ODESSA	FL	33556	3328
110	503 90 608	BAKER BARRY E	10201 N 44TH DR APT #1068		GLENDALE	AZ	85302	
111	503 90 528	BAKER FRED H	PO BOX 536		WITTMANN	AZ	85361	
112	503 93 453	BAKER JOSEPH JAMES & EDNA	2955 PIERSON WAY		PLACERVILLE	CA	95667	
113	503 94 703	BAKER MICHAEL R & PATRICIA D	13 WHITTINGTON CT		SAVANNAH	GA	31419	
114	503 91 238	BAKER VERNON W	9417 HALL DR		LENEXA	KS	66219	
115	503 90 243	BAKOPOULO PETER D	1 N WASHINGTON		PARK RIDGE	IL	60068	
116	503 90 241	BAKOPOULO PETER D	1 N WASHINGTON		PARK RIDGE	CA	90068	
117	503 26 011B	BALDWIN CARLTON E	PO BOX 321		MORRISTOWN	AZ	85342	
118	503 26 002D	BALDWIN STACIE LYNN ETAL	42243 NW GRAND AVE		MORRISTOWN	AZ	85342	
119	503 94 693	BALDWIN TIMOTHY J/LOISANNE	8906 QUENAULT DR N E		OLYMPIA	WA	98516	
120	503 94 329	BALDWIN WILLIAM H & CAROLYN F	6616 N 25TH ST		ARLINGTON	VA	22213	
121	503 90 438	BALGA PAULINE & STEPHEN J JR	8069 POPLIN DR		SANTEE	CA	92071	
122	503 93 169	BALLANTYNE JOHN & JANET	502 E MICHIGAN AVE		PHOENIX	AZ	85022	
123	503 90 625	BALLARD ALLEN W/BETTY M	120 RIVERSEDGE DR		NORRISTOWN	PA	19403	
124	503 93 137	BALLARD PERRY O SR/VINA J TR	38575 CHARTIER RD		HARRISON TOWNSHIP	MI	48045	6224
125	503 93 139	BALMES GRACE E	2993 MOON LAKE DRIVE		WEST BLOOMFIELD	MI	48323	
126	503 94 425	BALTZER BARBARA ANN	245 LAKEVIEW, # 134		CLIFTON	NJ	07011	
127	503 91 242	BAMONTE DONALD ANTHONY & ANTOINETTE	7505 E WOODSHIRE COVE		SCOTTSDALE	AZ	85258	
128	503 94 683	BANKS LARRY & PHYLLIS	1110 E 136TH ST		GRANDVIEW	MO	64030	
129	503 92 018	BANUELOS PABLO S	2630 OBSERVATION NO 4		SAN ANTONIO	TX	78227	
130	503 94 582	BARABASZ LAWRENCE T & BARBARA A	401 CHESTNUT ST		STATESVILLE	NC	28677	
131	503 92 745	BARBER EDWARD G JR & HUGH F	1117 H ST		ANCHORAGE	AK	99501	
132	503 90 817	BARBO INC	122 N 26TH ST		CAMP HILL	PA	17011	
133	503 90 763	BARCIA SAMUEL J/VIOLET I	19 ROBERT COURT		LODI	NJ	07644	
134	503 94 738	BARES ALBERT J & ANNA	421 TARRSON BLVD		LADY LAKE	CA	92159	6429
135	503 93 327	BARKER JAMES DONALD & BONNIE JEAN	1901 E OSBORN RD		PHOENIX	AZ	85016	
136	503 25 008L	BARKER RICHARD/SHERI A	13820 N 150TH LN		SURPRISE	AZ	85379	6021
137	503 93 328	BARKER ROSS D/BARBARA K	10803 BROADWATER DR		FAIRFAX	VA	22032	3004
138	503 91 066	BARKER WILLIAM D/MARIAN C	PO BOX 515		SALOME	AZ	85348	
139	503 93 520	BARKWILL GERTRUDE E ETAL	335 31ST ST NW		CEDAR RAPIDS	IA	52405	
140	503 94 543	BARNES RICHMOND F & OLETA W	1917 SHERWOOD LANE		PUEBLO	CO	81005	
141	503 92 413	BARNIER ROBERT F & MARIA G	4244 N 83RD ST		MILWAUKEE	WI	53222	
142	503 92 686	BARR HEDWIG S	167 POIPU DR		HONOLULU	HI	96825	
143	503 90 917	BARR MARY L	130 S CLEVELAND AVE		PEORIA	IL	61605	1703
144	503 94 676	BARRANCO ORLANDO O & TRINIDAD	8201 SOUTHWEST 91ST ST		MIAMI	FL	33156	
145	503 90 472	BARRETT JOANNE/SEFRANEK MARK A	6942 W NICOLET AVE		GLENDALE	AZ	85303	
146	503 93 385	BARRETT MINNIE L	# 2 NUTMEG CT		THE WOODLANDS	TX	77381	
147	503 94 485	BARRINGER DENNY	1680 PAYSENO LN SE		PORT ORCHARD	WA	98366	
148	503 90 645	BARSKI RICHARD THOMAS	2350 BERING DR APT 85		HOUSTON	TX	77057	4731
149	503 92 927	BARSTAD JOHN L	1587 CRESCENT		ANCHORAGE	AK	99508	
150	503 90 843	BARTLETT RICHARD A	112 CREST RD		WELLESLEY	MA	02181	
151	503 90 845	BASSI WALTER G & MARIA P	1418 FOREST		RIVER FOREST	IL	60305	
152	503 92 896	BATAILLE JAMES M & JUDITH E	1912 BIG BEND DR		DES PLAINES	IL	60016	
153	503 90 287	BATEMAN AMOS C	822 LINCOLN HWY EAST		NEW HAVEN	IN	46774	
154	503 93 560	BATEMAN ANN ELIZABETH	1114 PLAZA AZUL		SIERRA VISTA	AZ	85635	
155	503 91 023	BATENHORST HENRY M & LILLIAN M	RT 5		HEREFORD	TX	79045	
156	503 91 328	BATKIEWICZ STEPHEN A & HELEN	PO BOX 8484		HOT SPRINGS VILLA	AR	71909	
157	503 90 540	BATTOCLETTE JAMES W & AUGUSTA R	1325 DORADO COURT		AMELIA	OH	45102	
158	503 93 458	BAUMAN DONALD E & VIRGINIA A	414 JUDITH AVE		SAINT PAUL	MN	55113	
159	503 92 546	BAUMANN GUNTHER & EDELTRAUT K	260 CHERRY LANE		SOUTH CHICAGO HTS	IL	60411	
160	503 91 069	BAUMGART ROBERT L & RICHARD F	3170 W CLYDE PL		DENVER	CO	80211	
161	503 90 622	BAXTER DAVID L/AURILLA M	PO BOX 1329		MONROE	WA	98272	4329
162	503 92 143	BAY-HOL CORP	PO BOX 1177		HAVERHILL	MA	01831	
163	503 92 144	BAY-HOL CORP	22 CANTERBURY FOREST		PLAISTAER	NH	03865	
164	503 90 473	BEALL ROBERT L/KAREN B TR	531 S COPPER		APACHE JUNCTION	AZ	85220	
165	503 90 518	BEATT DOUGLAS C	PO BOX 1474		CARMEL	CA	93921	
166	503 94 823	BEAUVAIS DONALD ANDREW	15732 E KIPLING DR		FOUNTAIN HILLS	AZ	85268	
167	503 94 755	BECK CHARLES T & MARY R & OWEN R	3009 N 16TH DR		PHOENIX	AZ	85015	
168	503 91 083	BECKER LOUIS R TRUSTEE	5625 N 12TH AVE		PHOENIX	AZ	85013	
169	503 92 274	BECKER RUTH & L R	5625 N 12TH AVE		PHOENIX	AZ	85013	
170	503 90 652	BEDIKIAN SNAR ETAL	764 MAYFLOWER AVE		LINCOLN PARK	MI	84146	
171	503 92 343	BEEUNAS MARK A/NANCY	308 SCOTCH PINE DR		MANDEVILLE	LA	70448	
172	503 92 210	BEGGS BERTHA TR	2401 DRIFTWOOD DR		LAS VEGAS	NV	89107	
173	503 92 003	BEHRENDS HERMANN & DAGMAR	5125 W FITCH AVE		SKOKIE	IL	60077	
174	503 91 075	BEIL ELAINE M	673 DICKERSON RD		WILLOWICK	OH	44094	
175	503 91 296	BELL ALLEYNE LITTLE	1819 UPSHUR ST NE		WASHINGTON	DC	20018	
176	503 25 006S	BELL JOHN C & LARAINE	PO BOX 1003		WICKENBURG	AZ	85358	
177	503 25 006L	BELL JOHN C & MARY LARAINE	P O BOX 1003		WICKENBURG	AZ	85358	
178	504 02 004E	BELL LARRY & LINDA TR	2111 E HIGHLAND STE 150		PHOENIX	AZ	85016	
179	503 94 512	BELLES TEDDY LYNN & MAUNELLE W	4022 N 57TH DR		PHOENIX	AZ	85031	
180	503 94 517	BENCH GEORGE E & KAREN K	309 DELOS		WILCOX	AZ	85643	
181	503 94 336	BENDIXEN ROBERT W/SUE-LINN	N 6071 COUNTY RD J		TIGERTON	WI	54486	
182	503 94 274	BENESCH JEAN A	8407 W BRODMAN AVE		CHICAGO	IL	60656	
183	503 92 028	BENFORD NEIL R & SHIRLEE L	3976 ROYAL CURVE		SAINT JOSEPH	MI	49085	
184	503 90 548	BENO AUGUSTINE F & MARGARET E	659 PAXTON AVE		CALUMET CITY	IL	60409	
185	503 90 896	BENSON ROBERT WALLIN	10403 TROPICANA CIR		SUN CITY	AZ	85351	
186	503 93 406	BENTSEN HAROLD E & RUTH	9742 GULFSTREAM BLVD		ENGLEWOOD	FL	34224	
187	506 37 005	BENZ RUDOLPH G/MARGARET	10901 HAMPSHIRE MANOR CRT		AFFTON	MO	63123	4921
188	503 92 091	BERG ERICH & ADELE	1175 RINGTAIL RD		VENICE	FL	33595	
189	503 25 006H	BERGER THEODORE H & MARSHA F	BOX 21297		WICKENBURG	AZ	85358	
190	503 93 519	BERGESON JOHN E/EDEL R	2800 N 16TH ST		PHOENIX	AZ	85006	1205

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191	503 92 933	BERGNER MICHAEL J	P O BOX 3481		PAGE	AZ	86040	
192	503 92 746	BERGSTROM ALLEN C	2307 ALBION CIR		ANCHORAGE	AK	99515	
193	503 92 457	BERNARD GARY	1116 HARTFORD PL		FAIRFIELD	CA	94533	
194	503 94 846	BERNET JOAN A	7200 YORK AVE S #412		EDINA	MN	55435	
195	503 94 063	BERNHEISEL FAMILY TRUST	1000 LAKE NETTIE DR		EUSTIS	FL	32726	
196	503 92 089	BERNINGER ROBERT	1915 N PROSPECT AVE		MILWAUKEE	WI	53202	
197	503 90 787	BERNSTINE EARL L/MARGUERITE L	100 SUMMIT DR		YORK	PA	17403	
198	503 90 180	BERRY ROBERT P & REGENIA M	3579 HOPPER HILL RD		CINCINNATI	OH	45255	
199	503 90 865	BERRY WALTER L & EVA J	1713 ZELMA DR		BELLEVILLE	IL	62223	
200	503 92 081	BERTIN KENNETH J & FRANCES L	119 HOLIDAY PARK		LAKE WORTH	FL	33460	
201	503 90 315	BERTSCH GREGORY F/SANDRA	PO BOX 179		WITTMANN	AZ	85361	
202	503 91 255	BEUKER JAN	70 W 95th ST		NEW YORK	NY	10025	
203	503 94 535	BEYER JACKIE L & MARIA	14161 JANICE ST		WESTMINSTER	CA	92683	
204	503 90 353	BFT COMPANY	5625 N 12TH AVE		PHOENIX	AZ	85013	
205	503 92 371	BIBLE JAMES T & DONNA J	317 NORTH DRIVE		ISLAMORADA	FL	33036	
206	503 90 847	BIEN FRANKLIN D	5136 W JARLATH		SKOKIE	IL	60077	
207	503 92 755	BIERNOT CHESTER P & AGNES L	10405 BOUNDARY LN		PARMA	OH	44130	
208	503 93 341	BIERSNER MAYME	7260 W PETERSON AVE APT E-510		CHICAGO	IL	60631	
209	503 91 003T	BIGGER REUBEN E & JANET C	705 FERN AVE		HOLTVILLE	CA	92250	
210	503 92 674	BIGONY EDWARD A & DONNA J	4 S HEMPSTEAD RD		WESTERVILLE	OH	43081	
211	503 92 676	BIRDSELL HARRY JR & JACQUELINE R	7 FIFTH STREET NORTHEAST		HAMPTON	IA	50441	
212	503 90 366	BIRKENHOLZ RICHARD M & NELLIE G	204 EVERGREEN DR		HARKER HTS	TX	76548	1624
213	503 94 585	BISSON ROBERT & LOUISE C	273 W CHESTNUT ST		BROCKTON	MA	02401	
214	503 91 425	BITTICK JOY MARIE	2618 E TONTO LN		PHOENIX	AZ	85024	
215	503 91 476	BJORNGAARD NORRIS P/EILEEN F	RT 1 BOX 27		ZUMBROTA	MN	55992	
216	503 93 422	BJORNGAARD PERVIN S	907 W 2ND ST		ZUMBROTA	MN	55992	
217	503 91 478	BJORNGAARD PERVIN S & LLOYD VENEMA	PO BOX 191		ZUMBROTA	MN	55992	
218	503 25 008A	BLACK RONALD D & EVELYN C	9 RALLEN DRIVE		THE PLAINS	OH	45780	
219	503 94 612	BLACKWOOD THOMAS H ETAL	2729 WAILEA CIR		FAIRFIELD	CA	94533	7812
220	503 92 625	BLAHNIK DAVID J & RUTH E	414 HAROLD ST		CRYSTAL LAKE	IL	60014	
221	503 90 008N	BLAKE RANDALL ROBERT ETAL	BOX 224		HINGHAM	MT	59528	
222	503 90 066	BLALOCK LEON F & JOAN	7660 E MCKELLIPS RD LOT 55		SCOTTSDALE	AZ	85257	4627
223	503 90 592	BLECK NANCY-JO	P O BOX 1736		GILBERT	AZ	85299	1736
224	503 90 607	BLESIE ELAINE M	10306 MARY AVE NW		SEATTLE	WA	98177	
225	503 26 012	BLUM EDWARD R TR	42210 N GRAND AVE		MORRSITOWN	AZ	85342	
226	503 93 141	BLUMNER HAROLD E JR/PEGGY A TR	102 RIVER RIDGE DR		ASHVILLE	NC	28803	1061
227	503 92 311	BOBCOCK GRANT M/SUE ANN TR/ ETAL	PO BOX 32341		PHOENIX	AZ	85064	2341
228	503 92 665	BOBER FRANK & ARLENE M	P O BOX 155		WAKEMAN	OH	44889	
229	503 92 235	BOCKELMAN JUDY J	183 MICHAEL CIR		PRESCOTT	CA	86301	
230	503 27 008	BODE GUSTAVE E/MARJORIE I TR	726 N EAST ST		ANAHEIM	CA	92805	
231	503 92 908	BODNARIUC GHEORGHE L/RENATE	535 E MORROW DR		PHOENIX	AZ	85024	
232	503 94 116	BOEBINGER JOHN D/JEANNETTE M	1435 MINTURN LN		INDIANAPOLIS	IN	46260	3338
233	503 93 475	BOEHM CHARLES L/CATHERINE E/WINGERT DEBORAH A	212 TILLSON		ROMEO	MI	48065	
234	503 93 465	BOERSEMA TRUST	4606 W AUGUSTA		GLENDALE	AZ	85301	
235	503 90 590	BOGOTT LYLE C & JEAN L	1133 N JEFFERSON		DIXON	IL	61021	
236	503 93 414	BOHNENSTIEHL DARWIN L	P O DRAWER A		MILNER	GA	30257	
237	503 94 821	BOLCEVIC STEVE	5351 HILLDEM RD		PIERPONT	OH	44082	
238	503 91 302	BOLES CHARLES J/CONSETTA TR	7362 COUNTY RD 219 RT 4		BELLEVUE	OH	44811	
239	503 92 171	BOLICH JOHN M & ARLYSS N	2046 S 10TH ST WEST		MISSOULA	MT	59801	
240	503 93 507	BOLT LOY R & JUDY A	3206 PETERKIN AVE		ANCHORAGE	AK	99508	
241	503 94 637	BONLENDER GILBERT D/LEONA TR	11106 IOWA AVE		YOUNGTOWN	AZ	85363	
242	503 90 595	BOONE CHARLES M/BETTIE M	P O BOX 1090		GOODYEAR	AZ	85338	
243	503 92 353	BORGIA ANTHONY S & BETTY	1625 STADIUM AVE		BRONX	NY	10465	
244	503 92 231	BORGIA CIRINO & ISLA	1625 STADIUM AVE		BRONX	NY	10465	
245	503 92 238	BORGIA STEVE & MARIA R	1625 STADIUM AVE		BRONX	NY	10465	
246	503 94 713	BORMANIS JURIS & GERDA	3801 E MONTECITO		PHOENIX	AZ	85018	
247	503 90 722	BOSHARA RAMON J/ELIZABETH A	2259 RICKEL DR		AKRON	OH	44333	2918
248	503 94 820	BOST DAVID L JR & BRENT W	5730 DUFF		BEAUMONT	TX	77706	
249	503 90 941	BOTELLO MARIA G	P O BOX 966		EL MIRAGE	AZ	85335	
250	503 90 240	BOURESTOM NORMAN C JR & CAROLINE M	4051 BELTWAY DR #1103		ADDISON	TX	75001	
251	503 92 912	BOUROS GHEORGHE & VOICA	5322 W EDGEMONT		PHOENIX	AZ	85035	
252	503 93 054	BOWGREN LEE W	124 FOXDALE WAY		LAS VEGAS	NV	89107	
253	503 90 724	BOWSER DELVIN & MARILYN	12730 GABLE HILL DRIVE		SUN CITY WEST	AZ	85375	
254	503 94 523	BOYD LORENE B	1931 MONTROSE DR		EAST POINT	GA	30344	
255	503 94 662	BOYD HUGH K/LILLIAN M	21 JOYA DR		PALM DESERT	CA	92660	
256	503 90 907	BOYLE MICHAEL E & KATHLEEN A	525 N SUMMIT ST		APPLETON	WI	54914	
257	503 94 745	BRADLEY FRANCIS BUDD	1831 SHORE DR		EDGEWATER	MD	21037	
258	503 90 631	BRADLEY MARJORIE A	4120 121ST AVE NW		COON RAPIDS	MN	55433	
259	503 25 009E	BRADSHAW WILLIAM RAY & EMMA JEAN	P O BOX 476		MORRISTOWN	AZ	85342	
260	503 90 881	BRADY GERTRUDE F ETAL	404 ORCHARD ST		FOX RIVER GROVE	IL	60021	
261	503 94 557	BRANDENBURG SHARON KAY	P.O. BOX 20681		WICKENBURG	AZ	85358	
262	503 91 482	BRANDT FREDERICK W & DOLORES I	5985 BLOOMFIELD CIRCLE NO 201		NAPLES	FL	34112	2834
263	503 93 325	BRANNON KENNETH A & DONNA R	10358 AQUILLA DR		LAKESIDE	CA	92040	
264	503 23 018	BRASHER ARTHUR L & CARLA R	P O BOX 54		PEORIA	AZ	85380	
265	503 94 499	BRASS ROGER JAMES	37701 MONTEZUMA VALLEY RD		RANDHITA	CA	92066	
266	503 94 647	BRAZIER HAROLD W TR	85330 LORANE HWY		EUGENE	OR	97405	
267	503 94 509	BRELJE CHRISTOPHER JOHN/LINDA MARIE TR	13300 W CYPRESS ST		GOODYEAR	AZ	85338	
268	506 37 001	BRENNAN SCOTT M/BRIAN E	722 W WINDS	, #2	IOWA CITY	IA	52246	
269	503 90 047	BRESAK JENNIE	2905 LORETTA CT		LORAIN	OH	44052	
270	503 92 761	BREYER ALAN R /SUSAN J TR	8116 BEAVREGARD DR		LEANDER	TX	78641	
271	503 91 470	BRIGGS GORDON M	RT 1 BOX 445		PENDLETON	OR	97801	
272	503 92 375	BRININSTOOL EDWARD P & DORIS A	3017 TIMBER RIDGE DRIVE		SAN ANGELO	TX	76904	
273	503 90 471	BRINKLEY JAMES M/RENEE L	5202 E GRANDVIEW RD		SCOTTSDALE	AZ	85254	
274	503 93 622	BRISTOL MARTHA H	2492 SENECA PARK PL		COLUMBUS	OH	43209	1750
275	503 90 859	BRITTAN BRIDGET	3615 W LOMA LN		PHOENIX	AZ	85051	
276	503 92 256	BRODIAN LOUIS & MIRIAM ETAL	2872 E BERYL AVE		PHOENIX	AZ	85028	
277	503 90 709	BROEDER CHARLES W & CAROL ANN M	3240 E SOUTHERN B-78		PHOENIX	AZ	85040	
278	503 94 690	BROEGE VIRGINIA A & RICHARD A	1528 CO RD 157-S		ASHLAND	OH	44803	
279	503 90 733	BROOK JOSEPH C & ELINOR R	24 N WARNER ST		WOODBURY	NJ	08096	
280	503 90 774	BROOKS BRENDA K/MELTON J	PO BOX 633		WITTMANN	AZ	85369	
281	503 92 614	BROOKS LEO J/ANN	9034 FENTON AVE		REDFORD	MI	48239	1276
282	503 92 173	BROOKS MELTON/BRENDA	PO BOX 633		WITTMANN	AZ	85361	
283	503 90 057	BROOKS TRUST	15227 N 51ST DR		GLENDALE	AZ	85306	
284	503 24 009V	BROOKS VON L/DONNA C TR	15227 N 51ST DR		GLENDALE	AZ	85306	
285	503 94 761	BROWN CHARLES	P O BOX 628		HOTCHKISS	CO	81419	

Flood Control District of Maricopa County
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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
286	503 90 077	BROWN CLAUDE D	23618 N 36TH DR		GLENDALE	AZ	85310	
287	503 90 868	BROWN CLAUDE W & LAURIAN L	346 CLARA LANE RIO COMMUNITIES		BELEN	NM	87002	
288	503 92 533	BROWN DANIEL L & CAROL E	30845 10TH AVE SW		FEDERAL WAY	WA	98023	
289	503 92 556	BROWN HAROLD D JR	3034 LOW OAK		SAN ANTONIO	TX	78232	
290	503 93 084	BROWN JACK C & HYLDA D	8402 N MICHIGAN RD		INDIANAPOLIS	IN	46268	
291	503 90 465	BROWN JAMES T/LIBBY D	29815 W PEAKVIEW		WITTMANN	AZ	85361	
292	503 92 940	BROWN JENNIFER	PO BOX 1254		EL MIRAGE	AZ	85335	
293	503 90 710	BROWN JIMMY LEN & VALERIE LYNN	2300 ROCK SPRINGS DR #1011		LAS VEGAS	NV	89128	
294	503 93 153	BROWN RUTH A/OLIPHANT BONNIE	11 ROBIN PARK BLVD		OBERLIN	OH	44074	
295	503 22 022F	BROWN WALTER DEVIN/LEA	1696 PALO VERDE DR		WICKENBURG	AZ	85390	
296	503 92 939	BROYLES MARCIA A ETAL	2536 154TH AVE SE		BELLEVUE	WA	98007	
297	503 91 003N	BROZOVICH HELEN P/MATTHEW TR	3433 60TH ST APT 5-C		MOLINE	IL	61265	
298	503 92 529	BRUCE ROBERT A/LINDA J EGGERS	1830 RAINBOW DR		CLEARWATER	FL	34625	3444
299	503 93 083	BRUMMETT JOE E SR/DONNA	PO BOX 04		WITTMAN	AZ	85361	
300	503 94 627	BRUNEAU JOHN J & ANNETTE L	2250 SHERE LYNNE DR		ABILENE	TX	79606	
301	503 90 937	BRUNING ROBERT W JR & JOAN C	233 FLINTRIDGE DR		GAHANNA	OH	43230	
302	503 92 130	BRUNS DAVID A	RR 1 BOX 5548		BUMPASS	VA	23024	9801
303	503 92 129	BRUNS DAVID A	7421 FAIR OAKS PKWY		FAIR OAKS RANCH	TX	78015	4552
304	503 91 046	BRYANT CECILE E & LARRY L ETAL	778 OAK KNOLL DR		ASHLAND	OR	97520	
305	503 90 589	BRYANT JR JAMES A & HELEN	55 LANDON ST		BUFFALO	NY	14208	
306	503 91 247	BRYANT KENNETH E & FRANCES H	29508 179TH PL SOUTHEAST		KENT	WA	98031	
307	503 22 027C	BRYANT RONALD G & JANICE B	PO BOX 959		WICKENBURG	AZ	85358	
308	503 90 889	BUCCOLA FRANK LOUIS	109 SUNSET DR		COCOA BEACH	FL	32931	
309	503 92 671	BUCHANAN JAMES H/BARBARA B	4100 TONI DR		KOKOMO	IN	46902	4451
310	503 93 562	BUCKLEY SEAN C	8341 W HIGHLAND		PHOENIX	AZ	85037	
311	503 91 004E	BUDZINSKI ROBERT F	2129 BROADWAY		SLOAN	NY	14212	
312	503 92 357	BUEHRING WARREN E & MARY LOU	661 WINDSURF LN #202		NAPLES	FL	33963	
313	503 91 070	BUONPANE FRANK F & ELENA	BOX 248		BEAVER	WA	98305	
314	503 93 428	BURGESS CLARK A & VALERIE K	3354 RETA ST		LA CRESCENTA	CA	91214	
315	503 94 858	BURKE PATRICIA L	131 GREEN LEAF DR		OAK BROOK	IL	60521	
316	503 93 126	BURKHARDT PAUL G/RUTH M	1800 N KENT ST ROOM 5000		ARLINGTON	VA	22209	1506
317	503 91 368	BURKHART WILMA	28710 N 2700 E RD		DWIGHT	IL	60420	
318	503 92 175	BURNETTE MARK CLAUSON & LINNEA MARGARET	12 LA CINTILLA		ORINDA	CA	94563	
319	503 92 555	BURNETTE ROBERT G JR & SHIRLEY J	13018 LYNN HAVEN		CYPRESS	TX	77429	
320	503 91 058	BURNETTE TONY R & DOLORES F	1601 OLD PLANK RD		MILFORD	MI	48042	
321	503 90 916	BURNS ROBERT L	1405 FARRELL AVE, # 231		CHERRY HILL	NJ	08002	
322	503 91 004H	BURNS SHIRLEY G	PO BOX 681143		SAN ANTONIO	TX	78268	
323	503 90 599	BURRELL KATHLEEN M	1495 BROWN ST		AKRON	OH	44319	
324	503 92 640	BURTCH JOHN L/MARY A/PLICKA ANTHONY/MARY LOU	N 24 W 26730 ACCENT CT		PEWAUKEE	WI	53072	4533
325	503 94 542	BURTLOW CHARLES D JR/SANDRA	PO BOX 20747		WICKENBURG	AZ	85390	
326	503 92 587	BURTON JAMES C	402 E VILLA THERESA DR		PHOENIX	AZ	85022	
327	503 91 003X	BURTON JAMES C/BETTY JO	402 E VILLA THERESA		PHOENIX	AZ	85022	
328	503 92 832	BUSHELL JOHN A & SUSAN L	5701 N 61ST DR		GLENDALE	AZ	85301	
329	503 90 021	BUTLER DONALD L	18505 SUNSET		DETROIT	MI	48234	
330	503 91 437	BUTLER JAMES H & JOAN L	3327 BRIDLEWOOD ST		GRAPEVINE	TX	76051	
331	503 26 002G	BUTTERFIELD DENNIS L & SANDRA J & JAMES	42426 HWY 60		MORRISTOWN	AZ	85342	
332	504 02 003A	C & W MINING INC	9148 N 66TH PL		PARADISE VALLEY	AZ	85253	
333	503 27 007	C ROBERTS A C INC/DUNN FLOYD TR	9828 N 19TH AVE		PHOENIX	AZ	85021	
334	503 90 268	CABLE CLAUDE/SHIRLEY	1940 N BOULDER HIGHWAY		HENDERSON	NV	89015	
335	503 91 388	CADY THOMAS A/SHARON R	22433 N BLACK CANYON HWY		PHOENIX	AZ	85027	
336	503 92 063	CALA SAMUEL M & MARJORIE J	1694 OAKMOUNT RD		SOUTH EUCLID	OH	44121	
337	503 90 050	CALBO JOHN J & MARIA	3612 BUXTON DR		EL PASO	TX	79927	
338	503 92 400	CALDWELL BRUCE A/HANLEY TAMI R	3125 W COLUMBINE		PHOENIX	AZ	85029	
339	503 92 243	CALISTO JAMES C	5700 LAKE OTIS PKWY #12		ANCHORAGE	AK	99507	
340	503 92 194	CALISTO ROSE D	812 GREENE ST		CUMBERLAND	MD	21502	
341	503 22 020L	CALLAHAN ROBERTA S	35832 N 10TH ST		PHOENIX	AZ	85086	
342	503 94 382	CALLAN SHIRLEY M TR	13291 E 50TH DR		YUMA	AZ	85367	
343	503 94 315	CALLAWAY G B & GENEVA H	5308 TOPPER DR		FT WORTH	TX	76118	
344	503 90 612	CALLEBAUT FRANS FREDERICK	4134 N 48TH DR		PHOENIX	AZ	85031	
345	503 92 592	CALVANO SALVADOR JR & JOANNE R	2211 E CINNABAR		PHOENIX	AZ	85028	
346	503 94 623	CAMACHO JOSE L/MARIA E	PO BOX 967		EL MIRAGE	AZ	85335	
347	503 94 597	CAMACHO JUAN E/VIDALES MARIA J	4032 W OSBORNE	, #206	PHOENIX	AZ	85019	
348	503 94 835	CAMARDO PAT G & ELEANOR L	1420 W POLK		CHICAGO	IL	60607	
349	503 93 452	CAMPBELL JAMES H & KAREN K	230 FIELDSTONE PATH		ALPHARETTA	GA	30005	
350	503 93 329	CAMPBELL JOHN G/RUBY L	6233 HOWE DR		FAIRWAY	KS	66205	3453
351	503 91 120	CAMPBELL LOUIS D/JANICE B ETAL	11851 NENESNA DR		ANCHORAGE	AK	99516	
352	503 91 444	CAMPOS PABLO/MARGARITA/RESENDIZ O/N/HOLGUIN A	P O BOX 1477		EL MIRAGE	AZ	85335	
353	503 94 549	CANNON EDWARD A & MARCELLA R	19816 MILITARY RD S	, APT 2	SEATTLE	WA	98188	5475
354	503 93 416	CANNON JAMES R	4373H CREPE MYRTLE CT		MURRELLS INLET	SC	29576	
355	503 94 677	CANNON WILLIAM J & JULIA	16509 CLAIRE AVE		CLEVELAND	OH	44111	
356	503 93 208	CANTRELL BETTY S	33-183 LAURA DR		THOUSAND PALMS	CA	92276	
357	503 91 260	CANTRELL ELSIE M/ISAAC W	PO BOX 666		ASHFORK	AZ	86320	
358	503 92 956	CAPORALE FRANCIS J & BRENDA SUE	3533 N LAKE PK		HOBART	IN	46342	
359	503 92 162	CAPP JOHN W & ADA M	180 BAYSHORE CT		PUNTA GORDA	FL	33950	
360	503 93 512	CARAMANIS CHRISTINE	P O BOX 1132		WALTHAM	MA	02454	
361	503 91 450	CARELLAS JOHN & PETER	104 GREENMEADOW		GLENDALE HTS	IL	60137	
362	503 94 834	CAREY AVIS M TR	PO BOX 4866		CAVE CREEK	AZ	85331	
363	503 23 020	CARLMARK TINA MARIE	5595 TURQUOISE AVE		ALTA LOMA	CA	91701	
364	503 90 835	CARLSON INGA LISA M	7060 SHOUP #190		CANOGA PARK	CA	91307	
365	503 93 474	CARLSON ROBERT A & KATRINA C	6025 N KILPATRICK		CHICAGO	IL	60646	
366	503 94 303	CARMICHAEL JUDITH E	2128 S RIVERSIDE DR STE 22		IOWA CITY	IA	52246	
367	503 90 903	CARON MARC A & JUDI ANNE	2757 NANSEMOND CRESCENT		SUFFOLK	VA	23435	
368	503 90 617	CARPENTER CHARLES EDWARD JR	244 S WIRT ST		LEESBURG	VA	22075	
369	503 90 489	CARPENTER MITCHEL JAMES & BARBARA ELLEN	PO BOX 4332 NEW YORK		APO	AE	09132	
370	503 23 005Q	CARRICO KEITH E/JANE G TR	925 DOLORES PO BOX 2453		WALDPORT	OR	97394	
371	503 92 416	CASANOVAS DONALD H & DORA L	1327 F ST		ANCHORAGE	AK	99501	
372	503 91 306	CASE SUSAN L	PO BOX 334		DUNEDIN	FL	34697	
373	503 22 008K	CASPER CECIL E/EVELYN M	5603 E EMERSON		STERLING	IL	61081	
374	503 90 496	CASTLEBERRY INEZ G	RR2 BOX 46A		RED LEVEL	AL	36474	
375	503 90 915	CATERINO LORETTA & CHARLOTTE JOHANSON	RURAL FREE DELIVERY 1		NEW BOSTON	NH	03070	
376	503 92 572	CATO BETTE	PO BOX 775		VALDEZ	AK	99686	
377	503 90 695	CAUDLE KEN R & CATHERINE M	2316 W TEMPLE		CHANDLER	AZ	85224	
378	503 92 315	CAVICO FRANK J JR & FRANCES M	3101 W 84TH ST		CHICAGO	IL	60652	
379	503 90 362	CECCHINI MICHELE G	PO BOX 916		SOUTH PASADENA	CA	91030	
380	503 90 541	CENKNER JOHN J & MARTHA T	20 ORCHARD VIEW RD		WEXFORD	PA	15090	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
381	503 91 235	CERVANTES VICTOR G/MARTHA R	P O BOX 119		EL MIRAGE	AZ	85335	
382	503 92 934	CESTNIK TERI J	145 STRAND		MISSOULA	MT	59801	
383	503 93 172	CHADWICK GUY/BETTY A	12715 W YOUNG ST		SURPRISE	AZ	85374	3735
384	503 92 117	CHAIDES MARY HELEN/REGULO A	2632 E LIBBY ST		PHOENIX	AZ	85032	
385	503 22 017A	CHAMBERS JAMES E	PO BOX 40		MORRISTOWN	AZ	85342	
386	503 23 008D	CHAMBERS WILLIAM E/GARRETT ANITA L	42635 N W GRAND AVE		MORRISTOWN	AZ	85345	
387	503 92 392	CHANDLER JOHN W JR TR ETAL	207 COMMODORE DR		JUPITER	FL	33477	
388	503 94 433	CHANG JENNIFER SOHN	5153 E DUANE LN		CAVE CREEK	AZ	85331	
389	503 92 405	CHAPMAN CHARLES B	6401 W SUNNYSIDE DR		GLENDALE	AZ	85304	
390	503 22 003A	CHARLES BILLIE C	BOX 42		MORRISTOWN	AZ	85342	
391	503 22 006	CHARLES GEORGE C	BOX 42		MORRISTOWN	AZ	85342	
392	503 92 358	CHARLTON LOUIS S	20 CARRIAGE EST RT 2		SHERMAN	TX	75090	
393	503 27 001D	CHAS ROBERTS AIR CONDITIONING INC	9828 N 19TH AVE		PHOENIX	AZ	85021	
394	503 91 039	CHASTAIN CAREY S	1008 WEBB DR		SAN MANUEL	AZ	85631	
395	503 91 289	CHAVEZ SALOMON C/MARY E	P O BOX 922		CASHION	AZ	85329	
396	503 91 244	CHEN MARTIN Y & CAROL P	10804 DEBORAH DR		POTOMAC	MD	20854	
397	503 92 088	CHESNEY MARGARET R	10511 CARROLLWOOD WAY		ST LOUIS	MO	63128	
398	503 92 087	CHESNEY WINSTON RAY	12224 BLACKHALL DR		ST LOUIS	MO	63128	
399	503 91 448	CHIAMAS NICK & IRENE	1270 ASH		BENSENVILLE	IL	60106	
400	503 91 164	CHIDESTER WILLIAM T & MARY ANNE	BONNY DR		SOMERS	NY	10589	
401	503 90 855	CHRISMAN CLIFFORD C & RETA A	1519 NAUGHTINGHAM RD		NEWARK	OH	43055	
402	503 92 549	CHRISTENSEN EARL G & DOROTHY S	1747 E HAMPTON AVE		MESA	AZ	85204	
403	503 94 355	CHRISTIANS IN ACTION	PO BOX 728		WOODLAKE	CA	93286	
404	503 92 918	CHRISTIANSEN MARY M	1326 E 27TH AVE		ANCHORAGE	AK	99504	
405	503 23 012E	CHRISTOFFERSON RICHARD RAY & PATRICIA R	PO BOX 104		MORRISTOWN	AZ	85342	
406	503 94 327	CHRONISTER DAVID G/ROSEANNA J	PO BOX 21562		WICKENBURG	AZ	85358	
407	503 92 885	CHURCH LYNNETTE A	12812 65TH AVE CT SW		TACOMA	WA	98499	
408	503 94 051	CHURCH OF THE OPEN DOOR	43275 TELEGRAPH ROAD		ELYRIA	OH	44035	
409	503 94 062	CHURCH WADE O/ENA M TR	14 HICKORY LANE		CHEROKEE VILLAGE	AR	72529	
410	503 93 116	CHUTIS LAURIEANN L	213 HILLSIDE DR		ISLAND LAKE	IL	60042	
411	503 92 372	CIABATTINI PAUL G & BERNARD R	5716 FAIRFAX RD		OAK FOREST	IL	60452	2828
412	503 91 477	CIAMPA JOHN B & LILLIAN MARIE	2655 ALTEZA LANE		COLORADO SPRINGS	CO	80917	
413	503 91 381	CIBULKA THOMAS J & DOROTHY	15819 LAPPIN		DETROIT	MI	48205	
414	503 90 198	CICERO FRANK P & BERTHA L	105 ANNEVA CIR		TRUSSVILLE	AL	35173	
415	503 91 222	CLANTON BILLY L	RR 1 BOX 450		STROUD	OK	74079	
416	503 93 415	CLARK DONALD A	4800 BAYVIEW DR #306		FT LAUDERDALE	FL	33308	
417	503 91 085	CLARK ELMO/SHIRLEY L	34327 N 7TH ST		PHOENIX	AZ	85085	7731
418	503 92 466	CLARK MICHAEL W/KARYN N	42058 N NEW RIVER RD		PHOENIX	AZ	85027	
419	503 22 022Q	CLARKE BRYAN P/TINA M	BOX 1792		WICKENBURG	AZ	85358	
420	503 92 921	CLARY DONALD G JR	PO BOX 2995		ANCHORAGE	AK	99510	
421	503 92 721	CLAYMAN THOMAS CHARLES/EDITH C MOSS	3107 E MONTE VISTA RD		PHOENIX	AZ	85008	
422	503 92 567	CLELAND NEILL D & GLADYS M TR	157 COTTONWOOD DR		LAKE HAVASU CITY	AZ	86403	
423	503 90 858	CLIFFORD STANLEY E & LOTTIE L	503 N MEMORIAL AVE		ROCKFORD	IL	61103	
424	503 91 395	CLOUSER THOMAS C/JOYCE M	7934 W BANFF LN		PEORIA	AZ	85381	
425	503 94 837	COARI JOHN R & MARJORIE K	514 W BUIST AVE		PHOENIX	AZ	85041	
426	503 94 838	COARI JOHN R & MARJORIE K	514 W BUIST AVE		PHOENIX	AZ	85041	
427	503 94 342	COATES FLOYD L & MARVA B	4302 TOWNSLEY AVE		MARLOW HGTS	MD	20031	
428	503 94 629	COBY PATRICIA A	931 W EMELITA CIR		MESA	AZ	85202	
429	503 92 562	COCHISE COUNTY SCHOOL DIST #53	STAR ROUTE		PEARCE	AZ	85625	
430	503 94 836	COCHRAN CLAUDE & DEANNA	3433 W LIBBY		PHOENIX	AZ	85023	
431	503 92 383	COCHRAN MARCIA S/SMITH BARRY L	550 MARINA PARKWAY STE D2	, PMB 117	CHULA VISTA	CA	91910	
432	503 90 799	COCHRANE ANNA KATHARINA	1724 CLERMONT ST		ANTIGO	WI	54409	
433	503 90 958	CODUTI CARLO A/LAURETTA TR	2305 S 17TH AVE		BROADVIEW	IL	60153	
434	503 90 577	COFFEY JOHN V/PAULINE J	2811 204TH AVE COURT E		SUMNER	WA	98390	
435	503 92 675	COHEN RICHARD L & LINDA G	19432 LIBERTY RD		BOCA RATON	FL	33434	
436	503 24 002N	COHN RICHARD/ROSENBERG LINDA DUGAS CAROL/ETAL	4720 BALBOA AVE		ENCINO	CA	91316	
437	503 92 561	COLDEBERG JOHN D/FERN A TR	55675 BIRCH RD		OSCEOLA	IN	46561	
438	503 91 399	COLE IRION D/IRENE A	PO BOX 2411		WICKENBURG	AZ	85358	
439	503 90 161	COLEMAN RUTH & ROBERT A JR	6142 N TRIPP AVE		CHICAGO	IL	60646	
440	503 93 446	COLLIN MARTHA J	6324 CREEKSIDE LN		NORTH RIDGEVILLE	OH	44039	
441	503 91 082	COLLINS ANN M TR	608 PARKSIDE PL		INDIAN HARBOUR BE	FL	32937	4813
442	503 92 833	COLLINS FRANK F/EVE L	15414 N 19TH AVE STE J		PHOENIX	AZ	85023	
443	503 91 004K	COLQUITT RICHARD D & SHERRY A TR	2320 RANCHO DR 207		LAS VEGAS	NV	89102	
444	503 90 285	COMALLI LIVING TRUST	590 REISLING TERRACE		CHULA VISTA	CA	92013	
445	503 92 631	COMPTON LLOYD M & ELOUISE	RT 1 BOX 119		IREDELL	TX	76649	
446	503 93 118	CONARROE DAVID O	515 112TH SE #D-4		EVERETT	WA	98208	
447	503 91 458	CONFORTI GINA/FRANK JR/ROSE	1 S 712		VISTA LOMBARD	IL	60148	
448	503 24 023	CONKLIN DAVID/LAURIE	44801 N 279TH AVE		WICKENBURG	AZ	85390	
449	503 24 002M	CONLEY MAXIE L/SANDRA B	PO BOX 1176		WICKENBURG	AZ	85358	
450	503 90 027	CONNER JAMES H	PO BOX 225		ST MICHAELS	AZ	86511	
451	503 90 291	CONOVER MICHAEL A	435 SULLIVAN RD		WESTMINSTER	MD	21157	
452	503 90 871	CONRAD DORIS/LEDFORD CAROLINE/MARTOS CARMEN	28210 N 50TH PL		CAVE CREEK	AZ	85331	
453	503 93 336	CONROY LEO T/GLORIA L	36500 MARQUETTE APT 828		WEST LAND	MI	48185	
454	503 91 060	CONSTANS GEORGE M & BEVERLY J	4841 BARBARA DR		HOPKINS	MN	55343	
455	503 91 029	CONSTANTIN RIZEA	4510 E WOOD		PHOENIX	AZ	85040	
456	503 90 522	CONTRERAS TIMOTHY A	12558 CALIFORNIA STL		YUCAIPA	CA	92399	
457	503 92 112B	COOK A J	4632 SUPAI DR	, GVSR	KINGMAN	AZ	86401	
458	503 90 624	COOK RICHARD C/NANCY C	RT 3 BOX 250		WALTERS	OK	73572	
459	503 92 350	COOLEY ROBERT G & GEORGE W	PO BOX 542		LAKE FOREST	IL	60045	
460	506 12 007	COOPER HARLEY G/JANET B	PO BOX 3290		WICKENBURG	AZ	85358	
461	503 92 317	COOPER JAMES E/MOLLIE M	8737 E DORCAS AVE		MESA	AZ	85208	2235
462	503 91 466	CORBET JAMES L/COPUS CHARLES W/MARY	139 N FRONTIER ST		WICKENBURG	AZ	85390	
463	503 90 034	CORBITT MARY MARGARET	210 JONES ST		NORTH JUDSON	IN	46366	
464	503 90 355	CORCORAN WILLIAM J & LOUISE	323 S VINE		HINSDALE	IL	60521	
465	503 91 374	CORONA DOMINGO V/JUANA G	PO BOX 146		EL MIRAGE	AZ	85335	
466	503 92 097	COSTANTINI PIETRO T & JUANITA	300 E TROPICANA SP 126		LAS VEGAS	NV	89109	
467	503 90 416	COTHRON BOBBY G	14239 W PEORIA #1		WADDELL	AZ	85355	
468	503 90 371	COTHRON BOBBY G/MELINDA A	PO BOX 457		WITTMANN	AZ	85361	
469	503 91 176	COTHRON BOBBY/MELINDA A	PO BOX 457		WITTMAN	AZ	85361	
470	503 94 565	COUCH JAMES S & IONE S	RT 3 BOX 120		CARTHAGE	NY	13619	
471	503 94 622	COUGILL FRED JR/DORIS E	P O BOX 50		RYEGTE	MT	59074	
472	503 23 004D	COULTER ELIZABETH MARY/DUNCAN ANDREW JR	2085 DANA ST		CORONA	CA	92879	
473	503 91 028	COURNOYER CARLENE	6565 W BETHANY HOME RD #214E		GLENDALE	AZ	85301	
474	503 92 412	COURNOYER LEO ELROY/JOSEPHINE TR	11623 N 107TH AVE		SUN CITY	AZ	85351	3704
475	503 92 446	COURNOYER LEO ELROY/JOSEPHINE TR	12023 N SUN VALLEY DR		SUN CITY WEST	AZ	85375	

Flood Control District of Maricopa County
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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
476	503 94 564	COWLEY COMPANIES INC	3303 S 40TH ST		PHOENIX	AZ	85040	
477	503 92 008	CRADDOCK MICHAEL & CATHERINE M	1200 ORMOND AVE		DREXEL HILL	PA	19026	
478	503 90 816	CRAFT KATHRYN M & JOHN S MCMILLIN & B	430 10TH ST		IDAHO FALLS	ID	83401	
479	503 94 117	CRAIG VERNER A & DOLORES E	1510 LINDALE CIRCLE		LEHIGH ACRES	FL	33936	
480	503 90 494	CRAMPTON FAMILY TRUST	2542 N 85TH ST		MESA	AZ	85207	
481	503 93 340	CRANDALL GERALD W & KAREN C	1102 9TH AVE		ELDORA	IA	50627	
482	503 93 123	CREAMER LARRY R/CARNLINE DONNA M	733 E MOBILE LANE		PHOENIX	AZ	85040	
483	503 93 448	CROOKS PAUL J & DEBORAH L	PO BOX 172		WADDELL	AZ	85355	
484	503 93 419	CROOM PAUL R & PU KUN	8 WICHITA DR STAR RT B		LAWTON	OK	73501	
485	503 93 481	CROWDER JAMES T JR/KATE	PO BOX 208		PHOENIX	AZ	85001	
486	503 92 733	CROWLEY ALAN BUCK	1915 E HARVARD		PHOENIX	AZ	85006	
487	503 90 911	CROXFORD CLIFFORD G & JACQUELINE H	1026 E OREGON		PHOENIX	AZ	85014	
488	503 90 938	CRUICE J SETH H	PO BOX 3974		GREENVILLE	DE	19807	
489	503 92 131	CRUZ DAVID G	31014 W TAMAR RD		WITMANN	AZ	85361	
490	503 23 008Z	CULTON EDWIN C/SUSAN C	PO BOX 956		HEMET	CA	92546	
491	503 23 008V	CULTON EDWIN C/SUSAN C TR/ETAL	PO BOX 76		PHILPOT	KY	42366	
492	503 92 100	CUMMINGS ANNA LEE	1964 GUY WAY		BALTIMORE	MD	21222	
493	503 92 514	CURRIN CEDRIC G & BETTY I	5307 STURGEON AVE		MIDLAND	MI	48640	
494	503 92 734	CURRY CECELIA CORNELIA	RT 5 BOX 343		PRINCETON	TX	75077	
495	503 94 645	CURRY JOHN H/JOANNE	PO BOX 76		MORRISTOWN	AZ	85342	
496	503 24 009M	CURTIS MICHAEL L & CHERYL A	110 E GREENWAY PKWY	, APT 1064	PHOENIX	AZ	85022	2533
497	503 93 412	CUSTER ROBERT L & LILLIAN F	12671 STATE RD		NORTH ROYALTON	OH	44133	
498	503 92 255	CWIKLIK EDWARD & DEIRDRE S	10620 N 48TH DR		GLENDALE	AZ	85304	
499	503 93 432	D AQUANNI RICHARD T	33 ALLARD FARM CIRCUIT		NORTH CONWAY	NH	03860	5505
500	503 90 008Q	D F G INC	3619 W ROYAL PALM RD		PHOENIX	AZ	85051	
501	503 91 453	D'EUGENIO INVESTMENT ENTERPRISES INC	8506 E VIA DE SERENO		SCOTTSDALE	AZ	85258	
502	503 91 229	DAHL SUSAN E	1601 W DENTON NO 7		PHOENIX	AZ	85015	
503	503 92 719	DAILEY MELVIN D & PHYLLIS J	2122 N 63RD PL		MESA	AZ	85205	
504	503 92 038	DALKE DOROTHY TR	P O BOX 20983		WICKENBURG	AZ	85358	
505	503 92 039	DALKE FAMILY TRUST THE	BOX 20983		WICKENBURG	AZ	85358	
506	503 92 060	DALKE VICTOR L/DOROTHY E TR	P O BOX 20983		WICKENBURG	AZ	85358	
507	503 90 564	DAMASO ROSS A & JEANNE ETAL	5256 WEBB ST		ALIQUIPPA	PA	15001	
508	503 23 004E	DAME HARRY A	PO BOX 329		MORRISTOWN	AZ	85342	
509	503 91 185	DAMITZ KENNETH H & MARGARET A	9121 W CERMAK RD		NORTH RIVERSIDE	IL	60546	
510	503 92 299	DAMRON MELANIE	841 SADDLEBROOK DR N		BEDFORD	TX	76021	4326
511	503 92 136	DAN CARLO/VIOLETA	11208 TACK HOUSE CT		POTOMAC	MD	20854	
512	503 94 862	DANIELS HENRY S & JAMIE DEE	2708 CASA DEL NORTE CT NE		ALBUQUERQUE	NM	87112	2112
513	503 92 200	DANIELSON ROY K & RHONDA L	8300-159TH CT N		PALM BEACH GARDEN	FL	33418	
514	503 26 002K	DANKS ED/CONNIE	PO BOX 477		MORRISTOWN	AZ	85342	
515	503 91 035	DANZEISEN ROBERT J & MARGARET A	1720 E RT 70		CHERRY HILL	NJ	08003	
516	503 93 128	DARLAK BARBARA ANN	2401 ISLAND DR #20-C		UNIONTOWN	OH	44685	
517	503 92 127	DAVIDSON CHARLES W/MAUREEN A	2915 S CHASE ST		WITCHITA	KS	67217	
518	503 90 444	DAVIES GAYLAND S ETAL	11409 S TOMAH		PHOENIX	AZ	85004	
519	503 93 544	DAVIES JAMES J	215 PIEDMONT AVE NE #1009		ATLANTA	GA	30308	
520	503 94 840	DAVIS BARBARA D	P O BOX 412		TALLMADGE	OH	44278	
521	503 92 710	DAVIS GLENNA O	3656 W PIKE		CAMP VERDE	AZ	86322	
522	503 94 531	DAVIS JAMES R & BARBARA G	1362 DEERLICK DR		COLUMBUS	OH	43228	
523	503 92 681	DAVIS JESSE W/SUZANNE E TR	31426 N 43RD ST		CAVE CREEK	AZ	85331	
524	503 94 536	DAVIS LEE O & DORA	1708 ELEVENTH AVENUE		HUNTINGTON	WV	25701	
525	503 90 922	DAVIS RODNEY/PAMELA	20 E MAIN ST	, #830	MESA	AZ	85201	
526	503 93 468	DAVIS SIMMIE W JR & MARY ELLEN	55 W NORTHSIDE DR		BATTLE CREEK	MI	49017	
527	503 90 442	DAVIS WAYNE	1930 S DOBSON RD NO 2		MESA	AZ	85202	
528	503 92 325	DAVIS WENDY S & JODY E IHME & B V & C I	2771 COBUSIER DR		MELBOURNE	FL	32935	
529	503 92 708	DAVIS WILLIAM E & ANNETTE M	W7124 STEELE RD		PEMBINE	WI	54156	
530	503 90 771	DAY DAN STEVEN/EMMETT DREW SHAWN	4757 W PARK BLVD		PLANO	TX	75093	
531	503 25 008E	DE BERGE LINDA	1640 N 22ND ST		PHOENIX	AZ	85006	
532	503 94 577	DE MARIA JAMES J & ELDA T	5066 PRAIRIE PATH		LOVES PARK	IL	61111	7638
533	506 37 003N	DEBLOIS PENNY	3320 E UNIVERSITY	, #2066	MESA	AZ	85213	
534	503 92 489	DEDERICK DAVID KARL	7007 W INDIAN SCHOOL #38-1002		PHOENIX	AZ	85033	
535	503 90 912	DEFFENBAUSH DONALD W	30014 W RED BIRD LN		WITTMANN	AZ	85361	
536	503 93 073	DEFRESNE NEIL A/JOANNE I	9631 W CAROL AVE		PEORIA	AZ	85345	
537	503 92 370	DEGRANDE FRANCIS H II & JOYCE M	2929 MINOT LN		WAUKESHA	WI	53186	
538	503 92 138	DEGRANDE FRANCIS H TR	38212 FRENCH POND		FARMINGTON HILLS	MI	48331	
539	503 90 286	DEHOOG GERALD/MARTHA TR	P O BOX 72		WHITTMANN	AZ	85361	
540	503 92 695	DEIBER GERALD/JACQUELINE	577 LEE ST		GLEN ELLYN	IL	60137	
541	503 92 741	DEINER CARL H & JOANN	14517 HURON DR		SUN CITY WEST	AZ	85375	
542	503 22 005B	DEL TUFO ALBERT/JOSEPHINE	455 N TEGNER ST	, #24	WICKENBURG	AZ	85390	
543	503 90 860	DELACRUZ MARGARITA	24410 N 183RD AVE		WITTMAN	AZ	85361	
544	503 90 365	DELANEY JOHN T & JACQUELINE	10829 S MAPLEWOOD		CHICAGO	IL	60655	
545	503 93 508	DELAPLANE WANDA R	3433 GRASMERE DR		LEXINGTON	KY	40503	
546	503 93 353	DELGADILLO DANIEL	6301 W ROSE LANE		GLENDALE	AZ	85301	
547	503 92 442	DELL WAYNE R & JANE A	2207 SIX POINTS RD		INDIANAPOLIS	IN	46231	
548	503 91 273	DEMERE CHARLES C	P O BOX 427		SAINT MARYS CITY	MD	20686	
549	503 92 253	DEMIDENKO WALTER & BARBARA A	2307 SULGRAVE AVE		BALTIMORE	MD	21209	
550	503 91 464A	DEMPSEY WILLIAM L & BEVERLY J	3217 MASON AVE		LAS VEGAS	NV	89102	
551	503 92 348	DENTON ABDUL RAHMAN	PO BOX 20611		MORRISTOWN	AZ	85358	
552	506 57 002	DESIMONE MARIO/JOHNNA ETAL	4441 E KINGS AVE		PHOENIX	AZ	85032	
553	503 91 455	D'EUGENIO CARLO N/DEBORAH	8506 E VIA DE SERENO		SCOTTSDALE	AZ	85258	
554	503 90 431	DEUGENIO INVESTMENT ENTERPRISES INC	8506 E VIA DE SERENO		SCOTTSDALE	AZ	85258	
555	503 93 009	DEVLIN VICTOR B & MARY B	P O BOX 12013		PRESCOTT	AZ	86304	2013
556	503 92 946	DEWITT D JOSEPH & ANTOINETTE	7627 S OCONTO AVE		BRIDGEVIEW	IL	60455	
557	503 94 319	DEZUR BERNARD CHARLES & MARIAN D	10801 BROOKSIDE DR		SUN CITY	AZ	85351	
558	503 92 647	DI NENNO ORLAND & JOAN	445 W CHURCH RD		KING OF PRUSSIA	PA	19406	
559	503 31 008	DIAMOND CREEK FAMILY LTD	2202 E BETHANY HOME RD		PHOENIX	AZ	85016	
560	503 93 392	DIANDA JESSE J & AMELIA	9730 COMMERCIAL		CHICAGO	IL	60617	
561	506 37 003K	DIAZ RENE EDWARD	5601 E VERNON		SCOTTSDALE	AZ	85257	
562	503 90 056	DIBIASE LOUIS A/VERLYN A TR	8100 W 130TH ST		PALOS PARK	IL	60464	
563	503 93 426	DICKEN JOHN/LEORA A/MAGUIRE D/J	125 W SOUTHGATE		PHOENIX	AZ	85041	
564	503 94 386	DICKENSON JOHN E	1312 SUNRISE DR		ANCHORAGE	AL	99508	
565	503 90 455	DICKERSON JEFFREY L	6420 W EL CORTEZ PL		GLENDALE	AZ	85310	
566	503 93 538	DICKEY DONNA L	P O BOX 1090		STANWOODN	WA	98292	
567	503 92 193	DIGENO JOSEPH M & EDITH J TR	3438 E MINNEZONA		PHOENIX	AZ	85018	
568	503 91 251	DILK STEVEN A/SENA MARIE	3822 W WALTANN		PHOENIX	AZ	85023	
569	503 91 409	DILLARD KENNETH N & JANET J	STR R#2 BOX 4580		CHUGIAK	AK	99567	
570	503 93 058	DINSMORE HERMAN L & MARJORIE M	R R #1 BOX 216		WALKERTON	IN	46574	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
571	504 68 003	DITTA LLC/BOA SORTE LP/VIEL GLUCK LP ETAL	1819 E SOUTHERN AVE		MESA	AZ	85000	
572	503 90 300	DIVEN JOHN I & MYRNA J	515 GREENWOOD AVE		CLARKS SUMMITT	PA	18411	
573	503 93 515	DIXIT VIMAL P/PADMAKAR K TR	1653 20TH AVE NW		ST PAUL	MN	55112	
574	503 90 303	DIXON STANLEY W & AGNES E	1816 W RAILROAD ST		HEIDELBERG CARNEG	PA	15106	
575	503 92 402	DOMINEY DANIEL H	630 W 2ND PL		MESA	AZ	85201	
576	503 90 629	DOMIZI THOMAS H & MARILYN A TR	8076 E CORTEZ DR		SCOTTSDALE	AZ	85260	
577	503 92 922	DONALD G CLARY JR	2611 LOVEJOY DR		ANCHORAGE	AK	99508	
578	503 22 008L	DONNELL NOEL A & HELEN M	PO BOX 155		MORRISTOWN	AZ	85342	
579	503 90 223	DORCEY WARREN C	PO BOX 21287		WICKENBURG	AZ	85358	
580	503 92 229	DOROTHY JEAN LANGLEY 1997 FAMILY TRUST	PO BOX 362		CONGRESS	AZ	85332	
581	503 91 314	DOUBLE P RANCHES INC	1930 S DOBSON RD STE 2		MESA	AZ	85202	
582	503 92 195	DOUBLE P RANCHES INC	PO BOX 4100		SCOTTSDALE	AZ	85261	
583	503 28 001	DOUGLAS LAND CO LLC	350 PARK AVE	, 17 FL	NEW YORK	NY	10022	
584	503 92 698	DOUVANIS DENNIS A	2025 EATON AVE		BETHLEHEM	PA	18018	
585	503 94 915	DOYLE MICHAEL J/AMY J	240 N CENTER ST		MESA	AZ	85201	
586	503 93 423	DRAINE ROSEMARY LOUISE & PATRICK H	245 EVERGREEN AVE		ELMHURST	IL	60126	
587	503 94 515	DREHER ALAN G & HEATHER L BRYSON	1104 MADELINE DR		EL PASO	TX	79902	
588	503 94 664	DUBETZ JULIA BOWER	4301 STOW RD		STOW	OH	44224	
589	503 92 149	DUCK MARTHA M/DIANE E/PHILLIP A	20827 N 28TH ST		PHOENIX	AZ	85024	
590	503 91 462	DUFF JOHN/PATRICIA	16725 W DALE LN		SUN CITY	AZ	85373	
591	503 93 099	DUFFER CHRISTA KAYE	7455 LANE RD		LINDEN	NC	28356	
592	503 92 757	DUFFY PHYLLIS M TR	340 PARKDALE DR		VENICE	FL	34281	
593	503 93 061	DUMS ANDREW J	W 3563 TROUT AVE		RIB LAKE	WI	54470	
594	503 92 388	DUNCAN EDWIN D & KAREN L	16035 N 71ST AVE		PEORIA	AZ	85382	
595	503 92 563	DUNCAN LINDA & REBECCA D DOAN	1610 RED ARROW HWY		BENTON HARBOR	MI	49022	
596	503 92 735	DUNCAN LLOYD JUSTIN	1001 GOODWIN LANE		WEST CHESTER	PA	19382	
597	503 23 011C	DUNN FLOYD TR	PO BOX 70		MORRISTOWN	AZ	85342	
598	503 93 619	DUNN WILLIAM J & MATTIE W	9300 GWYNNDALE COURT		CLINTON	MD	20735	
599	503 91 316	DUNSTONE JOHN T & MARILYN G	27407 GRANT		SAINT CLAIR SHORE	MI	48081	
600	503 90 892	DUNTEMANN JEFFREY P/CAROL O TR	8105 E PARAISO DR		SCOTTSDALE	AZ	85255	
601	503 26 003D	DURBANO LAND & CATTLE L L C	PO BOX 1556		OGDEN	UT	84402	
602	503 90 278	DURGIN DAVID A	1518 DUVALL RD		ANNAPOLIS	MD	21401	
603	503 93 529	DURKOVIC GEORGE J & MARY	4118 N MARMORA		CHICAGO	IL	60634	
604	503 94 054	DURRANT DAVID A & COLLEEN K	2506 SILVER RIDGE DR		SAN ANTONIO	TX	78232	
605	503 94 844	DUTTON DAVID L	30800 N DOME DR		COARSEGOLD	CA	93614	
606	503 91 012D	DUTTON IMOGENE	2818 OLD FAIRHAVEN PKY	, #127	BELLINGHAM	WA	98225	
607	506 37 003M	DWELLY LESTA	141 SW 15 #50		BEND	OR	97702	
608	503 22 010A	DYCK JEAN HAMILTON ETAL	PO BOX 217		RIMROCK	AZ	86335	
609	503 93 445	EARNEST HOWARD M & ANDREA G	1553 WILSON RD		PITTSBURGH	PA	15236	
610	503 90 349	EASLEY ALNEY JR & MARTHA	4400 MELROSE DR BOX 268		WOOSTER	OH	44691	
611	503 90 803	EBERLEY WILLIAM R & MARCIA D	4144 S DAHLIA ST		DENVER	CO	80110	
612	503 92 491	ECK GERALD W/PAMELA G	9008 W MOUNTAIN VEIW RD		PEORIA	AZ	85345	
613	503 92 766	ECK ROGER J & MARILYN J	101 N LAKE SHORE DR		LAKE GENEVA	WI	53147	
614	503 91 010F	ECKES ROBERT R	2910 E WAHALLA LN		PHOENIX	AZ	85024	
615	503 92 753	ECKRICH HERMAN J JR/JEANNE E	85 GOODWIVES RIVER RD		DARIEN	CT	06820	
616	503 90 224	EDLEY WILLIAM D & ADA M	360 3RD AVE		CANTON	IL	61520	
617	503 90 061	EDLING JERALD W	2939 VAN NESS ST NW APT 1147		WASHINGTON	DC	20008	
618	503 93 483	EDMONDSON LARRY R & INA J	P O BOX 2109		HOMER	AK	99603	
619	503 27 010	EDWARD A KNIPP AND BARBARA J TR	PO BOX 547		MORRISTOWN	AZ	85342	
620	503 93 528	EDWARD CHARLES V R & FLORENCE Q	1766 LAS GALLINAS		SAN RAFAEL	CA	94903	
621	503 94 816	EDWARDS MICHAEL A	2116 N 25TH ST		PHOENIX	AZ	85008	
622	503 94 817	EDWARDS MICHAEL A & SHAYNE D	2507 E GLENROSA		PHOENIX	AZ	85016	
623	503 93 548	EGGESTEIN MERRILL E & DOROTHY L	HC 3 BOX 103-B		CROSBY	MN	56441	
624	503 90 762	EICHMAN KELLEY B	670 SNOW PEAK CRT		COLORADO SPRINGS	CO	80916	
625	503 93 082	EIGENBAUER ROBERT F & MARGA M	2100 CATTLEMAN DR		NEW LENOX	IL	60473	3430
626	503 93 466	EISENACH RALPH E & ALICE L	2610 W 15TH ST		DULUTH	MN	55806	
627	506 38 003D	EISER JOHN M/SHIRLEY T TR	3732 MISSION DR SOUTH		LAKE HAVASU CITY	AZ	86403	
628	503 91 010M	ELDER JOHN WIT/LUELLA MAXINE TR	4234 E PARADISE LN		PHOENIX	AZ	85032	
629	503 90 462	ELDER THERESA V	35606 N 15TH AVE		PHOENIX	AZ	85027	
630	503 90 560	ELDER THOMAS A/SOLANA S	P O BOX 277		YARNELL	AZ	85362	
631	503 90 433	ELDER VERA H	13955 W PUEBLO TR		SURPRISE	AZ	85374	
632	503 90 252	ELIZAIDE NOE SINDIK ROMERO	6429 W SOLANO DR		GLENDALE	AZ	85301	
633	503 92 917	ELKINS ESTHER E GRAY	118 E CEDAR LN		ALVIN	TX	77511	
634	503 93 386	ELLEN JOHN H & PEGGY M	1708 W 23RD ST		ODESSA	TX	79763	
635	503 92 764	ELLENBECKER ORLANDO G/ RUTH	PO BOX 463		ALLENTON	WI	53002	
636	503 93 161	ELLIOTT ELIZABETH M	3598 WHITETHORN CIR		RICHFIELD	OH	44286	
637	503 91 073	EMBREE CLAUD A	8725 14TH NORTHWEST		SEATTLE	WA	98107	
638	503 90 796	ENCINAS JOSE	PO BOX 94		WADDELL	AZ	85355	
639	503 90 826	ENCINAS RAMON T/JOSEPHINE	P O BOX 624		WADELL	AZ	85355	
640	503 90 814	ENCINAS RAMON T/JOSEPHINE B	P O BOX 346		EL MIRAGE	AZ	85335	
641	503 93 430	ENGLE ROY L	318 WALNUT PL		HAVERTOWN	PA	19083	
642	503 90 321	ENGLEMAN ROSE	1718 AVENUE K		BROOKLYN	NY	11230	
643	503 92 237	ENNEFER MICHAEL R	525 PALM DR		WICKENBURG	AZ	85390	1433
644	503 92 955	ENNEFER MICHAEL R/ROSEMARY A	5746 N 38TH AVE		PHOENIX	AZ	85019	
645	503 91 008B	ERDMAN KEVIN J	6045 S 115TH AVE		TOLLESON	AZ	85353	
646	503 90 250	ERKINS MALLENA	65 W 85TH STREE # 3B		NEW YORK CITY	NY	10024	
647	503 90 534	ERLANDSON FREDERICK G/SANDRA M AADLAND ETAL	1817 7TH ST SW		ROCHESTER	MN	55902	
648	503 93 447	ERLANDSON JOHN E/NELSON CYNTHIA L ETAL	1817 7TH ST SW		ROCHESTER	MN	55902	
649	503 93 038	ERTWINE HELEN V TR	6035 E CAMELOT DR		MESA	AZ	85205	
650	503 93 285	ESCOBEDO THOMAS G	1836 N 60TH LANE		PHOENIX	AZ	85035	
651	503 93 602	ESPARZA ALBERTO & FAUSTINA	8814 W MOUNTAIN VIEW		PEORIA	AZ	85345	
652	503 92 503	ESPINOZA MARTHA SANTIZO ETAL	2608 POPKINS LN		ALEXANDRIA	VA	22306	
653	503 90 805	ESTRADA CELESTINO & MAXIMINA	P O BOX 487		WITTMANN	AZ	85361	
654	503 92 593	EUBANKS SAMUEL E & JUDITH A	RR1 BOX 149C		NINEVEH	IN	46164	
655	503 94 630	EVANS DONALD H & DEANNA M	1076 S ARBUTUS ST		LAKEWOOD	CO	80228	3401
656	503 91 349	EVANS THOMAS W	3008 W PALO VERDE DR		PHOENIX	AZ	85017	
657	503 94 638	EVERETT J R	8238 SAN FERNANDO WY		DALLAS	TX	75218	
658	503 90 413	EVERETTS STEPHEN EDWARD & TERRIE LEE	2218 N 73RD DR		PHOENIX	AZ	85035	
659	503 94 381A	EVERSOLE KAY F ETAL	4354 W BLUEFIELD		GLENDALE	AZ	85308	
660	503 92 575	EWING SHAWN & BRIAN	87 BETHEL CHURCH RD		SPRING CITY	PA	19475	
661	503 94 067	EX CATHERINE M	5926 N ARTESIAN		CHICAGO	IL	60659	
662	503 90 333	EXUM CARREANNA H	215 COLTON ST		UPPER MARLBORO	MD	20772	
663	503 90 732	FAIR HAROLD B & GLORIA N	10741 E HOPE DR		SUN CITY	AZ	85351	
664	503 90 543	FALK FREDERICK C SR & ALICE P	1470 HEATHER RIDGE BLVD #104		DUNEDIN	FL	34698	5632
665	503 91 003D	FALK RALPH	PO BOX 817		FOREST LAKE	IL	60045	

Flood Control District of Maricopa County
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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
666	503 91 439	FALSTAFF INC OF SAN ANGELO	HCT 63 BOX 51		CHRISTOUAL	TX	76935	
667	503 92 749	FANNIN MARY L	3859 BUCHANAN DR		VIRGINIA BEACH	VA	23456	
668	503 90 382	FANSLER VICTOR & FRANCES L	RT 1		SMITHBORO	IL	62284	
669	503 91 332	FARJAS MARK B	832 W CHARLESTON		PHOENIX	AZ	85023	
670	503 90 479	FARNES JOHN E/DONNA J	2606 W LITE CT		PHOENIX	AZ	85027	
671	503 92 612	FARRUGIA EMANUEL & GRACIE	12857 FENTON		DETROIT	MI	48239	
672	503 90 381	FARWELL BETTY J TR/FARWELL BETTY	34 TURQUOISE DR		ALBUQUEQUE	NM	87103	1081
673	503 93 094	FAULKINBURY JAMES C & BETTY J	11345 CONNECTICUT AVE		YOUNGTOWN	AZ	85363	
674	503 93 527	FAULKNER RAYMOND L	P O BOX 1323		ODESSA	TX	79760	
675	503 90 791	FEDERSPIEL HOWARD M & JOHANNA H	73 FAIRFIELD AVE		NEWARK	OH	43055	
676	503 90 412	FEENEY JAMES HAROLD & MICHAELE JEAN	4144 COAL MINE ROAD		MEDFORD	OR	97504	
677	503 90 176	FEHR JAMES F	PO BOX 26		WITTMAN	AZ	85361	
678	503 92 233	FEHR WERNER G & JENNEY L	13445 N CANTERBURY DR		PHOENIX	AZ	85023	
679	503 90 744	FEJFAR ADOLPH & JOAN C	318 OAKLAKE LN		NICEVILLE	FL	32578	
680	503 90 294	FELTON CHARLES P & HIROKO T	CENTURY RD		PALISADES	NY	10964	
681	503 90 374	FENNELL CLARENCE	2318 E JEFFERSON		PHOENIX	AZ	85034	
682	503 92 399	FERNANDEZ JOSE ANTONIO/IRMA D	24604 BEACON FIELD BLVD		WITTMANN	AZ	85361	
683	503 90 702	FERRERI JOSEPH D & THOMAS D JR ETAL	17 FABER PLACE		NUTLEY	NJ	07110	
684	503 90 367	FETNER GRAHAM U & EDITH C	5307 W DIAMOND K		TUCSON	AZ	85713	
685	503 92 191	FEUSER R DALE & VIRGINIA B	650 GRAND ST		POWELL	WY	82435	
686	503 92 232	FIELDS CLEOTHA E & MITCHELL LULA B ETAL	7925 BLACKBERRY		SAINT LOUIS	MO	63130	
687	503 94 562	FIELDS RENTALS INC	BOX 25		KODIAK	AK	99615	
688	503 91 430	FIGUEROA HECTOR M/BERTHA SALAZAR	13026 W TARA LANE		SURPRISE	AZ	85374	
689	503 92 951	FINEGAN THOMAS E & NINA L	1107 RIL CIRCLE		ANCHORAGE	AK	99504	
690	503 92 961	FINN EUGENE A & MARY A	1110 N EVANS ST		POTTSTOWN	PA	19464	
691	503 26 009B	FINNERTY TREVA R	3401 W PIERSON		PHOENIX	AZ	85017	
692	503 94 885	FIORINI ALBERT P JR & LYNDA I	315 LOS AMIGOS DR		AVONDALE	AZ	85323	
693	503 94 692	FISH HAROLD A JR & DEBORA G	P O BOX 85		TOLLESON	AZ	85353	
694	503 90 053	FISH PETER J & MARIE R	815 PEARSON ST	, #10	DESPLAINS	IL	60016	
695	503 93 613	FISH RICHARD A & LORETTA C	101 WITCOMB AVE		HINGHAM	MA	02043	3348
696	503 90 414	FISHER H JOHN JR & CAROLYN E	RTE 2 BOX 76-C		LAVEEN	AZ	85339	
697	503 93 090	FISHER LARRY D	PO BOX 14764		PHOENIX	AZ	85063	
698	503 23 005S	FISHER TERRY L/HAYS KENNETH E	42839 N GRAND AVE		MORRISTOWN	AZ	85342	
699	503 91 278	FITZPATRICK DAVID C/CAROLYN KAY	7904 NE 6TH AVE STE B214		VANCOVER	WA	98665	
700	503 91 386	FLAGE RICHARD A & JANET M	6845 EL FUERTE ST		CARLSBAD	CA	92009	
701	503 93 080	FLANAGAN VICTORIA CHRISTIAN	3412 PURDUE	, #3	HOUSTON	TX	77005	
702	503 23 023	FLAXMAN BARBARA	5022 N 34TH ST 3		PHOENIX	AZ	85018	
703	503 90 766	FLEMING JENNIFER M	5802 LAUREL VALLEY DR		SAN ANTONIO	TX	78242	
704	503 91 078	FLINT AUSTIN C	702 86TH ST CT NW		BRADENTON	FL	34209	
705	503 92 145	FLORENCE KATHERINE S	910 WESTWOOD DR NE		VIENNA	VA	22180	
706	503 93 282	FLORES ANTONIO P/SANJUANA	PO BOX 1842 LITCHFIELD PARK		LITCHFIELD PARK	AZ	85340	
707	503 90 878	FLORES J J & BOTELLO MARIA G	PO BOX 1580		EL MIRAGE	AZ	85335	
708	503 90 818	FLORKEN GEORGE C SR & HELENE N	41930 LINDSAY DR		PLYMOUTH	MI	48170	
709	503 92 513	FLYNN KEVIN JEFFREY	1410 SHADE TREE RD APT J		BALTIMORE	MD	21221	
710	503 93 569	FLYNN PAUL A & MARIAN D	5305 CORRECTIONVILLE RD		SIOUX CITY	IA	51106	
711	503 90 773	FODAT PAUL S & EMILY M	2305 N HAWTHORNE		MELROSE PARK	IL	60164	
712	503 92 639	FOGARETT RONALD M/PATRICIA MAE TR	10382 W RUNION DR		PEORIA	AZ	85382	
713	503 91 012E	FOGLIA CASIMIRO & LORRAINE W	45-39 193RD ST		FLUSHING	NY	11358	
714	503 90 439	FOLEY CHARLES G & RICHARD D	3866 SAN LUIS DR		SARASOTA	FL	34235	
715	503 92 539	FOLEY GERARD RAYMOND	20845 BLACKMAR		WARREN	MI	48091	
716	503 92 601	FONDA MICHAEL C/BARBARA H	330 ROSEWOOD AVE		WINNETKA	IL	60093	
717	503 22 032B	FORAKER WILLIAM LEE JR/LAURA J	P O BOX 163		MORRISTOWN	AZ	85342	
718	503 91 445	FORD PEARLE ERNEST R/MARILYN C TR	544 GRASSETH-POSTON RD		LONGVIEW	WA	98632	
719	503 93 143	FORSEY KENT G/SANDRA F	8521 W VIA MONTOYA		PEORIA	AZ	85382	
720	503 93 107	FORSGREN KEITH O & FERN W	5308 MONTROSE ST		MURRAY	UT	84107	
721	503 91 367	FOSTER MARGARET ANN	3012 CATHERINE DR		CLEARWATER	FL	33519	
722	503 90 758	FOSTER WILLIAM H JR	2123 W 89TH ST		CLEVELAND	OH	44102	
723	503 93 067	FOUNDERS BANK OF ARIZONA TR	11195 CAMEO DR		SUN CITY	AZ	85351	
724	503 90 063	FRANCO JEAN M	2 LEEGHTON LANE		LAKEHURST	NJ	08733	
725	503 23 008M	FRANK NANCY C A	42850 N HWY 60/GRAND AVE		MORRISTOWN	AZ	85342	
726	503 93 045	FRANKIEWICZ CASEY	10260 REAVIS GARDENS DR		ST LOUIS	MO	63123	
727	503 94 660	FRANSE KIRTLEY E SR & BETTY M	4603 YORKSHIRE DR S E		OLYMPIA	WA	98513	
728	503 90 552	FRANTZ SYBIL JEAN	1141 E ALICE		PHOENIX	AZ	85020	
729	503 92 341	FRATIS BARBARA J	645 S E ST		RICHMOND	IN	47374	
730	503 94 646	FRAZIER MARK A & GLORIA K	127 BERGER PL		FORT WALTON BEACH	FL	32548	
731	503 93 532	FREY ERIK & MILDRED M	1005 WILLANA ST		MILAN	MI	48160	
732	503 92 645	FRIEDENBERG HELEN & RUBY L SPRAGUE	5618 MOHICAN		STEVENSVILLE	MI	49127	
733	503 94 643	FRIGERI PETER G & GLORIS M	N 6716 SUTHERLIN		SPOKANE	WA	99208	
734	503 93 482	FROELICH ROBERT J SR/PATRICIA J	PO BOX 2334		CAMPE VERDE	AZ	86332	
735	503 92 715	FROSINI FRED J	1655 VALLEY RD		WAYNE	NJ	07474	
736	503 91 359	FRYE CHARLES C/IRENE E CO-TR	337 8TH ST		ELYRIA	OH	44035	
737	503 91 140	FUENTES FEDERICO/MARCELLA	4311 N 51ST AVE		PHOENIX	AZ	85031	
738	503 94 749	FURDEN HOWARD D	PO BOX 21551		WICKENBURG	AZ	85358	
739	503 91 203	FUST RONALD JR	SHLER HILLS DR WHISPERING RNCH		WITTMANN	AZ	85361	
740	503 90 926	GABALDON DIEGO S/MARGARITA	30615 REDBIRD RD		WITTMANN	AZ	85361	
741	503 90 898	GABALDON RAY ANDREW/DAVID	PO BOX 44306		TUCSON	AZ	85716	
742	503 26 003B	GACKE ROGER JOHN/MELISSA RAE	PO BOX 211		MORRISTOWN	AZ	85342	
743	503 93 339	GAEBEL HOWARD J & SOPHIE B	3370 S 108TH ST		OMAHA	NB	68144	
744	503 90 375	GAINER JAMES F & ROSALIE M	192 ALEXANDER DR		ELYRIA	OH	44035	
745	503 92 268	GAITAN DOMINGO/CAROL/STEVEN	6734 N 54TH DR		GLENDALE	AZ	85301	
746	503 91 423	GAITAN JUAN/MATILDE	12698 GREENWAY RD		SURPRISE	AZ	85374	
747	503 91 446	GAITAN JUAN/MATILDE	12698 GREENWAY RD		SURPRISE	AZ	85374	
748	503 24 002Q	GALLAGHER FRANK WAYNE/GLORIA	45355 N US 60-89		MORRISTOWN	AZ	85342	
749	503 94 726	GALLAGHER JOSEPH F & RITA I ETAL	3307 OBERON ST		KENSINGTON	MD	20795	
750	503 24 002G	GALLAGHER RALPH & MARY	PO BOX 273		MORRISTOWN	AZ	85342	
751	503 93 356	GALLO ROBERT C/MARY JANE	PO BOX 341476		BETHESDA	MD	20827	1476
752	503 90 531	GALLOTTI JOHN JR/VINCENT/FRANK/MARIO	817 23RD ST		UNION CITY	NJ	07087	
753	503 90 854	GARCEZ EUGENE L & JANET EILEEN	4918 W KRALL		GLENDALE	AZ	85301	
754	503 91 248	GARCIA ARMAND & YSIDRA ETAL	1201 E MORELAND BLVD		WAUKESHA	WI	53186	
755	503 92 642	GARCIA JOSE A & MARY E	4355 E NANCY LN		PHOENIX	AZ	85040	
756	503 93 332	GARCIA RAMIRO & REINA V	10607 WINGTIP		HOUSTON	TX	77075	
757	503 93 063	GARCIA RUDY & BARBARA	1205 1/2 MORRIS		HOUSTON	TX	77009	
758	503 24 028	GARDNER JAMES ALLEN/CAROLYN J	P O BOX 184		WICKENBURG	AZ	85358	
759	503 91 044	GARDNER ROBERT C	27093 CALIFORNIA		TAYLOR	MI	48180	
760	503 92 667	GARNER LYNDA F ETAL	1229 RANDY DR		IRVING	TX	75060	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
761	503 90 957	GARRAMONE HENRIETTA G	6111 ROYAL SUN		SAN ANTONIO	TX	78238	
762	503 90 723	GARTH NANCY M TR	7305 NEW DAWN CT NE		ALBUQUERQUE	NM	87122	
763	503 90 804	GAULT JAMES R & LOMA L	1 CYPRESS ST		HAZLET	NJ	07730	4009
764	503 90 335	GAVINO GABRIEL A/MARIA R	7116 S 7TH PL		PHOENIX	AZ	85040	
765	503 94 648	GENTRY JOE D JR & CAROLYN E	205 KENSINGTON		BOSSIER CITY	LA	71010	
766	503 94 563	GENTRY KENNETH R/JOSEPHINE M CO TR	2111 W COOLIDGE AVE		PHOENIX	AZ	85015	4009
767	503 22 004	GEORGE AND RUTH LAUMAN FAMILY LTD PARTNERSHIP	PO BOX 69		MORRISTOWN	AZ	85342	
768	503 93 486	GEORGE FORREST EARL & BARBARA A	7466 W COMET		PEORIA	AZ	85345	
769	503 90 821	GEORGE JAMES LEROY	30240 W DALE RD		WITTMAN	AZ	85361	
770	503 92 215	GEORGE WILLIAM R & JENNIFER J H	BOX 192		LONGVILLE	MN	56655	
771	503 25 007D	GERARD ARNOLD J/MARILYN J	4202 W PORT AU PRINCE LN		PHOENIX	AZ	85023	
772	503 90 128	GERMO LOUIS F/MAXINE TR	29744 ARTHUR RD		WICKLITTLE	OH	44092	
773	503 92 041	GERRITSON LEONARD J & MARY JANE	1035 SAN EDUARDO		HENDERSON	NV	89015	
774	503 92 166	GERROS TOM & KATHY GERROS	4519 N MOBILE AVE		CHICAGO	IL	60630	
775	503 92 110	GERTNER CATHERINE T	9214 N DELPHIA		DES PLAINES	IL	60016	
776	503 90 794	GEVARAS GREGORY A	5365 KILBOURNE		LYNDHURST	OH	44134	
777	503 90 891	GHERRA THERESE M ETAL	606 N HOWARD		ELMHURST	IL	60126	
778	503 92 113	GIANGIACOMO JOSEPH & ANTHONY & DONALD	1613 GLENBROOK CT		COLUMBIA	MO	65203	
779	503 90 952	GIANNANTONIO ADOLPH M/CORA TR	10026 CLAIR DR		SUN CITY	AZ	85351	
780	503 90 825	GIBBONS GEORGE P & CHARLOTTE A	404 BROWN		JACKSON	MN	56143	
781	503 94 437	GIBSON HAROLD B JR & ARLENA DALTON	549 HIGGINS DRIVE		ODENTON	MD	21113	
782	503 92 082	GIBSON MARTIN E & CLEO J	4660 BROADBRANCH RD NW		WASHINGTON	DC	20008	
783	503 94 740	GICKER HELEN M	117A SHAVERTOWN RD		BOOTHWYN	PA	19061	
784	503 94 038	GIERINGER FRANCIS A & CAROLYN C	P O BOX 484		BLANCO	TX	78606	
785	503 92 165	GIESAR DONNA	7500 212TH ST SW STE 214		EDMONDS	WA	98026	
786	503 90 491	GIESEKING WILLIAM H & GERTRUDE E	32709 SUNRISE DR		WARREN	MI	48093	
787	503 94 620	GILKEY THOMAS E & BERNA	200 GRANGER RD #44		MEDINA	OH	44256	
788	503 90 425	GILL GABRIELLE M	3415 W END AVE	, #912	NASHVILLE	TN	37203	1062
789	503 92 385	GILLETT BRUCE A/RANDI C	17466 N 84TH AVE		PEORIA	AZ	85382	
790	503 94 861	GILLETTE BRIAN WAYNE	1519 CAPITOLA CIR		STOCKTON	CA	95206	
791	503 93 556	GILLETTE RICHARD NELSON & MARY	8882 N 114TH DR		PEORIA	AZ	85345	3458
792	503 90 378	GILMORE RAYMOND J JR & JOANN	32 DEER PATH TR SOUTH		DUXBURY	MA	02332	
793	503 92 083	GIROUX RONALD A	5003 SILVER VALLEY WAY		SUITLAND	MD	20746	
794	503 91 003P	GIRROIR FAMILY LIMITED PARTNERSHIP	2824 LAKECREST DR		LAS VEGAS	NV	89128	6921
795	503 93 511	GIRVANMARY E	PO BOX 671677		CHUGIAK	AK	99567	
796	503 93 398	GJERSTAD SCOTT A	BOX 118		BURLINGTON	WA	98233	
797	503 91 378	GLANBIN LUCILLE/SHIRLEY ANTONISHEK PER REP	37752 AMBER DR		FARMINGTON HILLS	MI	48331	
798	503 90 379	GLEED THOMAS DEUAN & ROSA	2419 WIDOW RD		COLVILLE	WA	99114	
799	503 91 300	GLEISNER ROBERT B & DOROTHY R	24124 REDFERN RD		COLUMBIA STATION	OH	44028	
800	503 90 430	GLENNON KAREN E	19037 N 44TH AVE		GLENDALE	AZ	85308	
801	503 94 528	GLOECKLER GEORGE & CHRISTINE	12201 PROSPECT LANDING		MITCHELLVILLE	MD	20721	2503
802	503 90 933	GLORIA MARGARITO & DIAMANTINA	104 PINTA CT		PEKIN	IL	61554	
803	503 90 879	GLOVER DAVID L	1802 W CHARLESTON		PHOENIX	AZ	85023	
804	503 90 058	GLYNN ROBERT J/ERMA	14414 W WOODLAND DR		NEW BERLIN	WI	53151	
805	503 93 572	GODSEY ERNEST R & FRANCISCA L	1901-B I ST		GRAND FORKS AFB	ND	58205	
806	503 94 659	GODZICH JOELL M	4810 W CHERYL DR		GLENDALE	AZ	85302	
807	503 92 711	GOETTL JOHN F & MARLENE H	13408 YORK AVE SOUTH		BURNSVILLE	MN	55337	
808	503 93 487	GOLDBERG LEONARD	115 TWINBRIDGE DRIT 3 G		PENNSAUKEN	NJ	08110	4206
809	503 92 167	GOLON ZYGMUNT & LUCY A	4821 N NEW ENGLAND		CHICAGO	IL	60656	
810	503 92 186	GOMBAR ANDREW & ANNABELLE	1122 ELM RD (24660)		LAKE FOREST	IL	60045	
811	503 92 864	GOMEZ CLAUDIA CELIA	2200 W JEFFERSON ST		PHOENIX	AZ	85009	
812	503 91 372	GOMEZ FRANCISCO JAVIEW/CLAUDIA BEATRIZ	P O BOX 284		EL MIRAGE	AZ	85335	
813	503 91 333	GONZALES GONZALO/MARY L	27401 N 207TH AVE		WITTMAN	AZ	85361	
814	503 90 569	GONZALES KATHLEEN L/WALTER W	5435 S ALICE POINT		HOMOSASSA	FL	34446	
815	503 92 518	GOOD DAVID ALLEN/MARIA JOYCE	5038 W KRALL ST		GLENDALE	AZ	85301	
816	503 90 363	GORDON JOHN WILES	1304 N BEEKLY AVE		URBANA	IL	61801	
817	503 92 543	GORNALL MARJORIE C TR	14002 N 180TH AVE		WADDELL	AZ	85355	9756
818	503 90 935	GOSSINGER FRANK B ETAL	1 DUNEDIN LN		BELLA VISTA	AR	72715	4953
819	503 92 930	GOTCHER CHARLES W/LOLITA	GENERAL DELIVERY		DAVENPORT	WA	99122	
820	503 91 257	GOTT WILLIAM R & FLORENCE M	4900 S TRIPP AVE		CHICAGO	IL	60632	
821	503 94 753	GOTTHELF HAROLD/RUTH	1 RENAISSANCE PL PH 2		PALATINE	IL	60067	3645
822	503 93 402	GOTZ STEPHEN P & KATHRYN A	5323 N OCONTO		CHICAGO	IL	60656	
823	503 90 579	GOUSETIS MILDRED	680 GOLDEN HARBOUR DR		BOCA RATON	FL	33432	
824	503 23 008S	GRAFF JOHN W/CLAIRE A	PO BOX 565		MORRISTOWN	AZ	85342	
825	503 26 009C	GRAGG LOUIS	42413 N W GRAND AVE		MORRISTOWN	AZ	85342	
826	503 91 062	GRAHAM BLANCHE M	313 F ST		WASHINGTON	KS	66968	
827	503 90 554	GRAHAM JOHN K & SHARON M	52371 ASH RD		GRANGER	IN	46530	
828	503 90 318	GRAHAM WANDEL M & MARILYN	6549 W MEDLOCK		GLENDALE	AZ	85301	
829	503 23 002A	GRANDLICH ARTHUR G & BETSY A	8044 E HERMOSA VISTA DR		MESA	AZ	85207	
830	503 94 537	GRANT WILLIAM V	9213 KRISTIN LN		FAIRFAX	VA	22032	
831	503 94 560	GRATKOWSKI DANIEL & ANITA E	919 S CLEVELAND		PARK RIDGE	IL	60068	
832	503 94 559	GRATKOWSKI EUGENE	4835 W ALTGELD		CHICAGO	IL	60639	
833	503 93 354	GRAUER TIMOTHY J	2440 E CLOUD RD		PHOENIX	AZ	85086	
834	503 93 020	GRAVEN RICHARD M & DONIS E	3633 PEBBLE BEACH DR		AUGUSTA	GA	30907	
835	503 26 008	GRAVES LAWRENCE & EVELYN D	PO BOX 21053		WICKENBURG	AZ	85358	
836	503 93 155	GRAY DALLAS R/MARILYN L	136 CHATHAM HILL		WENATCHEE	WA	98801	
837	503 92 613	GRECH MARY	10228 CHEROKEE		TAYLOR	MI	48181	
838	503 91 465	GREEN J ELLIOTT JR & MIRIAM	316 ROSSITER AVE		BALTIMORE	MD	21212	
839	503 91 301	GREEN MARINA/WILLIS LINDA	PO BOX 1756		DOLAN SPRINGS	AZ	86441	
840	503 92 290	GREENE FINANCIAL INC	8750 VALLEY OAK DR		PRESCOTT	AZ	86301	
841	503 91 267	GREENE LEE W	8132 SILO CT		SEVERN	MD	21144	
842	503 93 165	GREGO DONALD T & HEIDE A	13639 BITTERSWEET WAY		FOUNTAIN HILLS	AZ	85268	
843	503 92 326	GREWE JUDITH A & JAMES H	3501 W CINNABAR		PHOENIX	AZ	85051	
844	503 93 322	GRGANTO MILAN & FELICIA C	7937 FARMINGDALE DR		DARIEN	IL	60559	
845	503 92 123	GRIEGO CLORO MANUEL/RODRIGUEZ MICHAEL D	PO BOX 1179		GLENDALE	AZ	85311	
846	503 92 360	GRIEP DELORES P	3810 N 12TH ST		MILWAUKEE	WI	53206	
847	503 24 025	GRIFFIN JOE G & LINDA C	P O BOX 9		MORRISTOWN	AZ	85342	
848	503 92 313	GRIFFITH PERRY H & PATSY A	PO BOX 145		COLLEGE SPRINGS	IA	51637	
849	503 94 464	GRIGGS BUSTER B JR/KAREN K TR	4200 OLD SEWARD HWY	, #B4	ANCHORAGE	AK	99503	
850	503 93 420	GRIM QUENTIN A & DONALENE R	2833 VIREO RD		YORK	PA	17403	
851	503 23 031	GROSS WILLIAM F & MARY S CO-TR	P O BOX 3		MORRISTOWN	AZ	85342	
852	503 92 526	GRUBER ROBERT W & JERALDINE A	14910 REDWOOD COVE COURT		HOUSTON	TX	77062	
853	503 94 697	GRYSKIEWICZ WALTER F/DIANA D	1307 W DOLORES RD		DESERT HILLS	AZ	85086	
854	503 92 942	GUENTHER HARMEN H	19101 GREEN SPRUCE		SOUTHFIELD	MI	48076	
855	503 91 416	GUENTHER LOYAL H	W 723 HWY G		FOUNTAIN CITY	WI	54629	

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856	503 94 902	GUERRERO RAMON Y JR/VILLA MARGARET S	PO BOX 478		EL MIRAGE	AZ	85335	
857	503 90 432	GUILD ELLEN SANGSTER TR	2625 MCDOWELL ST		DURHAM	NC	27705	
858	503 90 463	GUILINGER JOHNNIE G	6311 E MESCAL		SCOTTSDALE	AZ	85254	
859	503 90 289	GUIMMARA JOSEPH SR TR	120 WESTERVELT AVE		NORTH HALEDON	NJ	07508	
860	503 91 056	GUZZO JOSEPH J & LOIS A	9454 NEWBRIDGE		PATOMAC	MD	20854	
861	503 93 352	GWALTNEY JACK D & SYLVIA L	7118 LINDEN DR		ANCHORAGE	AK	99502	
862	503 92 696	HABER FAMILY TRUST	2920 CRYSTAL BAY DR		LAS VEGAS	NV	89117	
863	503 92 154	HABERMAN ANDREAS	BEETHOVENPLATZ 2-		MUNCHEN	CO	80336	
864	503 92 153	HABERMAN HELMUT W & KATHARINA	50 W CORNELIA AVE %EUGEN SKIPOR		CHICAGO	IL	60634	
865	503 92 637A	HACHERIAN HARRY/ANGELINE ETAL TR	2210 AUGUSTA DR		MISSION	TX	78572	
866	503 90 453	HADLEY NEIL B & JOAN M	7000 OAK FOREST LN		BETHESDA	MD	20817	
867	503 92 114	HAFEMAN LYLE R & INA I	SEA COLONY H309		BETHANY BEACH	DE	19930	
868	503 93 214	HAGEN ROBERT L	5380 CORK OAK ST		SARATOGA	FL	33582	
869	503 91 435	HAGGINS CARL L & RUTH W	5618 MILLWHEEL PL		COLUMBIA	MO	21045	
870	503 90 581	HAGIE LESLIE E	5235 CANTER DR		ROANOKE	VA	24018	
871	503 24 027	HAKEY KENNETH A/KATHLEEN M	PO BOX 21480		WICKENBURG	AZ	85358	
872	503 93 350	HALKIAS NIKOLAOS E & VIRGINIA A	514 JEFFERSON AVE		RAHWAY	NJ	07065	
873	503 90 484	HALL BRIAN /DEBRA	2202 W CHARTER OAK		PHOENIX	AZ	85029	
874	503 93 568	HALL DAVID W/SUZANNE D	29311 N 227TH AVE		WITTMAN	AZ	85361	
875	503 90 870	HALLADA CARL ALLEN/ELAINE J	201 N ROLLING OAKS LN		SAN ANTONIO	TX	78253	5357
876	503 94 706	HALLMARK C DANIEL	5369 OPUNTIA ST		LAS VEGAS	NV	89102	
877	503 92 105	HALLOUM AMMAR/SAWSAN W	PO BOX 26662		TEMPE	AZ	85285	
878	503 93 365	HALTERMAN WENDELL	13110 N W CUSTER DR		PARKVILLE	MO	64152	
879	503 94 719	HALVERSON SHIRLEY GAIL	2203 N 73RD DR		PHOENIX	AZ	85035	
880	503 90 782	HAMAD SAWSAN W	PO BOX 26662		TEMPE	AZ	85285	
881	503 22 009	HAMILTON RUPERT H	5559 E PASEO BUENO		TUCSON	AZ	85715	
882	503 22 010B	HAMILTON RUPERT H/ARRA K	5559 E PASEO BUENO		TUCSON	AZ	85750	1039
883	503 91 150	HAMLETT R BRADLEY & EMILY F	7760 N 19TH LANE		PHOENIX	AZ	85021	
884	503 90 918	HANCOCK CHRISTOPHER B & ROSALIE K	4609 W LAKE SHORE DR		MCHENRY	IL	60050	
885	506 37 008E	HANEY JON/MARIANNE TR/HERBUVEAUX JOHN B	6703 E PINNACLE POINTE		ORANGE	CA	92669	
886	503 92 369	HANKINS CLIFFORD L/LENA V TERRIE	6331 W CARON		GLENDALE	AZ	85032	
887	503 91 447	HANKINS ELDRIDGE M & AUDREY L	2702 DARWIN DR		WICHITA FALLS	TX	76308	
888	503 92 151	HANSEN A LLOYD & SANDRA J	PO BOX 7243		MISSOULA	MT	59807	
889	503 94 569	HANSEN RICHARD L & MARY LOUISE	535 KELCHIKAN AVE		FAIRBANKS	AK	99701	
890	503 22 007	HARDEE JOHN S JR	PO BOX 68		MORRISTOWN	AZ	85342	
891	503 91 467	HARDING RICHARD/LOTTE TR	40114 HARDING RD E		SPRAGUE	WA	99032	
892	503 90 370	HARDING THOMAS G ETAL	BOX 187		SPRAGUE	WA	99032	
893	503 94 673	HARDING THOMAS G/DOUGLAS R/DONALD W/JOSEPH M	BOX 187		SPRAGUE	WA	99032	
894	503 93 162	HARDY DARCY	6340 W GROVER AVE		GLENDALE	AZ	85308	1173
895	503 92 739	HARMAN DWAYNE W/DENISE L	101 MOUNTAIN ASH RD SOUTH		KETCHIKAN	AK	99901	
896	503 94 636	HARMON HARVEY H & JULIE G	3936 W COLTER		PHOENIX	AZ	85019	
897	503 92 763	HARNISH LIONEL A	4039 26TH ST		DORR	MI	49323	
898	503 90 434	HARRINGTON CLARENCE H & ARLENE D	11404 N 58TH DR		GLENDALE	AZ	85304	
899	503 93 100	HARRISON JOHN PAYNE ETAL	7354 MEADOW BREEZE		SAN ANTONIO	TX	78227	
900	503 26 002V	HART BRUCE WINTER/MARGARET JOYCE	42428 HWY 60-89		MORRISTOWN	AZ	85342	
901	503 94 682	HART CHARLES R & JOANNE J	PO BOX 880		HOMER	AK	99603	
902	503 93 617	HART FANNIE M	178 FORRESTER ST SW		WASHINGTON	DC	20032	
903	503 92 628	HARTGROVES MAE S	24598 MILL CREEK LN		DENTON	MD	21629	2357
904	503 91 341	HARVEY JUDITH C TR	14892 LAMBETH SQ		CENTREVILLE	VA	22020	
905	503 92 682	HASKETT FRED F/ DOROTHY L TR	1615 N AUBURN ST		SPEEDWAY	IN	46224	
906	503 26 004B	HASSAYAMPA HIGHLANDS L L C	10520 E VOGEL		SCOTTSDALE	AZ	85258	
907	503 90 100	HASSE MICHAEL R	89 HEMPSTEAD ST		NEW LONDON	CT	06320	
908	503 92 602	HAUGEN ANDIE R & KATHLEEN A	609 W LINCOLN RD		MCHENRY	IL	60050	
909	503 91 294	HAWKINBERRY ERIC/ROSE	17607 N 57TH AVE		GLENDALE	AZ	85308	
910	503 92 516	HAYDEN LINDA L	6179 FAIRLAND RD		CLINTON	OH	44216	
911	503 93 552	HAYDEN ROBERT B	265 HUDSON BRANCH DR		FREDERICA	DE	19946	
912	503 90 846	HAYES JOHN T & PHYLLIS J	7207 S 15TH ST		TACOMA	WA	98465	
913	503 22 005A	HAYES LOUIS V JR/MALAKIE H	PO BOX 1456		WICKENBURG	AZ	85358	
914	503 93 145	HAYES WILLIAM K/KATHLEEN J	7470 UPPER 136TH ST		APPLE VALLEY	MN	55124	
915	503 94 674	HAYLOR ALBERT P	24621 130TH AVE S E		KENT	WA	98031	
916	503 94 455	HAYNER MARGARET A TR/ANDERSON HELEN R TR	910 E OLD WILLOW RD	, #310	PROSPECT HEIGHTS	IL	60070	
917	503 92 521	HAZELETT RONNIE D	9004 N 54TH AVE		GLENDALE	AZ	85302	
918	503 94 715	HEAD PHILLIP & MILDRED M	PO BOX 222		GRIFFIN CITY	GA	30223	
919	503 90 738	HEALY ELWOOD K & BERTHA M	1101 ORIENTAL AVE		WESTMONT	NJ	08108	
920	503 90 779	HEARN GEORGE D/LINDA L	30339 W PEAKVIEW RD		WHITTMAN	AZ	85361	
921	503 90 876	HECK DAWSON E & AUDREY C	13469 PRINCEDALE DR		WOODBRIDGE	VA	22193	
922	503 93 152	HEDLUND ELMER L & LOUISE E	816 ALOHA WAY		LADY LAKE	FL	32659	
923	503 92 687	HEDWIG S BARR	167 POIPU DR		HONOLULU	HI	96825	
924	503 91 312	HEFNER DEANNA	P O BOX 370		WITTMANN	AZ	85361	
925	503 22 032E	HEFNER KELLY K KENNEDY	PO BOX 346		WICKENBURG	AZ	85358	
926	503 92 765	HEIDEN CLARENCE F & GENEVA A	4354 SOUTH PACKARD AVE		CUDAHY	WI	53110	
927	503 27 013	HEILAND GEORGE E & DIANE N CO TR	13623 N CANTERBURY DRIVE		PHOENIX	AZ	85023	
928	503 94 678	HEINE JOHN T	1310 TERRILL RD		SCOTCH PLAINS	NJ	07076	
929	503 27 006F	HEITMAN VIRGINIA N TR	P O BOX 177		MORRISTOWN	AZ	85342	
930	503 90 740	HEITZMAN CHARLES R JR	906 HEMLOCK ST		BAREFOOT BAY	FL	32976	
931	503 92 367	HELWIG LYNDE E/CHERYL/DIMARCO SALVATORE/ROBIN	11002 N 68TH ST		SCOTTSDALE	AZ	85254	
932	503 92 581	HEMLY ROBERT G & MARIE	419 E 309TH ST		WILLOWICK	OH	44095	
933	503 94 607	HENDERSON ELIZABETH TR	10416 BEDFORD RD		SPRING HILL	FL	34608	
934	503 90 928	HENDRICK WILLIAM/DORIS	4541 W 101ST		OAK LAWN	IL	60453	
935	503 91 310	HENDRICKS BOBBY G/JOYCE C	P O BOX 1256		HOCKESSIN	DE	19707	
936	503 92 953	HENDRICKSON ELIZABETH A TR	25612 ILLINOIS AVE		SUN LAKES	AZ	85248	
937	503 91 351	HENK GENEVIEVE A & RANDOLPH P	BOX 86		WAVERLY	MN	55390	
938	503 91 037	HENRY-LAWLER MICHELE M	1707 IDYLWILD DR		PRESCOTT	AZ	86301	
939	503 91 427	HERBST RICHARD P & JUDITH A	38 N TIMBER TOP DR		WOODLANDS	TX	77380	
940	506 37 008F	HERBUVEAUX JOHN B/MARIANNE	6703 E PINNACLE POINTE		ORANGE	CA	92669	
941	503 93 072	HERCHE RICHARD L & JOANNE E	1308 NORTHCREST DR		ANDERSON	IN	46012	
942	503 92 579	HERMAN DORTHALEE	7948 PONCE AVE		CANOGA PARK	CA	91304	
943	503 90 261	HERNANDEZ FELIX J & EMILIA	8728 AUGUSTA DR		MOBILE	AL	36695	
944	503 91 038	HERNANDEZ GUILLERMO/RAMIREZ MARIA ANTONIA	6336 W COOLIDGE		PHOENIX	AZ	85033	
945	503 92 020	HERNANDEZ JESUS/BADILLO JORGE	1347 N 33RD AVE		PHOENIX	AZ	85009	
946	503 93 028	HERNANDEZ LUIS/TERESA	735 W RIVERSIDE		PHOENIX	AZ	85041	
947	503 91 265	HERNANDEZ MARCELINO S/GLORIA T TR	6923 W WIER		PHOENIX	AZ	85043	
948	503 93 164	HERNANDEZ RAYMOND/MARY	PO BOX 740		CASHION	AZ	85329	
949	503 93 331	HERNANDEZ ROBERT/ROSEMARIE	7421 W CAROL AVE		PEORIA	AZ	85345	
950	503 92 381	HERNANDEZ RUBEN G/OLINDA LUNA-	PO BOX 463		CASHION	AZ	85329	

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951	503 92 222	HERR JOHN E JR & SHIRLEY S	411 SYLVIEW DR		PASADENA	MD	21122	
952	503 92 633	HERRMANN DAVID J & MILDRED D	44 W352 BARR RD		HAMPSHIRE	IL	60140	
953	503 24 009R	HESKETT JOHN F & HALLEMAN FRED J	1037 E NORTHVIEW AVE		PHOENIX	AZ	85020	
954	503 92 103	HESS RICHARD L & MARLEAN S	1300 S PARKER RD #305		DENVER	CO	80231	
955	503 92 448	HEUER EARL L TR	3330 E MAIN ST SP 225		MESA	AZ	85203	
956	503 92 925	HICKEY DANIEL E	342 WASHINGTON AVE		HIGHWOOD	IL	60040	
957	503 92 915	HICKS RANDALL DEAN & BRIAN SPENCER	P O BOX 370		LAVEEN	AZ	85339	
958	503 92 744	HICKS RUSSELL L	9443 CANTON LOOP		ANCHORAGE	AK	99515	
959	503 23 005B	HICKS RUTH I/SCHAEFFLER BERNICE M TR	1505 CRYSTAL DR #1105		ARLINGTON	VA	22202	4120
960	503 94 685	HIERHOLZER JOHN H & CATHERINE M	353 GROVE CIRCLE		AVON PARK	FL	33825	
961	503 93 501	HIGGS RICHARD M & MARY M	W11696 HEYER RD		MERRIMAC	WI	53561	
962	503 94 589	HILL CECELIA L TR	1748 PINE CREEK RT		TONASKET	WA	98855	
963	503 92 670	HILL FREDERICK WM & LINDA S	P O BOX 687		WICKENBURG	AZ	85358	
964	503 93 117	HILLEREN NORMAN O & RUTH L	830 N ATLANTIC AVE	, #1206-B	COCOA BEACH	FL	32931	
965	503 93 554	HILLMAN RICHARD A & MARIAN M	2942 ST MURKS AVE		MELBOURNE	FL	32935	
966	503 90 602	HILLMANN HENRY W & ANN L	200 S HOME AVE		PARKRIDGE	IL	60068	
967	503 93 436	HILT GEORGE T/GLORIA J TR	9036 B SW 96TH LN		OCALA	FL	34481	
968	503 92 948	HILTON CATHLEEN	2015 MONACO CT		EL CAJON	CA	92019	
969	503 92 211	HINDERLITER ROBERT D/MARGARET A	15 PINYON PINE RD		LITTLETON	CO	80127	
970	503 93 108	HINES NORMAN G & DOROTHY A	6809 LYNDALE AVE SO		MINNEAPOLIS	MN	55423	
971	503 93 314	HINTZ GREG A	32439 W ASHLER HILLS		WITTMAN	AZ	85361	
972	503 91 321	HINZ REGINA G/GRACIE E/SINGER DEVIN J	3409 W POTTER DR		PHOENIX	AZ	85027	
973	503 90 317	HITOMI YUJI	2251 S FORT APACHE RD	, #2126	LAS VEGAS	NV	89117	
974	503 91 420	HLEBAK MARTIN R & GERTRUDE A	5774 W MERCURY WAY		PHOENIX	AZ	85226	
975	503 94 534	HOAGLUND MICHAEL F & NANCY J	4516 POPLAR BRIDGE RD		MINNEAPOLIS	MN	55431	
976	503 92 540	HODGES LAURENT & LINDA	504 ASH		AMES	IA	50010	
977	503 91 236	HOERR SAENGSOM	1803 CARDINAL CT		WHEELING	IL	60090	
978	503 91 382	HOFF RICHARD K & CHERYL H	PO BOX 323		FOREST LAKE	MN	55025	
979	503 22 008G	HOFFMAN DAVID & MARK	2551 ANAHEIM CT		SACRAMENTO	CA	95821	
980	503 92 342	HOFFMAN JAY BERNEY & JAMES SENATE	3722 N WESTON PL		LONG BEACH	CA	90807	
981	503 94 733	HOFFMAN PHILLIP R & ELIZABETH K	606 EUCLID AVE		NEWARK	OH	43055	
982	503 90 812	HOFFMAN VERA S	1400 N LAKESHORE DR		CHICAGO	IL	60610	
983	503 93 013	HOGAN WILLIAM A/MARY YBARRA	7526 W OSBORN		PHOENIX	AZ	85021	
984	503 94 174	HOLAN CHARLES A & CATHERINE L	2524 LONDONBERRY DR		AKRON	OH	44333	
985	503 91 362	HOLBROOK KRISTINE L	2944 SOUTH 450 WEST		BOUNTIFUL	UT	84010	
986	503 90 909	HOLDAWAY DON M & KATIE B J	233 E NEAL AVE		LAS VEGAS	NV	89119	
987	503 92 349	HOLLAND FRANK C & MARY M	RT 2 BOX 147		GREENVILLE	TX	75401	
988	503 94 675	HOLLIFIELD CAROLE A	PO BOX 247 RT 1		MESQUITE	TX	75181	
989	503 90 811	HOLLON RENEE I	PO BOX 614		CASCADE	CO	80809	
990	503 24 026	HOLMES CLETE M	6930 PARADISE RD #2097		LAS VEGAS	NV	89119	
991	503 91 346	HOLTZBERGER DONALD T & SUSAN D	34889 ROBINSON COURT		STERLING HTS	MI	48310	
992	503 94 625	HOLUB MICHAEL & EVA-MARIA H K	CMR 430 BOX 165		APO	AE	09096	
993	503 91 337	HONIG PAUL	1520 HOLLYHOCK RD		WELLINGTON	FL	33414	
994	503 92 449	HONKOLA VIRGINIA	P O BOX L 531 S MILITARY RD		WINLOCK	WA	98596	
995	503 94 670	HOOD RICHARD L & ERMA J	7530 WADE CIR		ANCHORAGE	AK	99518	
996	503 91 279	HORN KATHERINE	80 N PORTASE PATH APT 9B6		AKRON	OH	44303	
997	503 91 232	HORNER LEO	1853 AIRFIELD AVE		KINGMAN	AZ	86401	
998	503 93 550	HOUK JEANNE LEILANI/PAUL EUGENE SR	PO BOX 793		WICKENBURG	AZ	85358	
999	503 92 220	HOUSER FLORENCE L	1569 GUILFORD RD		UPPER ARLINGTON	OH	43221	
1000	503 91 375	HOVIS RICHARD/PATRICIA TR	2669 SILVERHILL DR		PONTIAC	MI	48055	
1001	503 92 092	HOWARD HAROLD C & MARTHA E	1549 22ND ST		DES MOINES	IA	50311	
1002	503 93 095	HOWARD STEPHEN J	31361-K NW REEDER RD		PORTLAND	OR	97231	
1003	503 94 652	HOWARD WILLIAM K & HANNAH S	19300 DEREK ROAD		CITRONELLE	AL	36522	
1004	503 92 872	HOWELL EDWARD M & LEORA M	3755 N DEL MONTE		ELOY	AZ	85231	
1005	503 94 689	HOWELL VIRGIL R & PATRICIA A	4812 VERNON NW		CANTON	OH	44709	
1006	503 94 551	HOWEY BILL J & BETTY L	BOX 506		SITKA	AK	99835	
1007	503 90 307	HOYLE NATHANIEL C/SHAWNA M	2155 E LIBERTY LN 312		PHOENIX	AZ	85048	
1008	503 90 210A	HSIEH TSONG CHANG/TSUIE CHU LIN	5202 N 200TH AVE		LITCHFIELD PARK	AZ	85340	6100
1009	503 90 649	HUDSON EDDY D	30440 W GALVIN ST		WITTMANN	AZ	85361	
1010	503 91 074	HUDSON JAMES D/MILDRED L	PO BOX 319		WICKENBURG	AZ	85358	
1011	503 91 473	HUDSON LILLIAN	1410 EAST 66TH ST		BROOKLYN	NY	11234	
1012	503 92 170	HUDSON ROSEMARY E & SIDNEY E	PO BOX 208		PIERCY	CA	95467	
1013	503 93 055	HUERTA FLORESTEL ETAL	12754 DALE		GARDEN GROVE	CA	92641	
1014	503 92 219	HUERTA FLORESTELA	360 DURANZO AISLE		IRVINE	CA	92606	
1015	503 90 097	HUERTA FLORESTELLA	PO BOX 385		EL MIRAGE	AZ	85335	
1016	503 90 726	HUGHES DAVID S/JANET E	P O BOX 1505		YUCCA VALLEY	CA	92286	1502
1017	503 90 069	HUGHES DEREK O/LINDA D	4108 E FILLMORE		PHOENIX	AZ	85008	
1018	503 94 868	HUGHES FABRICATING INC	1258 CLEVELAND AVE NW		CANTON	OH	44703	
1019	503 23 027	HULSE FREDERICK L/RITA J	44435 SAHUARO BLOSSOM LN		MORRISTOWN	AZ	85342	
1020	503 93 091	HUMPHREY IRIS F	PO BOX 503		BIG SANDY	MT	59520	
1021	503 94 650	HUMPHREY RICHARD F & LOIS M	1444 ALPHADA AVE A4		AKRON	OH	44310	
1022	503 92 923	HUNGERFORD DOUGLAS M	P O BOX 7005		FLINT	MI	48507	
1023	503 93 494	HUNT FRED E	4219 W CLAREMONT		PHOENIX	AZ	85019	
1024	503 91 490	HURNI RONALD J/SHERYL K	15248 N 53RD AVE		GLENDALE	AZ	85306	
1025	503 90 529	HUSCHER MARCIA/BLAETZ MARGURITE	2923 E NANCE ST		MESA	AZ	85213	1665
1026	503 92 517	HUSS ELIZABETH A	P O BOX 429		MILES CITY	MT	59301	
1027	503 90 697	HUST TONY J/PATTY L	2287 S ARIZONA RD		APACHE JUNCTION	AZ	85219	
1028	503 93 440	HUSTON EVAN E & PATRICIA C	PO BOX 3342		SHOWLOW	AZ	85901	8518
1029	503 90 621	HUTCHINGS ELIZABETH A H & JESSICA HOFER	8039 CORLISS AVE NORTH		SEATTLE	WA	98103	
1030	503 92 090	HUTCHINGS GLICK MARY KATHERINE	2043 N 51ST ST UNIT 3		PHOENIX	AZ	85008	
1031	503 90 544	HUTTON LAUREN E	4335 N 106TH AVE		PHOENIX	AZ	85037	
1032	503 92 589	HUTTON LAUREN E	8002 W ORANGEWOOD		GLENDALE	AZ	85303	
1033	503 92 725	HY NICHOLAS & JEANETTE T	220 W BELL RD 2014		PHOENIX	AZ	85023	
1034	503 93 537	HYATT HERMAN V/MARY ANN	435 S LIVERNOIS RD	, #348	ROCHESTER HILLS	MI	48307	
1035	503 91 383	HYON JAY & LILY K	2542 CAMINO DEL SOL		FULLERTON	CA	92633	
1036	503 90 049	ILENDA ANNALEE	307 CALVIN RD		CINEBAR	WA	98533	
1037	503 92 298	ILLMANN FRED P & DOROTHEA L	2650 ARGYLE ST		CHICAGO	IL	60625	
1038	503 91 417	INFORTUNIO RICHARD J & CHERYL P	2819 WILD VALLEY DR PO BOX 157		HIGH RIDGE	MO	63049	
1039	503 90 872	INNOCENTI JOSEPH T TR	PO BOX 3542		WICKENBURG	AZ	85358	
1040	503 91 475	IRWIN LOIS D TR	2506 NORTH 62ND STREET		MESA	AZ	85205	
1041	503 90 357	ISENEGGER ROBERT G & LOIS A	9221 S RIDGELAND		OAK LAWN	IL	60453	
1042	503 91 004G	ISHAQ EDWARD D	9521 N 49TH PL		PARADISE VALLEY	AZ	85253	
1043	503 94 739	IWATSU DAVID S & CARMEN B	171 PALOMAR APT #139		CHULA VISTA	CA	92011	
1044	503 91 283	JACHECKI WERNER J & MARGARET B	PO BOX 1065		KING CITY	MO	64463	
1045	503 90 340	JACKNESS JULES	270 JAY ST		BROOKLYN	NY	11201	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
1046	503 93 062	JACKSON ALVIN R TR	9325 S PHILLIPS		CHICAGO	IL	60617	
1047	503 90 314	JACKSON ERNEST & EDNA L	4428 CASA SENICA		LAS VEGAS	NV	89121	
1048	503 92 224	JACKSON TEDDY DWAYNE	20028 W MEDDLOCK		LITCHFIELD PARK	AZ	85340	
1049	503 94 575	JACOBS FREDERICK O & LOIS M	2264 W SUNLAND		PHOENIX	AZ	85041	
1050	503 93 374	JACOBS VELMA J	2733 FIELDSTONE COURT		ORLANDO	FL	32839	
1051	503 92 128	JACOBSON HELEN B	PO BOX 484		WINTHROP	MN	55396	
1052	503 93 390	JACOBSON KENNETH B & MARGARET K	24401 N 81ST ST		SCOTTSDALE	AZ	85255	
1053	503 92 730	JAEGER ROBERT J & KATHLEEN M	45 BLANCH AVE		DEMAREST	NJ	07627	
1054	503 93 435	JANEZICH FRANK A JR	10217 10TH AVE CIRCLE		BLOOMINGTON	MN	55420	
1055	503 91 299	JANGULA ELIZABETH A	2020 W GLENDALE AVE		PHOENIX	AZ	85021	
1056	503 93 376	JANGULA ELIZABETH A	4045 W SHARON AVE		PHOENIX	AZ	85029	
1057	503 90 578	JANGULA JACOB U	4045 W SHARON AVE		PHOENIX	AZ	85201	
1058	503 92 531	JANIK ANDREW T & ALYCE	1609 CENTRAL AVE		WHITING	IN	46394	
1059	503 25 009F	JANISZESKI RAYMOND C	P O BOX 478		MORRISTOWN	AZ	85342	
1060	503 25 009D	JANISZESKI RAYMOND C/BETHANN	PO BOX 478		MORRISTOWN	AZ	85342	
1061	503 92 101	JANKA ELMER J & SYLVIA A	N4245 13TH AVE		WAUTOMA	WI	54982	7010
1062	503 94 579	JARNAGIN RANDOLPH B/SHARON A	34440 W VILLA CASSANDRA WAY		WICKENBURG	AZ	85390	
1063	503 90 692	JAROSZ JOSIE	6301 W MARCONI AVE		GLENDALE	AZ	85306	
1064	503 92 365	JASKOWIAK ROBERT	213 MILLER ST		BUREAU	IL	61315	
1065	503 90 368	JEAN WILFRED J/ERICHSEN GEORGE	PO BOX 315		MORISTOWN	AZ	85390	
1066	503 93 015	JEFFERSON ROBERT O & MARY J	10 NORTHWAY DR		HUNTINGTON	IN	46750	
1067	503 94 628	JEFFRIES BENJAMIN L/CHERYL G	PO BOX 405		WICKENBURG	AZ	85358	
1068	503 92 377	JENKINS THOMAS W & MARSHA R	31114 W CAREFREE HWY		WITTMANN	AZ	85861	
1069	503 90 630	JENKINS WILLIAM C III & MAUREEN M	6717 DANFORTH ST		MCLEAN	VA	22101	
1070	503 22 008N	JENNINGS GENE W/NADINE F BEST ETAL	PO BOX 426		MORRISTOWN	AZ	85342	
1071	503 93 121	JENSEN DONALD H/CAROL TR	60 DEER HILLS CT		NORTH OAKS	MN	55127	
1072	503 93 477	JENSEN GORDON H & AVA LYNN	11825 N 76TH PL		SCOTTSDALE	AZ	85260	
1073	503 90 741	JENSEN JOHN A & RUTH A	31404 HUNTERS CIR DR		FARMINGTON HILLS	MI	48018	
1074	503 90 177	JENSEN MARY C REID TR	2125 ALDER DR		ANCHORAGE	AK	99508	
1075	503 94 644	JENSEN MICHAEL N/LISA G ETAL	10232 N 45TH AVE		GLENDALE	AZ	85302	
1076	503 93 119	JENSEN MICHAEL N/LISA G/KRISTEN M	10232 N 45TH AVE		GLENDALE	AZ	85032	
1077	503 93 017	JENSEN RONALD C & BARBARA R	4 POHATCONG DR		HACKETTSTOWN	NJ	07840	
1078	503 90 699	JENSEN TROY M	PO BOX 67791		PHOENIX	AZ	85082	
1079	503 93 455	JER LC TRUST	8011 HIDDEN BAY TRAIL		LAKE ELMO	MN	55042	
1080	503 92 181	JERNELIUS JUSTUS	2105 YORKSHIRE WAY		MOUNTAIN VIEW	CA	94040	
1081	503 90 837	JESKA JEFFREY M & JO ANN	5859 CLINTON ST		ERIE	PA	16509	
1082	503 24 029	JEZICK CHARLES E/JANET C TR	45259 E WICKENBURG WAY		WICKENBURG	AZ	85390	
1083	503 90 925	JIMENEZ MARCOS ANTONIO/TERESA TORRES	PO BOX 751		GLENDALE	AZ	85311	
1084	503 92 692	JOE HAYWARD FORD INC	P O BOX 5		DALLAS	OR	97338	
1085	503 91 003U	JOHNSON BARRY M	6 KELBOURNE AVE		SLEEPY HOLLOW	NY	10591	1345
1086	503 94 077	JOHNSON BILLY J/CINDY K	PO BOX 20183		WICKENBURG	AZ	85358	
1087	503 92 230	JOHNSON CURTIS E	3819 STATE HWY 6		CHEHALIS	WA	98532	9239
1088	503 90 786	JOHNSON EARL W/HAZEL A	PO BOX 190634		BOISE	ID	83709	
1089	503 90 019N	JOHNSON JAMES M/DEBRA A TR ETAL	3571 BROOKSHIRE		TRENTON	MI	48183	
1090	503 90 319	JOHNSON JAMES/MARGARET	1209 BLUE CHAPELL CT		MODESTO	CA	95251	
1091	503 91 394	JOHNSON JERRY G & JANE A	7580 TRAILWIND DR		CINCINNATI	OH	45242	
1092	503 92 699	JOHNSON JOHN A IV	P O BOX 11232		PRESCOTT	AZ	86304	
1093	503 92 685	JOHNSON JOHN T	P O BOX 8		WEST YELLOWSTONE	MT	59758	
1094	503 93 323	JOHNSON MARTHA LEE/CARRIE	8053 S PHILLIPS AVE		CHICAGO	IL	60617	1244
1095	503 90 823	JOHNSON RALPH L & MARTHA JANE M	1964 ILLINOIS RT #38		ASHTON	IL	61006	
1096	503 91 290	JOHNSON ROBERT A/JANICE M	2082 E LAGUNA DR		TEMPE	AZ	85282	
1097	503 90 290	JOHNSON RONALD N & LORENE	113 HAVENRIDGE CR		FAIRFIELD GLADE	TN	38558	
1098	503 93 542	JOHNSON SUSAN L	506 EL DORADO CT		SANTA ROSA	CA	95404	
1099	503 92 403	JOHNSON VIRGINIA S	6622 BOSTWICK DR		SPRINGFIELD	VA	22151	
1100	503 93 383	JOHNSON WILLIAM E & VIRGINIA M	3900 ARLINE DR		KNOXVILLE	TN	37918	
1101	503 94 599	JOLLY CLINT A & BONNIE J	8248 W MADISON		PEORIA	AZ	85345	
1102	503 92 139	JONES CYNTHIA L TR	4373 EL PASO RD S		BULLHEAD CITY	AZ	86429	
1103	503 90 856	JONES EDWARD W JR & ESTHER M	608 W 5TH ST		CHILLICOTHE	OH	45601	
1104	503 92 269	JONES ENOCH M & GLADYS M	4126 SHADY SPRINGS		SEABROOK	TX	77586	
1105	503 24 021	JONES JOHN C & SIDNEY V WELLS	BOX 15		WICKENBURG	AZ	85358	
1106	503 23 026	JONES JOSEPH B & EDITH M TR	P O BOX 3		WICKENBURG	AZ	85358	
1107	503 91 438	JONES LOWELL V & RUTH	1706 RIDGEVIEW DR		ARLINGTON	TX	76012	
1108	503 90 369	JONES ORIE L JR & BERDENA H	360 NE PLUM AVE P O BOX 337		EARLHAM	IA	50072	
1109	503 91 061	JONES RALPH R & ARDIS M	PO BOX 547		SALOME	AZ	85348	
1110	503 94 725	JONES RICKY ALLEN & EDITH M	PO BOX 385		WICKENBURG	AZ	85358	
1111	503 90 568	JONES STEVE R & DIANN E	1535 N HORNE ST		MESA	AZ	85203	
1112	503 93 359	JOOS JERRY A & CATHY M	P O BOX 53		HANCOCK	MN	56244	
1113	503 93 394	JOOS ROBERT A	PO BOX 141		HANCOCK	MN	56244	
1114	503 91 331	JORGENSEN ROBERT	8208 S 121ST		SEATTLE	WA	98178	
1115	503 92 302	JOYCE ELIZABETH E	701 WHITCOMB BLVD 1B		TARPON SPRINGS	FL	33589	
1116	503 91 241	JUDGE JAMES E	5302 N 41ST ST		PHOENIX	AZ	85015	
1117	503 93 343	JUNG JAMES R & DOROTHEA C	9941 S HAMILTON AVE		CHICAGO	IL	60643	
1118	503 90 949	JUZWIAK GEORGE J & JADWIGA	BOX 1100		SITKA	AK	99835	
1119	503 93 424	KADAR RICHARD J & LILLIAN F	2280 RACCOON RD		SUMTER	SC	29154	
1120	503 93 069	KADINGO JOHN DAVID ETAL	1610 MCKINNEY APT 1603		DENTON	TX	76201	
1121	503 93 060	KAHLER CHARLES N & RUTH C SECREST	RT 8 BOX 764		MORGANTON	NC	28655	
1122	503 94 763	KALLESTAD STEVEN D/CAROLYN R	101 ARIZONA ST		DEER LODGE	MT	59722	
1123	503 92 246	KAMEOKA PAUL Y & LISA MICHIKO	10901 MARINER DR		FT WASHINGTON	MD	20744	
1124	503 90 035	KANA LOUIS H & PATRICIA T	2103 IVIE LEE		BAYTOWN	TX	77520	
1125	503 90 739	KAPLAN JEROME A	29 WOLF HILL RD		GLOUCESTER	MA	01930	
1126	503 90 769	KAPPES CRAIG E	1649 W EUGIE AVE		PHOENIX	AZ	85029	
1127	503 91 089	KARANDREAS THEODORE PETER & ASEMO	4732 E THOMAS RD		PHOENIX	AZ	85018	
1128	503 94 611	KARKLINS ANNA/MUIZNIEKS ILZE	527 OLD BARN RD		BARRINGTON	IL	60010	
1129	503 92 585	KARKOSKA ROBERT W & SUZANNE LEICHT	4811 WORTHINGTON WAY		ELLICOTT CITY	MD	21043	
1130	503 94 847	KARTAK WAYNE & JANET R	6443 W MONTE CRISTO		GLENDALE	AZ	85306	
1131	503 91 421	KASPARI LAWRENCE P JR/ALICE T TR	17 W 111 DEERPATH RD		BENSENVILLE	IL	60106	
1132	503 90 651	KASPERAK JOSEPH/REVAY HELEN A	7345 LIME LN		PARMA	OH	44129	6464
1133	503 94 856	KASTNER ROBERT F & GRACE B	1836 LEXINGTON DR		FULLERTON	CA	92635	
1134	503 91 360	KATCHKA ABRAHAM S	172 MOHAWK		PONTIAC	MI	48341	
1135	503 92 651	KATHLEEN M WEAR TRUST & RAYMOND	314 KOCH AVE		PLACENTIA	CA	92670	
1136	506 38 003G	KATSENES FANNIE T	1248 E CAMBRIDGE AVE		PHOENIX	AZ	85006	
1137	506 38 003F	KATSENES JOHN T/MARY K TR	4221 E MACDONALD DR		PHOENIX	AZ	85018	
1138	503 92 214	KAUFFMAN JAMES LOWELL & ELLA MAE	6761 YEARION RD		WEST LIBERTY	OH	43357	
1139	503 93 533	KAUFFMAN JAMES M	8446 W NORTH TERRACE		NILES	IL	60648	
1140	503 94 567	KAUFMAN ERIC A & MIYOKO	1860 E 27TH		ANCHORAGE	AK	99504	

Flood Control District of Maricopa County
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Mailing List for Property Owner Notification/Right-of-Entry (1/9/2001)

RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
1141	503 90 921	KAUFMAN TIMOTHY	2515 W TIERRA BUENA LN		PHOENIX	AZ	85023	
1142	503 92 179	KAUS PAUL G	6202 MEADOW RUN CT		NORCROSS	GA	30092	
1143	503 93 418	KEARNEY WILLIAM T JR & CAROL ANN	41 STOWECROFT RD		ARLINGTON	MA	02174	
1144	503 91 012K	KEITH ARLEY & NANCY	2993 BURNT VALLEY RD		CHEWELAH	WA	99109	
1145	503 92 239	KELLER FREDRIC J & KATHLEEN P	63 HUNTERS RD		PITTSFORD	NY	14534	
1146	503 93 348	KELLER GRAYDON F	867 N ABINGDON ST		ARLINGTON	VA	22203	
1147	503 92 769	KELLER RICHARD B & MILDRED F	16641 N 28TH ST		PHOENIX	AZ	85032	
1148	503 91 025	KELLNER FRED W	2033 HASSETT AVE		LAS VEGAS	NV	89104	
1149	503 91 355	KELLY PAUL E & DEBRA A ETAL	316 E RIVERSIDE BLVD		ROCKFORD	IL	61111	
1150	503 94 561	KELLY ROBERT F & MARIAN C	419 SOUTHWICK RD #A-2		WESTFIELD	MA	01085	
1151	503 92 929	KEMPF VICTORIA SUE	BOX 1433		SUN CITY	AZ	85372	
1152	503 90 751	KENNAMER JOHN H	P O BOX 1509		WINNIE	TX	77665	
1153	503 90 018	KENNAMER JOHN H	711 BAY AREA BLVD STE 611		WEBSTER	TX	77598	
1154	503 91 024	KENNEDY WILLIAM DAVID JR	1918 PALACE DR		GRAND PRAIRIE	TX	75050	
1155	503 94 624	KERR EVERETT V JR & JEAN E	48 COLONIAL DR		COCOA BEACH	FL	32931	
1156	503 93 536	KETURI JOHN A	4410 GLENWOOD ST		DULUTH	MN	55804	
1157	503 91 175	KILBOURN SCOTT	PO BOX 457		WITTMAN	AZ	85361	
1158	503 93 489	KIM SU	P O BOX 3586		CAREFREE	AZ	85377	
1159	503 90 486	KING CARL L/CAROL	14137 101ST PLACE N E		BOTHELL	WA	98011	
1160	506 37 003E	KING ETHEL A TR	10920 TROPICANA CIR		SUN CITY	AZ	85351	
1161	503 92 542	KING GARY LEE & CAROLE SUE	16940 GRAYS BAY BLVD		WAYZATA	MN	55391	
1162	503 90 810	KINNERK MICHAEL J	116 N GREEN ST		MCHENRY	IL	60050	
1163	503 92 050	KINNEY HUBERT & BETTIE J	4746 N WALFORD RD		WARRENSVILLE	OH	44128	
1164	503 93 076	KIRKLAND JACK & MARGIE	BOX 1487		KINGSLAND	TX	78639	
1165	503 94 125	KISCHER EHLER E & ELAINE N	1451 WILMETTE AVE		WILMETTE	IL	60091	
1166	503 94 824	KISSELBURG RUTH O TR	1230 LAGO VISTA DR		PRESCOTT	AZ	86301	
1167	503 91 377	KITCHEN HAROLD M & SHIRLEY M	2006 COUNTRY CLUB BLVD		CAPE CORAL	FL	33990	
1168	503 94 727	KITTELSON ERIC	9157 ROOT DR		STREETSBORO	OH	44241	
1169	503 90 869	KLASIC EMIL & MARGARET H	4300 S HOUGHTON RD		TUCSON	AZ	85730	
1170	503 90 571	KLEIN ADAM J	8209 W BURLEIGH ST		MILWAUKEE	WI	53222	
1171	503 93 125	KLEIN MARIE L	25815 WESTWOOD RD		WESTLAKE	OH	44145	
1172	503 90 632	KLEIN MICHAEL C & JEAN S	4550 SPLIT LOG LN E		ESTERO	FL	33928	
1173	503 91 206	KLEIN WILLIAM & DOLORES M	8524 W 25TH ST		LOUIS PARK	MN	55426	
1174	503 93 158	KLENERT FREDERICK R	2914 SPRING OAK AVE		PALM HARBOR	FL	34684	1658
1175	503 90 145	KLIMIUK LAWRENCE JOSEPH & MARY LEONA	4302 N 58TH DR		PHOENIX	AZ	85031	
1176	503 90 173	KLIMIUK MARY & LAWRENCE ETAL	4302 N 58TH DR		PHOENIX	AZ	85031	
1177	503 93 248	KLITZKA GLENN	14300 W BELL RD UNIT 339		SURPRISE	AZ	85374	
1178	503 27 001B	KNIPP EDWARD A/BARBARA J TR	PO BOX 547		MORRISTOWN	AZ	85342	
1179	503 92 935	KNIPPENBURG WILLIAM C & RUBY	42177 JASON DR		CLINTON TWP.	MI	48038	
1180	503 22 008C	KNORI ROLLIE D/DAIL TR	P O BOX 283		JACKSON	WY	83001	
1181	503 92 620	KOBIE ROGER L & JOAN M	P O BOX 2395		HARRISON	AR	72601	
1182	503 94 570	KOCIAN HENRY F ETAL	4132 N OZARK		NORRIDGE	IL	60634	
1183	503 91 424	KOEHLER MICHAEL C & SANDRA K	22358 VIA POMPEII		ELKHART	IN	46514	
1184	503 90 929	KOENIG HERMINES S & SALLY R BORN	1910 W BELMONT AVE		CHICAGO	IL	60657	
1185	503 91 324	KOEPPLER WILLIE & INGE	1813 BASSWOOD LN		MOUNT PROSPECT	IL	60056	
1186	503 91 322	KOHLS LEON H & DAPHNE	34424 QUAKER VALLEY RD		FARMINGTON HILLS	MI	48024	
1187	503 92 488	KOLONIA LLC	5625 N 12TH AVE		PHOENIX	AZ	85013	
1188	503 93 369	KONECHNE LEROY J/SHARON E	190 N TEGNER		WICKENBURG	AZ	85350	
1189	503 22 019	KONING JEAN R	BOX 115		MORRISTOWN	AZ	85342	
1190	503 94 239	KONO BARBARA K	1212 S NAPER BLVD STE 119-305		NAPERVILLE	IL	60540	
1191	503 90 526	KONTOS DIMITRIOS D	463 TENAFLEY RD		ENGLEWOOD	NJ	07631	1785
1192	503 22 022P	KOONTZ JOHN E & MARY L TR	PO BOX 246		MORRISTOWN	AZ	85342	
1193	503 92 134	KOONTZ ROLLAND E & JUANITA V	146 MEADOW LARK LN		BREMEN	IN	46506	
1194	503 92 393	KOORENNY RAYMOND C	79 ELKINS LAKE		HUNTSVILLE	TX	77340	
1195	503 94 039	KORDAS MARTIN W TR	11950 N 104TH ST		SCOTTSDALE	AZ	85260	
1196	503 92 140	KORN RAYMOND & RITA MARGARET	ROUTE 1		ATHENS	MI	49011	
1197	503 93 113	KORTAN WILLIAM A & BETTY A	32515 LAKE RD		AVON LAKE	OH	44012	
1198	503 92 659	KOSTOLANSKY JOHN J & NORMA A	400 ISLAND WAY #1207		CLEARWATER	FL	33515	
1199	503 90 038	KOTELES FRANK LEE & RUTH ANN ETAL	15410 ARMSBY LN		MORGAN HILL	CA	95037	
1200	503 92 006	KOWALESKI CAROLYN L	9617 CULVER ST		KENSINGTON	MD	20795	
1201	503 90 601	KRAJCOVIC FRANCIS M & JULIA J	1235 SHANNON AVE		BARBERTON	OH	44203	
1202	503 92 217	KRAJCOVIC MILAN & MARIA GONZALEZ	47-15-159 STR		FLUSHING	NY	11358	
1203	503 92 576	KRAMMER JOSEPH F JR & KATHLEEN I	QUADNA UNIT 381	, BOX 190	HILL CITY	MN	55748	
1204	503 92 212	KRAUS AUGUST V & MARIE V	7262 PETERSON AVE APT C404		CHICAGO	IL	60631	
1205	503 91 065	KREATSOULAS PANTELIS K & MARIA M	6446 N ALBANY		CHICAGO	IL	60645	
1206	503 94 616	KREHEL JOSEPH Y / ROBERTA M TR	1397 W SPRAGUE RD		BROADVIEW HEIGHTS	OH	44147	
1207	503 90 813	KREIDER NATHAN RAY	825 N LAMB	, #139	LAS VEGAS	NV	89110	
1208	503 93 027	KREIN OLIVER A/CAROL S	4241 WARWICK PL		ANCHORAGE	AK	99508	5162
1209	503 90 913	KREISS FRITZ G & PHYLLIS A	2699 WALTERS AVE		NORTHBROOK	IL	60062	
1210	503 90 536	KROHMER ALTHEA R	868 CLARK ST		AKRON	OH	44306	
1211	503 94 046	KRONJAEGER MARILYIN/JOHN	6123 W CLAREMONT ST		GLENDALE	AZ	85301	
1212	503 92 435	KRUEGER DORIS A	5087 W COLONIAL COURT		GREENFIELD	WI	53220	
1213	503 90 742	KRUMME WESLEY J	PO BOX 7		EARLSBORO	OK	74840	
1214	503 91 263	KRUTT MARY JANE	433 S LOMBARD AVE		OAK PARK	IL	60302	
1215	503 92 157	KRZEPTOWSKI JOHN	1725 K STREET NW STE 308		WASHINGTON	DC	20006	
1216	503 92 754	KUBIK ROSEMARY TR	1706 WESTWOOD DR		TWINSBURG	OH	44087	
1217	503 94 759	KUEHN GARY J & WINDELL L	P O BOX 877221		WASILLA	AK	99687	
1218	503 90 647	KUGLER IDA C TR	1133 W CALIFORNIA AVE		ST PAUL	MN	55108	
1219	503 91 412	KUNASCHK EDMUND JAMES & WILIIAM CHARLES	9317 N 44TH AVE		GLENDALE	AZ	85302	
1220	503 92 694	KUNASCHK WILLIAM CHARLES	9317 N 44TH AVE		GLENDALE	AZ	85302	
1221	503 94 669	KUNSMAN ROBERT A & MARIA	22843 CANTLAY ST		WEST HILLS	CA	91307	
1222	503 93 399	KUO KINGWARD & HELEN	15000 LAYHILL RD		SILVER SPRING	MD	20906	
1223	503 90 570	KURTH JOHN J/DEBORAH M	19725 W HAMMOND		BUCKEYE	AZ	85326	
1224	503 92 108	KUSCH JAMES R & GAIL V	1403 E FLENTIE LN		ARLINGTON HTS	IL	60004	
1225	503 92 574	KUTSCH INC PENSION TRUST	3045 S LANE DR		ALBANY	OR	97321	
1226	503 92 578	KWAN BIU BING & JUDY WONG	2138 W MONROE		PHOENIX	AZ	85009	
1227	503 93 279	KWIATKOWSKI MELVIN J & HELEN M	3546 BRENDA DR		TOLEDO	OH	43614	2301
1228	503 90 457	KYLE DAVID L & MARGARET A	36061 JEFFREY DR		STERLING HEIGHTS	MI	48310	
1229	503 23 005L	L SLASH CATTLE COMPANY	42825 GRAND AVE		MORRISTOWN	AZ	85342	
1230	503 90 201	LA CASSA MARIE	1410 PLUM CT	, #D	MT PROSPECT	IL	60056	
1231	503 92 707	LA MAIDE RUSSELL F JR & DAWN ELLEN	4630 E ELLIS CIR		MESA	AZ	85205	
1232	503 93 566	LABOK DOLLIE V	P O BOX 345		WICKENBURG	AZ	85358	
1233	503 94 833	LABOK DONALD L/DANNIELLE D	PO BOX 590		WICKENBURG	AZ	85358	
1234	503 24 013A	LABRASCA JUDITH C	7525 GAINEY RANCH RD NO142		SCOTTSDALE	AZ	85258	
1235	503 94 731	LACEY WILLIAM HENRY TR	PO BOX 127		DEWEY	AZ	86327	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
1236	503 94 668	LACOSS KENNETH J JR & GAIL F	PO BOX 133		PAULDEN	AZ	86334	
1237	503 90 914	LAGERHOLM NOREEN L	8 AQUA DR CR RT 5		CHEROKEE VILLAGE	AR	72525	
1238	503 90 328	LAGIOIA VINCENT & NANNI ANGELINE ETAL	25441 VIA PACIFICA		VALENCIA	CA	91355	
1239	503 91 004S	LAINE CATHY L	1534 W GARFIELD		PHOENIX	AZ	85007	
1240	503 91 004P	LAINE CHARLES E	1237 E PIERCE		PHOENIX	AZ	85006	
1241	503 90 270	LAKE VIOLET I	361 VERNON ST. # 202		OAKLAND	CA	94610	
1242	506 37 007	LALUMONDIER JOAN M	1903 OLIVE ST		MT VERNON	IL	62864	2833
1243	503 91 030	LAMARCA DONALD & DARLENE M	143 QUEEN ANNE RD		BOGOTA	NJ	07603	
1244	503 91 334	LAMARCO JEANETTE	159 EDGEMERE WAY SOUTH		NAPLES	FL	33999	
1245	503 92 716	LAMB ARTHUR C & NORMA N	1109 KENNEDY PLACE STE 3		DAVIS	CA	95616	
1246	503 90 908	LAMPI DONALD R & KAREN K	5025 CEMETARY AVE		ABBOTSFORD	WI	54405	
1247	503 92 758	LANCE GEORGE F	319 VALLEY RD		ETTERS	PA	17319	
1248	503 90 961	LAND SIDNEY L & SARA G	2245 PACES FERRY RD		SMYRNA	GA	30080	
1249	503 92 536	LANDO JAMES M	2044 S DON CARLOS	, #4	MESA	AZ	85202	
1250	503 91 323	LANDRETH DENNIS E/GWEN M	PO BOX 30814 299AV		WHITTMAN	AZ	85316	
1251	503 93 503	LANDRETH ROY L & LEANOR L	R RT 1 BOX 6		STARK CITY	MO	64866	
1252	503 93 196	LANDRY CLARENCE B JR	15707 BONANZA		JUSTIN	TX	76247	
1253	503 93 319	LANE JOHN & VERNA E	4629 OLIVER AVE N		MINNEAPOLIS	MN	55412	
1254	503 92 244	LANG JAMES GRAEME & RICHARD ARRINGTON	610 S 18 ST		ARLINGTON	VA	22202	
1255	503 92 627	LANGE GERALD J & KATINA	11041 N 34TH AVE		PHOENIX	AZ	85029	
1256	503 92 251	LANGLEY DOROTHY JEAN TR	PO BOX 362		CONGRESS	AZ	85332	
1257	503 92 258	LANGLEY JAME C & BARBARA M CHANEY	P O BOX 362		CONGRESS	AZ	85332	
1258	503 92 286	LANGLEY JAMES C & BARBARA M CHINEY	P O BOX 16600 CAVE CREEK STAGE		PHOENIX	AZ	85020	
1259	503 92 280	LANGLEY JAMES C & DOROTHY J ETAL	P O BOX 362		CONGRESS	AZ	85332	
1260	503 91 003H	LANKFORD MIKE	624 S MAIN ST		SAPULPA	OK	74066	
1261	503 93 444	LANSER DONALD G	7724 BRANDEIS WAY		SPRINGFIELD	VA	22153	
1262	503 92 617	LANZA LINDA E	440 THOMAS AVE		LYNDHURST	NJ	07071	
1263	503 90 604	LAPORTE DONALD P/BETTY JANE	9135 GREENWAY CT APT K-168		SAGINAW	MI	48609	
1264	503 93 086	LARSEN STANLEY V/DONNA M	14216 5TH AVE NE		MARYSVILLE	WA	98271	
1265	503 93 462	LARSON JERRY A & GAYLE D	23650 N 39TH LN		GLENDALE	AZ	85310	
1266	503 92 724	LARSON JOHN A & GRACE S	1322 PONCE DE LEON		STOCKTON	CA	95209	
1267	503 94 849	LARSON WARREN L & MARY A	PO BOX 655		TIOGA	ND	58852	
1268	503 93 106	LASKER ADRIAN G & B L & L G	115 WINDBLOWN COURT		BALTO	MD	21209	
1269	503 92 700	LASS VERNON L & JOSEPHINE F	9439 E PARADISE DR		SCOTTSDALE	AZ	85260	
1270	503 23 013F	LAUMAN GEORGE W TR	P O BOX 69		MORRISTOWN	AZ	85342	
1271	503 94 741	LAVALLE ROBERT J	1330 W BROADWAY RD STE F210		TEMPE	AZ	85282	
1272	503 90 549	LAWRENCE NORMAN E/CAROLYN S	411 S CABRITO CIR		LITCHFIELD PARK	AZ	85340	
1273	503 24 022	LE VINUS FREDERICK C/HELEN C/SHAW J B/J I	7223 W MCRAE WAY		GLENDALE	AZ	85308	
1274	503 90 897	LEABO LLOYD P/MARIAN D	6312 W GEORGIA		GLENDALE	AZ	85301	
1275	506 37 003A	LEAHY CHRISTOPHER WREN	67 PERKINS ST		GLOUCESTER	MA	01930	
1276	503 23 005Y	LEAVITT JOANNE/VERHULST HOLLY G	PO BOX 2656		WICKENBURG	AZ	85358	
1277	503 23 005P	LEAVITT JOANNE/VERHULST HOLLY G/ETAL	PO BOX 2656		WICKENBURG	AZ	85358	
1278	503 93 403B	LEBEAU RAYMOND E TR	1509 KEIM CT		ST CHARLES	IL	60174	
1279	503 90 193	LEBOVITZ SANFORD	10816 CLIFTON BLVD		CLEVELAND	OH	44102	
1280	503 90 213	LEDESMA LUIS M/MARIA O	P O BOX 992		QUEEN CREEK	AZ	85242	
1281	503 92 263	LEDIN BENJAMIN CURTIS	1621 W CHARLESTON AVE		PHOENIX	AZ	85023	
1282	503 94 632	LEE AMY	2081 SADDLEBACK DR		CORONA	CA	91719	
1283	503 93 409	LEE CHRISTOPHER J	1206 W 53RD ST		MINNEAPOLIS	MN	55419	
1284	503 93 166	LEE JOSEPH W	P O BOX 640		WITTMAN	AZ	85361	
1285	503 92 709	LEE RUSSELL A & SHIRLEY H	535 WEST 4300 NORTH		OGDEN	UT	84404	
1286	503 91 318	LEE WILLIAM E & KAREN	2147 WELLESLEY AVE		ST PAUL	MN	55105	
1287	503 23 024	LEFNER DWIGHT S & GLENNA D	P O BOX 804		BETHEL	AK	99559	
1288	503 91 486B	LEHFELDT HENRY J & SUSAN M	416 DOGWOOD DR		FORT RICHEY	FL	33568	
1289	503 93 031	LEIKER PAMELA A	3907 S PRIEST #2		TEMPE	AZ	85282	
1290	503 93 530	LEINEWEBER JAMES E	PO BOX 335		YUCCA BALLEY	CA	92286	
1291	503 91 139	LEITSON JAY/NUTIS LAURA	25124 BRIDGETON RD		BEACHWOOD	OH	44122	
1292	503 94 666	LEMON JOHN M	15914 44TH AVE W	, #F301	LYNWOOD	WA	98307	
1293	503 92 931	LENBERG LESLEY	RT 3 BOX 103		NEWBERRY	FL	32669	
1294	503 92 152	LENGSFELD ADALBERT/ERIKA TR	2015 W LELAND AVE		CHICAGO	IL	60625	
1295	503 91 249	LENNON GLENN G	GENERAL DELIVERY		PEORIA	AZ	85345	
1296	503 93 405	LEON DUAN R	4810 W CHERYL DR		GLENDALE	AZ	85302	
1297	503 92 520	LEONARD JACK RICHARD	4536 W PARADISE DR		GLENDALE	AZ	85304	
1298	503 92 275	LEONARD KENNETH R	4042 W CORRINE DR		GLENDALE	AZ	85029	
1299	503 91 413	LEOPARDI CARMEN & MICHAEL ETAL	964 MAPLE CT		DEERFIELD	IL	60015	
1300	503 90 237	LESZYNSKI STANLEY W/MARIE LOIS TR	75 157TH AVE SE		BELLEVIEW	WA	98008	
1301	503 90 538	LETO LOUIE	7365 W BANIFF LN		PEORIA	AZ	85381	
1302	503 90 490	LEVY EVALINN	180 E PEARSON ST	, #6101	CHICAGO	IL	60611	
1303	503 92 565	LEWIS DAVID K & RUTH J	6010 SW GLENBROOK RD		BEAVERTON	OR	97007	
1304	503 90 714	LEWIS JAMES N TR	16535 E BERRY PL		AURORA	CO	80015	
1305	503 90 765	LEWIS KATHLEEN H	429 MALDEN		RICHARDSON	TX	75080	
1306	503 90 423	LEWIS MICHAEL JOE & DEBRA J	6319 W MARYLAND #6		GLENDALE	AZ	85301	
1307	503 94 459	LEYPOLDT WALDRON A & ANITA M	1522 MIRAMONT DR		FORT COLLINS	CO	80524	
1308	503 90 401	LIBBY THOMAS E & M MARGARET	4312 HALFE ST		ALEXANDRIA	VA	22309	
1309	503 90 946	LIBERATORE FRANK C JR & CAROLYN M	333 YALE AVE		MORTON	PA	19070	
1310	503 90 308	LIBERTY MILTON	37 KEEN-WIK RD		SELBYVILLE	DE	19975	
1311	503 90 309	LIBERTY MILTON	71 ROBERTS RD		ENGLEWOOD CLIFFS	NJ	07632	
1312	503 90 178	LIN JONG-HUEI & CHEN CHIUNG YING	7142 PELLET ST		DOWNEY	CA	90241	
1313	503 93 518	LIN PO CHIANG & KUANG SAN	550 RIFLE CAMP RD		WEST PATERSON	NJ	07424	
1314	503 93 610	LIN TSAO CHIA	3920 N 24TH AVE NO 116		PHOENIX	AZ	85015	
1315	504 02 001B	LINDSAY FAMILY REVOCABLE LIVING TRUST	3009 W KELTON LN		PHOENIX	AZ	85023	
1316	503 23 029	LINN DONALD F & LILLIAN M	STAR RT 715		MORRISTOWN	AZ	85342	
1317	503 91 433	LINTON BEVERLY J & MARIE CORRADO	37 BEACON DR		PORT WASHINGTON	NY	11050	
1318	503 90 584	LIPPARD WALTER K JR/HAZEL H TR	5430 CARLTON CT		SPEEDWAY	IN	46224	
1319	503 92 192	LIPPMAN DARRYL R & LYNN S	7235 OAK HILL DRIVE		SYLVANIA	OH	43560	
1320	503 92 102	LIRETTE DONALD E & MARGARET C	4820 STRATFORD DR		GREENDALE	WI	53129	
1321	503 92 626	LISAK FRANK C & KATHLEEN	5623 W BECK LN		GLENDALE	AZ	85306	
1322	503 93 361	LISTE PATRICK M/MARY ARLENE TR	2188 CRESTMONT DR		GIRARD	OH	44420	
1323	503 94 695	LITTLE WILLIAM D & MARIANNE L	BOX 2084		VALDEZ	AK	99686	
1324	503 93 454	LITTLEBURY GEORGE H & MARY L	14149 FOREST BEACH SHORES		NORTH PORT	MI	49670	
1325	503 92 148	LIVINGSTON LAURENCE W & DONALD C	2434 WYOMING		MISSOULA	MT	59801	
1326	506 63 001	LLOYD HAROLD R/ROSALIE ANN	P O BOX 216		MESA	AZ	81643	
1327	503 90 464	LO HAI-MEN/EUNICE TR	11217 HAWHILL END ST		POTOMAC	MD	20854	
1328	503 93 324	LOCATELLI BATTISTA/RIO	4041 AUDRIE ST		LAS VEGAS	NV	89109	9126
1329	503 25 006G	LOCKE L RUSSELL & SVEA C TR	P O BOX 2376		WICKENBURG	AZ	85358	
1330	503 91 454	LOCKHART WILLIAM C	584 PLACES ST		GRAND JUNCTION	CO	81504	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
1331	504 02 001E	LOFTHOUSE JOHN H/TIMOTHY/DIXIE/HARVEY DIANE S	10315 S SANTA FE LN		GOODYEAR	AZ	85338	
1332	503 94 718	LOFTHOUSE LARAY H/DOROTHY L TR	3043 E HARTFORD AVE		PHOENIX	AZ	85032	
1333	503 94 855	LOFTHOUSE LINDA J & LARAY H & DOROTHY L	3043 E HARTFORD AVE		PHOENIX	AZ	85032	
1334	503 93 344	LOGSDON JEFFREY B/AMY D	5205 W THUNDERBIRD	, #1101	GLENDALE	AZ	85307	
1335	503 94 323	LOIS G GILLESPIE TRUST	1680 SOUTH GARFIELD		DENVER	CO	80210	
1336	503 91 276	LOMAHAFTEWA CLIFFORD & MARY	3531 W QUAIL AVE		GLENDALE	AZ	85308	
1337	503 91 449	LOMBAER FRANCIS H SR & VIRGINIA A	148 EVERGREEN		FRANKFORT	IL	60423	
1338	503 90 962	LONDON JERRY D	1210 JACKSON		FRIONA	TX	79035	
1339	503 92 296	LONG ROBERT A/VICTORIA	348 SOUTH CURTIS		WILLCOX	AZ	85643	2711
1340	503 90 620	LONGHI ANTHONY & CHRISTINE M	25 ARROWHEAD DR		THORNTON	IL	60476	
1341	503 92 080	LONGO CARLO PIERO	423 S 348TH AVE		TONOPAH	AZ	85354	
1342	503 90 403	LOPEZ CLAUDIO	13309 SCOTTISH AUTUM LN		DARNESTOWN	MD	20878	
1343	503 91 380	LOPEZ JUAN F/RITA T	4003 W TONTO ST		PHOENIX	AZ	85009	
1344	503 93 101	LOPEZ LYDIA D/MANUEL A	9409 N 49TH AVE		GLENDALE	AZ	85302	
1345	503 92 889	LOPEZ RUDY R	PO BOX 14505		PHOENIX	AZ	85063	
1346	503 93 276	LOPEZ SALVADOR	404 W WHITTEN		CHANDLER	AZ	85224	
1347	503 92 919	LOREN D & M MAXINE CAMERON CO-TR	110 WILLIAMS PLACE		SEQUIM	WA	98382	
1348	503 91 005K	LORETTO INC	453 W 47TH ST		NEW YORK	NY	10036	
1349	503 91 234	LORIMOR WALTER/VIVIAN	13228 N 64TH DR		GLENDALE	AZ	85304	
1350	503 91 005J	LOSCALZO ROBERT C	9726 WHIRLAWAY ST		ALTA LOMA	CA	91737	
1351	503 94 830	LOUDON EDNA L	7710 JASON PL		ANCHORAGE	AK	99502	4468
1352	503 90 242	LOUGHRAN PATRICK M/DENIS M/THERESA/ETAL	28 WOODCLIFFE TER		BUFFALO	NY	14215	
1353	503 90 822	LOUTOS PETER A & JOAN L	7432 W CLARENCE AVE		CHICAGO	IL	60631	
1354	503 93 157	LOVELACE BERT & DOLLY ETAL	RT 6 BOX 134		FERGUS FALLS	MN	56537	
1355	503 90 650	LOVELACE BRYAN W JR & MARY FRANCES	670 WOODLAND DR		CRYSTAL LAKE	IL	60014	
1356	503 90 730	LOVING JOE S JR	21601 N 24TH AVE		PHOENIX	AZ	85027	
1357	503 93 135	LOWE ALETA B	696 COPANIO RIDGE RD		ROCKPORT	TX	78382	
1358	503 94 596	LOWELL MARIAN H	3468 CHISWICK CT APT 2D		SILVER SPRING	MD	20906	
1359	503 93 273	LOWELL VIRGIL T/MARY J	33055 W OCCUPADO DR		WICKENBURG	AZ	85390	
1360	503 92 085	LOYD FANNY	30940 W FOREST PLEASANT PL		WITTMANN	AZ	85361	
1361	503 90 312	LUCKEY JAMES LEE	29315 W WILCAT DR		WITTMAN	AZ	85361	
1362	503 90 563	LUKSO AUGUST I & MARION V/AUGUST J	22807 80TH AVE		FRANKFORT	IL	60423	
1363	503 92 418	LUNA ADOLFO/ORDAZ MARIA ISABEL	PO BOX 1792		EL MIRAGE	AZ	85335	
1364	503 94 578	LUTZ KATHARINA	4601 N 102ND AVE UNIT 1007		PHOENIX	AZ	85037	5203
1365	503 24 014A	LYKES DOROTHY R	5318 E ARCADIA LN		PHOENIX	AZ	85018	
1366	503 90 429	LYNCH ERICA	919 W MALIBU		TEMPE	AZ	85282	4777
1367	503 23 025	LYNG WILLIAM A/SUZANNE	P O BOX 1929		WICKENBURG	AZ	85358	1929
1368	503 94 529	LYNN IRA I/VERNA A	PO BOX 61		INTERVALE	NH	03845	
1369	503 94 617	MAASS KLAUS PETER & MARION	11 HENRY ST		WILLISTON PARK	NY	11596	
1370	503 94 680	MACCHIONE MICHAEL R & LORRAINE R	8523 N 16TH AVE		PHOENIX	AZ	85021	
1371	503 90 880	MACHEK DOROTHY A & GIERLOFF MARION J	5426 STORM RD		LUTZ	FL	33549	
1372	503 92 656	MACINNES JERRY ETAL	RT 1 BOX 229		CHASSELL	MI	49916	
1373	503 94 546	MACKENZIE NELSON J	2128 N 199TH AVE		BUCKEYE	AZ	85326	
1374	503 93 404	MACLACHLAN SANDRA C	1300 CEDAR HILLS BLVD		CEDAR PARK	TX	78613	
1375	503 94 321	MACLAREN KENNETH D/JOAN A TR	4807 MILLS DR		ANCHORAGE	AK	99508	
1376	503 91 384	MADRIGAL POLI	612 E DEE ST		AVONDALE	AZ	85323	
1377	503 93 555	MAGANA ANGELINA	834 E LAS PALMARITAR		PHOENIX	AZ	85020	
1378	503 94 712	MAGIERKA JAMES JOSEPH/JOYCE	33640 W CAREFREE HWY		WICKENBURG	AZ	85390	
1379	503 90 358	MAGNUSON STEVE/JUDITH	1410 RANGLINE RD		EAGLE RIVER	WI	54521	
1380	503 23 037	MAIB ELEANORE G TR	51025 N 295TH AVE		WICKENBURG	AZ	85390	
1381	503 91 281	MAKAR DOROTHY	5680 SHARON DR		YOUNGSTOWN	OH	44512	
1382	503 94 320	MALCHOW VIRGIL G & RUTH D	10200 W BLUE MOUND RD	, #905	WAUWATOSA	WI	53226	
1383	503 93 479	MALCOM WM J & JANET M	9542 IH-10 WEST		SAN ANTONIO	TX	78230	
1384	503 90 200	MANGRUM HAROLD/SUSAN	7516 W HIGHLAND		PHOENIX	AZ	85033	
1385	503 90 074	MANIAS KOSTANTINOS & THOMASINA	1143 E HATCHER RD		PHOENIX	AZ	85020	
1386	503 90 327	MANN RICHARD L & JOANNETTE G	219 N HAMILTON ST		GEORGETOWN	KY	40324	
1387	503 93 522	MANSEAU ROBERT L & JEANNE F	12296 BACARDI AVE		ROSEMOUNT	MN	55068	
1388	503 92 156	MARANTO FRANK & NATIVIDAD	1063 E ANGELENO AVE		BURBANK	CA	91501	
1389	503 24 009U	MARCELL ARTHUR L/FLORINE L TR	P O BOX 515		MORRISTOWN	AZ	85342	
1390	503 90 337	MARCHINO ELSIE M	204 E JOPPA RD		TOWSON	MD	21204	
1391	503 94 671	MARCUS MELVIN M	103 STRATFORD RD		BALTIMORE	MD	21218	
1392	503 91 461	MARES JOHN J & MARION L	3 S 452 GLEN DR		WARRENVILLE	IL	60555	
1393	503 92 204	MARIETTA CHAD W/LORI BETH	3987 HILLCREST		HIGHLAND	MI	48356	
1394	503 90 302	MARKOVIC ROBERT J	23 HILLCREST AVE		NAUGATUCK	CT	06770	
1395	503 92 368	MARQUEZ HORACIO ARTURO/OBDULIA D	1108 N 28TH AVE		PHOENIX	AZ	85009	
1396	503 93 461	MARRIDES DEMETRIOS/DAWN ETAL	1143 E HATCHER RD		PHOENIX	AZ	85020	
1397	503 92 121	MARSHALL RONALD A	3844 W GROVERS AVE		GLENDALE	AZ	85308	
1398	503 90 330	MARSHALL RONALD A/ALLAN F/MIRIAM N	3844 W GROVERS AVE		GLENDALE	AZ	85308	
1399	503 27 006D	MARSHALL WAYNE E SR/SHARON L	26869 NE 143RD PL		DUVALL	WA	98019	
1400	503 90 609	MARTIN ALFRED & DOROTHY MCKAY ETAL	1502 CHERRYCREST LN		DALLAS	TX	75228	
1401	503 93 175	MARTIN GARY K/CINDY	5034 W PHELPS RD		GLENDALE	AZ	85306	
1402	503 27 006H	MARTIN JAMES E/FRANCES A	6305 W STACK RD		COUER D ALENE	ID	83814	
1403	503 92 958	MARTIN JOHN R/ROBERT J	PO BOX 667		WITTMANN	AZ	85361	
1404	503 91 407	MARTIN MICHAEL P	30903 73RD AVE EAST		GRAHAM	WA	98338	
1405	503 92 135	MARTIN RICHARD B & ROBERTA B	RT 3 BOX 295A		WABASH	IN	46992	
1406	503 91 258	MARTIN TED & LORRAINE	2371 NORTHEAST 193RD STREET		NORTH MIAMI BEACH	FL	33162	
1407	503 92 630	MARTIN W STANTON/SANDRA LEE BUCKNER	PO BOX 3098		BOULDER	CO	80307	
1408	503 90 848	MARTINEZ GREGORIO L/ELIDA O	30139 W DOVE VALLEY RD	, #D-13	WITTMAN	AZ	85361	
1409	503 90 834	MARTINEZ ISRAEL/GLORIA G	30540 N PATTON RD		WHITMAN	AZ	85361	
1410	503 92 701	MARTINEZ JAMES	448 1/2 S WILTON PL		LOS ANGELES	CA	90020	4508
1411	503 91 385	MARTINEZ JESSE A	16001 FACTORY ST		SURPRISE	AZ	85374	
1412	503 91 286	MARTINEZ JESUS & LOUTERIA	16001 FACTORY ST		SURPRISE	AZ	85374	
1413	503 93 460	MARTINEZ MANUEL	30540 N PATTON RD		WITTMANN	AZ	85361	
1414	503 93 238	MARTINEZ MANUEL/MICHAEL R	16031 W JEFFERSON ST		GOODYEAR	AZ	85338	
1415	503 92 205	MARTINEZ PASCUAL S & DOLORES A	3123 S 70TH AVE		PHOENIX	AZ	85043	
1416	503 91 231	MARTINEZ RAFAEL G/GUADALUPE CHAVEZ	PO BOX 774		WITTMANN	AZ	85361	
1417	503 92 207	MARTINEZ ROBERT A	3036 S 70TH AVE		PHOENIX	AZ	85043	
1418	503 93 364	MARTINEZ WILLIAM V & MARILYN A	2310 PAULETTE DR		HAINES CITY	FL	33844	
1419	503 92 132	MARUNICH THOMAS J	614 SHELDON RD		PLYMOUTH	MI	48170	
1420	503 22 022K	MARX ALVIN /BETTY L TR/HEWITT B/ETAL	16931 US HWY 666 NORTH		CORTEZ	CO	81321	
1421	503 91 005G	MARY ANN KIEFFER	447 E 1ST ST		MESA	AZ	85203	
1422	503 90 819	MARY JEAN DAVIS	4895 S 1670 E		SALT LAKE CITY	UT	84117	
1423	503 90 829	MASLOWSKI RUTH/CUMMINGS FRANCES	20505 MARINE DR NW	, #41	STANWOOD	WA	98292	
1424	503 92 605	MATHERN ARTHUR G/DELORES R	16550 MULTIVIEW DR		PERRIS	CA	92570	
1425	503 92 936	MATHEWS DAVID H/BONNIE R TR	9634 W TONTO LANE		PEORIA	AZ	85382	

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1426	503 92 570	MATHEWS SANDRA LYNN	19847 N CAVE CREEK		PHOENIX	AZ	85024	
1427	503 92 559	MATHEWSON EDDIE ANN	6831 DARBY LN		SPRINGFIELD	VA	22150	
1428	503 91 240	MATHEWSON MARIE K	2302 W COUNTRY GABLES		PHOENIX	AZ	85023	
1429	503 92 155	MATT JOHN W/SOPHIE T	727 THACKER		DES PLAINES	IL	60016	
1430	503 23 012G	MATTA ANITA O	5538 W LIBBY ST		GLENDALE	AZ	85308	
1431	506 13 005	MATTOX JEFFREY R	PO BOX 21445		WICKENBURG	AZ	85358	
1432	503 92 850	MATUS JAN	2049 W BLOOMFIELD #6		PHOENIX	AZ	85029	
1433	503 90 716	MAXWELL JAMES A & MILDRED G	1020 LILLY RD		LAFAYETTE	IN	47905	
1434	504 02 001G	MAYFIELD GARY S & JOYCE A	49226 N 25TH AVE		PHOENIX	AZ	85027	
1435	503 93 388	MAYNARD E W/THELMA	152 LAKEVIEW DR		WESLACO	TX	78596	
1436	503 91 063	MAYNARD ELLIS W/THELMA	32614 W RESTIN RD		WICKENBURG	AZ	85390	
1437	503 93 442	MAYNARD W C/JEAN	15902 E 26TH ST		HARRISONVILLE	MO	64701	9112
1438	503 94 701	MAZZA JACK & CLARA F	904 N WEDGEWOOD DR		MESA	AZ	85203	
1439	503 92 234	MC GAFFICK GEORGE & LOIS	31 E LYNDALE BOX 164		HELENA	MT	59601	
1440	503 93 347	MCALISTER ROBERT L & LOIS E	231 ROSS ST		GARDEN CITY	MI	48135	
1441	503 91 361	MCALLISTER CHARLES R & ROBERT L	224 GREENE 772 RD		PARAGOULD	AR	72450	
1442	503 23 022	MCARDLE G DENNIS/CAROLYN S	6377 W HILL LANE		GLENDALE	AZ	85310	
1443	503 90 245	MCATEE GLENN P	818 RANDOLPH AVE		TOPEKA	KS	66606	
1444	503 92 618	MCATEE KEVIN J	1728 WILLIAMS AVE		SOUTH MILWAUKEE	WI	53172	
1445	506 37 003J	MCCANN ROBERT R/JANET I TR	PO BOX 608		MAYER	AZ	86333	
1446	503 91 311	MCCARTHY ROSEMARY T/WILLIAM H TR	12700 LAKE AVE #1801		LAKEWOOD	OH	44107	
1447	503 93 586	MCCORMACK THOMAS P	20 GILBERT ST		FRAMINGHAM	MA	01701	
1448	503 93 078	MCCOY MORRIS GLENN/EALANOR TR	7359 W VOGEL		PEORIA	AZ	85345	
1449	503 94 362	MCCRACKEN H JEAN/HEATHER J	852 S 4TH ST	, #13	COOS BAY	OR	97420	
1450	503 22 008D	MCCRACKEN HELEN T TR	10934 TOPAZ DR		SUN CITY	AZ	85351	
1451	503 90 341	MCCRACKEN JOHN O	305 W COLUMBIA ST		FALLS CHURCH	VA	22046	
1452	503 90 283	MCCRAVY MARY Y & ALLEN MARY W	2600 TURNER RD LOT #66		MARIETTA	GA	30064	
1453	503 92 652	MCCREARY JOSEPH T	RT 1 BOX 77		EASTON	KS	66020	
1454	503 92 401	MCDANIEL JOHNNY RAY	460 N MESA DR		MESA	AZ	85201	
1455	503 90 384	MCDAVID KEVIN GLEN	7029 W WIER AVE		PHOENIX	AZ	85043	
1456	503 94 053	MCDONALD WILSON C/MARY A	1322 W FRIER DR		PHOENIX	AZ	85021	
1457	503 91 429	MCDONOUGH ROBERT J/SARAH J	2350 WILLOW CIRCLE DR		GREENWOOD	IN	46143	
1458	503 92 174	MCELROY FREDDIE LEA	4521 N 49TH DR		PHOENIX	AZ	85031	
1459	503 90 443	MCGLYNN RITA N	23 DESMOND AVE		BRONXVILLE	NY	10708	
1460	503 91 320	MCGOWEN GEORGE	21735 FENKELL		DETROIT	MI	48223	1516
1461	503 90 495	MCGRATH DANIEL H JR & PAMELA	RT 1 BOX 32-11B		HUGHESVILLE	MD	20637	
1462	503 90 185	MCKENNA JAMES F & MARY J	1658 10TH AVE		BROOKLYN	NY	11215	6002
1463	503 92 389	MCKENZIE DONALD K & JEAN L	31 CORONATION CIR		DEDHAM	MA	02026	
1464	503 92 582	MCKINNEY HARRY JR TR	PO BOX 243		HEBER	AZ	85928	
1465	503 93 053	MCLAIN ANDREW LEVI	602 W HONONEGH DR UNIT 2		PHOENIX	AZ	85027	3772
1466	503 92 740	MCLAUCHLIN BERNARD R & ILEEN M	333 W LAKE HOWARD #202-D		WINTER HAVEN	FL	33880	
1467	503 91 077	MCLAUGHLIN CATHY	PO BOX 20952		WICKENBURG	AZ	85358	
1468	503 93 037	MCLEES BEVERLY H	3812 CHESAPEAKE AVE		HAMPTON	VA	23669	
1469	503 91 003M	MCLEOD CHARLES E/MARGARET	1618 - 40TH AVE		SEATTLE	WA	98122	
1470	503 91 376	MCMENEMY ROBERT W & LOIS E	17139 FALSWORTH		MT CLEMENS	MI	48043	
1471	503 22 020R	MCMILLEN BARRY S & TERESA G	1350 FAIRVIEW		COLTON	CA	92324	
1472	503 90 236	MCMULLEN RICHARD F	2405 DEL MAR DR		PLANO	TX	75075	
1473	503 90 235	MCMULLEN RICHARD F	14651 DALLAS PKWY STE 123		DALLAS	TX	75240	8885
1474	503 92 558	MCNAMARA CHARLES J JR & M JEANNE	640 SWAMP RD		FURLON	PA	18925	
1475	503 90 551	MCPHERSON REBECCA J	14501 HUNTINGFIELD DR		ORLANDO	FL	32824	
1476	503 92 301	MCROY THURMAN C & FERN J	PO BOX 781		WICKENBURG	AZ	85358	
1477	503 92 304	MCVEY RONALD D/PATRICIA M	7040 W OLIVE #101		PEORIA	AZ	85345	
1478	503 92 308	MCVEY RONALD E/PATRICIA M	35440 N 307TH AVE		WITTMAN	AZ	85361	
1479	503 93 459	MCVICKER EVERETT & MARY M	1786 NOVA LANE		POLAND	OH	44514	
1480	503 91 474	MECL WAYNE/LARRY/AUGUST & PETERSON S	6969 KNOLLWOOD DR		MOUNDSVIEW	MN	55112	
1481	503 92 960	MEDER ROBERT D TR	1267 HWY 1		FAIRFILED	IA	52556	
1482	503 92 098	MEDINA SEFERINO & RAFAELA	112 W ST CATHERINE AVE		PHOENIX	AZ	85041	
1483	503 94 686	MEEKS GALE C & ELIZABETH R	241 S COY RD		OREGON	OH	43616	
1484	503 93 521	MEHRING GEORGE K/ROSEANNE E	392 SMITHBRIDGE ROAD		CHADDS FORD	PA	19317	
1485	503 94 851	MEIGHAN HELEN W	3 A GARDENWAY		GREENBELT	MD	20770	
1486	503 90 883	MEINERS MARK R	PO BOX 301		EAGLE	WI	53119	
1487	503 92 316	MELENDEZ ARMANDO TERRAZAS M ALEJANDRO	3219 W PIMA ST		PHOENIX	AZ	85009	
1488	503 90 557	MELLON JOHN W III & CANDACE M	102 WHITFIELD RUN		PEACHTREE CITY	GA	30269	
1489	503 92 116	MENDE CAROL T & JOYCE MCLAUGHLIN ETAL	406 ELBERTA AVE		CASHMERE	WA	98815	
1490	503 91 094	MENDEZ FELICIANA	7825 W COLTER		GLENDALE	AZ	85303	
1491	503 92 344	MENDOLA FRANK A & JULIA	1822 E STELLA LN		PHOENIX	AZ	85016	
1492	503 92 111	MENDOLA JOHN M/ANDREA S	1452 S SHANNON		TUCSON	AZ	85713	
1493	503 22 020Y	MENDOZA JOHN A/GENEVA TR/WALWORTH GARY/CONNIE	1855 W WICKENBURG WAY		WICKENBURG	AZ	85390	
1494	503 92 747	MENDOZA MARY D & LILLIAN SPIER	121 W PALMDALE DR		TEMPE	AZ	85282	
1495	503 93 044	MERAZ JUAN	P O BOX 1017		EL MIRAGE	AZ	85335	
1496	503 90 746	MERCADO FIL/VIOLETA	3143 W ECHO LN		PHOENIX	AZ	85021	
1497	503 93 030	MERCADO MIGUEL L/FELIPA C	12508 COTTONWOOD		SURPRISE	AZ	85374	
1498	503 93 036	MERRILL RALPH E & GRACE E ETAL	6489 SPPOUL CT		SAN JOSE	CA	95120	
1499	503 90 073	MEYER CHARLES W & KAREN S	11355 112TH DR		YOUNGTOWN	AZ	85363	
1500	503 94 640	MEYER DORINDA A TR	5660 S 1425 E #3B		OGDEN	UT	84403	
1501	503 90 259	MEYER ELDO H/ERMA K	203 BASSWOOD COURT		BELLEVUE	NE	68005	
1502	503 94 348	MEYER RICHARD J JR & LINDA BRADSHAW	1115 PERSIMMON WAU		MERCED	CA	95340	9743
1503	503 90 238	MEYERS ROBERT R	P O BOX 1752		SURPRISE	AZ	85374	
1504	503 90 448	MICHAEL ZIEGLER TRUST	8530 BROOKHILL DR		COLORADO SPRINGS	CO	80920	
1505	503 92 447	MICHAELS LEILA	1203 E ROSE LN	, #8	PHOENIX	AZ	85014	
1506	503 92 662	MIGLIORE SANDRA	4119 MCKINLEY		WARREN	MI	48315	
1507	503 93 167	MIKE IDA BRAND	4618 PENN AVE NORTH		MINNEAPOLIS	MN	55412	
1508	503 93 049	MILESIS LEON & IREEN	4630 SW 30TH WAY		FT LAUDERDALE	FL	33312	5625
1509	503 91 003S	MILLER ADRIAN JOHN & ANTOINETTE	15150 E MUSTANG DR		FOUNTAIN HILLS	AZ	85268	
1510	506 57 003	MILLER B D D/DIVITO B/MCCLAMROCH J JR/D TR/ET	2725 E FLOWER		PHOENIX	AZ	85016	
1511	503 91 113	MILLER BRYAN A/BARBARA K	10001 W POTTER		PEORIA	AZ	85382	
1512	503 90 694	MILLER EDMUND/MARY A	5202 N 200TH AVE		LITCHFIELD PARK	AZ	85340	6100
1513	503 90 706	MILLER EDMUND/MARY A	12000 W NORTHERN AVE		PEORIAX	AZ	85345	
1514	503 93 434	MILLER EDMUND/MARY ANN	PO BOX 1672		SURPRISE	AZ	85374	
1515	503 92 714	MILLER EDMUND/MARY ANN TR	5048 N 61ST DR		GLENDALE	AZ	85301	
1516	503 90 547	MILLER EDMUND/MARY ANN TR	20107 W MEDLOCK DR		LITCHFIELD PARK	AZ	85340	
1517	503 94 829	MILLER HAROLD R/DIANA J	800 S SALIMAN RD NO 42		CARSON CITY	NV	89701	
1518	503 92 477	MILLER JANIES A & HELEN W	132 MAGNOLIA RD		STERLING PARK	VA	22170	
1519	503 91 194	MILLER MARY ANN TR	5202 N 200TH AVE		LITCHFIELD PARK	AZ	85340	
1520	503 91 010B	MILLER ROBERT C/JANICE L	8622 W DONALD DR		PEORIA	AZ	85382	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
1521	503 92 126	MILLER ROBERT W TR	425 VIA MEDIA		PALOS VERDES ESTA	CA	90274	
1522	503 92 688	MILLER TERRY/MOORE PANDORA	6223 WEST ORANGE DRIVE		GLENDALE	AZ	85301	
1523	503 92 723	MILLER WILLIAM A & VALERE A	LONGWOOD DOUBLE C RANCH		DEXTER	OR	97431	
1524	503 94 606	MILLER WILLIAM O/MARA V TR	9303 RIDGE BLVD		WAUWATOSA	WI	53226	
1525	503 94 590	MILLS EARL L/JOYCE I	1904 S MAPLE AVE		YUMA	AZ	85364	5715
1526	503 93 413	MILTON SARAH J	35614 N 323 AVE	, #A6	WITTMAN	AZ	85361	
1527	503 92 450	MINESINGER JOHN R & ELSIE B	7803 COLE AVE		TAKOMA PARK	MD	20012	
1528	503 90 772	MINGUS MOUNTAIN ESTATE RES CENTER INC	13250 N DEL WEBB BLVD STE B		SUN CITY	AZ	85351	
1529	503 92 249	MINOR EVELYN H	553 MUNSON CT		ANGLETON	TX	77515	
1530	503 92 406	MIRANDA AUGUSTINE E	2725 EAST BECK LANE		PHOENIX	AZ	85032	
1531	503 90 684	MISCH JOHN F & EILEEN M	650-49 S RANCHO SANTA FE		SAN MARCOS	CA	92069	
1532	503 93 068	MISH JOSEPH A /BRENDA D TR	3437 W DIANA AVE		PHOENIX	AZ	85051	
1533	503 92 619	MISKAR PETER G ETAL	25910 HILLSIDE AVE	, #6F	FLORAL PARK	NY	11004	1631
1534	503 93 089	MISKUS JANET J	1434 MAPLE AVE		LA GRANGE PARK	IL	60525	
1535	506 37 008D	MITCHELL FREDERICK BRUCE	4001 AV LA RESALANO NE		ALBUQUERQUE	NM	87110	
1536	503 90 227	MITROVICH LOU & MARIA	3145 N 28TH ST		PHOENIX	AZ	85016	
1537	503 90 718	MIXON WILLIAM L & GLADYS A	1524 MARKET ST		LINWOOD	PA	19061	
1538	503 90 026	MIZIOCH GREGORY J/REBECCA O TR	716 E ROSE GARDEN LANE		PHOENIX	AZ	85024	
1539	503 90 024	MIZIOCH PETER J	716 E ROSE GARDEN LN		PHOENIX	AZ	85024	
1540	503 91 125	MOE ARNOLD S & EVELYN G	1550 E RIVER RD	, #147	TUCSON	AZ	85718	
1541	503 90 226	MOLDUVAN WAYNE J & DOROTHY T	3114 NORRIS		HOUSTON	TX	77025	
1542	503 91 036	MOLINA ALBERT N	PO BOX 905		EL MIRAGE	AZ	85335	
1543	503 90 899	MOLINE JAMES H/KAREN E TR	10019 E DIAMOND DR		SUN LAKES	AZ	85248	
1544	503 90 613	MOLLENKOPF DALE L	1204 HAMPTON CT		BELLEVILLE	IL	62233	
1545	503 90 546	MOLTER ARTHUR EUGENE	PO BOX 65		CONGRESS	AZ	85332	
1546	503 92 133	MONDAY RETTA F	617 3RD AVE WEST	, #302	SEATTLE	WA	98119	
1547	503 92 423	MONTANA MEMORIES LLC	5740 OLD NACHES HWY		NACHES	WA	98937	
1548	503 92 938	MONTBRIAND LYLE J & ELIZABETH J	209 BUNNELL		ANCHORAGE	AK	99504	
1549	503 91 487	MONTHOFER INVESTMENTS LIMITED PARTNERSHIP	5119 N 19TH AVE STE B		PHOENIX	AZ	85015	3221
1550	503 91 009	MONTHOFER INVESTMENTS LIMITED PARTNERSHIP	6918 N HIGHLANDS DR		PARADISE VALLEY	AZ	85253	
1551	503 93 097	MONTOJO LUCILLE DERONG & PIERRE	2535 N 59TH ST		MILWAUKEE	WI	53210	
1552	503 93 410	MONTROY VERNON J & MARLIS A	911 138TH LN NE		HAM LAKE	MN	55304	6765
1553	503 25 006M	MOONE MICHAEL/BARBARA J/JANET L/MICHAEL	13810 W SANDRIDGE SR # 328		SUN CITY WEST	AZ	85375	
1554	503 92 172	MOORE BILLY L & MARY E	1622 DAHLIA STREET		AMARILLO	TX	79107	
1555	503 92 691	MOORE CHERYL A	PO BOX 291		MORRISTOWN	AZ	85342	
1556	503 91 010D	MOORE JUANITA CATHERINE/LAURANCE A SR	8442 W FOOTHILL DR		PEORIA	AZ	85345	
1557	503 93 334	MOORE MORRIS W & MARGARET B	4106 ARKANSAS DR		ANCHORAGE	AK	99517	
1558	503 92 689	MOORE RICHARD/DONNA	10100 N 89TH AVE	, #61	PEORIA	AZ	85345	
1559	503 92 271	MOORE ROBERT S & CHERYL A	P O BOX 23593		PHOENIX	AZ	85063	
1560	503 92 272	MOORE ROBERT S/CHERYL A	PO BOX 291		MORRISTOWN	AZ	85342	
1561	503 92 712	MORAND DAVID A	7201 N 26TH DR		PHOENIX	AZ	85021	
1562	503 91 033	MORENO BERNARDA G	6329 W COOLIDGE		PHOENIX	AZ	85033	
1563	503 93 506	MORGAN GEORGE H & RUTH I	1550 PRIMROSE		MERCED	CA	95340	
1564	503 90 342	MORGENSTERN WILLIAM A JR & ELLEN S	1287 APRICOT AVE		MARCO ISLAND	FL	33937	
1565	503 90 404	MORLEY WILLIAM C	2029 W KIMBERLY WAY		PHOENIX	AZ	85027	
1566	503 94 527	MORRIS ORA OLSON TR/JAMES CHARLES	1068 MCLAIN BLVD		LANCASTER	OH	43130	2071
1567	503 92 767	MORRISON ALAN J/DELORES A TR	P O BOX 2		LAKEVILLE	MN	55044	
1568	503 22 011B	MORRISTOWN WATER CO	PO BOX 156		MORRISTOWN	AZ	85342	
1569	503 90 583	MORROW RALPH F	475 S 1ST WEST		TOOELE	UT	84074	
1570	503 93 480	MORTENSON LOUIS D/MARCELENE M	ROUTE 2 BOX 64		NEW RICHLAND	MN	56072	
1571	503 90 783	MOSCA HENRY	101 MIDLAND AVE, # 2		MIDLAND PARK	NJ	07432	
1572	503 91 003R	MOSCA JOHN & MARLENE	202 FOREST GLEN AVENUE		FRANKLIN LAKES	NJ	07417	
1573	503 92 141	MOSCATELLI PASQUALE J/EDWARD J	24 N TERRACE AVE		MAPLE SHADE	NJ	08052	
1574	503 94 381	MOSELEY CURTIS F & MARGARET N	1899 SADDLEBACK BLVD		NORMAN	OK	73069	
1575	503 91 309	MOSER IVAN G & ARLEAN E	P O BOX #13		PARKERFORD	PA	19457	
1576	503 92 323	MOSS CLARENCE A & ANNA ETAL	1755 BROADACRE RD		CROWN POINT	IN	46307	
1577	503 90 420	MOWRER FLORENCE H	900 SANTA FE		KISSIMMEE	FL	32741	
1578	503 92 437	MUELLER ARTHUR R/JOYCE	W 5909 BRICK CHURCH RD		FONTANA	WI	53125	
1579	503 25 007B	MUELLER CHRISTOPHER JON ETAL	P O BOX 39		MORRISTOWN	AZ	85342	
1580	503 90 882	MUELLER PETER F/GERLINDE M TR	1920 VALLEY RANCH CIRCLE		PRESCOTT	AZ	86303	
1581	503 90 345	MULHERN ROBERT A/GERALDINE	29115 W MONTGOMERY RD		WITTMAN	AZ	85361	
1582	503 91 004D	MULLER REVOCABLE TR	10514 N OVERVIEW DR		SPOKANE	WA	99207	
1583	503 91 348	MULLINS CLARENCE RAY & BONITA RAE	PO BOX 395		SOUTH PORTSMOUTH	KY	41174	
1584	503 94 533	MULLIS JERRY R & LINDA B	2124 HAYES #C		ARLINGTON	TX	76011	
1585	503 92 751	MUMMER MICHAEL T/CARLA	PO BOX 457		HOAPA	NV	89025	
1586	503 93 372	MUNOZ ANESTHESIOLOGY LTD PROFIT SHARING PLA	35 W CONRAD DR		PHOENIX	AZ	85023	
1587	503 90 951	MUNOZ ENEDINO J/SYLVIA M	3138 N 49TH DR		PHOENIX	AZ	85031	
1588	503 23 030	MURRAY ANNE S C ETAL	6140 CALLE TUBERIA		SCOTTSDALE	AZ	85251	
1589	503 91 313	MURRAY EUGENE R & JANICE P	4806 N 72ND WAY		SCOTTSDALE	AZ	85251	
1590	503 90 781	MURRAY MARY K & ANN E KENNY & JEROME E	400 E RANDOLPH ST APT 2221		CHICAGO	IL	60601	
1591	503 93 052	MURRIHY JOHN J & NANCY M	7235 KIOWA LN		PALOS HEIGHTS	IL	60463	
1592	503 94 524	MURRY MERRITT L/MARY GRACE	14508 ST STEPHENS PL		MIDLOTHIAN	VA	23112	
1593	503 93 136	MUSSER CHRISTIAN ETAL	620 WASHINGTON DR		MICHIGAN CENTER	MI	49254	
1594	503 90 795	MYDOCK CHARLES MICHAEL SR/LOIS V J TR	10958 OAKMONT DR		SUN CITY	AZ	85351	
1595	503 93 358	MYERS ERNEST R & CAROLE E	5315 COLORADO AVE NW		WASHINGTON	DC	20011	
1596	506 37 003G	MYERS FOSTER D SR/RUTH MYERS CARUSO	PO BOX 7		MAYER	AZ	86333	
1597	503 93 103	MYERS MARION E	7704 IRONFORGE CT		DERMOOD	MD	20855	2257
1598	503 90 492	MYONG PHILIP H & SUSAN H	8103 RIDINGS CT		MC LEAN	VA	22102	
1599	503 93 441	MYS ENTERPRISES LTD PRTNRSP	6203 HOGAHN CIRCLE DR		PARADISE VALLEY	AZ	85253	
1600	503 24 010E	NABOZNY EDWARD/ROSE M	9869 NABOZNY DR		MILAN	MI	48160	
1601	503 94 332	NACEY EDWARD R & JEAN E TRS	10008 RAVENS WAY		RANCHO CORDOVA	CA	95670	
1602	503 90 545	NADER ALBERTA V	5535 N 62ND DR		GLENDALE	AZ	85301	
1603	503 92 732	NAFUS CHARLES F III	909 WILLOW ST		AUSTIN	TX	78702	
1604	503 91 298	NANCE CLARA M	541 E LEFFEL LN		SPRINGFEILD	OH	45505	
1605	503 94 541	NATIONAL CHARITABLE REAL ESTATE TRUST	4400 N SCOTTSDALE RDSTE 9		SCOTTSDALE	AZ	85251	3300
1606	503 24 016	NATURE CONSERVANCY	1510 E FT LOWELL		TUCSON	AZ	85719	
1607	503 90 606	NAUMANN INEZ L	5001 S 83RD ST		RALSTON	NE	68127	
1608	503 90 575	NAUMCHIK ROSEMARY	1098 BOULEVARD		NEW MILFORD	NJ	07646	
1609	503 92 202	NAVARRETE DUANA L	4211 W ROOSEVELT #125		PHOENIX	AZ	85009	
1610	503 92 159	NEAGOY GEORGE & ANGELA H	7106 ARRAN PL		BETHESDA	MD	20034	
1611	503 91 481	NEAL LUELLEN LEVI & TERRY N	215 E COLGATE DR		TEMPE	AZ	85283	
1612	503 93 115	NEEDLER DONALD C & HELEN M	RT 7 BOX 638		MEADVILLE	PA	16335	
1613	503 92 635	NEILL ARCHIE W JR & JUDITH E	11607 SUN VALLEY DR		SUN CITY	AZ	85351	
1614	503 22 022M	NEITZ BARRY L/JAN	42215 N 261ST AVE		MORRISTOWN	AZ	85342	
1615	503 90 731	NELLIS ALDEN G JR & MICKI STOUT	PO BOX 758		IREDELL	TX	76649	

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1616	503 91 237	NELSON CARL J & PHYLLIS E	2944 S 15TH PL		MILWAUKEE	WI	53215	
1617	503 94 605	NELSON CHRISTOPHER & DORIS J	4029 DAN RD		MEDINA	OH	44256	
1618	503 91 008A	NELSON DON	1708 W CAROL		PHOENIX	AZ	85021	
1619	503 91 264	NELSON EUGENE C/ROBERTA	2975 RIVER BIRCH DR #C		BROOKFIELD	WI	53045	
1620	503 91 010L	NELSON MONTE C/I SHIELA	4626 E MCKINLEY ST		PHOENIX	AZ	85008	
1621	503 91 406	NELSON RAY	819 S MAIN		PRINEVILLE	OR	97754	
1622	503 92 577	NELSON RAY ALLEN	RR5 BOX 220-65		MONOURSVILLE	PA	17754	
1623	503 91 295	NENNINGER EDGAR J & ELOISE M	9012 WINDOM AVE		ST LOUIS	MO	63114	
1624	503 93 471	NETHERY JOAN C	5022 FAIRLAWN RD		LYNHURST	OH	44124	
1625	503 92 654	NETZER WALLACE F & DOROTHY	114 E OAK ST		JUNEAU	WI	53039	
1626	503 92 305	NGUYEN HOA T/XUANLEIU	11020 N 45TH DR		GLENDALE	AZ	85304	
1627	503 25 002	NGW RANCH L C	695 W 1100 NORTH		NORTH SALT LAKE	UT	84054	
1628	503 90 372	NICHOLAS RAYMOND J & DIANA	27-33 IOWA AVE		PATERSON	NJ	07503	
1629	503 90 524	NICKAS ANDREW C & CATHERINE J	1 SQUAM LN		GLOUCESTER	MA	01930	
1630	503 92 225	NICKOLICH LANH THI	14020 N 35TH AVE		PHOENIX	AZ	85053	
1631	503 93 561	NIEDERBUEHL ERNST J	406 CHANNEL RUN		WASHINGTON	NC	27889	9252
1632	503 91 284	NIELSEN EWALD	29524 LOCHMOOR		FARMINGTON HILLS	MI	48018	
1633	503 90 422	NIENHAUS PARLAND G & GRENNETH N	844 W IVY AVE		SAINT PAUL	MN	55117	
1634	503 90 628	NISIVOCCIA CHARLES JR	118 COUNTRY LN		CLIFTON	NJ	07013	
1635	503 93 567	NOEL DONALD H& JANET J	2035 BOMBAY DRIVE		LAKE HAVASU CITY	AZ	86403	
1636	503 91 472	NOLL FRED C & LUCILLE E	301 E LAMIRADA DR		PHOENIX	AZ	85040	
1637	503 93 389	NOLTE PENELOPE S	731 N OLD ROBINSON RD		WACO	TX	76706	5222
1638	503 90 611	NORMAN RICHARD DALTON/LINDA G	2355 E ORANGEWOOD AVE		PHOENIX	AZ	85020	
1639	503 90 720	NORRIS MICHAEL A	205 GODDARD		WHITE SANDS MISSI	NM	88002	
1640	503 94 822	NORWEST BANK TEXAS TR/ETAL	PO BOX 913		BRYAN	TX	77805	
1641	503 90 857	NOSAL CHRISTOPHER J/LINDA	3973 BREAKWATER DR		LAKE HAVASU CITY	AZ	86406	
1642	503 93 403A	NOTO FRANK A & DOREEN M	15044 CHICAGO RD APT 1 NW		DOLTON	IL	60419	
1643	503 92 504	NOUSS DIANE	901 CODY CIRCLE		PAPILLION	NE	68046	
1644	503 93 395	NOWAK KENNETH E & JOAN M	1011 SCHANOCK DR		GREEN BAY	WI	54303	
1645	503 93 124	NOWELL MERNA	1501 W 11TH APT 4		ANCHORAGE	AK	99501	
1646	503 91 392	NUEVA VENTURA PARTNERSHIP	3200 N CENTRAL AVE STE 1100		PHOENIX	AZ	85012	1941
1647	503 92 624	OBRYAN DAVID L/SUE A	PO BOX 704		WICKENBURG	AZ	85358	
1648	503 92 397	OCHS PAUL T & YOLANDA L	BOX 20263		WICKENBURG	AZ	85358	
1649	503 94 583	ODEN MAX A/KATHY	P O BOX 268		AVONDALE	AZ	85323	
1650	503 91 469	ODONNELL JAMES P JR ETAL	311 PONCE DE LEON PL		DECATUR	GA	30030	
1651	503 92 759	ODONNELL MARY R	228 S STATE RD		UPPER DARBY	PA	19082	
1652	506 12 002	OHACO SHEEP CO	PO BOX 1194		BUCKEYE	AZ	85326	
1653	503 93 513	OLDS SALLY	21300 ARCHWOOD CIR	, #124	FARMINGTON HILLS	MI	48336	
1654	503 91 230	OLEKSYN STEFANIA TR	5178 RANDLETT DR		LA MESA	CA	91941	3916
1655	503 93 109	OLIJNYK CHRISTINE	22230 N 24TH AVE		PHOENIX	AZ	85027	
1656	503 94 514	OLLINGER RICHARD B	7904 E CAPARRAL # 211		SCOTTSDALE	AZ	85250	
1657	503 91 436	OLSEN RICHARD E/MARGUERITE E	3402 W MONTEBELLO		PHOENIX	AZ	85017	
1658	503 90 809	OLSON MALCOLM E & HENRIETTA	5531 NIEMEYER RD		ERIE	PA	16509	
1659	503 93 378	OLSON ROBERT R & PATRICIA B	2460 SMOLEN LANE		ELY	MN	55731	
1660	503 90 304	OLSON WILBERT R & ALETHIA E	5709 W RIDGE RD		ERIE	PA	16506	
1661	503 90 884	OMASTA JOHN L	931 RIDGE TRAIL		CAROL STREAM	IL	60188	
1662	503 23 008Q	OMOTH BRUCE C & PATRICIA MARIE	P O BOX 387		MORRISTOWN	AZ	85342	
1663	503 92 643	ONEAL RONALD E/WENZEL DONALD M	3015 N 43RD LN		PHOENIX	AZ	85031	
1664	503 90 402	ONEIL MICHAEL G & JANET A	34 SHADY VALLEY CT		CHESTERFIELD	MO	63017	
1665	503 94 109	ONSTINE DANIEL H/LOIS G	PO BOX 1688		WICKENBURG	AZ	85358	
1666	503 92 661	ONYSKIW STEFAN & EMILIA	25582 CUNNINGHAM		WARREN	MI	48091	
1667	503 92 950	OPDYKE FAMILY TRUST	3733 N RIVER CANYON RD		TUCSON	AZ	85715	
1668	503 92 702	OPEN DOOR FOUNDATION THE	4721 W PORT AU PRINCE		GLENDALE	AZ	85306	
1669	503 93 087	OPITZ RAYMOND C & SUZANNE M MICKSCHL	2030 S 22ND ST		LACROSSE	WI	54601	
1670	503 92 444	OPRISU EMIL A & RITA L	5727 HOLLISTER DR		SPEEDWAY	IN	46224	
1671	503 90 332	ORBAN MICHAEL & BARBARA	35 CHURCH LN		WAYNE	NJ	07470	
1672	503 92 530	ORCUTT STEVEN ALFRED & VICKIE RAE	17631 CHAMELEON ST NW		RAMSEY	MN	55303	
1673	503 90 343	ORI STEPHEN J	6047 W ACAPULCO		GLENDALE	AZ	85306	
1674	503 90 373	OROURKE JAMES	400 RAILROAD AVE		HACKENSACK	NJ	07601	
1675	503 90 065	ORR CLIFFORD E & JOYCE R	1010 N CHURCH ST		GIBSON CITY	IL	60936	
1676	503 93 488	ORR PETER WILLIAM TR	10111 W WILLFIELD DR		AUSTIN	TX	78753	
1677	503 93 509	ORTNER ALVIN L & MARION C	11405 KING RD		FRANKENMUTH	MI	48734	
1678	503 94 764	OSBORNE JAMES & PENNY	BOX 20755		WICKENBURG	AZ	85358	
1679	503 94 757	OSBORNE JAMES & PENNY	P O BOX 20755		WICKENBURG	AZ	85358	
1680	503 94 518	OSBORNE JOHNATHAN/MARJORIE	36610 N 355TH AVE		WICKENBURG	AZ	85390	
1681	503 90 029	OSGOOD WILLIAM C & GLADYS M	410 SOMERS RD		ELLINGTON	CT	06029	
1682	503 93 349	OTA LOUISE M	25412 HARDY PL		STEVENSON RANCH	CA	91381	
1683	503 92 678	OTIS BRUCE L/ANNE W	17139 CANDLEWOOD PKWY		EDEN PRAIRE	MN	55347	
1684	503 93 407	OTT CHESTER R & ELECTA J	6356 OBANNON DR		LAS VEGAS	NV	89146	
1685	503 92 544	OTTER BITE LLC	1850 N CENTRAL AVE STE 500		PHOENIX	AZ	85004	4565
1686	503 94 380	OWEN ROBERT W	4200 VIA ARBOLADA	, #115	LOS ANGELES	CA	90042	
1687	503 94 905	PACHECO ELADIO/MARIA	1439 N FRENCH ST		CASA GRANDE	AZ	85222	
1688	503 92 161	PADHAM EILEEN THOMASON	PO BOX 250		MORRISTOWN	AZ	85342	
1689	503 23 021	PADHAM THOMAS D/ EILEEN T	PO BOX 250		MORRISTOWN	AZ	85342	
1690	503 91 064	PANOS PETER A & BESSIE	3024 HAVEN WAY		BURBANK	CA	91504	
1691	503 91 418	PARASHIS ARIS & KATHY	MILL POND RD		PUTNAM VALLEY	NY	10579	
1692	503 91 419	PARASHIS DEMOS & STELLA	3341 E COCHISE DR		PHOENIX	AZ	85028	
1693	503 90 950	PARDI HANNIBAL A & VICTORIA M	137 ORLANDO ST		EDISON	NJ	08817	
1694	503 93 245	PARK LANE INVESTMENTS LLC	10966 ROUNDUP DR		DEWEY	AZ	86327	
1695	503 94 769	PARMLEY ROBERT H	PO BOX 444		WICKENBURG	AZ	85358	
1696	503 93 213	PARRETT CHAD E/MARTHA J	1010 W SEQUOI DR		PHOENIX	AZ	85027	
1697	503 90 519	PARRINGTON STEPHEN	192 19TH AVE		SAN FRANCISCO	CA	94121	
1698	503 90 520	PARRINGTON STEPHEN	2654 WEBSTER ST		SAN FRANCISCO	CA	94123	
1699	503 26 002H	PARRY TOMMY E/MILDRED J TR	PO BOX 304		MORRISTOWN	AZ	85342	
1700	503 94 324	PASSAMONTE SONJA J	4545 N 67TH AVE #1094		PHOENIX	AZ	85033	
1701	503 91 088	PASSE-SMITH JOHN T/MARY SUE	1650 NUTHATCH CIR		CONWAY	AR	72032	
1702	503 93 051	PATTEN LOREN R/DEBORAH LYNN	27028 N 205TH AVE		WITTMANN	AZ	85361	
1703	503 92 443	PATTERSON JOHN F & JEAN S	4305 ST PAUL ST		BALTIMORE	MD	21218	
1704	503 94 519	PATTERSON MARY ANN	4400 E OWENS SP 32		LAS VEGAS	NV	89110	
1705	503 90 944	PATTERSON THOMAS/MURIEL J CO-TR	7307 GALLOWAY AVE		INDIANAPOLIS	IN	46250	
1706	503 94 654	PATTON RICHARD N & ANGELA M	5325 W SAGUARO DR		GLENDALE	AZ	85304	
1707	503 93 022	PAUL B JONES REVOCABLE TR & ALEXIS TR	1841 CRESCENT DR		ANCHORAGE	AK	89508	
1708	503 92 768	PAULSEN LAURA L	866 SUMMIT AVE		SAINT PAUL	MN	55105	
1709	503 94 357	PAWL E JUNE	9850 LAS CASAS		FT MYERS	FL	33919	
1710	503 22 022J	PAYNE GLORIA J	42553 N 260TH AVE P O BOX 545		MORRISTOWN	AZ	85342	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
1711	503 93 048	PEARSON AUGUSTA M/VIOLET F MARTIN	PO BOX 485		WITTMANN	AZ	85361	
1712	503 92 552	PEARSON CARLIE T & MICKELENA H	3031 W MONTE VISTA (		PHOENIX	AZ	85009	
1713	503 91 379	PEARSON CHRIS E/TRUDY M	5000 W 16TH ST		PHOENIX	AZ	85040	
1714	503 90 930	PEARSON LAWRENCE A	2601 N KENTUCKY AVE		ROSWELL	NM	88201	
1715	503 91 451	PEARSON SHIRLEY P	6001 43RD AVE		HYATTSVILLE	MD	20781	
1716	503 92 218	PECINA SHAWN V/SHAWNA M/RUBY V	31140 W RADFORD		WITTMAN	AZ	85361	
1717	503 94 371	PEDEN MARTHA E	10012 KINROSS AVE		SILVER SPRING	MD	20901	
1718	503 92 902	PEDROSA MARIA T	5741 W PALM LN		PHOENIX	AZ	85035	
1719	503 92 750	PEELING HUGH J & MELBA D	BOX 5		CONCORDVILLE	PA	19331	
1720	503 91 272	PELKEY ARTHUR P & PATRICIA J	8406 BOUND BROOK LN		ALEXANDRIA	VA	22309	
1721	503 90 565	PELLAND DAVID R	28909 W DIXILETTA		WITTMAN	AZ	85361	
1722	503 90 060	PELLAND JASON/MILES LINDA R	28909 W DIXILETTA		WITTMANN	AZ	85361	
1723	503 91 269	PENA ENRIQUE	1010 E BROADWAY RD		PHOENIX	AZ	85040	
1724	503 94 780	PENDER BERTHA H & JERRY VIRGIL	2825 N 76TH AVE		ELMWOOD PARK	IL	60635	
1725	503 94 819	PENDERGAST KEVIN L/LEILA M	3116 N 83RD AVE		PHOENIX	AZ	85037	
1726	503 92 411	PENROSE ALFRED J & MARY E	3820 BROOKLAWN CIRCLE		SOUTH MILWAUKEE	WI	53172	
1727	503 92 417	PENSKI ELWIN C & ELIZABETH W	2515 JERUSALEM RD		JOPPA	MD	21085	
1728	503 93 256	PERALTA RITA M	3330N 47TH AVE		PHOENIX	AZ	85031	
1729	503 91 441	PERCIVAL DENNIS L & MICHELE R	5400 EMERSON AVE S		MINNEAPOLIS	MN	55419	
1730	503 94 581	PEREZ JOSE M & ESTELA	4448 S 3RD ST		PHOENIX	AZ	85040	
1731	503 90 863	PEREZ MOISES PEREZ/JUANA SANCHEZ	PO BOX 1832		EL MIRAGE	AZ	85335	
1732	503 93 384	PEREZ ROGELIO L/NORMA E	12505 W BUCKEYE RD		CASHION	AZ	85329	
1733	503 91 303	PEREZ SERGIO/CARMEN	PO BOX 284		EL MIRAGE	AZ	85335	
1734	503 93 138	PERKINS FLOYD P & JANET C	11816 STARVATION LK RD		MANCELONA	MI	49659	
1735	503 93 304	PERKINS KENNETH H & ROMA L	22389 W ROAD		WELLINGTON	OH	44090	
1736	503 93 381	PERPICH GREGORY C & SUSAN E	P O BOX 0849		TEHACHAPI	CA	93581	
1737	503 92 636	PERRY RODNEY J/ROSEMARY	16856 N PINE VALLEY DR		SUN CITY	AZ	85351	
1738	503 92 944	PERRYGO JAMES M	1112 SHAGO DR		FT WASHINGTON	MD	20744	
1739	503 91 305	PETCAVAGE THOMAS	185 FAIRLAWN		ELYRIA	OH	44035	
1740	503 92 554	PETERS AGNES MARY TR/CAROL ANN MULLER	2902 W PALMER DR		PAYSON	AZ	85541	
1741	503 91 479	PETERS ROGER B & JOYCE E	1406 12TH ST SW		AUSTIN	MN	55912	
1742	503 93 425	PETERSON JEAN K	2785 MALIBU WAY		EUGENE	OR	97405	
1743	503 90 360	PETERSON JEAN K/JOHN B	2785 MALIBU WAY		EUGENE	OR	97405	
1744	503 94 684	PETERSON KENNARD N & MARIE A	6536 FAIRWEATHER DR		ANCHORAGE	AK	99518	
1745	503 92 347	PETERSON ROBERT C & BEVERLY J	2814 SOUTH ST		LAFAYETTE	IN	47904	
1746	503 90 593	PETERSON THOMAS A	4034 E CROCUS DR		PHOENIX	AZ	85032	
1747	503 94 832	PETRIK EDWARD J & JANICE A	1442 MENDELSSOHN DR		WESTLAKE	OH	44125	
1748	503 92 729	PETROVICH ANTHONY W & CAROL A	16 HILLCREST RD		TENAFLY	NJ	07670	
1749	503 92 545	PETRUCZ GEORGE H	4816 W WINDROSE		GLENDALE	AZ	85304	
1750	503 90 615	PETTY LOWELL J & GLADYS Y	3033 68TH ST		LUBBOCK	TX	79413	
1751	503 94 458	PFEIFFER CLARA C	PO BOX 1131		WHEATON	IL	60189	
1752	503 24 002B	PHELPS LOUISE	3700 E STEWART SPACE 35		LAS VEGAS	NV	89110	
1753	503 24 002P	PHELPS VERN	3700 E STEWART SPACE 35		LAS VEGAS	NV	89110	
1754	503 93 433	PHILLIPS JAMES L & EVELYN I	23053 MICHIGAN AVE		MENDON	MI	49072	
1755	503 91 327	PHILLIPS PETER & AUGUSTA	27882 WAGNER		WARREN	MI	48093	
1756	503 92 124	PHILLIPS ROBERT J & DORIS G	4061 TWIN LAKES COURT		ROCHESTER	MI	48063	
1757	503 91 356	PIAZZA CATHERINE & D R PELLAND	28909 W DIXILETTA		WITTMANN	AZ	85361	
1758	503 90 392	PIAZZA CATHERINE & D R PELLAND & JR	28909 W DIXILETTA		WITTMANN	AZ	85363	
1759	503 90 387	PIAZZA CATHERINE A	28909 W DIXILETTA		WITTMANN	AZ	85361	
1760	503 92 726	PICKARD RAE MARIE	813 W HARRISON		CHANDLER	AZ	85224	
1761	503 93 216	PIERCE HAROLD C & VIRGINIA M	RT 1 POST BOX 1 62-F		BACKUS	MN	56435	
1762	503 94 702	PIERI STEVEN H/JOSETTE M	122 PARK AVE		FORT LUPTON	CO	80621	
1763	503 90 936	PIERSON CELIA B	262 E BROWN RD	, #203	MESA	AZ	85201	
1764	503 93 427	PIERSONS HAROLD A/LAULETTA MARK A/PIERSONS K	4625 E BEVERLY LN		PHOENIX	AZ	85032	
1765	503 90 419	PIETRUK ALEXANDER A & OLGA	6607 LONGMEADOW		LINCOLNWOOD	IL	60646	
1766	503 90 770	PIKE CAROLINE	PO BOX 457		WICKENBURG	AZ	85358	
1767	503 90 347	PINTO ALBERT M & MARGARET J	2285 OCEAN PARKWAY		BROOKLYN	NY	11223	
1768	503 24 009F	PIONEER CONCRETE OF ARIZONA INC	P.O. BOX 20370		MESA	AZ	85277	
1769	503 94 852	PIPERNI MARY T	9800 KISCONKO RD		FORT WASHINGTON	MD	20744	
1770	503 92 664	PISARSKI PAUL F/SETSUKO	4409 W FALLEN LEAF LN		GLENDALE	AZ	85310	5126
1771	503 23 033	PLAGENS FAMILY TRUST	44802 N SAGUARO BLOOSOM LN		MORRISTOWN	AZ	85342	
1772	503 90 555	PLANTAS SOPHIE ETAL	7612 BARNSBURY DR		WEST BLOOMFIELD	MI	48324	
1773	503 22 034	PLAZA ASSOC/PTAK ROLAND TR	9808 ROUGH CIRCLE		FOUNTAIN HILLS	AZ	85268	
1774	503 92 160	PLEDGER THOMAS EDWARD III	2945 SW 2ND AVE #105		DELRAY BEACH	FL	33445	
1775	503 92 599	POHL ALMA H	8530 N 22ND AVE	, #1001	PHOENIX	AZ	85021	
1776	503 92 312	POLLEI HAROLD O	6396 FONDULAC RD		OSHKOSH	WI	54901	
1777	503 94 760	POOLE BILLY MORRIS & KAREN ANN	PO BOX 21014		WICKENBURG	AZ	85358	
1778	503 90 824	PORRO ANTHONY R/NANCY TR	4546 E MICHIGAN AVE		PHOENIX	AZ	85032	
1779	503 93 516	PORTER DELORES A	301 N GERMAN		NEW ULM	MN	56073	
1780	503 91 483A	PORTER WILLIAM H III	P O BOX 385		MORRISTOWN	AZ	85342	
1781	503 90 078	POTASH IRVIN I & ROSALIE	1424 LEVICK ST		PHILADELPHIA	PA	19149	
1782	503 90 310	POTTER JAMES LL/MARSHA DEEANN	34139 W PAINT YOUR WAGON		WICKENBURG	AZ	85390	
1783	503 92 680	POTTER SCOTT A/LISA M	13 W PIUTE		PHOENIX	AZ	85027	
1784	503 92 407	POURCH HELENE J & STEPHEN H	2115 HILLDALE LN		GLENDALE HEIGHTS	IL	60139	
1785	503 90 890	POVSE LAWRENCE J & MARY E	3902 18TH ST N		TEXAS CITY	TX	77590	4004
1786	503 90 841	POWELL JOHNNIE L/ROSANNA ETAL	122 W ILLINI		PHOENIX	AZ	85041	
1787	503 90 424	POWELL SARAH L	5942 DONNELLY RD		TOLEDO	OH	43623	
1788	503 90 873	POWER BASHFORD S & DORIS E TR	415 VISTA WAY		CHULA VISTA	CA	91910	
1789	503 93 092	POWERS MAURICE & MARY H	3834 DAISY ST		EAST HELENA	MT	59635	3405
1790	503 92 036	PRESCOTT CENTER FOR ALTERNATIVE EDUCATION	P O BOX 20983		WICKENBURG	AZ	85358	
1791	503 92 538	PRESSEL ROBERT J & MARY LOU	1 PATRICK ST		TROTWOOD	OH	45426	
1792	503 23 005N	PRICE JAMES L & SHARON L TR	424 JOSEPH ST		PRESCOTT	AZ	86301	
1793	503 92 588	PRICE RICHARD E/ELISABETH TR	140 LESTER AVE		FINLEY	OH	45840	
1794	503 90 322	PRICE TAMARA J	4029 N 89TH LN		PHOENIX	AZ	85037	
1795	503 94 511	PRITCHARD DEBORAH J	405 BOREALIS LANE		EL PASO	TX	79912	
1796	503 91 291	PRITCHARD JEFF O	GENERAL DELIVERY PO BOX 8005-4		EGLIN AFB	FL	32542	
1797	506 38 003C	PROPERTY ADVENTURES LLC	10881 N SCOTTSDALE RD #200		SCOTTSDALE	AZ	85254	
1798	503 92 376	PROTSCH DIETER H B & CHRISTINE I	11102 MAPLEVILLE RD		HAGERSTOWN	MD	21742	
1799	503 92 551	PRUEITT NYLA I	1407 ELDER LN		DES MOINES	IA	50315	
1800	503 92 333	PRUENT GABRIEL F & GEORGETTA ETAL	3653 ERIE AVE		CINCINNATI	OH	45208	
1801	503 92 945	PTICEK JOHN J & ANTOINETTE L	5523 S NARRAGANSETT AVE		CHICAGO	IL	60638	
1802	503 27 002B	PULASKI BASIL THORPE & TAMMY	6111 W NANCY DR		GLENDALE	AZ	85306	
1803	503 27 002A	PULASKI CHRISTINA/B/T/WHITE E/A L/OWEN J A/W	3314 N 68TH ST NO 122 WEST		SCOTTSDALE	AZ	85251	
1804	503 90 187	PUMA NICHOLAS/LILLIAN	6349 E JOAN DE ARC		SCOTTSDALE	AZ	85254	
1805	503 90 156	PUMA NICHOLAS/LILLIAN D	6349 E JOAN DE ARC AVE		SCOTTSDALE	AZ	85254	

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1806	503 93 159	PURVIS SANDRA G	8564 HILO LN		COTTAGE GROVE	MN	55016	
1807	503 94 103	QUANDER MARION O	1519 T ST NW		WASHINGTON	DC	20009	
1808	503 91 335	QUELLETTE FRANCES JOYCE	10610 SAGEFOREST		HOUSTON	TX	77089	
1809	503 93 290	QUIGLEY JAMES J	PO BOX 20462		WICKENBURG	AZ	85358	5462
1810	503 90 251	QUINN MARIE M	130 GLEN AVE		GLEN ROCK	NJ	07452	
1811	503 92 223	QUINN ROBERT N & DOLORES KING	4308 RIDGLEA COUNTRY CLUB DR		FORT WORTH	TX	76126	
1812	503 92 752	RABINDRANATH BENHUR	11233 W MISSOURI AVE		YOUNGTOWN	AZ	85363	
1813	503 94 452	RACIOPPO DWIGHT D & SYLVIA M	7412 LARCHVIEW DRIVE		DALLAS	TX	75240	
1814	503 92 146	RADDATZ RUEDIGER & MARGA	415 SEE-GWUN		MOUNT PROSPECT	IL	60056	
1815	503 93 502	RADIL RAYMOND JOHN/MARY LYNN	PO BOX 20791		WICKENBURG	AZ	85358	
1816	503 94 149	RADOSKY MICHAEL S/ELEANOR	4419 N OPAL AVE		NORRIDGE	IL	60656	
1817	503 25 007C	RADWAY JOHN A JR/HELEN CLAIRE/CANNON JOE D TR	PO BOX 20699		WICKENBURG	AZ	85358	
1818	503 27 011	RAINSHOWER APIARIES INC	14832 N 72ND DR		PEORIA	AZ	85381	
1819	503 90 076	RALPH BORCHERT FAMILY EST TR	2334 MARRAL DR		BENTON HARBOR	MI	49022	
1820	503 90 469	RAMAGE DAVID A/WAAGE JOYCE R	P O BOX 499		WICKENBURG	AZ	85358	
1821	503 93 104	RAMEY JANICE R/GENE A	PO BOX 410		CONGRESS	AZ	85332	
1822	503 91 027	RAMIREZ ELISEO	5202 W OCOTILLO RD		GLENDALE	AZ	85301	
1823	503 91 091	RAMIREZ MARINA GONZALES	6336 W COOLIDGE ST		PHOENIX	AZ	85033	
1824	503 92 340	RAMIREZ RICARDO HERNANDEZ	6336 W COOLIDGE		PHOENIX	AZ	85033	
1825	503 93 021	RAMIREZ RICHARD A/BERTHA GONZALES	14002 N EL CRIO ST		EL MIRAGE	AZ	85335	
1826	503 93 171	RAMKEY LILA L	8678 SYLVIA DR		MENTOR	OH	44060	
1827	503 91 020	RAMOS JOSE B/AURELIA	6538 N 52ND DR		GLENDALE	AZ	85301	
1828	503 91 403	RAMOS MARCOS I/MARGARET C	8935 W PEORIA	, #29	PEORIA	AZ	85345	
1829	503 93 088	RAMSEY WILLIAM & MICHAEL WHITEHEAD	7006 E JENSEN #89		MESA	AZ	85207	
1830	503 92 653	RAMSTACK ANNA F TR	1420 S 168TH ST		NEW BERLIN	WI	53151	
1831	503 93 431	RANDALL GEORGE M & CHARLOTTE E	6000 S RIDGE RD		FORT WORTH	TX	76135	
1832	503 91 268	RANGEL ELVIRA C	822 E CAMPUS DR		TEMPE	AZ	85282	
1833	503 91 488	RATKOVICH PETER & JANICE	23165 S VOLBRECHT RD		CRETE	IL	60417	
1834	503 90 574	RATLIFF CHARLIE/NELLIE M	117 WEST ANDREW POTTER ST		TUCSON	AZ	85747	
1835	504 02 004D	RAWLS HENRY G & ROBERTA H	16936 E REDFIELD RD		GILBERT	AZ	85234	
1836	504 02 004F	RAWLS HILDA E	16936 E REDFIELD RD		GILBERT	AZ	85234	
1837	504 02 002C	RAWLS LAWRENCE C & GRAYCE M	1444 W GARDEN		MESA	AZ	85201	
1838	503 94 553	RAY PERRY F/CECILE TR	225 W 3600 NORTH		CEDAR CITY	UT	84720	
1839	503 26 002C	REA RUBEN/GINA L	PO BOX 832		WICKENBURG	AZ	85358	
1840	503 94 081	REBHOLZ HELEN Z & ROD C	2110 BUCKNELL TERRACE		SILVER SPRING	MD	20902	
1841	503 93 150	RECKER LEON C & TAISA	1803 BURNETT		AMES	IA	50010	
1842	503 92 952	RECKNOR OLIVER E & MARION D	00 I STREET #612 SOUTH BUILDING		ANCHORAGE	AK	99501	
1843	503 91 254	REDDECK CHARLES B	66-06 MARATHON PKWY		DOUGLASTON	NY	11362	
1844	503 93 133	REED QUINN J & PEGGY S	16537 MERCURY DRIVE		CLIMAX	MI	49034	
1845	503 92 094	REEDER MONICA J	933 A RANDOLPH ST N W		WASHINGTON	DC	20011	
1846	503 92 228	REEVES MYERL M & WILMA H	3212 S 42ND ST		OMAHA	NE	68105	
1847	503 94 709	REICHARD DORIS S & JAMES WILLIAM	15121 GLADE DR #1E		SILVER SPRINGS	MD	20906	
1848	503 91 329	REICHER ELIZABETH E	13510 WHITTER		STERLING HEIGHTS	MI	48312	
1849	503 90 802	REICHERT JOHN & KATHARINA	30615 W PEAKVIEW RD		WITTMANN	AZ	85361	
1850	503 90 800	REICHERT JOHN/KATHARINA	6465 N CALDWELL AVE		CHICAGO	IL	60640	
1851	503 90 801	REICHERT JOHN/KATHARINA	5507 W WILSHIRE DR		PHOENIX	AZ	85035	
1852	503 93 377	REILLY MICHAEL J/PAMELA K	11905 TIVOLI PARK ROW NO 1		SAN DIEGO	CA	92128	3857
1853	503 91 057	REIMER JOELEEN RAE	1525 E GABLE		MESA	AZ	85204	
1854	503 91 345	REINEMANN LEWIS R & PALMA J	1801 STANFORD AVE		DULUTH	MN	55811	
1855	503 92 329	REINHARDT ELISABETH J TR	1552 E KENWOOD		MESA	AZ	85203	
1856	503 93 380	REISMAN RICHARD LEON & HELEN NOBILE	6501 GROVELAND RD		PEPPERSVILLE	PA	18947	
1857	503 91 126	REITZ ANTHONY J & ANNE S	507 LONGWOOD DRIVE		CHICAGO HEIGHTS	IL	60411	
1858	503 91 012M	REMER DON L/MARY K	213 SWAAB BLVD		LAS VEGAS	NV	89115	
1859	503 90 225	REMINGTON CYNTHIA K	2534 E MARILYN RD		PHOENIX	AZ	85032	
1860	503 90 748	RENDON EDWARD	4830 W CHRISTINA CIR		GLENDALE	AZ	85308	
1861	503 93 558	RENFRO DEBBIE	33639 N 3339TH AVE		WICKENBURG	AZ	85023	
1862	503 94 516	RENN DAVID N	11416 W WINSLOW		TOLLESON	AZ	85353	
1863	503 90 956	RENNICK ROSE DISTRIBUTEE OF ESTATE	PO BOX 6086		SITKA	AK	99835	
1864	503 90 940	RESENDES GILBERT S/ELSA	P O BOX 1535		SURPRISE	AZ	85374	
1865	503 93 110	RESNICK FRANKLIN D TR	8235 SULLIVAN HILL RD		ATLANTA	GA	30350	
1866	503 22 030A	RETTY IMOGENE M TR	STAR RT BOX 279		MORRISTOWN	AZ	85342	
1867	503 92 621	REVAY HELEN A TR	7345 LIME LN		PARMA	OH	44129	6464
1868	503 91 397	REVOCABLE TRUST OF JAN HOTTINGA	6 LAKE SUMMIT DR		GREENVILLE	SC	29615	9200
1869	503 91 098	REYES BLAS	18806 N 54TH AVE		GLENDALE	AZ	85308	
1870	503 23 008Y	RICE WARREN A/SHARYN SUSAN BACOLA	PO BOX 237		MORRISTOWN	AZ	85342	
1871	503 26 002Y	RICE WARREN/SHARYN	42432 W HWY 60-89		MORRISTOWN	AZ	85342	
1872	503 90 329	RICHARDSON GORDON P & DORIS M	2635 MAPLE AVE		BROOKFIELD	IL	60513	
1873	503 91 347	RICHARDSON LEROY/TILLIE	182 TUNNELL HILL RD		ROGERSVILLE	TN	37857	
1874	503 94 538	RIDDIOUGH STUART M & JEAN O	P O BOX 497		CAVE CREEK	AZ	85331	
1875	503 92 474	RIDENOUR ERIC D	PO BOX 785		WITTMANN	AZ	85361	
1876	503 94 215	RIDINGS JOHN T/JOHNNIE G	PO BOX 611		MEEKER	CO	81641	
1877	504 02 002B	RIEFKOHL AUGUST L/JOANNE M	218 W WESTERN		AVONDALE	AZ	85030	
1878	503 93 032	RIEMERSMA MARY F	2171 GLEN IRIS DR		MILFORD	MI	48042	
1879	503 90 633	RIGHETTINI RENO F & ELIZABETH V	8459 HAZELTON		DEARBORN HEIGHTS	MI	48120	
1880	503 91 081	RIPPLE BERNARD C & MARTHA L	22 ROSEWOOD DR		COLLINSVILLE	IL	62234	
1881	503 92 120	RISHER MAUDE K	1324 WESTRIDGE RD		RICHMOND	VA	23229	
1882	503 91 195	RIVERA JAMES R	4351 ENSBROOK LN		DALE CITY	VA	22193	2652
1883	503 93 074	RIVERA JOSE I	20521 W CHEYENNE		BUCKEYE	AZ	85326	
1884	503 92 168	RIVERA LEONARD/NORMA RENEE/JUAN P/JUANITA G	7726 W OSBORN		PHOENIX	AZ	85033	
1885	503 92 928	RIZZOLO LEONARD V & NANCY	353 VILLANOVA CT		WENONAH	NJ	08090	
1886	503 93 549	ROBERSON JUDITH	1000 EVE ST		MENA	AR	71953	
1887	503 22 032D	ROBERTS DORIS M/STEPHEN E	BOX 1027		WICKENBURG	AZ	85358	
1888	503 90 959	ROBERTS RAYMOND L & MARY L	8971 E DE AVE		RICHLAND	MI	49083	
1889	503 92 610	ROBIN HOOD RANCH	32ROBIN HOOD RANCH		OAK BROOK	IL	60521	
1890	503 92 594	ROBINS TROY TR	PO BOX 271		OVERGAARD	AZ	85933	
1891	503 90 532	ROBINSON CYNTHIA PLOSS	277 BRATENAHL		CLEVELAND	OH	44108	
1892	503 92 623	ROBINSON EDGAR G & MARION L	53565 HUNTERS CROSSING DR		SHELBY TWP	MI	48315	2091
1893	503 90 246	ROBINSON HAROLD & BARBARA	4401 KENSINGTON PKWY		LAKE WORTH	FL	33467	
1894	503 92 622	ROBINSON NICKY R ETAL	54670 BLUE CLOUD		SHELBY TWP	MI	48315	
1895	503 93 043	ROBINSON SCOTT E/ELAYNE A	PO BOX 503		FINLAND	MN	55603	
1896	503 90 071	ROBINSON WALTER M & BETTY M	806 WILTSHIRE		SAN ANTONIO	TX	78209	
1897	503 23 003D	ROBINSON WILLIAM S & GLORIA F TR	968 TEAKWOOD RD		LOS ANGELES	CA	90049	
1898	503 92 641	ROBISCOE ROBERT	55253 N VULTURE MINE RD		WICKENBURG	AZ	85390	
1899	503 90 768	RODACK JOSEPH D & MARGUERITE	240 HUDSON ST		HACKENSACK	NJ	07601	
1900	503 94 658	RODDY JOHN W JR & MOREA	15142 ARLETT DR		VICTORVILLE	CA	92392	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
1901	503 92 924	RODGERS ALTON A & LAURA HOPE	HC 65 BOX 122P		EDNA	TX	77957	9752
1902	503 94 363	RODGERS V DARREL & HETTL I	P O BOX 1046		SITKA	AK	99835	
1903	503 93 147	RODRIGUEZ GABRIEL & YVONNE YANES	12610 COTTONWOOD		SURPRISE	AZ	85374	
1904	503 90 784	RODRIGUEZ ROBERTO & ROSA & AL SANDOVAL	P O BOX 1636		EL MIRAGE	AZ	85335	
1905	503 94 867	RODRIQUEZ DIMAS/DOLORES	8827 N 6TH ST		PHOENIX	AZ	85020	
1906	503 92 373	RODRIQUEZ PETE	3433 E CORTEZ ST		PHOENIX	AZ	85028	
1907	503 90 428	RODRIQUEZ ROMAN/ANITA	1332 N 41ST AVE		PHOENIX	AZ	85009	
1908	503 93 476	ROE CHARLES F & PRISCILLA A	RT 2 BOX 300B		RAVENDEN SPRINGS	AR	72460	
1909	503 22 020B	ROGEL ALEX V/MARGARET A	BOX 35		MORRISTOWN	AZ	85342	
1910	503 85 001A	ROGERS WALTER C/JULIA S	4823 E FLOWER		PHOENIX	AZ	85018	
1911	503 92 957	ROGGOW SHIRLEY J	1337 W 13TH AVE		ANCHORAGE	AK	99501	
1912	503 94 843	ROGGOW SHIRLEY J	1337 W 13TH AVE		ANCHORAGE	AK	99501	
1913	503 90 920	ROMAN EFRAIN	539 LA PASADA BLVD		GOODYEAR	AZ	85338	
1914	503 92 683	ROMARY ARLEN L & ELIZABETH A	RT 3 BOX 19-B ENOCH RD		LEONARDTOWN	MD	20650	
1915	503 93 467	ROMERO ROBERT L & MARIA E	11433 N 58TH DR		GLENDALE	AZ	85304	
1916	503 91 396	ROOT JAMES H/PATRICIA G	1947 E WHITTON		PHOENIX	AZ	85016	
1917	503 90 452	ROSAS AUSTREBERTO & CARMAN	BOX 166600 CAVE CREEK STAGE		PHOENIX	AZ	85020	
1918	504 01 005B	ROSEHAUGH PLC/PHOENIX PROPERTIES AND FINANCE	ONE ARIZONA CENTER		PHOENIX	AZ	85004	
1919	503 91 022	ROSS KATHLEENE A	11207 N 42ND DR		PHOENIX	AZ	85029	
1920	503 93 120	ROSS LORRAINE F TR	807 CERRO DE ORTEGA		RIO RANCHO	NM	87124	
1921	503 22 027B	ROSS SIDNEY J/PETE K	42515 N 261ST AVE		MORRISTOWN	AZ	85390	
1922	503 90 011B	ROSS STUART	211 E 70TH ST APT 23-B		NEW YORK CITY	NY	10021	
1923	503 90 441B	ROSS WALTER L &/OR BEVERLY	79 MAPLE ST		SOMERSWORTH	NH	03078	
1924	503 93 582	ROSSETON EDWARD E & MARY	20 NANCY DR		WESTWOOD	MA	02090	
1925	503 91 136	ROSSI SERGIO	3185 UNIVERSITY		HIGHLAND PARK	IL	60035	
1926	503 92 292	ROTH GREGORY K & CATHERINE JEAN	3821 N 33RD PL		PHOENIX	AZ	85018	
1927	503 93 122	ROTHERMICH HENRY J & LORETTA G	12 RIDGEMOOR		FENTON	MO	63026	
1928	503 94 651	ROTHWELL MICHAEL E	555 W WARNER RD	, #19	CHANDLER	AZ	85224	
1929	503 94 532	ROWLEY WILLIAM W JR/JANICE H	7104 MESA DR		AUSTIN	TX	78731	
1930	503 91 277	ROYBAL SUZANNE M	12721 W GREENWAY RD	, #180	EL MIRAGE	AZ	85335	
1931	503 90 221	RUBENACKER WALTER E & HELEN S	8 FAIRLAWN PKY		FAIRLAWN	NJ	07410	
1932	503 93 408	RUBERTO THOMAS & GINA	1378 ASHLEY LANE		ADDISON	IL	60101	5736
1933	503 92 431	RUBSCHLAGER PAUL A JR & JOAN S	6840 W HOWARD		NILES	IL	60648	
1934	503 94 550	RUIKKA MILTON W	10623 W MOHAWK LN		SUN CITY	AZ	85373	2323
1935	503 90 777	RUIZ ALBERTO & BERTHA	6227 W CAMBRIDGE		PHOENIX	AZ	85035	
1936	503 94 201	RUIZ JUAN A/ADELA	22205 N 88TH AVE		PEORIA	AZ	85382	
1937	503 90 947	RUIZ OLIVAS ABRAHAM I/FIGUEROA RUIZ IRAIS	6015 W MARYLAND		GLENDALE	AZ	85301	
1938	503 91 117	RUIZ RAMON E/CARMEN	2820 N 49TH AVE		PHOENIX	AZ	85035	
1939	503 24 001B	RUMSEY STEPHEN R	5145 WAVECREST WAY		OXNARD SHORES	CA	93035	
1940	503 94 426	RUPPERT BARBARA A/ROBERT J TR	9906 PRAIRIE HILLS CIR		SUN CITY	AZ	85351	
1941	503 90 062	RUSSELL BOB	PO BOX 637		WICKENBURG	AZ	85361	
1942	503 90 165	RUSSELL JAMES L/ROBIN	235 W MCLELLAN		MESA	AZ	85201	
1943	503 23 016	RUSSELL NORMAN/MARGARET TR	441 CHESTNUT HILL RD		FARMINGTON	NH	03835	
1944	503 90 390	RUSSO VICTOR & THERESA	2517 VOORHIES AVE		BROOKLYN	NY	11235	
1945	503 92 916	RUZGIS PETER C JR & PAULINE G	PO BOX 22		KLAWOCK	AK	99925	
1946	503 90 582	RYAN JOANN M	11042 N 28TH DR #233		PHOENIX	AZ	85029	4313
1947	503 92 197	RYAN MARGARET M & JAMES W	4075 W 51ST ST		EDINA	MN	55424	
1948	503 92 303	RYDER CAROLE L/GERALD H	19825 PONDEROSA CIRCLE		SUN CITY	AZ	85373	
1949	503 94 845	SABINE SARAH K TR	12726 MARBLE DR		SUN CITY WEST	AZ	85375	
1950	503 90 685	SACASH CHRISTOPHER W & VIRGINIA C	1221 WINDSOR RD		CARDIFF BY THE SE	CA	92007	
1951	503 92 241	SACHS JOHN H	1535 SE 12 CT		DEERFIELD BCH	FL	33441	
1952	503 94 614	SAENZ GILBERTO & ROSALBA	132006 DE LA VISTA		SAN ANTONIO	TX	78233	
1953	503 23 028	SAINT ANDREWS INDIAN MISSION	1049 E CARSON DR		TEMPE	AZ	85282	
1954	503 93 587	SAIZ GILBERT FRANK	5610 W HOLLY		PHOENIX	AZ	85035	
1955	503 90 558	SAKRYD FRANK & LILLIAN M	6040 LAFAYETTE RD		MEDINA	OH	44256	
1956	503 90 785	SALAZAR JOSE & EVA ETAL	P O BOX 1672		SURPRISE	AZ	85374	
1957	503 90 900	SALDADO JAIME/GINA	24647 N 181ST DR		WITTMAN	AZ	85361	
1958	503 90 932	SALDADO JAIME/GINA	24647 N 181ST DR		WITTMAN	AZ	85361	
1959	503 90 211	SALDANA ROSA	2021 N 48TH LANE		PHOENIX	AZ	85035	
1960	503 93 443	SALDANA ROSA M	3718 W RUTH		PHOENIX	AZ	85021	
1961	503 94 344	SALDANA TRINIDAD & MARGARITA	3718 W RUTH AVE		PHOENIX	AZ	85021	
1962	503 90 853	SALDANA TRINIDAD F/MARGARITA P	2021 N 48TH LN		PHOENIX	AZ	85035	
1963	503 22 021A	SALE PAUL L JR/LYNN A TR	1042 N BARKLEY		MESA	AZ	85203	
1964	503 94 061	SALGADO PORFIRIO G/DE BOLLAS MARIA JIMINEZ	34139 W PAINT YOUR WAGON		WICKENBURG	AZ	85390	
1965	503 90 019Q	SALMONS MARY R	3517 GLEN FLORA AVE		GURNEE	IL	60031	
1966	503 92 962	SAMANIEGO TERESA R	P O BOX 134		EL MIRAGE	AZ	85335	
1967	503 90 500	SAMUELS CLAUDE C & MAJORIE S	329 SEA GATE DR		PORTLAND	TX	78374	
1968	503 90 499	SAMUELS CLAUDE C & MARJORIE S	329 SEA GATE DR		PORTLAND	TX	78374	
1969	503 92 666	SANCHEZ ANASTASIO P & EMMA BOSSI	714 JACKSON-KELLER RD		SAN ANTONIO	TX	78216	
1970	503 92 099	SANCHEZ JOSE C/EVA A	149-A SAN DIEGO DR		COLUMBUS	OH	43213	
1971	503 92 728	SANDERS BOBBY J & LEQUITA HAMPTON	504 NELL ST		LONGVIEW	TX	75604	
1972	503 92 611	SANDERS MONTY LEE & SUSAN ANN EDWARDS	5238 S 13TH AVE		PHOENIX	AZ	85041	
1973	503 92 332	SANDOVAL CELSO G	PO BOX 124		AGUILA	AZ	85320	
1974	506 37 008C	SANKARY WANDA Y TR	4919 CRESITA DR		SAN DIEGO	CA	92115	
1975	503 92 655	SANOW DALE J & ANITA D	RR 4 BOX 256		ELGIN	IL	60120	
1976	503 92 820	SANSONE JOHN V & NICK LABRUZZO	1508 NE 49TH TERRACE		KANSAS CITY	MO	64118	
1977	503 92 433	SANTI BETTE L TR	213 SHERIDAN AVE		HIGHWOOD	IL	60040	
1978	503 94 603	SARTAIN JAMES P & BENNANEAL M	3841 W HARFORD AVE		GLENDALE	AZ	85308	
1979	503 94 602	SARTAIN REVOCABLE LIVING TRUST	3841 W HARFORD AVE		GLENDALE	AZ	85308	
1980	503 91 434	SASSO DONATO A/ADELINE M TR	5310 W QUAIL AVE		LAS VEGAS	NV	89118	
1981	503 90 282	SATTERWHITE WILMA & GREGORY ETAL	1467 EDISON		DETROIT	MI	48206	
1982	503 90 840	SATTLER FRANCIS A ETAL	1458 COUNTY HWY F		MINOCQUA	WI	54548	
1983	503 94 720	SAULSGIVER RICHARD P & BONITA C	# 1 FERNERY LANE		SAFETY HARBOR	FL	34695	
1984	503 93 484	SAUNDERS LYLE C & DRENA	2314 LAWNDALE DR		PLANO	TX	75023	
1985	503 92 364	SAWYER LAURENCE W & AUDREY S	12638 BRIAR PATCH		HOUSTON	TX	77077	
1986	503 91 480	SCHADEWALD BARBARA A TR	5643 W MONTE CRISTO		GLENDALE	AZ	85306	
1987	503 93 140	SCHAEFER ALVIN H/DORSIE R	728 A FLORIDA RD		DURANGO	CO	81301	
1988	503 92 361	SCHAENING GLENN E & EMMA R	7640 AUGUST		WESTLAND	MI	48185	
1989	503 91 350	SCHEER MARSHA G	RR 1 BOX 150		PARSHALL	ND	58770	
1990	503 23 010B	SCHELL NICHOLAS R/HELEN L TR	634 OAK GROVE DR		GLENDORA	CA	91741	
1991	503 91 402	SCHELL PAULINE B	PO BOX 476 LONGVIEW LANE		POCONO PINES	PA	18350	
1992	503 91 457	SCHENCK JOHN H	3647 ELDER OAK BLVD #4209		BOWIE	MD	20716	
1993	503 93 338	SCHESVOLD WALTER G & MILDRED M	6806 DUPONT AVE NO		BROOKLYN CENTER	MN	55430	
1994	503 92 648	SCHIMMELPFENNIG FRED & VERA	311 W NOTTINGHAM #238		SAN ANTONIO	TX	78209	1827
1995	503 22 021C	SCHIPPLICK FRANCIS E/JOAN M TR	10750 WAKEFIELD		WESTCHESTER	IL	60154	

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1996	503 94 449	SCHLER CATHLEEN N	16402 N 31ST ST	, #229	PHOENIX	AZ	85032	
1997	503 93 025	SCHLER DANIEL D	2548 N 54TH AVE		PHOENIX	AZ	85035	
1998	503 93 499	SCHLER JACOB E & ADA MAE	2548 N 54TH AVE		OMAHA	NE	68124	
1999	503 94 540	SCHLUTER CHARLES B & VIRGINIA E	187 ARLENE DR		WALNUT CREEK	CA	94595	
2000	503 90 807	SCHMUHL ROGER L/PATRICIA M	2914 FORRESTAL COURT		NEW PORT RICHEY	FL	34655	
2001	503 92 537	SCHNEIDER JESSIE M	9550 WESTMORELAND RD		PARMA	OH	44129	
2002	503 94 555	SCHNEIDER LOUIS G & PATRICIA A	BOX 2703		KODIAK	AK	99615	
2003	503 93 472	SCHNEIDER MARIAN B	1034 TOMASITA NE		ALBUQUERQUE	NM	87112	
2004	503 90 521	SCHNEIDER STEPHEN & DIANE F	11 LONGMEADOW DR		NEW YORK	NY	10956	
2005	503 92 629	SCHNETZER JOHN	HC01 BOX 279		CAVE CREEK	AZ	85331	
2006	503 91 005E	SCHOFFMAN CATHERINE A	5200 DANENS DR		EDINA	MN	55439	
2007	503 90 561	SCHONAUER RUSSELL A/JONIS L	2059 FLAMINGO DR		COSTA MESA	CA	92626	
2008	503 22 028	SCHOOL DIST 75	P O BOX 98		MORRISTOWN	AZ	85342	
2009	503 90 216	SCHOTT JUDITH E	1708 GREENBRIAR CT		WEST BEND	WI	53095	
2010	503 90 075	SCHRECK JOHN W & ANTOINETTE J	410 EMMET		FERGUSON	MO	63135	
2011	503 94 613	SCHROEDER CHERI A	PO BOX 21393		WICKENBURG	AZ	85358	
2012	503 91 274	SCHUE ANNE	7314 N 46TH CIRCLE		GLENDALE	AZ	85301	
2013	503 92 743	SCHUENEMANN DARYL S	RT 5 BOX 107 SHAPIRO LANE		COLUMBIA	TN	38401	
2014	503 92 672	SCHUMACHER JAMES O & ANNE	5248 LEVELSIDE AV		LAKEWOOD	CA	90712	
2015	503 90 377	SCHUSTER ERNST D & ANTONINA M	48 PARKVIEW DR		HILLSDALE	NJ	07642	
2016	503 90 535	SCHUTTE WILLIAM M & BETTY L	14426 W MORNING STAR TRAIL		SURPRISE	AZ	85374	
2017	503 93 173	SCHUTZER VIRGINIA I	510 S PENNSYLVANIA		FREMONT	OH	43420	
2018	503 91 325	SCHWARZ GERHARD J & MARIA K	3328 W WARNER AVE		CHICAGO	IL	60618	
2019	503 93 070	SCOLLARD JAMES J	859 MAIN ST APT 1L		HOLYOKE	MA	01040	
2020	503 92 480	SCOTT DONALD J	2500 MYRTLE AVE		KANSAS CITY	MO	64127	
2021	503 94 619	SCOTT GERALDINE F & JANE L WARD	3447 RUSHLAND AVE		TOLEDO	OH	43606	
2022	503 23 032	SCOTT HARRY R/MAXINE M	1647 E IVY GLEN		MESA	AZ	85203	
2023	503 92 265	SCOTT SANDEE/DOUG	18042 BRYANS CROSING AVE		BATON ROUGE	LA	70817	7457
2024	503 91 387	SEAMAN BETTY L/KIRK	4126 W SIESTA LANE		GLENDALE	AZ	85308	
2025	503 91 010H	SEAMAN RICK/CISLAGHI BILLIE R TR	195 E YVON DR		TUCSON	AZ	85704	
2026	503 92 428	SEDGWICK ESTATES INC	6432 W FREMONT DR		LITTLETON	CO	80123	
2027	503 92 300	SEEVERS HELEN M	PO BOX 1680		WICHITA FALLS	TX	76307	
2028	503 92 615	SEIBERT ALVIN W/RESSA Y TR	801 VILLA VERDE		RIO RANCHO	NM	87124	
2029	503 93 366	SEIDEL RICHARD L & PATSY R	3003 RIDGEVALE RD		WILMINGTON	DE	19808	
2030	503 93 024	SEITZ JACK E & JOAN C	STAR RTE BOX 536P		BUNNELL	FL	32110	
2031	503 91 261	SEMPER-FI PRINTING CO INC	67 ROYAL AVE		HAWTHORNE	NJ	07506	1916
2032	503 90 320	SENICEROS MANUEL D/GERTRUDE A	3524 W VERNON		PHOENIX	AZ	85009	
2033	503 94 584	SEPICH JAMES STEPHAN	6740 N 14TH ST		PHOENIX	AZ	85014	
2034	503 90 874	SERRANO JOSE L/JULIA S	42811 NW GRAND AVE		MORRIS TOWN	AZ	85342	
2035	503 92 770	SERTICH ANN C ETAL	14504 MARQUETTE AVE		BURNHAM	IL	60633	
2036	503 90 334	SESSA JOHN VINCENT	1117 CREEKFORD DR		FT LAUDERDALE	FL	33326	
2037	503 90 627	SETO HARRY C & SHIRLEY Y C	12 SADDLE LANE		CHERRY HILL	NJ	08002	
2038	503 90 229	SETTE A J JR ETAL	5054 N OCTAVIA		HARWOOD HEIGHTS	IL	60656	
2039	503 23 001	SETTLEINN WICKENBURG L L C	5202 E PARADISE		SCOTTSDALE	AZ	85254	
2040	503 93 498	SEVERN DAN W & ANN M	2049 HOMESTEAD RD		LAKESIDE	AZ	85929	
2041	503 92 086	SEVERNS KENNETH L/BEATRICE E	2313 W MONROE		PHOENIX	AZ	85004	
2042	503 94 204	SEWELL DONALD J & ANN S	7212 ARROWOOD RD		BETHESDA	MD	20817	
2043	503 92 436	SEXTON JAMES/JOHN H	11270 KILLIN RD		HOWELL	MI	48843	
2044	503 90 011C	SFOUGGATAKIS NICHOLAS	1600 GULF BLVD #813		CLEARWATER	FL	33767	
2045	503 90 306	SHAFER EDWIN H & MARTHA	7612 STANFORD AVE		UNIVERSITY CITY	MO	63130	
2046	503 92 737	SHAH SHIRISH K	5605 PURLINGTON WAY		BALTIMORE	MD	21212	
2047	503 92 276	SHAHEEN FRED N JR & THELMA JEAN	1329 E MONTEROSA		PHOENIX	AZ	85014	
2048	503 90 830	SHANNON RAY/PENNY	2727 E BEVERLY LANE		PHOENIX	AZ	85032	
2049	503 94 657	SHARKEY LOIS S	4614 E CLINTON		PHOENIX	AZ	85028	
2050	503 90 682	SHARP JOHN H & MURIEL C	1428 ARGYLE RD		LA SALLE	IL	61301	
2051	503 92 644	SHARP LOUISE T	12715 W BEECHWOOD DR		SUN CITY WEST	AZ	85375	
2052	503 92 309	SHATTUCK REX E& ELEANOR A	PO BOX 974		GRAYLING	MI	49738	
2053	503 90 792	SHAW GLENN L SR /ETAL	4595 RESERVOIR RD		FALLON	NV	89406	
2054	503 24 009J	SHAW JOSEPH B/JOYCE I	PO BOX 20249		WICKENBURG	AZ	85358	
2055	503 92 209	SHAW SAMUEL R & JOYCE P	512 SPALDING CT		MERCED	CA	95348	
2056	503 90 020	SHEPHERD JOSEPH H	59 CAROLINA SHORES PKWY		CALABASH	NC	28467	
2057	503 91 112	SHEPPARD CHARLES R & SANDRA J	1210 S 64TH ST		WEST ALLIS	WI	53214	
2058	503 23 035	SHIFFER COOVER & MARY CATHERINE	P O BOX 570		MORRISTOWN	AZ	85342	
2059	503 91 270	SHILLITA WILLIAM D	2230 WHISPERING WOODS		BELLEVILLE	IL	62223	
2060	503 92 362	SHIPLEY DAVID E & GLORIA J ETAL	5843 DARBWOOD LN		WEST BLOOMFIELD	MI	48033	
2061	503 92 248	SHOOK JOE & EDITH	3413 E KERRY LN		PHOENIX	AZ	85024	
2062	503 92 787	SHOOK REBECCA LYNNE	23428 100TH AVE SE # D-103		KENT	WA	98031	
2063	503 93 570	SHUGG ALICE M	18627 N 13TH AVE		PHOENIX	AZ	85027	
2064	503 91 398	SHUMWAY DONALD F	7006 S 19TH AVE		PHOENIX	AZ	85041	
2065	503 93 540	SIDDOWAY WALTER E & KAREN L	11195 W HUNT AVE		NAMPA	ID	83651	8037
2066	503 90 654	SIDEN KAY R	1003 CRYSTAL DR		LOVES PARK	IL	61115	
2067	503 90 316	SIE EDO A & AZUCENA M	1020 W LAWRENCE #1401		CHICAGO	IL	60640	
2068	503 92 419	SIEBEL RONALD E & MARTHA K	248 HICKORY LANE		BARRINGTON	IL	60010	1658
2069	503 92 426	SIEBEL WILLIAM R	4055 W PETERSON AVE		CHICAGO	IL	60646	
2070	503 92 408	SIEPIERSKI FRANK & ELEANOR	8856 FENTON		REDFORD	MI	48139	
2071	503 90 501	SIERACKI GEORGE J & ELEANOR M	4021 WESLEY TERRACE		SCHILLER PARK	IL	60176	
2072	503 94 593	SIERRA PEDRO CARMEN	10227 N 16TH DR		PHOENIX	AZ	85021	
2073	503 94 530	SIERRA PEDRO/CARMEN/PATRICIA	10227 N 16TH DR		PHOENIX	AZ	85021	
2074	503 94 848	SIEVERS GUENTER & JUTTA	3845 N ASHLAND # 3B		CHICAGO	IL	60613	
2075	503 91 246	SIGUENZA MANUEL/RHINA	1130 E VAN BUREN		PHOENIX	AZ	85006	
2076	503 92 603	SIKORA CARRIE F	304 S ROCKFORD DR		TEMPE	AZ	85281	
2077	503 25 001B	SILBERBERG STEVEN E/PIETRE PENELOPE J	BOX 129		MORRISTOWN	AZ	85342	
2078	503 92 515	SILVESAN THERESA A/WHITE CURTIS J	1113 REECE DR		BIGS	MT	59105	
2079	503 94 818	SIMCIK VICTOR F JR & BARBARA J	3546 BLUEBONNET DR		CORPUS CHRISTI	TX	78408	
2080	503 94 707	SIMMONS JOHN WESLEY	320 JEFFERSON ST		GRIFFIN	GA	30223	
2081	503 94 688	SIMONI FRED L & MICHELINE	764 MELWOOD NE		WARREN	OH	44483	
2082	503 91 052	SIMPSON AMY L	4344 NEW RIVER RD		PHOENIX	AZ	85027	
2083	503 94 526	SIMPSON ARCHIE D & HELEN M	4303 ADRIENNE DR		ALEXANDRIA	VA	22309	
2084	503 94 724	SINGH BIKHRAM & BIBI B	933 E MARCO POLO RD		PHOENIX	AZ	85024	
2085	503 93 154	SINGH RANDHIR/GURDEEP K	5552 W PARKVIEW LN		GLENDALE	AZ	85310	
2086	503 93 457	SINKOVICH WILLIAM L & RUTH M	401 CAMBRIDGE AVE		BELEN	NM	87002	
2087	503 94 615	SIPRAK NIKOLA/ERIKA/BADE GERTRAUD/NEUMANN H/E	7697 AMBER LN		BRECKSVILLE	OH	44141	
2088	503 90 693	SISCO GERALD F/MARILYNN A TR	324 S MORAIN		KENNEWICK	WA	99336	
2089	503 92 306	SISTERMAN THOMAS J/TUDINE M	6305 COLONY WAY	, D2104#2B	EDINA	MN	55435	
2090	503 27 005A	SKAGGS MICHAEL R & MARY E	16039 W PLANADA LN		SUN CITY	AZ	85373	

Flood Control District of Maricopa County
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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
2091	503 27 005B	SKAGGS MICHAEL R/MARY E	PO BOX 486		MORRISTOWN	AZ	85342	
2092	503 90 539	SKINNER RAY JR & PATRICIA F	2 COVENTRY LANE		ATHENS	OH	45701	
2093	503 92 438	SLATER ARDATH V	2428 5TH ST		MONROE	WI	53566	
2094	503 93 077	SLOBODNIK THOMAS R	4404 FRIZELL AVE		SACRAMENTO	CA	95842	
2095	503 94 634	SLYZUK PETER	2164 N MAPLEWOOD AVE		CHICAGO	IL	60647	
2096	503 90 934	SMERZ EDWARD W	34 W MONROE ST		VILLA PARK	IL	60181	
2097	503 90 603	SMETANA RICHARD J & JOYCE A	219 W WESTCOTT DR		PHOENIX	AZ	85027	4922
2098	503 90 288	SMITH ALFORD RAY	244 W OSBORN RD		PHOENIX	AZ	85013	
2099	503 91 408	SMITH ALFORD RAY	30439 W DIXILETA		WITTMANN	AZ	85361	
2100	503 90 305	SMITH ALTHEA & PHYLLIS S SAGINAK	2885 PAINTER DR		NEW CASTLE	PA	16105	
2101	503 94 742	SMITH ANNE MARIE & DAVID BARRY	P O BOX 2089J		WICKENBURG	AZ	85358	
2102	503 90 735	SMITH CHARLES E	7826 WISHING WELL RD		LAS VEGAS	NV	89123	
2103	503 94 587A	SMITH CHARLES W & WILMA D	34515 VILLA CASSANDRA WAY		WICKENBURG	AZ	85390	
2104	503 94 743	SMITH DAVID BARRY & ANNE MARIE	P O BOX 20893		WICKENBURG	AZ	85358	
2105	503 91 365	SMITH DENNIS R & CAROLE L	784 KENWOOD LANE		ST PAUL	MN	55117	
2106	503 94 465	SMITH EUGENE TR	3339 W NORTHVIEW AVE		PHOENIX	AZ	85051	7446
2107	503 92 284	SMITH HAROLD B	7007 W VIRGINIA		PHOENIX	AZ	85035	
2108	503 92 404	SMITH JAMES W & WILODENE L	8306 SOUTHSTREAM RUN		SPRINGFIELD	VA	22153	2200
2109	503 91 456	SMITH JEFFERY M/FRAZE MISTY N	5956 W OSBORN RD		PHOENIX	AZ	85033	
2110	503 22 030B	SMITH JOHN D & JUDI A	42002 N GRAND AVE		MORRISTOWN	AZ	85342	
2111	503 90 626	SMITH LAWRENCE N/MARY D	819 W CRESTFIELD DR		DUARTE	CA	91010	1229
2112	503 94 766	SMITH LISA GAYE	7010 W BERKLEY		PHOENIX	AZ	85345	
2113	503 92 649	SMITH LONNIE E & KAREN M	7722 W PASADENA AVE		GLENDALE	AZ	85303	
2114	503 90 331	SMITH LUCILLE B & WAYNE L	8333 SEMINOLE BLVD #535		SEMINOLE	FL	34642	
2115	503 90 019R	SMITH ROBERT A/PATRICIA A	PO BOX 20811		WICKENBURG	AZ	85358	
2116	503 94 841	SMITH ROBERT K & JOYCE A	5305 RR 374		LYON MOUNTAIN	NY	12952	
2117	503 94 100	SMITH ROGER & JULIE	PO BOX 21094		WICKENBURG	AZ	85358	
2118	503 92 569	SMITH THERON A & LORRAINE	6311 W VERMONT AVE		GLENDALE	AZ	85301	
2119	503 90 234	SMITH WALTER	12616 S.W.66TH ST		OCALA	FL	34481	6310
2120	503 91 486A	SMITH WILLIAM B	915 E RENEE DR		PHOENIX	AZ	85024	
2121	503 90 820	SMITH WILLIE D & GERTTE H	12036 S JUSTINE		CHICAGO	IL	60643	
2122	503 94 112	SMITHTHERON A & LORRAINE	6311 W VERMONT AVE		GLENDALE	AZ	85301	
2123	503 92 535	SNAVELY GORDON E & ROSEMARY C & GORDON	9341 LOIS DR		CRESCENT BEACH	MI	48755	
2124	503 92 247	SNEED RUTH L & DANNY RAY	6626 S 16TH ST		PHOENIX	AZ	85040	
2125	503 91 297	SNIDER ALMON D & JUDITH K	75 JACKSON ST		FREEHOLD	NJ	07728	
2126	503 90 094	SNODGRASS LEO V & DEBORAH ANN	P O BOX 398		WITTMANN	AZ	85361	
2127	503 92 673	SNOW CLARENCE H JR & SIDNEY J	18531 9TH AVE WEST		LYNNWOOD	WA	98037	
2128	503 92 297	SNYDER DALE R & DORISLEE C	8340 OLD DOMINION DRIVE		MCCLEAN	VA	22102	
2129	503 94 758	SNYDER DONALD L & CAROL M	5832 HARBROOK SW		NAVARRE	OH	44662	
2130	503 25 001C	SNYDER GILL F TR	PO BOX 280		MORRISTOWN	AZ	85342	
2131	503 90 596	SNYDER SAMUEL R & DOROTHEA G	49 GOLFVIEW RD		ROTONDA WEST	FL	33947	
2132	503 92 557	SOBON GEORGE & PATRICIA	18803 W HICKORY		MUNDELEIN	IL	60060	
2133	503 94 831	SOBUL ANTHONY W JR	22 ASBURY RD		HUNTSVILLE	AL	35801	
2134	503 93 401	SOHN JENNIFER S TR	5133 E DUANE LN		CAVE CREEK	AZ	85331	
2135	503 93 545	SOLARZ DANIEL A & ELLEN E	5257 WASHBURN AVE NORTH		MINNEAPOLIS	MN	55430	
2136	503 90 776	SOLTIS THEODORE/ELEANOR TR	3938 E CORTEZ		PHOENIX	AZ	85028	
2137	503 93 040	SOMERHALDER LYNDA R	PO BOX 187		KNIGHTSEN	CA	94548	
2138	503 94 052	SOMMER WALTER L & ELIZABETH P A	PO BOX 153		GALLIPOLIS	OH	45631	
2139	503 90 523	SORENSON RALPH & FRANCES	17848 PAXTON AVE		LANSING	IL	60438	
2140	503 91 005C	SOSNICKI MICHAEL A/DOROTHY A TR	20076 W PASADENA		LITCHFIELD PARK	AZ	85340	
2141	503 92 748	SOSNICKI MICHAEL A/DOROTHY A TR	20107 W MEDLOCK DR		LITCHFIELD PARK	AZ	85340	
2142	503 91 079	SOTO FERNANDO A/ROSS KATHELEEN	1953 W MICHIGAN AVE		PHOENIX	AZ	85022	
2143	503 22 017B	SOUTHERN WILLIAM E/FANT BARBARA E	PO BOX 576		MORRISTOWN	AZ	85342	
2144	503 90 864	SPARKES THOMAS F/LOUISE M	30540 OBERLIN WAY		WITTMANN	AZ	85361	
2145	503 93 007	SPARROW LEO G	22006 S ELLSWORTH RD		QUEEN CREEK	AZ	85242	
2146	503 92 163	SPINDLER BETTY D	1800 DARRYL RD		ARLINGTON HEIGHTS	IL	60004	
2147	503 92 164	SPINDLER JOHN D/SARAH A	38575 BUN OAK LN		WADSWORTH	IL	60083	
2148	503 90 691	SPRADLIN J MICHAEL/SHEILA M	23 LINDEN COURT		SOUTH ELGIN	IL	60177	
2149	503 94 209	SPRAGG MARILYN & DAVID MCKERCHER	P O BOX 144		BEAVERTON	OR	97075	
2150	503 92 293	SPRAGLE JUDITH A	1993 150TH ST		WAVERLY	IA	50677	
2151	503 94 580	SPRINGER TY/PAM	1735 W CLOUD RD		PHOENIX	AZ	85027	
2152	503 23 034	SPRINKLE FRANCES E	44620 SAHUARO BLOSSOM LANE		MORRISTOWN	AZ	85342	
2153	503 92 468	SPURR WENDY ANN	18 ELM ST		WOBURN	MA	01801	
2154	503 92 937	SQUIRES RAMON L & GWEN F	RT 2 BOX 424F		AMERICAN FORK	UT	84003	
2155	503 94 633	ST ANTHONY'S CHURCH	232 N TEGNER		WICKENBURG	AZ	85390	
2156	503 91 293	ST JOHN HELEN M/COUSING SUE ANN/RASMUSSEN M M	1201 N MACOMB ST		MONROE	MI	48162	
2157	503 90 440	STABRAVA ALEXANDER F & DONNA M	25200 EDGEMONT		SOUTHFIELD	MI	48034	
2158	503 92 591	STAFFORD LEE ALAN	4722 E BELL RD	, #3094	PHOENIX	AZ	85032	
2159	503 92 264	STAHLI KATHERINE L ETAL	4721 W PORT A PRINCE		GLENDALE	AZ	85306	
2160	503 90 244	STALLMAN SANDRA L/JAMES C TR	1301 BRADSHAW ST		COLUMBIA	MO	65203	
2161	503 94 601	STANCILL PAUL M/FAYE F	3513 W 79TH		ANCHORAGE	AK	99502	
2162	503 93 478	STANDHARDT OTTO C & PAULENE J	219 JOHNSON ST		POTTSTOWN	PA	19464	
2163	503 91 364	STANISLAW ANNE R	435 WILDWOOD DR		YOUNGSTOWN	OH	44512	
2164	503 92 568	STANKUS DOMINIC W & CHERRYE A	8335 E DIANA DR		SCOTTSDALE	AZ	85257	
2165	503 93 360	STANZIOLA RALPH T & MARGUERITE M	21 MAIN ST		NEW BOSTON	PA	17948	
2166	503 90 459	STAPLETON WILLIAM L & MARIANNE S	140 BOSTON RD		SOUTHBORO	MA	01772	
2167	503 92 434	STARCEVICH MATT W & MARIE L	515 MADISON APT 517		WAUKEGAN	IL	60085	
2168	503 94 803	STARR DOUGLAS L	6088 SADDLEWOOD DR		TOLEDO	OH	43697	
2169	503 93 417	STASCH ARTHUR A ETAL	812 STONE CREST CIR		CHATTANOOGA	TN	37421	
2170	503 90 686	STAUFFER DONALD M & ROSA I	29133 CANDELWOOD LN		SOUTHFIELD	MI	48076	
2171	503 90 498	STEEN THELMA L & CLARIBEL SNODGRASS	3328 TAPESTRY CIR		BURTONSVILLE	MD	20866	2067
2172	503 93 345	STEINBARTH ANA R TR	25741 WILLOW CREEK LN		MONEE	IL	60449	
2173	503 90 852	STEINHAGEN DARYL	BOX 143		ELIZABETH	IL	61028	
2174	503 91 003L	STEINHILPERT VIRGINIA M	3921 W VOLTAIRE		PHOENIX	AZ	85029	
2175	503 90 388	STEINHILPERT VIRGINIA M TR	3921 W VOLTAIRE		PHOENIX	AZ	85029	
2176	503 90 780	STELLA RAYMOND F/LAVERNE M	106 E ADAMS		ELMHURST	IL	60126	
2177	503 90 542	STEPHENS ROBERT O & ELAINE C	4769 GRANGER RD		AKRON	OH	44313	
2178	503 90 690	STERNBERG CARROLL J & NANCY SUE	WUERZBURG AMHS		APO	AE	09244	
2179	503 92 598	STERNS TODD/MORSS DONA RAE TR/MOORE SNOOK	PO BOX 318		PINEDALE	WY	82941	
2180	503 91 336	STEVANS PAUL W	PO BOX 604		VIENNA	VA	22180	
2181	503 92 717	STEVENS DONALD M & PATRICIA A	5414 W PIERSON		PHOENIX	AZ	85031	
2182	503 94 729	STEVENS FLORENCE H TRUSTEE	3485 SO ROBINSON AVE		THATCHER	AZ	85552	
2183	503 90 008K	STEVENS ROJELIO	13621 S A STREET		EL MIRAGE	AZ	85335	
2184	503 91 049	STEWART D R & JEAN	P O BOX 282		MAGNOLIA	TX	77355	
2185	503 94 077A	STEWART HAROLD L & MELBA J	4230 W GOLDEN		PHOENIX	AZ	85051	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
2186	503 94 598	STEWART JAMES M	PO BOX 62700		COLORADO SPRINGS	CO	80962	2700
2187	503 94 488	STEWART WILDA H	500 BENTON		MOUNTAIN HOME	AR	72653	
2188	503 91 414	STILWELL DEBORAH K	4410 W SOUTHERN		LAVEEN	AZ	85339	
2189	503 90 953	STINE TERRY J	15432 N 69TH AVE		PEORIA	AZ	85345	
2190	503 92 169	STITER HENRY L & M JO	2046 S 10TH ST		MISSOULA	MT	59801	
2191	503 92 374	STOBART ELMER E & JOSEPHINE M	3054 N RUTHERFORD AVE		CHICAGO	IL	60634	
2192	503 94 460	STOCKHAUS HELEN M	4682 W PARK DR		FAIRVIEW PARK	OH	44126	
2193	503 91 400	STOCKTON CARL L/CHRISTINE	22230 N 24TH AVE		PHOENIX	AZ	85027	
2194	503 90 039	STOKLOSA OTTO J & CATHERINE E	21 WINDING WAY RD		STRATFORD	NJ	08084	
2195	503 92 519	STONE HAROLD C	23147 N CHEYENNE DR		CUBA	IL	61427	
2196	503 91 245	STOPAK HERMAN F & MALKA	11721 STONINGTON PL		SILVER SPRING	MD	20902	
2197	503 93 539	STOPHER MARION WAYNE & RUBY	516 S DETROIT		LA GRANGE	IN	46761	
2198	503 92 657	STOTT WILLIAM D & MARIA S	PO BOX 102796		ANCHORAGE	AK	99510	
2199	503 93 342	STOUT HAROLD A & IVA M	2400 S FINLEY RD	, #305	LOMBARD	IL	60148	
2200	503 94 653	STOVER LEWIS R & ELSIE J	14222 WADEBRIDGE WAY		HOUSTON	TX	77015	
2201	503 90 862	STRAND MARGARET/TERRANCE K ETAL	1717 FARRAGOT		CHICAGO	IL	60640	
2202	503 90 093	STRATTON DEBORAH ANN	P O BOX 398		WITTMANN	AZ	85361	
2203	503 93 456	STRAYER WAYNE W & ABBIE L	22 S 5TH ST		WATERVILLE	OH	43566	
2204	503 94 069	STROPES SOPHIE /DERISO DIANE/TATE DENEEN	7828 W 66TH PL		BEDFORD PARK	IL	60501	
2205	503 92 684	STRUK CHRISTINE TR	283 BREEZEWOOD DR		BAY VILLAGE	OH	44140	
2206	503 91 004B	STUART ROSS ASSOCS	211 E 70TH ST APT 23-B		NEW YORK	NY	10021	
2207	503 91 034	STUMPH EVA IRENE/PORTER L	1239 E CHRISTY DR		PHOENIX	AZ	85020	
2208	503 90 767	STURM ALBERT & THEA & PITON, ZDRAVKO	750 BRECHNER TER		DELTONA	FL	32738	
2209	503 24 009W	STURTZ HAROLD D/MARY M	44631 N SAN DOMINGO PEAK TR		WICKENBURG	AZ	85358	
2210	503 90 789	STUTZMAN JOSEPH/FREDERICK/EDWARD/ETAL	1333 E REYNOLDS		GOSHEN	IN	46526	
2211	503 91 068	SUCH JEAN F	25 MARINA DR		DES PLAINES	IL	60016	
2212	503 90 281	SUDAN SABIR ATIF & HANAN NENA	31230 NORTH 293RD AVE		WITTMAN	AZ	85361	
2213	503 91 262	SULLIVAN JAMES/ETAL	7459 E ALMERIA RD		SCOTTSDALE	AZ	85257	
2214	503 94 545	SULLIVAN MICHAEL J	6270 N 78TH ST	, #326	SCOTTSDALE	AZ	85250	
2215	503 90 380	SUMMERS ROSELYN H	PO BOX 716		WITTMANN	AZ	85361	
2216	503 92 494	SUMMERS VIVIAN L	6640 S 39TH AVE		PHOENIX	AZ	85040	
2217	504 01 005A	SUN VALLEY CONSOLIDATED LP	9180 E DESERT COVE 102		SCOTTSDALE	AZ	85260	
2218	503 92 201	SUNDERLAND RANDAL L	7208 N 37TH DR		PHOENIX	AZ	85021	
2219	503 90 945	SURMA RICHARD I	10 GROW LN		STREAMWOOD	IL	60103	
2220	503 92 803	SUSHKO JOHN & IRENE E	43021 CALAIS		STERLING HTS	MI	48314	
2221	503 23 014	SUTHERLAND KATHERINE L/TURNER GEORGE/ELEANOR	44048 N SAHUARO BLOSSOM LN		MORRISTOWN	AZ	85342	
2222	503 99 005	SUTTER ROBERT D/KATHY D/CHARLES L	P O BOX 2054		CAREFREE	AZ	85377	
2223	503 94 661	SUTTNER FRANK	317 A RANCHERIA ST		SANTA BARBARA	CA	93101	
2224	503 92 242	SWANSON MILDRED F	14014 37TH AVE NE		SEATTLE	WA	98125	
2225	503 92 321	SWARTZ CLARA SUE/SUE	4834 W NORTHERN		GLENDALE	AZ	85301	
2226	503 94 721	SWEENEY KINMON MARY G	3191 W ALEXANDERWOOD DR		TUCSON	AZ	85746	
2227	503 94 665	SWEENEY LAWRENCE M	38021 VERMEERSCH RD		CAVE CR	AZ	85331	
2228	506 37 003D	SWENSON INGRID & CHRISTINE S HERINGTON	5250 BARTLETT CIR		PHOENIX	AZ	85016	
2229	503 90 256	SWETT BRIAN	516 SHERIDAN		GLENCOE	IL	60022	
2230	503 90 022	SWIATKOWSKI RICHARD & LOIS M	12674 97TH ST NORTH		LARGO	FL	34643	
2231	503 93 505	SWIFT JAMES ETAL	4 GRANDVIEW AVE		WATERTOWN	MA	02172	
2232	503 92 524	SWIFT RICHARD P	90 BEECHWOOD AVE		WATERTOWN	MA	02172	
2233	503 92 523	SWIFT ROBERT E & LORRAINE C	21B MARION RD		SALEM	MA	01970	
2234	503 91 282	SWOPE CARL E/JUDITH M	PO BOX 442		WITTMANN	AZ	85361	
2235	503 90 875	SZAKOLCZAI CLYDE/LADISLAUS H	3920 N 86TH ST		SCOTTSDALE	AZ	85251	
2236	503 90 610	SZETELA ALBERT	5301 WESTPOINT		DEARBORN HEIGHTS	MI	48125	
2237	503 90 919	TABLER ALVA LEE & MILLIE J	P O BOX 1704		SURPRISE	AZ	85374	
2238	503 94 571	TADANO MARGARET A TR	142 KERRY COURT		VACAVILLE	CA	95687	
2239	503 92 762	TALBO AMBROSIO W/ROSA R	1818 W PECAN		PHOENIX	AZ	85041	
2240	503 93 034	TALBOT DONALD E	12 WARD WITTY DR		MONTVILLE	NJ	07045	9752
2241	503 93 541	TALBOTT ANNE	1730 LARSON ST		ENGLEWOOD	FL	34223	
2242	503 93 510	TALLENT DONALD L & LINDA J	722 E VILLA RITA DRIVE		PHOENIX	AZ	85022	
2243	503 90 054	TANAKA YUTAKA & NOBUYO	141-D EWBANK GARDENS DR		HENDERSONVILLE	NC	28739	
2244	503 93 553	TASHIMA CHARLES K/VERA A	651 BERING DR #1005		HOUSTON	TX	77057	
2245	503 93 535	TATE JOHN T & JANICE F	661 HARBOR COVE NW		GAINESVILLE	GA	30501	
2246	503 90 435	TATTIE LAND LIMITED PARTNERSHIP	P O BOX 557		LITCHFIELD PARK	AZ	85340	
2247	503 90 831	TATTIE LAND LTD PARTNERSHIP	20107 W MEDLOCK DR		LITCHFIELD PARK	AZ	85340	
2248	503 90 598	TATTIE LAND LTD PARTNERSHIP	PO BOX 584		WITTMANN	AZ	85361	
2249	503 92 669	TAYLOR BENNIE MARIE	P O BOX 206		MORRISTOWN	AZ	85342	
2250	503 91 307	TAYLOR DAN & SUSAN CAROLINE	4114 ELAINE CT		COLUMBUS	OH	43227	
2251	503 90 504	TAYLOR ROBERT A	29214 W PATTON RD		WITTMANN	AZ	85361	
2252	503 91 339	TAYLOR ZOE J TR	1315 CYPRESS POINT LN APT 102		VENTURA	CA	93003	
2253	503 90 364	TAZZA ERNEST E & BARBARA V	382 WOODSTEAD CIR		LONGWOOD	FL	32750	
2254	503 92 236	TDH INVESTMENTS LLC	P O BOX 1777		SURPRISE	AZ	85378	
2255	503 90 711	TELESCO DOMINICK A	5 HIGH RIDGE AVE		RIDGEFIELD	CT	06877	4901
2256	503 28 005A	TEN THOUSAND WEST LLC	8777 N GAINEY CENTER DR	, #205	SCOTTSDALE	AZ	85258	
2257	503 31 003A	TEN THOUSAND WEST LLC	777 N GAINEY CENTER DR STE 205		SCOTTSDALE	AZ	85258	
2258	503 93 066	TENNEY WILLIAM J SR & ANTOINETTE M	RR2 BOX 1009		PHILLIPS	WI	54555	
2259	503 90 485	TERESA E PLESEK LIVING TRUST	11144 S SAWYER AVE		CHICAGO	IL	60655	
2260	503 90 441A	TETSCHNER ALLEN	622 E LOUCKS ST		SHERIDAN	WY	82801	
2261	503 92 359	THALLEMER JOHN P & MARGARET E	920 HAWTHORNE		ELMHURST	IL	60126	
2262	503 99 011	THE NORTHERN TR CO OF AZ ETAL TR	77 E MISSOURI #32		PHOENIX	AZ	85012	
2263	503 91 432	THERRIEN GARY RICHARD	BOX 2835-D NEW STAGE I		PHOENIX	AZ	85027	
2264	503 90 008H	THIBEDEAU ROBERT J TR	5434 E COVINA		MESA	AZ	85205	
2265	503 91 317	THIEMONGE JAMES W & VIRGINIA C	6013 W MICHELLE DR		GLENDALE	AZ	85308	
2266	503 94 558	THOMAS CHARLES H/CYNTHIA V TR ETAL	6201 SEASIDE WALK		LONG BEACH	CA	90803	
2267	503 90 600	THOMAS JOHN E & SHARON M	4106 GUMWOOD CT		CHANTILLY	VA	22021	
2268	503 92 196	THOMAS MARGARET ANN	P O BOX 804		DILLION	CO	80435	
2269	503 94 572	THOMAS RUBYE L	1201 23RD AVE		FAIRBANKS	AK	99701	
2270	503 94 728	THOMPSON GEORGE A & GRUESSER JACALYN A	5917 ROLSTON RD		BETHESDA	MD	20034	
2271	503 91 459	THOMPSON JAMES C & KATHLEEN	122 GORDON AVE		WADSWORTH	OH	44281	
2272	503 92 391	THOMPSON JOHN B/RICE THOMAS	PO BOX 189		HOMER	AK	99603	
2273	503 94 520	THOMPSON MARK/LISA	2698 N 137TH AVE		GOODYEAR	AZ	85338	
2274	503 90 408	THOMPSON NORMAN J	29315 W DIXILETA DR		WITTMANN	AZ	85361	
2275	503 90 059	THORN MARGARET M	20444 N SHADOW MT DR		SURPRISE	AZ	85374	
2276	503 92 663	THORNTON TRUMAN W & CRYSTLE C	461 W 400 W		VALPARAISO	IN	46383	
2277	503 92 289	THORSON EDMUND P & DARLENE E	810 E PALMAIRE		PHOENIX	AZ	85020	
2278	503 93 016	THOUSAND BETTY E/SHERRARD H W JR	3856 SO OLD US 31		ROCHESTER	IN	46975	8244
2279	503 94 863	THROWER TERRY ALLEN/PETER TODD	3402 N 87TH AVE		PHOENIX	AZ	85037	
2280	503 90 052	THUERK NOLDA M	1031 ANDERSON DR	, #B106	GREEN BAY	WI	54304	5044

Flood Control District of Maricopa County
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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
2281	503 90 591	TIEKEN ALBERT J & NELLIE M	2116 PEEK HOME RD		DIXON	IL	61021	
2282	503 92 679	TIGGES ROBERT V & LILA M	BOX 153 RR2		MAQUOKETA	IA	52060	
2283	503 94 566	TILLEY JERRY E & DONNA H	PO BOX 1835		WESTPORT	WA	98595	
2284	503 90 942	TINUCCI DONALD G/JEANNE G	1727 N 22ND AVE		MELROSE PARK	IL	60160	
2285	503 94 681	TIPPENS J FRANK & THERESA W	6157 ROSECOMMON DR		NORCROSS	GA	30092	
2286	503 93 010	TIPPETS VIRGINIA DE	101 N 32ND ST TR 19		PHOENIX	AZ	85034	
2287	503 94 513	TIPTON ARTHUR N/NANCY A	721 W HEATHERBRAE		PHOENIX	AZ	85013	
2288	503 90 028	TIPTON WILLA	14252 S HONORE		HARVEY	IL	60426	
2289	503 90 836	TISCHER ROBERT C & ROGER D	4070 10TH ST N E		MAYNARD	MN	56260	
2290	503 92 920	TISDALE RONALD/ERICA LEE	403 S PEABODY		PORT ANGELES	WA	98362	
2291	503 91 253	TOLAND FRANCIS T & FAY BEVERLY J	6940 E GIRARD AVE		DENVER	CO	80222	
2292	503 23 015	TOMASEKTHEODORE P/KAREN J	6302 FREEBURN DR		HUNTINGTON BEACH	CA	92647	
2293	503 93 368	TOPOLSKI FRANCIS J & MARY E	232 TAYLOR		ANCHORAGE	AK	99508	
2294	503 92 322	TOREL CECELIA	35201 N 315TH AVE		WITTMANN	AZ	85361	
2295	503 92 351	TOREL CECELIA & THOMAS J DAVIS	35201 N 315TH AVE		WITTMANN	AZ	85361	
2296	503 93 546	TORSETTA DAVID & MARIA TERESA	79 BUTTERY RD		NEW CANAAN	CT	06840	
2297	503 94 799	TOUCHSTONE FRANK JR & EMMETT C	2060 N HILL ST		GRIFFIN	GA	30223	
2298	503 94 548	TOWNSEND LAVERNE/BETTY	34414 W DOVE VALLEY RD		WICKENBURG	AZ	85390	
2299	503 68 014	TOYOTA TECHNICAL CENTER U S A INC	1850 W 195TH ST		TORRANCE	CA	90501	
2300	503 94 025	TRACEY WILLIAM P/DIANE	12019 210TH ST E		GRAHAM	WA	98338	
2301	503 90 037	TRAFICANTE FRANK R & FLORENCE A	887 BURR RD		SAN ANTONIO	TX	78209	
2302	503 93 534	TRAVIS JOSEPH PAUL & RAE LORAINE B	RT 14 BOX 571 MAY DR		JONESBORO	TN	37659	
2303	503 93 035	TRINIDAD LEANDRO O/TERESA D	6012 W ELM		PHOENIX	AZ	85033	
2304	503 90 866	TRION CHAD G	71 HARBOR DR		CLAYMONT	DE	19703	
2305	503 90 619	TROUTMAN KENNETH F ETAL	1915 E HARVARD		PHOENIX	AZ	85006	
2306	503 90 556	TROUTMEN KENNETH F & SABRINA KATHLEEN	1915 E HARVARD ST		PHOENIX	AZ	85006	
2307	503 90 838	TROY CHARLES M/ISABELL	3506 N 191ST LANE		LITCHFIELD PARK	AZ	85340	
2308	503 92 583	TRUCKENMILLER PAULINE A	15405 LAKEFOREST DR		SUN CITY	AZ	85351	
2309	503 91 179	TRUITT ROBERT N & WILMA SUE	3098 S KRAMERIA ST		DENVER	CO	80222	
2310	503 91 012P	TSAO CHIA LIN	3920 N 24TH AVE NO 116		PHOENIX	AZ	85015	
2311	503 23 005G	TUCKER EDWARD M/THEO A	512 W 12TH		ELLENSBURG	WA	98926	
2312	503 24 009P	TULKA JANICE TR/COHN RICHARD/ROSENBERG/DUGAS	4720 BALBOA AVE		ENCINO	CA	91316	
2313	503 90 249	TUNG CHI-LING & MARGARET C	6009 COREWOOD LN		BETHESDA	MD	20016	
2314	503 93 008	TUTTLE IRENE TR	5330 W TOWNLEY		GLENDALE	AZ	85302	
2315	503 90 717	TWEEDY DON M	6N413 VIRGINIA RD		ROSELLE	IL	60172	
2316	503 90 046	TYLER JULIA ANN	8327 W COLUMBINE		PEORIA	AZ	85381	
2317	503 93 041	TYRCHA THOMAS J & PATRICIA A	52 KATRINA LN		SLEEPY HOLLOW	IL	60118	
2318	503 92 198	TYRE FREDERICK M & MARY J	25831-4 LEXINGTON DRIVE 104-4		SOUTH LYON	MI	48178	
2319	503 22 020Q	UHLIG BRANDON S & MARIE R	P O BOX 87		MORRISTOWN	AZ	85342	
2320	503 93 326	ULLINSKEY JOHN D & LORETTA S	1939 BOEGER AVE		WESTCHESTER	IL	60153	
2321	504 69 004B	UNITED STATES OF AMERICA	SUITE 2200 VALLEY CENTER		PHOENIX	AZ	85023	
2322	506 54 001	UNITED STATES OF AMERICA	230 N 1ST AVE		PHOENIX	AZ	85025	
2323	504 70 004B	UNITED STATES OF AMERICA	STE 2200 VALLEY CENTER		PHOENIX	AZ	85073	
2324	503 92 476	UNIVERSAL PRINTING EQUIPMENT CO	16560 SO HARBOR BLVD STE F		FOUNTAIN VALLEY	CA	92708	
2325	503 92 553	URAINE STEVEN S	16524 N QUEEN ESTHER DR		SURPRISE	AZ	85374	
2326	503 92 346	URBAN HOME DESIGNS INC	115 GASTON AVE		GARFIELD	NJ	07026	
2327	503 91 354	UVA CORRADO M & JOAN	38 GREENWAYS LN		LAKEWOOD	NJ	08701	
2328	503 99 008	V M P INC	PO BOX 20202		WICKENBURG	AZ	85358	
2329	503 94 750	VAGNONI EMIDIO G & MARIA	1003 SCOTT AVE		CHICAGO HTS	IL	60411	
2330	503 92 096	VAIL DEBORAH C	24410 N 185TH AVE		WITTMANN	AZ	85363	
2331	503 93 278	VAILE VICTOR E JR & ELIZABETH E	433 FAIRLAWN DR		COLUMBUS	OH	43214	
2332	503 92 548	VAIRA JOHN/MCDONALD ROSALIE	7416 S THOMAS AVE		BRIDGEVIEW	IL	60455	
2333	503 92 109	VALDEZ GERALDINA	9203 W MCKINLEY		TOLLESON	AZ	85353	
2334	503 93 321	VALENTE RICHARD GENE	2906 CHICAGO		HOUSTON	TX	77017	
2335	503 93 317	VALENZUELA FRANK/RAMONA	26038 N 17TH AVE		PHOENIX	AZ	85027	
2336	503 92 616	VALERIAN MARIE	29275 S WOODLAND RD		PEPPER PIKE	OH	44124	
2337	503 91 004R	VALJEAN HEIDI J/WHITLOCK DAVID L JR	31015 W OCUPADO DR		PHOENIX	AZ	85361	
2338	503 92 115	VALLANCE HARVARD WILLIAM	611 LOCUST ST		KALAMAZOO	MI	49007	
2339	503 92 147	VALLEY NATIONAL BANK OF AZ THE TR	PO BOX 810490		DALLAS	TX	75381	
2340	503 93 357	VAN ARSDALL MARIA L	6215 W VERMONT		GLENDALE	AZ	85301	
2341	503 91 051	VAN FAROWE GEORGE C & DOROTHY J	10505 BLUFF RD		TRAVERSE CITY	MI	49686	
2342	503 93 160	VAN HERSETT JOHN D	2337 BURNSIDE		OREGON	OH	43616	
2343	503 90 725	VAN METER BRITTA M	1300 E FORT LOWELL RD # J2		TUCSON	AZ	85719	
2344	503 90 350	VAN OFFELEN CHERIE A	9626 S HOYNE		CHICAGO	IL	60643	
2345	503 91 442	VANHORN JEAN KIM	P O BOX 524		WITTMANN	AZ	85361	
2346	503 90 885	VANHORN TIM L	30240 W PINNACLE VISTA		WITTMAN	AZ	85361	
2347	503 91 047	VARELA LENO/GREGORIA	6009 W CATALINA DR		PHOENIX	AZ	85033	
2348	503 93 473	VASIL HELEN	P O BOX 572		BUCYRUS	OH	44820	
2349	503 92 363	VASKE DONALD E & GRACE A	RURAL RT 2		FARLEY	IA	52046	
2350	503 94 522	VASKO ALBERT J & IRENE A	10815 W NORTHERN AVE	, #107	GLENDALE	AZ	85307	
2351	503 91 118	VATAN ABDOL H & DONNA I	BOX 134		BOWLING GREEN	OH	43402	
2352	503 92 390	VAZQUEZ JUAN ANGEL	7302 W CAVALIER		GLENDALE	AZ	85303	
2353	503 90 587	VEDUGERES RASA	16916 FIVE POINTS		DETROIT	MI	48240	
2354	503 92 424	VELAZQUEZ TITO	1343 45 W 19TH ST		CHICAGO	IL	60608	
2355	503 91 287	VELIZ ADOLFO /ROSA MARIA	3307 W PALM LN		PHOENIX	AZ	85009	
2356	503 91 004M	VENABLE RICHARD D	PO BOX 480		WITTMAN	AZ	85361	
2357	503 91 148	VERGARA RICHARD J/VIRGINIA	122 W ILLINI		PHOENIX	AZ	85041	
2358	503 91 452	VERHAGE DAVID W	1882 E DRAKE DR		TEMPE	AZ	85283	
2359	503 90 861	VERONICO JOSEPH/EVELYN	1941 N NORDICA		CHICAGO	IL	60636	
2360	503 94 839	VERSTRATEN LAURA & JIM.	HC 2131		CORNVILLE	AZ	86325	
2361	503 27 009A	VETTERICK ARNOLD E/CAROL F	65858 CORI WAY		BEND	OR	97701	
2362	503 93 096	VILLALOBOS CIPRIANO/RENDON OSWALDO	1139 E WINSTON DR		PHOENIX	AZ	85040	
2363	503 90 527	VILLANI JERRY R	15615 HUNTMERE AVE		CLEVELAND	OH	44110	
2364	503 90 849	VILLARD WALTER L & ROSALIE J	8117 S VERNON		CHICAGO	IL	60619	
2365	503 90 910	VINCELETTE MILDRED A/PAUL T	530 S PRINCETON		ITASCA	IL	60143	
2366	503 92 318	VIOLA DAVID J	106 CRYSTAL LAKE ROAD		HALIFAX	MA	02338	
2367	503 90 336	VIOLA JOHN B & MARY T	207 NECK RD		BROOKLYN	NY	11223	
2368	503 94 462	VISSER FRIEDA/KANORR KATHLEEN	15795 W HIGH ST		MIDDLEFIELD	OH	44602	
2369	503 90 222	VITALES RICHARD JOSEPH	7653 TIMBER SPRINGS DR		FISHERS	IN	46038	
2370	503 91 076	VOLLRATH PHILIP L & PHYLLIS R	8014 PEACH DR		TAMPA	FL	33617	
2371	503 92 718	VOLUNTEERS OF AMERICA	2111 WOODWARD STE 410		DETROIT	MI	48201	
2372	503 93 437	VUCINOVICH THOMAS H & CHARLOTTE S	8420 207TH NW BOX 191		LAKEVILLE	MN	55044	
2373	503 91 198	W R P LLC	PO BOX 52025		PHOENIX	AZ	85072	
2374	503 92 320	WAAGE THOMAS C	50402 N 21ST AVE		NEW RIVER	AZ	85027	
2375	503 94 552	WABLE DEAN L	21301 11TH PL W		LYNNWOOD	WA	98036	

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RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
2376	503 90 877	WADE FRED D & M DIANE	187 W SALT MINE RD		CAMP VERDE	AZ	86322	7026
2377	503 91 342	WAFFEN ROBERT E/ANTONIA TR	1021 S GREENFIELD RD UNIT 1120		MESA	AZ	85208	2684
2378	503 93 065	WAGNER JOHN W/RUTH M TR	12040 NORTH DRIVE		CLEARLAKE	CA	95422	
2379	503 90 276	WAGNITZ WILLIAM	1818 E BELL RD NO 22-B		PHOENIX	AZ	85022	
2380	503 94 521	WAHL DENNIS A	8795 N 83RD AVE		PEORIA	AZ	85345	
2381	503 93 464	WAHL JOHN C TR	3313 N 68TH ST	, #106	SCOTTSDALE	AZ	85251	
2382	503 90 580	WAHLGREN RONALD H	PO BOX 278		MORRISTOWN	AZ	85342	
2383	503 92 604	WAID JOYCE M	14162 SHADOW BAY DRIVE		WILLIS	TX	77378	
2384	503 92 125	WALCZAK BRONISLAW S/VIRGINIA T	CYPRESS RIDGE TERRACE APT 716		LEESBURG	VA	20176	
2385	503 92 178	WALKER CHARLES C	PO BOX 13442		SAVANNAH	GA	31416	
2386	503 22 020U	WALKER GEORGE C/DIANNA F	11202 W ALICE AVE		PEORIA	AZ	85345	
2387	503 90 688	WALKER HARRY C III & MARILEE	8327 GARFIELD CT		SPRINGFIELD	VA	22152	
2388	503 93 146	WALKER HOWARD K & MAXINE R	8151 STORM KING PEAK		LITTLETON	CO	80127	
2389	503 92 658	WALKER LOUIS R & FRANCES B	15321 CURVELL DR		ANCHORAGE	AK	99516	
2390	503 27 001G	WALKINSHAW KEVIN/LAURA	38825 N 275TH AVE		MORRISTOWN	AZ	85432	
2391	503 92 216	WALLACE LEE A & OLGA L	2303 KEYSTONE RD		ODESSA	TX	79761	
2392	503 91 280	WALLACE MATTHEW C & NORMA K	2851 MAUELLER DR		ERIE	PA	16506	4447
2393	503 91 357	WALLS RONALD S	6112 N 67TH AVE #270		GLENDALE	AZ	85301	
2394	503 91 304	WALSER RICHARD J & JUNE A	4040 VALLEY DR		URBANA	OH	43078	
2395	503 91 319	WALSH AMBROSE J & PATRICIA A	917 DONALD		ROYAL OAK	MI	48073	
2396	503 93 129	WALSH RICHARD J	318 OLINGER ST		MEYERSDALE	PA	15552	
2397	503 91 292	WALTMAN WILLIAM C & ETHEL J	3208 W ALTADENA AVE		PHOENIX	AZ	85029	
2398	503 94 722	WALTON KENT	453 ANZA DR		SONOMA	CA	95476	
2399	503 22 011A	WALWORTH GARY JOE/CONNIE	PO BOX 926		WICKENBURG	AZ	85358	
2400	503 92 422	WALWORTH MICHAEL R	BOX 737E RR 2		SUN CITY	AZ	85373	
2401	506 57 001	WARD JIMMIE J TR	720 S 7TH ST		LAS VEGAS	NV	89101	
2402	503 93 127	WARNER ROBERT H & MILDRED E	6488 S W 84TH ST		OCALA	FL	34476	
2403	503 91 285	WARREN DONALD J/RAYDA TR	41289 LEHIGH LN		NORTHVILLE	MI	48167	
2404	503 92 439	WARTBURG COLLEGE	123 1ST ST SE		WAVERLY	IA	50677	
2405	503 25 008J	WATERHOUSE ROBERT W/MARILYN R	31654 PONDEROSA WAY		EVERGREEN	CO	80439	6612
2406	503 92 294	WATLAND DONALD R & LINDA M SPEER	23051 N 87TH DR		PEORIA	AZ	85345	
2407	503 92 421	WATSON BOBBY/BENNY	7202 SHADY CORNERS		HOOSTON	TX	77049	
2408	503 93 543	WATSON RAY A & DOROTHY I	4303 80TH ST NE	, #A	MARYSVILLE	WA	98270	3424
2409	503 25 009C	WATTIER ANITA/KADLE WALTER	PO BOX 386		MORRISTOWN	AZ	85342	
2410	503 25 006K	WAY BOB & LEA	PO BOX 130		MORRISTOWN	AZ	85342	
2411	503 26 010	WAY LEA E	PO BOX 130		WICKENBURG	AZ	85358	
2412	503 23 005T	WAY ROBERT & LEA	PO BOX 130		MORRISTOWN	AZ	85342	
2413	503 23 008R	WAY ROBERT L & LEATHA E	BOX 130		MORRISTOWN	AZ	85342	
2414	503 23 008F	WAY WINTHROP ALLEN	BOX 27		WICKENBURG	AZ	85358	
2415	503 23 007A	WAY WINTHROP ALLEN	PO BOX 27		WICKENBURG	AZ	85358	
2416	503 92 596	WEAVER SHIRLEY MAE	3535 E RENEE DR		PHOENIX	AZ	85024	
2417	503 91 021	WEBB ANTOINETTE H O GOOD TR	622 CENTER ST		DECORAH	IA	52101	
2418	503 91 363	WEBB PATRICIA A	61 S 2ND ST		RITTMAN	OH	44270	
2419	503 90 530	WEBB WILLIAM G & JOYCE D	137 MINWOOD DR		TALLMADGE	OH	44278	
2420	503 94 762	WEBER ARTHUR L & BETH K	2946 W MCKINLEY		PHOENIX	AZ	85009	
2421	503 92 137	WEBER CLARENCE G & REBECCA	5303 EIELSON ST		ANCHORAGE	AK	99502	
2422	503 91 218	WEBER DONALD J & JUDY L & KEITH A	6665 N 53RD ST		MILWAUKEE	WI	53223	
2423	503 92 183	WEBSTER DORIS M & ROBERT O	7016 S LACLEDE STAT RD #117		ST LOUIS	MO	63119	
2424	503 92 799	WEEKLY PAUL R	900 NORTHEAST 82ND ST		MIAMI	FL	33138	
2425	503 92 213	WEGNER SUNDAY M	2326 N AUSTIN AVE		CHICAGO	IL	60639	
2426	503 92 947	WEIDNER ROBERT J & DOROTHY N	252 CHESTNUT ST		POTTSTOWN	PA	19464	
2427	503 25 008G	WEINGARD HOWARD I/BARBARA S	1151 NAVAJO WAY H P		PRESCOTT	AZ	86301	
2428	503 92 492	WEISENBURGER MALVIN A & JUDITH C	19001 SO RICHFIELD AVE		GREEN VALLEY	AZ	85614	
2429	503 93 029	WEISS JOANNE L	227 E WALTON ST STE 13E		CHICAGO	IL	60611	
2430	503 93 524	WELCH JACK F/KATHLEEN J	7303 LS GAFFORD BLVD		BROKEN ARROW	OK	74014	
2431	503 94 717	WELCH KENNETH J	13532 N 92ND WAY		SCOTTSDALE	AZ	85260	
2432	503 92 352	WELLS EILEEN K/HAROLD W SR TR	3327 W SOLANO DR NORTH		PHOENIX	AZ	85017	
2433	503 91 071	WELTER STEVEN J	30040 PAINTED WAGON TRAIL		WITTMAN	AZ	85361	
2434	503 91 464B	WEMER MICHAEL W/KAREN M TR	982 KENWAY CT		COLUMBUS	OH	43220	
2435	503 92 595	WENTWORTH FLORENCE ETAL	P O BOX 20162		WICKENBURG	AZ	85358	
2436	503 93 059	WENZLICK GEORGE & JUDY I	1516 W ST JOHN RD		PHOENIX	AZ	85023	
2437	503 93 018	WENZLICK GEORGE J	1516 W ST JOHN		PHOENIX	AZ	85023	
2438	503 93 592	WERHAN RONALD W/FUREY-WERHAN CAROL TR	PO BOX 86018		PARKS	AZ	86018	
2439	503 92 528	WESCHE WILLIAM F SR TR	12445 C GLENMEADE CT		ST LOUIS	MO	63043	
2440	503 92 203	WEST LINDA S	8351 MORNING MIST CT		SAN DIEGO	CA	92119	
2441	503 92 319	WEST PERRY JR/VERA L/BRYAN B	9501 W POLK		TOLLESON	AZ	85353	
2442	504 02 001C	WEST VALLEY RANCHES INC	3443 N CENTRAL AVE	, #1111	PHOENIX	AZ	85012	
2443	503 92 398	WHALEN BRUCE G	103 FRANKLIN ST		ALEXANDRIA	VA	22314	3840
2444	503 22 001	WHARTON JOHN B	1833 N 59TH ST		MESA	AZ	85205	
2445	503 23 006B	WHEELIS JIM A	P O BOX 185		MORRISTOWN	AZ	85342	
2446	503 23 006A	WHEELIS WILLIAM A & SARA I	43015 N HIGHWAY 60		MORRISTOWN	AZ	85342	
2447	503 91 212	WHIPPLE ROBERT ALLEN	32039 N 307TH AVE		WITTMANN	AZ	85361	
2448	503 91 344	WHISPERING RANCH RESIDENT	30439 W MONTGOMERY	, # C12	WITTMAN	AZ	85361	
2449	503 93 393	WHITAKER BRIAN C	PO BOX 335		SAN DIEGO	CA	92112	
2450	503 94 573	WHITEHURST DONALD STEVEN/MARIA MANUELA	1 VERDI ST		NORTH PROVIDENCE	RI	02904	4717
2451	503 91 366	WHITESMITH SCOTT A/KAREN P	3700 US HWY 6		LINESVILLE	PA	16424	
2452	503 90 427	WICKLUND WAYNE R/SMITH-WICKLUND ANNE W TR	9345 E POINSETTIA DR		SCOTTSDALE	AZ	85260	
2453	503 90 728	WIEDEL CHARLOTTE M	10433 PONDEROSA		EL PASO	TX	79924	
2454	503 92 396	WIKAR JOHN & GENEVIEVE E	6125 W CORNELIA AVE		CHICAGO	IL	60634	
2455	503 94 735	WILCOX RICHARD A	60 I ST		SOUTH BOSTON	MA	02127	
2456	503 92 107	WILDE GARY L & BARBARA A	W23456800 MILLBROOK CR		BIG BEND	WI	53103	
2457	503 91 217	WILDE JOHN P TR	3310 W BELL RD	, #1008	PHOENIX	AZ	85023	
2458	503 92 106	WILDE MYRTLE E & GARY L ETAL	13690 W CRAWFORD		NEW BERLIN	WI	53151	
2459	503 93 019	WILDER BRIAN L/JODI L	5373 N 28TH DR		PHOENIX	AZ	85017	
2460	503 93 370	WILKENS EUVION	17623 N 30TH AVE		PHOENIX	AZ	85023	
2461	503 93 102	WILKERSON COY G	1548 N 180TH LN		BUCKEYE	AZ	85326	
2462	503 24 024	WILKES HANS WILHELM/LABRETTA	24371 AUGUSTIN		MISSION VIEJO	CA	92991	
2463	503 92 573	WILKOZ LEO T & JULIA K	RR 2 BOX 46		BEECHER	IL	60401	
2464	503 91 171	WILKS ROY J & CELESTINE A	16710 ORANGE AVE M-66		PARAMOUNT	CA	90723	
2465	503 92 335	WILLERT ERVIN J II/GERALDINE T	613 N 69TH AVE		PHOENIX	AZ	85043	
2466	503 92 646	WILLIAMS AUDREY LOUISE	8124 JAMES AVE NORTH		BROOKLYN PARK	MN	55444	
2467	503 92 345	WILLIAMS GEORGE P & DOLORA F	41 BURTON AVE		WAUKEGAN	IL	60085	
2468	503 93 114	WILLIAMS HAROLD D & ARLINE	3575 NE CATAWBA RD		PORT CLINTON	OH	43452	
2469	503 94 600	WILLIAMS JEFFREY L	22602 W MOGNOLIA ST		BUCKEYE	AZ	85326	3986
2470	503 94 850	WILLIAMS JOHN M & COLLEEN K	1011 W BROADWAY		MINNEAPOLIS	MN	55411	

Flood Control District of Maricopa County
Approximate A Zone Study of Watershed "OO" (Jackrabbit Wash, FCD 2000CO19)
Mailing List for Property Owner Notification/Right-of-Entry (1/9/2001)

RECORD	PIN	OWNER	ADD1	ADD2	CITY	STATE	ZIP	ZIP2
2471	503 92 045	WILLIAMS LUCILLE M	215 APPLE HILLS DR		BLENTOOD	CA	94513	
2472	503 94 917	WILLIAMS RALPH T & MARILYNNE N	1054 GREEN ST #408		HONOLULU	HI	96822	
2473	503 91 371	WILLIAMS WENDELL B & JUDY J	SRA BOX 1756-W		ANCHORAGE	AK	99507	
2474	503 90 623	WILLIAMSON EARL BOYD & EUNICE ELIZABETH	2218 N 22ND ST		PHOENIX	AZ	85006	
2475	503 93 064	WILLIS DANNA JOY	5800 LUMBERDALE RD #109		HOUSTON	TX	77092	
2476	503 94 752	WILLY B COMPANY	5625 N 12TH AVE		PHOENIX	AZ	85013	1753
2477	503 92 522	WILSON BILLIE A & EDNA L	7138 SUNSET RD		JOSHUA TREE	CA	92252	
2478	503 22 024	WILSON CHARLES L SR	P O BOX 404		MORRISTOWN	AZ	85342	
2479	503 23 003B	WILSON CHARLES L SR & D C BROZEK ETAL	PO BOX 404		MORRISTOWN	AZ	85342	
2480	503 91 489	WILSON EDWARD N SR & BARBARA R	32 MIDDLESEX ST		MATAWAN	NJ	07747	
2481	503 90 553	WILSON JOHN W & ANNA M	2225 S EARL AVE		LAFAYETTE	IN	47905	
2482	503 93 056	WILSON REUBEN & REBECCA V	320 HARRY S TRUMAN DR		UPPER MARLBORO	MD	20870	
2483	503 90 850	WILSON TERRENCE D & DONNA M	P O BOX 222		MORRISTOWN	AZ	85342	
2484	503 90 901	WINTER SHIRLEY R/VERNON L	2552 35TH AVE		ROCK ISLAND	IL	61201	
2485	503 92 254	WISER JUANITA R	6631 W BROWN		GLENDALE	AZ	85302	
2486	503 91 208	WITSMAN TIMMY JOE/WILLIAM MICHAEL	213 EASTER HILL DR		GRAND JUNCTION	CO	81503	
2487	503 91 422	WITTE BERNARD J	1375 ELM ST		CUMBERLAND	WI	54829	
2488	503 90 497	WITTHAUER ALFRED R/KIMBERLY L/PETERS B P/B J	8902 N 19TH AVE		PHOENIX	AZ	85021	
2489	503 92 250	WITTMAN RONALD G	2056 JERSEY AVE SOUTH		ST LOUIS PARK	MN	55426	
2490	503 92 571	WITTY CECIL M	2560 TOLOSA CIRCLE		TUCSON	AZ	85746	
2491	503 92 597	WOITA THERESE M	713 ELMWOOD CT		ROCHESTER HILL	MI	48307	
2492	503 92 590	WOJCIECHOWSKI GARY C/KATHLEEN	4026 N OTTAWA		NORRIDGE	IL	60634	
2493	503 90 842	WOJCIECHOWSKI WALTER & STEPHANIE	3448 W 116TH ST		CHICAGO	IL	60655	
2494	503 92 093	WOLFE ETHELYN J	1132 W 26TH ST		ERIE	PA	16508	
2495	503 92 112A	WOLFE JOANNE	4400 W MISSOURI	, #20	GLENDALE	AZ	85301	
2496	503 90 102	WOLFE LUCILLE J/JOHN A	P O BOX 132		WITTMANN	AZ	85361	
2497	503 90 284	WOLOSZ RAYMOND K & HELEN A TR	14029 N 39TH DR		PHOENIX	AZ	85023	
2498	503 93 547	WOLSTENHOLME DANIEL A JR & RUBY M ETAL	11475 WASATCH BLVD		SANDY	UT	84092	
2499	503 91 043	WOLTER JOHN E & DORIS L	6600 PLUMWOOD LN		LINCOLN	NE	68516	
2500	506 37 004	WOMENS CLUB OF PHX/SHRINERS HOSPITALS ETAL	P O BOX 31356		TAMPA	FL	33631	
2501	503 91 410	WOOD DALE R & ARLENE F	3416 W 83RD		ANCHORAGE	AK	99502	
2502	503 93 411	WOOD DONALD & BETTIE J	2281 SHERBROOKE DR NE		ATLANTA	GA	30345	
2503	503 90 905	WOOD GERALD E	19807 WILLOWCREEK CIR		SUN CITY	AZ	85373	
2504	503 92 632	WOOD KENNETH/ROBIN	PO BOX 20267		WICKENBURG	AZ	85358	
2505	503 90 790	WOOD M ELOUISE	513 2ND ST		KELLOGG	ID	83837	
2506	503 92 221	WOOD RONALD S & FRANCES M	5858 FT STANWIX		SAN ANTONIO	TX	78233	
2507	503 93 023	WOODEN MAUDIE A	BOX 401		MORRISTOWN	AZ	85342	
2508	503 93 316	WOODS JOHN L	13141 CHARZOMA DR		TUSTIN	CA	92680	
2509	503 92 307	WOODWARD NORMAN JAMES	13402 RIFLEMAN CR		CYPRESS	TX	77429	
2510	503 91 084	WOODYARD ALBERT LEE	6218 W MONTECHRISTO		GLENDALE	AZ	85301	
2511	503 92 324	WOOTEN RONALD R & JUDITH A	7430 W 163RD ST		TINLEY PARK	IL	60477	
2512	503 91 014	WORSENCROFT ARTHUR DEAN	213 N MAIN ST		POLAND	OH	44514	
2513	503 90 943	WREN JIMMIE/HILDA	P O BOX 385		EL MIRAGE	AZ	85335	
2514	503 90 736	WRIGHT EDGAR M/JUDITH J	21601 N 24TH AVE		PHOENIX	AZ	85027	2509
2515	503 22 008F	WRIGHT GORDON E & JUDY L	PO BOX 248		MORRISTOWN	AZ	85342	
2516	503 92 736	WRIGHT LLOYD C & ROSEMARY	RT 2 BOX 380A		MADILL	OK	73446	
2517	503 90 183	WRIGHT MICHAEL L	P O BOX 20693		WICKENBURG	AZ	85358	
2518	503 94 746	WRONA RONALD M & ESTY M	112 ASHLAWN CT		NASHVILLE	TN	37215	
2519	503 90 079	WRP L L C	40825 N 3RD AVE		PHOENIX	AZ	85027	
2520	503 92 560	WUESTENBERG JOHN J & SHIRLEY A	5550 LOWE		WARREN	MI	48092	
2521	503 93 514	WURSTER SIEGFRIED A/LOUVINA R	PO BOX 3095		SUMTAR	SC	29151	
2522	503 27 006B	WUSICH STATLER ELIZABETH	4545 E INDIAN BEND RD		PARADISE VALLEY	AZ	85253	
2523	503 92 104	YANCEY JACK/VAIL DEBBIE	24410 N 185TH AVE		WHITMANN	AZ	85361	
2524	503 93 335	YANEZ RAY O/CLEO M	20847 GRANT MINE		WITTMANN	AZ	85361	
2525	503 93 438	YATES GARY T/SUSAN S	62 CLEVELAND DRIVE		CROTON ON HUDSON	NY	10520	
2526	503 92 693	YATES ROBERT W/KATHE LYNN	30840 W CLOUD RD		WITTMANN	AZ	85361	
2527	503 90 359	YAUSSI THOMAS M & KAY M	7100 OLD POST RD UNIT 10		LINCOLN	NB	68506	
2528	503 92 690	YAX WILLIAM F II & PATRICIA A	5775 S PIKE LAKE RD		DULUTH	MN	55811	
2529	503 94 679	YELSKY LEONARD W ETAL	434 THE ARCADE		CLEVELAND	OH	44114	
2530	503 90 963	YINGLING JIMMY R & MARILYN J	P O BOX 125		EL MIRAGE	AZ	85335	
2531	503 90 888	YODER DONN W & JUNE E	6440 LAKE TAHOE CIR		SAN DIEGO	CA	92119	
2532	503 92 378	YOPP WILLIAM MONTY	23206 HIGHWAY 310		COMO	MS	38619	
2533	503 90 707	YORI MARK L III	2630 N SAFFRON CIRCLE		MESA	AZ	85215	
2534	503 23 008X	YORK DOUGLAS L/TAMMY	43034 W HIGHWAY 60		MORRISTOWN	AZ	85342	
2535	503 90 734	YOUNG GLENN C & SUSAN M	3541 JOYCE DR		MANDEVILLE	LA	70448	
2536	503 94 723	YOUNG JACKY E	22123 W PINNACLE PEAK RD		WITTMANN	AZ	85361	
2537	503 94 765	YOUNG RANDOLPH G & SUSAN M	114 HAGEN ST		FT BRAGG	NC	28307	
2538	503 93 450	YOUNG SARA P	460 5TH AVE NORTH	, #124	HOPKINS	MN	55343	
2539	503 91 003E	YOUNGBERG WILLARD D	2024 E WELDON		PHOENIX	AZ	85016	
2540	503 91 315	YOUNGBLOOD BERNARD J & ROBERTA	477 ALLARD RD		GROSSE POINTE	MI	48236	
2541	503 92 328	YOUNGCLAUS DIANA A	507 BIRKDALE CT		YORKTOWN	VA	23693	
2542	503 92 541	YOVANOVICH IRMA L TR	5212D ROYAL AVE		PORTAGE	IN	46368	
2543	503 90 254	YUNKER PAUL M	16433 W ARROYO VISTA LN		SURPRISE	AZ	85374	
2544	503 90 301	YZAGUIRRE NOE & ESTER	3647 LAKE FIELD		SAN ANTONIO	TX	78230	
2545	503 91 440	ZARYCKA MARYANNE J	1650 SUMMER CREEK LN		PASO ROBLES	CA	93446	1915
2546	503 93 504	ZAVAGNO LORRAINE M	160 KENSINGTON CIR		BAY VILLAGE	OH	44140	1060
2547	503 26 002U	ZELEZNIK ROBERT E/FLORA F	42422 N HWY 60		WICKENBURG	AZ	85342	
2548	503 90 048	ZENOR HAROLD H & REBA L	409 S MAIN ST		ALBIA	IA	52531	
2549	503 90 354	ZENTNER LEWIS J & GAYLEEN J	RR #1		SALEM	NE	68433	
2550	503 93 318	ZERSEN WILLIAM F H & JUDITH M	29641 S WESTERN AVE #211		RANCHO PALOS VERD	CA	90275	
2551	503 25 008K	ZIMMERMAN ELAINE A/JAYS/CAROL J	2413 N 21ST AVE		PHOENIX	AZ	85009	
2552	503 91 370	ZIMMERMAN FRED/ANNIE P TR	3434 E MOUNTAIN VISTA DR		PHOENIX	AZ	85044	
2553	503 94 711	ZIMMERMAN LEE WAIN	2016 WINDING CREEK		FLOWER MOUND	TX	75028	
2554	503 90 487	ZIMMERMAN LESTER & MARY LOU	935 MACKALL AVE		MCLEAN	VA	22101	
2555	503 92 756	ZOOK SARAH G	1007 E MONTEBELLO		PHOENIX	AZ	85014	
2556	503 94 796	ZORICK ROBERT J & JOYCE M	3706 E 67TH AVE		ANCHORAGE	AK	99502	
2557	503 94 767	ZYNIEWICZ JOHN J JR & MARY ELLEN T	7643 W BERWYN AVE		CHICAGO	IL	60656	

ANNOUNCEMENT OF INTENT TO PERFORM FLOODPLAIN DELINEATION STUDY OF WATERSHED "OO" (JACKRABBIT WASH BASIN)

The Flood Control District of Maricopa County (FCDMC) has contracted JE Fuller/ Hydrology & Geomorphology, Inc. to perform an approximate zone floodplain delineation study of selected watercourses within Watershed "OO", also known as the Jackrabbit Wash Basin.

This study will examine and evaluate the flood hazard areas in the basin to determine approximate floodplain limits. These floodplain limits will then be used to determine the flood insurance rates used by the Federal Emergency Management Agency (FEMA).

This announcement is intended to inform all interested persons and communities of the commencement of this study so that they may have an opportunity to bring any relevant technical information to the attention of the FCDMC/FEMA, to be considered during the course of this study.

Your comments should be addressed to Mr. Michael Duncan, P.E., at the Flood Control District of Maricopa County, 2801 West Durango Street, Phoenix, AZ 85009, (602) 506-4732.

Published in The Wickenburg Sun on Jan. 10 and 17, 2001.

Floodplain Study
Jackrabbit Wash

STATE OF ARIZONA

County of Maricopa

Kevin Cloe, being duly sworn, upon oath, deposes and says: That he is the Publisher of

The Wickenburg Sun

A newspaper of general circulation in the County of Maricopa State of Arizona, published in Wickenburg, Arizona, and that the copy hereto attached is a true copy of the advertisement as published weekly in The Wickenburg Sun on the Dates following:

Jan. 10 and 17, 2001.

KEVIN CLOE
PUBLISHER

Sworn to before me this **17th** day of **January** A.D. **2001**

Jo Ann R. Peterson
Notary Public

OFFICIAL SEAL
JO ANN R. PETERSON
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires Sept. 30, 2001

AFFIDAVIT OF PUBLICATION

THE ARIZONA REPUBLIC

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01022-January 10,17, 2001

STATE OF ARIZONA
COUNTY OF MARICOPA } SS.

TOM BIANCO, being first duly sworn, upon oath deposes and says: That he is the legal advertising manager of the Arizona Business Gazette, a newspaper of general circulation in the county of Maricopa, State of Arizona, published at Phoenix, Arizona, by Phoenix Newspapers Inc., which also publishes The Arizona Republic, and that the copy hereto attached is a true copy of the advertisement published in the said paper on the dates as indicated.

The Arizona Republic

January 10, 17, 2001

Sworn to before me this
18 day of
January A.D. 2001

OFFICIAL SEAL
MARILYN GREENWOOD
NOTARY PUBLIC-ARIZONA
MARICOPA COUNTY
My Comm. Expires May 23, 2003

Notary Public

AFFIDAVIT OF PUBLICATION

THE ARIZONA REPUBLIC

STATE OF ARIZONA
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01022-January 10,17, 2001

Sworn to before me this
18 day of
January A.D. 2001

OFFICIAL SEAL
MARILYN GREENWOOD
NOTARY PUBLIC-ARIZONA
MARICOPA COUNTY
My Comm. Expires May 23, 2003

Notary Public

> -----Original Message-----
> From: Jon Fuller [mailto:jon@jefuller.com]
> Sent: Wednesday, January 31, 2001 8:26 AM
> To: sally.magee@fema.gov
> Subject: Approximate method floodplains
>
> Sally:
>
> I got your address from FEMA's web site search engine. I'm looking for
> guidance on mapping new approximate method floodplains. Does FEMA have
> a list of acceptable methodologies?
>
> I know in the past using historical data (extent of large floods) was
> acceptable, esp. for the first FHBM maps. Was/is there a written
> policy?
>
> Thanks for your help.
>
> Jon
> --
> Jon Fuller, P.E., P.H.
> JE Fuller/ Hydrology & Geomorphology, Inc.
> 6101 S. Rural Rd., Suite 110
> Tempe, AZ 85283
> 480-752-2124 x17 (voice)
> 480-839-2193 (fax)
> jon@jefuller.com

--
Jon Fuller, P.E., P.H.
JE Fuller/ Hydrology & Geomorphology, Inc.
6101 S. Rural Rd., Suite 110
Tempe, AZ 85283

Phone: 480-752-2124 x17
Fax: 480-839-2193
Email: jon@jefuller.com
Web: www.jefuller.com

Subject: Re: Approximate method floodplains
Date: Fri, 02 Feb 2001 07:23:32 -0700
From: "Jon Fuller" <jon@jefuller.com>
To: "Magee, Sally" <Sally.Magee@fema.gov>, brian@jefuller.com

Sally:

Thanks for the reply. I've got a couple of follow up questions...

1. I'm very familiar with FEMA 37, we've done a fair number of detailed studies. However, there isn't a whole bunch of practical guidance in FEMA 37 on acceptable methods for doing new approximate method studies. It cites normal depth equations and culvert nomographs. I've heard some old timers say that FEMA requires a minimum of 1 section per mile. Is that and/or other specific guidelines written down anywhere? Is there a standard FEMA review checklist for approximate method studies?

2. I also read the Technical Committee (?) Annual reports for 1998 and 1999 on the website that imply that FEMA is moving away from using unnumbered A zones at all. How's that progressing? If it matters, we really like the A zones, preferring them to no zones.

3. Have you given any thought to the acceptability of using non-traditional methods similar to those Mike Grimm has considered for alluvial fans (e.g., geomorphic mapping, remote sensing, flood extent mapping)? I think these alternative methods offer some very exciting possibilities from the floodplain management side and would be happy to provide some information or make a presentation, if you have a interest.

Thanks again for the info.

Jon

"Magee, Sally" wrote:
>
> *Jon,*
> *Any Flood Insurance Rate Map that FEMA produces has to meet the technical*
> *standards that are published in the FEMA 37, Guidelines and Specifications*
> *for Study Contractors. It is recommended that calibration to historical*
> *floods is done to ensure accurate modeling results; but simply mapping a*
> *floodplain based on the extent of a historical flood event is not*
> *acceptable.*
>
> *The FEMA 37 document can be found on our web site at*
> *http://www.fema.gov/mit/tsd/FRM_docs.htm. A lot of additional information*
> *about our flood hazard mapping program can also be found on our home page at*
> *www.fema.gov/mit/tsd.*
>
> *I hope this helps to answer your questions. You can call our Map Assistance*
> *Center for additional help at 1-877-FEMA-MAP.*
>
> *Sally*
> **********
> *Sally P. Magee*
> *Water Resources Engineer*
> *FEMA Hazards Study Branch*
> *500 C Street, SW*
> *Washington DC 20740*
>

Subject: RE: Approximate method floodplains
Date: Fri, 2 Feb 2001 13:50:16 -0500
From: "Magee, Sally" <Sally.Magee@fema.gov>
To: "'Jon Fuller'" <jon@jefuller.com>, brian@jefuller.com
CC: "Goetz, Mike" <Mike.Goetz@fema.gov>

Jon,
The reports you cited are the Technical Mapping Advisory Council's reports to FEMA--they were an advisory council set up to give guidance and make recommendations to FEMA on the mapping process in general. Their reports are to the Director of FEMA for consideration--they do not necessarily reflect FEMA's views or the way that FEMA is proceeding.

As a part of our Map Modernization initiative, we have an Objective to look at A Zones, and a workgroup was organized to make recommendations on how to deal with A Zones in the future. The objective manager is from our Region 1 office in Boston, Mike Goetz. I would recommend contacting him for further information on the way FEMA is proceeding with this issue.

You are right that FEMA 37 does not adequately address Zone As--there is no existing written guidance on "how to do a Zone A study." I have not seen or heard of the 1 cross section per stream mile guideline, but that's not to say that one of FEMA's "old timers" didn't say it. I do not believe that any such guidance is written, though.

I think that for initially-identified Zone A areas, our Regional office engineers have handled them in the past on a case-by-case basis, depending on development potential, existing risk, etc., and have defined the level of effort specifically for each contract. I think that is part of the reason that the Zone A Objective was initiated--to help define standards for future studies where Zone As are adequate instead of going to the level of effort of a detailed study.

For revisions to existing studies, such as through the Letter of Map Revision process, I have promoted minimal H&H analyses--enough to adequately define the SFHA. For instance, the hydrology could be based on regression equations, which is relatively simple. And some kind of hydraulics--it could be normal depth hand calculations, or a model such as Quick-2 or HEC-2--enough to reasonably delineate the flood hazard, but not to the level of a detailed flood study. I would revise an existing Zone A as long as there is some kind of technical basis for the delineation.

I hope this is a better response to your questions. Please feel free to write back.
Sally

-----Original Message-----
From: Jon Fuller [mailto:jon@jefuller.com]
Sent: Friday, February 02, 2001 9:24 AM
To: Magee, Sally; brian@jefuller.com
Subject: Re: Approximate method floodplains

Sally:

Thanks for the reply. I've got a couple of follow up questions...

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>
> *I hope this helps to answer your questions. You can call our Map*
Assistance
> *Center for additional help at 1-877-FEMA-MAP.*
>
> *Sally*
> **********
> *Sally P. Magee*
> *Water Resources Engineer*
> *FEMA Hazards Study Branch*
> *500 C Street, SW*
> *Washington DC 20740*
>
> *-----Original Message-----*
> *From: Jon Fuller [mailto:jon@jefuller.com]*
> *Sent: Wednesday, January 31, 2001 8:26 AM*
> *To: sally.magee@fema.gov*
> *Subject: Approximate method floodplains*
>
> *Sally:*
>
> *I got your address from FEMA's web site search engine. I'm looking for*
> *guidance on mapping new approximate method floodplains. Does FEMA have*
> *a list of acceptable methodologies?*

>
> *I know in the past using historical data (extent of large floods) was*
> *acceptable, esp. for the first FHBM maps. Was/is there a written*
> *policy?*
>
> *Thanks for your help.*
>
> *Jon*
> *--*
> *Jon Fuller, P.E., P.H.*
> *JE Fuller/ Hydrology & Geomorphology, Inc.*
> *6101 S. Rural Rd., Suite 110*
> *Tempe, AZ 85283*
> *480-752-2124 x17 (voice)*
> *480-839-2193 (fax)*
> *jon@jefuller.com*

--
Jon Fuller, P.E., P.H.
JE Fuller/ Hydrology & Geomorphology, Inc.
6101 S. Rural Rd., Suite 110
Tempe, AZ 85283

Phone: 480-752-2124 x17
Fax: 480-839-2193
Email: jon@jefuller.com
Web: www.jefuller.com

Subject: [Fwd: Approximate method floodplains]
Date: Fri, 02 Feb 2001 07:07:15 -0700
From: "Jon Fuller" <jon@jefuller.com>
To: brian@jefuller.com

fyi
--
Jon Fuller, P.E., P.H.
JE Fuller/ Hydrology & Geomorphology, Inc.
6101 S. Rural Rd., Suite 110
Tempe, AZ 85283

Phone: 480-752-2124 x17
Fax: 480-839-2193
Email: jon@jefuller.com
Web: www.jefuller.com

Subject: RE: Approximate method floodplains
Date: Fri, 2 Feb 2001 10:55:37 -0500
From: "Magee, Sally" <Sally.Magee@fema.gov>
To: "'Jon Fuller'" <jon@jefuller.com>

Jon,
Any Flood Insurance Rate Map that FEMA produces has to meet the technical standards that are published in the FEMA 37, Guidelines and Specifications for Study Contractors. It is recommended that calibration to historical floods is done to ensure accurate modeling results; but simply mapping a floodplain based on the extent of a historical flood event is not acceptable.

The FEMA 37 document can be found on our web site at http://www.fema.gov/mit/tsd/FRM_docs.htm. A lot of additional information about our flood hazard mapping program can also be found on our home page at www.fema.gov/mit/tsd.

I hope this helps to answer your questions. You can call our Map Assistance Center for additional help at 1-877-FEMA-MAP.

Sally
****
Sally P. Magee
Water Resources Engineer
FEMA Hazards Study Branch
500 C Street, SW
Washington DC 20740

-----Original Message-----
From: Jon Fuller [mailto:jon@jefuller.com]
Sent: Wednesday, January 31, 2001 8:26 AM
To: sally.magee@fema.gov
Subject: Approximate method floodplains

Sally:

I got your address from FEMA's web site search engine. I'm looking for guidance on mapping new approximate method floodplains. Does FEMA have

Subject: Re: Question regarding procedure in Approximate A-Zone studies.
Date: Wed, 17 Jan 2001 13:49:53 -0500
From: "Pernille Buch-Pedersen" <PBUCH-PEDERSEN@mbakercorp.com>
To: brian@jefuller.com

Brian:
I apologize for the delay in my response to your questions.

1) It is ok to use the simple unit-area method as you are proposing for determining the discharges.
2) For a Zone A determination it is ok to perform an approximate hand-level measurement as you propose. This would however for a detailed area not be sufficient.
3) It is not a problem that the mapping is in NAVD, it should just be clear what the datum is. Whether the mapping is in NAVD or NGVD, it will not change the boundary of the 100 year flooding. If this was a detailed area, the NAVD mapping could be used, we just need to receive a conversion from NAVD to NGVD or a model that is based on the NGVD datum.

I hope this helps you and again, I apologize for the late response.
Please let me know if you have any questions.
Pernille

>>> Brian Iserman <brian@jefuller.com> 01/02/01 04:30PM >>>
Pernille:

I hope you are well. It was nice to see you at the AFMA conference in Tucson in November. We will soon be starting a Approximate Zone A study of Watershed "OO" (Jackrabbit Wash) for the Flood Control District of Maricopa County. This will be the initial floodplain delineation for approximately 350 miles of washes. I have two general questions for you.

1.) We will be using existing HEC-1 hydrology. However, we need to develop additional concentration points. An initial investigation showed good correlation between area and HEC-1 discharge throughout the basin. So we are proposing to use a simple unit-area method based on the existing FEMA-approved HEC-1 to determine the additional peak discharge values. Will this method be acceptable to FEMA?

2.) The Flood Control District will provide new 10' contour interval mapping this spring. We are not sure if we will need supplemental cross-sectional data, but expect we may need some in low-relief areas to better define typical low-flow channel characteristics and tops of banks. Should we need better data, we are proposing to have our hydrologists perform approximate hand-level measurements rather than have registered land surveyors perform additional survey. Would this be acceptable to FEMA for a approximate zone study?

I would appreciate your thoughts on these two questions.

Thank you,

Brian Iserman
JE Fuller/Hydrology & Geomorphology, Inc.
480-752-2124

Memorandum **JE Fuller/ Hydrology & Geomorphology, Inc.**

DATE: January 23, 2001

TO: File

FROM: Brian Iserman, P.E.

RE: Record of Conversation for Approximate A Zone Floodplain Delineation Study of Watershed "OO" (Jackrabbit Wash)

Mr. Arthur Lyng of Morristown (parcel ID 503 23 025) called today in response to the mailed public notice sent to him for this project. He said walking access to his property was ok, but requested that no motor vehicles be driven across his property. As it turns out, Mr. Lyng's property is located outside of the project area, and will probably not need to be accessed.

Memorandum **JE Fuller/ Hydrology & Geomorphology, Inc.**

DATE: January 24, 2001

TO: File

FROM: Brian Iserman, P.E.

RE: Record of Conversation for Approximate A Zone Floodplain Delineation Study of Watershed "OO" (Jackrabbit Wash)

Mr. Richard Ollinger of Scottsdale (parcel ID 503 94 514) called today in response to the mailed public notice sent to him for this project. He asked for clarification regarding the purpose of the study and the scope.

Memorandum **JE Fuller/ Hydrology & Geomorphology, Inc.**

DATE: January 25, 2001

TO: File

FROM: Brian Iserman, P.E.

RE: Record of Conversation for Approximate A Zone Floodplain Delineation Study of Watershed "OO" (Jackrabbit Wash)

Mr. Archie Neill of Sun City (parcel ID 503 92 635) called today in response to the mailed public notice sent to him for this project. He asked for clarification regarding the purpose of the study and the scope, and granted permission to access his property.

Memorandum **JE Fuller/ Hydrology & Geomorphology, Inc.**

DATE: January 25, 2001

TO: File

FROM: Brian Iserman, P.E.

RE: Record of Conversation for Approximate A Zone Floodplain Delineation Study of Watershed "OO" (Jackrabbit Wash)

Mr. Scott Potter of 13 W Piute, Phoenix, AZ 85027 (parcel ID 503 92 680) called today in response to the mailed public notice sent to him for this project. He asked for clarification regarding the purpose of the study and the scope. It appears that one of the un-named study washes runs through his property, so he had questions regarding how that may affect building on his 5 acre parcel. I informed him that there is no floodplain currently, and that the new floodplain will limit him; but we just don't know how much it will at this point. He asked that he be informed by phone when a public meeting is scheduled. His phone number is 623-582-0436

Memorandum **JE Fuller/ Hydrology & Geomorphology, Inc.**

DATE: January 25, 2001

TO: File

FROM: Brian Iserman, P.E.

RE: Record of Conversation for Approximate A Zone Floodplain Delineation Study of Watershed "OO" (Jackrabbit Wash)

Mr. Kenneth H. Aylesworth of Wittman (parcel ID 503 90 573) called today in response to the mailed public notice sent to him for this project. He specifically stated that he does not grant permission for access to his property, and that they are situated on a hill so they do not have any flooding problems.

JE Fuller/ Hydrology & Geomorphology, Inc.

Jonathan Fuller, P.E., P.H.
Brian Iserman, P.E.
John Wallace, P.E.
Ted Lehman, M.A., E.I.T.

W. Scott Ogden, P.E.
Patricia Q. Deschamps, P.E., L.S.
Michael Henze, M.A.
Brooks Dillard, B.A.

6101 S. Rural Rd., Suite 110
Tempe, Arizona 85283
480-752-2124 (voice)
480-839-2193 (fax)
www.jefuller.com

January 25, 2001

Flood Control District of Maricopa County
ATT: Mike Duncan, P.E.
2801 W. Durango St.
Phoenix, AZ 85009

RE: Watershed OO – Optional Task 6.6
Proposed Approach for Delineating Approximate Zone Floodways

Dear Mike:

Per Joe Tram's request at the project kickoff meeting on January 3, 2001, this letter outlines our proposed approach to delineate approximate zone floodways in the Watershed OO study area. The purpose of approximate zone floodways is to establish permanent corridors for conveying storm water runoff and delineate non-encroachment zones within stream corridors.

We propose to delineate approximate method floodway boundaries using the following geomorphic characteristics and other criteria:

- **Channel bank position**. Floodway boundaries, at a minimum, should be located outside the banks of the main channel. Where multiple or braided channels exist, the floodway boundaries should be no narrower than the outside bank of the widest braid. For the Watershed OO study area, channel banks can be readily identified using the aerial photograph stereo pairs, the rectified photographs and digital topographic data being collected by the District.

- **Riparian vegetation**. Approximate method floodways will be delineated at the outside of swath of dense riparian vegetation (where present) typically found on and adjacent to the channel banks. Riparian vegetation can be readily identified using the aerial photograph stereo pairs and the rectified photographs being obtained by the District.

- **Surficial characteristics**. Interpretation of surficial characteristics from aerial photograph stereo pairs, field data, and geomorphic mapping is a key part of the approved scope of work for the approximate method floodplain delineation. Similar data can also be used to distinguish the most and least active parts of the floodplain. The approximate method floodway would include the most active parts of the floodplain, which consists of the main channels, the lowest stream terraces, and the frequently flooded overbank surfaces. Stream terraces subject to

frequent overbank flooding, active sediment transport, and erosion (floodway) can be readily distinguished from terraces subject to infrequent or shallow flooding and sediment deposition (floodway fringe). The most diagnostic surficial characteristics that will be used to delineate approximate method floodways include the following:

- Surface color. Surfaces with the brightest tones are typically the most frequently flooded. Conversely, darker and redder surfaces typically indicate seldom or not recently (in geologic time) flooded surfaces.
- Vegetation. Surfaces with small, young or annual vegetation are typically more subject to deep or erosive flood flows. Vegetation type, density, and distribution also tend to vary with the frequency and depth of flood inundation.
- Topography. Frequently flooded surfaces typically exhibit bar and swale topography, a hummocky terrain that indicates active sediment transport and moderate to high flow depths. Less frequently flooded surfaces tend to have more uniform topography and have weakly developed interior drainage networks.
- Age indicators. Surfaces with indications of geologic age such as desert varnish, desert pavement, soil reddening, and clay or carbonate accumulation typically are not found in actively flooded areas.

- **SCS soils mapping**. Detailed soils mapping for the study area is available from the *Soil Survey of Aguila-Carefree Area, Parts of Maricopa and Pinal Counties, Arizona* (Camp, P.D., 1986). These SCS soils data are also available digitally from the District, and can be used in conjunction with the digital photography. Preliminary inspection of these data indicate that the SCS mapping will be more useful for supporting approximate method floodplain delineations than for delineating approximate method floodways. However, the SCS unit boundaries may be useful for setting the outer limits of the approximate method floodways.

- **Remote sensing**. We are currently exploring options for using remote sensing techniques for delineation of approximate method floodplains. Should the District approve this optional task, it is possible that approximate method floodways can be delineated by adjusting the sensitivity of the analysis of satellite imagery interpreted for the floodplain delineation.

The approximate method floodways will be delineated by considering the suite of data sets described above and selecting a floodway boundary using engineering and geomorphic judgment. If hydraulic data are available at specific cross sections, the current County policy of defining floodways as areas with flow depths greater than two feet will also be considered.

We believe inclusion of floodways with the approximate method floodplain delineations offers the following important benefits to the District:

- Establishes no-encroachment zones for use by the FCDMC Regulatory Branch.

- Reduces potential development in the most frequently and actively flooded parts of the floodplain.
- Reduces development most likely to be subject to lateral erosion hazards.
- Helps maintain channel stability by decreasing the chance for removal of bank vegetation.
- Preserves portions of the floodplain and allows for flood storage and flood peak attenuation.
- Provides information that can be used in design of new or improved road crossings.
- Helps maintain or preserve riparian corridors, critical wildlife habitat, and scenic corridors.

We look forward to discussing this proposal with you in more detail at our meeting next week. Please call us if you have any questions or comments.

Sincerely,

JE Fuller/ Hydrology & Geomorphology, Inc.

Jonathan Fuller, P.E., P.H.
Principal

Brian Iserman, P.E.
Project Manager

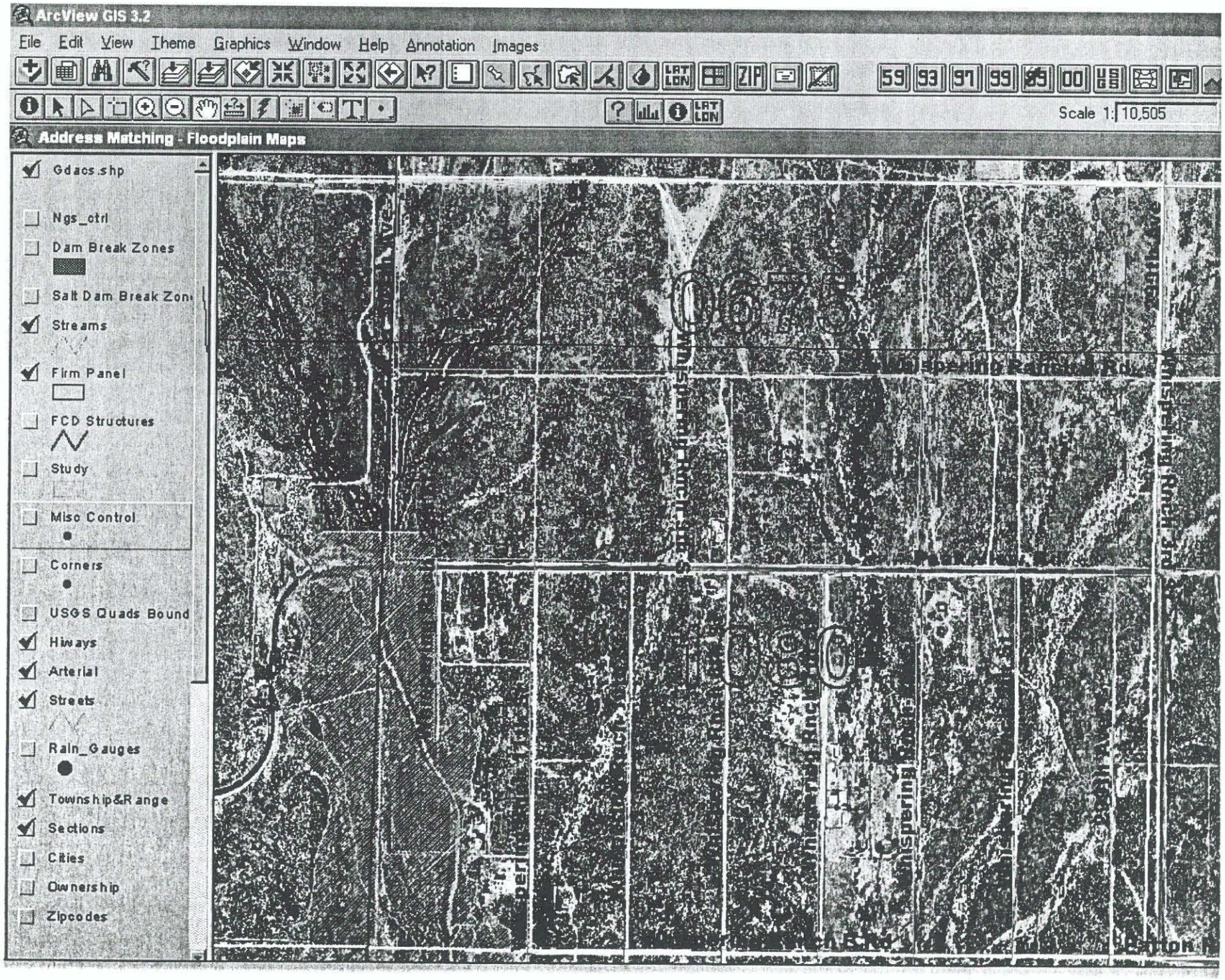
Subject: Jackrabbit Watershed project -- Stay-off-my-land parcel
Date: Mon, 29 Jan 2001 12:24:44 -0700
From: "Michael Duncan - FCDX" <mwd@mail.maricopa.gov>
To: "'brian@jefuller.com'" <brian@jefuller.com>

Parcel ID: 503 91 461

John Mares does not want anybody on his land;
he has Lot 187 of Block 2 of Unit 3 of Wispering Ranch;
I marked it with an X on the enclosed Paint (bmp) file.
It is on the north side of Peakview Road between 307 and 299 Ave.

<<Mares lot.bmp>>

Mares lot.bmp	**Name:** Mares lot.bmp **Type:** Bitmap Image (image/bmp) **Encoding:** base64


ArcView GIS 3.2
File Edit View Theme Graphics Window Help Annotation Images
Scale 1: 10,505
Address Matching - Floodplain Maps
Gdacs.shp
Ngs_ctrl
Dam Break Zones
Salt Dam Break Zon
Streams
Firm Panel
FCD Structures
Study
Misc Control
Corners
USGS Quads Bound
Hiways
Arterial
Streets
Rain_Gauges
Township&Range
Sections
Cities
Ownership
Zipcodes

Subject: Approximate locations of 4 lots of Kenneth Aylesworth
Date: Tue, 30 Jan 2001 11:08:12 -0700
From: "Michael Duncan - FCDX" <mwd@mail.maricopa.gov>
To: "'brian@jefuller.com'" <brian@jefuller.com>

Here is a color bitmap showing the very approximate locations of the 4 parcels that belong to Kenneth Aylesworth. As he told you, he does not want anybody on his land. He told me it was mainly due to his wife's wishes. He said they have "riffraff" problems related to "parties" at the Hassaympa River, and if you leave something around for a period of time, it will disappear.

The image calls out Black Mountain Road, and I think this is the same alignment as Cloud Road.

<<4 approx lots of Aylesworth.bmp>>

4 approx lots of Aylesworth.bmp	**Name:** 4 approx lots of Aylesworth.bmp **Type:** Bitmap Image (image/bmp) **Encoding:** base64

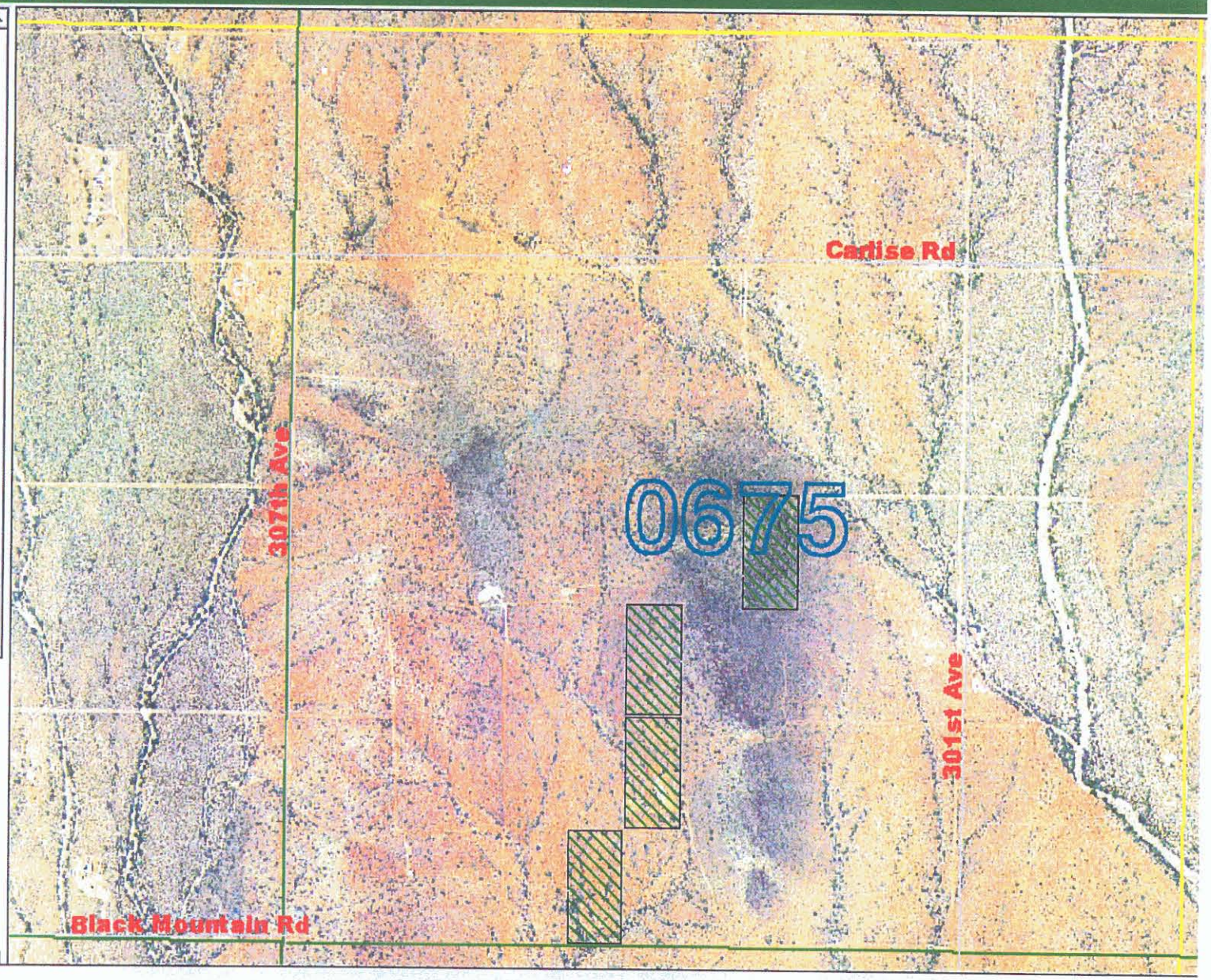
ArcView GIS 3.2

File Edit View Theme Graphics Window Help Annotation Images

Scale 1: 10,511

Address Matching - Floodplain Maps

- Gdacs.shp
- Ngs_ctrl
- Dam Break Zones
- Salt Dam Break Zon
- Streams
- Firm Panel
- FCD Structures
- Study
- Misc Control
- Corners
- USGS Quads Bound
- Hiways
- Arterial
- Streets
- Rain_Gauges
- Township&Range
- Sections
- Cities
- Ownership
- Zipcodes

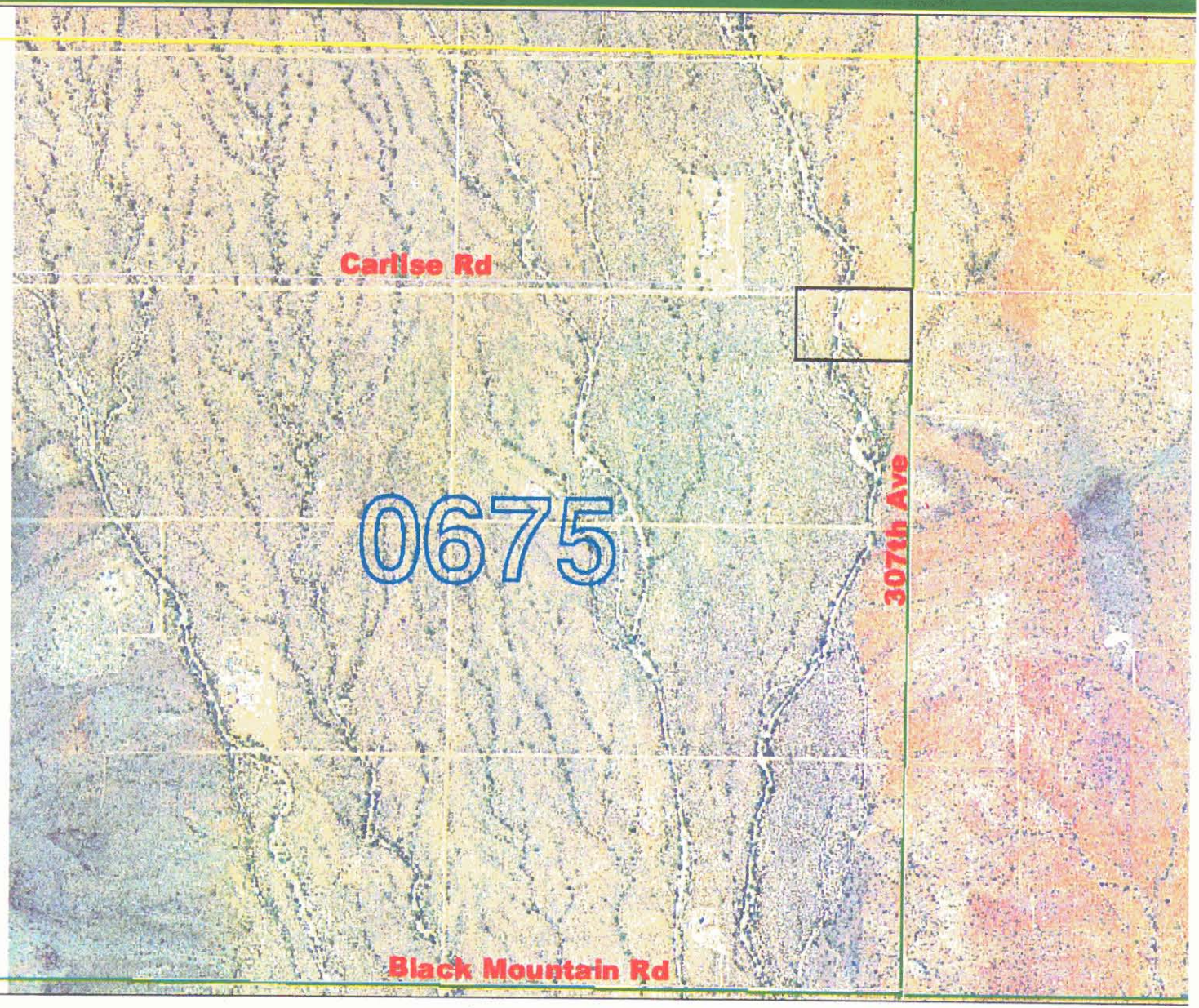


Subject: Jackrabbit Wash Watershed Project -- Another Access Objector
Date: Wed, 31 Jan 2001 12:03:46 -0700
From: "Michael Duncan - FCDX" <mwd@mail.maricopa.gov>
To: "'brian@jefuller.com'" <brian@jefuller.com>

David Obryan called to object to entry. His lot is in 6N 5W Sec 36, along the east side of the
section, as shown in the attached bmp file. It looks like one of our study washes goes through
his lot.

<<D Obryan lot STAY OFF.bmp>>

D Obryan lot STAY OFF.bmp	**Name:** D Obryan lot STAY OFF.bmp **Type:** Bitmap Image (image/bmp) **Encoding:** base64


Carlise Rd
0675
307th Ave
Black Mountain Rd

Subject: Jackrabbit Wash Watershed project -- refused entry for Joseph Lee parcel & Blue line is smaller...
Date: Mon, 5 Feb 2001 10:00:35 -0700
From: "Michael Duncan - FCDX" <mwd@mail.maricopa.gov>
To: "'brian@jefuller.com'" <brian@jefuller.com>

I received a letter from Joseph Lee, refusing entry. But he also states:
Your request is too vague and indefinite. With proper identification of the specific property and the work to be performed, I believe, I will be able to grant the required permission.

His phone number is 1-623-388-2949, and his parcel is in Section 10 of 5N 5W and is shown in attached bitmap image.

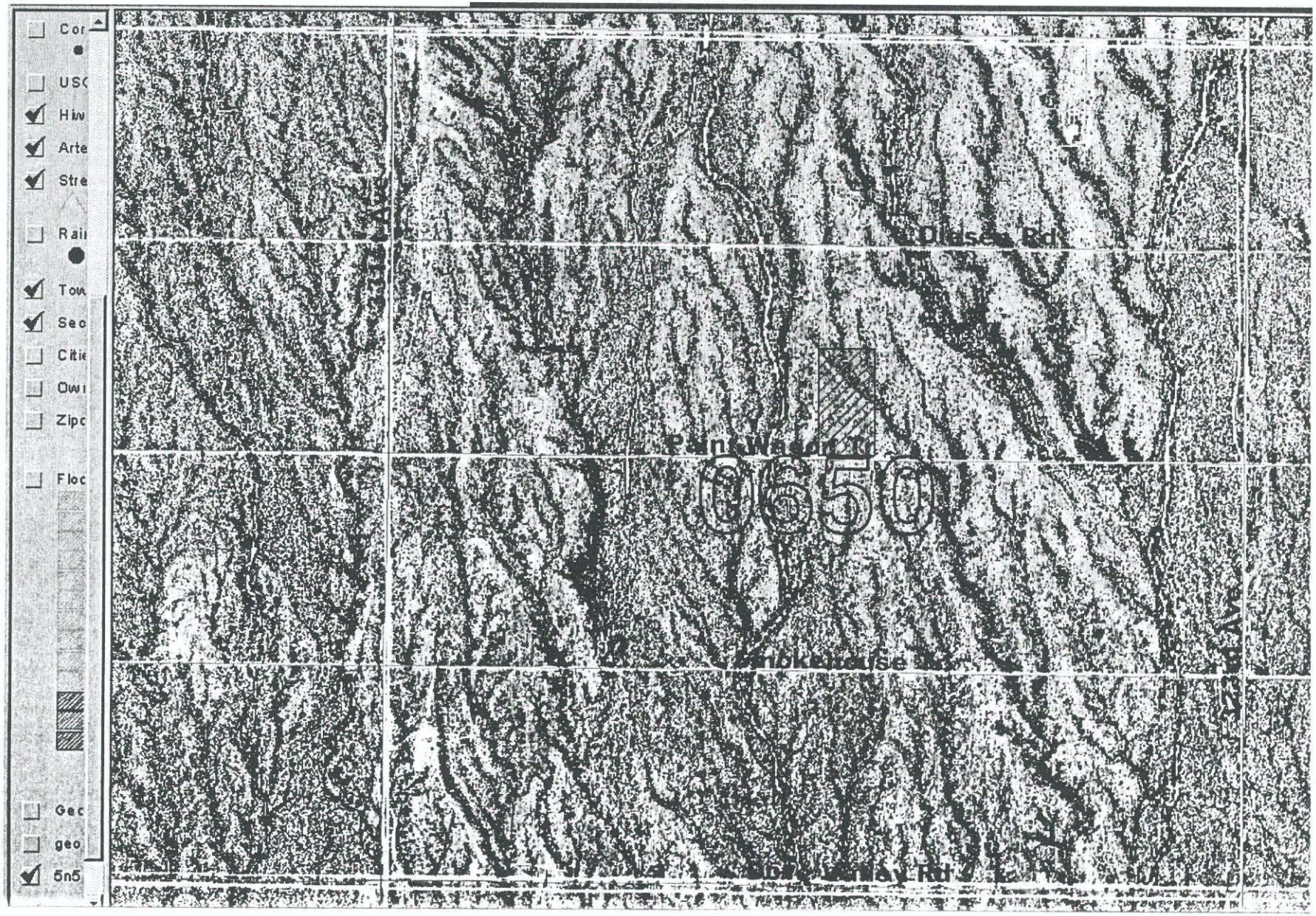
This image also shows a blue-line-wash in the west portion of the section, which is smaller than other washes around it.

<<Joseph Lee parcel.bmp>>
And here is an image of Section 15, which is immediately to the south of Section 10, that shows another part of the same blue line. It looks like flow paths have altered since the USGS blue lines were established.

<<Sec15 5n5w blue line in smaller wash.bmp>>

Joseph Lee parcel.bmp	**Name:** Joseph Lee parcel.bmp **Type:** Bitmap Image (image/bmp) **Encoding:** base64

Sec15 5n5w blue line in smaller wash.bmp	**Name:** Sec15 5n5w blue line in smaller wash.bmp **Type:** Bitmap Image (image/bmp) **Encoding:** base64


Cor
USC
Hiw
Arte
Stre
Rail
Tow
Sec
Citie
Owi
Zipc
Floc
Gec
geo
5n5
Olusea Rd
Pan Western
6650
Linbkelvelse
Ave

February 11, 2001

Re: Glen Mares property in Wickenburg Ranch, Arizona identified as parcel 187 in Block 2 of Whispering Ranch, Unit No. 3

Flood Control District
of Maricopa County
2801 West Durango Street
Phoenix, Arizona

FLOOD CONTROL DISTRICT
RECEIVED
FEB 15 '01
WND

Certified Mail
Return Receipt Requested
attn: Mr. Michael Duncan

Dear Mr. Duncan:

This letter will confirm our telephone conversation of last week. At that time I told you that I refused a right of entry to my property from any agent that you may appoint including but not limited to the J.E. Fuller/Hydrology & Geomorphology Inc. for surveying and reconnaissance activities. Anyone including anyone from your district who comes on my property will be trespassers. I have outlined to you my reasons for this action.

Yours truly,

John J. Mares
3 S 452 Glen Drive
Warrenville, Ill.
(60555)

FAX SHEET

TO: fax 480-839-2193
Brian Iserman
JE Fuller Hydrology and Geomorphology

FROM: Mike Duncan
Floodplain Delineation Branch
phone 602-506-4732
FAX 602-506-7346

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009

2 sheets including cover

Date: 2-15-01

Project: Jackrabbit Wash Watershed Project

Just for your info.
Here is a letter that I received today by certified mail from John Mares. I emailed you a diagram of his parcel on 1-29-01. It is on the north side of Peakview Road between 299th and 307th Ave.

He states that anybody who comes on his property will be a trespasser.

Subject: Watershed "OO", Property Owner Request for Information, Ada Schler
Date: Tue, 19 Jun 2001 16:59:34 -0700
From: Brian Iserman <brian@jefuller.com>
To: Michael Duncan - FCDX <mwd@mail.maricopa.gov>

Mike:

I overlayed the 7 5-acre parcels owned by Ada Schler onto the workmap base for this study. I have reported the following general information to Ms. Schler for each parcel per her request:

503 90 775
This parcel is near Daggs Wash and currently not part of this study. However, this was could be re-studied at a later date to account for new

hydrology.

503 92 190
This parcel is not on a main study reach, but may be impacted by overflows from a nearby study reach.

503 92 395
This parcel is on a study reach (T5-R5-S25-B). The discharge is 500 cfs. The wash may impact a large portion of the parcel.

503 93 025 and 026
These two parcels are impacted by a breakout from a study reach (T4-R5-S3) and by overbank flooding. The wash may impact a large portion of the parcel.

503 93 449
This parcel is not on a study reach. It is located in an uplan area with minor incised washes bisecting it.

503 94 499
This parcel is not on a study reach. However, it is bisected by a well-defined wash.

Brian Iserman
JE Fuller/Hydrology & Geomorphology, Inc.
480-752-2124 x11

Subject: Jackrabbit Wash watershed floodplain project -- Work map scale
Date: Thu, 26 Jul 2001 12:46:53 -0700
From: "Michael Duncan - FCDX" <mwd@mail.maricopa.gov>
To: "'brian@jefuller.com'" <brian@jefuller.com>

I have decided to go with the 1" = 400 ft scale for the work maps.
If there are some mountainous areas, where 500, 800, or 1000 ft might work,
we can discuss later and agree on the scale to use in those areas.

Subject: Re: Jackrabbit Wash Approximate Zone Floodplain DelineationStudy
Date: Thu, 26 Jul 2001 09:13:26 -0700
From: Brian Iserman <brian@jefuller.com>
To: Pernille Buch-Pedersen <PBUCH-PEDERSEN@mbakercorp.com>
References:

Pernille:

Thank you for the reply to both my e-mail questions. In response to your question regarding scale: We havn't
commited to scale yet, but we were just thinking that 400 scale seemed a little more standard (from FCDMC
perspective) than 500. I will forward your comments on to Joe Tram and Mike Duncan at the Flood Control District.
In the end, we may just decide on 500 scale just to be consistent with the map accuracy standard.

Pernille Buch-Pedersen wrote:

> Brian:
> I don't think there would be a problem showing the information at 1"=400' as long as the information is correct.
>
> Just out of curiosity, what is the reason behind changing the scale?
>
> Pernille
>
> >>> Brian Iserman <brian@jefuller.com> 07/19/01 12:21PM >>>
> Pernille:
>
> I have another quick question regarding another mapping project we are
> working on. The project is an approximate Zone A delineation study in
> Maricopa County using 10' CI topographic mapping. The Mapping was flown
> for a horizontal scale of 1"=500'. Would there be any problem
> presenting the work maps at 1"=400' scale?
>
> Your thoughts would be appreciated.
>
> Thank You,
>
> Brian Iserman
> JE Fuller/Hydrology & Geomorphology, Inc.
> Tempe, Arizona
> 480-752-2124 x11

B.5 Contract Documents

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CONTRACT FCD 2000C019

JACKRABBIT WASH WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY

C-69-01-025-5-00

Pursuant to the provisions of the Arizona Revised Statutes § 48-3603, the Board of Directors of the Flood Control District of Maricopa County has the authority to enter into contracts.

The **Flood Control District of Maricopa County**, Arizona, hereinafter called "District", is desirous of having certain professional services performed in connection with **Contract FCD 2000C019, Jackrabbit Wash Watershed Zone A Floodplain Delineation Studies, (also referred to as Watershed OO)**, hereinafter called the "Project" and as more fully described in Exhibit A, Scope of Work, and in accordance with Exhibit B, Fee Proposal attached; and **JE Fuller/Hydrology & Geomorphology, Inc.** hereinafter called "Consultant", with its principal offices located at **5235 S. Kyrene Road, Suite 205, Tempe Arizona, 85283**, is desirous of performing said services;

THEREFORE, the parties hereto mutually agree as follows:

SECTION I—SERVICES OF THE CONSULTANT

The Consultant, under the general supervision of the District Engineering Division Manager, shall prepare studies, reports, surveys, plans, drawings, specifications, and cost estimates as are necessary for the Project according to the directions and designated standards of the District, and in accordance with Exhibit A, Scope of Work. It is understood and agreed that the District's authorized representative shall be the Engineering Division Manager or his duly authorized representative, hereinafter called the "Agent". For purposes of this contract, the Agent's duly authorized representative shall be the Project Manager and he/she shall be the sole contact for administering this contract.

The Consultant shall meet periodically with the Agent so as to keep the District informed of the progress of the work in accordance with the schedule defined in Exhibit A, Scope of Work.

The Consultant shall promptly advise the Agent of any factors which may develop during the Project that would likely result in construction or design costs in excess of budgetary constraints.

SECTION II—PERIOD OF SERVICE

The Consultant shall complete all work per the schedule provided in Exhibit A, Scope of Work **within 570 calendar days**, which includes 90 days for District reviews and 270 days for FEMA reviews, after receipt of the Notice to Proceed. Should extension of this contract period be necessary, and any such extension(s) continue the date of contract performance for a time period of more than one (1) year from the original date of contract expiration, adjustment(s) of the Consultant's fee(s) may, upon agreement by both the District and the Consultant, be made in accordance with the Consumer Price Index for Urban Consumers, Western Division, published by the U.S. Department of Labor, Bureau of Labor Statistics, using the published edition coinciding with the initial contract expiration date. Any such fee adjustment shall only apply to the extended contract time period.

SECTION III—PAYMENTS TO THE CONSULTANT

The Consultant shall be paid for work under this contract a **lump sum fee of six hundred thirty-nine thousand five hundred sixty dollars and fifty-seven cents ($639,560.57)** plus a fee not-to-exceed **one hundred fifty-eight thousand five hundred sixteen dollars and fifty-six cents ($158,516.56)** for optional tasks as identified below and in accordance with the Scope of Work. A written authorization from the Agent is required prior to initiating any optional task.

Task 4.3	Survey 30 additional cross sections		$ 10,674.94
Task 6.5	Piedmont floodway corridor		14,186.63
Task 6.6	Approximate Method Floodway		59,800.74
Task 6.14	Additional 35 miles of Zone A		62,049.37
Task 6.15	GIS-based floodplain approximation		11,804.88
		Total	$158,516.56

The total contract amount is not to exceed **seven hundred ninety-eight thousand seventy-seven dollars and thirteen cents ($798,077.13)** plus any adjustments that have been approved in writing in accordance with the Maricopa County Procurement Code.

The District shall pay the Consultant upon completion of the work as accepted by the District, except that progress payments may be made as billed by the Consultant based on approved monthly progress reports subject to the limitations set forth in Exhibit A, Scope of Work. Ten percent (10%) of all contract payments made on an interim basis shall be retained by the District as insurance of proper performance of the contract or, at the option of the Consultant, a substitute security may be provided by the Consultant in an authorized form pursuant to procedures established by the District. The Consultant is entitled to all interest from any such substitute security.

When the contract is fifty percent (50%) complete, retention shall be reduced to five percent (5%) of the amount of any subsequent progress payments, and one-half (1/2) of the amount retained will be paid to the Consultant provided the Consultant is making satisfactory progress and there is no specific cause or claim requiring a greater amount to be retained. If at any time the District determines satisfactory progress is not being made, ten percent (10%) retention shall be reinstated for all progress payments made under the contract subsequent to the determination.

If the Consultant desires a partial payment in accordance with the provisions above, and a Minority/Women-Owned Business Enterprises (M/WBE) goal has been established this contract, the Consultant will complete and forward the enclosed M/WBE Participation Report (Attachment 1) indicating payment distribution to M/WBE firms with each request for payment. A M/WBE participation goal of five percent (5%) has been established for this contract.

Following approval and acceptance by the District of all work described in Exhibit A, Scope of Work, but prior to submittal by the District to FEMA, the Consultant shall submit a final invoice and a "Certificate of Substantial Performance" form (Attachment 2). This final invoice will be for payment of all monies due under this contract except for five percent (5%) retention unless a substitute security was provided by the Consultant in the authorized form pursuant to procedures established by the District.

Any retained monies shall be paid or substitute security released to the Consultant upon the following:

A. FEMA acceptance/approval of the project and completion of all final work required by the District to receive FEMA acceptance,

B. receipt of a completed "Certificate of Performance" form (Attachment 3).

C. the District's receipt of a Final M/WBE Participation Report for the assignment, stating the total payments received by the prime, as well as total payments the prime has made to M/WBE subconsultants, vendors, and suppliers, and if applicable,

D. an invoice for the release of the five percent (5%) retention.

SECTION IV—THE DISTRICT'S RESPONSIBILITIES

The District shall furnish the Consultant, at no cost to the Consultant, the following information or services for this Project:

A. One copy of on-hand maps, records, survey ties, benchmarks, or other data pertinent to the Project. This does not, however, relieve the Consultant of the responsibility of searching records for additional information, for requesting specific information, or for verification of that information provided. The District does not warrant the accuracy or comprehensiveness of any such information.

B. All available information and data relative to policies, standards, criteria, and studies, etc. impacting the Project as identified by the Consultant.

C. Availability of staff for consultation with the Consultant during the performance of studies and plan development in order to identify the problems, needs, and other functional aspects of the Project.

D. Prompt examination of documents submitted by the Consultant and rendering of decisions pertaining thereto in order to avoid unreasonable delay in the progress of the work by the Consultant. The District will keep the Consultant advised concerning the progress of the District's review of work.

SECTION V—AMENDMENTS

Any alteration in the Scope of Work that will result in a substantial change in the nature of the Project so as to materially increase or decrease the contract fee will require negotiation of an amendment to the contract to be executed by the District and the Consultant. No work shall commence on the change until the contract amendment has been approved by the District and the Agent has notified the Consultant to proceed. It is distinctly understood and agreed that no claim for extra work performed or materials furnished by the Consultant will be allowed by the District except as provided herein, nor shall the Consultant do any work or furnish any materials not covered by this agreement unless such work is first authorized in writing by the District in accordance with the Maricopa County Procurement Code. Any such work or materials furnished by the Consultant without such written authorization first being given shall be at Consultant's own risk, cost, and expense. The Consultant hereby agrees to make no claim for such work or materials furnished without such written authorization.

SECTION VI—RECORDS

Records of the Consultant's payroll expense pertaining to this contract and records of accounts between the District and the Consultant shall be kept on a generally recognized accounting basis and shall be available upon request to the District or its authorized representative for audit during normal business hours.

All Consultant and District procurement records shall be retained for a period of one (1) year and disposed of in accordance with the records retention guidelines and schedules approved by the State of Arizona Department of Library, Archives, and Public Records unless applicable Federal regulations require a longer period of retention.

SECTION VII—PROJECT COMPLETION

If, during the course of this contract, situations arise which prevent completion within the allotted time, the Agent may grant an extension.

SECTION VIII—TERMINATION

The District may terminate this contract at any time upon reimbursement to the Consultant of expenses that include reasonable charges for time and material for the percentage of work satisfactorily completed and provided to the District.

The District reserves the right to postpone, terminate, or abandon this contract for the Consultant's failure to complete the Project on time or failure to comply with the provisions of the contract. The District also reserves the right to terminate any or all parts of this contract for its own convenience as the District may determine at it's sole discretion.

The District hereby gives notice that pursuant to A.R.S. § 38-511 "A" this contract may be canceled without penalty or further obligation within three (3) years after execution if any person significantly involved in initiating, negotiating, securing, drafting, or creating a contract on behalf of the District is, at any time while the contract or any extension of the contract is in effect, an employee or agent of any other party to the contract in any capacity or a consultant to any other party of the contract with respect to the subject matter of the contract. Cancellation under this section shall be effective when written notice from the District Chief Engineer and General Manager is received by all of the parties to the contract. In addition, the District may recoup any fee or commission paid or due to any person significantly involved in initiating, negotiating, securing, drafting, or creating the contract on behalf of the District from any other party to the contract arising as a result of the contract.

The Consultant may terminate this contract in the event of nonpayment of fees as specified in SECTION III, PAYMENTS TO THE CONSULTANT.

SECTION IX—OWNERSHIP OF DOCUMENTS

All original documents including, but not limited to studies, reports, tracings, drawings, physical and computer models, estimates, field notes, investigations, design analysis, calculations, computer software, and specifications, prepared in the performance of this contract are to be and remain the property of the District and are to be delivered to the Agent before final payment is made to the Consultant. The District will not reuse, alter, or modify these documents without noting such modifications, alterations, or intent of their reuse, and will hold the Consultant harmless from any claims arising from such reuse, modifications, or alterations of the documents. The Consultant may retain reproducible copies of all such documents delivered to the District. The District reserves the right to reuse the documents as the District sees fit.

SECTION X—COMPLIANCE WITH LAWS

The Consultant is required to comply with all Federal, State, and local laws, local ordinances and regulations. The Consultant's signature on this contract certifies compliance with the provisions of the I-9 requirements of the Immigration Reform and Control Act of 1986 for all personnel that the Consultant and any subconsultants employ to complete the Project. It is understood that the District shall conduct itself in accordance with the provisions of the Maricopa County Procurement Code.

SECTION XI—GENERAL CONSIDERATIONS

A. The Consultant shall furnish to the District for approval, the names of its key employees, and of its subconsultants and their key employees, to be used on this Project prior to beginning the work under this contract. Any subsequent changes are subject to the written approval of the District.

   The Consultant in replacing a M/WBE subcontractor shall attempt to contract with another M/WBE subcontractor.

B. The failure of either party to enforce any of the provisions of this contract or to require performance of the other party of any of the provisions hereof shall not be construed to be a waiver of such provisions, nor shall it affect the validity of this contract or any part thereof, or the right of either party to thereafter enforce each and every provision.

C. The Consultant shall be responsible for the cost of any additional design, field layout, testing, construction, and supervision necessary to correct those errors or omissions attributable to the Consultant and for any damage incurred by the District as a result of additional construction costs caused by such Consultant errors or omissions.

D. The fact that the District has accepted or approved the Consultant's work shall in no way relieve the Consultant's responsibility.

E. It is mutually understood and agreed that this contract shall be governed by the laws of the State of Arizona, both as to interpretation and performance. Any action at law, suit in equity, or judicial proceeding for the enforcement of this contract, or any provision thereof, shall be instituted only in the courts of the State of Arizona.

F. The Consultant agrees during the execution of this contract that no clients other than the District, or the Federal Emergency Management Agency, will be retained within the study area without expressed written authority from the Chief Engineer and General Manger of the District.

SECTION XII—SUCCESSORS AND ASSIGNS

This contract shall not be assigned by either party without prior written approval of the other except that the Consultant may use in the performance of this contract without prior approval of the District, personnel or services of its related entities and affiliated companies as if they were an integral part of the Consultant; and it shall extend to and be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

SECTION XIII—NO KICK-BACK CERTIFICATION

The Consultant warrants that no person has been employed or retained to solicit or secure this contract upon any agreement or understanding for a commission, percentage, brokerage, or contingent fee; and that no member of the Board of Directors or any employee of the District has any interest, financially or otherwise, in the Consultant's firm.

For breach or violation of this warranty, the District shall have the right to annul this contract without liability, or at its discretion, to deduct from the contract price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

SECTION XIV—ANTI-DISCRIMINATION PROVISION

The District will endeavor to ensure in every way possible that minority and women-owned business enterprises shall have every opportunity to participate in providing professional services, purchased goods, and contractual services to the District without being discriminated against on the grounds of race, religion, sex, age, or national origin.

The Consultant agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, or disability and further agrees not to engage in any unlawful employment practices. The Consultant further agrees to insert the foregoing provisions in all subcontracts hereunder.

SECTION XV—INDEMNIFICATION

Indemnification for Professional Liability:
To the fullest extent permitted by law, the Consultant shall indemnify and hold harmless the District and Maricopa County, their agents, representatives, officers, directors, officials, and employees from and against all claims, damages, losses and expenses, including but not limited to attorney fees, court costs, expert witness fees, and the cost of appellate proceedings, relating to, arising out of, or alleged to have resulted from the Consultant's negligent acts, errors, omissions or mistakes relating to professional services in the performance of this contract. Consultant's duty to indemnify and hold harmless the District and Maricopa County, their agents, representatives, officers, directors, officials, and employees shall arise in connection with any claim, damage, loss or expense that is attributable to bodily injury, sickness, disease, death, or injury to, impairment, or destruction of property, including loss of use resulting therefrom, caused by any negligent acts, errors, omissions or mistakes, related to professional services in the performance of this contract including any person for whose negligent acts, errors, omissions or mistakes, the Consultant may be legally liable.

The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

For all other hazards, liabilities, and exposures:
To the fullest extent permitted by law, the Consultant shall defend, indemnify and hold harmless the District, Maricopa County, their agents, representatives, officers, directors, officials, and employees from and against all claims, damages, losses and expenses (including but not limited to attorney fees, court costs, expert witness fees, and the cost of appellate proceedings), relating to, arising out of or resulting from the Consultant's work or services. Consultant's duty to defend, indemnify and hold harmless the District and Maricopa County, their agents, representatives, officers, directors, officials, and employees

shall arise in connection with any claim, damage, loss or expense that is attributable to bodily injury, sickness, disease, death, injury to, impairment or destruction of property including loss of use resulting therefrom, caused in whole or in part by any act or omission of the Consultant, anyone Consultant directly or indirectly employs or anyone for whose acts Consultant may be liable.

The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

Abrogation of Arizona Revised Statutes § 34-226:
In the event that A.R.S. § 34-226 shall be repealed or held unconstitutional or otherwise invalid by a court of competent jurisdiction, then this duty of indemnification shall extend to all claims, damages, losses and expenses, including but not limited to attorney fees, court costs, expert witness fees, and the cost of appellate proceedings, relating to, arising out of, or alleged to have resulted therefrom, caused in whole or in part by any negligent acts, errors, or omissions relating to professional work or services in the performance of this contract by the Consultant, or anyone directly employed by the Consultant or anyone for whose acts Consultant may be liable regardless of whether it is caused by any party indemnified hereunder, including the District and Maricopa County.

The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

The scope of this indemnification does not extend to the sole negligence of the District.

SECTION XVI—INSURANCE REQUIREMENTS

Consultant, at Consultant's own expense, shall purchase and maintain the herein stipulated minimum insurance with companies duly licensed, possessing a current A.M. Best Company, Inc. Rating of at least B++ or a Financial Performance Rating (FPR) of at least 6, or approved unlicensed companies in the State of Arizona with policies and forms satisfactory to the District.

All insurance required herein shall be maintained in full force and effect until all work or service required to be performed under the terms of the contract is satisfactorily completed and formally accepted. Failure to do so may, at the sole discretion of the District, constitute a material breach of this contract.

The Consultant's insurance shall be primary insurance as respects the District and any insurance or self-insurance maintained by the District shall not contribute to it.

The policies required hereunder, except Workers' Compensation and Professional Liability, shall contain a waiver of transfer of rights of recovery (subrogation) against the District, its agents, representatives, officers, directors, officials, and employees for any claims arising out of the Consultant's work or service.

Any failure to comply with the claim reporting provisions of the insurance policies or any breach of an insurance policy warranty shall not affect coverage afforded under the insurance policies to protect the District.

The insurance policies may provide coverage which contains deductibles or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to the District under such policies. The Consultant shall be solely responsible for the deductible and/or self-insured retention and the District, at its option, may require the Consultant to secure payment of such deductibles or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit.

The District reserves the right to request and to receive, within ten (10) working days, certified copies of any or all of the herein required insurance policies and/or endorsements. The District shall not be obligated, however, to review such policies and/or endorsements or to advise Consultant of any deficiencies in such policies and endorsements, and such receipt shall not relieve Consultant from, or be deemed a waiver of, the District's right to insist on strict fulfillment of Consultant's obligations under this contract.

The insurance policies required by this contract, except Workers' Compensation and Professional Liability, shall name the District, its agents, representatives, officers, directors, officials, and employees as Additional Insureds.

Commercial General Liability:
Consultant shall maintain Commercial General Liability insurance with a limit of not less than $1,000,000 for each occurrence with a $2,000,000 Products/Completed Operations Aggregate and a $2,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage, personal injury, products and completed operations and blanket contractual coverage including, but not limited to, the liability assumed under the indemnification provisions of this contract which coverage will be at least as broad as Insurance Service Office, Inc. Policy Form CG 00 01 10 93 or any replacements thereof.

The policy shall contain a severability of interest provision, and shall not contain a sunset provision or commutation clause, or any provision which would serve to limit third party action over claims.

The Commercial General Liability additional insured endorsement shall be at least as broad as the Insurance Service Office, Inc.'s Additional Insured, CG 20 10 11 85, and shall include coverage for Consultant's operations and products and completed operations.

Automobile Liability:
Consultant shall maintain Automobile Liability insurance with an individual single limit for bodily injury and property damage of no less than $1,000,000, each occurrence, with respect to Consultant's vehicles (whether owned, hired, non-owned), assigned to or used in the performance of this contract. Coverage will be at least as broad as coverage code 1, "any auto" (Insurance Services Office, Inc. Policy Form CA 00 01 12 93, or any replacements thereof). Such insurance shall include coverage for loading and off-loading and off-loading hazards. If hazardous substances, materials, or wastes are to be transported, MCS 90 endorsement shall be included and $5,000,000 per accident limits for bodily injury and property damage shall apply.

Workers' Compensation:
The Consultant shall carry Workers' Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Consultant's employees engaged in the performance of the work or services, as well as Employer's Liability insurance of not less than $1,000,000 for each accident, $1,000,000 disease for each employee, and $1,000,000 disease policy limit.

In case any work is subcontracted, the Consultant will require the Subconsultant to provide Worker's Compensation and Employers' Liability insurance to at least the same extent as required of the Consultant.

Professional Liability:
The Consultant retained by the District to provide the work or service required by this contract shall maintain Professional Liability insurance covering negligent acts, errors, or omissions arising out of the

work or services performed by the Consultant, or any person employed by the Consultant, with a limit of not less than $1,000,000 each claim.

Certificates of Insurance:

Prior to commencing work or services under this contract, Consultant shall furnish the District with Certificates of Insurance (Attachment 4), or formal endorsements as required by the contract, issued by Consultant's insurer(s), as evidence that policies providing the required coverage's, conditions, and limits required by this contract are in full force and effect. Such certificates shall identify this contract number and title.

In the event any insurance policy(ies) required by this contract is(are) written on a "claims made" basis, coverage shall extend for two (2) years past completion and acceptance of the Consultant's work or services and as evidenced by annual Certificates of Insurance.

If a policy does expire during the life of the contract, a renewal certificate must be sent to the District fifteen (15) days prior to the expiration date.

Cancellation and Expiration Notice:

Insurance required herein shall not expire, be cancelled, or materially changed without thirty (30) days prior written notice to the District.

.....

IN WITNESS WHEREOF, the parties herein have executed this contract.

JE Fuller/Hydology & Geomorphology, Inc.

Principal (Signature)

Jonathan Fuller

Printed Name

President

Title

10-19-00

Date

86-0785301

Federal Tax Identification Number

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY:

11/12/00

Michael S. Ellegood, P.E. Date
Chief Engineer and General Manager

ACCEPTED AND APPROVED:

12/06/2000

Chairman, Board of Directors Date

ATTEST:

12/06/2000

Clerk of the Board Date

LEGAL REVIEW

Approved as to form and within the powers and authority granted under the laws of the State of Arizona to the Flood Control District of Maricopa County.

11/15/00

General Counsel, District Date

EXHIBIT A

SCOPE OF WORK

CONTRACT FCD 2000C019

JACKRABBIT WASH WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY

EXHIBIT A

SCOPE OF WORK

CONTRACT FCD 2000C019

Jackrabbit Wash Watershed Zone A Floodplain Delineation Study

GENERAL

The goal of this project is to delineate an estimated 374 miles of approximate Zone A 100-year floodplains in Watershed "OO" (a.k.a., Jackrabbit Wash Watershed). The limits of Watershed "OO" are shown on Exhibit A1.

In order to accomplish the study's goal, the CONSULTANT will have to 1) coordinate the study with the DISTRICT and others, 2) collect and analyze existing data, 3) use existing USGS and/or other topographic mapping, 4) perform field surveys as required, 5) develop the 100-year peak discharges, 6) delineate the Zone A floodplains and optionally delineate approximate method floodways and alluvial fan landforms, 7) prepare the study results in an electronic form (HIS data will be submitted with each appropriate task deliverable), and 8) deliver all of the study documentation in formats acceptable to the DISTRICT and Federal Emergency Management Agency (FEMA).

The CONSULTANT must use sound engineering judgment in the development of the hydrologic data and hydraulic models. All work must meet Arizona Department of Water Resources (ADWR) and the Federal Emergency Management Agency (FEMA) requirements for Zone A floodplain delineation's. Prior to the finalization of this contract, FEMA and the DISTRICT must review and accept the results of this study, and all items called for in this Scope of Work must be delivered to the DISTRICT. All work completed under this scope of services is to conform with the District's Consultant Guidelines dated August 1, 2000.

The floodplain delineations will be phased according to the sub-watershed identification as identified in Exhibit A and in Table 1, below.

Table 1: Sub-Watershed Delineation Schedule

Sub-Watershed	Study Phase	Delineation Mileage
'Coyote Wash	1	45
Daggs Wash & Hassayampa Tributaries	1	72
Upper Jackrabbit Wash	2	104
Hassayampa Plain/Powerline Piedmont	2	153
Total Area		374

The time frame for delineation of the Zone floodplains will be 300 days including 90 days for FCD review. Additional time, equal to 270 days will be allowed for FEMA review. All work must be completed including FEMA review within 570 days from the notice to proceed. If topographic mapping is provided by the DISTRICT the project schedule will be extended by the number of days after notice to proceed the topographic mapping is provided to the consultant. The schedule will be extended as indicated on the project schedule to be delivered under Task 1.1 if any of the optional tasks are approved by the DISTRICT.

TASK 1 - COORDINATION

1.1 Within fourteen days of Notice to Proceed, the CONSULTANT will submit a project schedule to the District's Project Manager showing coordination meetings and completion dates for each task

identified in the scope of work. The CONSULTANT will update this project schedule when appropriate.

1.2 The CONSULTANT will participate in regular coordination meetings (at least every 4 weeks) with the District's Project Manager and in milestone coordination meetings in the development of the hydrologic and hydraulic analyses. The CONSULTANT is responsible for the minutes of any meetings. Whenever possible, coordination and milestone meetings will be combined.

1.3 The CONSULTANT will submit an estimate of the monthly billing within 14 days of Notice to Proceed. Thereafter, this estimate will be updated and submitted to the District's project manager at least 10 days before the end of each quarter.

1.4 The CONSULTANT will submit monthly progress reports at least 5 days before submittal of monthly invoices. The report shall be brief and should be no longer than two typed pages. At a minimum, the monthly report shall contain the following:

a. A description of the work accomplished by task during the reporting month.

b. Percent (%) completed for the month and percent (%) cumulative completed for each task.

c. A brief description of the work to be accomplished in the following month.

d. A description of any problems encountered and a recommended solution.

1.5 The CONSULTANT is responsible for placing the legal advertising at the beginning of the study, notifying the public of the study. The ad will be run in a widely circulated local newspaper twice, with approximately one week between runs. The ad must also be run twice in a local newspaper that serves the area being studied. After the newspapers run the ad, the CONSULTANT will supply the DISTRICT with the original affidavit of publication from each newspaper for each day that the ad ran.

1.6 The CONSULTANT will notify all property owners by regular mail and obtain any necessary Rights of Entry for the study area, using a list of property owners furnished by the DISTRICT. The CONSULTANT will furnish the DISTRICT with a sample of the Notification/ Right of Entry letter.

1.7 The CONSULTANT will meet with officials from the DISTRICT and any incorporated communities affected.

1.8 The DISTRICT will provide any public notice beyond that described in Task 1.6.

1.9 Consultant/District Performance Evaluations will be performed. An informal evaluation will be performed at the completion of the hydrologic analysis. A formal evaluation will be performed at the completion of the project upon receipt of all deliverables.

TASK 2 - DATA COLLECTION

2.1 The CONSULTANT will collect and review pertinent data from the DISTRICT and other outside sources. Data to be collected will include previous flood hazard reports and hydrology for the study area; existing readily available topographic mapping; proposed development plans, historical flooding information; as-built plans for existing structures; FEMA Flood Hazard Boundary Maps and any Letters of Map Amendment and/or Revisions, and other pertinent information.

2.2 A written report summarizing the data collected will be included as a section in the Technical Data Notebook (TDN). A preliminary draft of this section is due within 90 days of Notice to Proceed.

TASK 3 - TOPOGRAPHIC MAPPING

The CONSULTANT will use existing USGS topographic mapping and/or other topographic mapping provided by the DISTRICT.

TASK 4 - FIELD SURVEY

4.1 Field measurements of bridges, culverts, and hydraulic structures are to be obtained by the CONSULTANT when as-built plans are not available, or when conditions have changed that impact the Zone delineation. This information should be reduced and compiled into an 11"x 17" (maximum size) drawing for inclusion in the TDN. The information presented in the drawing should be in a ormat appropriate for use in future HEC-RAS models.

4.2 Copies of the survey field books and office calculations must be included in the TDN. This information can be submitted separately if approval is obtained from the District's Project Manager.

4.3 (OPTIONAL) The CONSULTANT shall provide field survey data for cross sections used for approximate floodplain delineations where USGS DEM data are not adequate. **This task is not authorized with the NTP and may be authorized in writing by the DISTRICT.**

4.4 Digital data in either a CADD or GIS format will be prepared in conformance with the District's Hydrologic Information System Data Delivery Specifications, Revision 3.1 (or CADD Data Delivery Specifications Rev. 1.0, January 2000). The following themes are the ones generally used for the data developed for Field Survey. However, for this study there may not be data for every theme identified here, or the CONSULTANT might develop data for themes not listed here. Therefore, only those themes for which there are data need to be completed. If the CONSULTANT has data that don't fit one of the themes listed here, the District's Project Manager shall be contacted to determine the appropriate theme for that data.

a. CORNERS (if any)

b. CTRL (Misc.Control Survey Pts.)

c. FPCTLFCD (ERMs))

d. STRCT (Structure)

e. PRJ (Project Boundary)

TASK 5 - HYDROLOGY

5.1 The CONSULTANT will use the hydrology results from the existing Jackrabbit Wash Flood Insurance Study. The peak discharges for sub-watersheds will be developed using discharge-drainage area relationships and/or regressions equations. Development of new hydrology (such as applying area/discharge relationships and/or HEC-1) will be required for the northeast portion of the watershed (located east of 307th Avenue and draining directly to the Hassayampa River). The CONSULTANT must analyze the data carefully and in some instances correlate data against other hydrologic data such as regression equations in order to obtain the most realistic results.

5.2 Meetings shall be held with DISTRICT staff at the following milestones:

a. Meeting number 1: field trip at the start of the project to scope out the critical points of the watershed and problem areas.

b. Meeting number 2: as soon as basic data are gathered and the sub-basins have been delineated. A copy of the draft maps of the sub-basins must be delivered to the District at this meeting. The method for generating the peak discharges will be agreed upon at this meeting.

c. Meeting number 3: to review of final document and comments by the DISTRICT.

5.3 The Hydrologic Report

The findings of the hydrologic study will be presented in Section 4 of the Technical Data Notebook and will be prepared in accordance with ADWR State Standards Attachment 1-97 (SSA 1-97). The report will be organized as specified by the DISTRICT, following SSA 1-97 format. Specific deviations from this hydrologic scope shall not be undertaken without the specific written authorization from the District's Project Manager.

5.4 Digital data in either a CADD or GIS format will be prepared in conformance with the District's Hydrologic Information System Data Delivery Specifications, Revision 3.1 (or CADD Data Delivery Specification, Rev. 1.0, January 2000). The following themes are the ones generally used for the data developed for hydrology. However, for this study there may not be data for every theme identified here, or the CONSULTANT might develop data for themes not listed here. Therefore, only those themes for which there are data need to be completed. If the CONSULTANT has data that don't fit one of the themes listed here, the District's Project Manager shall be contacted to determine the appropriate theme for that data.

a. DRNBSN (Drainage Basins)

b. PRJDAT (Project Identification)

c. DRNPTH (Drainage Flow Paths)

TASK 6 - FLOODPLAIN DELINEATION

6.1 Floodplain delineations will be conducted using methodology as outlined by FEMA. The CONSULTANT will prepare the study using the guidelines established in FEMA 37, *Flood Insurance Study Guidelines and Specification for Study Contractors*, January 1995, FIA 12, *Appeals, Revisions, and Amendments to Flood Insurance Maps*, December 1993, and FEMA 265, *Managing Floodplain Development in Approximate Zone A Areas*, April 1995.

6.2 The delineation work shall meet requirements for floodplain delineations as prescribed by FEMA and the Arizona Department of Water Resources.

6.3 The delineation of 322 miles of the study (outside of the piedmont areas shown in Exhibit A) shall be based on the final results of the hydrologic study as directed by the District.

The CONSULTANT must obtain DISTRICT approval at each of the following steps:

a. Draft field reconnaissance section of the TDN and estimation of Manning's "n" values.

b. Proposed location and alignment of the cross sections.

c. Methodology used for both the floodplain and optional floodway delineations.

d. Approximate floodplain (natural) delineation.

e. Approximate floodway delineations

f. Final hydraulics section of the TDN.

6.4 The delineation of 52 miles of the study (inside the piedmont areas shown in Exhibit A) shall be based on the final results of the hydrologic study as directed by the DISTRICT and geomorphic analyses of the piedmont surface. The purpose of this delineation will be to identify the overall boundary of the piedmont areas using low-level geomorphic approaches in order to provide a limit of the approximate Zone A delineations. This will include interpretation of aerial photographs, USGS topographic maps, stereo photos developed under the USGS Aerial Photography Program (NAPP, 1997), and observations in the field.

6.5 (OPTIONAL) Approximately 52 miles of piedmont floodway corridors will be delineated inside the piedmont areas shown on Exhibit A based on geomorphic principles. The piedmont floodway corridors will be defined using existing soils data, surficial geology and/or vegetation patterns observed in the field and from recent aerial photography. **This task is not authorized with the NTP and may be authorized in writing by the DISTRICT.**

6.6 (OPTIONAL) The CONSULTANT will provide approximate method floodways for the reaches located outside the piedmont area shown on Exhibit A. The approximate method floodways will be defined using existing soils data, surficial geology and/or vegetation patterns observed in the field and from recent aerial photography. **This task is not authorized with the NTP and may be authorized in writing by the DISTRICT.**

6.7 Field Reconnaissance

6.7.1 The CONSULTANT will conduct a field reconnaissance of the study area. This will include observation of channel and floodplain conditions for estimating Manning's "n" values; photographic documentation of floodplain characteristics; determination of channel bank characteristics; observation of possible overflow areas; observation of levees or other flood control structures; and measurement of bridge dimensions.

6.7.2 Manning's "n" values are to be determined using the methodology in the USGS report, *Estimated Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona*, April 1991. Copies of the report are available through the District. Manning's Roughness Coefficients will be presented for typical reach types observed in the project area, rather than specific reaches of specific named washes. It is anticipated that between 5 and 10 typical reach types will be identified during the field reconnaissance.

6.7.3 Representative "n" values for each typical reach type will be selected. The reconnaissance report will present the determination of channel and overbank "n" values using captioned color photographs or color photocopies for each identified reach type in the project area. The report will also discuss floodplain conditions affecting the delineation, describe structures and obstructions, and provide color photos or photocopies of major hydraulic structures. Photo locations, structures, and "n" values will be displayed on reduced scale mapping and included in the Final Report. The reconnaissance or n-value report will be included in all subsequent phased TDN submittals associated with this contract.

6.8 Cross Sections

6.8.1 The location and alignment of cross sections will be submitted for the District's review and approval before developing the cross section data. The CONSULTANT must coordinate the methodology for generating the cross section geometric data. Acceptable methods might include collecting the data directly off paper copies of the USGS maps, use of a computer program to develop the data from digital information, or field surveys possibly using GPS.

6.8.2 The cross section plots will at a minimum show computed normal depth and "n" values. All plots are to be accompanied by a legend. These plots should be available at all reviews.

6.9 The hydraulics of bridges and culverts should be incorporated into assessing the floodplain around such structures especially in areas where ponding will occur. The Zone A, limits must be determined according to FEMA criteria and clearly labeled on the final drawings. Conveyance through minor structures such as small culverts (i.e., less than 30" in diameter), or structures which are likely to become clogged during the 100-year peak discharge shall not be included in the hydraulic analyses.

6.10 The findings of the floodplain delineation study will be presented in Section 4 of the Technical Data Notebook and will be prepared in accordance with ADWR State Standards Attachment 1-97 (SSA 1-97). The report will be organized as specified by the DISTRICT standards, following SSA 1-97 format.

6.11 The CONSULTANT shall fill out all the forms required by FEMA for the submittal of a Floodplain Delineation Study.

6.12 The CONSULTANT will provide work maps on monochrome USGS digital raster graphic quadrangle USGS maps (used as base maps). The CONSULTANT will develop check plots and certify that they have been examined, and that the check plots faithfully represent the data and maps used in the report and /or work maps. The work map drawings will be 24" X 36" in size. The work map scale will be determined by the CONSULTANT, and will vary between 1"=400' and 1"=1000' scale, depending on the terrain and the floodplain widths. The District's Project Manager must approve the horizontal scale being used.

A cover sheet will be part of the work study drawings and shall have on it the project title, source and date of topographic mapping, and a location map showing geographic range covered by each specific mapping sheet. Each drawing will include the floodplain, approximate method floodway (if developed), piedmont surface land forms (if developed), a north arrow, scale, section corners, current streets and highway names, State Plane Coordinate System, major drainage features, corporate boundaries, cross section lines, index map, the floodplain boundaries, peak discharges at concentration points, and Section, Township, Range for each wash delineated.

6.13 Digital data in either a CADD or GIS format will be prepared in conformance with the District's Hydrologic Information System Data Delivery Specifications, Revision 3.1 (or CADD Data Delivery Specifications, Rev. 1.0, January 2000). The following themes are the ones generally used for the data developed for hydraulics. However, for this study there may not be data for every theme identified here, or the CONSULTANT might develop data for themes not listed here. Therefore, only those themes for which there are data need to be completed. If the CONSULTANT has data that don't fit one of the themes listed here, the District's Project Manager shall be contacted to determine the appropriate theme for that data.

a.	PRJ (Project Boundary)*	b.	CARTO (Cartographic Features)
c.	DQ (Data Quality)	d.	FPXFCD (Cross Sections)
e.	FPZNFCD (Floodplain Zones)	f.	NDXPRJ (Map Sheet Index)
g.	PRJDAT (Project Identification)	h.	Hydraulic Table **

* Only delivered if mapping is not part of study.

** An additional table of hydraulic results for each cross section hot-linked to the cross sections will also be provided in ArcView format.

6.14 (OPTIONAL) The CONSULTANT will provide an additional 35 miles of approximate method Zone A delineation at the same level of detail and effort as described under Task 6. **This task is not authorized with the NTP and may be authorized in writing by the DISTRICT.**

6.15 (OPTIONAL) The CONSULTANT will perform an analysis to compare a GIS-based floodplain approximation method to the results of this study in 3 selected test reaches. The approximation method will be developed by the CONSULTANT and will be in the form of a set of empirically derived regime relationships which relate discharge, floodplain top width, and channel slope for the 100-year discharge. The deliverable for this task will be a technical memorandum describing assumptions, methods and results, and a map showing the differences between the GIS delineation

method and the approximate delineation methodology used for the rest of the study area. **This task is not authorized with the NTP and may be authorized in writing by the** DISTRICT.

TASK 7 - DELIVERABLES

7.1 Both paper and electronic deliverables will be made at the completion of each task. In addition, the CONSULTANT will deliver the following items to the DISTRICT before delivering the FEMA submittal package:

7.1.1 Original Affidavits of Publication of the legal advertisements. Additional copies are to be included in the Technical Data Notebook.

7.1.2 Any related data for the District's Hydrologic Information System.

7.1.3 If bound separately from the Technical Data Notebook, two (2) copies of the field survey notes and office calculations.

7.2 The CONSULTANT will submit the following items to the DISTRICT for review by FEMA and any other appropriate governmental agency. The CONSULTANT will submit four separate TDN's, one for each sub-watershed division established in Table 1 and shown in Exhibit A. All of the following products are considered deliverables for the FEMA submittal:

7.2.1 Two (2) complete sets of 24" X 36" blackline drawings with the topographic data and floodplain delineations shown. All drawings will be signed and sealed by persons of appropriate professional registration(s). Each registrant will provide a specific statement as to what service they performed.

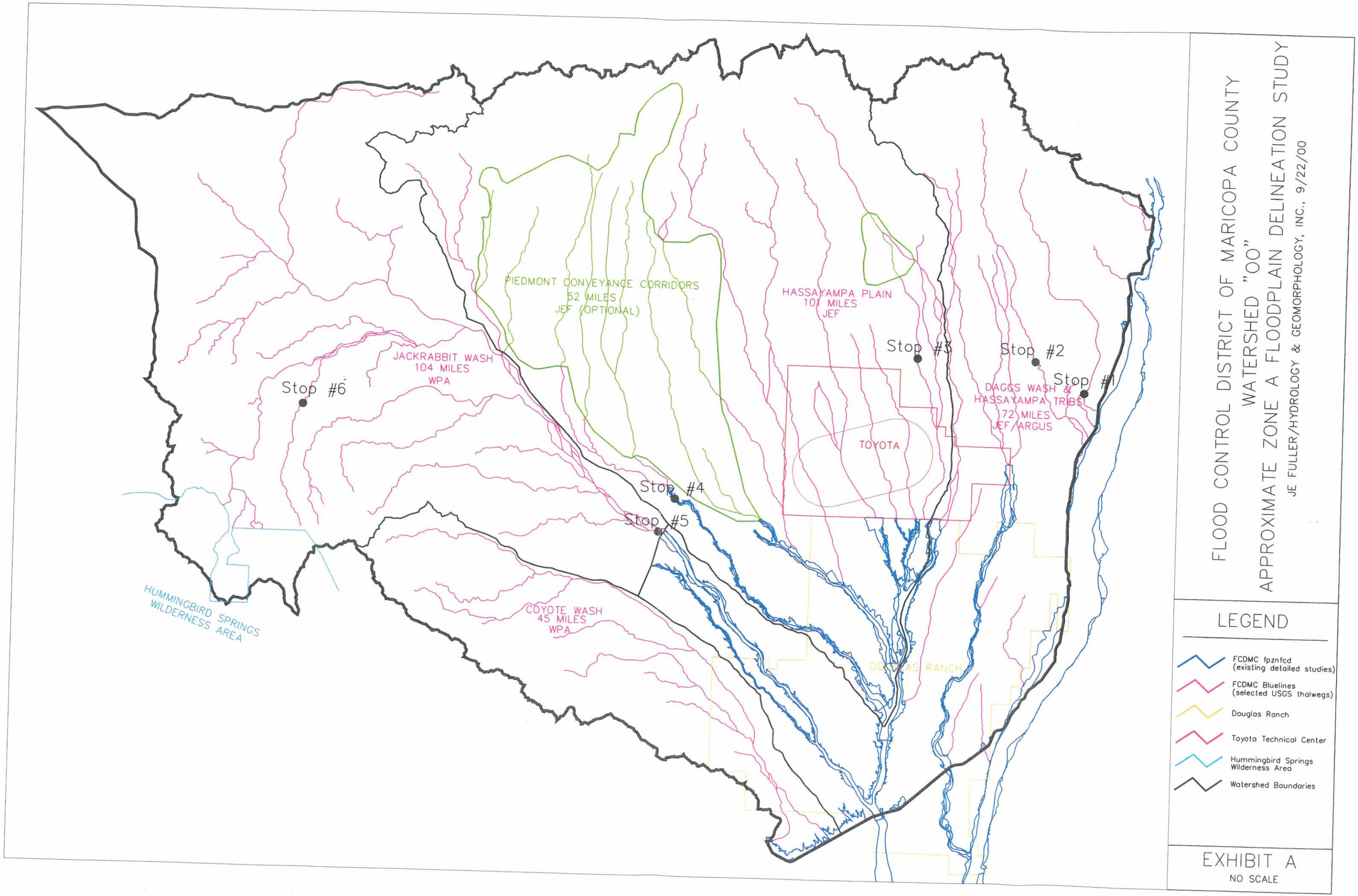
7.2.2 Two (2) complete copies of the Technical Data Notebook. The Technical Data Notebook will be prepared in accordance with ADWR State Standards Attachment 1-97 (SSA 1-97). The notebook will be organized as specified by the DISTRICT, following SSA 1-97 format. These copies will be updated if necessary based upon FEMA's review comments. Completed FEMA forms will be included in the Technical Data Notebook.

7.3 Final Submittal: Unless directed otherwise by the DISTRICT, all printed deliverable items shall be black and white for ease of reproduction. The CONSULTANT will submit four separate TDN's, one for each sub-watershed division established in Table 1 and shown in Exhibit A. The following products are considered deliverables for the final submittal to the DISTRICT after FEMA approval is issued:

7.3.1 One (1) complete composite set of sealed non-erasable mylars with the topographic data and floodplain delineations shown. Two (2) complete sets of sealed blueline copies of the delineation exhibits. The sheets shall be 24" X 36" in size, and all drawings will be signed and sealed by persons of appropriate professional registration(s). Each registrant will provide a specific statement as to what service they performed.

7.3.2 All remaining hydrologic and floodplain delineation data in conformance with the District's HIS Specifications.

7.3.3 Two (2) complete copies of the Technical Data Notebooks. The Technical Data Notebook will be prepared in accordance with ADWR State Standards Attachment 1-97 (SSA 1-97). The notebook will be organized as specified by the DISTRICT, following SSA 1-97 format. This submittal of the Technical Data Notebook shall include any correspondence and/or meeting minutes with the reviewing agencies and shall reflect any revisions required by those reviewing agencies.


PIEDMONT CONVEYANCE CORRIDORS
52 MILES
JEF (OPTIONAL)
HASSAYAMPA PLAIN
101 MILES
JEF
JACKRABBIT WASH
104 MILES
WPA
Stop #6
Stop #3
Stop #2
Stop #1
DAGGS WASH &
HASSAYAMPA TRIBS
172 MILES
JEF/ARGUS
TOYOTA
Stop #4
Stop #5
HUMMINGBIRD SPRINGS
WILDERNESS AREA
COYOTE WASH
45 MILES
WPA
DOUGLAS RANCH
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
WATERSHED "OO"
APPROXIMATE ZONE A FLOODPLAIN DELINEATION STUDY
JE FULLER/HYDROLOGY & GEOMORPHOLOGY, INC., 9/22/00
LEGEND
FCDMC fpznfcd
(existing detailed studies)
FCDMC Bluelines
(selected USGS thalwegs)
Douglas Ranch
Toyota Technical Center
Hummingbird Springs
Wilderness Area
Watershed Boundaries
EXHIBIT A
NO SCALE

APPENDIX C: SURVEY FIELD NOTES

TABLE OF CONTENTS
APPENDIX C
VOLUME 1 OF 2 OF THE TDN

C.1 Survey field notes for hydrologic and hydraulic calculations

Field survey for this project included auto level surveys at flow splits or bifurcations for the purpose of determining flow distribution.

APPENDIX D: HYDROLOGIC ANALYSES SUPPORTING DOCUMENTATION

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APPENDIX D
VOLUME 1 OF 2 OF THE TDN

D.1 Discharge-Drainage Area Regression Analyses Results

D.2 HEC-RAS Split Flow Analyses Results

D.1 Discharge-Drainage Area Regression Analyses Results

FIGURE 10-3

100-YEAR PEAK DISCHARGE BY LP3 ANALYSIS (LP3 Q100) AND MAXIMUM RECORDED DISCHARGE (Q_M RECORD) vs. DRAINAGE AREA FOR 0.1 TO 2.0 SQUARE MILES

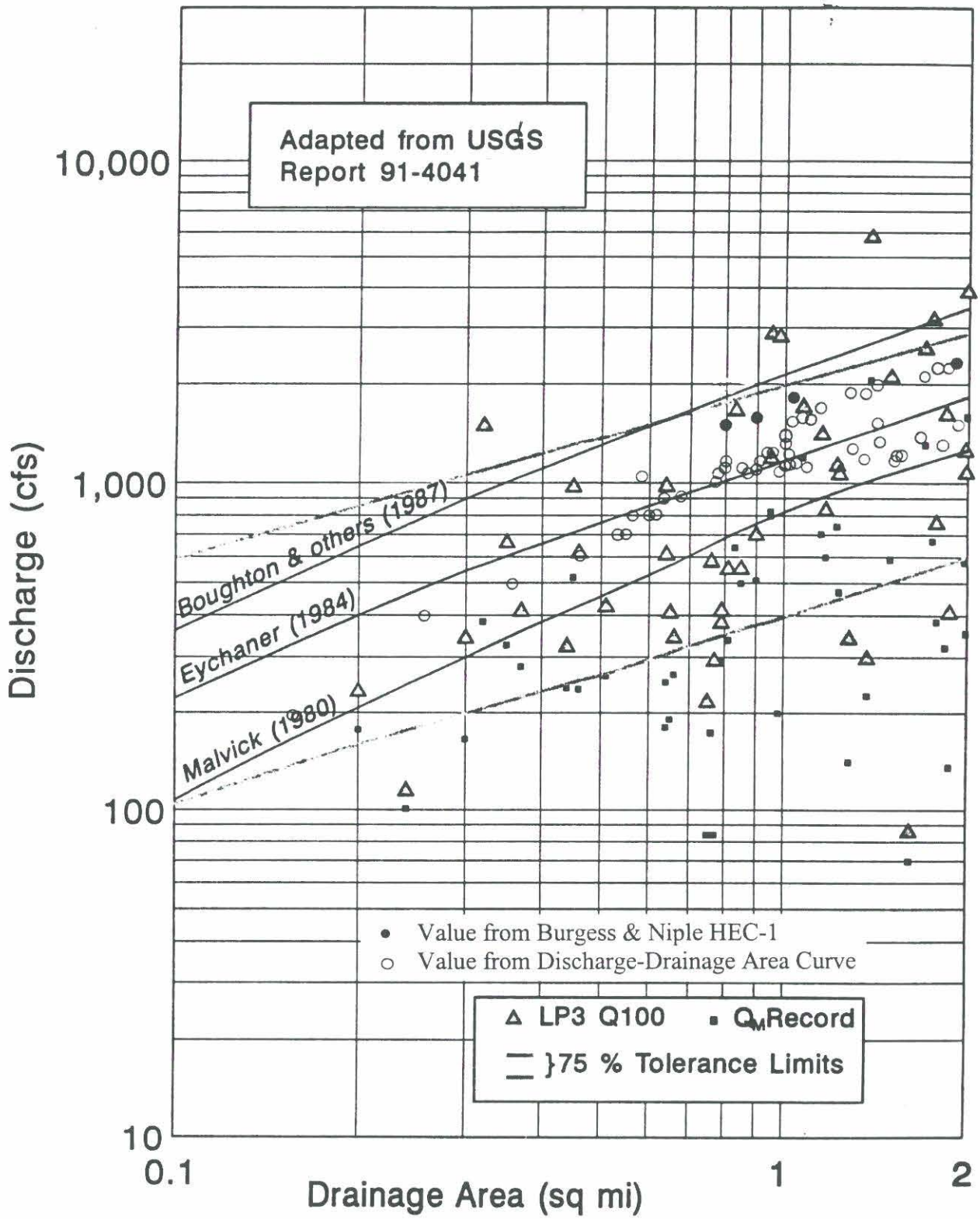


FIGURE 10-4

100-YEAR PEAK DISCHARGE BY LP3 ANALYSIS (LP3 Q100) AND MAXIMUM RECORDED DISCHARGE (Q_M RECORD) vs. DRAINAGE AREA FOR 1 TO 20 SQUARE MILES

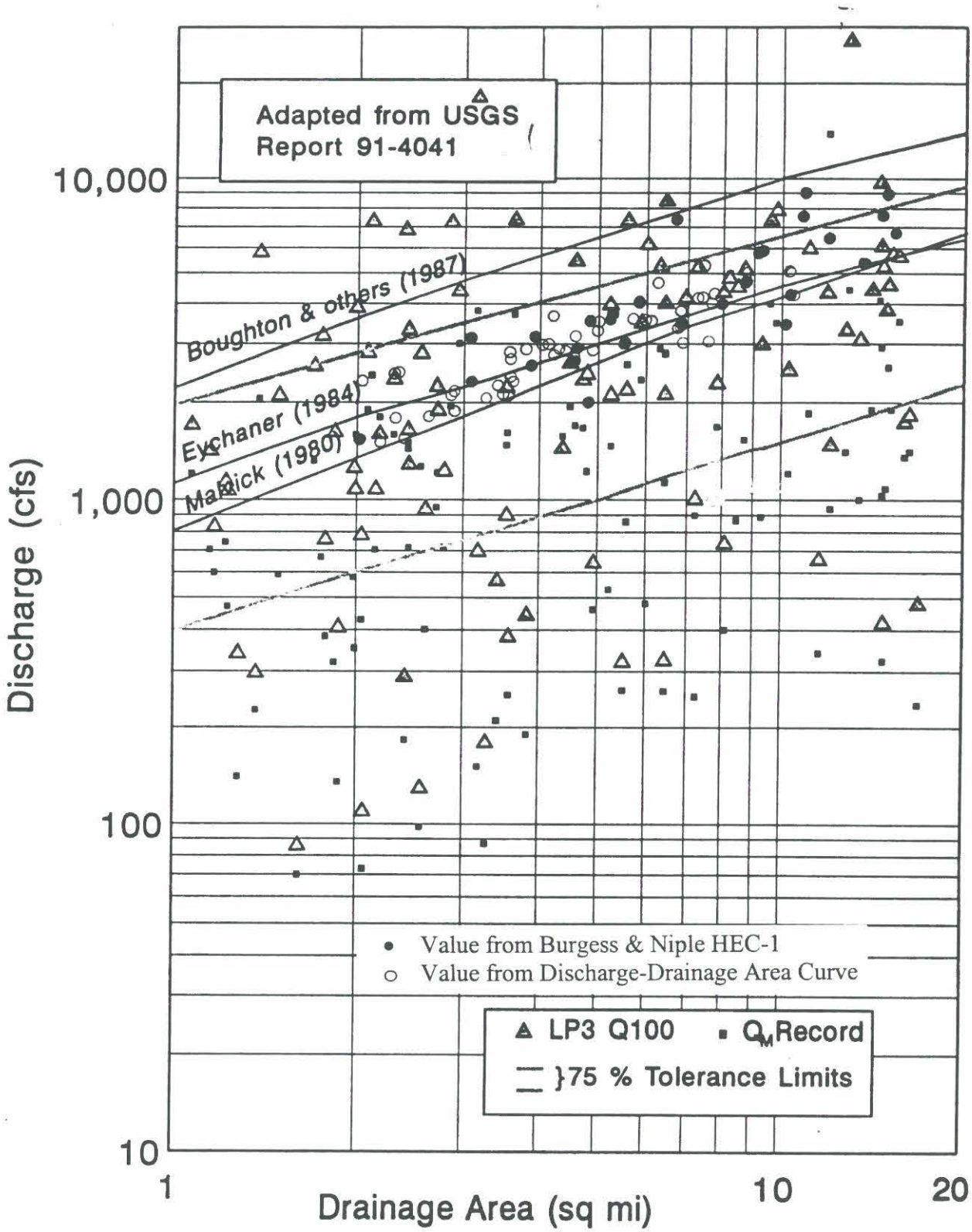
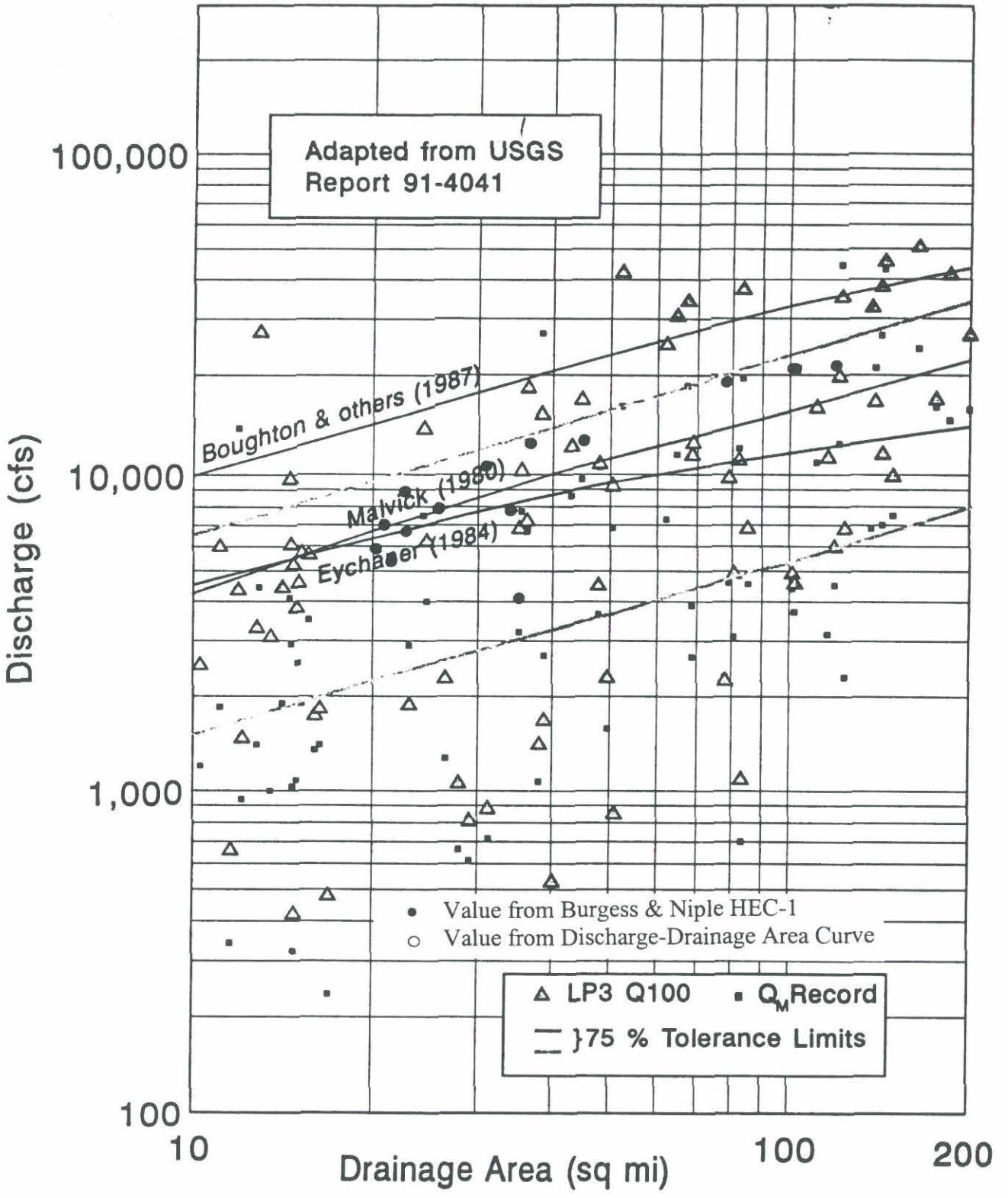
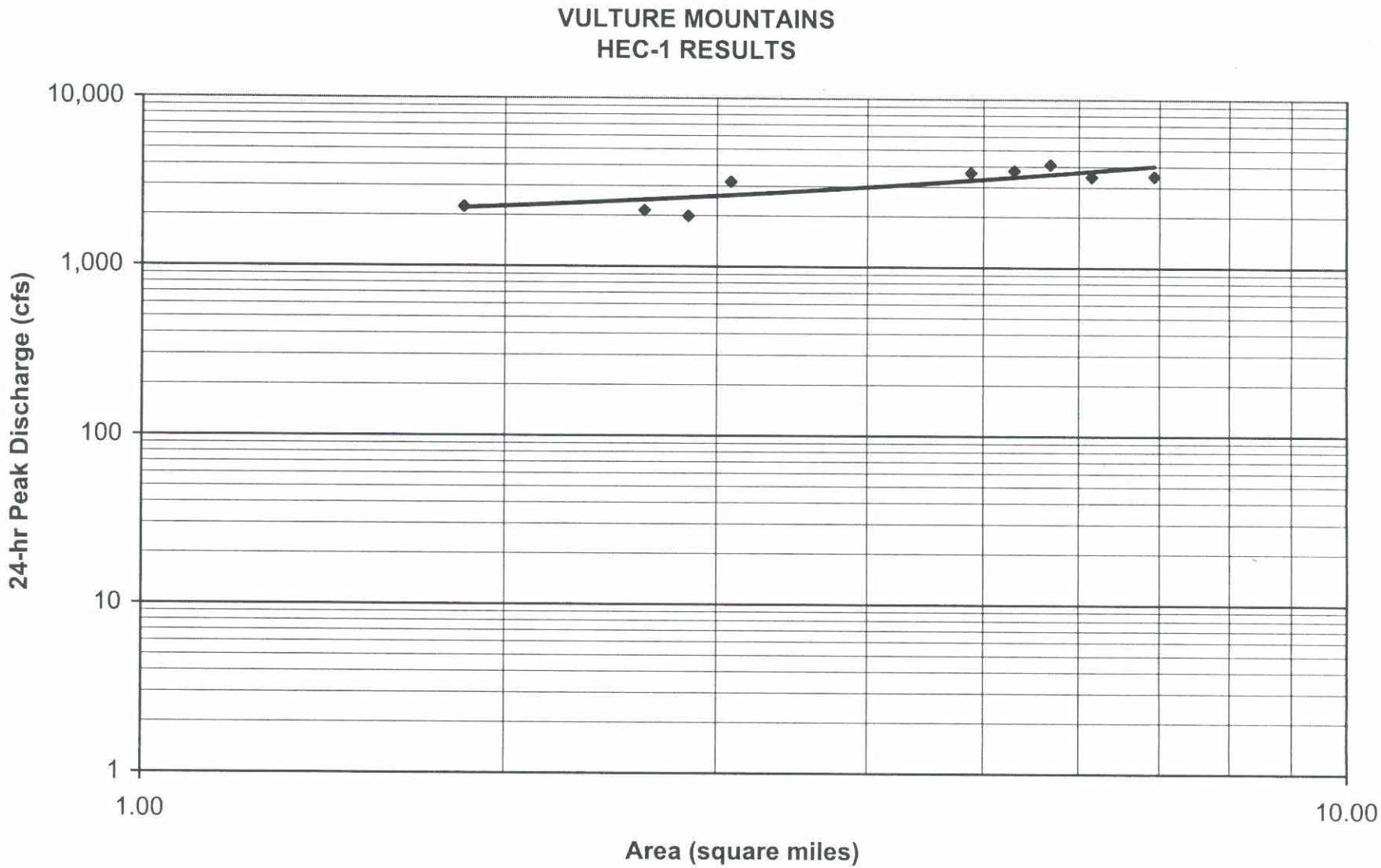


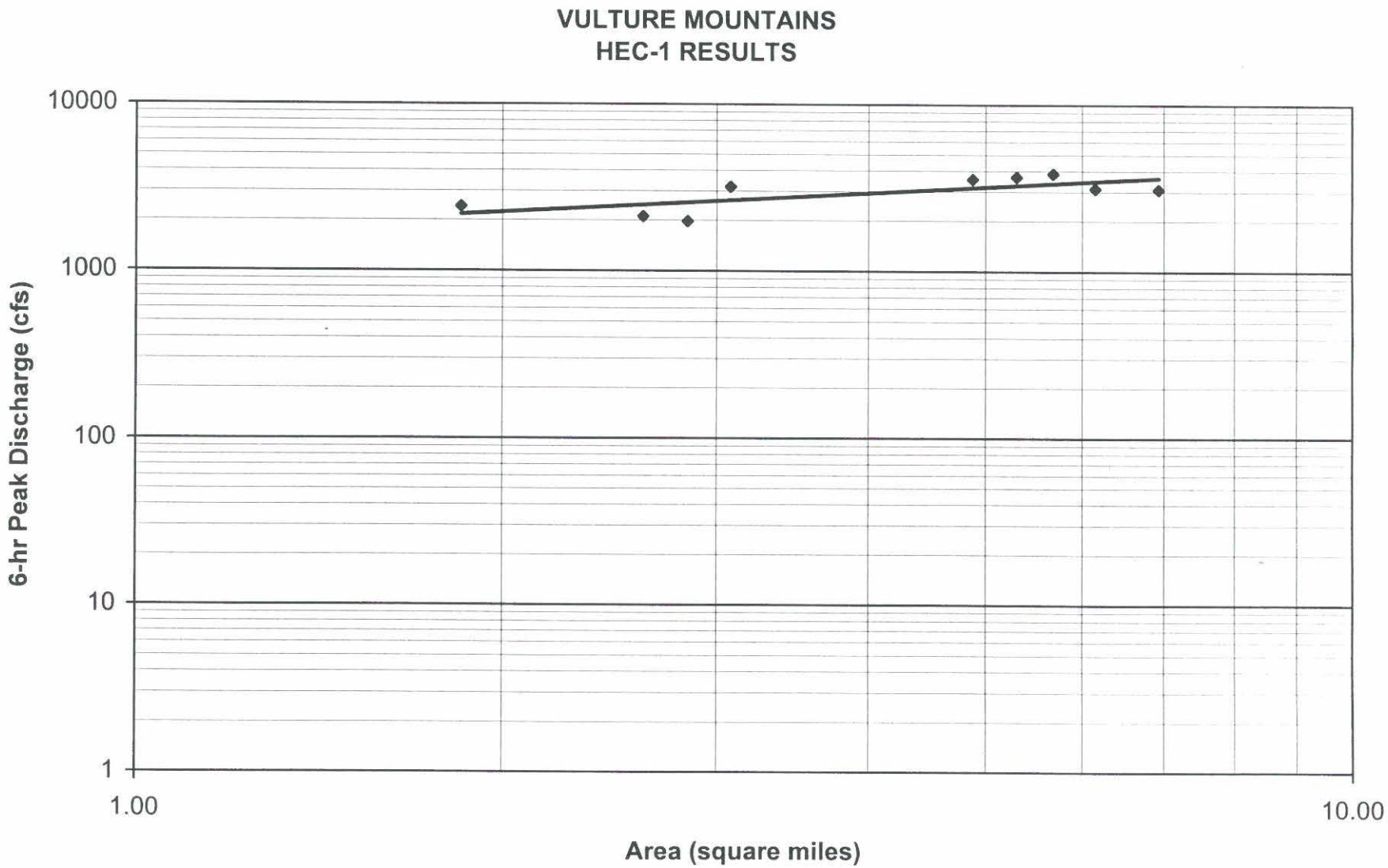
FIGURE 10-5

100-YEAR PEAK DISCHARGE BY LP3 ANALYSIS (LP3 Q100) AND MAXIMUM RECORDED DISCHARGE (Q_M RECORD) vs. DRAINAGE AREA FOR 10 TO 200 SQUARE MILES

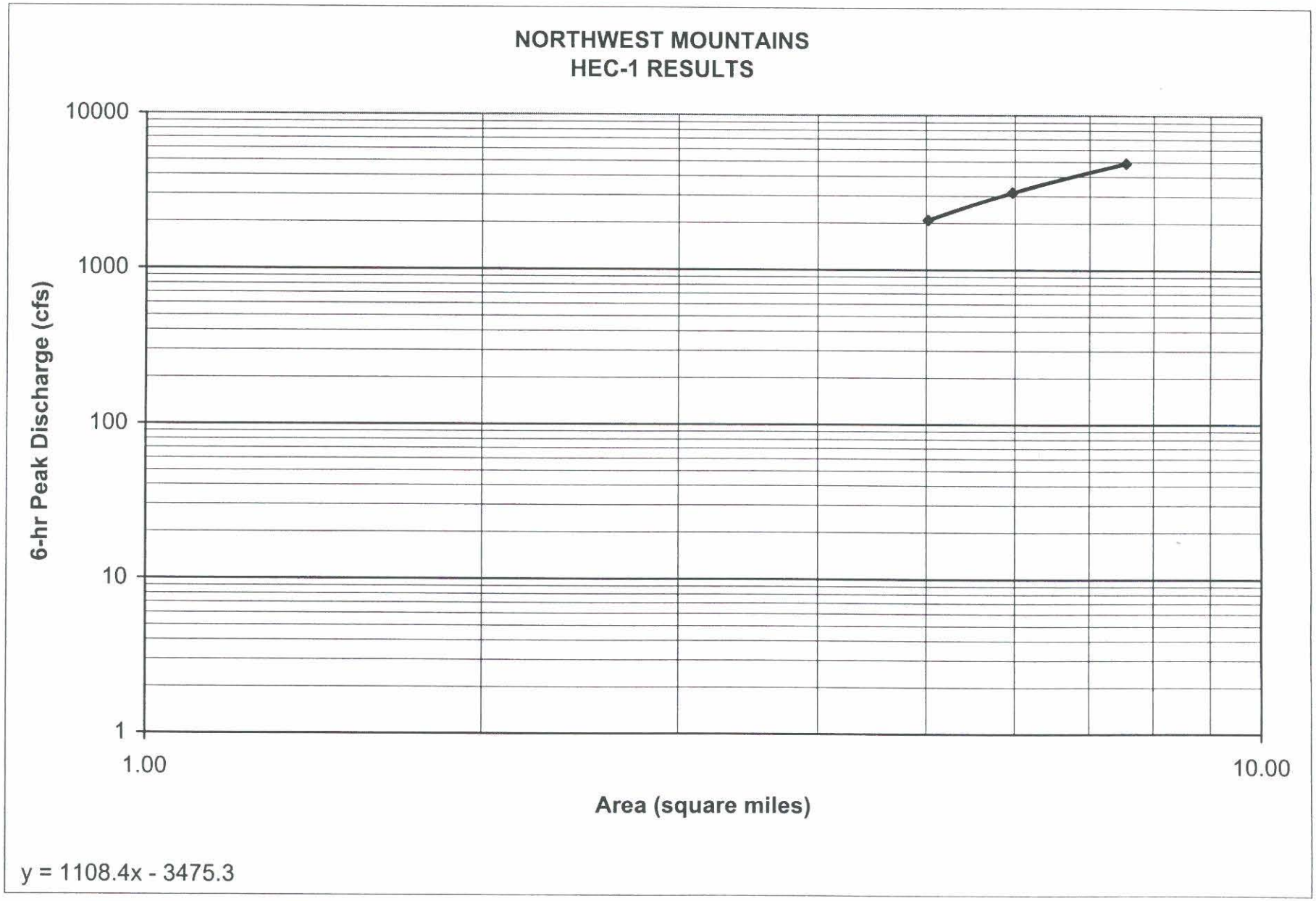


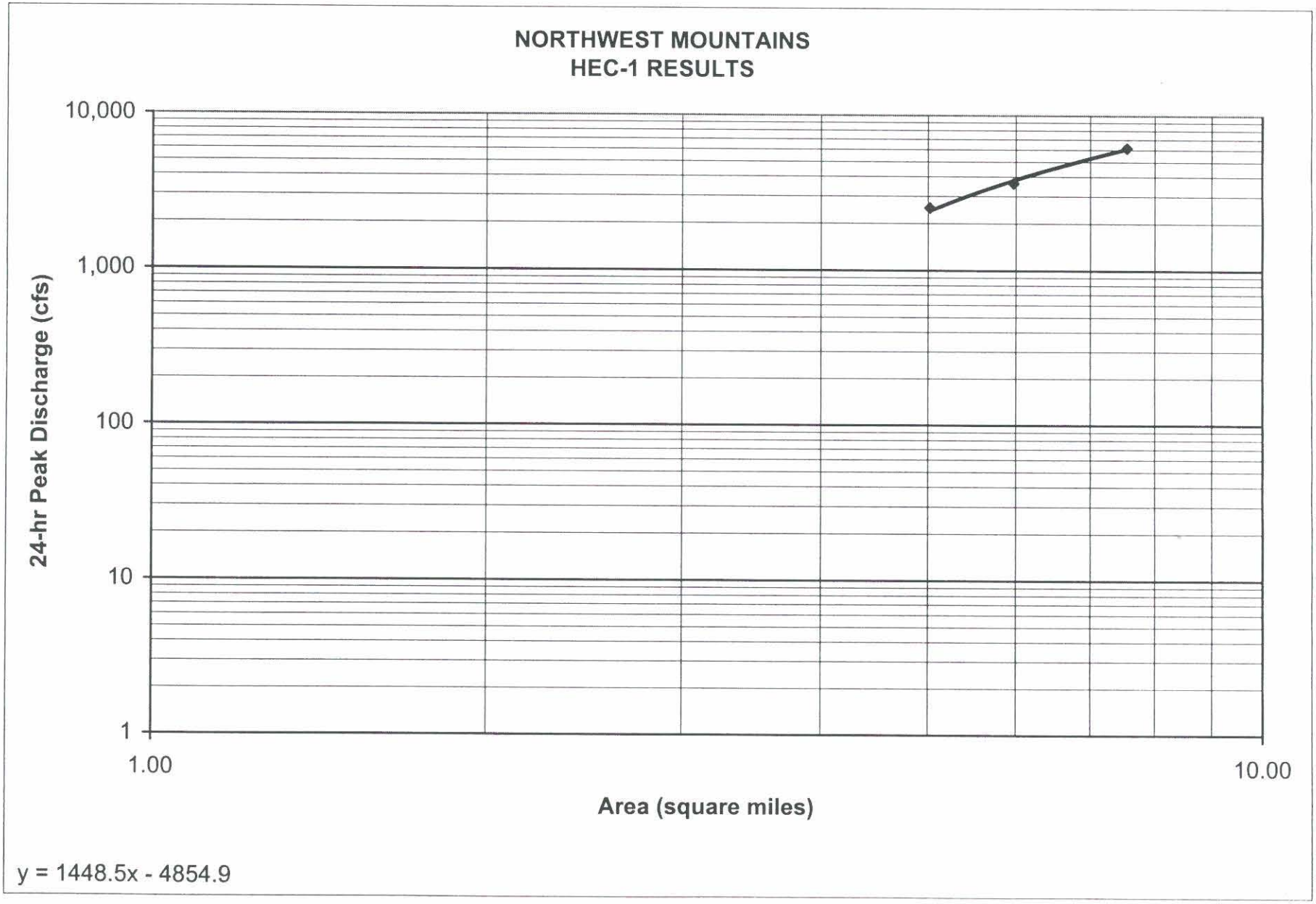


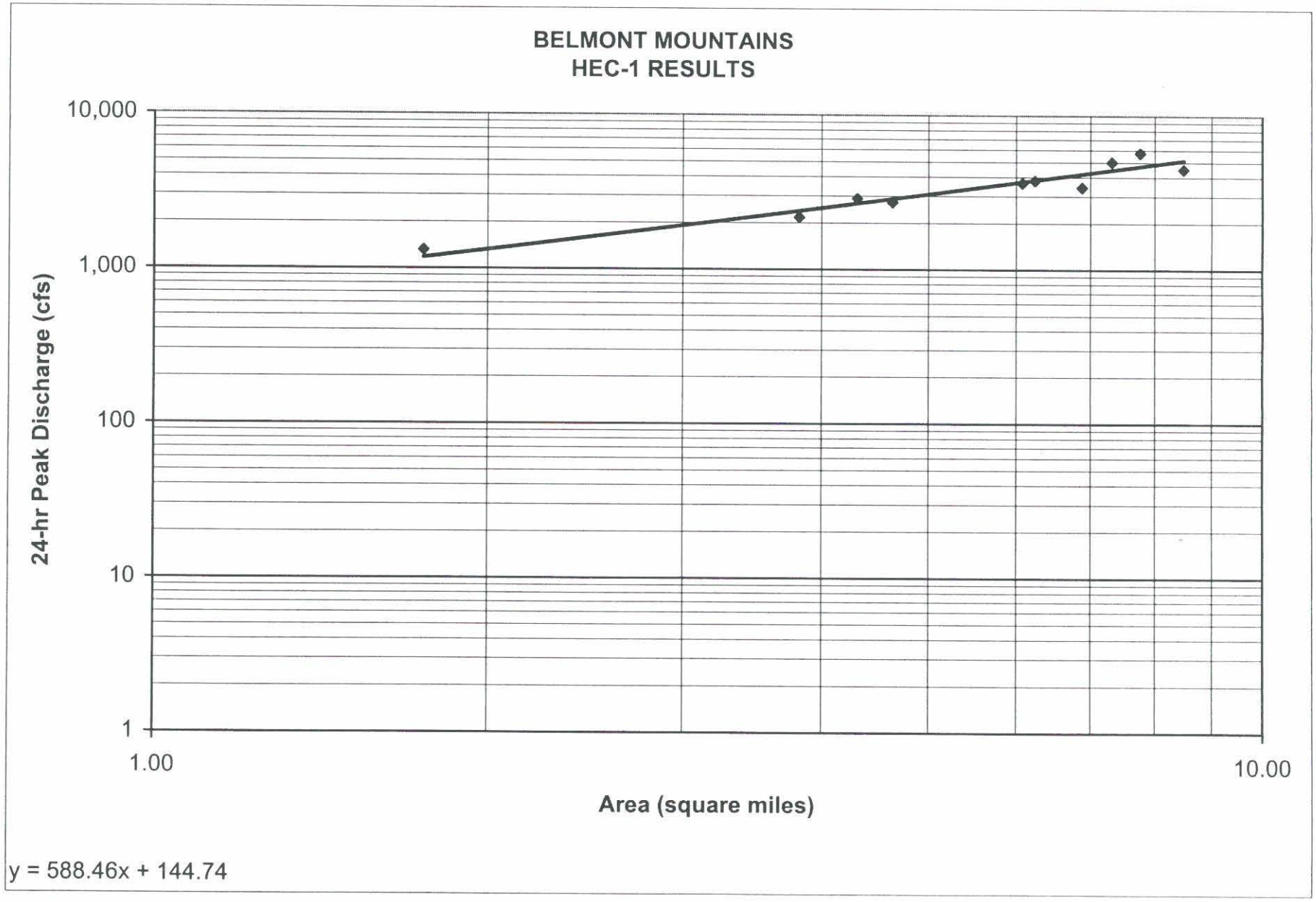
y = 356.19x + 1556.2

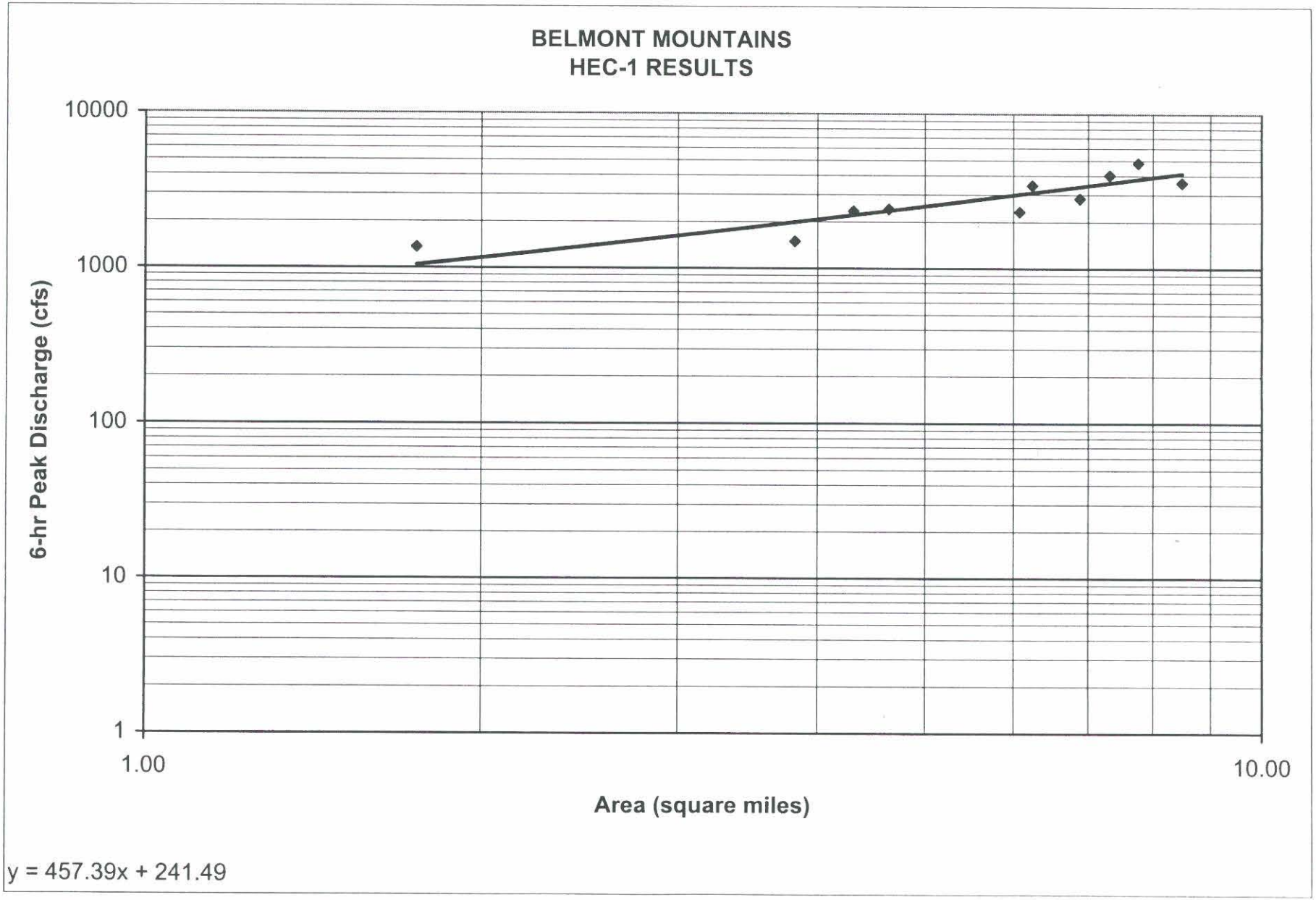


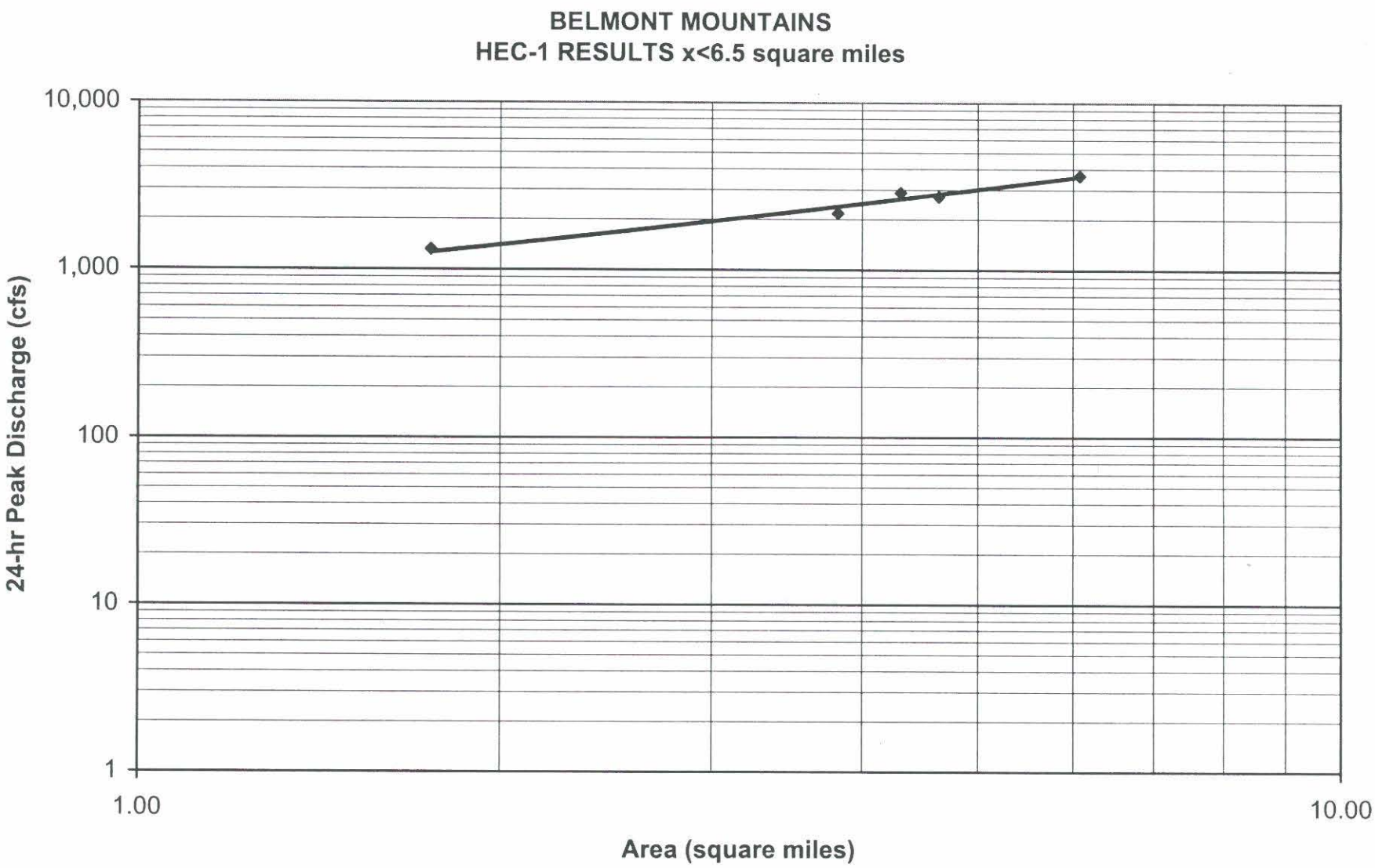
$y = 1704.9x^{0.3901}$


NORTHWEST MOUNTAINS
HEC-1 RESULTS
10000
1000
100
10
1
6-hr Peak Discharge (cfs)
1.00
10.00
Area (square miles)
y = 1108.4x - 3475.3

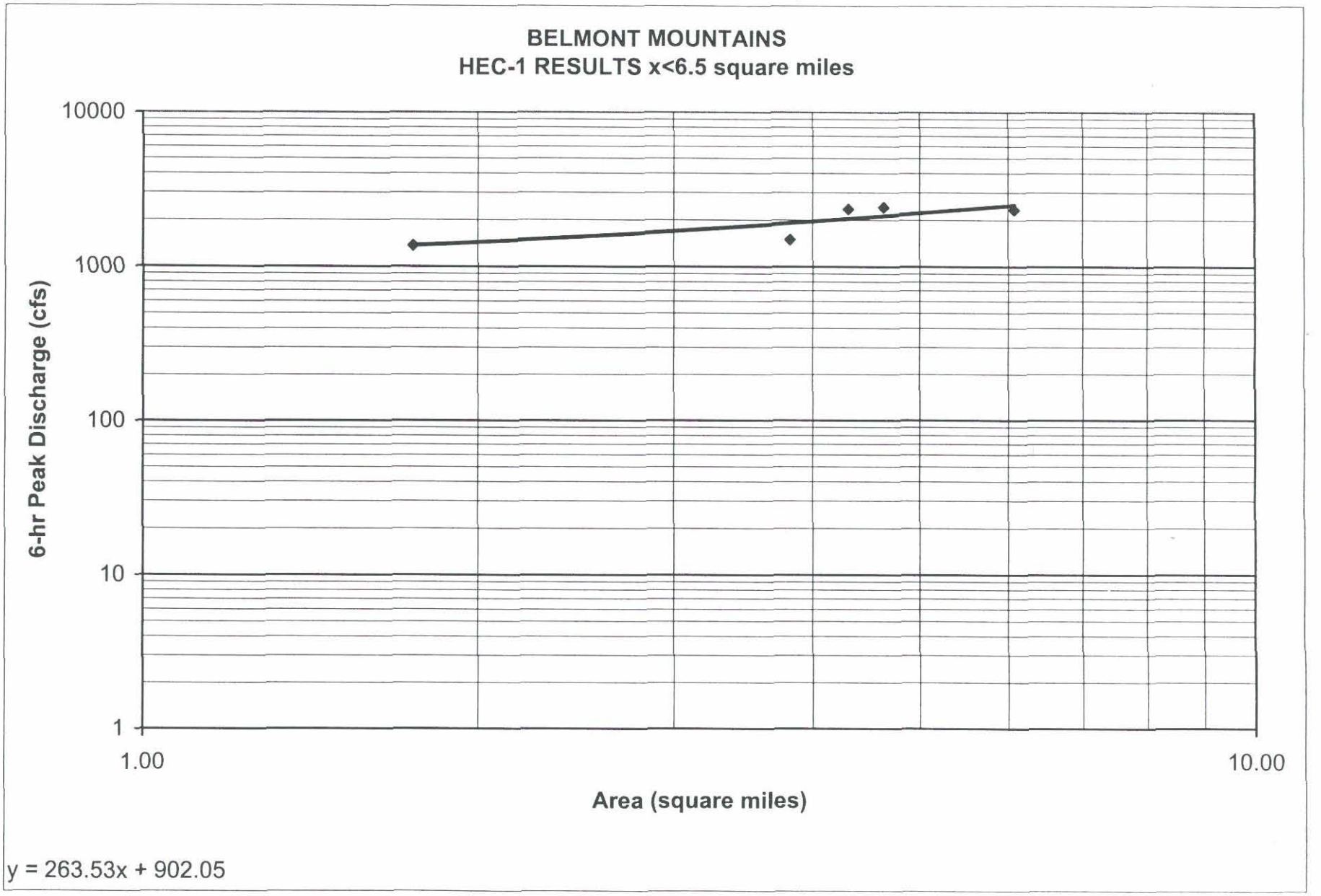

NORTHWEST MOUNTAINS
HEC-1 RESULTS
10,000
1,000
100
10
1
24-hr Peak Discharge (cfs)
1.00
10.00
Area (square miles)
y = 1448.5x - 4854.9

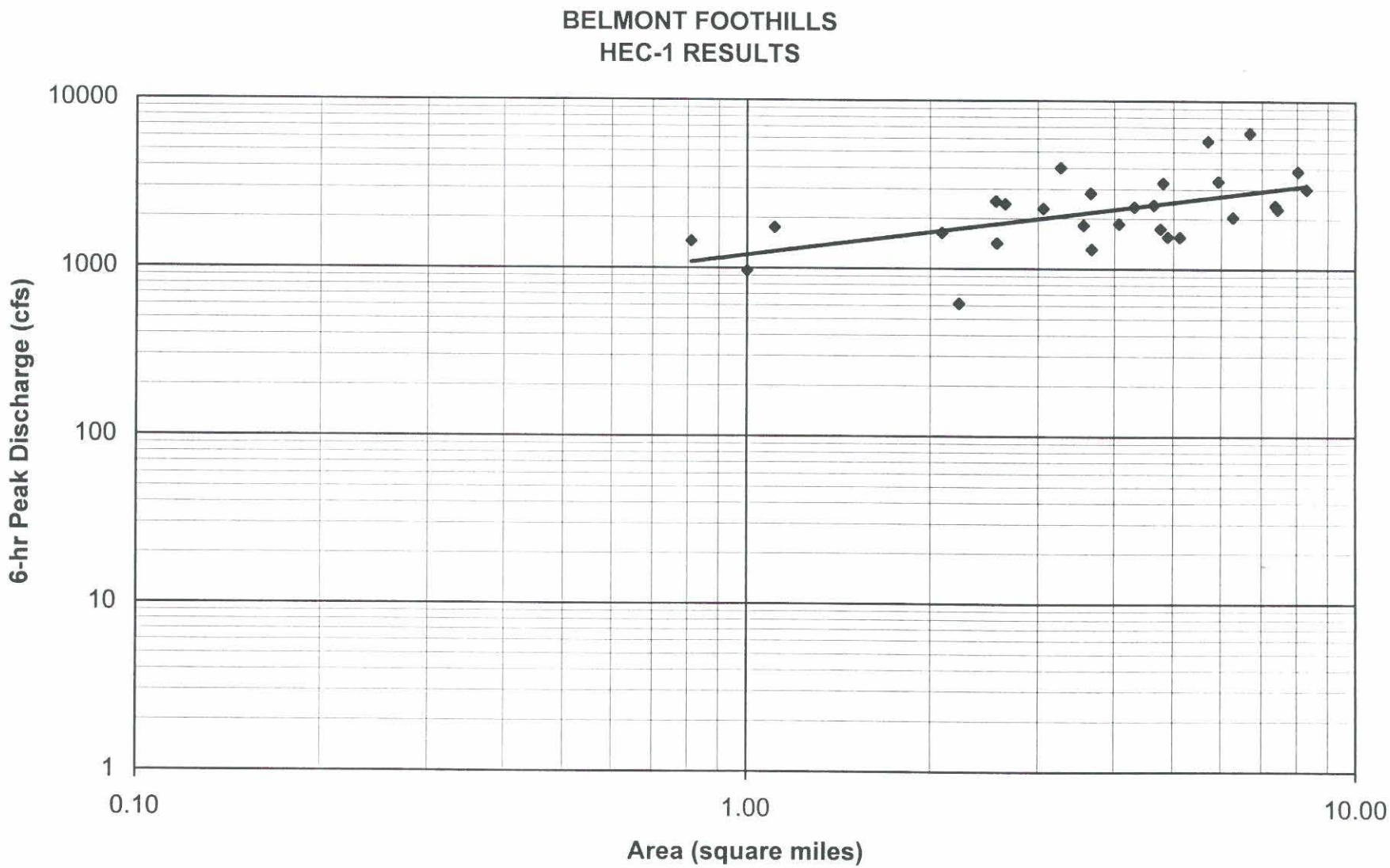

BELMONT MOUNTAINS
HEC-1 RESULTS
10,000
1,000
100
10
1
24-hr Peak Discharge (cfs)
1.00
10.00
Area (square miles)
y = 588.46x + 144.74


BELMONT MOUNTAINS
HEC-1 RESULTS
10000
1000
100
10
1
6-hr Peak Discharge (cfs)
1.00
10.00
Area (square miles)
y = 457.39x + 241.49

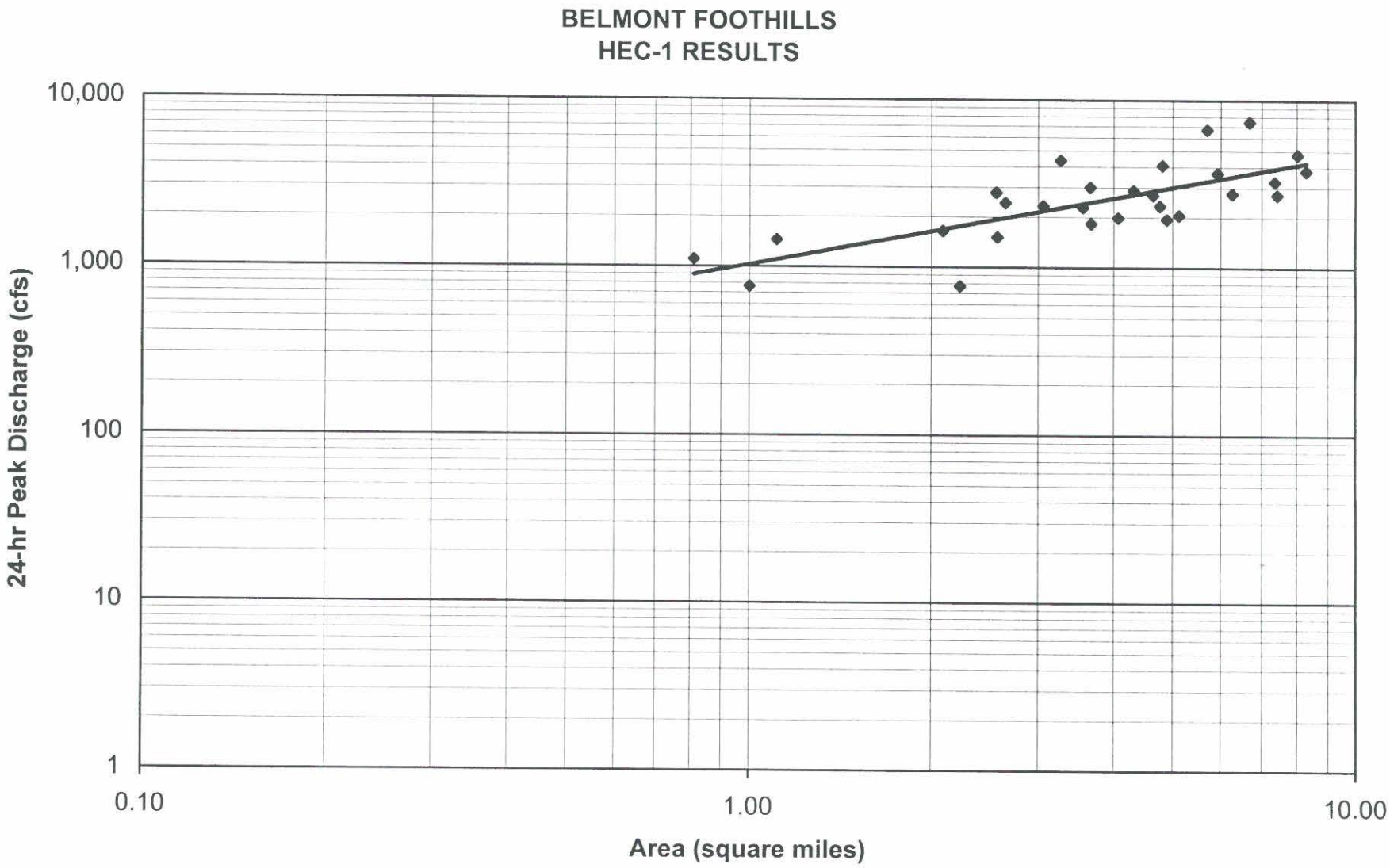


y = 541.37x + 314.76

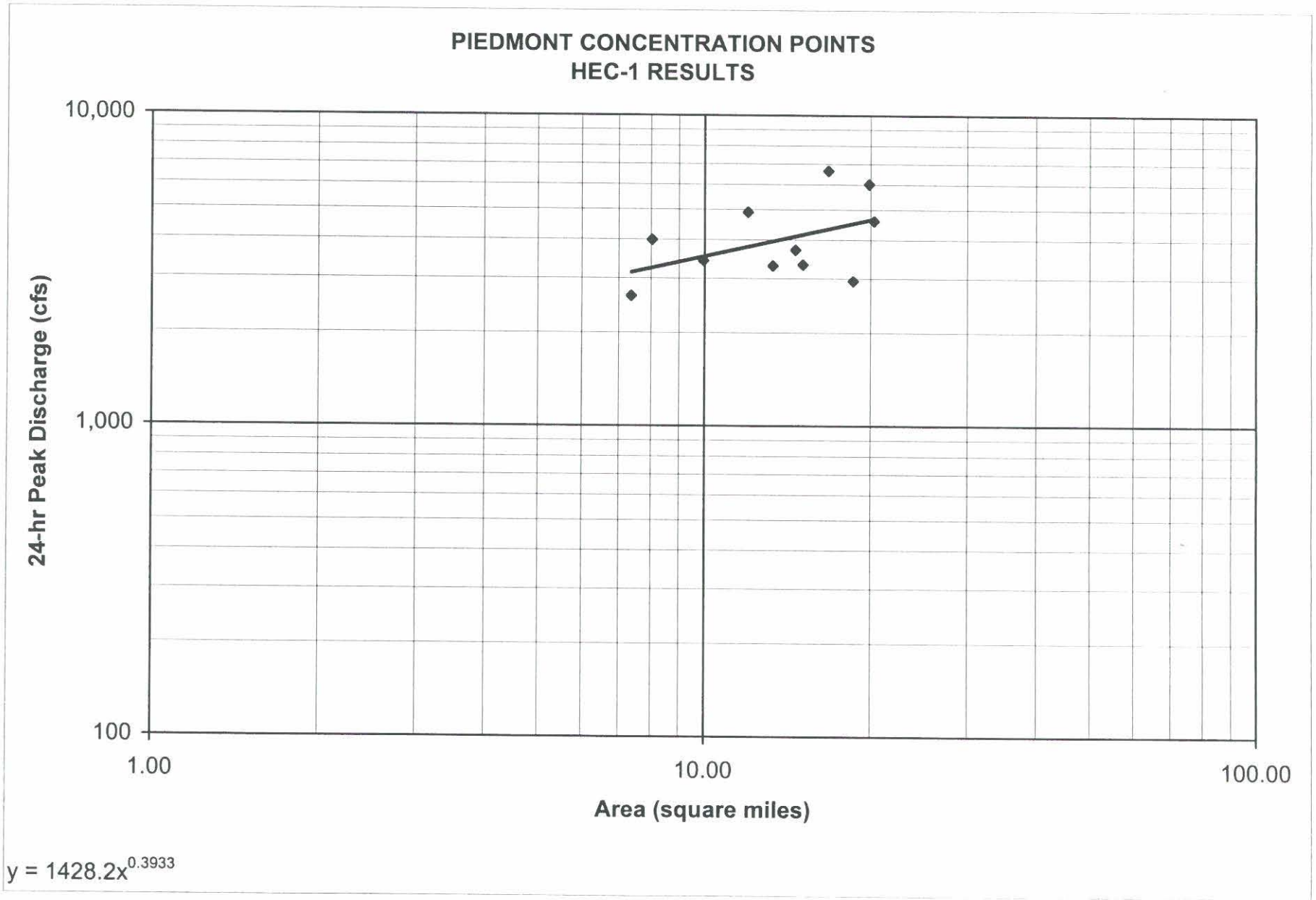

BELMONT MOUNTAINS
HEC-1 RESULTS x<6.5 square miles
10000
1000
100
10
1
6-hr Peak Discharge (cfs)
1.00
10.00
Area (square miles)
y = 263.53x + 902.05

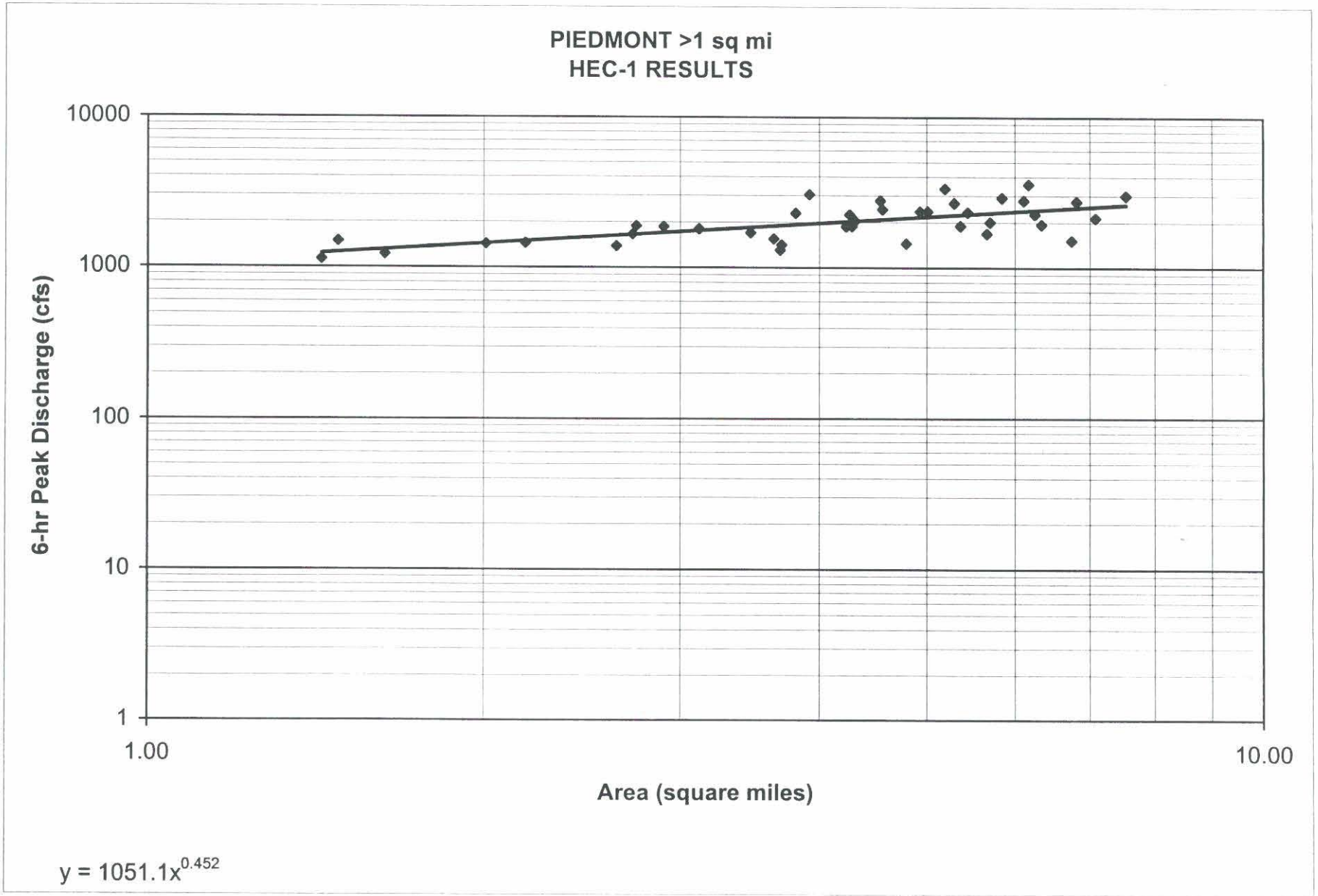


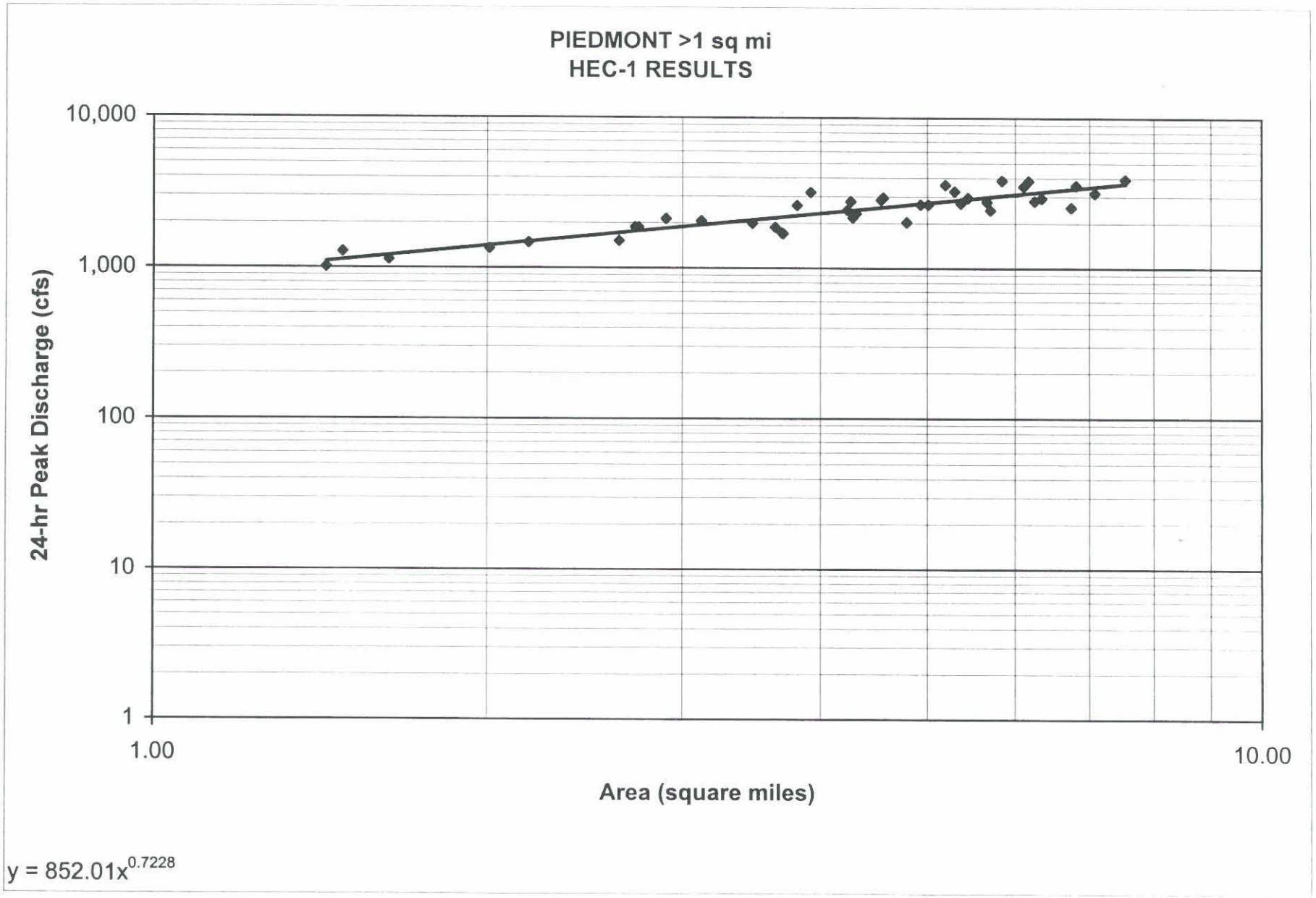
$y = 1200x^{0.4582}$

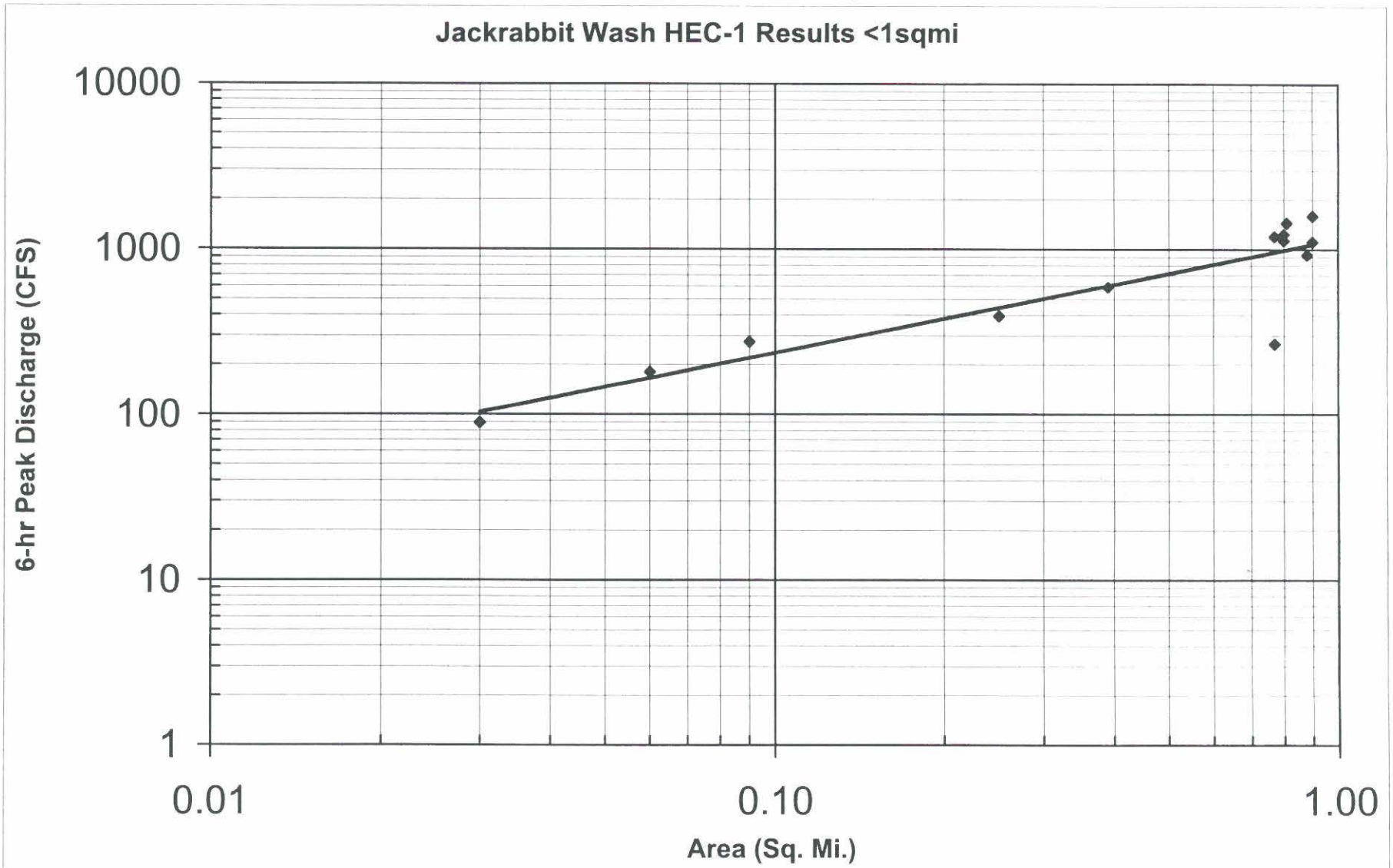


$y = 1030.1x^{0.6676}$

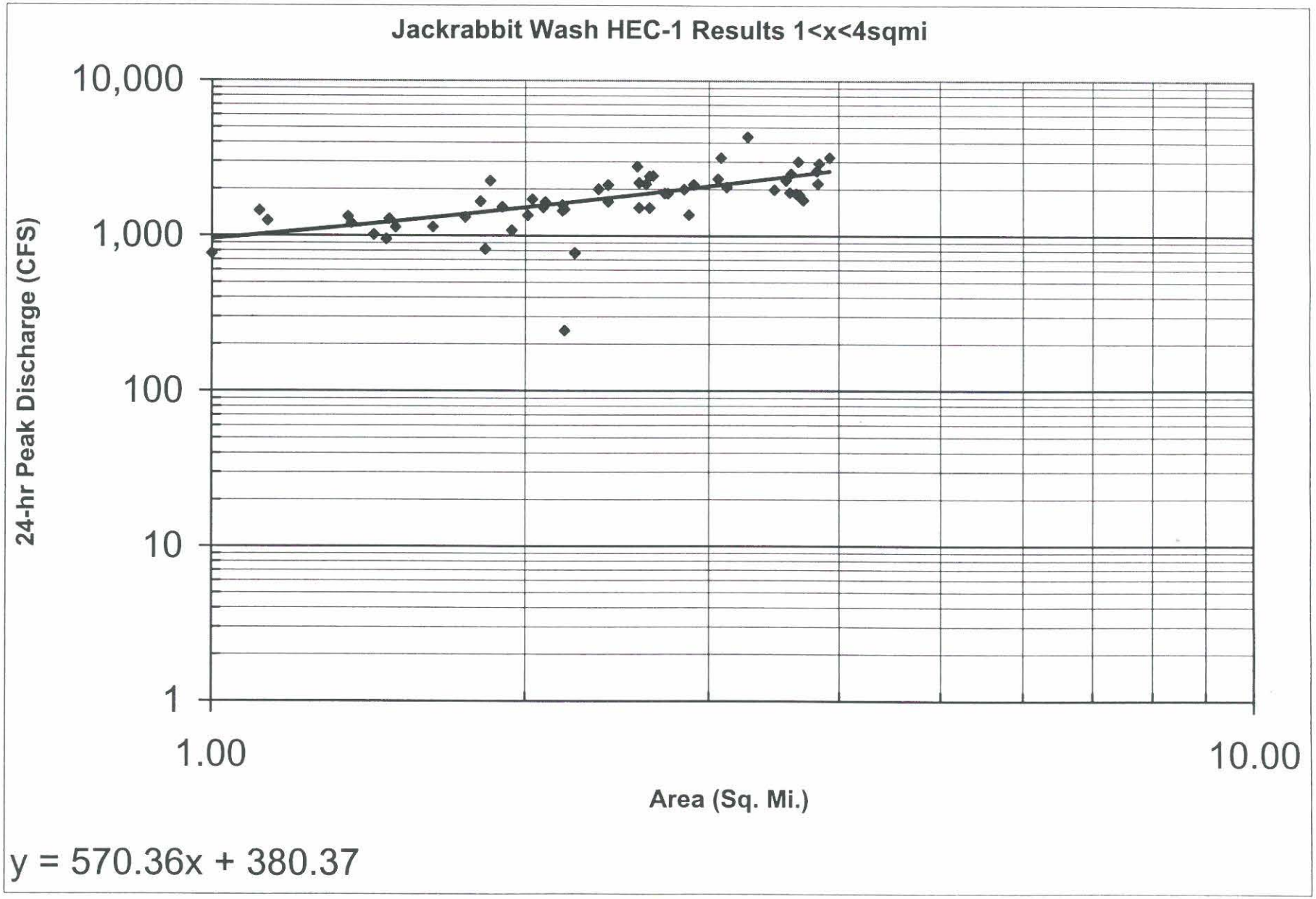

PIEDMONT CONCENTRATION POINTS
HEC-1 RESULTS
10,000
1,000
100
24-hr Peak Discharge (cfs)
1.00
10.00
100.00
Area (square miles)
y = 1428.2x^0.3933

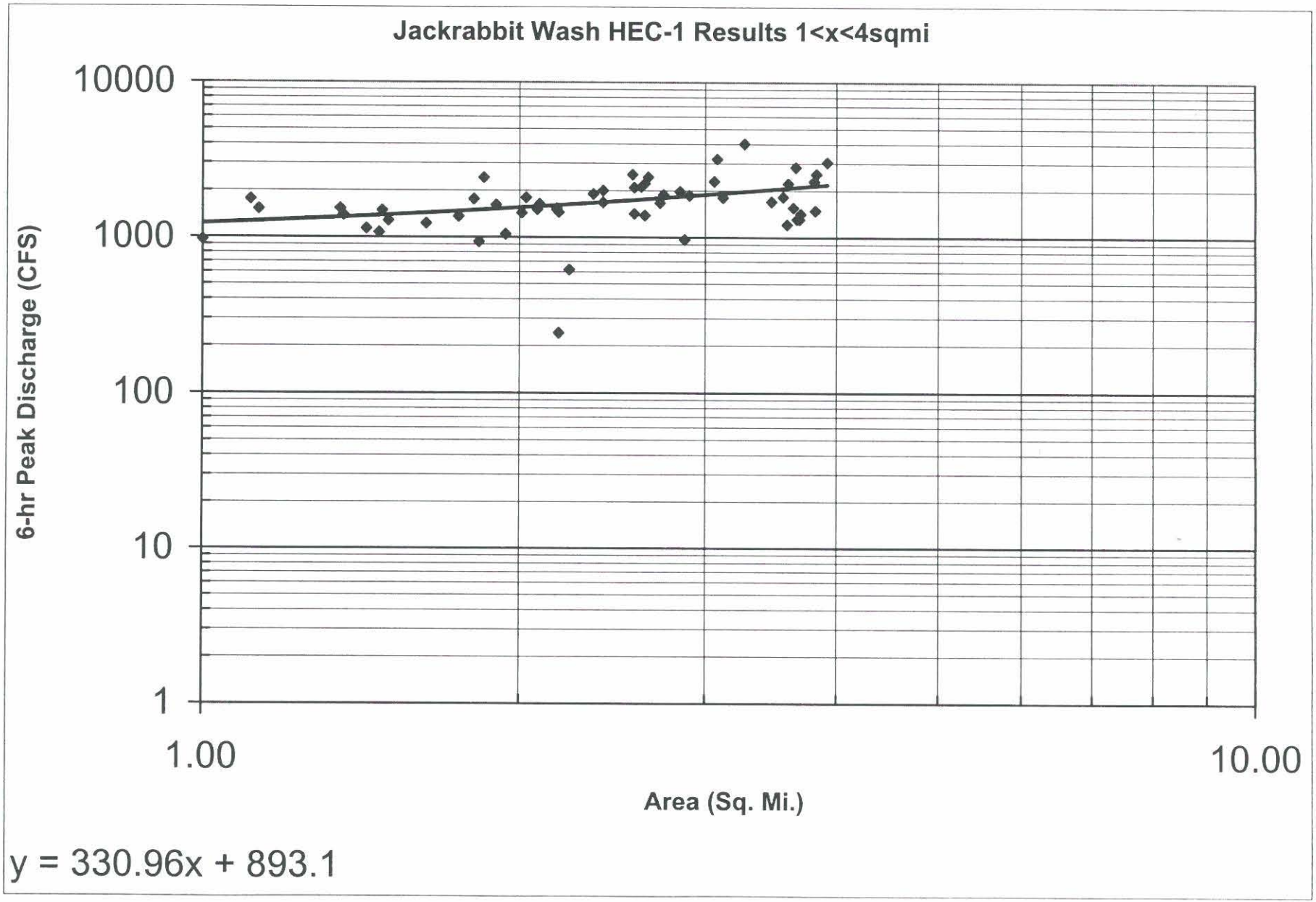

PIEDMONT >1 sq mi
HEC-1 RESULTS
10000
1000
100
10
1
6-hr Peak Discharge (cfs)
1.00
10.00
Area (square miles)
y = 1051.1x^0.452

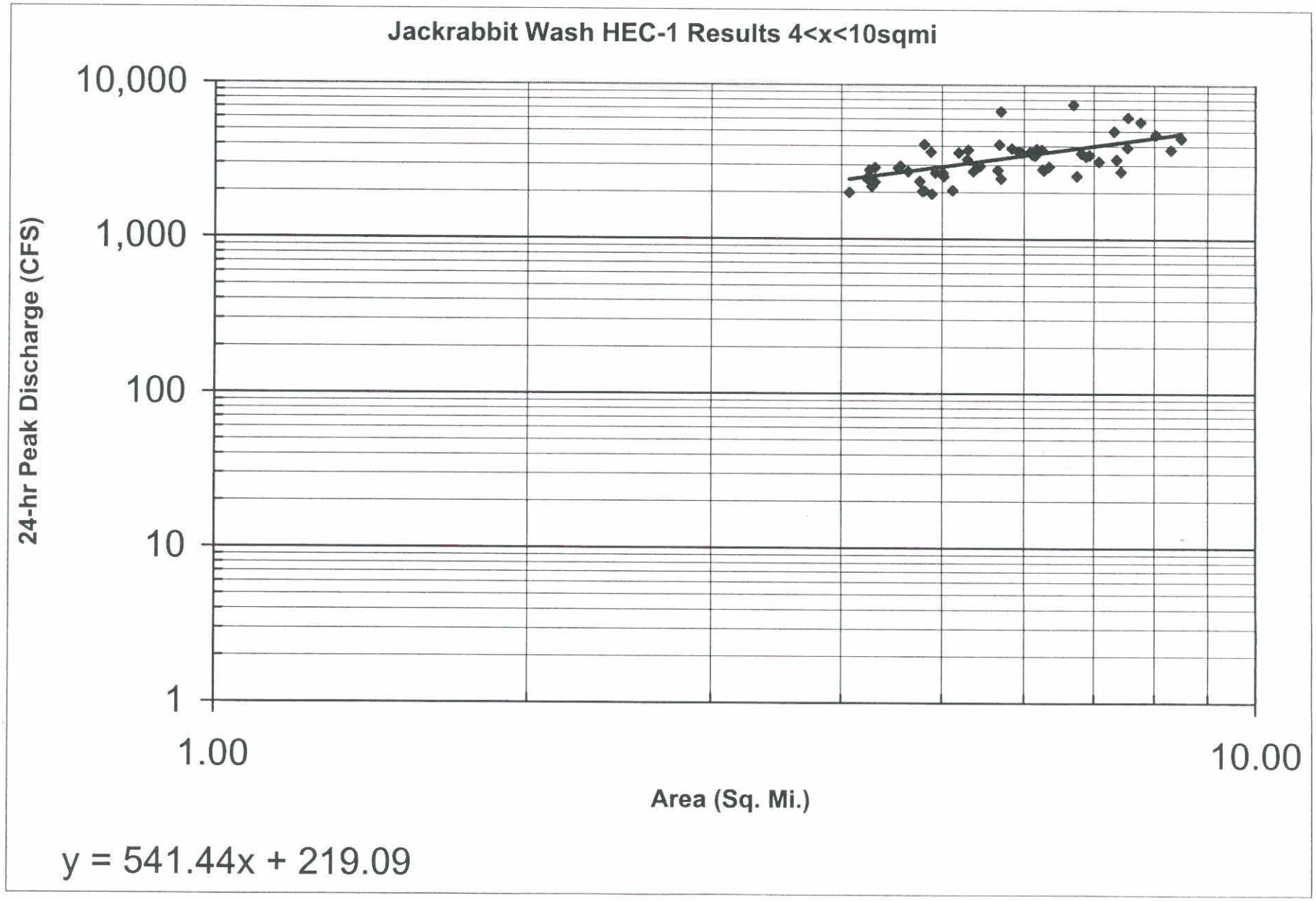

PIEDMONT >1 sq mi
HEC-1 RESULTS
10,000
1,000
100
10
1
24-hr Peak Discharge (cfs)
1.00
10.00
Area (square miles)
y = 852.01x^0.7228

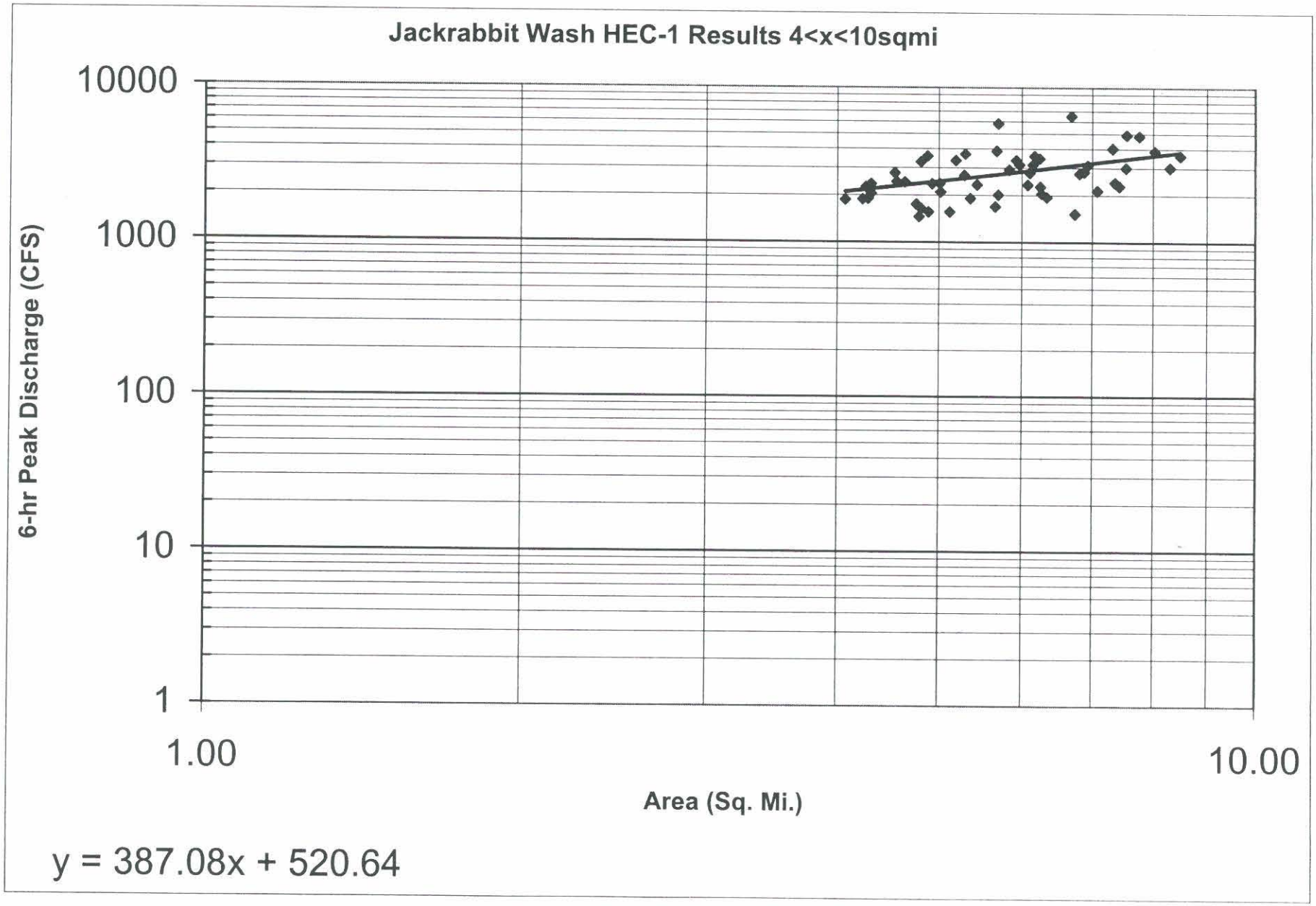


$y = 1154.7x^{0.6889}$


Jackrabbit Wash HEC-1 Results 1<x<4sqmi
10,000
1,000
100
10
1
24-hr Peak Discharge (CFS)
1.00
10.00
Area (Sq. Mi.)
y = 570.36x + 380.37


Jackrabbit Wash HEC-1 Results 1<x<4sqmi
10000
1000
100
10
1
6-hr Peak Discharge (CFS)
1.00
10.00
Area (Sq. Mi.)
y = 330.96x + 893.1


Jackrabbit Wash HEC-1 Results 4<x<10sqmi
10,000
1,000
100
10
1
24-hr Peak Discharge (CFS)
1.00
10.00
Area (Sq. Mi.)
y = 541.44x + 219.09


Jackrabbit Wash HEC-1 Results 4<x<10sqmi
10000
1000
100
10
1
6-hr Peak Discharge (CFS)
1.00
10.00
Area (Sq. Mi.)
y = 387.08x + 520.64

D.2 HEC-RAS Split Flow Analyses Results

Split Flow Calculation Sheet
Split 1 Total Discharge at 8B = 2900 cfs
INS - 1
Instrument Height = 5.05 ft

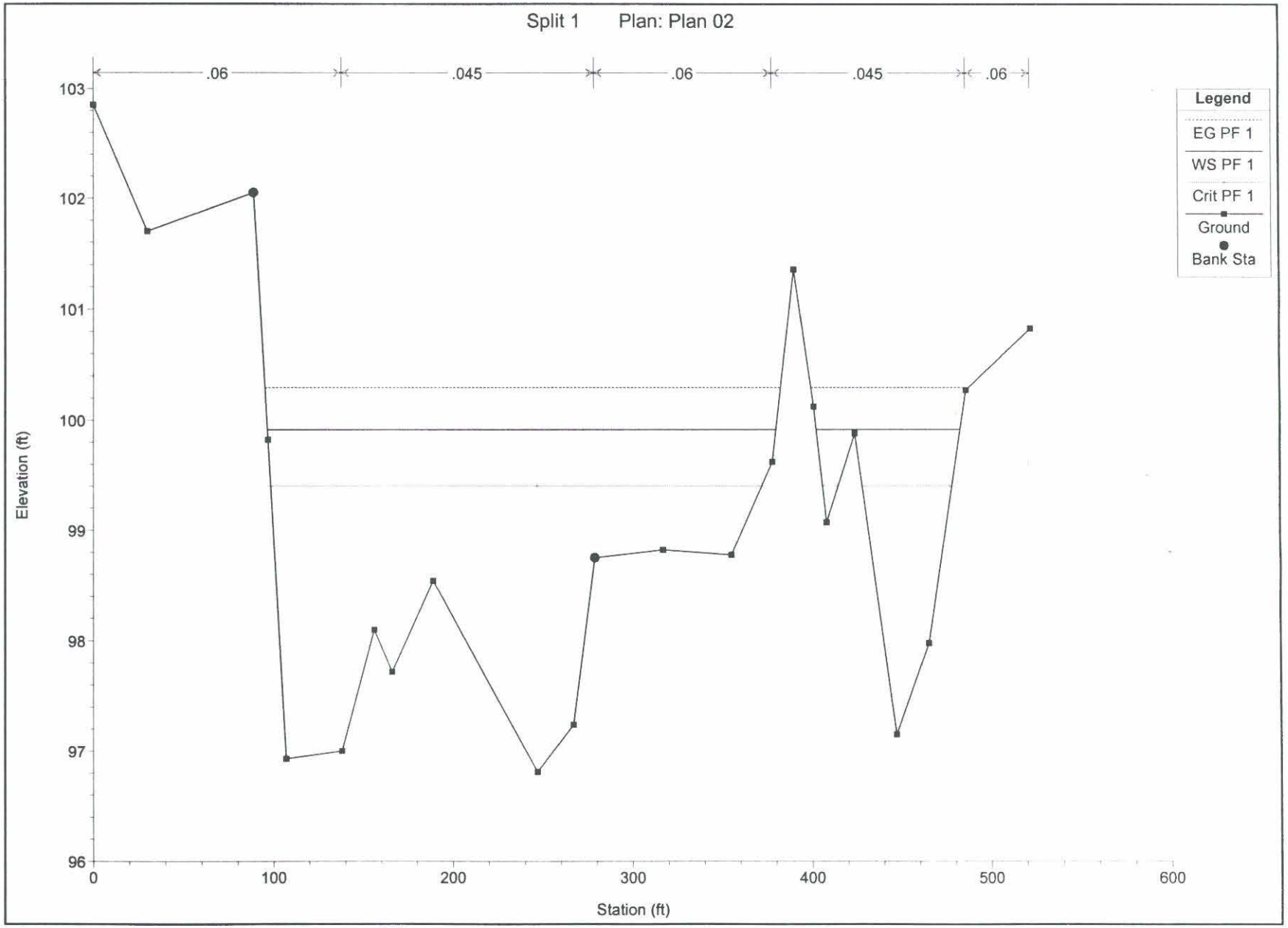
Point #	Height (ft) Rod Meas-	Height (ft) Actual-	Normalized (value * 100)	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative	Left Split Discharge	Right Split Discharge
1	2.2	2.85	102.85	0	0	59.73	15.76
2	3.35	1.7	101.7	30.31	30	279.62	150.38
3	3	2.05	102.05	58.4	89	290.78	232.06
4	5.23	-0.18	99.82	8.27	97	202.83	8.96
5	8.12	-3.07	96.93	10.3	107	176.23	407.16
6	8.05	-3	97	31.19	138	126.91	14%
7	6.95	-1.9	98.1	17.99	156	206.11	
8	7.33	-2.28	97.72	9.15	166	308.28	
9	6.51	-1.46	98.54	22.97	189	376.93	
10	8.24	-3.19	96.81	58.05	247	230.83	
11	7.81	-2.76	97.24	20.08	267	67.58	
12	6.3	-1.25	98.75	11.92	279	63.86	
13	6.23	-1.18	98.82	38.06	317	65.26	
14	6.275	-1.225	98.775	38.29	355	37.02	
15	5.43	-0.38	99.62	22.78	378	0.86	
16	3.69	1.36	101.36	11.92	390	Divide Point	
17	4.93	0.12	100.12	11.19	401	2492.83	
18	5.98	-0.93	99.07	7.43	408	86%	
19	5.175	-0.125	99.875	15.72	424		
20	7.9	-2.85	97.15	22.83	447		
21	7.07	-2.02	97.98	18.25	465		
22	4.78	0.27	100.27	21.23	486		
23	4.22	0.83	100.83	35.38	522		
HW - 24	4.34	0.71	100.71				
HW - 25	5.96	-0.91	99.09				
HW - 26	5.08	-0.03	99.97				

INS - 2
Istrument Height = 4.75 ft

I-1	2.49	2.26	102.26		
Slope - 27	2.42	2.33	102.33	Dist. From 27 to 29 =	647
Slope - 28	10.45	-5.7	94.3	Slope between 27 and 29 =	0.010
Slope - 29	8.78	-4.03	95.97		
backcheck	3.8	0.95	100.95		

Plan: Plan 01 Split 1 Reach 1 RS: 2 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
LB 89.00	108.00	59.73	18.38	11.76	2.06	1.62	3.25
108.00	127.00	279.62	56.23	19.00	9.64	2.96	4.97
127.00	146.00	290.78	53.53	19.01	10.03	2.82	5.43
146.00	165.00	202.83	39.05	19.03	6.99	2.06	5.19
165.00	184.00	176.23	35.88	19.01	6.08	1.89	4.91
184.00	203.00	126.91	29.46	19.01	4.38	1.55	4.31
203.00	222.00	206.11	39.41	19.01	7.11	2.07	5.23
222.00	241.00	308.28	50.18	19.01	10.63	2.64	6.14
241.00	260.00	376.93	56.61	19.01	13.00	2.98	6.66
260.00	RB 279.00	230.83	42.26	19.10	7.96	2.22	5.46
279.00	303.30	67.58	27.72	24.30	2.33	1.14	2.44
303.30	327.60	63.86	26.80	24.30	2.20	1.10	2.38
327.60	351.90	65.26	27.15	24.30	2.25	1.12	2.40
351.90	376.20	37.02	19.33	24.31	1.28	0.80	1.92
376.20	400.50	0.86	0.88	3.85	0.03	0.23	0.98
400.50	424.80	15.76	9.45	22.51	0.54	0.42	1.67
424.80	449.10	150.38	37.80	24.46	5.19	1.56	3.98
449.10	473.40	232.06	48.96	24.37	8.00	2.01	4.74
473.40	497.70	8.96	4.75	9.38	0.31	0.51	1.89


Split 1 Plan: Plan 02
.06
.045
.06
.045
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
103
102
101
100
99
98
97
96
0
100
200
300
400
500
600
Station (ft)

Split Flow Calculation Sheet
Split 2 Total Discharge at 88A = 3600 cfs
INS - 3
Instrument Height = 5.14 ft

Point #	Height (ft) Rod Meas-	Height (ft) -Actual-	Normalized (value * 100)	Normalized to Topo	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative	Left Split Discharge	Right Split Discharge
30	6.17	-1.03	98.97	2029	0	0	69.63	34.83
31	8.37	-3.23	96.77	2027	47.73	48	260.05	8.94
32	7.84	-2.7	97.3	2027	16.37	64	694.32	62.66
33	9.34	-4.2	95.8	2026	9.9	74	574.72	110.98
34	9.48	-4.34	95.66	2026	18.91	93	368.3	105.94
35	9.23	-4.09	95.91	2026	10.92	104	171.99	100.37
36	7.76	-2.62	97.38	2027	8.09	112	145.77	94.92
37	9.19	-4.05	95.95	2026	10.39	122	7	76.68
38	8.93	-3.79	96.21	2026	18.81	141	4.05	45.76
39	6.51	-1.37	98.63	2029	22.45	164	2295.83	39.49
40	7.9	-2.76	97.24	2027	26.18	190	64%	35.35
41	8.32	-3.18	96.82	2027	17.33	207		33.33
42	5.92	-0.78	99.22	2029	6.54	214		34.71
43	5.81	-0.67	99.33	2029	24.31	238		25.51
44	6.54	-1.4	98.6	2029	20.07	258		18.92
45	5.7	-0.56	99.44	2029	28.24	286		43.91
46	7.14	-2	98	2028	16.45	303	Divide Point	77.51
47	5.88	-0.74	99.26	2029	24.45	327		57.92
48	8.54	-3.4	96.6	2027	16.07	343		80.77
49	8.22	-3.08	96.92	2027	30.93	374		140.75
50	7.43	-2.29	97.71	2028	8.94	383		74.88
51	7.2	-2.06	97.94	2028	20.23	403		1304.13
52	7.47	-2.33	97.67	2028	8.52	412		36%
53	6.84	-1.7	98.3	2028	23.26	435		
54	8.38	-3.24	96.76	2027	13.73	449		
55	7.65	-2.51	97.49	2028	13.73	463		
56	9.5	-4.36	95.64	2026	13.36	476		
57	7.8	-2.66	97.34	2027	12.75	489		

INS - 4
Instrument Height = 5.16 ft

Slope - 58	3.45	1.71	101.71
Slope - 59	8.12	-2.96	97.04
Slope - 60	9.53	-4.37	95.63
Slope - 61	8.11	-2.95	97.05
Slope - 62	8.38	-3.22	96.78
Slope - 63	11.46	-6.3	93.7

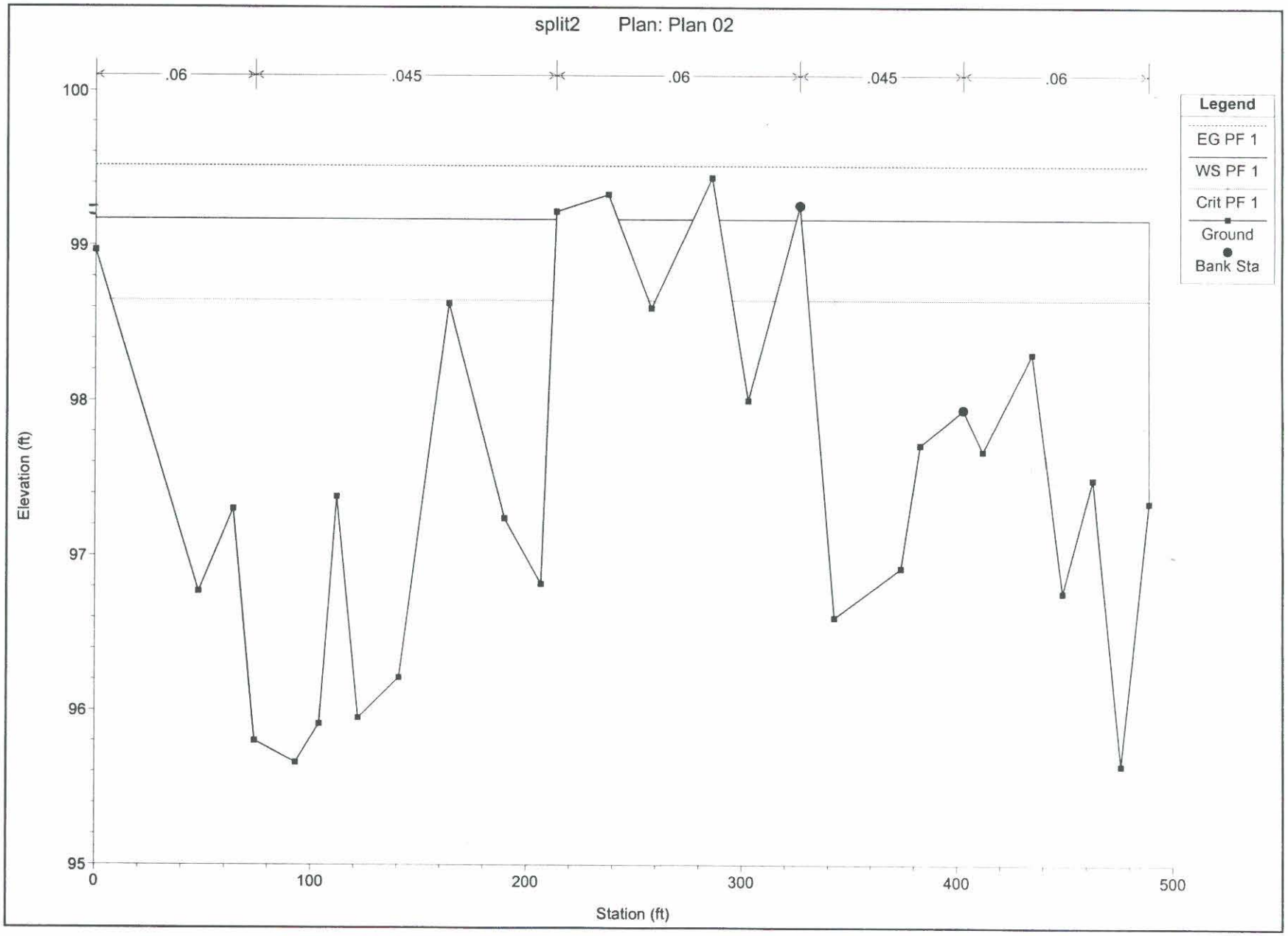
Dist. From 58 to 60 = 746 right side
Slope between 58 and 60 = 0.008

Dist. From 58 to 63 = 758 left side
Slope between 58 and 63 = 0.011

Use slope of 0.010

Plan: Plan 01 split4 1 RS: 2 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	32.70	69.63	31.04	32.93	1.93	0.95	2.24
32.70	65.40	260.05	68.28	32.74	7.22	2.09	3.81
65.40	98.10	694.32	106.40	32.80	19.29	3.25	6.53
98.10	130.80	574.72	92.68	32.94	15.96	2.83	6.20
130.80	163.50	368.30	70.87	32.83	10.23	2.17	5.20
163.50	196.20	171.99	44.83	32.74	4.78	1.37	3.84
196.20	228.90	145.77	31.99	18.05	4.05	1.81	4.56
228.90	261.60	7.00	6.31	19.23	0.19	0.33	1.11
261.60	294.30	4.05	4.66	20.54	0.11	0.23	0.87
294.30	327.00	34.83	20.01	31.05	0.97	0.65	1.74
LB 327.00	334.60	8.94	4.14	7.16	0.25	0.59	2.16
334.60	342.20	62.66	13.72	7.70	1.74	1.81	4.57
342.20	349.80	110.98	19.24	7.61	3.08	2.53	5.77
349.80	357.40	105.94	18.70	7.60	2.94	2.46	5.67
357.40	365.00	100.37	18.10	7.60	2.79	2.38	5.54
365.00	372.60	94.92	17.51	7.60	2.64	2.30	5.42
372.60	380.20	76.68	15.42	7.62	2.13	2.03	4.97
380.20	387.80	45.76	11.31	7.61	1.27	1.49	4.05
387.80	395.40	39.49	10.34	7.60	1.10	1.36	3.82
395.40	RB 403.00	35.35	9.68	7.60	0.98	1.27	3.65
403.00	411.60	33.33	11.69	8.60	0.93	1.36	2.85
411.60	420.20	34.72	11.98	8.60	0.96	1.39	2.90
420.20	428.80	25.51	9.96	8.60	0.71	1.16	2.56
428.80	437.40	18.92	8.32	8.62	0.53	0.97	2.27
437.40	446.00	43.91	13.82	8.65	1.22	1.61	3.18
446.00	454.60	77.51	19.41	8.63	2.15	2.26	3.99
454.60	463.20	57.92	16.29	8.61	1.61	1.89	3.56
463.20	471.80	80.77	19.95	8.69	2.24	2.32	4.05
471.80	480.40	140.75	27.84	8.68	3.91	3.24	5.06
480.40	489.00	74.88	20.57	10.50	2.08	2.39	3.64

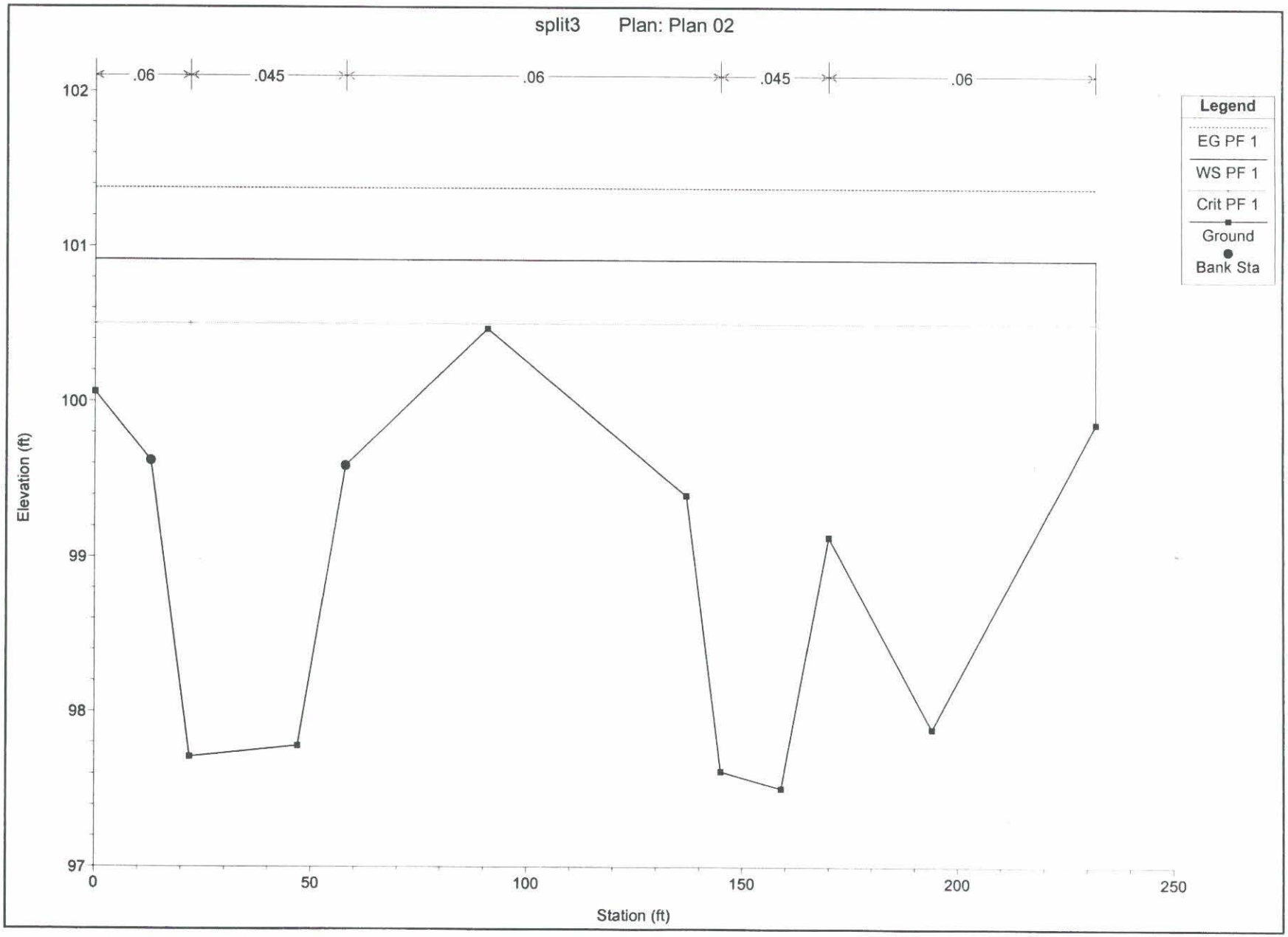

split2 Plan: Plan 02
.06
.045
.06
.045
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
100
99
98
97
96
95
0
100
200
300
400
500
Station (ft)

Split Flow Calculation Sheet
Split 3 Total Discharge at 88A below left split = 2300 cfs
INS - 5
Instrument Height = 5.06 ft

Point #	Height (ft) Rod Meas-	Height (ft) -Actual-	Normalized (value * 100)	Normalized to Topo	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative		Left Split Discharge	Right Split Discharge
64	5	0.06	100.06	2005	0	0		1.96	24.51
65	5.44	-0.38	99.62	2005	13.18	13		2.98	52.94
66	7.35	-2.29	97.71	2003	9.14	22		3.22	127.89
67	7.28	-2.22	97.78	2003	24.44	47		3.47	446.78
68	5.47	-0.41	99.59	2005	11.65	58		3.73	193.18
69	4.59	0.47	100.47	2005	32.9	91	Divide Point	3.99	240.05
70	5.66	-0.6	99.4	2004	45.26	137		4.26	197.1
71	7.44	-2.38	97.62	2003	8.24	145		4.54	86.67
72	7.55	-2.49	97.51	2002	14.61	159		4.82	1369.12
73	5.93	-0.87	99.13	2004	10.22	170		5.12	60%
74	7.17	-2.11	97.89	2003	24.71	194		29.45	
75	5.2	-0.14	99.86	2005	38.02	232		60.42	
								106.62	
								105.92	
								105.22	
Slope - 76	10.39	-5.33	94.67		Dist. From 78 to 76 =		453 right side	104.53	
Slope - 77	10.02	-4.96	95.04		Slope between 78 and 76 =		0.014	103.84	
Slope - 78	4.14	0.92	100.92					98.84	
Slope - 79	4.25	0.81	100.81		Dist. From 78 to 77 =		507 left side	67.1	
					Slope between 78 and 77 =		0.012	36.67	
								52.86	
							Use slope of 0.013	21.3	
								930.86	
								40%	

Plan: Plan 01 Split 3 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	1.30	1.96	1.14	2.16	0.09	0.88	1.72
1.30	2.60	2.98	1.20	1.30	0.13	0.92	2.49
2.60	3.90	3.22	1.25	1.30	0.14	0.96	2.57
3.90	5.20	3.47	1.31	1.30	0.15	1.01	2.65
5.20	6.50	3.73	1.37	1.30	0.16	1.05	2.72
6.50	7.80	3.99	1.43	1.30	0.17	1.10	2.80
7.80	9.10	4.26	1.48	1.30	0.19	1.14	2.87
9.10	10.40	4.54	1.54	1.30	0.20	1.18	2.95
10.40	11.70	4.82	1.60	1.30	0.21	1.23	3.02
11.70	13.00	5.12	1.65	1.30	0.22	1.27	3.09
LB 13.00	17.50	29.45	7.97	4.60	1.28	1.77	3.69
17.50	22.00	60.42	12.27	4.60	2.63	2.73	4.92
22.00	26.50	106.62	14.39	4.50	4.64	3.20	7.41
26.50	31.00	105.92	14.34	4.50	4.61	3.19	7.39
31.00	35.50	105.22	14.28	4.50	4.57	3.17	7.37
35.50	40.00	104.53	14.22	4.50	4.54	3.16	7.35
40.00	44.50	103.84	14.17	4.50	4.51	3.15	7.33
44.50	49.00	98.84	13.79	4.53	4.30	3.06	7.17
49.00	53.50	67.10	10.96	4.56	2.92	2.44	6.12
53.50	RB 58.00	36.67	7.63	4.56	1.59	1.69	4.81
58.00	75.40	52.86	19.01	17.41	2.30	1.09	2.78
75.40	92.80	21.30	11.02	17.41	0.93	0.63	1.93
92.80	110.20	24.51	11.99	17.40	1.07	0.69	2.04
110.20	127.60	52.94	19.03	17.40	2.30	1.09	2.78
127.60	145.00	127.89	32.45	17.60	5.56	1.86	3.94
145.00	162.40	446.78	57.62	17.44	19.43	3.31	7.75
162.40	179.80	193.18	37.79	17.50	8.40	2.17	5.11
179.80	197.20	240.05	47.15	17.42	10.44	2.71	5.09
197.20	214.60	197.10	41.90	17.42	8.57	2.41	4.70
214.60	232.00	86.67	26.20	18.48	3.77	1.51	3.31

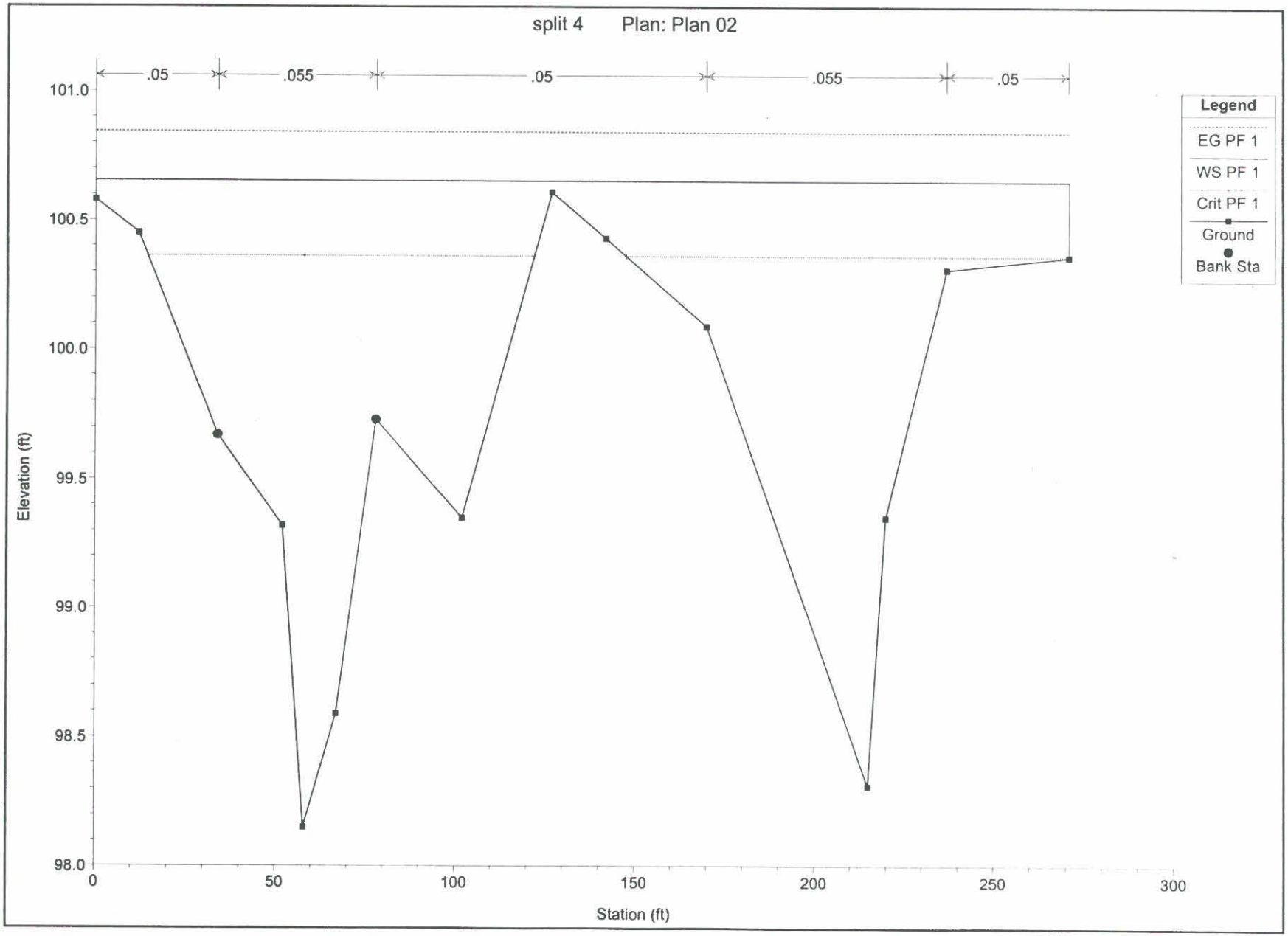

split3 Plan: Plan 02
.06
.045
.06
.045
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
102
101
100
99
98
97
0
50
100
150
200
250
Station (ft)

Split Flow Calculation Sheet
Split 4 Total Discharge at 87A = 800 cfs
INS - 6
Instrument Height = 5.21 ft

Point #	Height (ft) Rod Meas-	Height (ft) -Actual-	Normalized (value * 100)	Normalized to Topo	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative		Left Split Discharge	Right Split Discharge
80	4.63	0.58	100.58	1885	0	0		0.17	19.28
81	4.76	0.45	100.45	1885	12	12		0.3	65.53
82	5.54	-0.33	99.67	1884	21.63	34		0.46	155.56
83	5.89	-0.68	99.32	1884	17.93	52		0.7	84.57
84	7.06	-1.85	98.15	1883	6.7	58		1.39	10.92
85	6.62	-1.41	98.59	1883	9.05	67		2.37	8.24
86	5.48	-0.27	99.73	1884	10.7	78		3.55	344.1
87	5.86	-0.65	99.35	1884	23.68	102		4.91	43%
88	4.6	0.61	100.61	1885	25.68	127		6.45	
89	4.78	0.43	100.43	1885	14.95	142	Divide Point	8.14	
90	5.12	0.09	100.09	1885	27.6	170		13.47	
91	6.9	-1.69	98.31	1883	45.39	215		15.39	
92	5.86	-0.65	99.35	1884	4.48	220		17.42	
93	4.9	0.31	100.31	1885	17.07	237		19.54	
94	4.85	0.36	100.36	1885	33.82	271		30.52	
								54.52	
Slope - 95	9.41	-4.2	95.8	Dist. From 97 to 95 =		374	right side	50.88	
Slope - 96	9.98	-4.77	95.23	Slope between 97 and 95 =		0.013		42.02	
Slope - 97	4.5	0.71	100.71					28.36	
				Dist. From 97 to 96 =		417	left side	16.26	
				Slope between 97 and 96 =		0.013		67.16	
								60.98	
					Use slope of 0.013			4.37	
								6.56	
								455.89	
								57%	

Plan: Plan 01 Split 4 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	3.40	0.17	0.31	3.47	0.02	0.09	0.55
3.40	6.80	0.30	0.44	3.40	0.04	0.13	0.70
6.80	10.20	0.46	0.56	3.40	0.06	0.17	0.82
10.20	13.60	0.70	0.72	3.40	0.09	0.21	0.97
13.60	17.00	1.39	1.09	3.40	0.17	0.32	1.28
17.00	20.40	2.37	1.50	3.40	0.30	0.44	1.58
20.40	23.80	3.55	1.91	3.40	0.44	0.56	1.86
23.80	27.20	4.91	2.32	3.40	0.61	0.68	2.12
27.20	30.60	6.45	2.73	3.40	0.81	0.80	2.36
30.60	34.00	8.14	3.14	3.40	1.02	0.92	2.59
LB 34.00	38.40	13.47	4.51	4.40	1.68	1.03	2.98
38.40	42.80	15.39	4.89	4.40	1.92	1.11	3.15
42.80	47.20	17.42	5.27	4.40	2.18	1.20	3.31
47.20	51.60	19.54	5.64	4.40	2.44	1.28	3.46
51.60	56.00	30.52	7.42	4.48	3.82	1.69	4.11
56.00	60.40	54.52	10.48	4.44	6.82	2.38	5.20
60.40	64.80	50.88	10.02	4.41	6.36	2.28	5.08
64.80	69.20	42.02	8.95	4.41	5.25	2.03	4.70
69.20	73.60	28.36	7.07	4.42	3.55	1.61	4.01
73.60	RB 78.00	16.26	5.07	4.42	2.03	1.15	3.21
78.00	97.30	67.16	20.77	19.30	8.39	1.08	3.23
97.30	116.60	60.98	19.60	19.32	7.62	1.02	3.11
116.60	135.90	4.37	4.03	19.31	0.55	0.21	1.08
135.90	155.20	6.56	5.14	19.30	0.82	0.27	1.28
155.20	174.50	19.28	9.94	19.30	2.41	0.52	1.94
174.50	193.80	65.53	21.67	19.32	8.19	1.12	3.02
193.80	213.10	155.56	36.41	19.32	19.44	1.89	4.27
213.10	232.40	84.57	25.31	19.43	10.57	1.31	3.34
232.40	251.70	10.92	7.06	19.31	1.36	0.37	1.55
251.70	271.00	8.24	5.93	19.59	1.03	0.31	1.39


split 4 Plan: Plan 02
.05
.055
.05
.055
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
101.0
100.5
100.0
99.5
99.0
98.5
98.0
0
50
100
150
200
250
300
Station (ft)

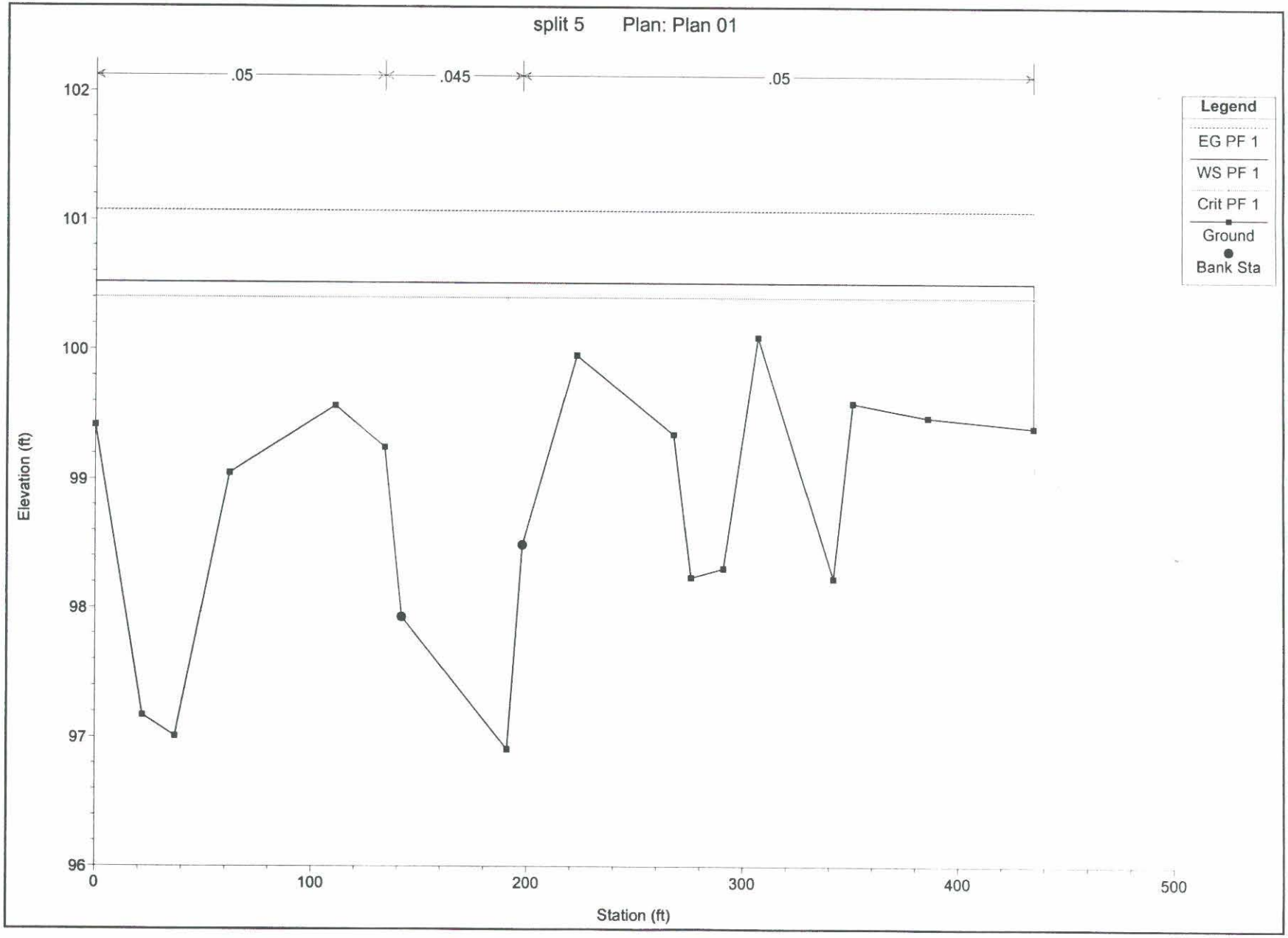
Split Flow Calculation Sheet
Split 5 Total Discharge at 78 = 3800 cfs
INS - 7
Instrument Height = 5.35 ft

Point #	Height (ft) Rod Meas-	- Height (ft) Actual-	Normalized (value * 100)	Normalized to Topo	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative		Left Split Discharge	Right Split Discharge
98	5.93	-0.58	99.42	1965	0	0		111.85	42.28
99	8.18	-2.83	97.17	1963	21.86	22		291.91	79.35
100	8.34	-2.99	97.01	1963	15.37	37		331.31	262.88
101	6.3	-0.95	99.05	1965	24.78	62		195.32	75.34
102	5.78	-0.43	99.57	1965	48.97	111		86.45	159.58
103	6.1	-0.75	99.25	1965	23.35	134		66.73	117.16
104	7.42	-2.07	97.93	1964	7.28	142		54.29	76.84
105	8.44	-3.09	96.91	1962	49.13	191		43.32	83.89
106	6.86	-1.51	98.49	1964	7.25	198		49.36	86.38
107	5.39	-0.04	99.96	1966	25.31	223	Divide Point	106.7	983.7
108	6	-0.65	99.35	1965	44.49	268		105.87	26%
109	7.11	-1.76	98.24	1964	8.19	276		113.77	
110	7.04	-1.69	98.31	1964	14.54	291		121.89	
111	5.25	0.1	100.1	1966	16.89	307		130.23	
112	7.12	-1.77	98.23	1964	34.32	342		138.79	
113	5.76	-0.41	99.59	1965	9.45	351		147.57	
114	5.87	-0.52	99.48	1965	34.34	386		156.57	
115	5.95	-0.6	99.4	1965	49.62	435		165.77	
								170.97	
								105.05	
Slope - 116	10.24	-4.89	95.11	Dist. From 118 to 116 =		503	right side	122.6	
Slope - 117	11.45	-6.1	93.9	Slope between 118 and 116 =		0.013		2816.32	
Slope - 118	3.8	1.55	101.55					74%	
				Dist. From 118 to 117 =		570	left side		
				Slope between 118 and 117 =		0.013			

Use slope of 0.013

Plan: Plan 01 Split 5 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	14.20	111.84	25.85	15.37	2.94	1.82	4.33
14.20	28.40	291.97	44.60	14.24	7.68	3.14	6.55
28.40	42.60	331.39	48.09	14.22	8.72	3.39	6.89
42.60	56.80	195.34	35.05	14.25	5.14	2.47	5.57
56.80	71.00	86.43	21.47	14.22	2.27	1.51	4.03
71.00	85.20	66.70	18.37	14.20	1.76	1.29	3.63
85.20	99.40	54.26	16.23	14.20	1.43	1.14	3.34
99.40	113.60	43.29	14.17	14.20	1.14	1.00	3.05
113.60	127.80	49.33	15.33	14.20	1.30	1.08	3.22
127.80	142.00	106.69	22.97	14.31	2.81	1.62	4.64
LB 142.00	147.60	105.90	14.80	5.60	2.79	2.64	7.16
147.60	153.20	113.79	15.45	5.60	2.99	2.76	7.36
153.20	158.80	121.92	16.11	5.60	3.21	2.88	7.57
158.80	164.40	130.27	16.76	5.60	3.43	2.99	7.77
164.40	170.00	138.83	17.41	5.60	3.65	3.11	7.97
170.00	175.60	147.62	18.06	5.60	3.88	3.23	8.17
175.60	181.20	156.61	18.72	5.60	4.12	3.34	8.37
181.20	186.80	165.82	19.37	5.60	4.36	3.46	8.56
186.80	192.40	171.02	19.78	5.64	4.50	3.53	8.65
192.40	RB 198.00	105.07	14.88	5.74	2.77	2.66	7.06
198.00	221.70	122.56	31.47	23.74	3.23	1.33	3.89
221.70	245.40	42.23	16.59	23.70	1.11	0.70	2.54
245.40	269.10	79.30	24.22	23.71	2.09	1.02	3.27
269.10	292.80	262.89	49.77	23.78	6.92	2.10	5.28
292.80	316.50	75.29	23.52	23.80	1.98	0.99	3.20
316.50	340.20	159.55	36.86	23.73	4.20	1.56	4.33
340.20	363.90	117.12	30.65	23.80	3.08	1.29	3.82
363.90	387.60	76.79	23.75	23.70	2.02	1.00	3.23
387.60	411.30	83.84	25.04	23.70	2.21	1.06	3.35
411.30	435.00	86.33	25.96	24.81	2.27	1.10	3.33


split 5 Plan: Plan 01
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
102
101
100
99
98
97
96
0
100
200
300
400
500
Station (ft)

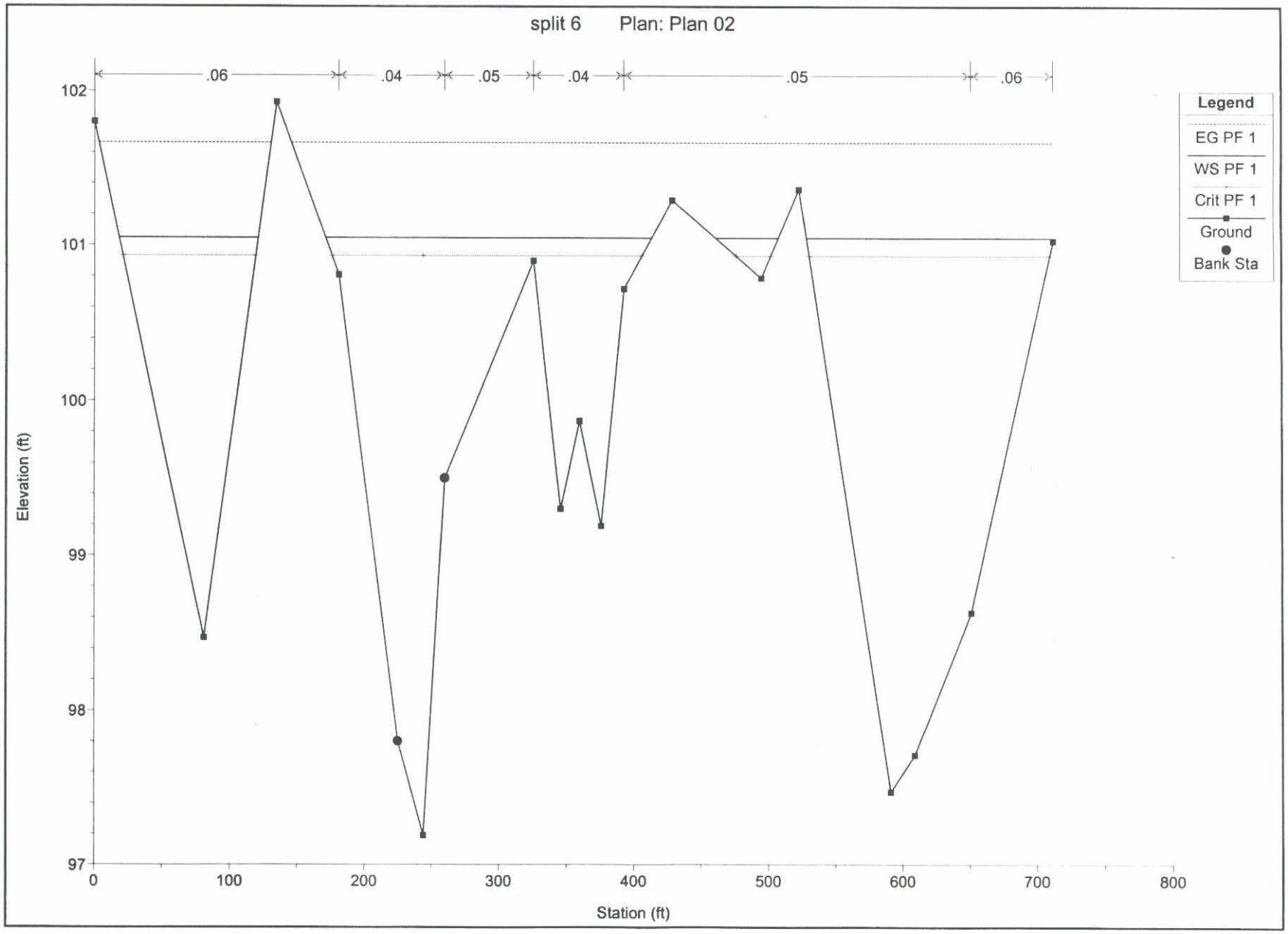
Split Flow Calculation Sheet
Split 6 Total Discharge at 75 = 4700 cfs
INS - 8
Instrument Height = 5.47 ft

Point #	Height (ft) Rod Meas-	Height (ft) -Actual-	Normalized (value * 100)	Normalized to Topo	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative		Left Split Discharge	Right Split Discharge
119	3.67	1.8	101.8	1995	0	0		0.19	1.64
120	7	-1.53	98.47	1992	80.69	81		27.32	3.73
121	3.54	1.93	101.93	1995	54.77	135		122.02	275.78
122	4.66	0.81	100.81	1994	45.67	181		232.15	1080.92
123	7.67	-2.2	97.8	1991	44.02	225		87.69	668.34
124	8.28	-2.81	97.19	1990	19.14	244		2.7	105.25
125	5.97	-0.5	99.5	1993	15.34	260		0.55	2135.66
126	4.57	0.9	100.9	1994	66.47	326		79.8	45%
127	6.17	-0.7	99.3	1993	19.44	346		395.22	
128	5.6	-0.13	99.87	1993	14.36	360		110.09	
129	6.28	-0.81	99.19	1992	16.32	376		116.4	
130	4.75	0.72	100.72	1994	16.79	393		122.85	
131	4.18	1.29	101.29	1994	35.72	429	Divide Point	129.43	
132	4.68	0.79	100.79	1994	66.3	495		136.16	
133	4.11	1.36	101.36	1995	28.03	523		136.35	
134	8	-2.53	97.47	1991	68.24	591		110.06	
135	7.76	-2.29	97.71	1991	17.77	609		83.56	
136	6.84	-1.37	98.63	1992	41.45	651		60.06	
137	4.44	1.03	101.03	1994	61.12	712		39.77	
								166.02	
								126.13	
Slope - 13	9.12	-3.65	96.35	Dist. From 135 to 138 =		107	right side	277.49	
Slope - 13	9.78	-4.31	95.69	Slope between 135 and 138 =		0.013		2.35	
Slope - 14	10.74	-5.27	94.73					2564.36	
				Dist. From 127 to 139 =		250	middle chan	55%	
				Slope between 127 and 139 =		0.014			
				Dist. From 123 to 140 =		202	left side		
				Slope between 123 and 140 =		0.015			

Use slope of 0.014

Plan: Plan 01 Split 6 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	22.50	0.18	0.36	4.16	0.00	0.09	0.50
22.50	45.00	27.19	14.25	22.52	0.58	0.63	1.91
45.00	67.50	121.93	35.06	22.52	2.59	1.56	3.48
67.50	90.00	232.20	51.62	22.53	4.94	2.29	4.50
90.00	112.50	87.58	28.76	22.55	1.86	1.28	3.04
112.50	135.00	2.68	2.43	8.72	0.06	0.28	1.10
135.00	157.50						
157.50	180.00	0.53	0.92	8.69	0.01	0.11	0.58
180.00	202.50	79.61	21.11	22.55	1.69	0.94	3.77
202.50	225.00	395.35	55.72	22.55	8.41	2.48	7.10
LB 225.00	228.50	110.18	11.56	3.50	2.34	3.30	9.53
228.50	232.00	116.50	11.95	3.50	2.48	3.41	9.75
232.00	235.50	122.96	12.34	3.50	2.62	3.53	9.96
235.50	239.00	129.56	12.74	3.50	2.76	3.64	10.17
239.00	242.50	136.29	13.13	3.50	2.90	3.75	10.38
242.50	246.00	136.48	13.17	3.52	2.90	3.76	10.36
246.00	249.50	110.15	11.60	3.54	2.34	3.31	9.49
249.50	253.00	83.61	9.83	3.54	1.78	2.81	8.50
253.00	256.50	60.08	8.06	3.54	1.28	2.30	7.45
256.50	RB 260.00	39.76	6.29	3.54	0.85	1.80	6.32
260.00	305.20	165.71	48.21	45.21	3.53	1.07	3.44
305.20	350.40	125.80	33.83	45.27	2.68	0.75	3.72
350.40	395.60	277.16	56.76	45.29	5.90	1.26	4.88
395.60	440.80	2.30	2.56	17.98	0.05	0.14	0.90
440.80	486.00	1.58	2.33	24.78	0.03	0.09	0.68
486.00	531.20	3.66	3.81	24.29	0.08	0.16	0.96
531.20	576.40	275.55	65.44	45.27	5.86	1.45	4.21
576.40	621.60	1081.82	148.61	45.23	23.02	3.29	7.28
621.60	666.80	668.65	113.75	45.22	14.23	2.52	5.88
666.80	712.00	104.98	40.91	45.25	2.23	0.91	2.57


split 6 Plan: Plan 02
.06
.04
.05
.04
.05
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
102
101
100
99
98
97
0
100
200
300
400
500
600
700
800
Station (ft)

Split Flow Calculation Sheet
Split 7, Below 60C Total Discharge at 60C = 2200 cfs
INS - 9
Instrument Height = 5.37 ft

Point #	Height (ft) Rod Meas-	Height (ft) Actual-	Normalized (value * 100)	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative	Left Split Discharge	Right Split Discharge
141	5.65	-0.28	99.72	0	0	0.21	1.01
142	5.76	-0.39	99.61	51.31	51	15.63	28.86
143	5.68	-0.31	99.69	12.3	64	21.71	74.19
144	5.28	0.09	100.09	17.85	81	14.16	5.87
145	5.32	0.05	100.05	17.81	99	1.07	101.67
146	4.39	0.98	100.98	24.52	124	1.02	1514.97
147	4.02	1.35	101.35	15.58	139	2.57	387.79
148	5.08	0.29	100.29	7.79	147	7.16	2114.36
149	4.26	1.11	101.11	8.91	156	15.42	96%
150	5.74	-0.37	99.63	34.53	191	6.7	
151	7.21	-1.84	98.16	13.4	204	85.65	
152	7.2	-1.83	98.17	14.85	219	4%	
153	6.52	-1.15	98.85	11.62	230		
154	6.71	-1.34	98.66	20.07	251		
155	7.23	-1.86	98.14	21.15	272		
156	5.35	0.02	100.02	6.77	278		
157	4.98	0.39	100.39	25.7	304	Divide Point	
158	6.18	-0.81	99.19	67.02	371		
159	3.47	1.9	101.9	63.05	434		
160	6.5	-1.13	98.87	63.88	498		
161	6.57	-1.2	98.8	13.4	512		
TP1	3.52	1.85	101.85				

INS - 10
Instrument Height = 5.30 ft

Backsite	7.24	-1.94	98.06		
Turnpoint1	5.37	-0.07	99.93		
162	6.73	-1.43	98.57	59.16	571
163	7.9	-2.6	97.4	19.15	590
164	5.59	-0.29	99.71	36.24	626
165	6.78	-1.48	98.52	11.83	638
166	6.67	-1.37	98.63	13.4	651
167	6.23	-0.93	99.07	56.87	708
168	8.46	-3.16	96.84	76.55	785
169	11.12	-5.82	94.18	4.72	789
170	10.68	-5.38	94.62	17.32	807
171	10.13	-4.83	95.17	29.22	836
172	2.2	3.1	103.1	34.07	870
173	0.6	4.7	104.7	17.6	888

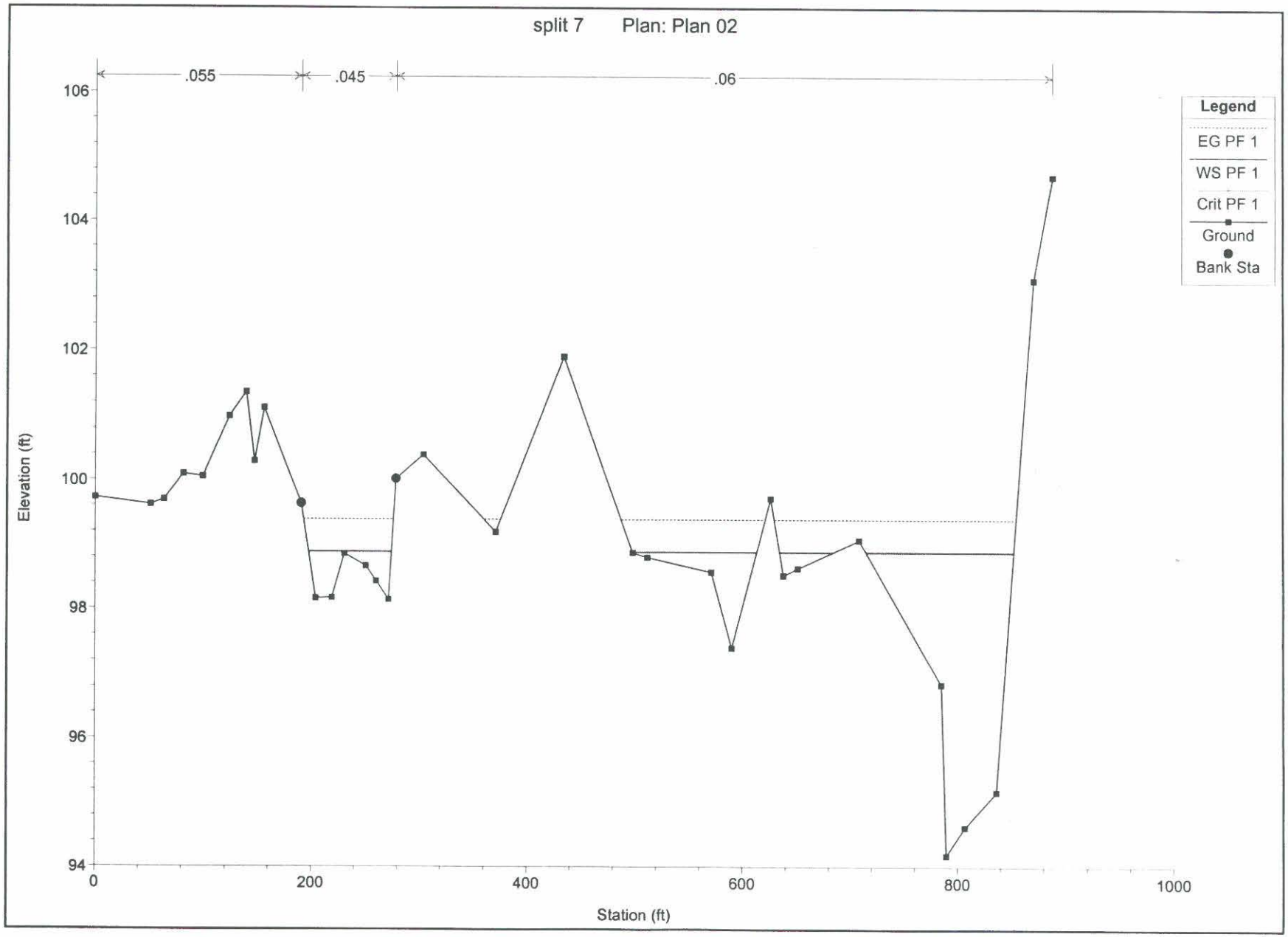
Slope - 174	15.25	-9.95	90.05	Dist. From 170 to 174 =	210	right side
Slope - 175	8.9	-3.6	96.4	Slope between 170 and 174 =	0.022	
Slope - 176	1	4.3	104.3			
Slope - 177	5.88	-0.58	99.42	Dist. From 177 to 178 =	335	left side
Slope - 178	13.58	-8.28	91.72	Slope between 177 and 178 =	0.023	
Slope - 179	12.35	-7.05	92.95			

Use slope of 0.023

Note: Due to a high degree of uncertainty of the flow distribution at this split, It will be assumed that 50% of the flow goes left and 100% goes right.

Plan: Plan 01 Split 7 Reach 1 RS: 2 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
LB 190.60	199.39	0.21	0.22	2.00	0.01	0.11	0.97
199.39	208.17	15.63	5.19	8.81	0.71	0.59	3.01
208.17	216.96	21.71	6.32	8.79	0.99	0.72	3.44
216.96	225.74	14.16	4.89	8.80	0.64	0.56	2.89
225.74	234.53	1.07	1.04	8.79	0.05	0.12	1.03
234.53	243.32	1.02	1.01	8.79	0.05	0.11	1.01
243.32	252.10	2.57	1.76	8.79	0.12	0.20	1.46
252.10	260.89	7.16	3.25	8.79	0.33	0.37	2.20
260.89	269.67	15.42	5.15	8.79	0.70	0.59	3.00
269.67	RB 278.46	6.70	2.45	4.80	0.30	0.52	2.73
278.46	461.21						
461.21	522.13	1.01	1.79	24.33	0.05	0.07	0.57
522.13	583.05	28.86	19.28	60.94	1.31	0.32	1.50
583.05	643.97	74.19	28.65	39.84	3.37	0.72	2.59
643.97	704.89	5.87	6.28	40.24	0.27	0.16	0.93
704.89	765.80	101.67	38.31	51.30	4.62	0.75	2.65
765.80	826.72	1514.97	208.47	61.63	68.86	3.42	7.27
826.72	887.64	387.79	64.80	25.64	17.63	2.57	5.98


split 7 Plan: Plan 02
.055
.045
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
106
104
102
100
98
96
94
0
200
400
600
800
1000
Station (ft)

Split Flow Calculation Sheet
Split 8 Total Discharge at 60 = 3500 cfs
INS - 11
Instrument Height = 5.33 ft

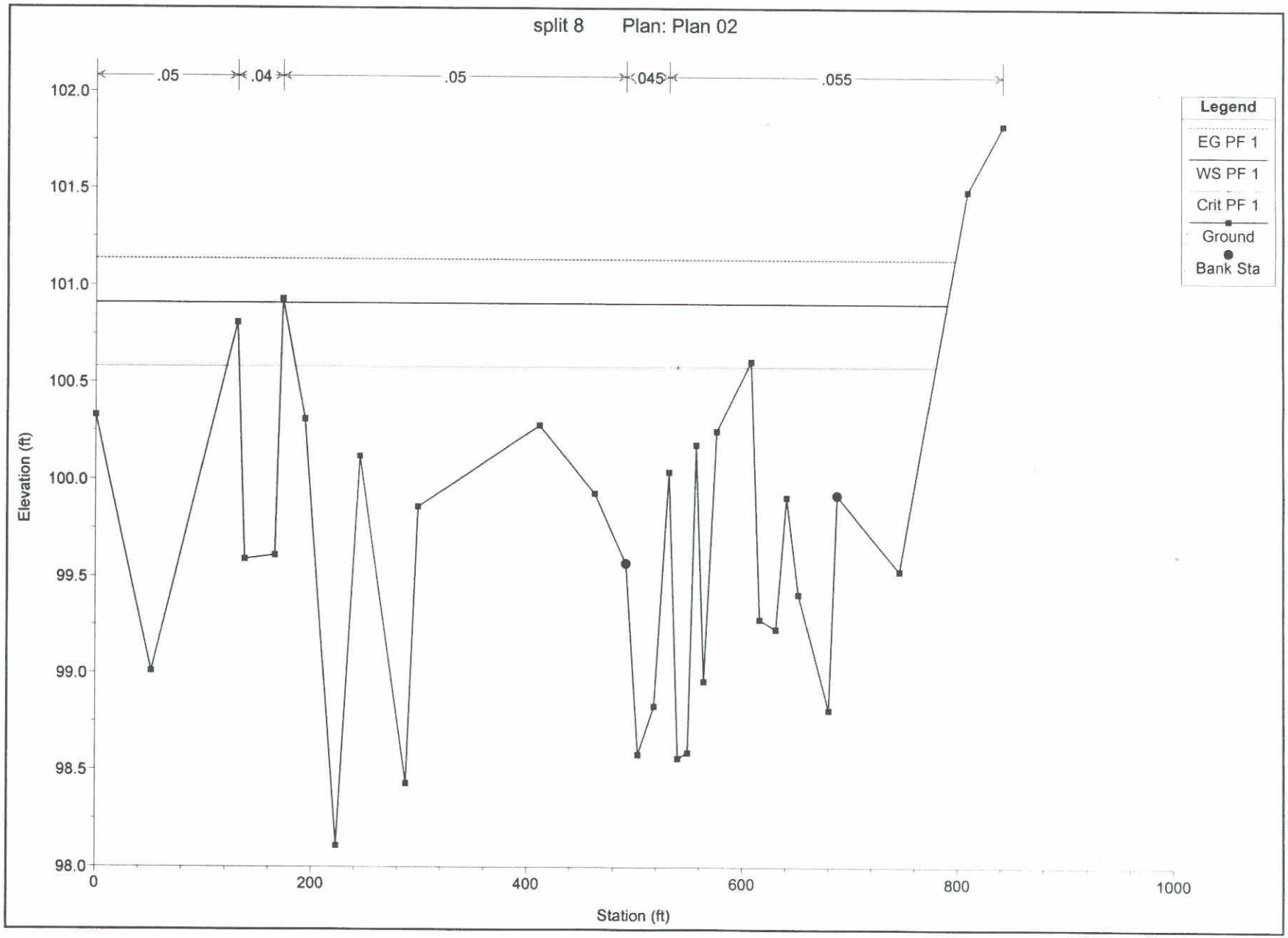
Point #	Height (ft) Rod Meas-	Height (ft) -Actual-	Normalized (value * 100)	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative	Left Split Discharge	Right Split Discharge
180	5	0.33	100.33	0	0	208.84	169.44
181	6.32	-0.99	99.01	51.63	52	270.4	224.97
182	4.52	0.81	100.81	79.85	131	100.59	170.78
183	5.74	-0.41	99.59	6.33	138	133.33	176.3
184	5.72	-0.39	99.61	28.46	166	403.48	102.46
187	4.4	0.93	100.93	6.33	173	376.28	30.59
188	5.02	0.31	100.31	21.19	194	151.98	12.49
189	7.22	-1.89	98.11	29.47	223	104.03	108.21
190	5.21	0.12	100.12	21.91	245	86.85	88.9
191	6.9	-1.57	98.43	42.35	288	1835.78	129.45
192	5.47	-0.14	99.86	11.32	299	52%	151.57
193	5.05	0.28	100.28	112.93	412	Divide Point	46.81
194	5.4	-0.07	99.93	51.19	463		54.84
195	5.76	-0.43	99.57	29.01	492		63.36
196	6.75	-1.42	98.58	11.2	503		70.95
198	6.5	-1.17	98.83	14.82	518		45.8
199	5.29	0.04	100.04	14.08	532		16.06
200	6.77	-1.44	98.56	7.55	540		1.24
201	6.74	-1.41	98.59	9.73	549		1664.22
202	5.15	0.18	100.18	7.55	557		48%
203	6.37	-1.04	98.96	7.4	564		
204	5.08	0.25	100.25	11.84	576		
205	4.72	0.61	100.61	31.96	608		
206	6.05	-0.72	99.28	7.4	616		
207	6.1	-0.77	99.23	15.55	631		
208	5.42	-0.09	99.91	10.28	641		
209	5.92	-0.59	99.41	10.77	652		
210	6.52	-1.19	98.81	28.28	680		
211	5.41	-0.08	99.92	7.4	688		
212	5.8	-0.47	99.53	57.76	746		
213	3.84	1.49	101.49	63.12	809		
214	3.5	1.83	101.83	33.33	842		

Slope - 185	8.8	-3.47	96.53	Dist. From 216 to 215 =	367 right side
Slope - 186	4.4	0.93	100.93	Slope between 216 and 215 =	0.012
HW - 197	4.2	1.13	101.13		
Slope - 215	10.82	-5.49	94.51	Dist. From 186 to 185 =	416 right side
Slope - 216	5	0.33	100.33	Slope between 186 and 185 =	0.014

Use slope of 0.013

Plan: Plan 01 Split 8 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	49.20	208.84	59.15	49.79	5.97	1.20	3.53
49.20	98.40	270.40	68.75	49.21	7.73	1.40	3.93
98.40	147.60	100.59	32.87	49.31	2.87	0.67	3.06
147.60	196.80	133.33	36.49	48.47	3.81	0.76	3.65
196.80	246.00	403.48	87.52	49.37	11.53	1.78	4.61
246.00	295.20	376.28	83.88	49.29	10.75	1.70	4.49
295.20	344.40	151.98	48.66	49.23	4.34	0.99	3.12
344.40	393.60	104.03	38.75	49.20	2.97	0.79	2.68
393.60	442.80	86.85	34.77	49.20	2.48	0.71	2.50
442.80	492.00	169.44	51.93	49.20	4.84	1.06	3.26
LB 492.00	511.60	224.97	39.56	19.65	6.43	2.02	5.69
511.60	531.20	170.78	33.54	19.65	4.88	1.71	5.09
531.20	550.80	176.30	38.43	19.77	5.04	1.96	4.59
550.80	570.40	102.46	27.96	19.86	2.93	1.43	3.66
570.40	590.00	30.59	13.48	19.63	0.87	0.69	2.27
590.00	609.60	12.49	7.87	19.62	0.36	0.40	1.59
609.60	629.20	108.21	28.79	19.69	3.09	1.47	3.76
629.20	648.80	88.90	25.56	19.63	2.54	1.30	3.48
648.80	668.40	129.45	32.01	19.61	3.70	1.63	4.04
668.40	RB 688.00	151.57	35.24	19.68	4.33	1.80	4.30
688.00	703.40	46.81	16.01	15.40	1.34	1.04	2.92
703.40	718.80	54.84	17.60	15.40	1.57	1.14	3.11
718.80	734.20	63.36	19.20	15.40	1.81	1.25	3.30
734.20	749.60	70.95	20.55	15.40	2.03	1.33	3.45
749.60	765.00	45.80	15.81	15.41	1.31	1.03	2.90
765.00	780.40	16.06	8.43	15.41	0.46	0.55	1.91
780.40	795.80	1.24	1.52	9.89	0.04	0.15	0.82


split 8 Plan: Plan 02
.05
.04
.05
.045
.055
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
102.0
101.5
101.0
100.5
100.0
99.5
99.0
98.5
98.0
0
200
400
600
800
1000
Station (ft)

Split Flow Calculation Sheet
Split 9 Total Discharge at 60 below Split 8 right split = 1700 cfs
INS - 12
Instrument Height = 5.20 ft

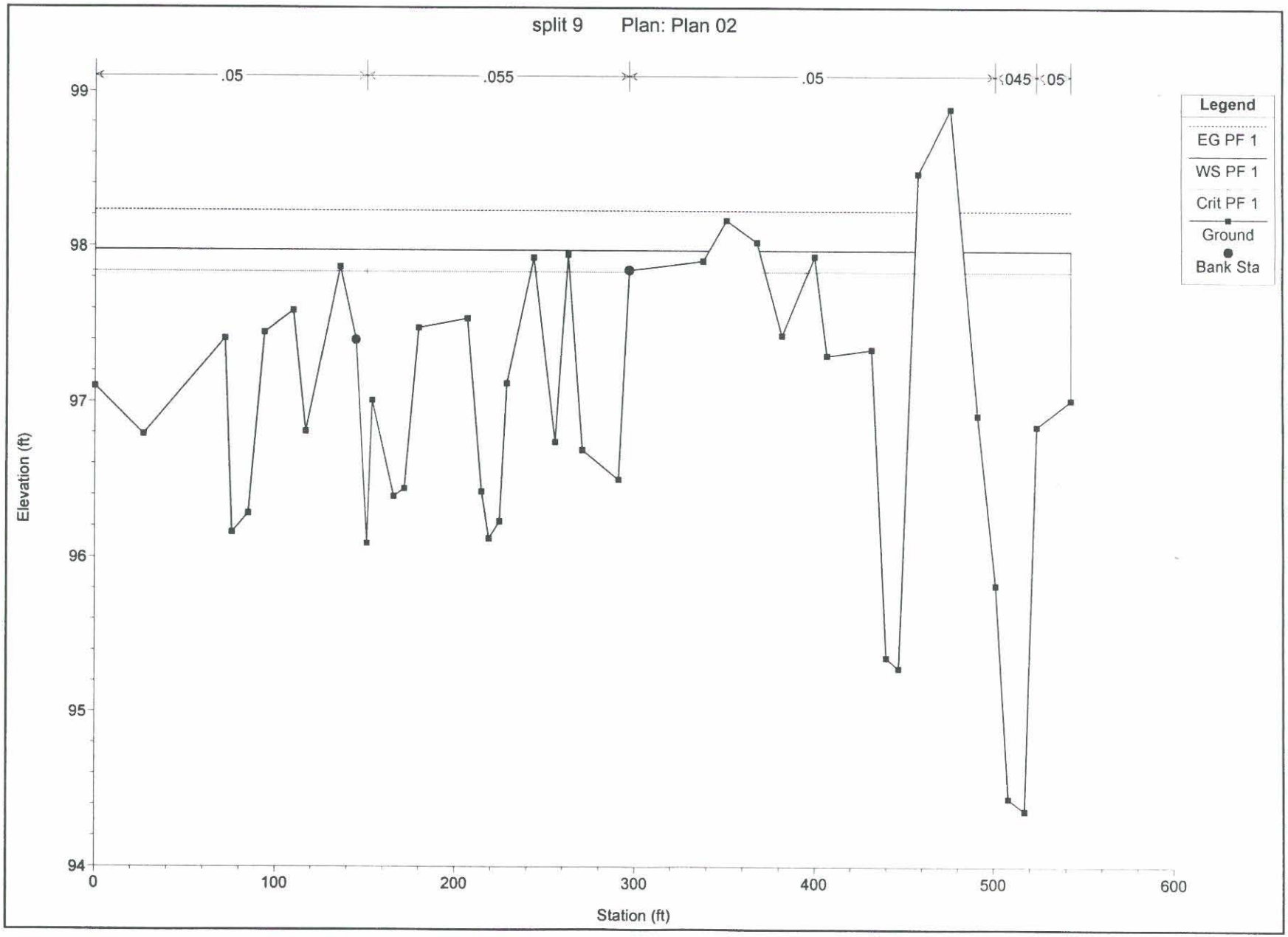
Point #	Height (ft) Rod Meas-	Height (ft) Actual-	Normalized (value * 100)	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative	Left Split Discharge	Right Split Discharge
217	8.1	-2.9	97.1	0	0	40.68	12.4
218	8.41	-3.21	96.79	26.59	27	54.96	22.16
219	7.79	-2.59	97.41	45.6	72	49.86	125.74
220	9.04	-3.84	96.16	3.91	76	35.17	80.94
221	8.92	-3.72	96.28	8.42	85	22.75	19.26
222	7.75	-2.55	97.45	9.8	94	99.72	493.47
223	7.61	-2.41	97.59	15.95	110	26.67	129.51
224	8.39	-3.19	96.81	7.21	117	16.5	883.48
225	7.33	-2.13	97.87	18.18	136	31.97	52%
226	7.8	-2.6	97.4	9.46	145	6.42	
227	9.11	-3.91	96.09	5.64	151	61.85	
228	8.19	-2.99	97.01	3.21	154	80.25	
229	8.81	-3.61	96.39	12.37	166	17.15	
230	8.76	-3.56	96.44	5.69	172	11.54	
231	7.72	-2.52	97.48	7.86	180	61.87	
232	7.66	-2.46	97.54	26.92	207	51.89	
233	8.78	-3.58	96.42	8.25	215	6.81	
234	9.08	-3.88	96.12	4.02	219	21.75	
235	8.97	-3.77	96.23	5.64	225	59.72	
236	8.08	-2.88	97.12	4.48	229	56.34	
237	7.27	-2.07	97.93	14.92	244	1.88	
238	8.46	-3.26	96.74	11.67	256	0.74	
239	7.25	-2.05	97.95	7.19	263	0.02	
240	8.51	-3.31	96.69	8.03	271	816.51	
243	8.7	-3.5	96.5	19.94	291	48%	
244	7.35	-2.15	97.85	6.28	297		
245	7.29	-2.09	97.91	40.99	338		
246	7.03	-1.83	98.17	13.12	351	Divide Point	
247	7.17	-1.97	98.03	16.64	368		
248	7.77	-2.57	97.43	13.68	382		
249	7.26	-2.06	97.94	18.05	400		
250	7.9	-2.7	97.3	7.24	407		
251	7.86	-2.66	97.34	25.14	432		
252	9.85	-4.65	95.35	8.13	440		
253	9.92	-4.72	95.28	6.74	447		
254	6.73	-1.53	98.47	11.25	458		
255	6.31	-1.11	98.89	18.22	476		
256	8.29	-3.09	96.91	14.33	491		
257	9.38	-4.18	95.82	10.04	501		
258	10.76	-5.56	94.44	7.62	508		
259	10.84	-5.64	94.36	8.9	517		
260	8.36	-3.16	96.84	7.11	524		
261	8.19	-2.99	97.01	19	543		

Slope - 241	10.64	-5.44	94.56	Dist. From 263 to 262 =	297 right side
Slope - 242	11.31	-6.11	93.89	Slope between 263 and 262 =	0.014
Slope - 262	13.02	-7.82	92.18		
Slope - 263	8.86	-3.66	96.34	Dist. From 264 to 241 =	280 middle channel
Slope - 264	7.32	-2.12	97.88	Slope between 264 and 241 =	0.012
				Dist. From 264 to 242 =	297 left side
				Slope between 264 and 242 =	0.013

Use slope of 0.013

Plan: Plan 01 Split 9 Reach 9 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	14.50	40.68	13.90	15.38	2.39	0.96	2.93
14.50	29.00	54.96	16.26	14.50	3.23	1.12	3.38
29.00	43.50	49.86	15.34	14.50	2.93	1.06	3.25
43.50	58.00	35.17	12.44	14.50	2.07	0.86	2.83
58.00	72.50	22.75	9.59	14.53	1.34	0.66	2.37
72.50	87.00	99.72	23.37	14.68	5.87	1.61	4.27
87.00	101.50	26.67	10.56	14.56	1.57	0.73	2.53
101.50	116.00	16.50	7.91	14.54	0.97	0.55	2.09
116.00	130.50	31.97	11.76	14.53	1.88	0.81	2.72
130.50	145.00	6.42	4.49	14.52	0.38	0.31	1.43
LB 145.00	160.20	61.85	18.64	15.49	3.64	1.23	3.32
160.20	175.40	80.25	22.16	15.24	4.72	1.46	3.62
175.40	190.60	17.15	8.78	15.24	1.01	0.58	1.95
190.60	205.80	11.54	6.91	15.20	0.68	0.45	1.67
205.80	221.00	61.87	18.98	15.29	3.64	1.25	3.26
221.00	236.20	51.89	17.09	15.31	3.05	1.12	3.04
236.20	251.40	6.81	5.05	15.25	0.40	0.33	1.35
251.40	266.60	21.75	10.16	15.37	1.28	0.67	2.14
266.60	281.80	59.72	18.57	15.25	3.51	1.22	3.22
281.80	RB 297.00	56.34	17.97	15.35	3.31	1.18	3.13
297.00	321.60	1.88	2.64	24.60	0.11	0.11	0.71
321.60	346.20	0.74	1.37	19.67	0.04	0.07	0.54
346.20	370.80	0.02	0.05	1.53	0.00	0.03	0.32
370.80	395.40	12.40	8.18	24.62	0.73	0.33	1.52
395.40	420.00	22.16	11.59	24.63	1.30	0.47	1.91
420.00	444.60	125.74	32.96	24.84	7.40	1.34	3.81
444.60	469.20	80.94	18.97	12.08	4.76	1.62	4.27
469.20	493.80	19.26	7.71	10.96	1.13	0.71	2.50
493.80	518.40	493.47	69.50	24.86	29.03	2.83	7.10
518.40	543.00	129.51	31.87	25.91	7.62	1.30	4.06


split 9 Plan: Plan 02
.05
.055
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
99
98
97
96
95
94
0
100
200
300
400
500
600
Station (ft)

Split Flow Calculation Sheet
Split 10 Total Discharge at 67 = 3800 cfs
INS - 13
Instrument Height = 5.36 ft

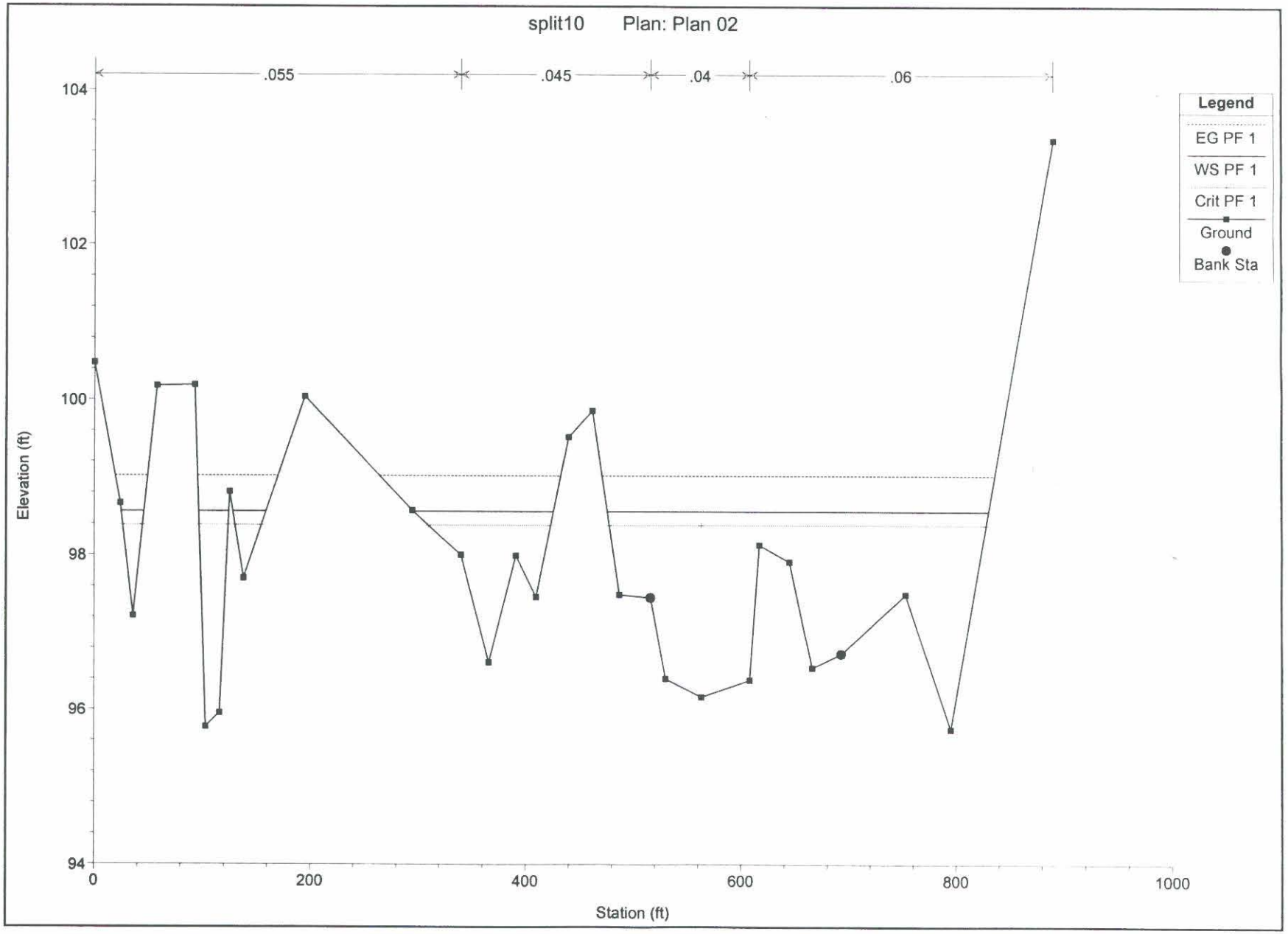
Point #	Height (ft) Rod Meas-	Height (ft) -Actual-	Normalized (value * 100)	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative	Left Split Discharge	Right Split Discharge
265	4.88	0.48	100.48	0	0	38.62	155.38
266	6.7	-1.34	98.66	24.22	24	39.91	204.53
267	8.15	-2.79	97.21	11.91	36	233.57	312.64
268	5.18	0.18	100.18	21.99	58	0.23	339.98
269	5.17	0.19	100.19	34.92	93	0.8	330.38
270	9.59	-4.23	95.77	10.1	103	131.76	310.12
271	9.41	-4.05	95.95	13.33	116	278.1	101.17
274	6.55	-1.19	98.81	8.62	125	15.22	19.16
275	7.66	-2.3	97.7	13.28	138	738.21	48.11
276	5.32	0.04	100.04	56.32	195	19%	153.3
277	6.79	-1.43	98.57	100.66	295		156.88
278	7.36	-2	98	44.94	340		142.83
279	8.75	-3.39	96.61	25.74	366		109.4
280	7.37	-2.01	97.99	24.93	391		79.63
281	7.9	-2.54	97.46	18.79	410		107.26
282	5.84	-0.48	99.52	30.43	440		227.25
283	5.5	-0.14	99.86	21.94	462	Divide Point	228.47
284	7.87	-2.51	97.49	24.92	487		35.3
285	7.91	-2.55	97.45	28.93	516		3061.79
286	8.96	-3.6	96.4	14.16	530		81%
287	9.2	-3.84	96.16	32.58	563		
290	8.98	-3.62	96.38	45.14	608		
291	7.23	-1.87	98.13	9.53	617		
292	7.45	-2.09	97.91	27.15	645		
293	8.82	-3.46	96.54	21.56	666		
294	8.64	-3.28	96.72	26.65	693		
295	7.87	-2.51	97.49	59.76	753		
296	9.62	-4.26	95.74	42.03	795		
297	2	3.36	103.36	95.08	890		

						right side
Slope - 272	12.06	-6.7	93.3	Dist. From 288 to 289 =	329	
Slope - 273	7.1	-1.74	98.26	Slope between 288 and 289 =	0.017	
Slope - 288	12.35	-6.99	93.01			middle channel
Slope - 289	6.84	-1.48	98.52	Dist. From 272 to 273 =	349	
Slope - 298	4	1.36	101.36	Slope between 272 and 273 =	0.014	

Use slope of 0.016

Plan: Plan 01 Split 10 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	51.60	38.62	14.21	21.29	1.02	0.67	2.72
51.60	103.20	39.91	9.34	7.09	1.05	1.44	4.27
103.20	154.80	233.57	58.07	48.29	6.15	1.21	4.02
154.80	206.40	0.23	0.34	4.06	0.01	0.08	0.68
206.40	258.00						
258.00	309.60	0.80	1.16	13.53	0.02	0.09	0.69
309.60	361.20	131.76	34.87	51.63	3.47	0.68	3.78
361.20	412.80	278.10	58.73	51.66	7.32	1.14	4.74
412.80	464.40	15.22	5.95	13.20	0.40	0.45	2.56
464.40	516.00	155.38	37.50	40.30	4.09	0.93	4.14
LB 516.00	533.70	204.53	30.87	17.74	5.38	1.74	6.63
533.70	551.40	312.64	39.78	17.70	8.23	2.25	7.86
551.40	569.10	339.98	41.84	17.70	8.95	2.36	8.13
569.10	586.80	330.38	41.12	17.70	8.69	2.32	8.03
586.80	604.50	310.12	39.59	17.70	8.16	2.24	7.83
604.50	622.20	101.17	21.68	17.87	2.66	1.23	4.67
622.20	639.90	19.16	9.50	17.70	0.50	0.54	2.02
639.90	657.60	48.11	16.52	17.73	1.27	0.93	2.91
657.60	675.30	153.30	33.10	17.72	4.03	1.87	4.63
675.30	RB 693.00	156.88	33.55	17.70	4.13	1.90	4.68
693.00	712.70	142.83	33.69	19.70	3.76	1.71	4.24
712.70	732.40	109.40	28.71	19.70	2.88	1.46	3.81
732.40	752.10	79.63	23.73	19.70	2.10	1.20	3.36
752.10	771.80	107.26	28.38	19.72	2.82	1.44	3.78
771.80	791.50	227.25	44.52	19.72	5.98	2.26	5.10
791.50	811.20	228.47	44.70	19.76	6.01	2.27	5.11
811.20	830.90	35.30	14.34	18.97	0.93	0.76	2.46

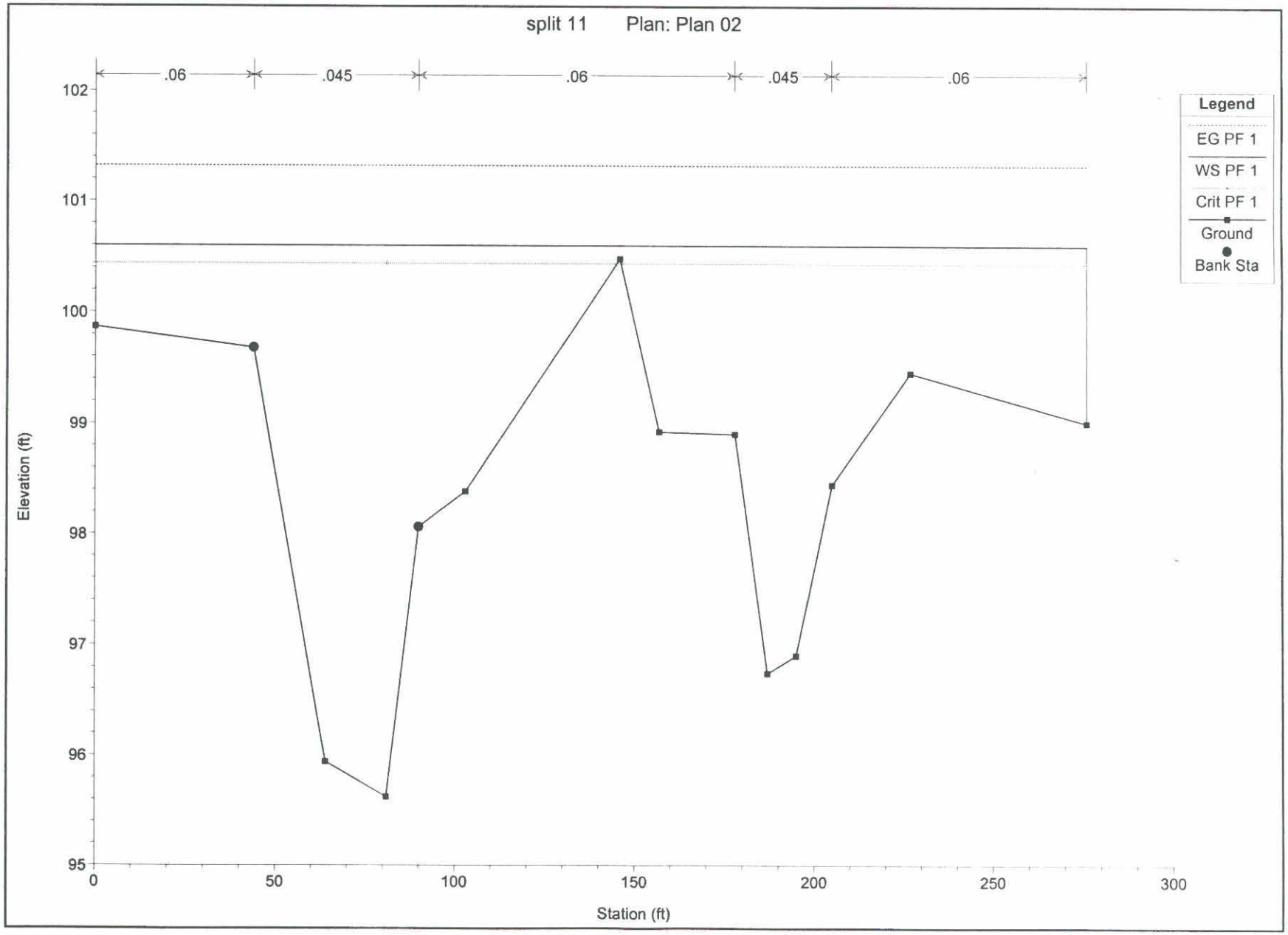

split10 Plan: Plan 02
.055
.045
.04
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
104
102
100
98
96
94
0
200
400
600
800
1000
Station (ft)

Split Flow Calculation Sheet
Split 11 Total Discharge at 76B = 3000 cfs
INS - 14
Instrument Height = 5.40 ft

Point #	Height (ft) Rod Meas-	Height (ft) -Actual-	Normalized (value * 100)	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative		Left Split Discharge	Right Split Discharge
299	5.53	-0.13	99.87	0	0		6.43	65.61
300	5.72	-0.32	99.68	43.6	44		7.43	153.61
301	9.46	-4.06	95.94	20.62	64		7.75	514.96
302	9.78	-4.38	95.62	17.07	81		8.06	157.72
303	7.34	-1.94	98.06	8.62	90		8.39	69.36
304	7.02	-1.62	98.38	13.04	103		8.72	79.2
305	4.92	0.48	100.48	42.6	146	Divide Point	9.05	91.57
306	6.48	-1.08	98.92	11.87	157		9.39	1132.03
307	6.5	-1.1	98.9	20.1	178		9.74	38%
308	8.66	-3.26	96.74	9.6	187		10.09	
309	8.5	-3.1	96.9	7.51	195		25.5	
310	6.96	-1.56	98.44	10.54	205		58.08	
311	5.95	-0.55	99.45	21.65	227		100.53	
312	6.4	-1	99	49.52	276		151.8	
							200.69	
							211.27	
Slope - 313	10.33	-4.93	95.07	Dist. From 313 to 309 =	137	right side	217.72	
Slope - 314	10.95	-5.55	94.45	Slope between 313 and 309 =	0.013		224.24	
Slope - 315	7.42	-2.02	97.98				181.83	
Slope - 316	1.5	3.9	103.9	Dist. From 315 to 314 =	362	left side	104.39	
Slope - 317	6	-0.6	99.4	Slope between 315 and 314 =	0.010		192.96	
							94.3	
					Use slope of 0.012		19.61	
							1867.97	
							62%	

Plan: Plan 01 Split 11 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	4.40	6.43	3.24	5.13	0.21	0.74	1.99
4.40	8.80	7.43	3.32	4.40	0.25	0.75	2.24
8.80	13.20	7.75	3.40	4.40	0.26	0.77	2.27
13.20	17.60	8.06	3.49	4.40	0.27	0.79	2.31
17.60	22.00	8.39	3.57	4.40	0.28	0.81	2.35
22.00	26.40	8.72	3.66	4.40	0.29	0.83	2.39
26.40	30.80	9.05	3.74	4.40	0.30	0.85	2.42
30.80	35.20	9.39	3.82	4.40	0.31	0.87	2.46
35.20	39.60	9.74	3.91	4.40	0.32	0.89	2.49
39.60	44.00	10.09	3.99	4.40	0.34	0.91	2.53
LB 44.00	48.60	25.50	6.19	4.68	0.85	1.35	4.12
48.60	53.20	58.08	10.15	4.68	1.94	2.21	5.72
53.20	57.80	100.53	14.11	4.68	3.35	3.07	7.13
57.80	62.40	151.80	18.06	4.68	5.06	3.93	8.40
62.40	67.00	200.69	21.26	4.63	6.69	4.62	9.44
67.00	71.60	211.27	21.88	4.60	7.04	4.76	9.66
71.60	76.20	217.72	22.28	4.60	7.26	4.84	9.77
76.20	80.80	224.24	22.67	4.60	7.47	4.93	9.89
80.80	85.40	181.83	20.27	4.76	6.06	4.41	8.97
85.40	RB 90.00	104.39	14.54	4.77	3.48	3.16	7.18
90.00	108.60	192.96	42.54	18.61	6.43	2.29	4.54
108.60	127.20	94.30	27.69	18.62	3.14	1.49	3.41
127.20	145.80	19.61	10.79	18.62	0.65	0.58	1.82
145.80	164.40	65.61	22.31	18.71	2.19	1.20	2.94
164.40	183.00	153.61	34.46	18.74	5.12	1.85	4.46
183.00	201.60	514.96	64.76	18.79	17.17	3.48	7.95
201.60	220.20	157.72	35.69	18.66	5.26	1.92	4.42
220.20	238.80	69.36	23.02	18.61	2.31	1.24	3.01
238.80	257.40	79.20	24.93	18.60	2.64	1.34	3.18
257.40	276.00	91.57	28.10	20.20	3.05	1.51	3.26


split 11 Plan: Plan 02
.06
.045
.06
.045
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
102
101
100
99
98
97
96
95
0
50
100
150
200
250
300

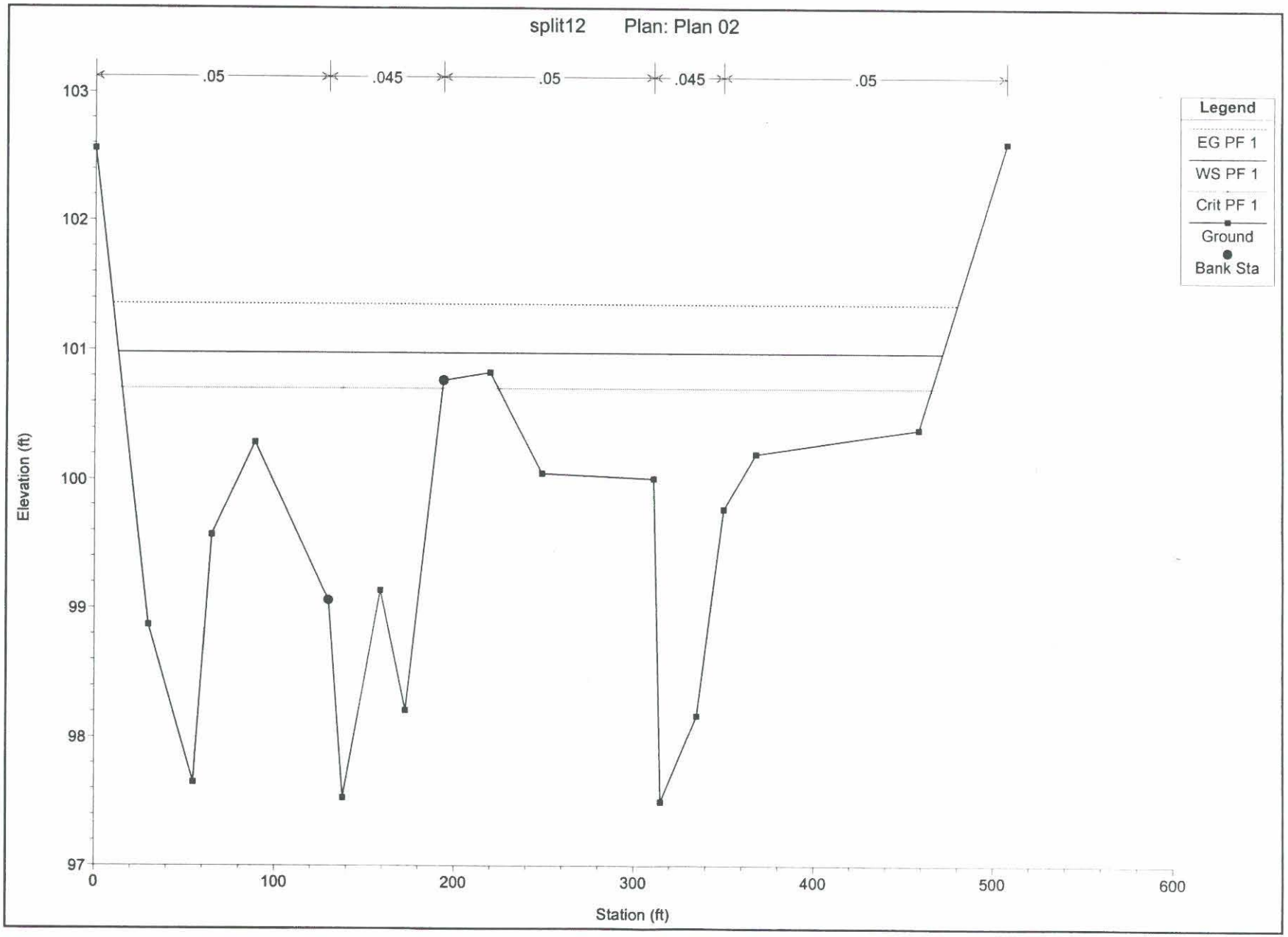
Split Flow Calculation Sheet
Split 12 Total Flow at 78 below Split 5 left split = 2800 cfs
INS - 15
Instrument Height = 5.51 ft

Point #	Height (ft) Rod Meas-	Height (ft) Actual-	Normalized (value * 100)	Normalized to Topo	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative		Left Split Discharge	Right Split Discharge
318	2.95	2.56	102.56	1875	0	0		0	53.83
319	6.64	-1.13	98.87	1871	29.71	30		27.14	90.49
320	7.86	-2.35	97.65	1870	25.24	55		139.94	232.4
321	5.94	-0.43	99.57	1872	10.14	65		220.05	510.76
322	5.22	0.29	100.29	1873	23.44	89		182.41	80.79
323	6.45	-0.94	99.06	1872	41.4	130		52.67	57.12
324	7.98	-2.47	97.53	1870	8.49	138		28.15	48.69
325	6.37	-0.86	99.14	1872	20.52	159		34.65	22.79
326	7.3	-1.79	98.21	1871	14.45	173		61.62	1096.87
328	4.74	0.77	100.77	1873	20.86	194		94.45	39%
329	4.68	0.83	100.83	1873	26.1	220	Divide Point	101.29	
330	5.46	0.05	100.05	1872	28.85	249		156.6	
331	5.5	0.01	100.01	1872	62.04	311		123.64	
332	8.01	-2.5	97.50	1870	3.71	315		90.1	
333	7.34	-1.83	98.17	1871	19.71	335		66.56	
334	5.74	-0.23	99.77	1872	15.72	350		84.19	
335	5.31	0.2	100.20	1873	17.47	368		108.9	
336	5.12	0.39	100.39	1873	91.24	459		78.31	
337	2.9	2.61	102.61	1875	48.8	508		37.11	
								9.26	
								6.1	
Slope - 327	10	-4.49	95.51	Dist. From 338 to 339 =		436	right side	1703.14	
Slope - 338	5.02	0.49	100.49	Slope between 338 and 339 =		0.012		61%	
Slope - 339	10.06	-4.55	95.45						
				Dist. From 338 to 339 =		454	left side		
				Slope between 338 and 339 =		0.011			

Use slope of 0.012

Plan: Plan 01 Split 12 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	13.00	0.00	0.00	0.16	0.00	0.01	0.13
13.00	26.00	27.14	10.64	13.10	0.97	0.82	2.55
26.00	39.00	139.94	28.42	13.04	5.00	2.19	4.92
39.00	52.00	220.05	37.27	13.02	7.86	2.87	5.90
52.00	65.00	182.41	33.47	13.19	6.51	2.57	5.45
65.00	78.00	52.67	15.80	13.01	1.88	1.22	3.33
78.00	91.00	28.15	10.85	13.01	1.01	0.83	2.59
91.00	104.00	34.65	12.29	13.01	1.24	0.95	2.82
104.00	117.00	61.62	17.36	13.01	2.20	1.34	3.55
117.00	130.00	94.45	22.43	13.01	3.37	1.73	4.21
LB 130.00	136.40	101.29	16.21	6.52	3.62	2.53	6.25
136.40	142.80	156.60	20.95	6.44	5.59	3.27	7.47
142.80	149.20	123.64	18.16	6.42	4.42	2.84	6.81
149.20	155.60	90.10	15.02	6.42	3.22	2.35	6.00
155.60	162.00	66.56	12.52	6.42	2.38	1.96	5.32
162.00	168.40	84.19	14.41	6.41	3.01	2.25	5.84
168.40	174.80	108.90	16.83	6.42	3.89	2.63	6.47
174.80	181.20	78.31	13.83	6.45	2.80	2.16	5.66
181.20	187.60	37.11	8.83	6.45	1.33	1.38	4.20
187.60	RB 194.00	9.26	3.84	6.45	0.33	0.60	2.41
194.00	225.40	6.10	5.89	31.40	0.22	0.19	1.04
225.40	256.80	53.83	21.74	31.41	1.92	0.69	2.48
256.80	288.20	90.49	29.68	31.40	3.23	0.95	3.05
288.20	319.60	232.40	46.51	32.12	8.30	1.48	5.00
319.60	351.00	510.76	78.60	31.49	18.24	2.50	6.50
351.00	382.40	80.79	27.73	31.40	2.89	0.88	2.91
382.40	413.80	57.12	22.52	31.40	2.04	0.72	2.54
413.80	445.20	48.69	20.47	31.40	1.74	0.65	2.38
445.20	476.60	22.79	12.19	26.84	0.81	0.45	1.87


split12 Plan: Plan 02
.05
.045
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
103
102
101
100
99
98
97
0
100
200
300
400
500
600
Station (ft)

BRI 5/2001

Q total = 1300 @ 0SK

fixed to ℄ tor in RAS

split Dist from RAS =

1" = 800'

N

1			2	
0	97.3'		0	100
100	96	LB	155	98
185	94		220	98.5
240	94	RB	270	97.5
325	96	Turnpoint	340	97.8 – Split point
528	94		460	97.2
595	95.2		520	98
650	94.8		820	100
680	96			
735	95.8			
785	98			

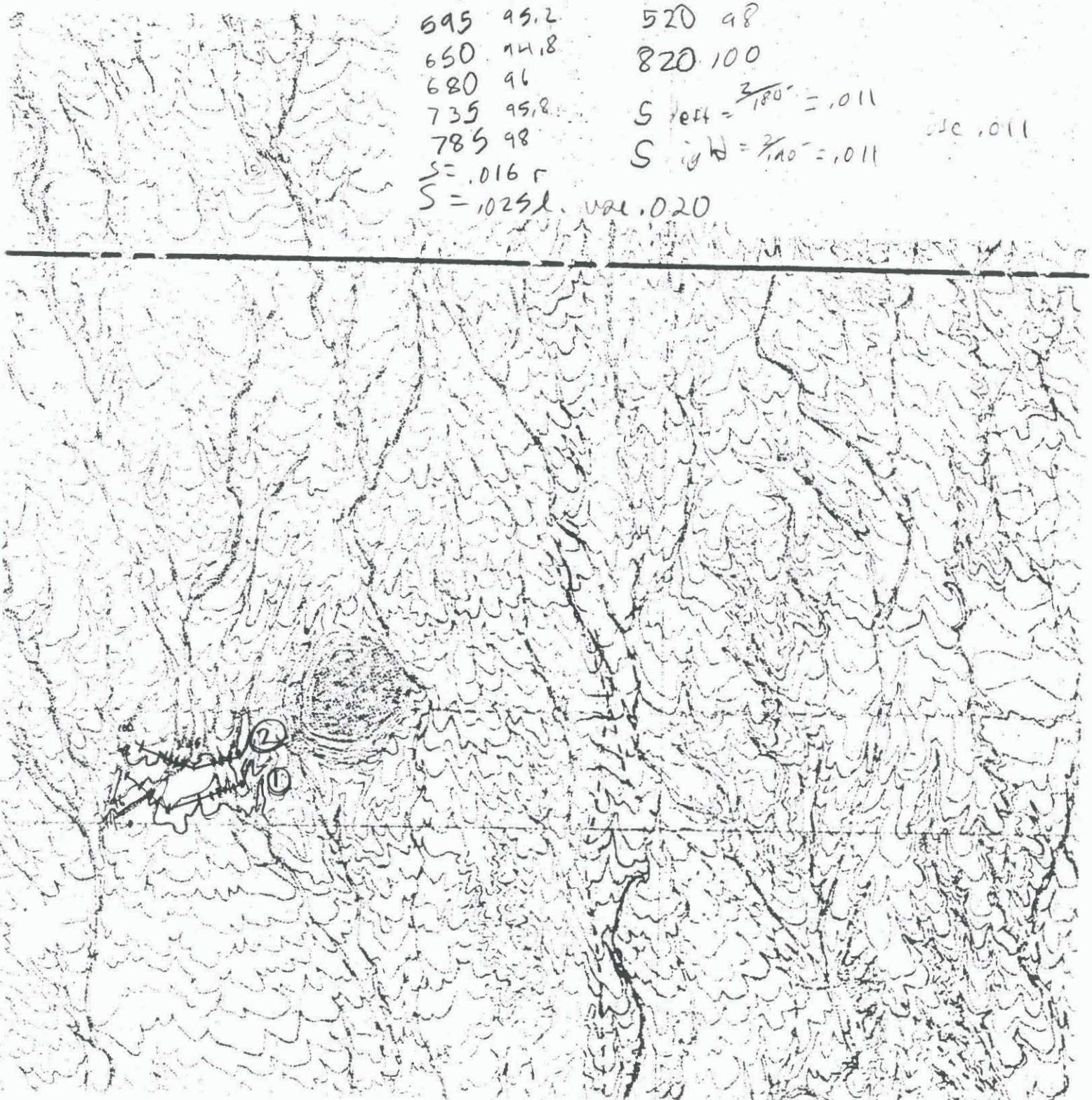
S = .016 r

S = .025 l. use .020

S left = 2/180' = .011

S right = 2/180' = .011

use .011

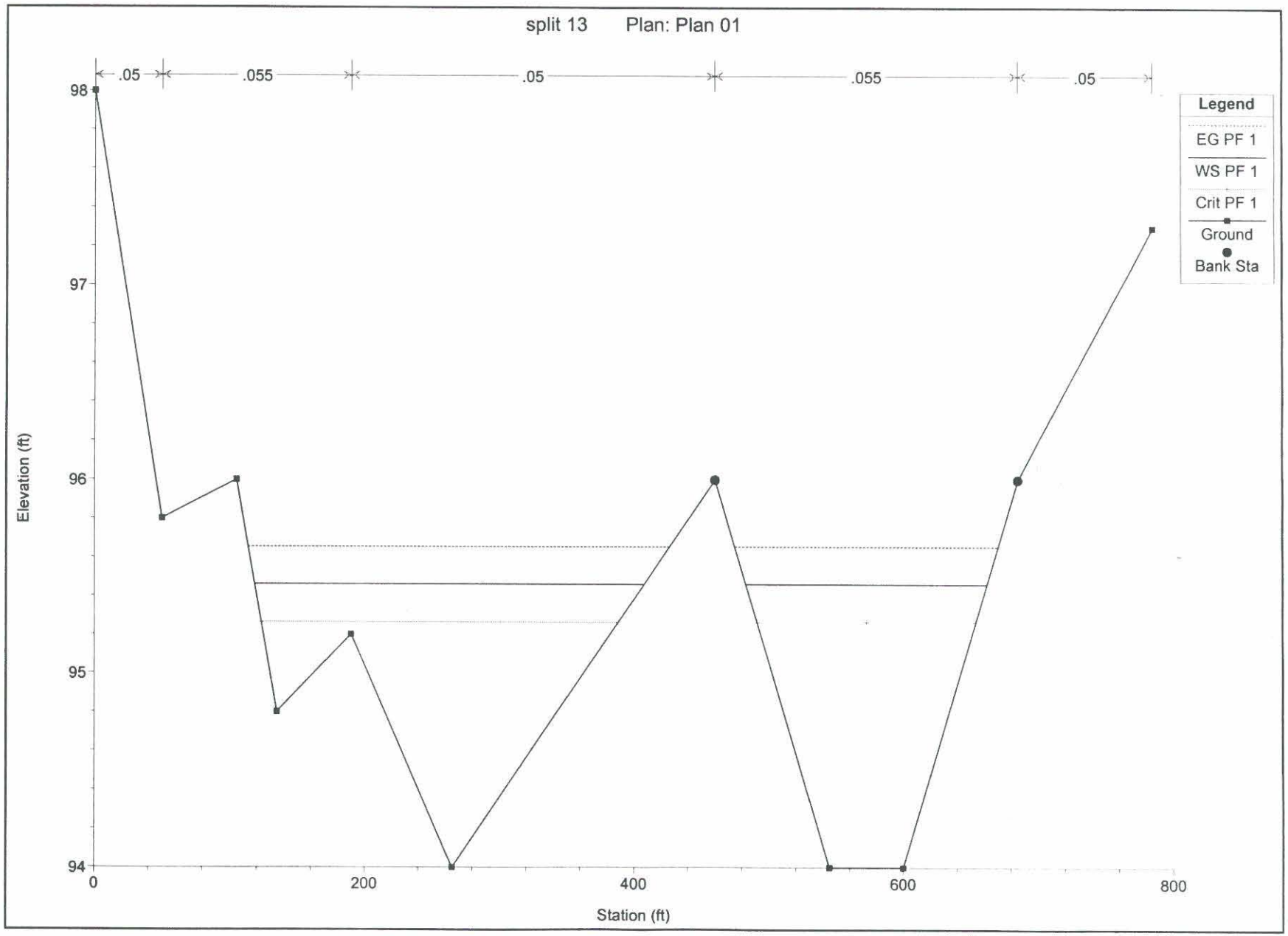


Plan: Plan 01 Split 13 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
92.00	138.00	13.27	7.42	19.55	1.02	0.38	1.79
138.00	184.00	44.97	21.72	46.00	3.46	0.47	2.07
184.00	230.00	63.31	24.95	46.01	4.87	0.54	2.54
230.00	276.00	245.44	56.80	46.01	18.88	1.23	4.32
276.00	322.00	206.32	51.18	46.00	15.87	1.11	4.03
322.00	368.00	82.27	29.48	46.00	6.33	0.64	2.79
368.00	414.00	10.35	7.99	39.49	0.80	0.20	1.29
414.00	482.50						
482.50	505.00	7.85	5.75	22.11	0.60	0.26	1.37
505.00	527.50	50.35	17.66	22.51	3.87	0.78	2.85
527.50	550.00	116.93	29.28	22.50	8.99	1.30	3.99
550.00	572.50	141.90	32.88	22.50	10.92	1.46	4.32
572.50	595.00	141.90	32.88	22.50	10.92	1.46	4.32
595.00	617.50	116.93	29.28	22.50	8.99	1.30	3.99
617.50	640.00	50.35	17.66	22.51	3.87	0.78	2.85
640.00	662.50	7.85	5.75	22.11	0.60	0.26	1.37

left
665.93 51%
use 800

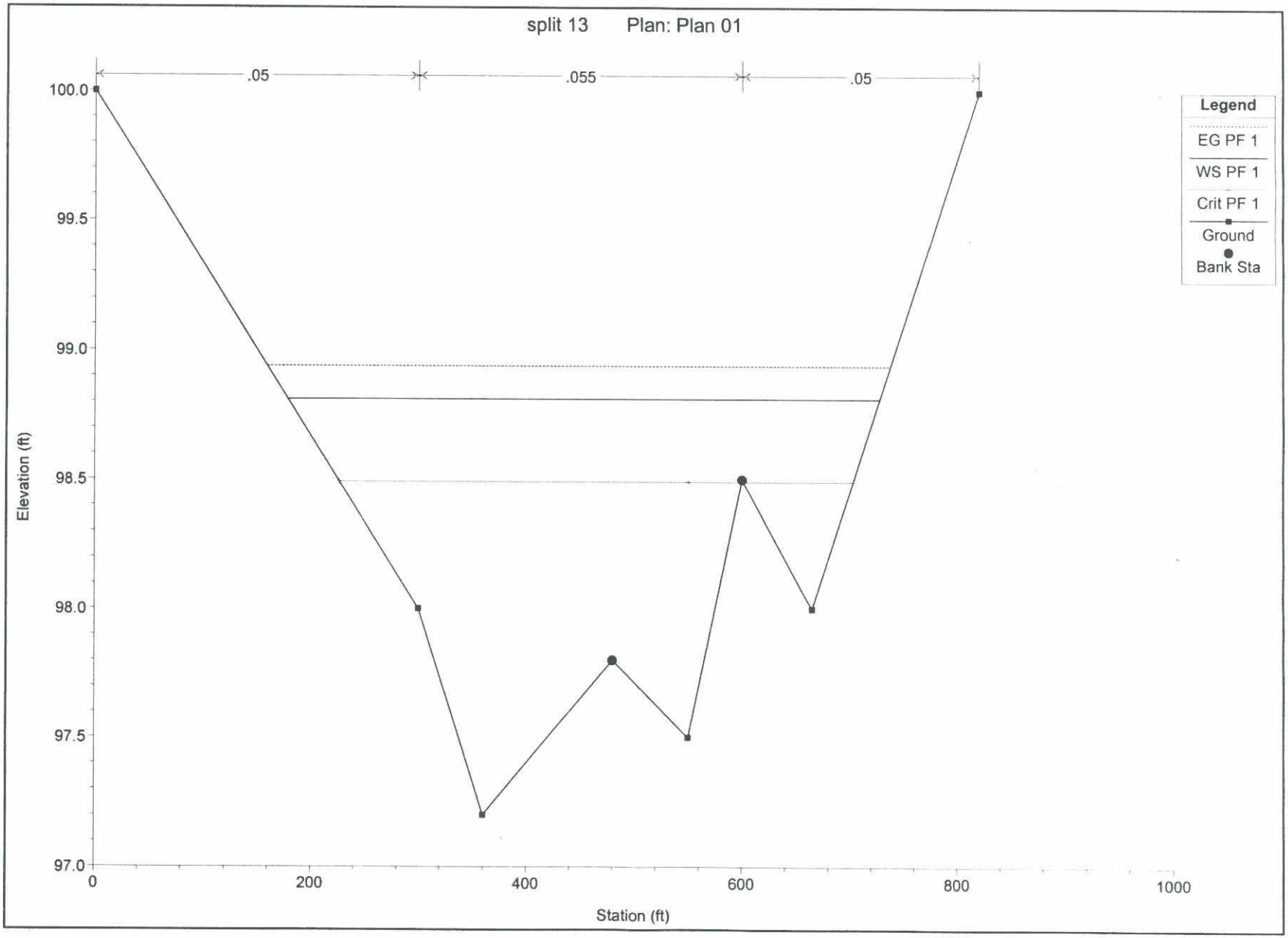
right
634.07 - 49%
Use 600


split 13 Plan: Plan 01
.05
.055
.05
.055
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
98
97
96
95
94
0
200
400
600
800
Station (ft)

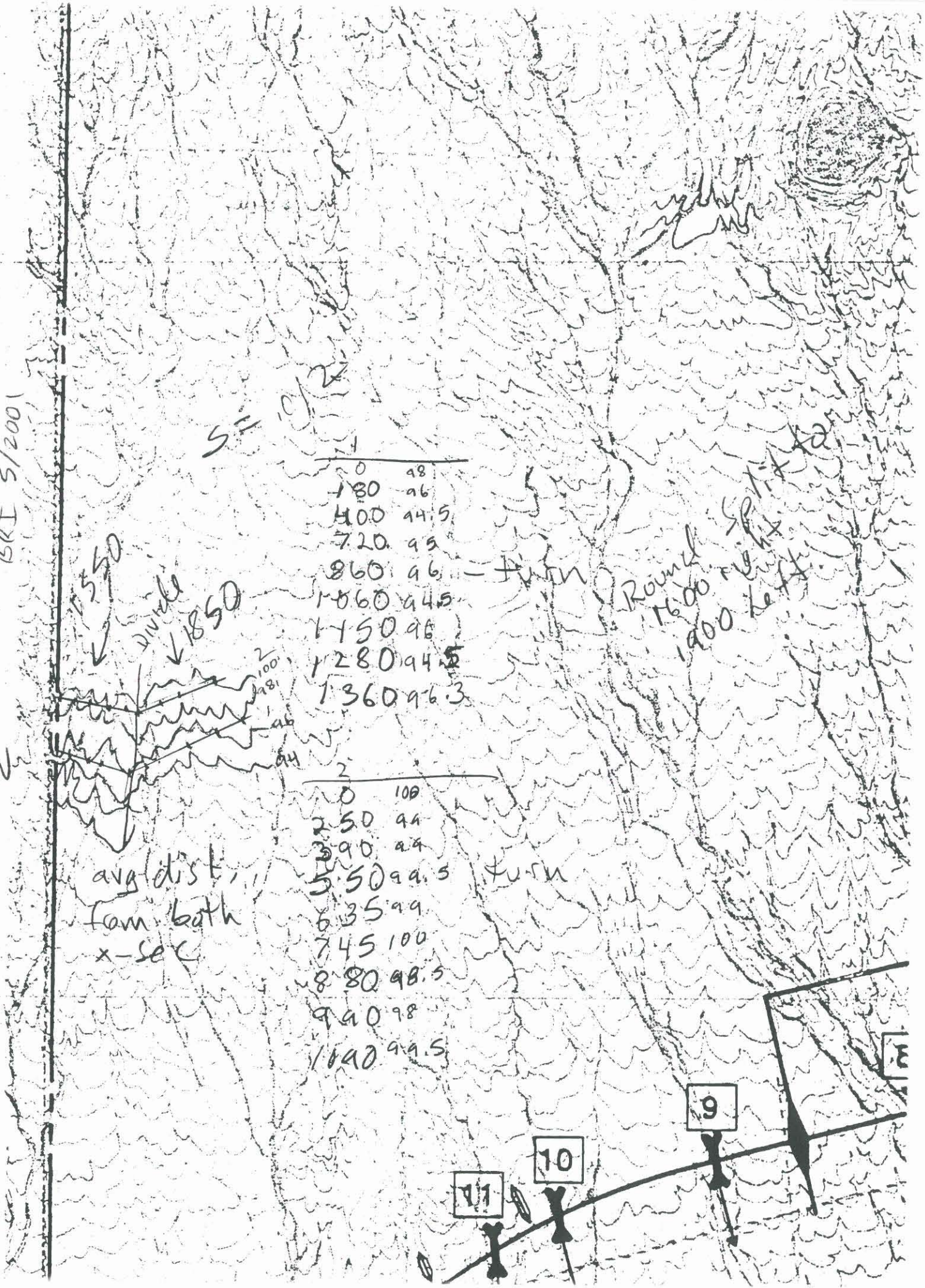
XS-1

Plan: Plan 01 Split 13 Reach 1 RS: 2 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
144.00	192.00	0.23	0.60	13.42	0.02	0.04	0.38
192.00	240.00	14.24	11.98	48.00	1.10	0.25	1.19
240.00	288.00	56.36	27.34	48.00	4.34	0.57	2.06
288.00	336.00	129.70	47.02	48.00	9.98	0.98	2.76
336.00	384.00	257.22	71.98	48.00	19.79	1.50	3.57
384.00	432.00	221.14	65.74	48.00	17.01	1.37	3.36
432.00	480.00	160.40	54.22	48.00	12.34	1.13	2.96
LB 480.00	492.00	34.29	12.42	12.00	2.64	1.04	2.76
492.00	504.00	37.18	13.04	12.00	2.86	1.09	2.85
504.00	516.00	40.16	13.66	12.00	3.09	1.14	2.94
516.00	528.00	43.23	14.27	12.00	3.33	1.19	3.03
528.00	540.00	46.39	14.89	12.00	3.57	1.24	3.12
540.00	552.00	49.37	15.46	12.00	3.80	1.29	3.19
552.00	564.00	40.83	13.79	12.00	3.14	1.15	2.96
564.00	576.00	27.63	10.91	12.00	2.13	0.91	2.53
576.00	588.00	16.58	8.03	12.00	1.28	0.67	2.06
588.00	RB 600.00	7.91	5.15	12.00	0.61	0.43	1.54
600.00	622.00	13.08	8.67	22.00	1.01	0.39	1.51
622.00	644.00	23.72	12.39	22.00	1.82	0.56	1.91
644.00	666.00	36.71	16.11	22.00	2.82	0.73	2.28
666.00	688.00	30.47	14.40	22.00	2.34	0.65	2.12
688.00	710.00	11.81	8.16	22.00	0.91	0.37	1.45
710.00	732.00	1.34	2.03	17.74	0.10	0.11	0.66


split 13 Plan: Plan 01
.05
.055
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
100.0
99.5
99.0
98.5
98.0
97.5
97.0
0
200
400
600
800
1000
Station (ft)

XS-2

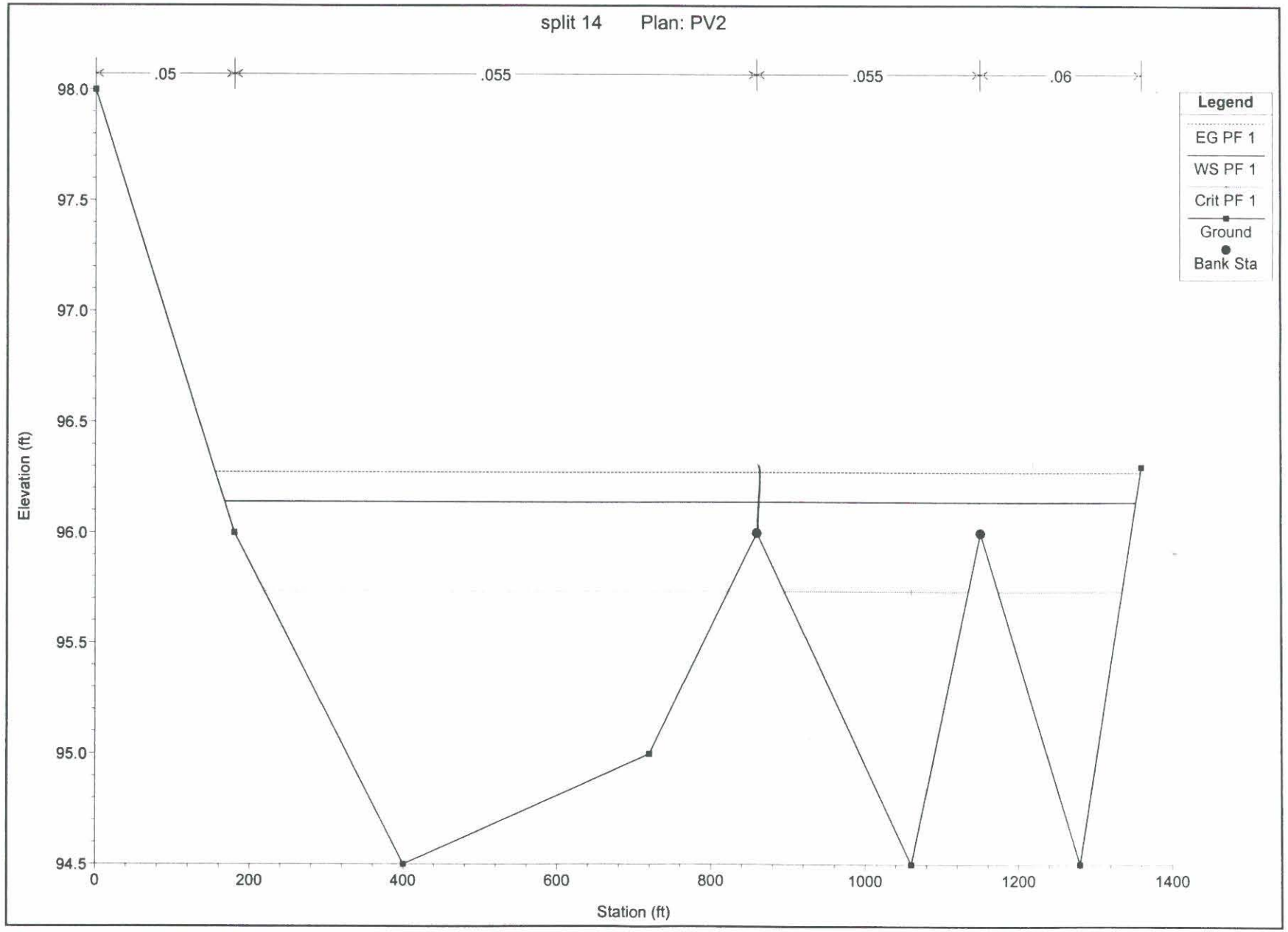

1 = 600
BRI 5/2001
split 14 @ 614
S = 0/2
1550
divide
1850
2
100
98
96
94
N
avg dist, from bath x-sec
1
0 98
180 96
400 94.5
720 95
860 96 — turn
1060 94.5
1150 96
1280 94.5
1360 96.3
2
0 100
250 99
390 99
550 99.5 turn
635 99
745 100
880 98.5
990 98
1100 99.5
Round split 42
1600 right
1900 left
9
10
11

Plan: Plan 01 Split 14 Reach 1 RS: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
86.00	172.00	0.03	0.11	4.50	0.00	0.03	0.26
172.00	258.00	47.62	32.33	86.00	1.40	0.38	1.47
258.00	344.00	220.73	82.90	86.00	6.49	0.96	2.66
344.00	430.00	464.57	129.55	86.00	13.66	1.51	3.59
430.00	516.00	474.08	131.14	86.00	13.94	1.52	3.62
516.00	602.00	406.52	119.58	86.00	11.96	1.39	3.40
602.00	688.00	343.18	108.03	86.00	10.09	1.26	3.18
688.00	774.00	245.38	88.33	86.00	7.22	1.03	2.78
774.00	860.00	61.11	38.36	86.00	1.80	0.45	1.59
LB 860.00	889.00	7.43	7.18	29.00	0.22	0.25	1.04
889.00	918.00	21.26	13.49	29.00	0.63	0.47	1.58
918.00	947.00	40.28	19.80	29.00	1.18	0.68	2.03
947.00	976.00	63.87	26.11	29.00	1.88	0.90	2.45
976.00	1005.00	91.62	32.41	29.00	2.69	1.12	2.83
1005.00	1034.00	123.22	38.72	29.00	3.62	1.34	3.18
1034.00	1063.00	157.82	44.92	29.00	4.64	1.55	3.51
1063.00	1092.00	125.08	39.07	29.00	3.68	1.35	3.20
1092.00	1121.00	59.64	25.05	29.00	1.75	0.86	2.38
1121.00	RB 1150.00	15.21	11.04	29.00	0.45	0.38	1.38
1150.00	1171.00	5.27	5.46	21.00	0.15	0.26	0.96
1171.00	1192.00	15.78	10.55	21.00	0.46	0.50	1.50
1192.00	1213.00	30.40	15.64	21.00	0.89	0.74	1.94
1213.00	1234.00	48.62	20.73	21.00	1.43	0.99	2.35
1234.00	1255.00	70.10	25.82	21.00	2.06	1.23	2.72
1255.00	1276.00	94.62	30.90	21.00	2.78	1.47	3.06
1276.00	1297.00	95.47	31.07	21.00	2.81	1.48	3.07
1297.00	1318.00	51.37	21.42	21.01	1.51	1.02	2.40
1318.00	1339.00	18.22	11.50	21.01	0.54	0.55	1.58
1339.00	1360.00	1.48	2.16	13.84	0.04	0.16	0.68

2263.22
67%
use 2300 cfs

1,136.78-
33%
use
1100 cfs


split 14 Plan: PV2
.05
.055
.055
.06
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
98.0
97.5
97.0
96.5
96.0
95.5
95.0
94.5
0
200
400
600
800
1000
1200
1400
Station (ft)

RS 1

Plan: Plan 01 Split 14 Reach 1 RS: 2 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	55.00	13.41	12.81	55.07	0.39	0.23	1.05
55.00	110.00	58.41	30.96	55.00	1.72	0.56	1.89
110.00	165.00	126.01	49.11	55.00	3.71	0.89	2.57
165.00	220.00	212.83	67.26	55.00	6.26	1.22	3.16
220.00	275.00	286.00	82.42	55.00	8.41	1.50	3.47
275.00	330.00	236.78	75.93	55.00	6.96	1.38	3.12
330.00	385.00	183.33	65.12	55.00	5.39	1.18	2.82
385.00	440.00	137.83	54.88	55.00	4.05	1.00	2.51
440.00	495.00	100.55	45.42	55.00	2.96	0.83	2.21
495.00	550.00	68.15	35.96	55.00	2.00	0.65	1.89
LB 550.00	569.50	28.05	13.31	19.50	0.83	0.68	2.11
569.50	589.00	45.46	17.79	19.50	1.34	0.91	2.56
589.00	608.50	66.08	22.26	19.50	1.94	1.14	2.97
608.50	628.00	89.66	26.73	19.50	2.64	1.37	3.35
628.00	647.50	104.00	29.22	19.50	3.06	1.50	3.56
647.50	667.00	78.37	24.66	19.50	2.30	1.26	3.18
667.00	686.50	52.88	19.47	19.50	1.56	1.00	2.72
686.50	706.00	31.56	14.29	19.50	0.93	0.73	2.21
706.00	725.50	14.89	9.10	19.50	0.44	0.47	1.64
725.50	RB 745.00	3.65	3.92	19.50	0.11	0.20	0.93
745.00	779.50	8.99	8.96	34.50	0.26	0.26	1.00
779.50	814.00	40.74	22.18	34.50	1.20	0.64	1.84
814.00	848.50	88.82	35.41	34.50	2.61	1.03	2.51
848.50	883.00	150.59	48.60	34.50	4.43	1.41	3.10
883.00	917.50	197.97	57.27	34.50	5.82	1.66	3.46
917.50	952.00	230.11	62.68	34.50	6.77	1.82	3.67
952.00	986.50	264.16	68.09	34.50	7.77	1.97	3.88
986.50	1021.00	260.11	64.11	34.50	7.65	1.86	4.06
1021.00	1055.50	153.19	46.38	34.50	4.51	1.34	3.30
1055.50	1090.00	67.40	28.52	35.07	1.98	0.83	2.36

1423.30 cfs

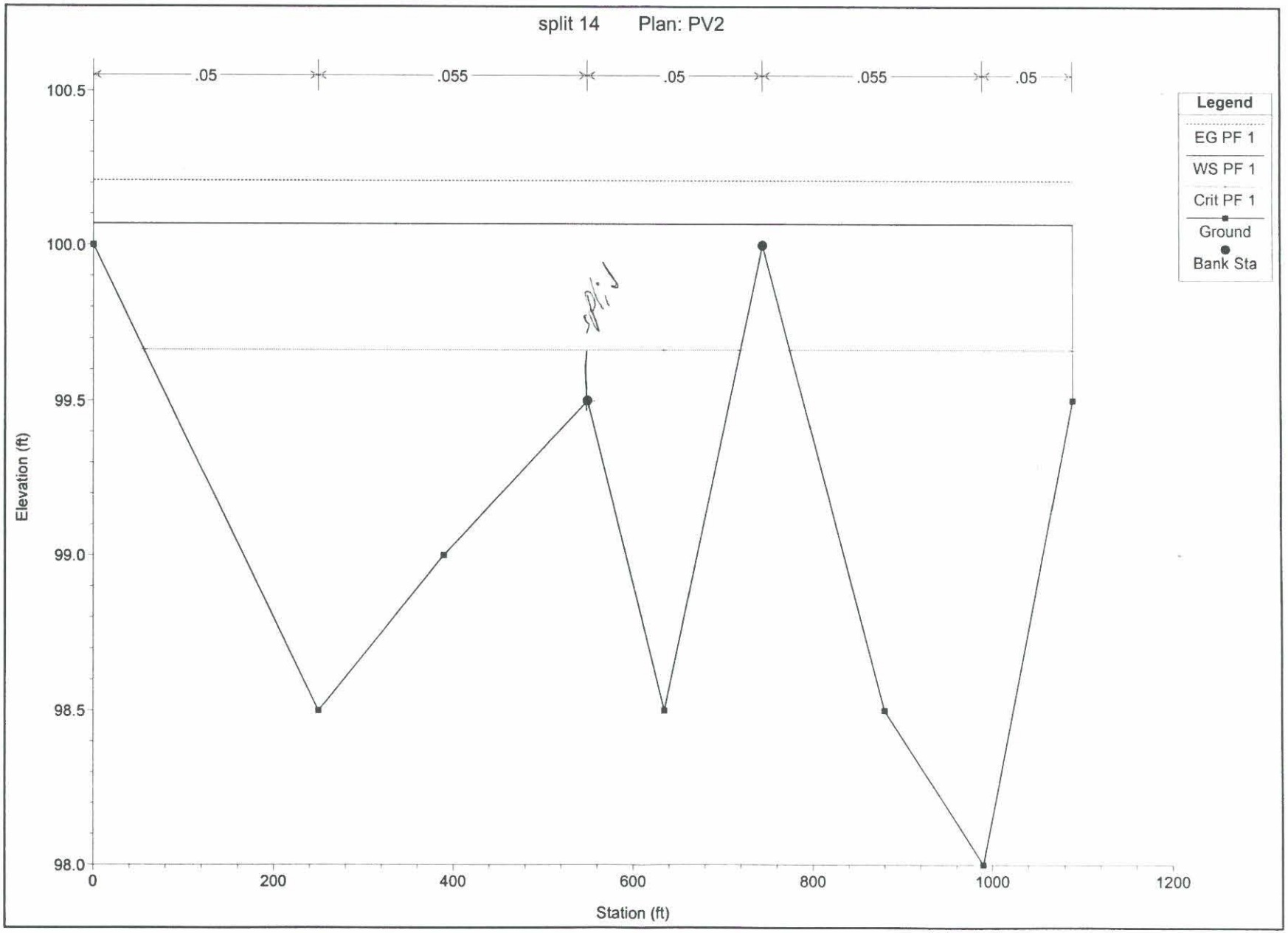
42%

use 1400 cfs

1976.70 cfs

58%

use 2000 cfs


split 14 Plan: PV2
.05
.055
.05
.055
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
split
Elevation (ft)
100.5
100.0
99.5
99.0
98.5
98.0
0
200
400
600
800
1000
1200
Station (ft)

RS-2

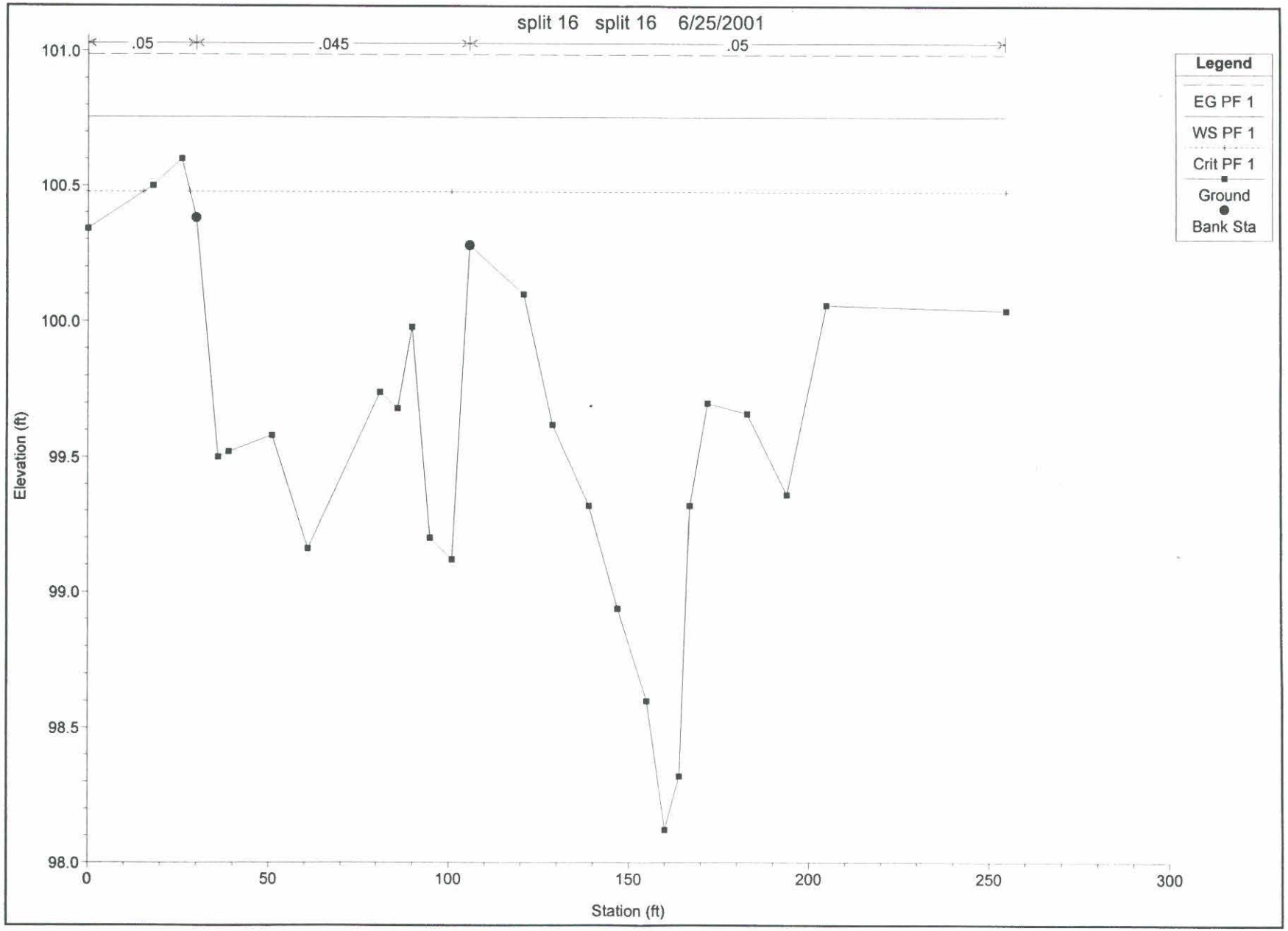
Split Flow Calculation Sheet
Split 16 Total Flow at 69A below Split 17 right split = 1000 cfs
INS - 16
Instrument Height = 5.48 ft

Point #	Height (ft) Rod Meas-	- Height (ft) Actual-	Normalized (value * 100)		Distance (ft) -CAD Meas.-	Distance (ft) Cumulative		Left Split Discharge	Right Split Discharge
340	5.14	0.34	100.34		0	0		1.99	17.51
341	4.98	0.5	100.5		18.2	18		1.94	49.15
342	4.88	0.6	100.6		7.91	26		1.71	103.46
343	5.1	0.38	100.38		4.03	30		1.5	182.45
344	5.98	-0.5	99.5		6.04	36		1.3	59.99
345	5.96	-0.48	99.52		3.16	39		1.11	63.96
346	5.9	-0.42	99.58		12.08	51		0.9	37.5
347	6.32	-0.84	99.16		9.62	61		0.67	25.07
348	5.74	-0.26	99.74		19.91	81		0.53	25.42
349	5.8	-0.32	99.68		5	86		1.28	25
350	5.5	-0.02	99.98		4.03	90		23.91	589.5
351	6.28	-0.8	99.2		5.22	95		39.6	59%
352	6.36	-0.88	99.12		5.83	101		38.08	
353	5.2	0.28	100.28		4.92	106	Divide Point	50.16	
354	5.38	0.1	100.1		15.18	121		55.64	
355	5.86	-0.38	99.62		7.76	129		42.8	
356	6.16	-0.68	99.32		9.66	139		31.9	
357	6.54	-1.06	98.94		8.38	147		26.62	
358	6.88	-1.4	98.6		7.91	155		48.43	
359	7.36	-1.88	98.12		5.39	160		40.45	
360	7.16	-1.68	98.32		4.03	164		410.52	
361	6.16	-0.68	99.32		3.16	167		41%	
362	5.78	-0.3	99.7		4.74	172			
363	5.82	-0.34	99.66		10.61	183			
364	6.12	-0.64	99.36		10.74	194			
365	5.42	0.06	100.06		11.07	205			
366	5.44	0.04	100.04		50.8	255			
					255.37				

Slope - 367	3.86	1.62	101.62	447.66	left split	0.01358
Slope - 368	10	-4.52	95.48	494.63	right split	0.01241
Slope - 369	9.94	-4.46	95.54			
						0.01300

Plan: split 16 River: split 16 Reach:1 Riv Sta: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	3.00	1.99	1.21	3.42	0.20	0.40	1.65
3.00	6.00	1.94	1.13	3.00	0.19	0.38	1.72
6.00	9.00	1.71	1.05	3.00	0.17	0.35	1.64
9.00	12.00	1.50	0.97	3.00	0.15	0.32	1.55
12.00	15.00	1.30	0.89	3.00	0.13	0.30	1.46
15.00	18.00	1.11	0.81	3.00	0.11	0.27	1.37
18.00	21.00	0.90	0.71	3.00	0.09	0.24	1.26
21.00	24.00	0.67	0.60	3.00	0.07	0.20	1.13
24.00	27.00	0.53	0.52	3.00	0.05	0.17	1.02
27.00	30.00	1.28	0.88	3.00	0.13	0.29	1.45
LB 30.00	37.60	23.91	6.90	7.66	2.39	0.91	3.47
37.60	45.20	39.60	9.30	7.60	3.96	1.22	4.26
45.20	52.80	38.08	9.09	7.60	3.81	1.20	4.19
52.80	60.40	50.16	10.72	7.61	5.02	1.41	4.68
60.40	68.00	55.64	11.41	7.60	5.56	1.50	4.88
68.00	75.60	42.80	9.75	7.60	4.28	1.28	4.39
75.60	83.20	31.90	8.17	7.60	3.19	1.08	3.90
83.20	90.80	26.62	7.34	7.62	2.66	0.97	3.63
90.80	98.40	48.43	10.52	7.65	4.84	1.38	4.60
98.40	RB 106.00	40.45	9.49	7.73	4.04	1.25	4.26
106.00	120.90	17.51	8.42	14.90	1.75	0.57	2.08
120.90	135.80	49.15	15.65	14.92	4.91	1.05	3.14
135.80	150.70	103.46	24.46	14.91	10.35	1.64	4.23
150.70	165.60	182.45	34.47	15.02	18.25	2.31	5.29
165.60	180.50	59.99	17.67	14.99	6.00	1.19	3.39
180.50	195.40	63.96	18.32	14.91	6.40	1.23	3.49
195.40	210.30	37.50	13.30	14.92	3.75	0.89	2.82
210.30	225.20	25.07	10.44	14.90	2.51	0.70	2.40
225.20	240.10	25.42	10.53	14.90	2.54	0.71	2.41
240.10	255.00	24.99	10.62	15.62	2.50	0.71	2.35


split 16 split 16 6/25/2001
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
101.0
100.5
100.0
99.5
99.0
98.5
98.0
0
50
100
150
200
250
300
Station (ft)

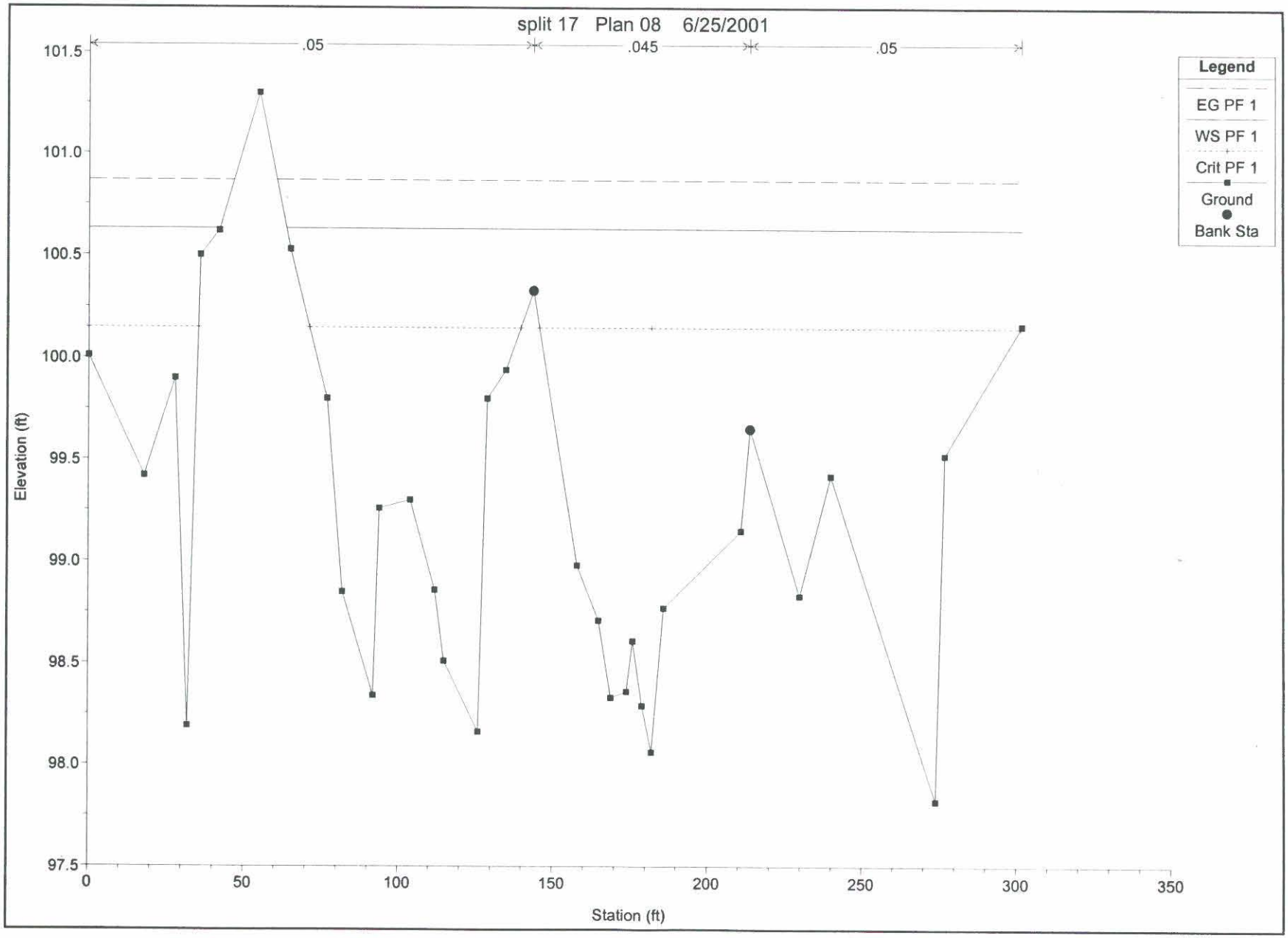
Split Flow Calculation Sheet
Split 17 Total Flow at 69A = 1500 cfs
INS - 17
Instrument Height = 5.26 ft

Point #	Height (ft) Rod Meas-	- Height (ft) Actual-	Normalized (value * 100)	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative		Left Split Discharge	Right Split Discharge
370	5.25	0.01	100.01	0	0		28.54	10.11
371	5.84	-0.58	99.42	17.68	18		38.63	33.65
372	5.36	-0.1	99.9	10.01	28		25.07	56.31
373	7.07	-1.81	98.19	4	32		2.5	78.92
374	4.76	0.5	100.5	4.5	36		56.14	79.41
375	4.64	0.62	100.62	5.59	42		93.89	86.47
376	3.96	1.3	101.3	13.29	55		82.5	57.48
377	4.73	0.53	100.53	10.01	65		128.63	51.95
378	5.46	-0.2	99.8	11.77	77		15.87	46.65
379	6.41	-1.15	98.85	5.32	82		471.77	37
380	6.92	-1.66	98.34	9.55	92		31%	31.81
381	6	-0.74	99.26	2.55	94			53.14
382	5.96	-0.7	99.3	9.66	104			43.1
383	6.4	-1.14	98.86	7.83	112			42.57
384	6.75	-1.49	98.51	3.04	115			64.93
385	7.1	-1.84	98.16	11.1	126			90.92
386	5.46	-0.2	99.8	3.04	129			111.68
387	5.32	-0.06	99.94	6.5	135			26.63
388	**4.93**	**0.33**	**100.33**	**9**	**144**	Divide Point		16.34
389	6.28	-1.02	98.98	13.79	158			9.16
390	6.55	-1.29	98.71	6.73	165			1028.23
391	6.93	-1.67	98.33	3.61	169			69%
392	6.9	-1.64	98.36	5.7	174			
393	6.65	-1.39	98.61	2.12	176			
394	6.97	-1.71	98.29	2.24	179			
395	7.2	-1.94	98.06	3.54	182			
396	6.49	-1.23	98.77	4.3	186			
397	6.11	-0.85	99.15	24.08	211			
398	5.61	-0.35	99.65	3.61	214			
399	6.43	-1.17	98.83	15.95	230			
400	5.84	-0.58	99.42	9.39	240			
401	7.44	-2.18	97.82	34.34	274			
402	5.74	-0.48	99.52	3.2	277			
403	5.1	0.16	100.16	24.76	302			
				301.78				

Slope - 404	4.86	0.4	100.4	585.04	left split	0.00944
Slope - 405	8.57	-3.31	96.69	396.76	right split	0.00935
Slope - 406	10.38	-5.12	94.88			
						0.00939

Plan: Plan 08 River: split 17 Reach:1 Riv Sta: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	14.40	28.54	12.33	15.03	1.90	0.86	2.31
14.40	28.80	38.63	14.57	14.48	2.58	1.01	2.65
28.80	43.20	25.07	11.19	14.30	1.67	0.83	2.24
43.20	57.60						
57.60	72.00	2.50	2.26	8.32	0.17	0.27	1.11
72.00	86.40	56.14	18.25	14.50	3.74	1.27	3.08
86.40	100.80	93.89	24.92	14.61	6.26	1.73	3.77
100.80	115.20	82.50	22.94	14.43	5.50	1.59	3.60
115.20	129.60	128.63	30.27	14.82	8.58	2.10	4.25
129.60	144.00	15.87	8.53	14.41	1.06	0.59	1.86
LB 144.00	151.00	10.11	4.47	7.03	0.67	0.64	2.26
151.00	158.00	33.65	9.19	7.03	2.24	1.31	3.66
158.00	165.00	56.31	12.50	7.01	3.75	1.79	4.50
165.00	172.00	78.92	15.32	7.02	5.26	2.19	5.15
172.00	179.00	79.41	15.39	7.03	5.29	2.20	5.16
179.00	186.00	86.47	16.23	7.07	5.76	2.32	5.33
186.00	193.00	57.48	12.65	7.00	3.83	1.81	4.54
193.00	200.00	51.95	11.91	7.00	3.46	1.70	4.36
200.00	207.00	46.65	11.16	7.00	3.11	1.59	4.18
207.00	RB 214.00	37.00	9.74	7.04	2.47	1.39	3.80
214.00	222.80	31.81	10.61	8.81	2.12	1.21	3.00
222.80	231.60	53.14	14.44	8.81	3.54	1.64	3.68
231.60	240.40	43.10	12.74	8.82	2.87	1.45	3.38
240.40	249.20	42.57	12.64	8.81	2.84	1.44	3.37
249.20	258.00	64.93	16.28	8.81	4.33	1.85	3.99
258.00	266.80	90.92	19.93	8.81	6.06	2.26	4.56
266.80	275.60	111.68	22.79	9.05	7.45	2.59	4.90
275.60	284.40	26.63	9.63	9.01	1.78	1.09	2.77
284.40	293.20	16.34	7.11	8.80	1.09	0.81	2.30
293.20	302.00	9.16	5.13	9.27	0.61	0.58	1.78


split 17 Plan 08 6/25/2001
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
101.5
101.0
100.5
100.0
99.5
99.0
98.5
98.0
97.5
0
50
100
150
200
250
300
350
Station (ft)

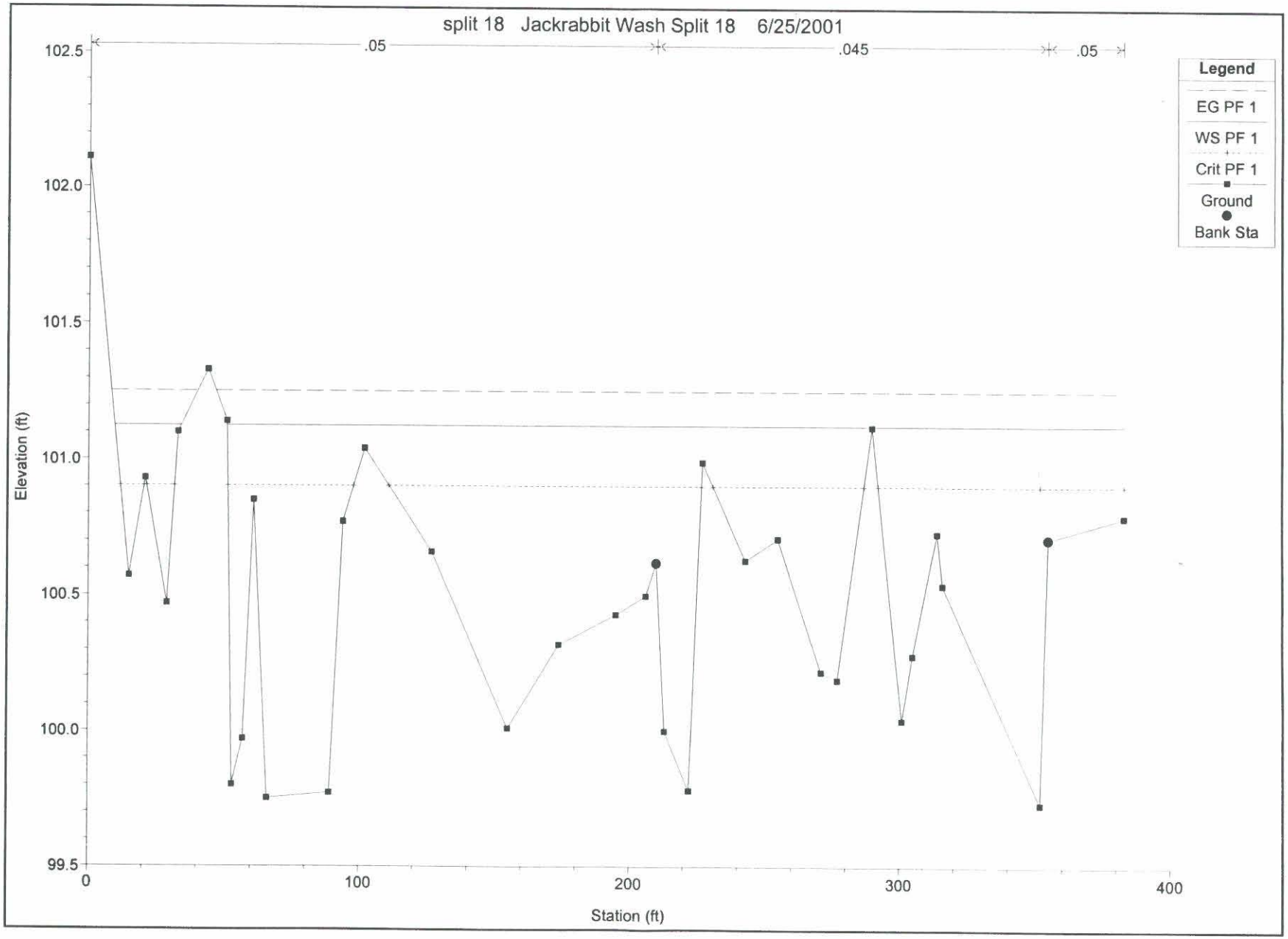
Split Flow Calculation Sheet
Split 18 Total Flow at 67 below Split 10 left split = 700 cfs
INS - 18
Instrument Height = 5.53 ft

Point #	Height (ft) Rod Meas-	Height (ft) Actual-	Normalized (value * 100)	Distance (ft) -CAD Meas.-	Distance (ft) Cumulative	Left Split Discharge	Right Split Discharge
407	3.42	2.11	102.11	0	0	5.61	44.77
408	4.96	0.57	100.57	14.76	15	7.62	32.8
409	4.6	0.93	100.93	6.58	21	27.67	59.31
410	5.06	0.47	100.47	8.06	29	105.09	6.61
411	4.43	1.1	101.1	3.16	33	30.2	13.5
412	4.2	1.33	101.33	10.97	44	8.4	20.88
413	4.39	1.14	101.14	7.28	51	35.28	37.09
414	5.73	-0.2	99.8	2.5	53	67.74	7.02
415	5.56	-0.03	99.97	4.12	57	287.61	35.51
416	4.68	0.85	100.85	3.64	61	41%	22.87
417	5.78	-0.25	99.75	4.61	66		47.57
418	5.76	-0.23	99.77	23.43	89		66.16
419	4.76	0.77	100.77	5.1	94		2.14
420	4.49	1.04	101.04	8.14	102		2.07
421	4.87	0.66	100.66	25.06	127		2.01
422	5.52	0.01	100.01	27.99	155		1.94
423	5.21	0.32	100.32	19.04	174		1.87
424	5.1	0.43	100.43	20.4	195		1.81
425	5.03	0.5	100.5	11.01	206		1.74
426	4.91	0.62	100.62	4.5	210		1.68
427	5.53	0	100	2.92	213		1.62
428	5.75	-0.22	99.78	8.63	222		1.44
429	4.54	0.99	100.99	5.22	227		412.41
430	4.9	0.63	100.63	16.1	243		59%
431	4.82	0.71	100.71	12.09	255		
432	5.31	0.22	100.22	15.53	271		
433	5.34	0.19	100.19	6.52	277		
434	4.41	1.12	101.12	13.09	290		
435	5.49	0.04	100.04	10.51	301		
436	5.25	0.28	100.28	4.5	305		
437	4.8	0.73	100.73	8.08	314		
438	4.99	0.54	100.54	2.06	316		
439	5.8	-0.27	99.73	36.28	352		
440	4.82	0.71	100.71	3.04	355		
441	4.74	0.79	100.79	28.38	383		

Slope (ft/ft)	Right Split	0.01320
	Left Split	0.01370
	Use Slope of	0.01300

Plan: Split 18 River: split 18 Reach:1 Riv Sta: 1 Profile: PF 1

Left Sta	Right Sta	Flow	Area	W.P.	% Conv.	Hydr D.	Velocity
(ft)	(ft)	(cfs)	(sq ft)	(ft)		(ft)	(ft/s)
0.00	21.00	5.61	3.74	11.44	0.80	0.33	1.50
21.00	42.00	7.62	4.77	13.23	1.09	0.36	1.60
42.00	63.00	27.67	10.11	12.53	3.95	0.84	2.74
63.00	84.00	105.09	27.73	21.07	15.01	1.32	3.79
84.00	105.00	30.20	13.13	21.10	4.31	0.63	2.30
105.00	126.00	8.40	6.08	21.00	1.20	0.29	1.38
126.00	147.00	35.28	14.39	21.01	5.04	0.69	2.45
147.00	168.00	67.74	21.28	21.00	9.68	1.01	3.18
168.00	189.00	44.77	16.60	21.00	6.40	0.79	2.70
189.00	210.00	32.80	13.77	21.00	4.69	0.66	2.38
LB 210.00	224.50	59.31	16.16	14.64	8.47	1.11	3.67
224.50	239.00	6.61	4.33	14.58	0.94	0.30	1.53
239.00	253.50	13.50	6.62	14.50	1.93	0.46	2.04
253.50	268.00	20.88	8.60	14.51	2.98	0.59	2.43
268.00	282.50	37.09	12.15	14.52	5.30	0.84	3.05
282.50	297.00	7.02	4.48	14.55	1.00	0.31	1.57
297.00	311.50	35.51	11.84	14.53	5.07	0.82	3.00
311.50	326.00	22.87	9.09	14.51	3.27	0.63	2.52
326.00	340.50	47.57	14.10	14.50	6.80	0.97	3.37
340.50	RB 355.00	66.16	17.26	14.66	9.45	1.19	3.83
355.00	357.80	2.14	1.15	2.80	0.31	0.41	1.87
357.80	360.60	2.07	1.13	2.80	0.30	0.40	1.84
360.60	363.40	2.01	1.10	2.80	0.29	0.39	1.82
363.40	366.20	1.94	1.08	2.80	0.28	0.39	1.79
366.20	369.00	1.87	1.06	2.80	0.27	0.38	1.77
369.00	371.80	1.81	1.04	2.80	0.26	0.37	1.74
371.80	374.60	1.74	1.01	2.80	0.25	0.36	1.72
374.60	377.40	1.68	0.99	2.80	0.24	0.35	1.69
377.40	380.20	1.62	0.97	2.80	0.23	0.35	1.67
380.20	383.00	1.44	0.95	3.13	0.21	0.34	1.52


split 18 Jackrabbit Wash Split 18 6/25/2001
.05
.045
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
102.5
102.0
101.5
101.0
100.5
100.0
99.5
0
100
200
300
400
Station (ft)

APPENDIX E: HYDRAULIC ANALYSIS SUPPORTING DOCUMENTATION

TABLE OF CONTENTS
APPENDIX E
VOLUME 1 OF 2 OF THE TDN

E.1: Roughness Coefficient Estimation

E.2: HEC-RAS Cross Section Plots and Hydraulic Calculations

Study Work Maps and Data CD Located in Back Pockets of Volume 2 of 2

E.1 Roughness Coefficient Estimation

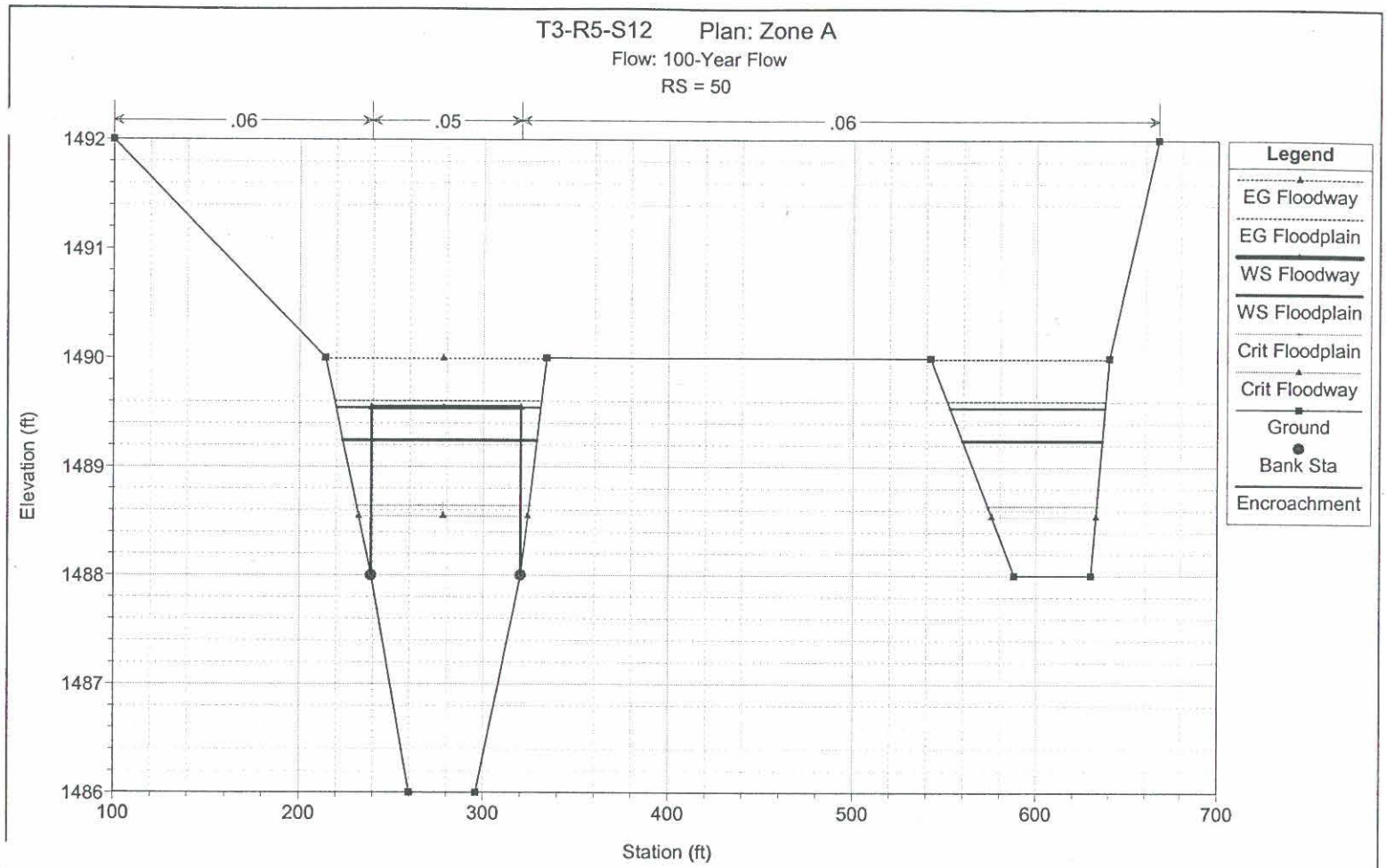
Refer to *Field Reconnaissance Report* under separate cover.

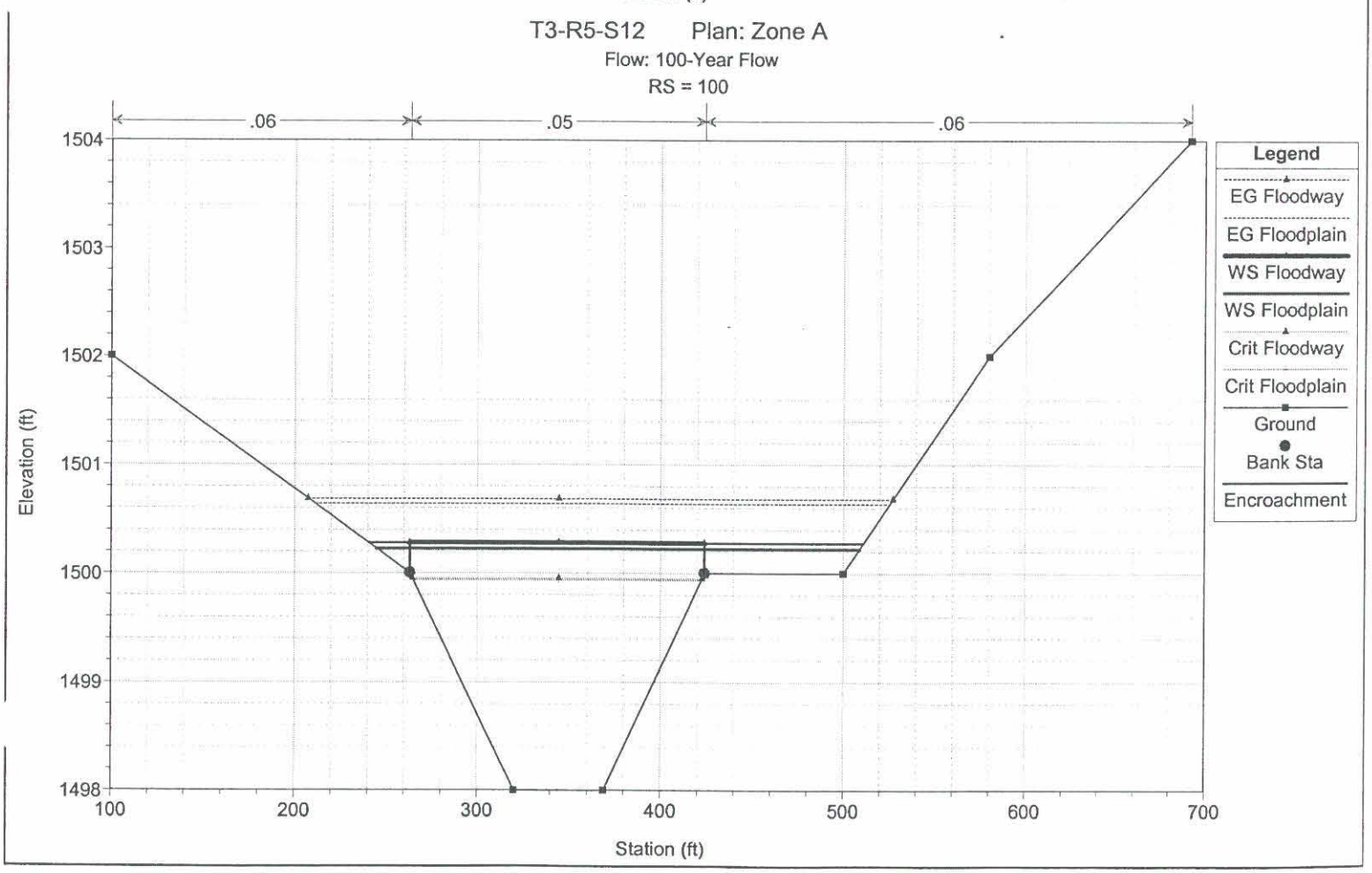
E.2 HEC-RAS Cross Section Plots and Hydraulic Calculations

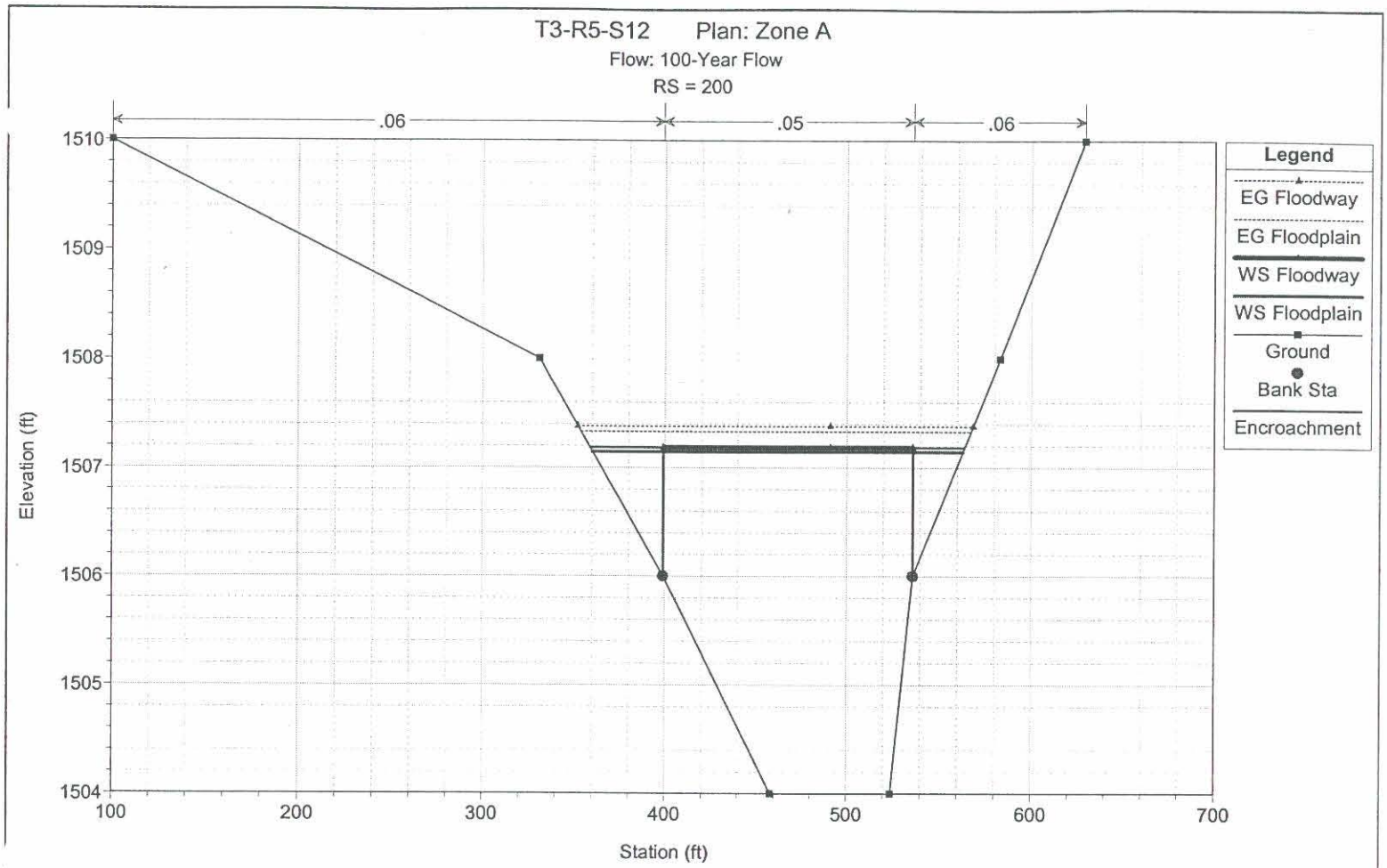
Coyote Wash
T3-R5-S12

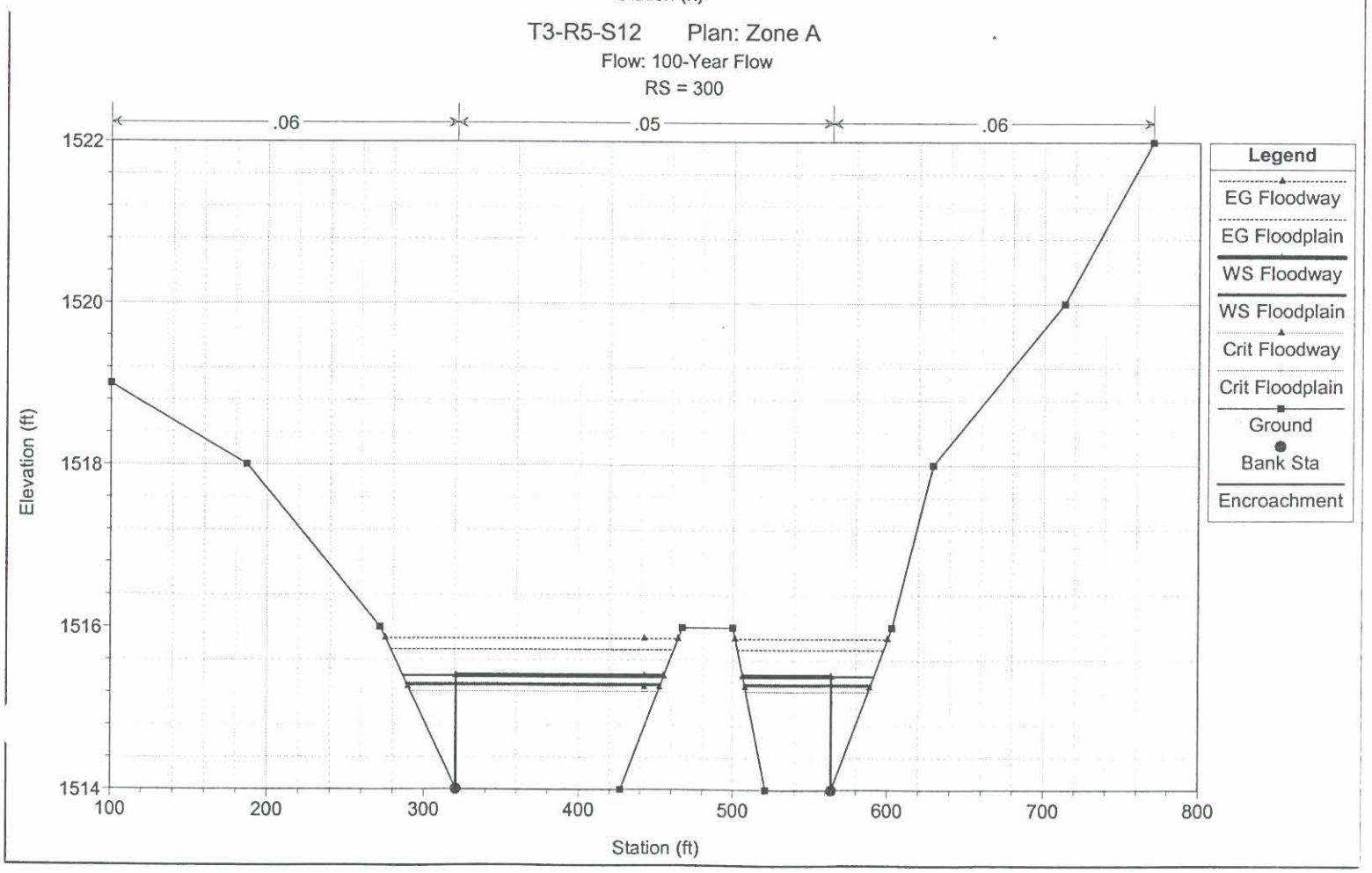
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S12

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S12	50	Floodplain	1300.00	1486.00	1489.24	1488.64	1489.60	0.008001	5.13	306.55	182.03	0.55
T3-R5-S12	50	Floodway	1300.00	1486.00	1489.54	1488.54	1489.99	0.008003	5.37	242.01	81.00	0.55
T3-R5-S12	100	Floodplain	1300.00	1498.00	1500.22	1499.94	1500.64	0.017373	5.19	265.97	264.14	0.74
T3-R5-S12	100	Floodway	1300.00	1498.00	1500.28	1499.95	1500.68	0.016116	5.11	254.55	161.00	0.72
T3-R5-S12	200	Floodplain	1300.00	1504.00	1507.15		1507.33	0.003835	3.50	397.68	202.87	0.38
T3-R5-S12	200	Floodway	1300.00	1504.00	1507.18		1507.38	0.003980	3.56	365.17	137.00	0.38
T3-R5-S12	300	Floodplain	1300.00	1514.00	1515.30	1515.21	1515.73	0.026901	5.40	257.17	246.01	0.88
T3-R5-S12	300	Floodway	1300.00	1514.00	1515.41	1515.27	1515.86	0.025285	5.43	239.62	191.88	0.86


T3-R5-S12 Plan: Zone A
Flow: 100-Year Flow
RS = 50
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment


T3-R5-S12 Plan: Zone A
Flow: 100-Year Flow
RS = 100
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment


T3-R5-S12 Plan: Zone A
Flow: 100-Year Flow
RS = 200
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Ground
Bank Sta
Encroachment


T3-R5-S12 Plan: Zone A
Flow: 100-Year Flow
RS = 300
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

Coyote Wash
T3-R5-S18

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S18

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S18	100	Floodplain	4100.00	1386.00	1391.90	1391.25	1392.75	0.011005	7.66	608.70	240.77	0.68
T3-R5-S18	100	Floodway	4100.00	1386.00	1392.12	1391.13	1393.06	0.011008	7.77	527.77	126.00	0.67
T3-R5-S18	200	Floodplain	4100.00	1396.00	1401.70	1399.90	1401.86	0.003177	3.21	1310.07	454.84	0.32
T3-R5-S18	200	Floodway	4100.00	1396.00	1401.78		1401.94	0.003054	3.18	1289.24	392.00	0.31
T3-R5-S18	300	Floodplain	4100.00	1406.00	1409.42	1409.42	1410.11	0.017193	6.73	637.71	501.95	0.99
T3-R5-S18	300	Floodway	4100.00	1406.00	1409.42	1409.42	1410.16	0.018331	6.89	595.34	413.43	1.01
T3-R5-S18	400	Floodplain	4100.00	1418.00	1422.02		1422.22	0.004172	3.62	1180.43	586.06	0.43
T3-R5-S18	400	Floodway	4100.00	1418.00	1422.11		1422.31	0.004067	3.60	1140.00	506.42	0.42
T3-R5-S18	500	Floodplain	4100.00	1430.00	1433.14	1433.14	1433.98	0.014065	7.78	643.15	449.44	0.84
T3-R5-S18	500	Floodway	4100.00	1430.00	1433.03	1433.03	1434.33	0.020514	9.15	448.03	174.00	1.00
T3-R5-S18	600	Floodplain	7900.00	1442.00	1445.12		1445.37	0.006269	4.14	2070.41	1229.71	0.52
T3-R5-S18	600	Floodway	7900.00	1442.00	1445.36		1445.60	0.005483	3.97	1991.30	992.46	0.49
T3-R5-S18	700	Floodplain	7900.00	1454.00	1456.78	1456.27	1457.11	0.007803	4.75	1804.88	1101.46	0.59
T3-R5-S18	700	Floodway	7900.00	1454.00	1456.77	1456.22	1457.16	0.008810	5.02	1572.46	785.00	0.63
T3-R5-S18	800	Floodplain	7900.00	1462.00	1467.51	1466.48	1467.76	0.004680	4.05	1969.68	959.86	0.50
T3-R5-S18	800	Floodway	7900.00	1462.00	1468.17	1466.98	1468.45	0.004729	4.21	1875.34	821.92	0.49
T3-R5-S18	900	Floodplain	7900.00	1472.00	1477.90	1477.90	1478.61	0.012828	6.85	1247.70	982.53	0.96
T3-R5-S18	900	Floodway	7900.00	1472.00	1477.98	1477.87	1478.68	0.012340	6.70	1179.68	727.95	0.93
T3-R5-S18	1000	Floodplain	7900.00	1480.00	1486.83	1485.47	1487.18	0.003709	4.89	1891.65	1178.48	0.54
T3-R5-S18	1000	Floodway	7900.00	1480.00	1486.95		1487.34	0.003857	5.00	1581.10	629.12	0.56
T3-R5-S18	1100	Floodplain	7900.00	1492.00	1497.44	1497.44	1498.37	0.017789	8.03	1155.05	697.30	0.84
T3-R5-S18	1100	Floodway	7900.00	1492.00	1497.52	1497.24	1498.63	0.019434	8.46	933.85	321.47	0.87
T3-R5-S18	1200	Floodplain	7800.00	1508.00	1512.62	1511.12	1512.93	0.004126	4.62	1875.13	672.47	0.42
T3-R5-S18	1200	Floodway	7800.00	1508.00	1512.86	1511.09	1513.20	0.003952	4.67	1670.75	421.00	0.41
T3-R5-S18	1300	Floodplain	7700.00	1520.00	1523.44	1523.18	1524.30	0.013821	7.62	1113.97	545.67	0.79
T3-R5-S18	1300	Floodway	7700.00	1520.00	1523.49	1523.10	1524.44	0.014436	7.84	982.00	338.00	0.81
T3-R5-S18	1400	Floodplain	7600.00	1528.00	1533.33	1531.88	1533.50	0.003598	3.47	2446.14	1208.61	0.38
T3-R5-S18	1400	Floodway	7600.00	1528.00	1533.65	1532.06	1533.85	0.003641	3.63	2092.28	754.31	0.38

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S18 (Continued)

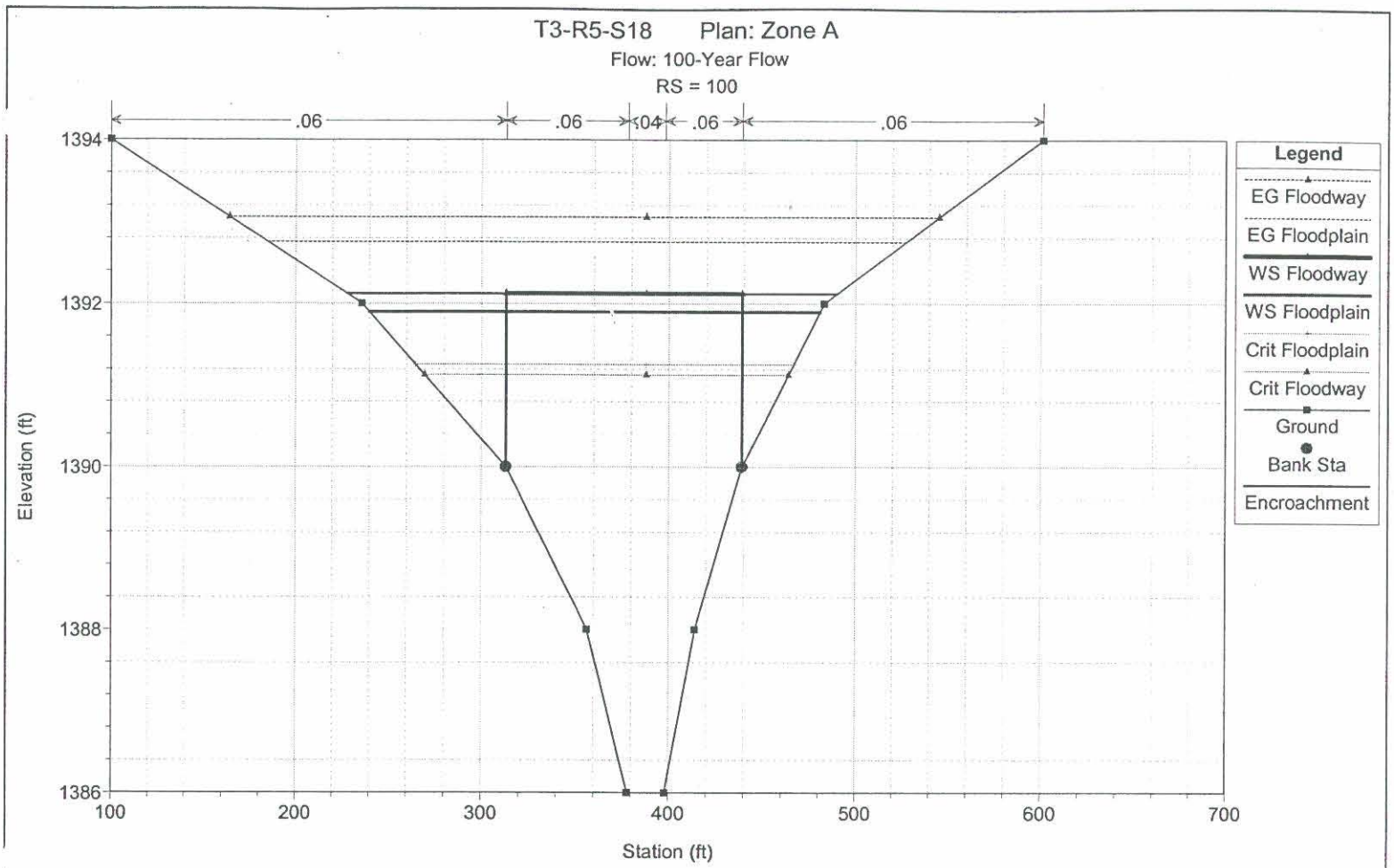
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S18	1500	Floodplain	7500.00	1542.00	1544.74	1544.57	1545.12	0.014527	4.92	1531.04	1322.83	0.80
T3-R5-S18	1500	Floodway	7500.00	1542.00	1544.80	1544.56	1545.14	0.013082	4.72	1589.04	1304.23	0.75
T3-R5-S18	1600	Floodplain	7300.00	1555.00	1558.14	1557.42	1558.27	0.006045	2.85	2549.32	2207.01	0.47
T3-R5-S18	1600	Floodway	7300.00	1555.00	1558.36	1557.72	1558.52	0.006705	3.19	2287.62	1741.79	0.49
T3-R5-S18	1700	Floodplain	7100.00	1568.00	1573.33	1572.66	1573.71	0.008902	5.03	1475.33	882.53	0.63
T3-R5-S18	1700	Floodway	7100.00	1568.00	1573.49	1572.63	1573.84	0.007766	4.76	1492.77	726.78	0.58
T3-R5-S18	1800	Floodplain	6900.00	1585.00	1588.09	1587.50	1588.37	0.007963	4.75	1710.97	1326.34	0.78
T3-R5-S18	1800	Floodway	6900.00	1585.00	1588.56	1588.30	1589.00	0.009843	5.32	1295.87	909.81	0.79
T3-R5-S18	1900	Floodplain	6700.00	1600.00	1603.26		1603.52	0.008807	4.18	1718.30	1039.54	0.53
T3-R5-S18	1900	Floodway	6700.00	1600.00	1603.54		1603.79	0.006837	4.00	1676.76	754.35	0.47
T3-R5-S18	2000	Floodplain	6500.00	1615.00	1617.45	1617.11	1617.95	0.010180	5.81	1258.23	805.80	0.68
T3-R5-S18	2000	Floodway	6500.00	1615.00	1617.35	1617.02	1618.00	0.013461	6.48	1002.76	466.00	0.78
T3-R5-S18	2100	Floodplain	6500.00	1628.00	1631.13	1630.77	1631.51	0.006915	5.76	1722.89	1389.69	0.61
T3-R5-S18	2100	Floodway	6500.00	1628.00	1631.98	1630.92	1632.63	0.006408	6.48	1003.15	276.00	0.60
T3-R5-S18	2200	Floodplain	6500.00	1642.00	1645.27	1645.09	1645.96	0.012467	6.65	977.83	546.89	0.88
T3-R5-S18	2200	Floodway	6500.00	1642.00	1645.32	1645.10	1645.97	0.011619	6.47	1004.11	551.86	0.85
T3-R5-S18	2300	Floodplain	6500.00	1664.00	1666.66	1666.46	1667.11	0.013151	5.52	1280.08	951.59	0.80
T3-R5-S18	2300	Floodway	6500.00	1664.00	1666.71	1666.52	1667.24	0.014362	5.83	1114.46	731.00	0.83
T3-R5-S18	2400	Floodplain	6500.00	1676.00	1679.22	1678.69	1679.56	0.005639	4.96	1634.11	1217.72	0.61
T3-R5-S18	2400	Floodway	6500.00	1676.00	1679.46	1678.68	1679.86	0.005457	5.08	1280.76	585.84	0.60
T3-R5-S18	2500	Floodplain	6500.00	1692.00	1696.91	1696.91	1697.64	0.014695	6.93	1002.02	755.00	0.96
T3-R5-S18	2500	Floodway	6500.00	1692.00	1696.89	1696.89	1697.70	0.016222	7.24	897.32	560.00	1.01
T3-R5-S18	2600	Floodplain	6500.00	1710.00	1713.83	1713.07	1714.34	0.005637	6.09	1319.11	635.50	0.57
T3-R5-S18	2600	Floodway	6500.00	1710.00	1714.17	1712.96	1714.79	0.005514	6.34	1025.11	267.00	0.57
T3-R5-S18	2700	Floodplain	6500.00	1722.00	1728.03	1728.03	1729.62	0.012241	10.21	665.32	244.91	0.98
T3-R5-S18	2700	Floodway	6500.00	1722.00	1728.01	1728.01	1729.69	0.012774	10.40	624.87	188.00	1.01
T3-R5-S18	2800	Floodplain	6500.00	1738.00	1742.62	1741.82	1743.52	0.006942	7.70	892.57	263.50	0.68
T3-R5-S18	2800	Floodway	6500.00	1738.00	1742.76	1741.80	1743.68	0.006804	7.67	847.38	208.00	0.67

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S18 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S18	2900	Floodplain	6500.00	1746.00	1752.07	1751.65	1753.76	0.010193	10.49	640.96	156.44	0.85
T3-R5-S18	2900	Floodway	6500.00	1746.00	1752.12	1751.60	1753.83	0.010241	10.50	619.05	129.00	0.84
T3-R5-S18	3000	Floodplain	6500.00	1758.00	1765.94	1764.51	1766.50	0.006293	6.05	1105.85	304.31	0.52
T3-R5-S18	3000	Floodway	6500.00	1758.00	1766.01	1764.49	1766.58	0.006269	6.04	1076.09	254.00	0.52
T3-R5-S18	3100	Floodplain	6500.00	1776.00	1780.70	1780.53	1782.26	0.013682	10.01	651.11	186.01	0.93
T3-R5-S18	3100	Floodway	6500.00	1776.00	1780.71	1780.52	1782.26	0.013604	9.98	651.12	179.00	0.92
T3-R5-S18	3200	Floodplain	6500.00	1788.02	1794.02		1795.13	0.005371	8.96	843.33	175.20	0.65
T3-R5-S18	3200	Floodway	6500.00	1788.02	1794.29	1792.76	1795.66	0.005772	9.56	716.61	115.84	0.67
T3-R5-S18	3300	Floodplain	6500.00	1800.12	1805.86	1805.86	1807.84	0.014239	11.54	628.52	216.68	0.99
T3-R5-S18	3300	Floodway	6500.00	1800.12	1805.86	1805.86	1807.84	0.014239	11.54	628.52	216.68	0.99
T3-R5-S18	3400	Floodplain	5000.00	1812.14	1819.90	1818.91	1820.96	0.007281	12.43	710.05	153.11	0.79
T3-R5-S18	3400	Floodway	5000.00	1812.14	1819.90	1818.91	1820.96	0.007281	12.43	710.05	153.11	0.79
T3-R5-S18	3500	Floodplain	4800.00	1826.07	1832.59	1832.09	1834.44	0.009809	12.84	501.99	100.36	0.89
T3-R5-S18	3500	Floodway	4800.00	1826.07	1832.59	1832.09	1834.44	0.009809	12.84	501.99	100.36	0.89
T3-R5-S18	3600	Floodplain	4600.00	1840.04	1845.67	1845.39	1847.21	0.011996	12.87	545.00	144.68	0.96
T3-R5-S18	3600	Floodway	4600.00	1840.04	1845.67	1845.39	1847.21	0.011996	12.87	545.00	144.68	0.96
T3-R5-S18	3700	Floodplain	4400.00	1854.00	1859.53		1860.94	0.007678	10.11	508.65	116.97	0.76
T3-R5-S18	3700	Floodway	4400.00	1854.00	1859.53		1860.94	0.007678	10.11	508.65	116.97	0.76
T3-R5-S18	3800	Floodplain	3000.00	1882.03	1886.71	1886.71	1888.32	0.020049	11.78	334.81	106.28	0.96
T3-R5-S18	3800	Floodway	3000.00	1882.03	1886.71	1886.71	1888.32	0.020049	11.78	334.81	106.28	0.96
T3-R5-S18	3900	Floodplain	2700.00	1903.97	1909.46		1910.20	0.009127	8.84	465.46	151.00	0.66
T3-R5-S18	3900	Floodway	2700.00	1903.97	1909.46		1910.20	0.009127	8.84	465.46	151.00	0.66
T3-R5-S18	4000	Floodplain	2600.00	1926.06	1931.09	1931.00	1932.44	0.018301	11.81	328.15	112.12	0.93
T3-R5-S18	4000	Floodway	2600.00	1926.06	1931.09	1931.00	1932.44	0.018301	11.81	328.15	112.12	0.93
T3-R5-S18	4100	Floodplain	2500.00	1950.03	1955.90		1956.71	0.009913	9.60	400.88	118.46	0.70
T3-R5-S18	4100	Floodway	2500.00	1950.03	1955.90		1956.71	0.009913	9.60	400.88	118.46	0.70
T3-R5-S18	4200	Floodplain	2500.00	1975.00	1979.09	1979.01	1980.37	0.021562	11.16	309.70	113.95	0.97
T3-R5-S18	4200	Floodway	2500.00	1975.00	1979.09	1979.01	1980.37	0.021562	11.16	309.70	113.95	0.97

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R5-S18 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R5-S18	4300	Floodplain	2400.00	1997.00	2001.98		2002.64	0.008142	7.82	417.49	126.68	0.62
T3-R5-S18	4300	Floodway	2400.00	1997.00	2001.98		2002.64	0.008142	7.82	417.49	126.68	0.62
T3-R5-S18	4400	Floodplain	2400.00	2017.00	2022.09	2022.09	2024.04	0.022368	13.15	235.96	62.53	1.03
T3-R5-S18	4400	Floodway	2400.00	2017.00	2022.09	2022.09	2024.04	0.022368	13.15	235.96	62.53	1.03
T3-R5-S18	4500	Floodplain	2200.00	2050.02	2056.40	2055.86	2057.60	0.019759	14.37	264.69	73.59	1.00
T3-R5-S18	4500	Floodway	2200.00	2050.02	2056.40	2055.86	2057.60	0.019759	14.37	264.69	73.59	1.00
T3-R5-S18	4600	Floodplain	2000.00	2078.00	2083.81	2083.06	2084.75	0.012773	10.86	292.36	86.63	0.79
T3-R5-S18	4600	Floodway	2000.00	2078.00	2083.81	2083.06	2084.75	0.012773	10.86	292.36	86.63	0.79
T3-R5-S18	4700	Floodplain	1800.00	2102.00	2106.86	2106.39	2107.83	0.014927	10.41	256.15	84.00	0.83
T3-R5-S18	4700	Floodway	1800.00	2102.00	2106.86	2106.39	2107.83	0.014927	10.41	256.15	84.00	0.83
T3-R5-S18	4800	Floodplain	1600.00	2137.00	2140.46	2140.41	2141.56	0.024016	10.53	211.83	90.74	1.00
T3-R5-S18	4800	Floodway	1600.00	2137.00	2140.46	2140.41	2141.56	0.024016	10.53	211.83	90.74	1.00
T3-R5-S18	4900	Floodplain	1400.00	2170.00	2173.03	2172.76	2173.94	0.017322	8.19	197.65	82.32	0.83
T3-R5-S18	4900	Floodway	1400.00	2170.00	2173.03	2172.76	2173.94	0.017322	8.19	197.65	82.32	0.83
T3-R5-S18	5000	Floodplain	1200.00	2215.00	2217.40	2217.40	2218.38	0.027773	8.86	161.84	83.95	1.01
T3-R5-S18	5000	Floodway	1200.00	2215.00	2217.40	2217.40	2218.38	0.027773	8.86	161.84	83.95	1.01
T3-R5-S18	5100	Floodplain	1000.00	2251.00	2254.23	2253.92	2254.99	0.016638	8.37	162.27	75.75	0.82
T3-R5-S18	5100	Floodway	1000.00	2251.00	2254.23	2253.92	2254.99	0.016638	8.37	162.27	75.75	0.82
T3-R5-S18	5200	Floodplain	800.00	2296.02	2298.86	2298.86	2299.72	0.023215	9.03	126.64	76.44	0.95
T3-R5-S18	5200	Floodway	800.00	2296.02	2298.86	2298.86	2299.72	0.023215	9.03	126.64	76.44	0.95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.04
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.06
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Station (ft)
Legend
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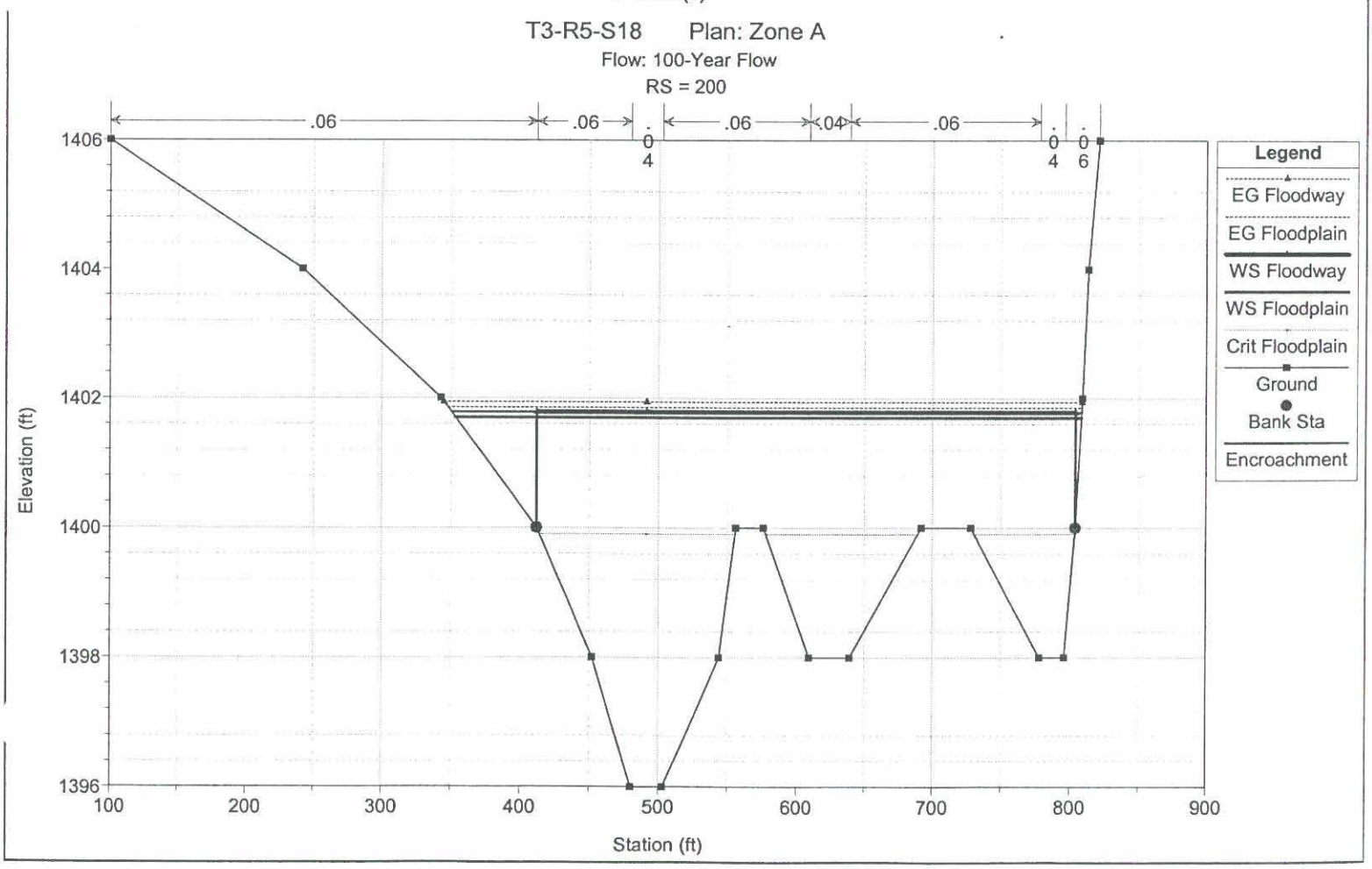
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment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.04
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Station (ft)
Legend
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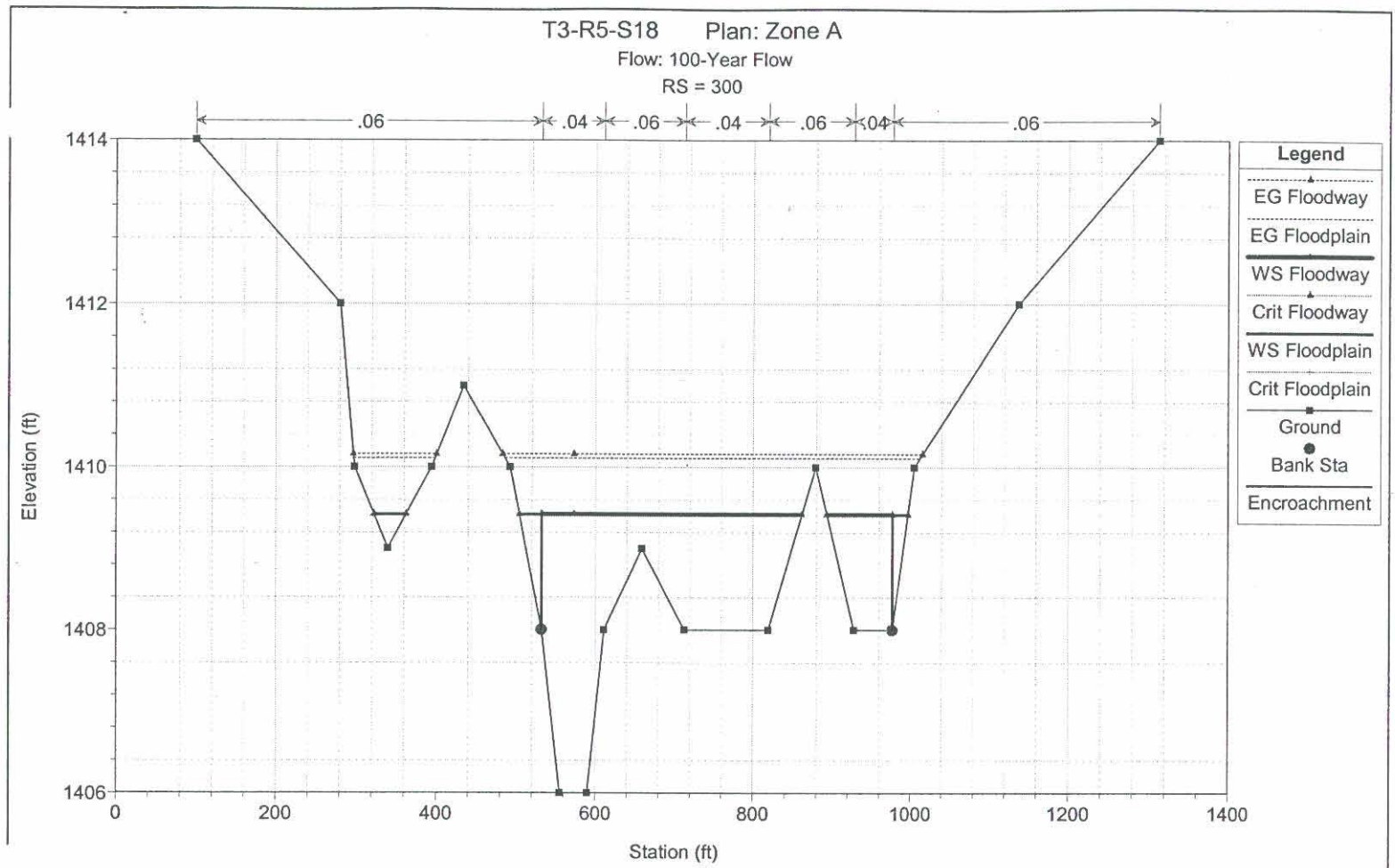
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment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Station (ft)
Legend
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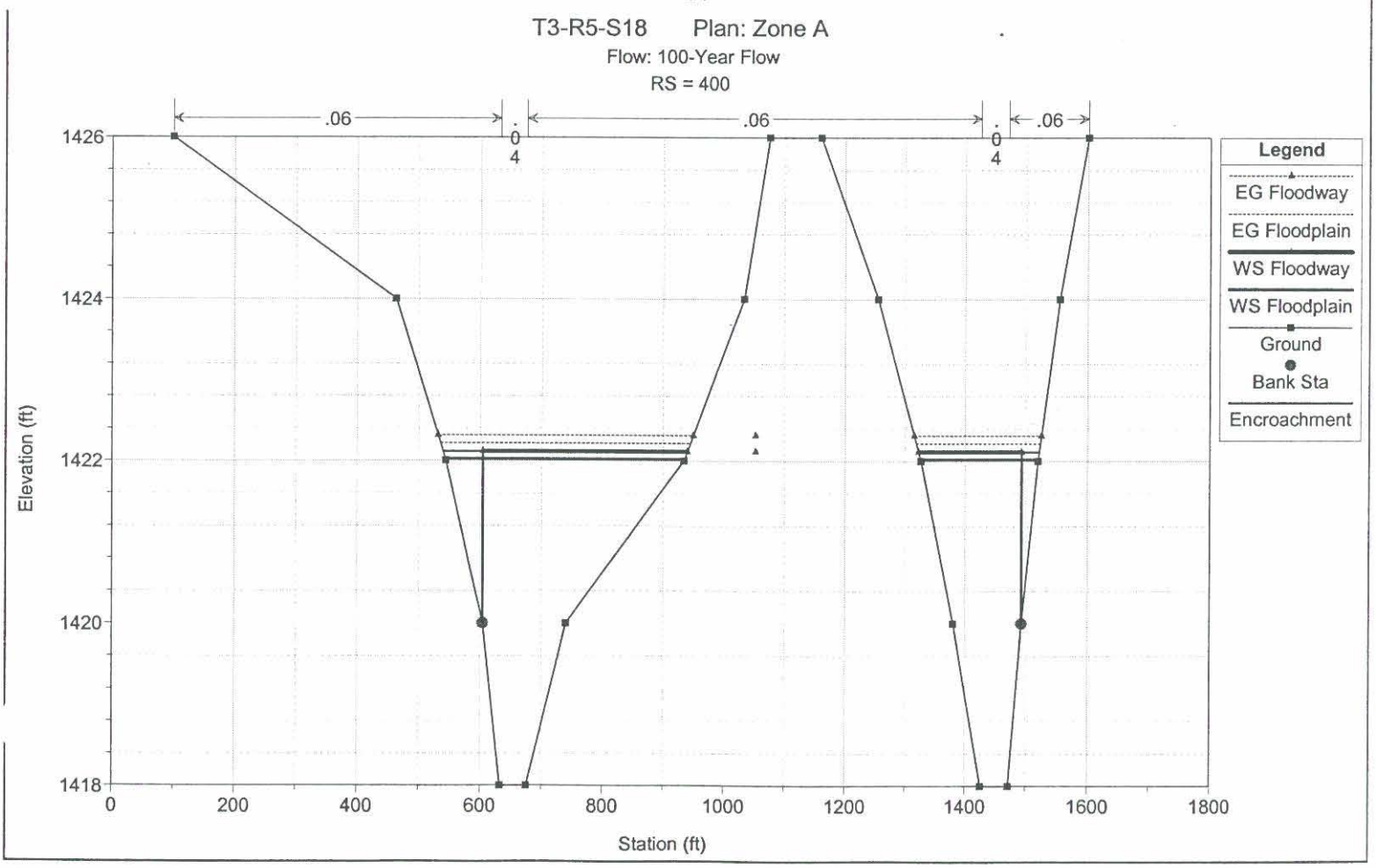
EG Floodplain
WS Floodway
Crit Floodway
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment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Station (ft)
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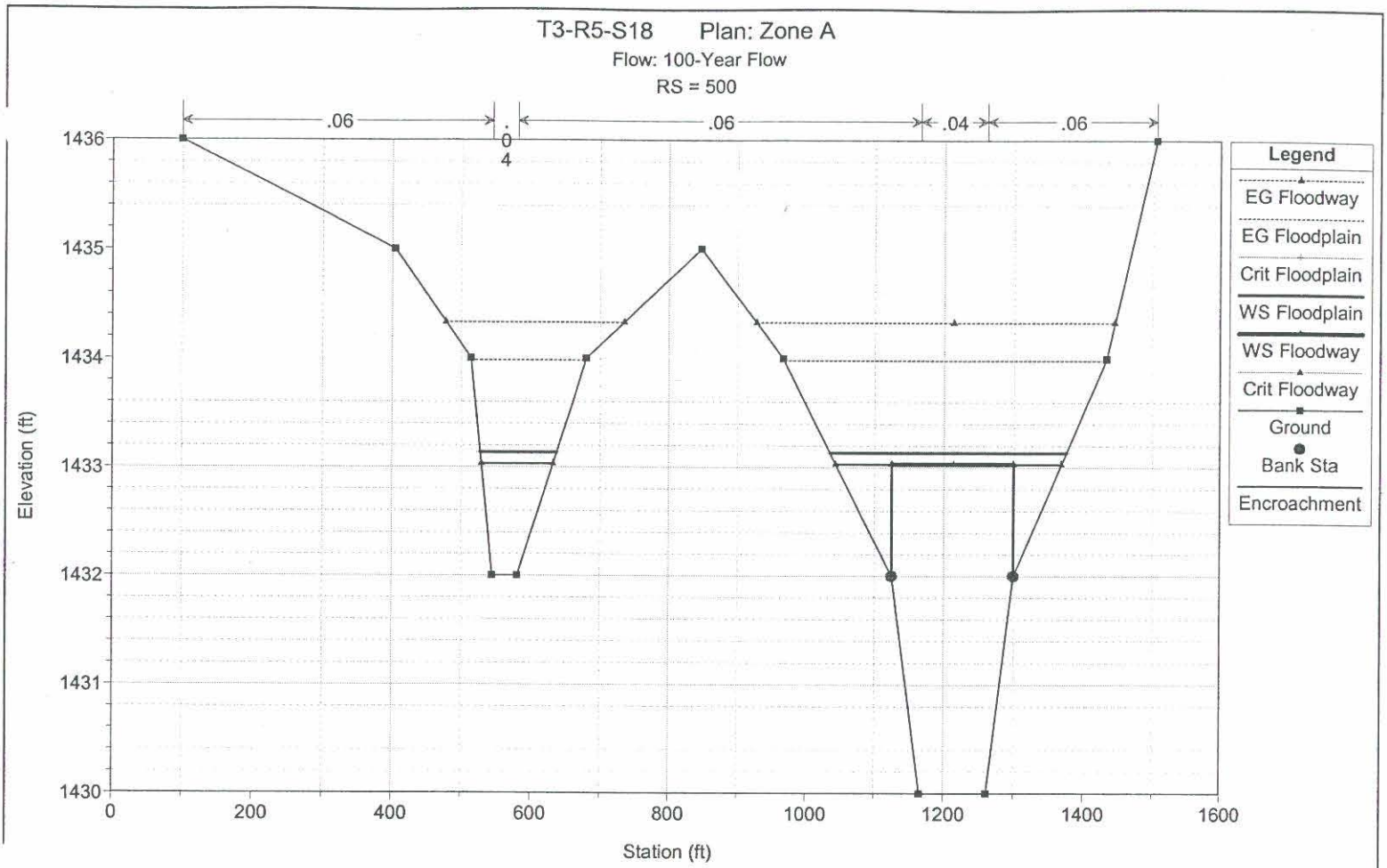
EG Floodplain
WS Floodway
WS Floodplain
Ground
Bank Sta
Encroachment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Elevation (ft)
Station (ft)
Legend
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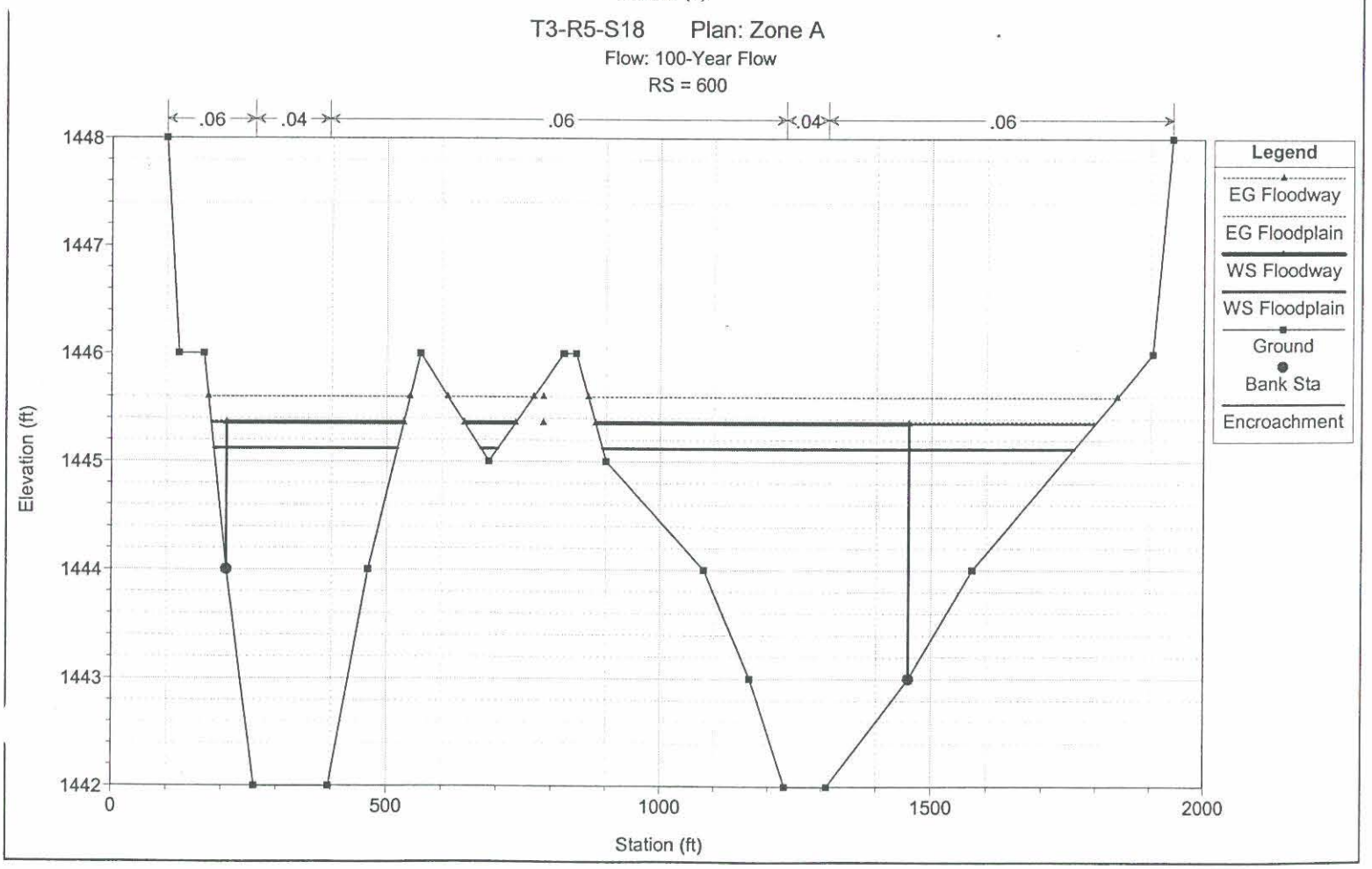
EG Floodplain
Crit Floodplain
WS Floodplain
WS Floodway
Crit Floodway
Ground
Bank Sta
Encroachment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Elevation (ft)
Station (ft)
Legend
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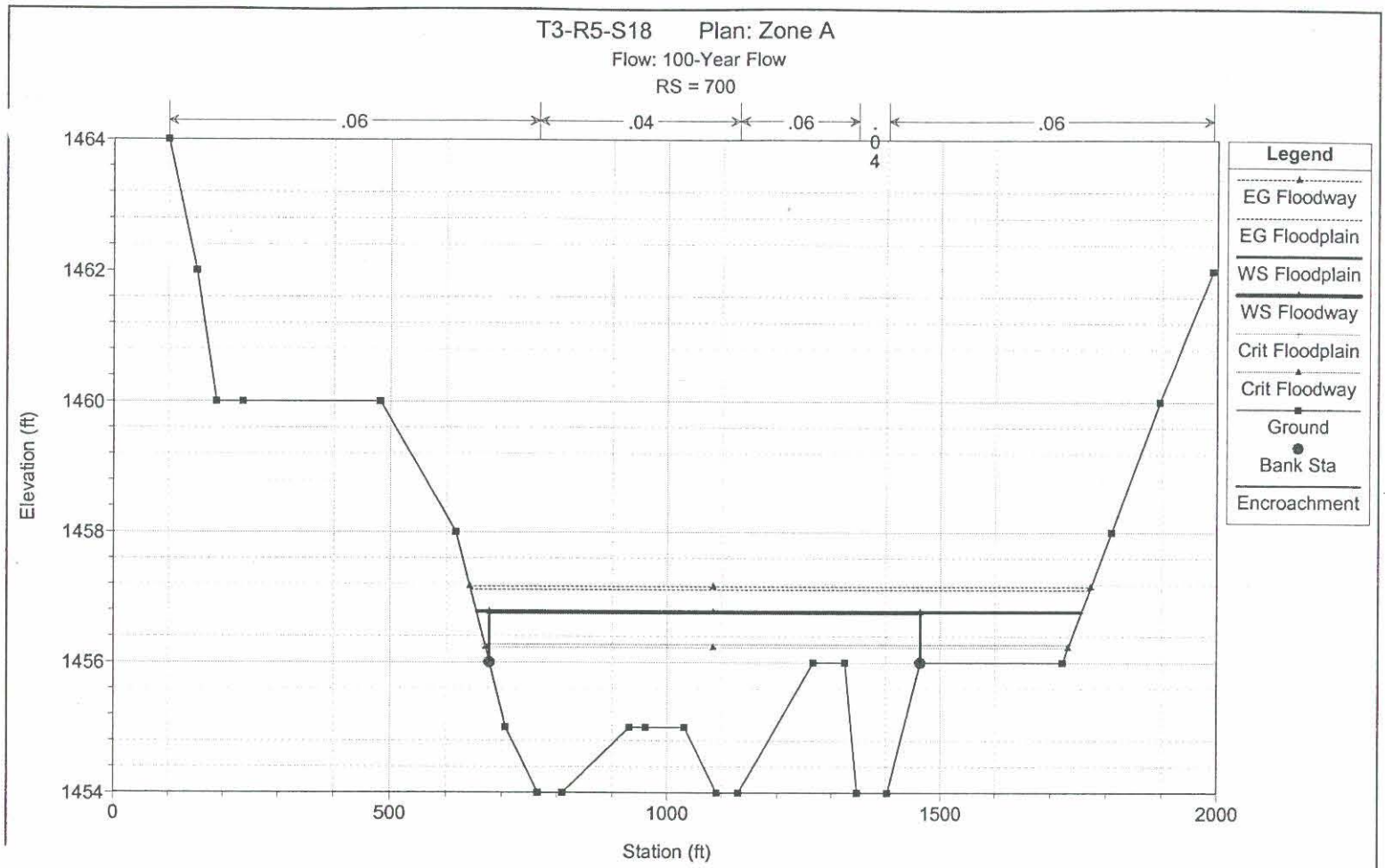
EG Floodplain
WS Floodway
WS Floodplain
Ground
Bank Sta
Encroachment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Station (ft)
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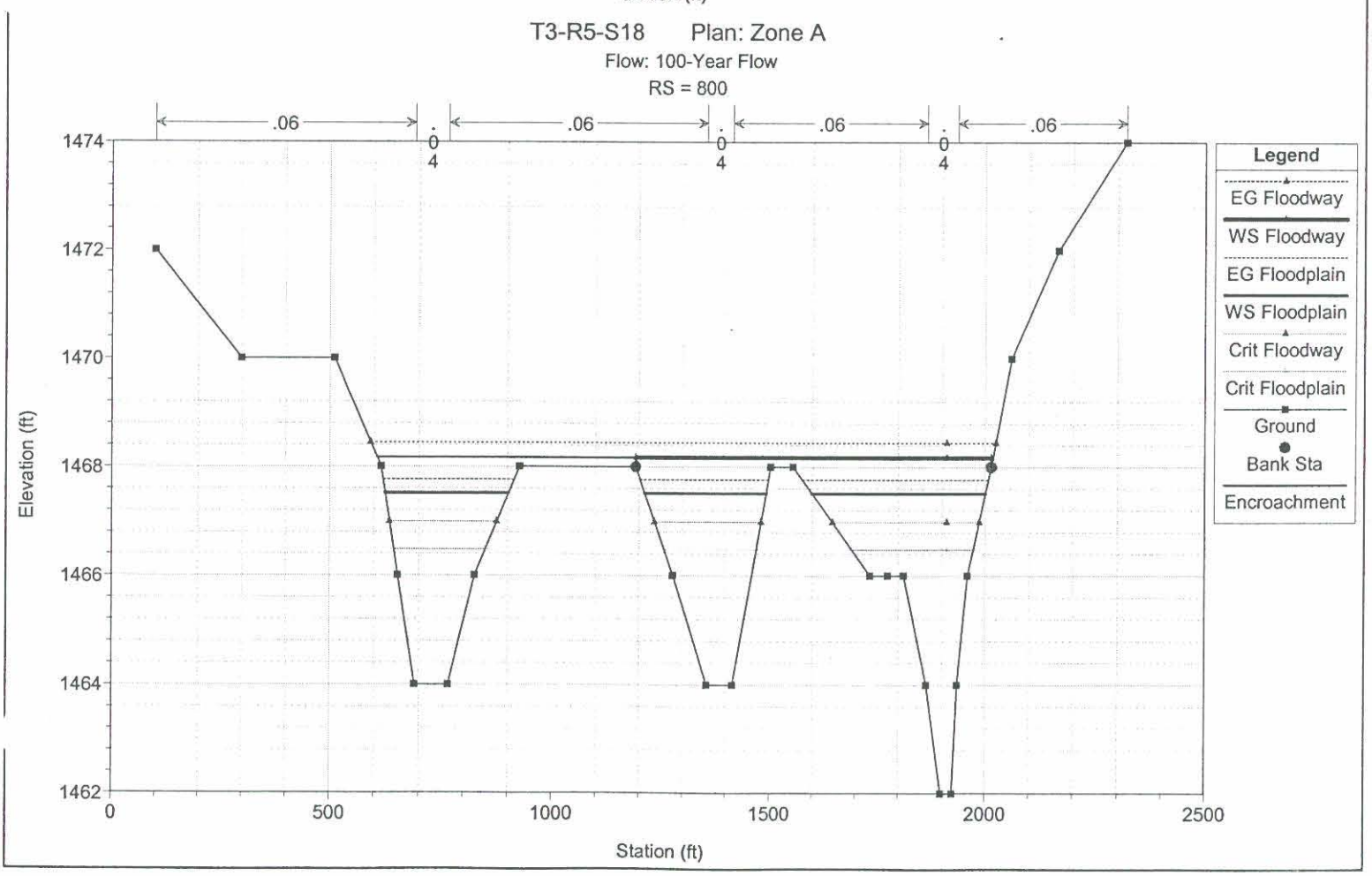
EG Floodplain
WS Floodplain
WS Floodway
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment


T3-R5-S18 Plan: Zone A
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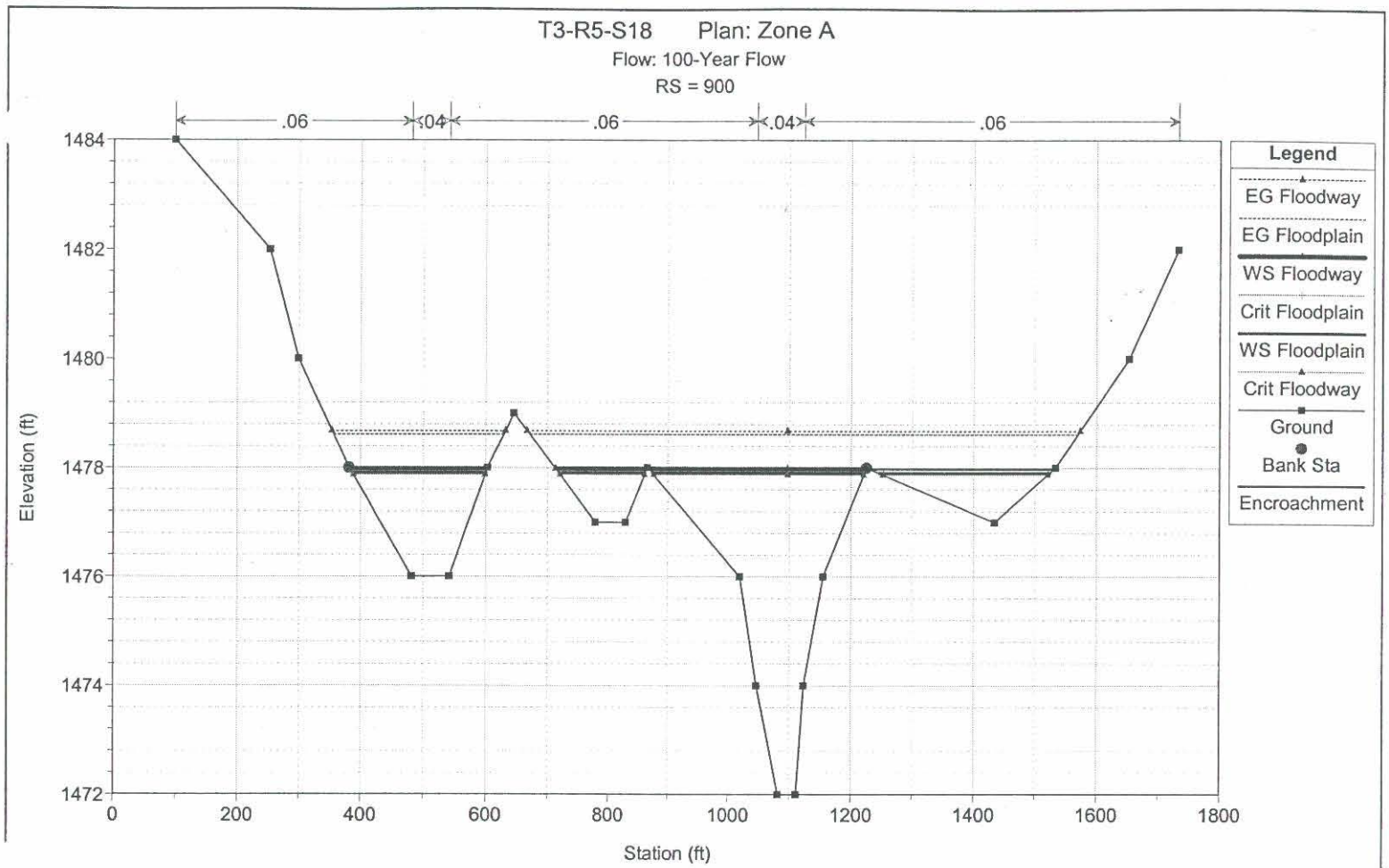
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment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Elevation (ft)
Station (ft)
Legend
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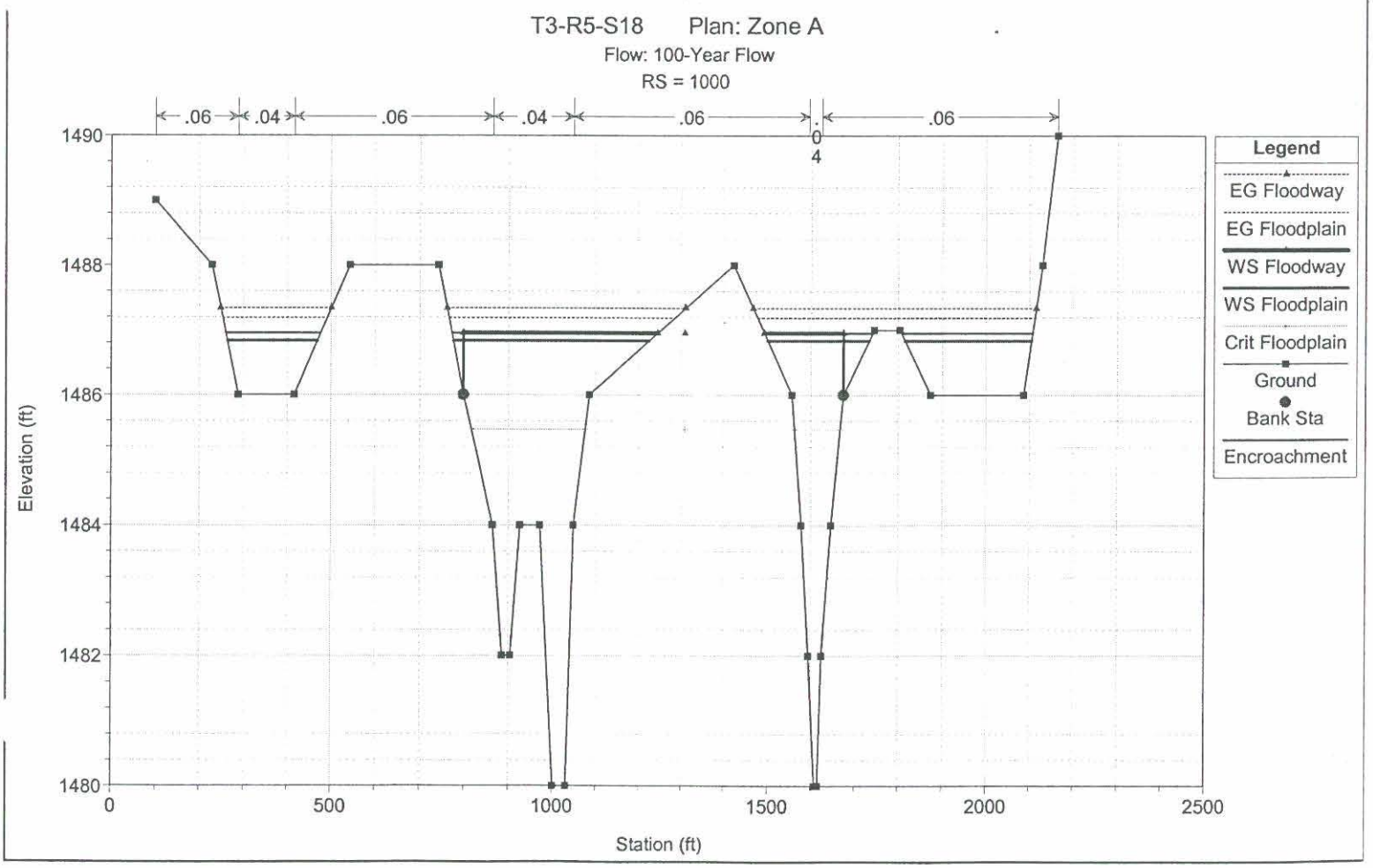
EG Floodplain
WS Floodway
Crit Floodplain
WS Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment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Flow: 100-Year Flow
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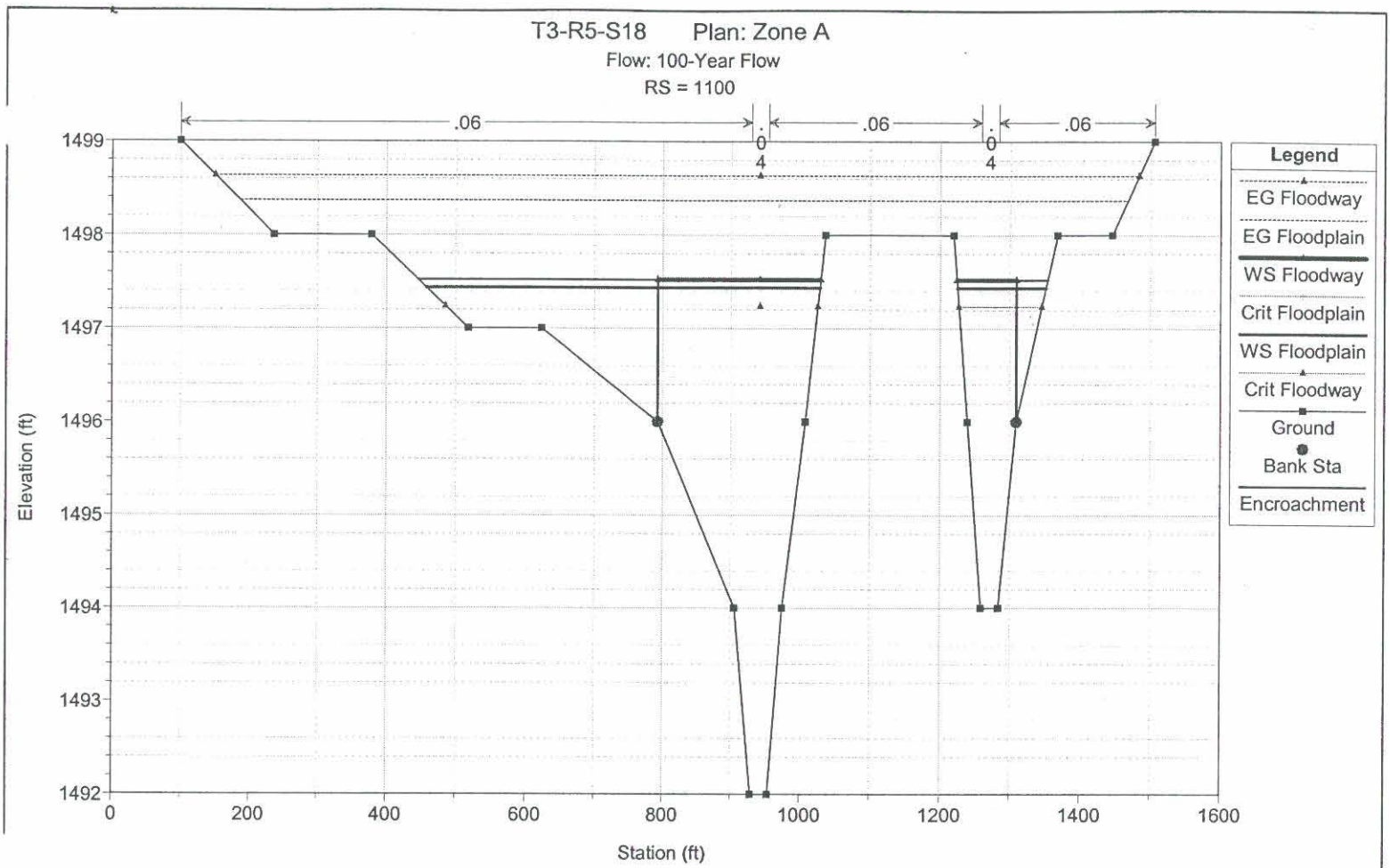
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment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Flow: 100-Year Flow
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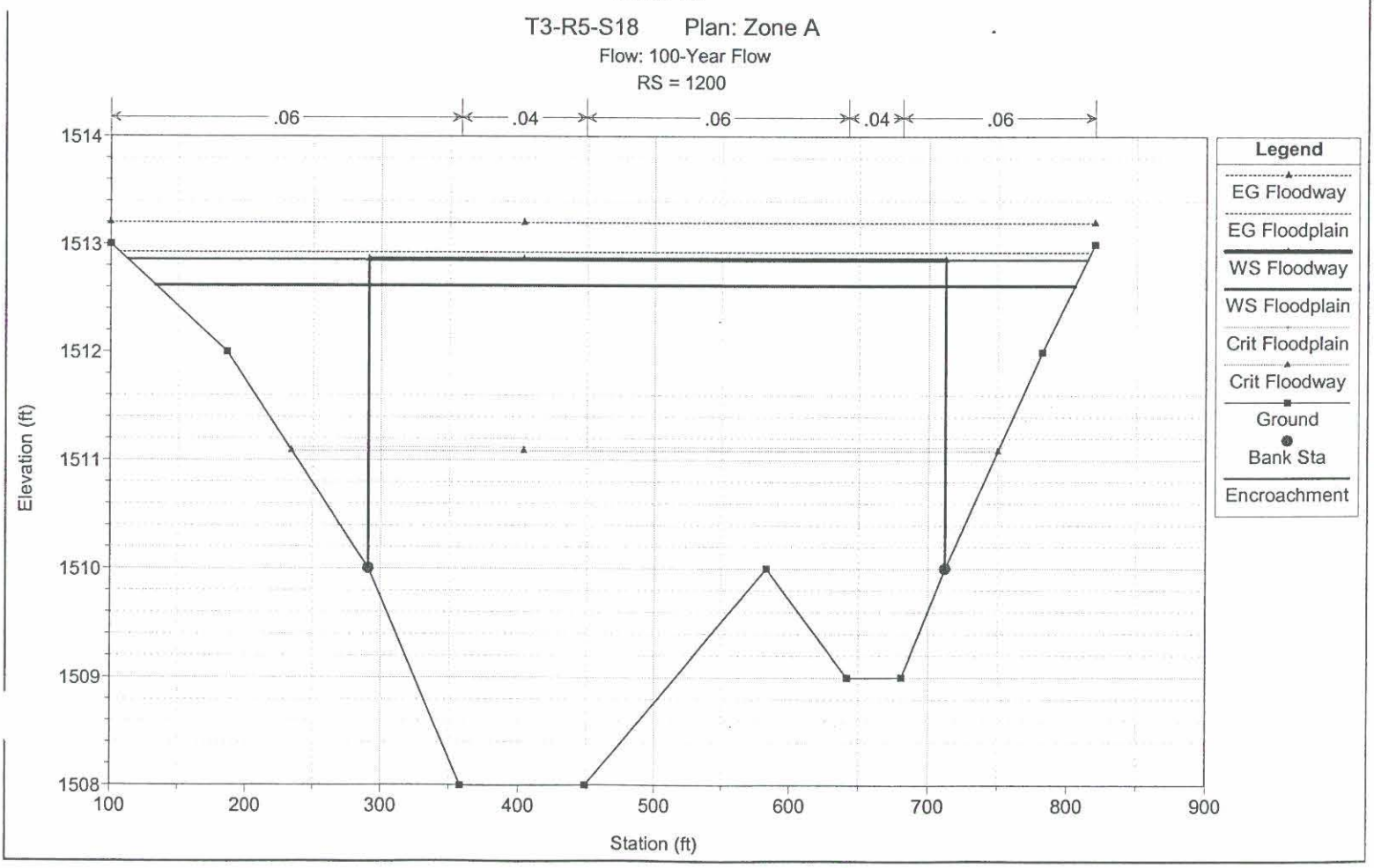
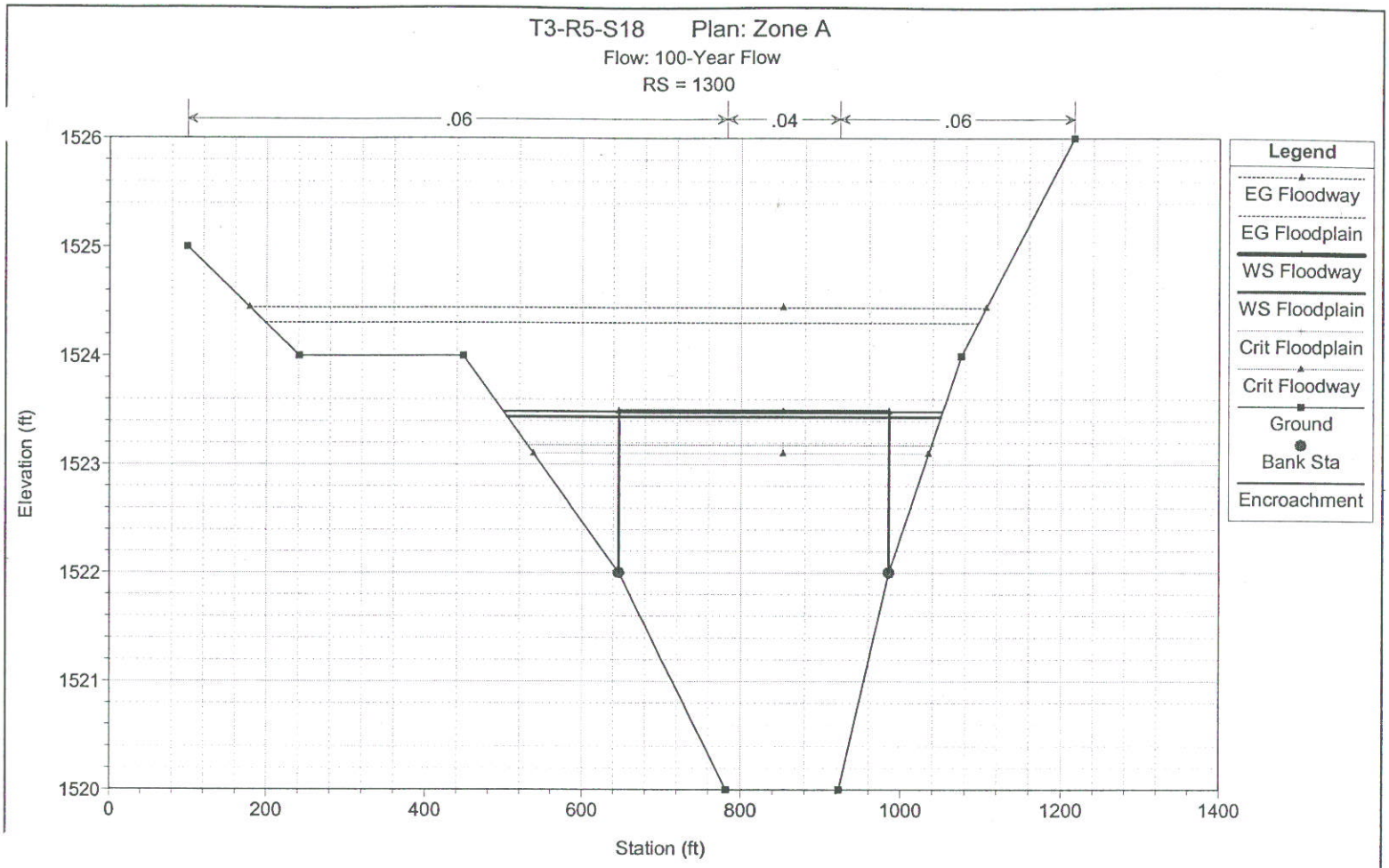
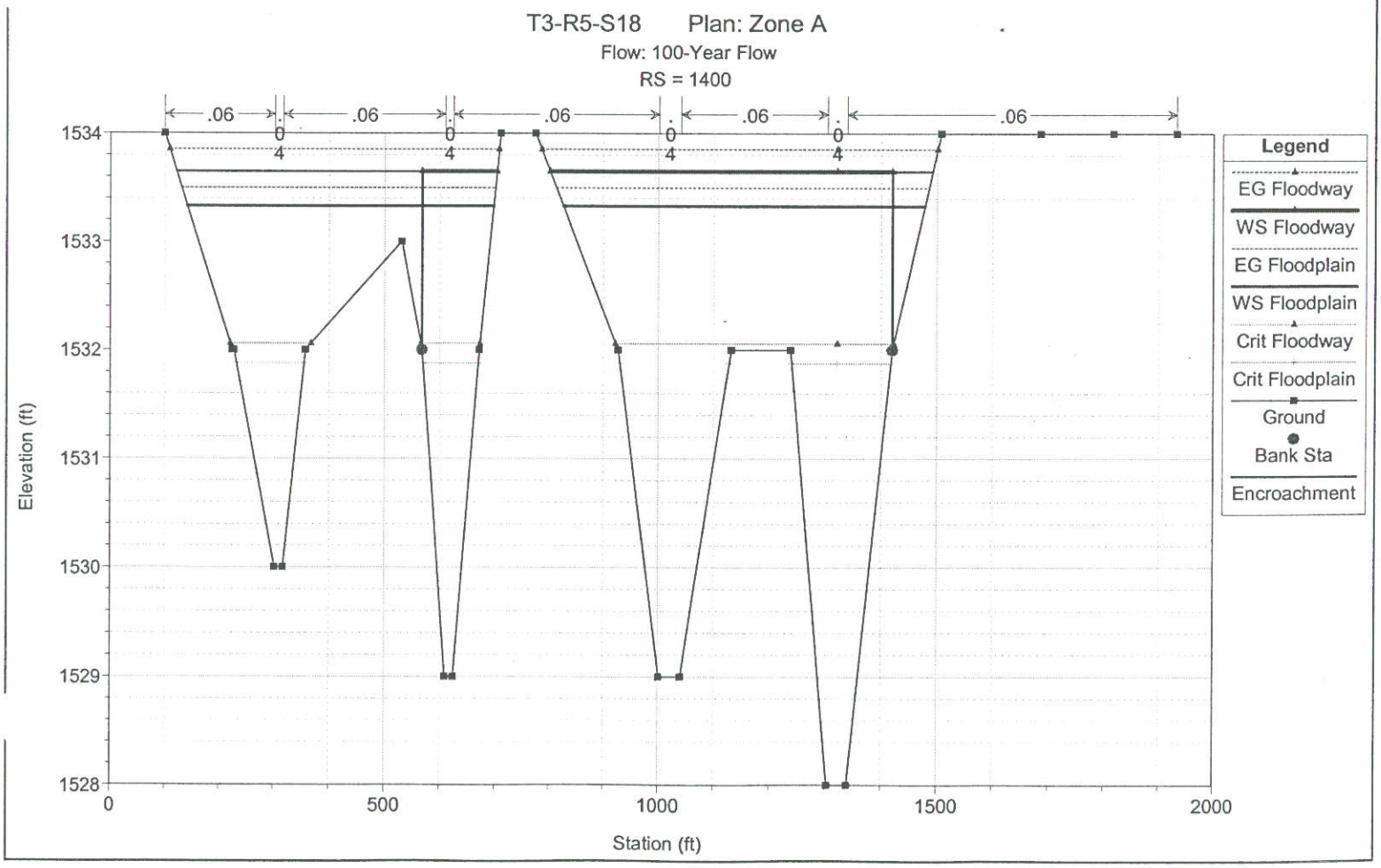
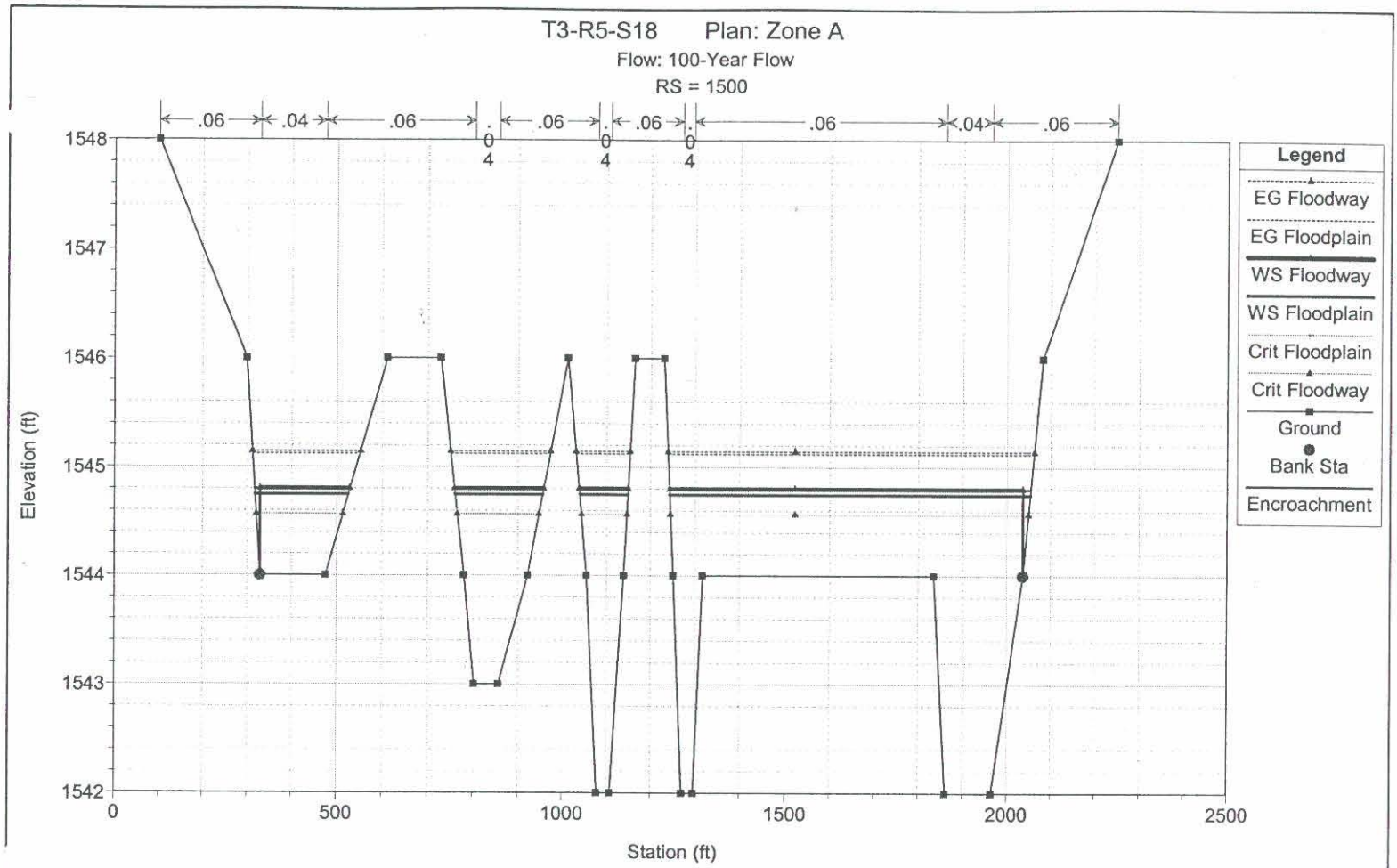
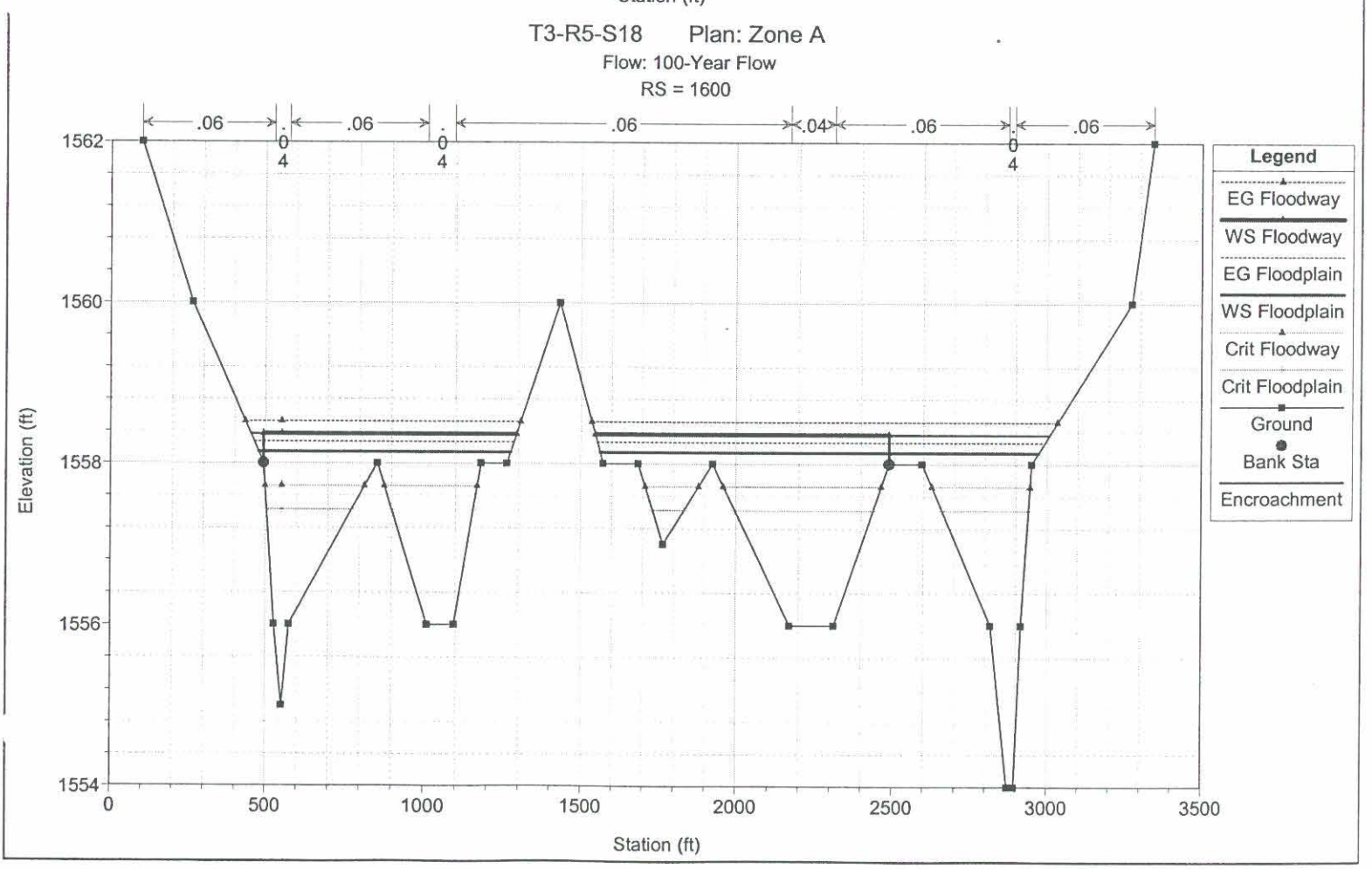
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
Crit Floodplain
WS Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

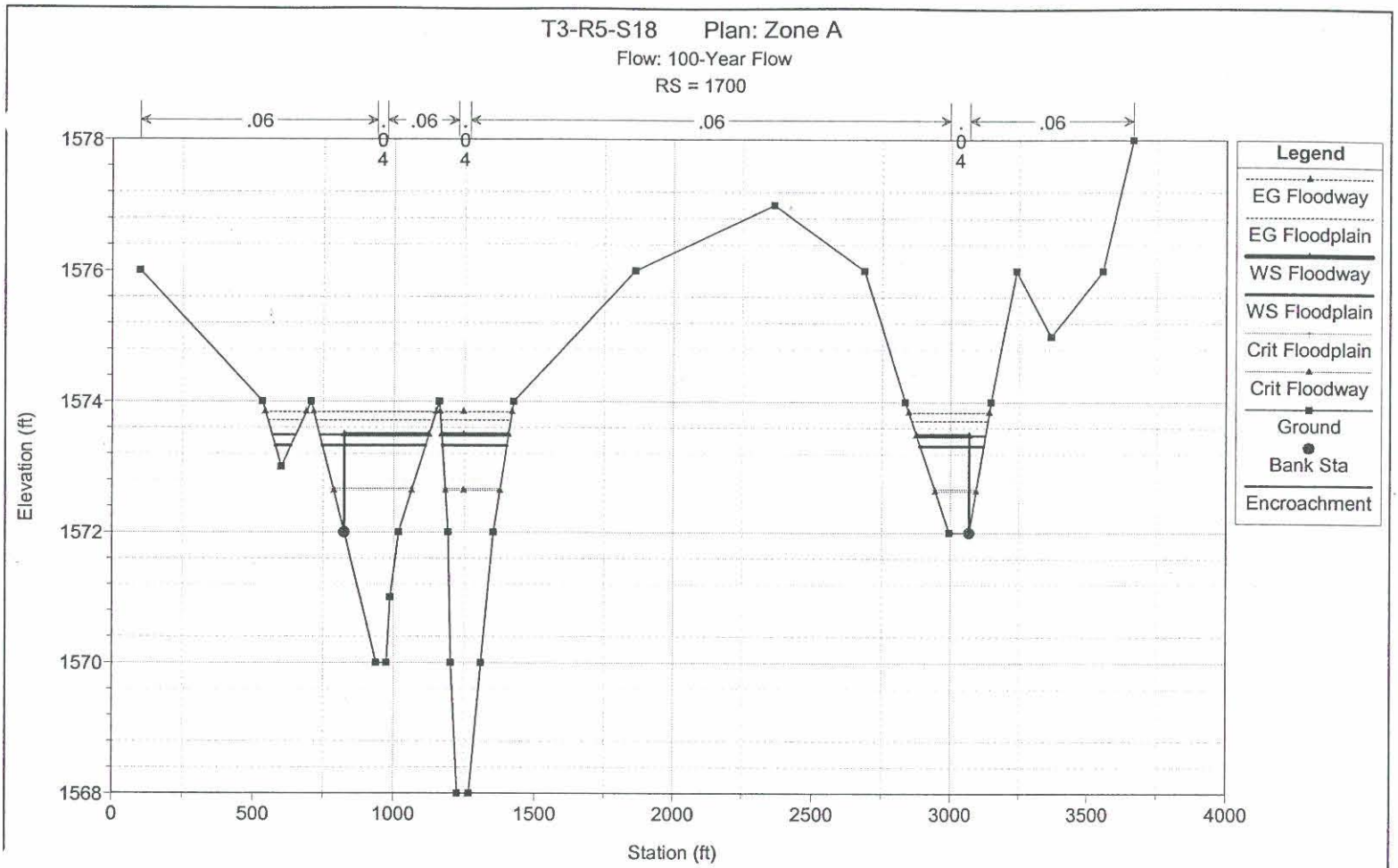

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 1200
.06
.04
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

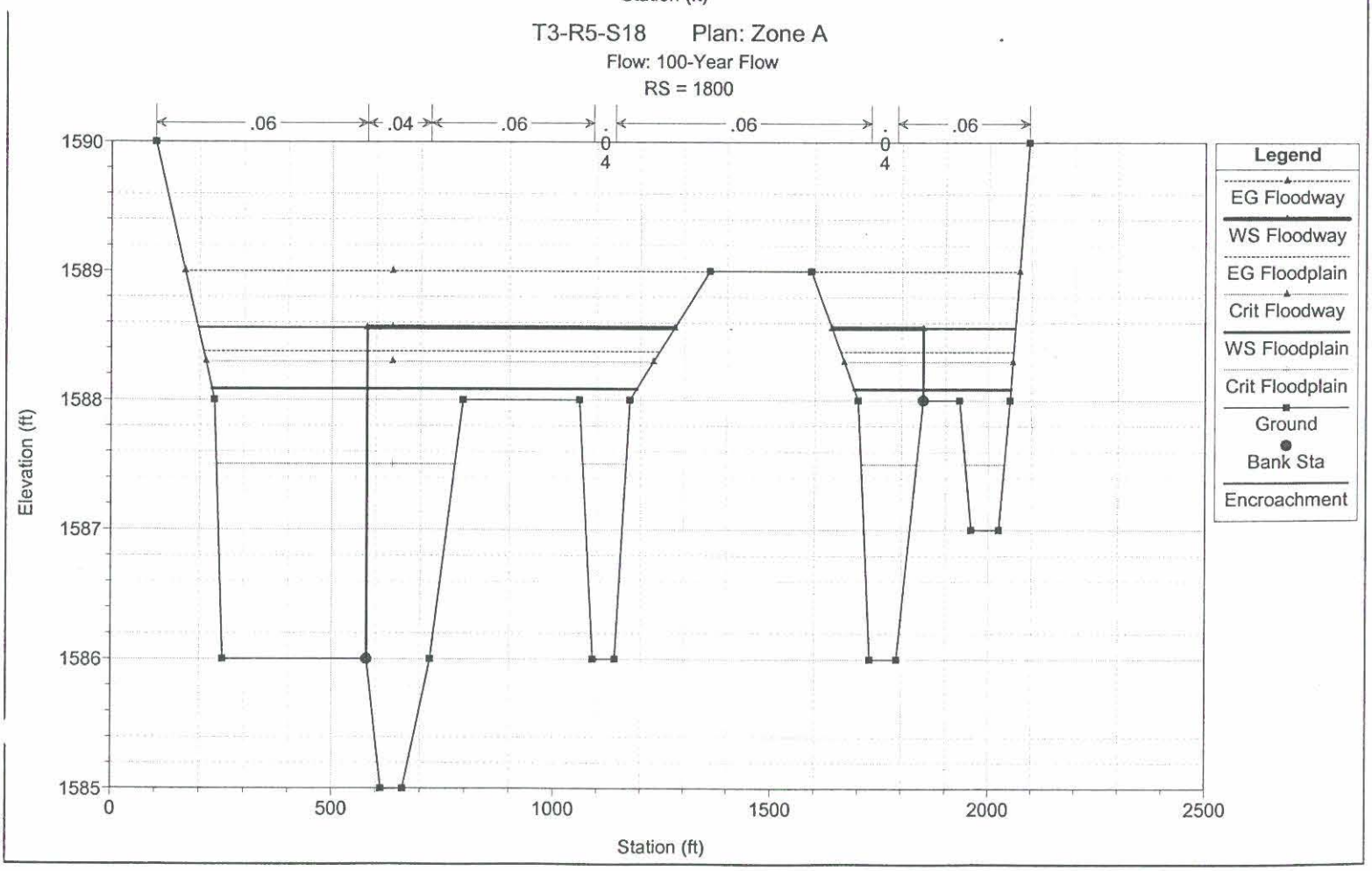

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 1300
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

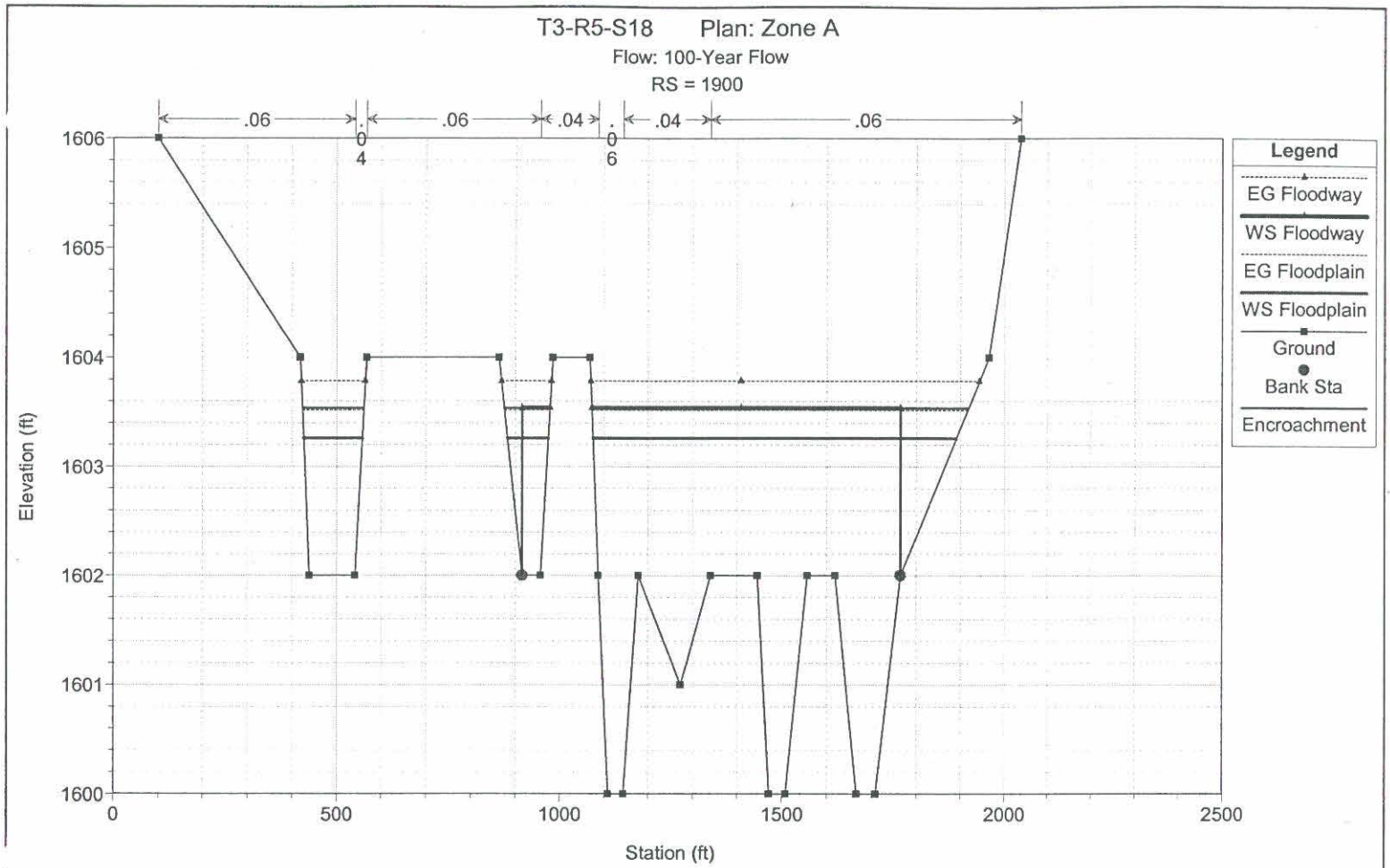

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 1400
.06
.06
.06
.06
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

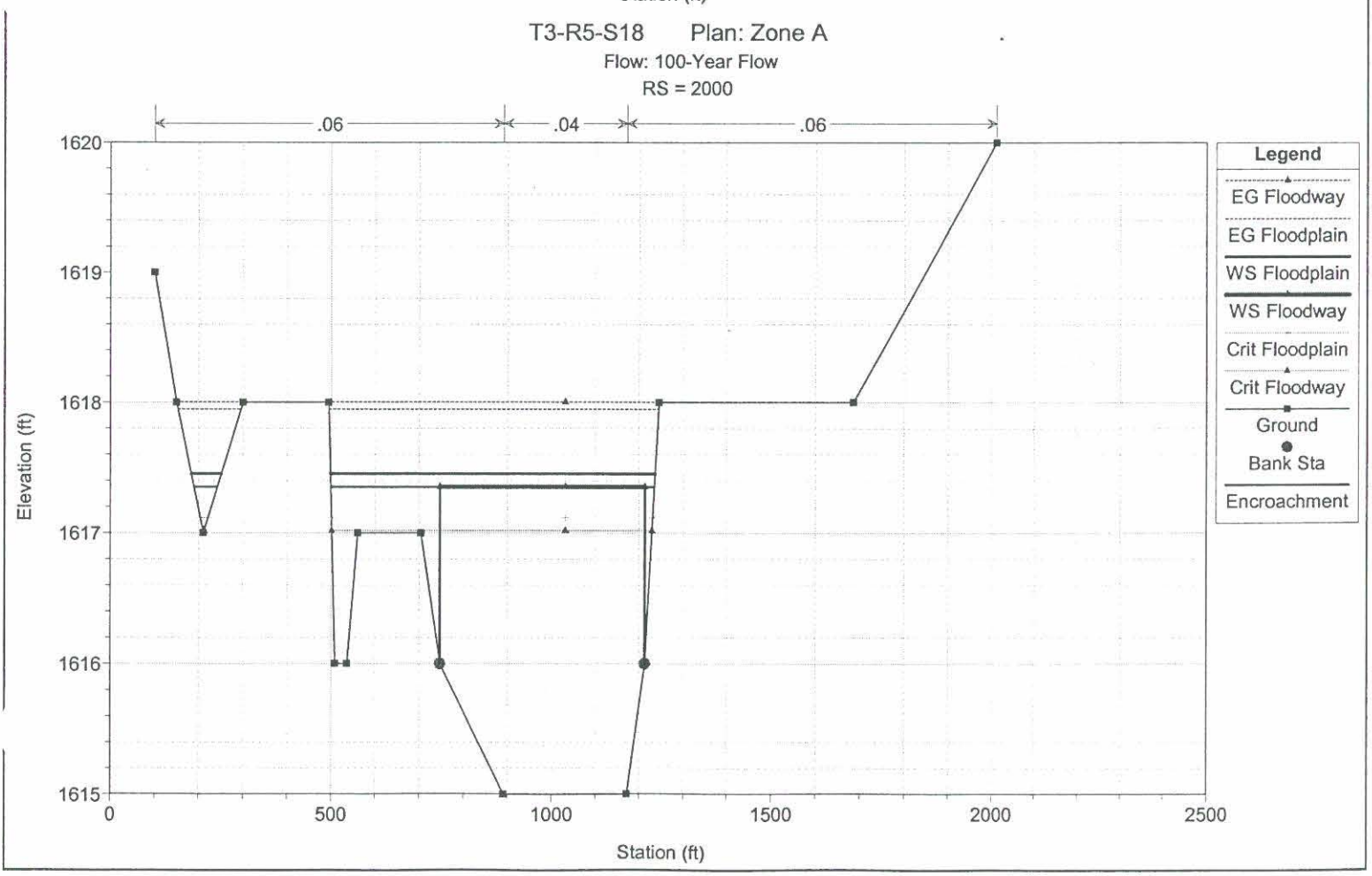

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 1500
.06
.04
.06
.06
.06
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

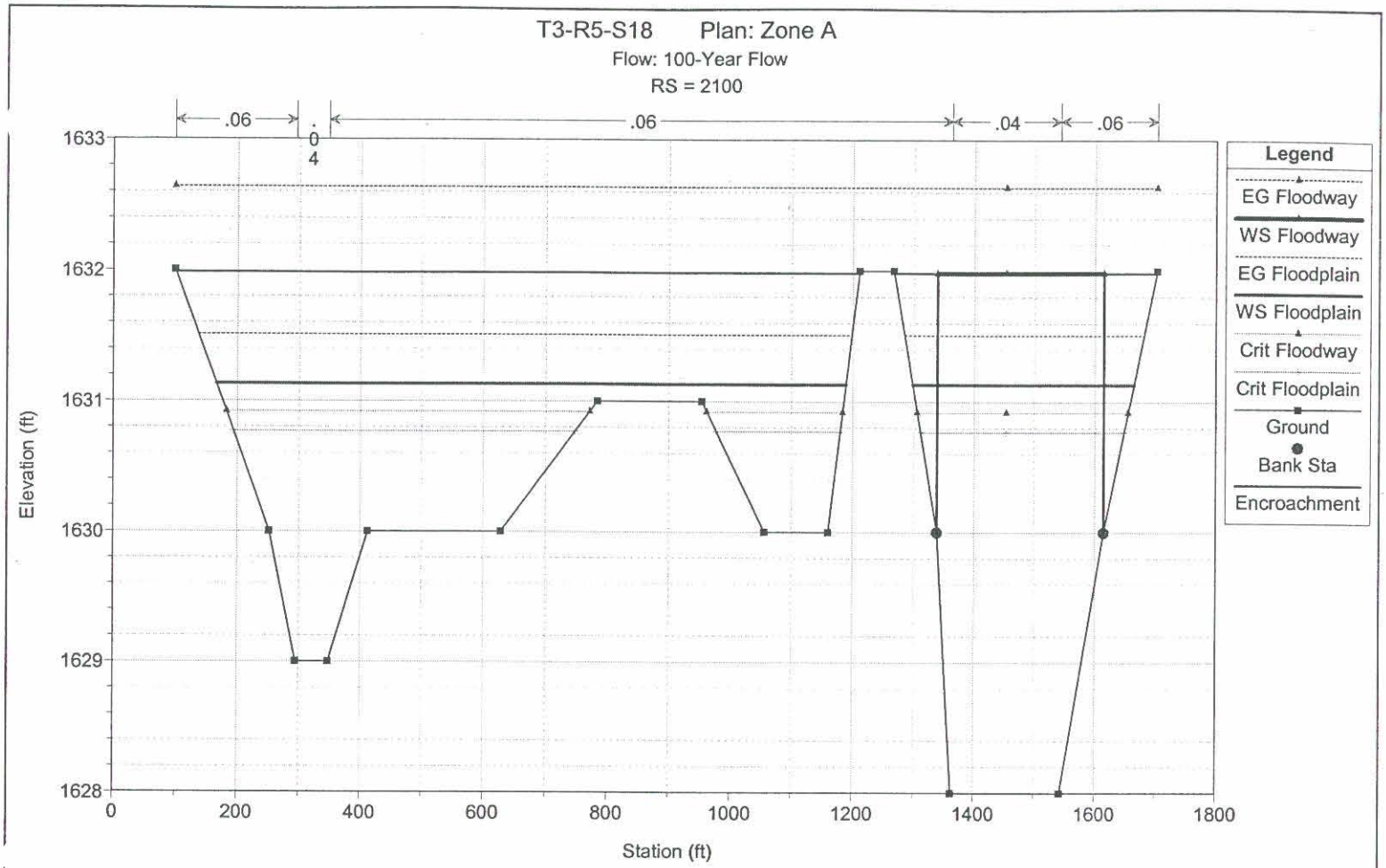

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 1600
.06
.06
.06
.04
.06
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

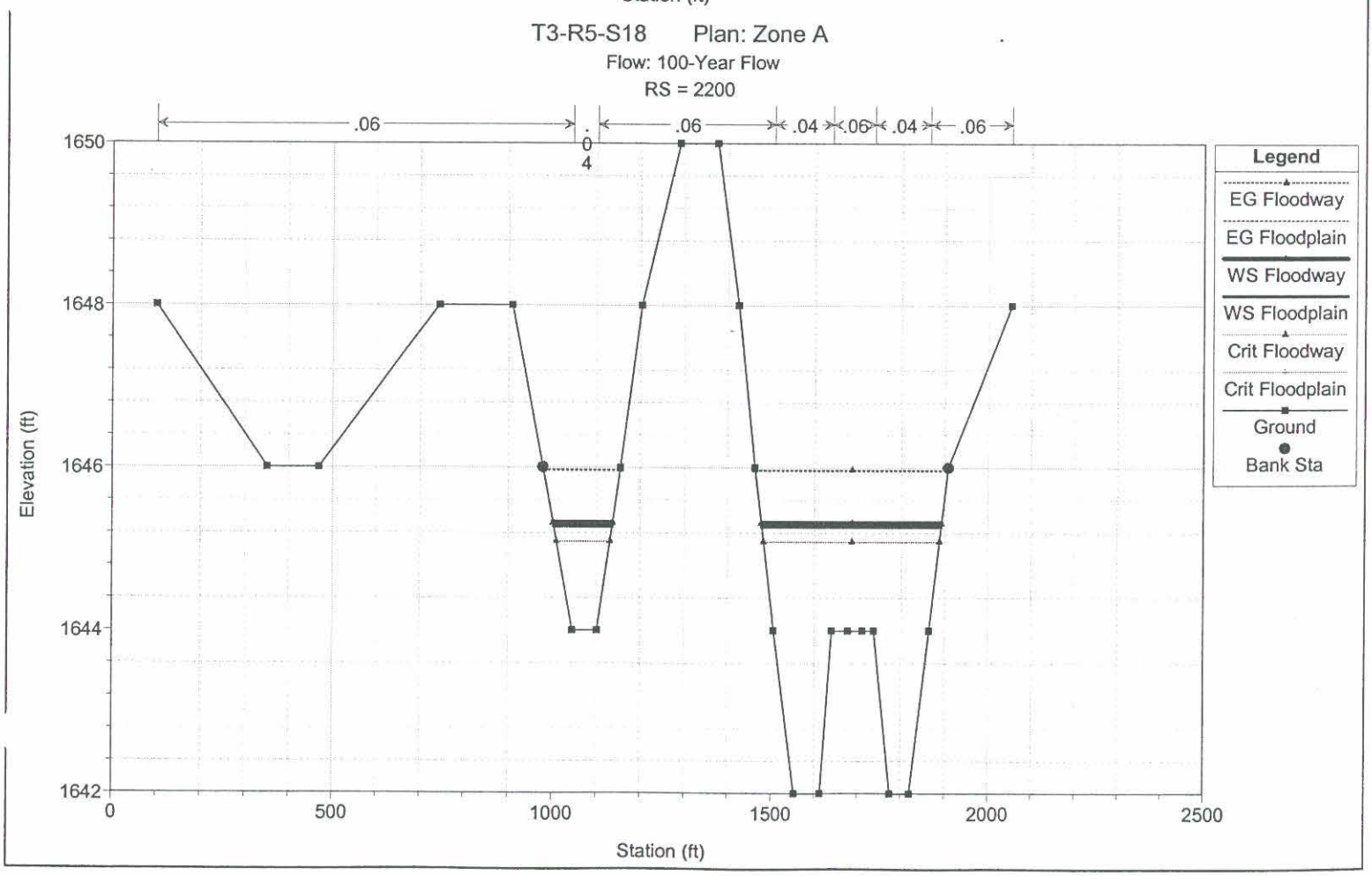

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 1700
.06
.06
.06
.06
.04
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

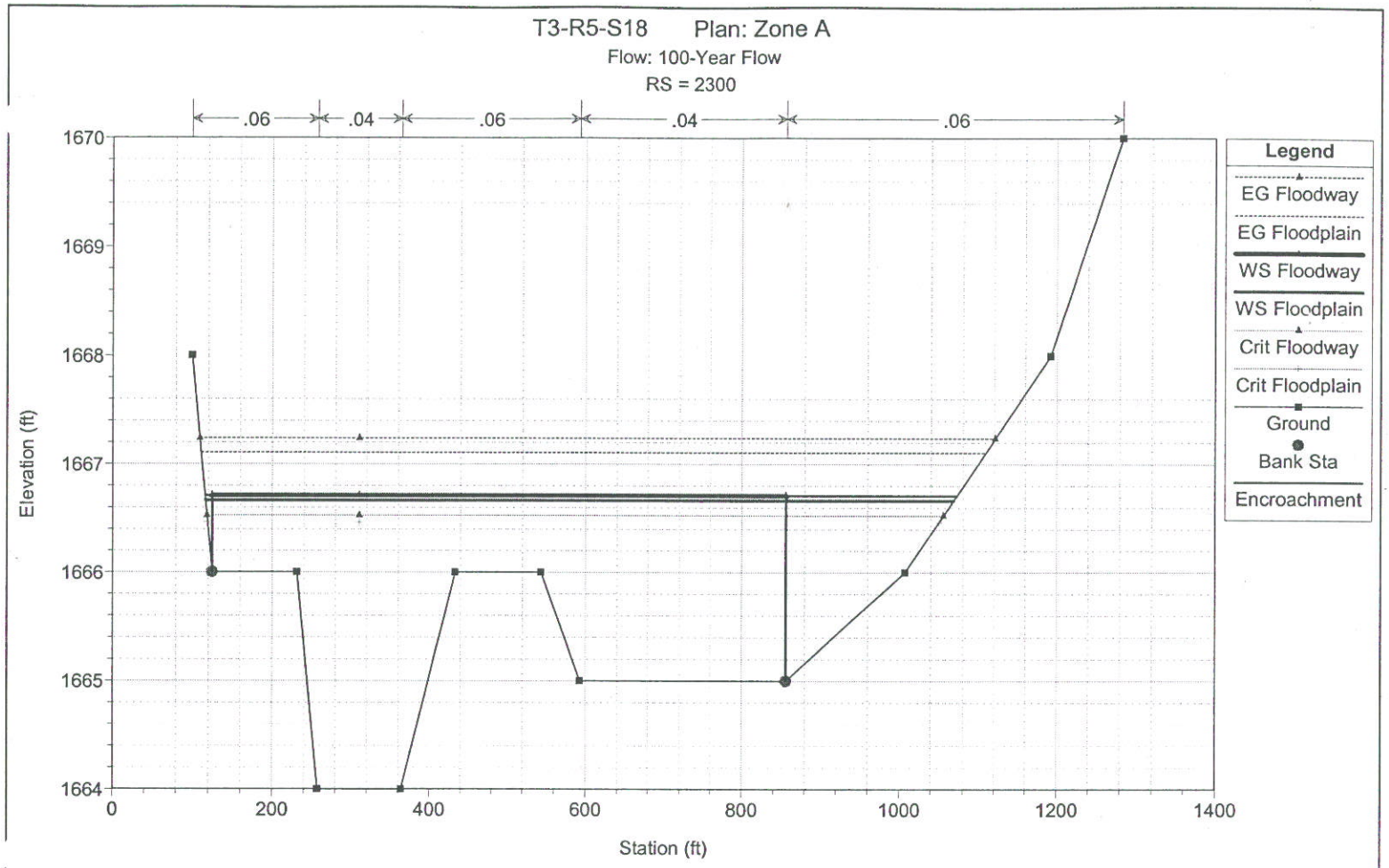

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 1800
.06
.04
.06
.06
.06
.04
.04
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
Crit Floodway
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment

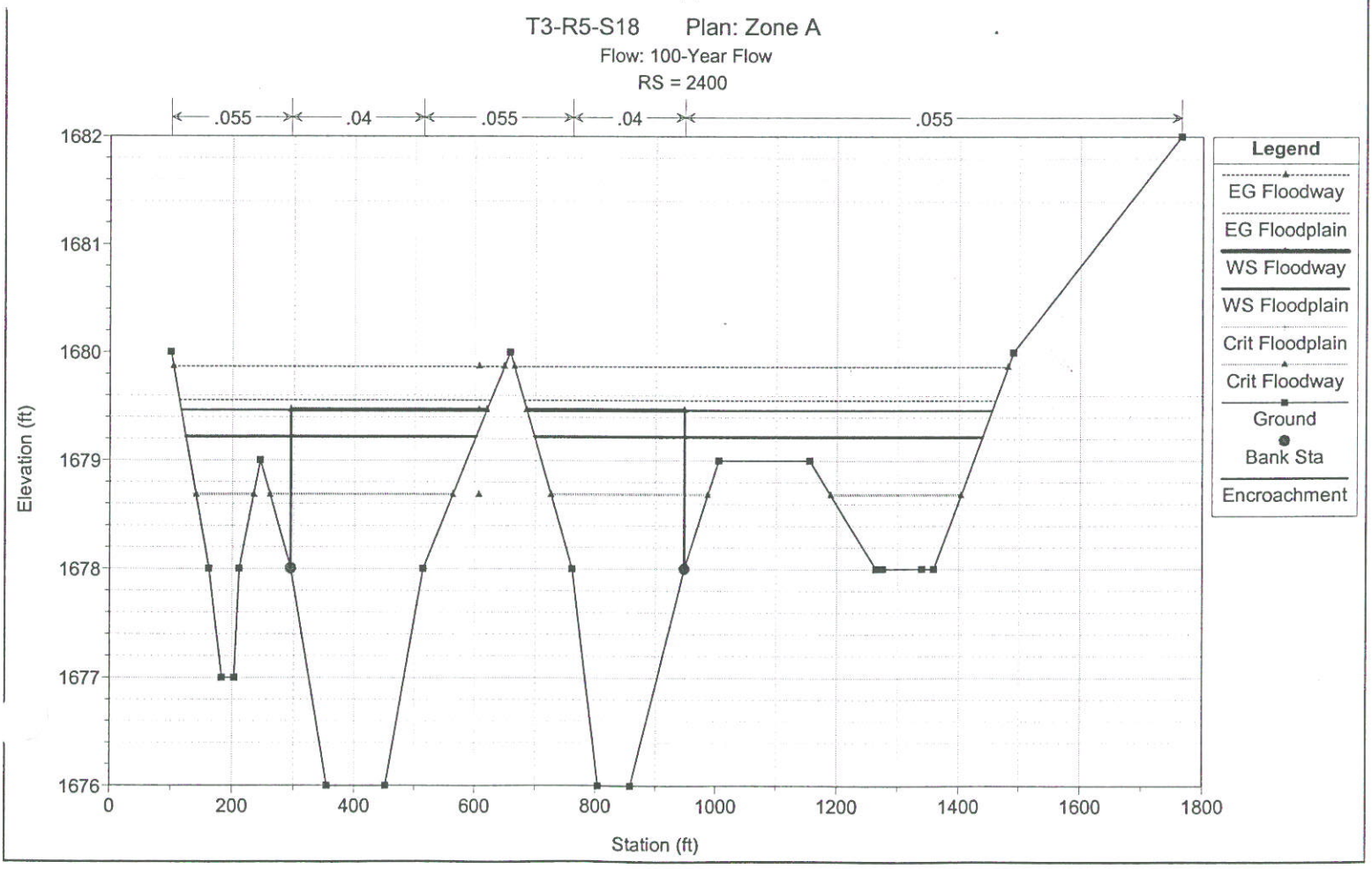

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 1900
.06
.06
.04
.04
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Ground
Bank Sta
Encroachment

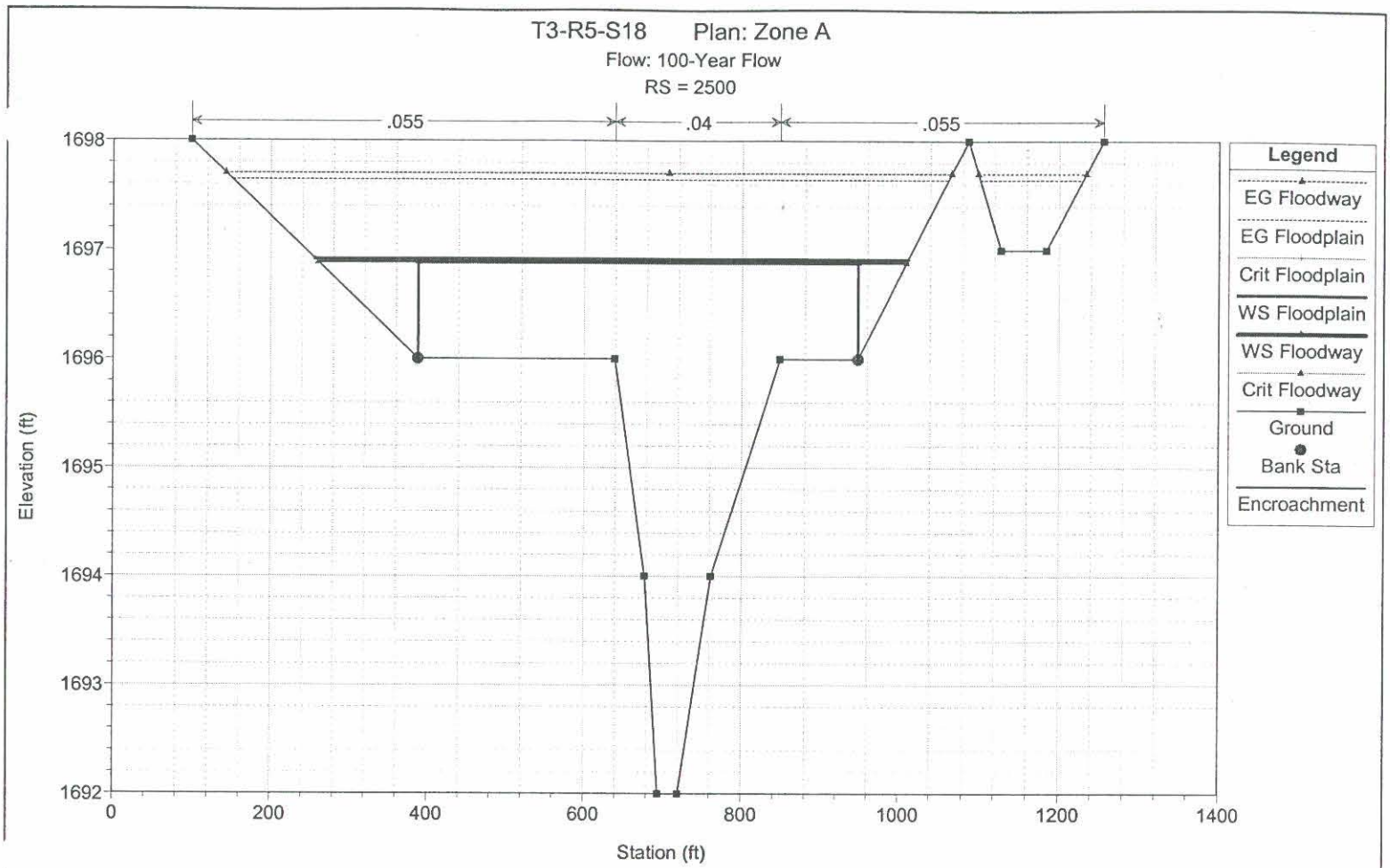

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2000
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodplain
WS Floodway
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

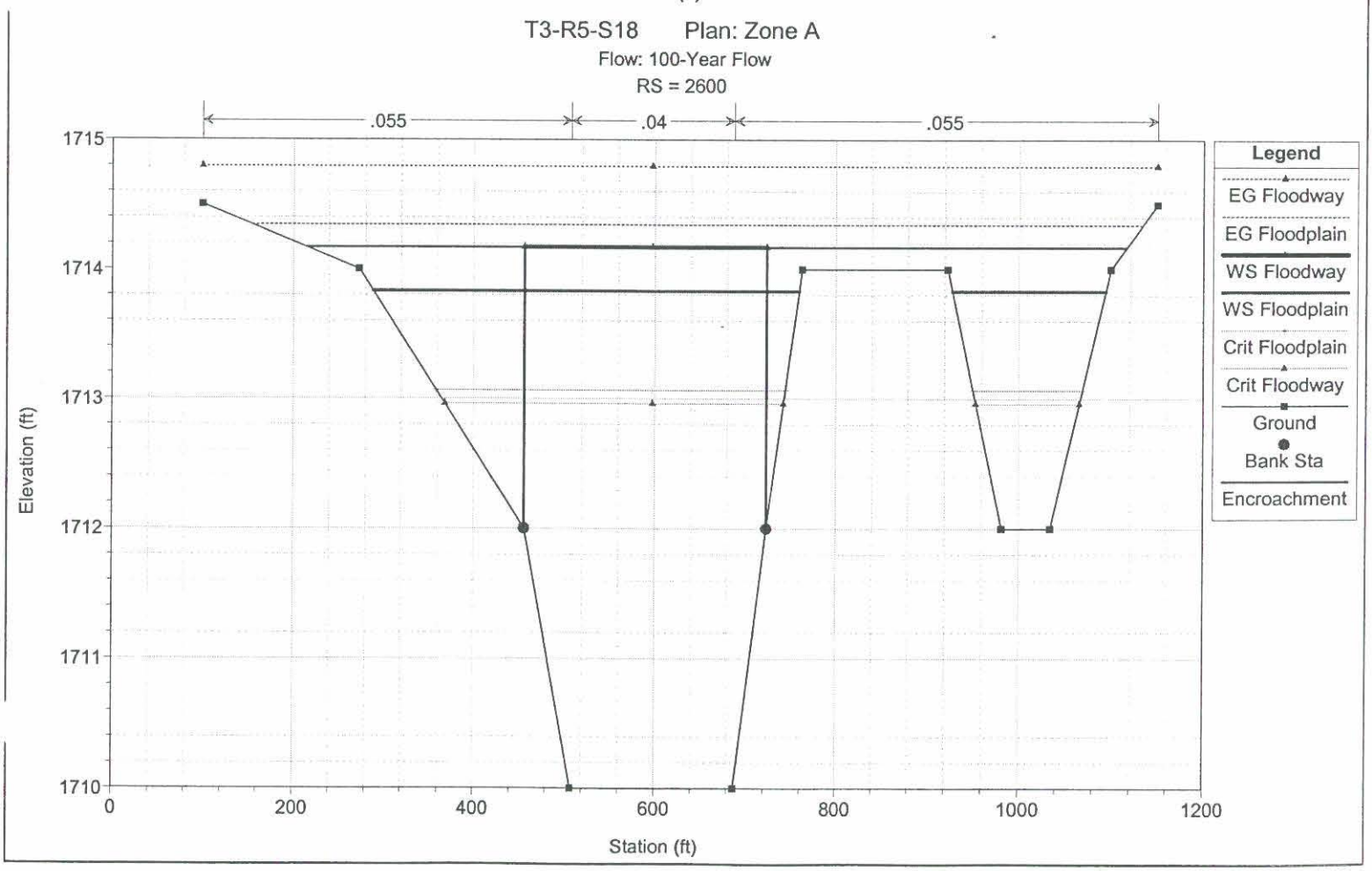

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2100
.06
.04
.06
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

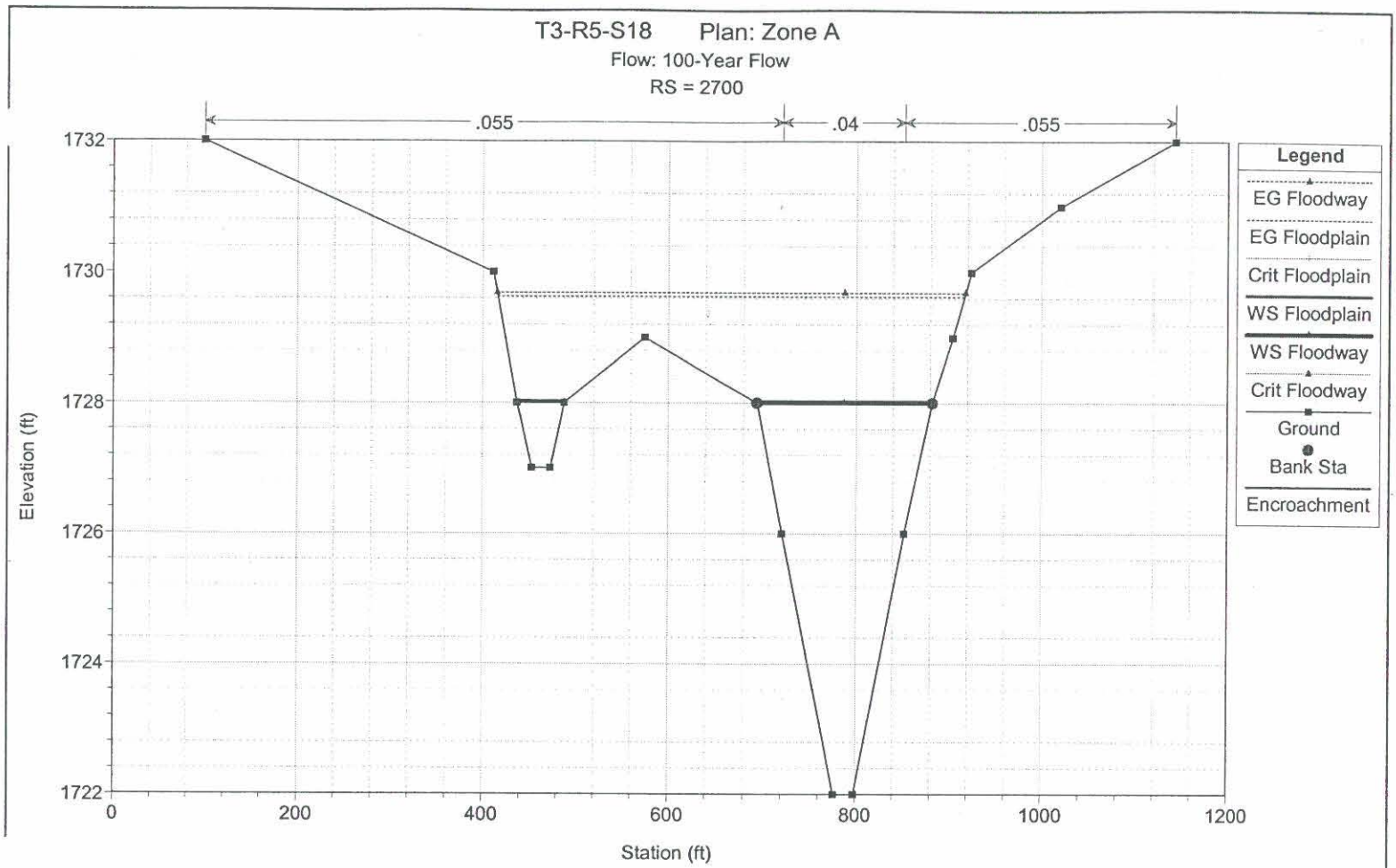

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2200
.06
.06
.04
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta

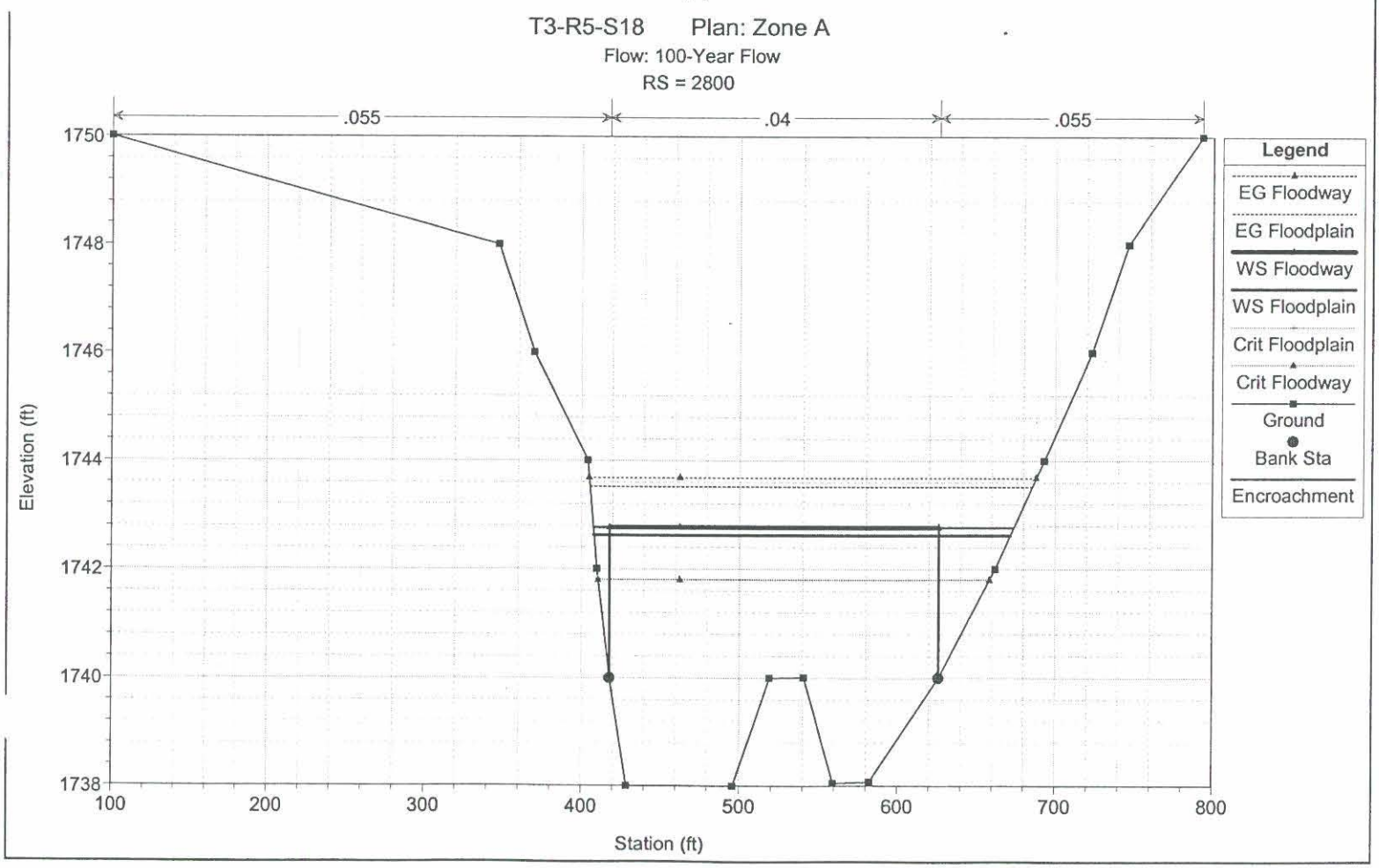

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2300
.06
.04
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

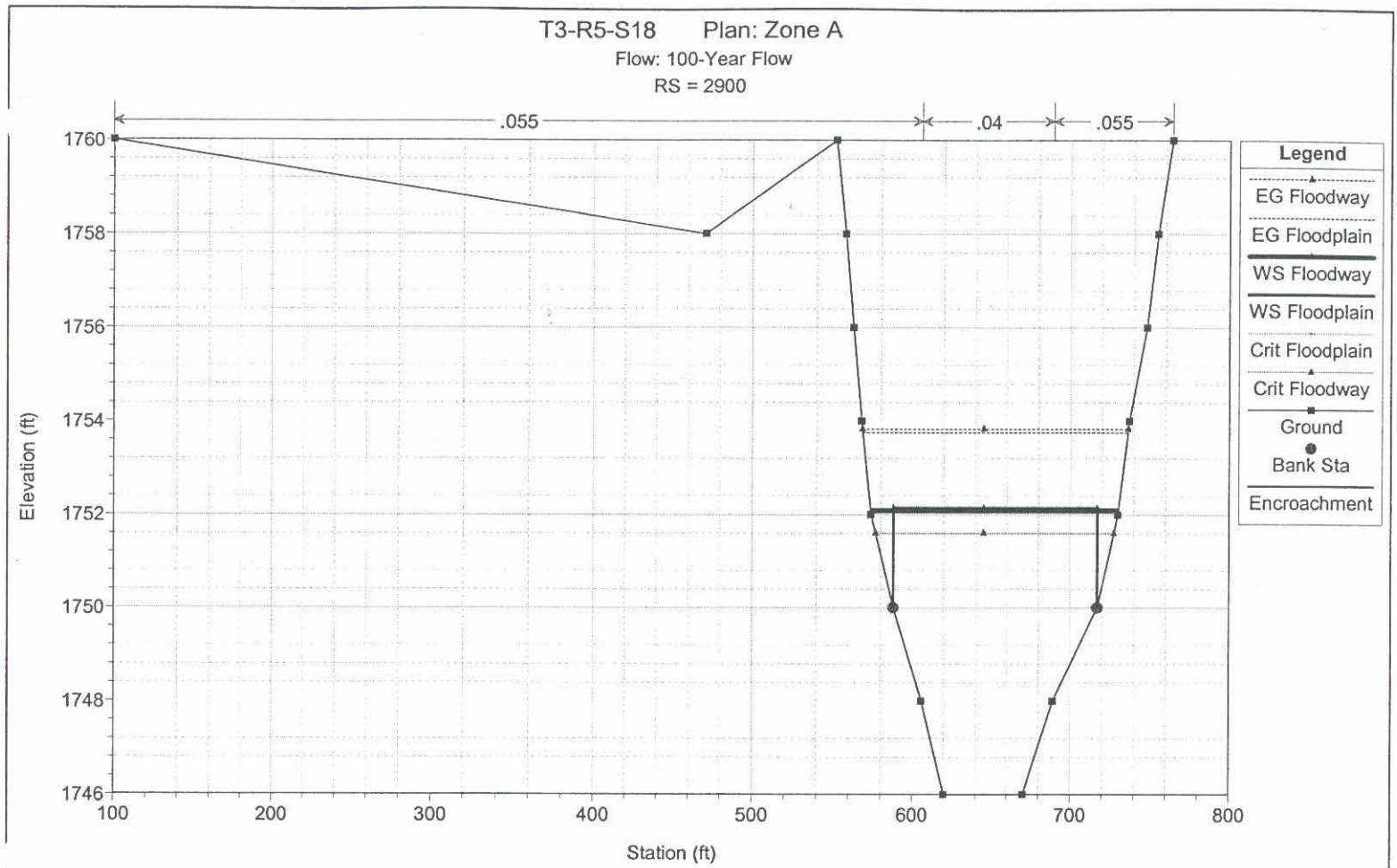

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2400
.055
.04
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

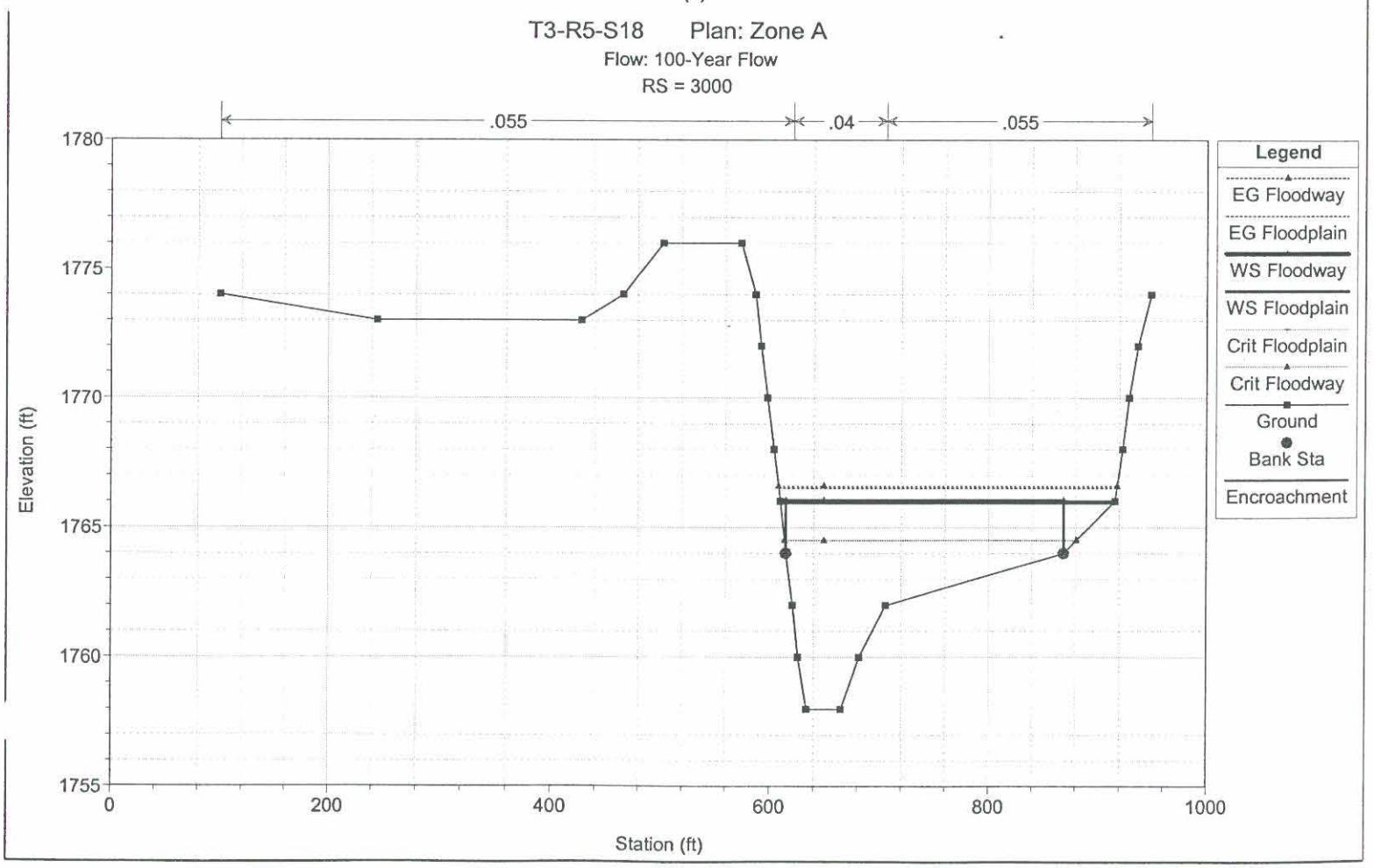

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2500
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
Crit Floodplain
WS Floodplain
WS Floodway
Crit Floodway
Ground
Bank Sta
Encroachment

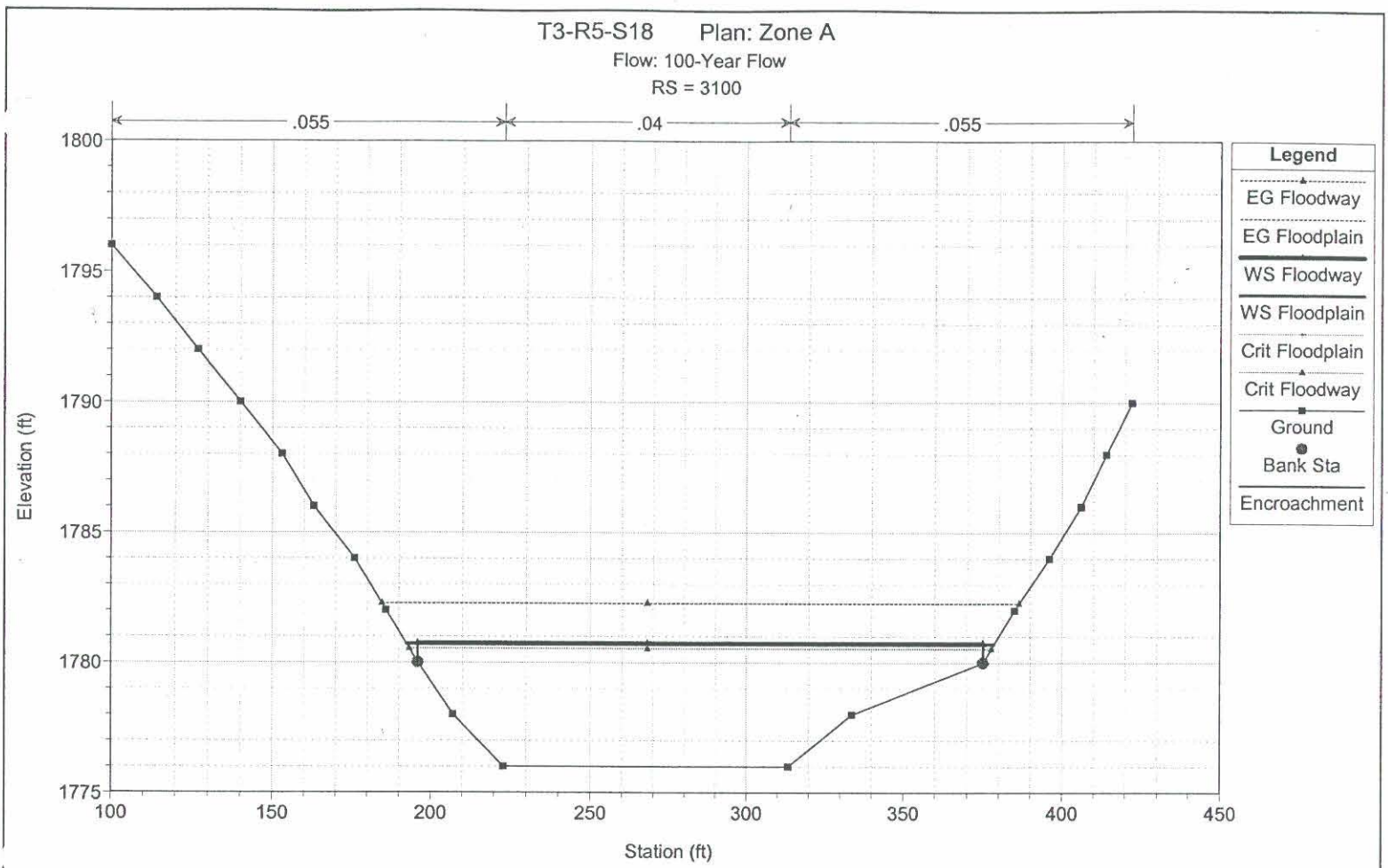

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2600
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

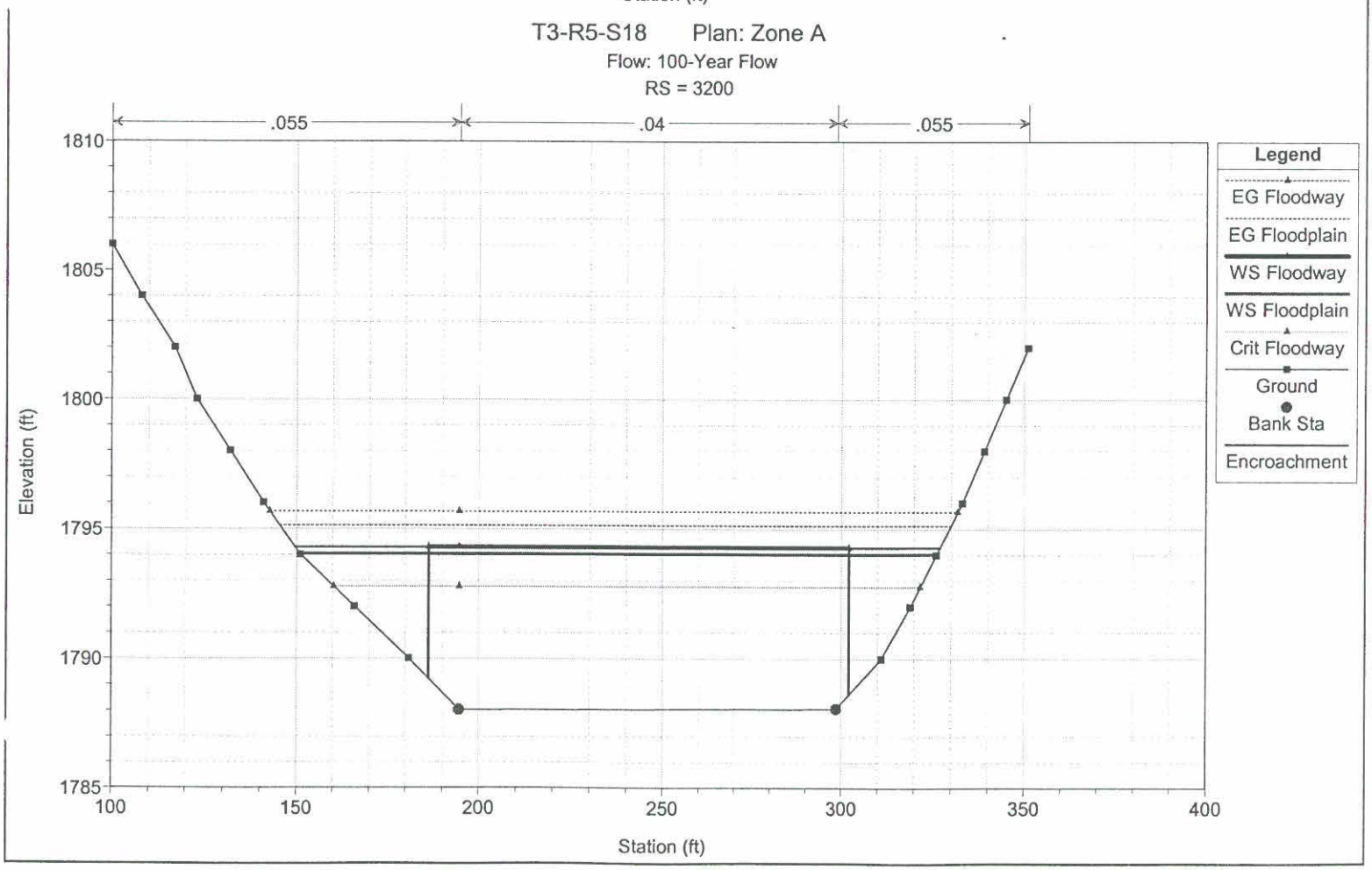

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2700
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
Crit Floodplain
WS Floodplain
WS Floodway
Crit Floodway
Ground
Bank Sta
Encroachment

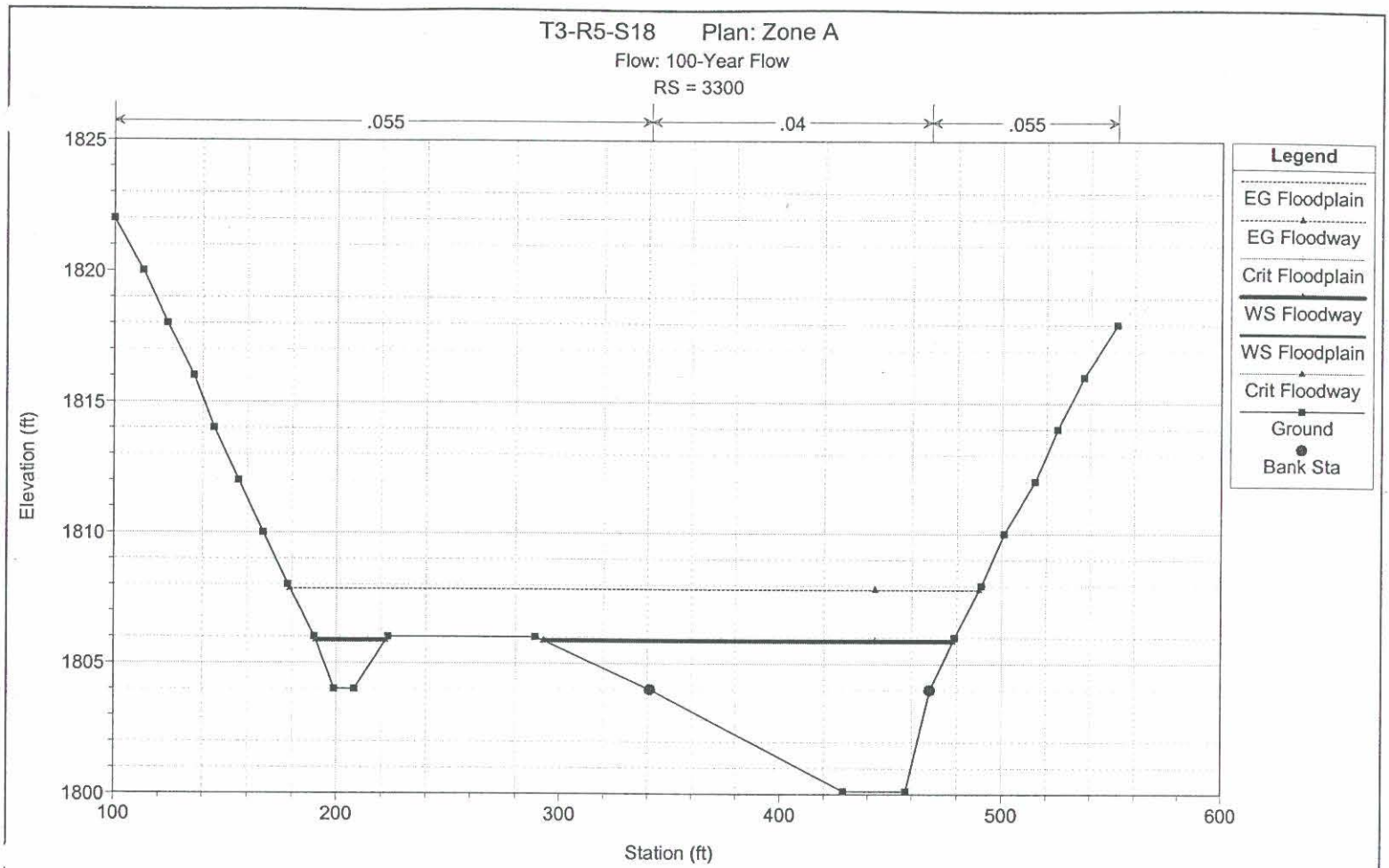

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2800
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

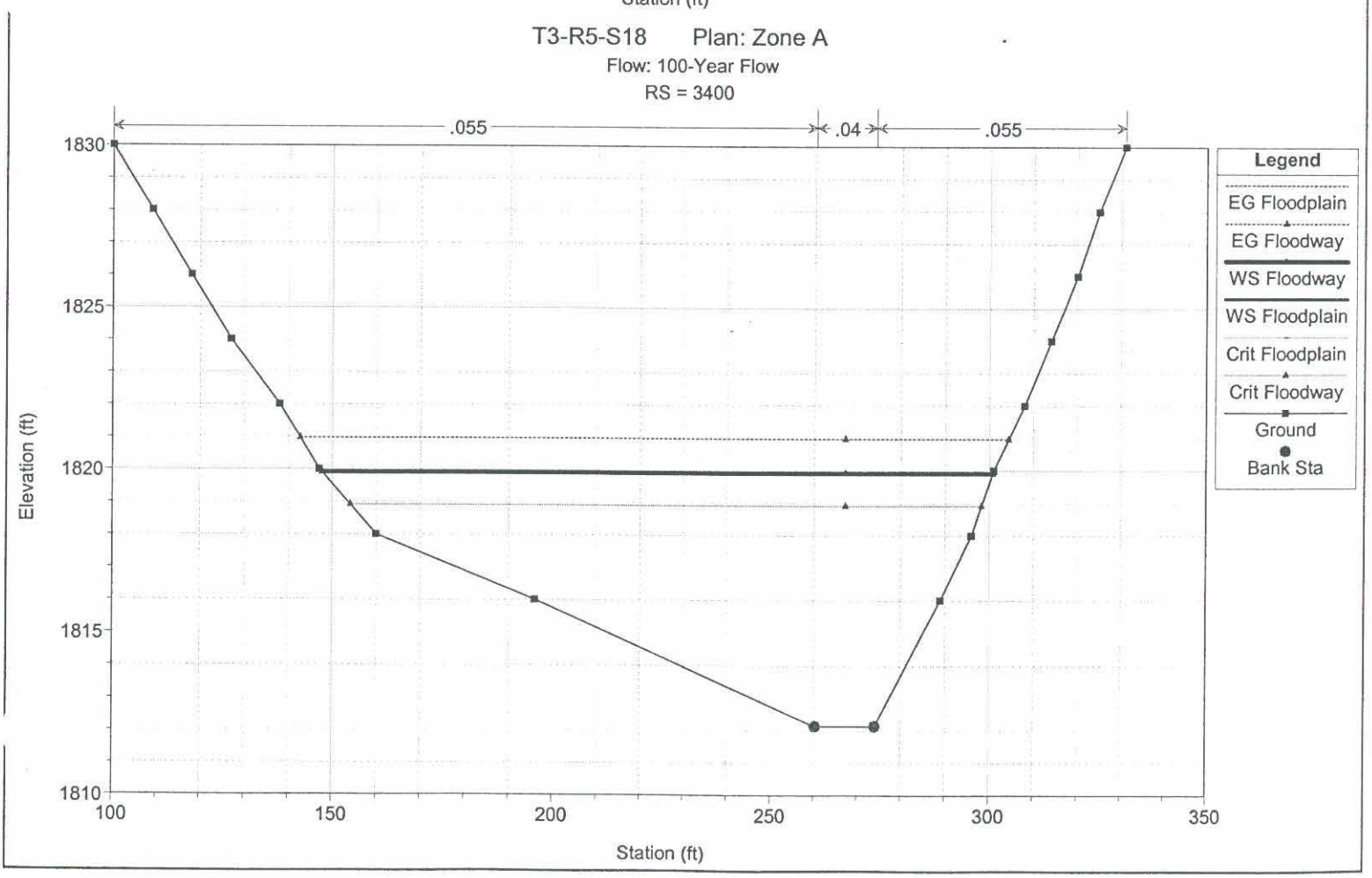

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 2900
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

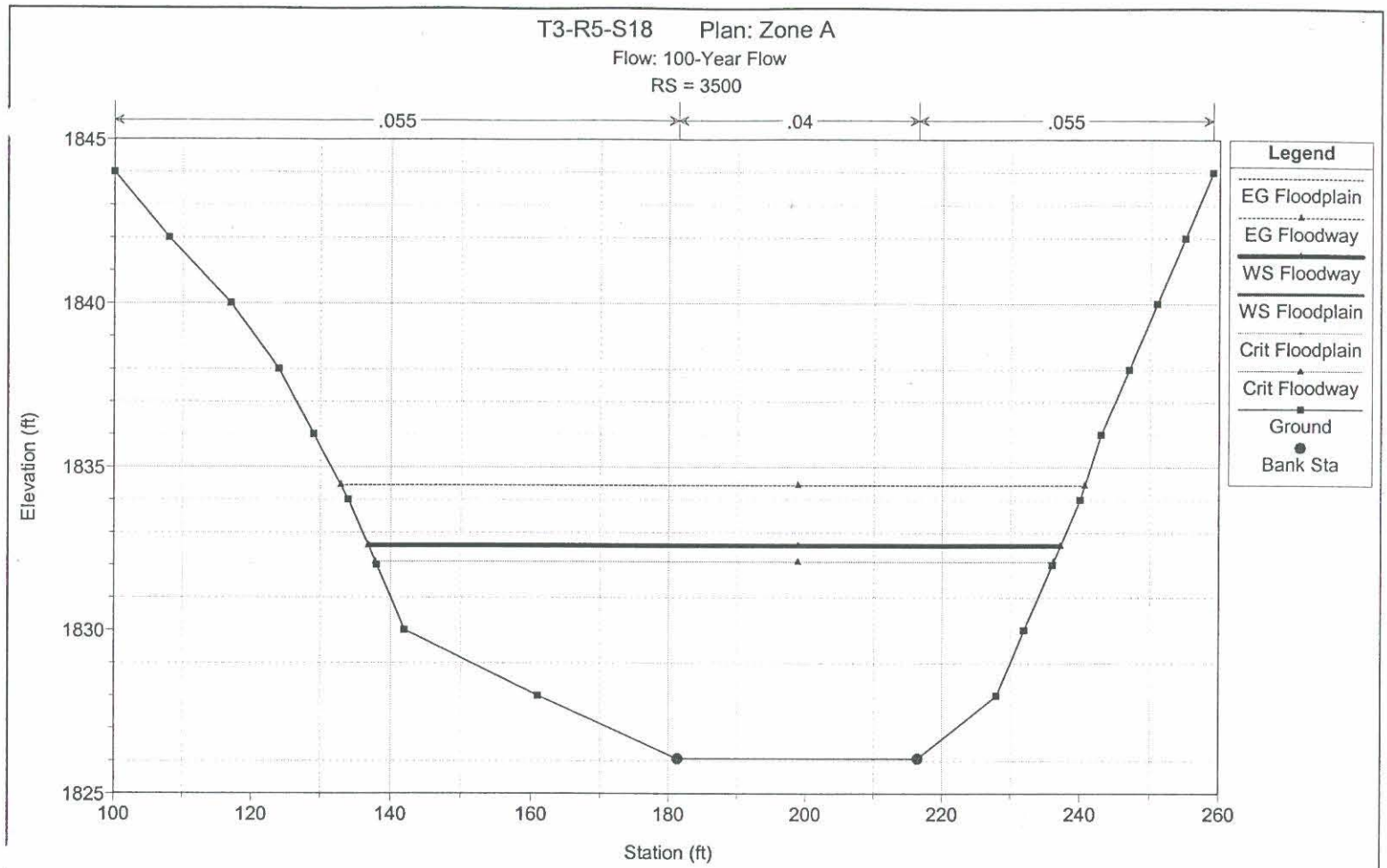

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3000
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

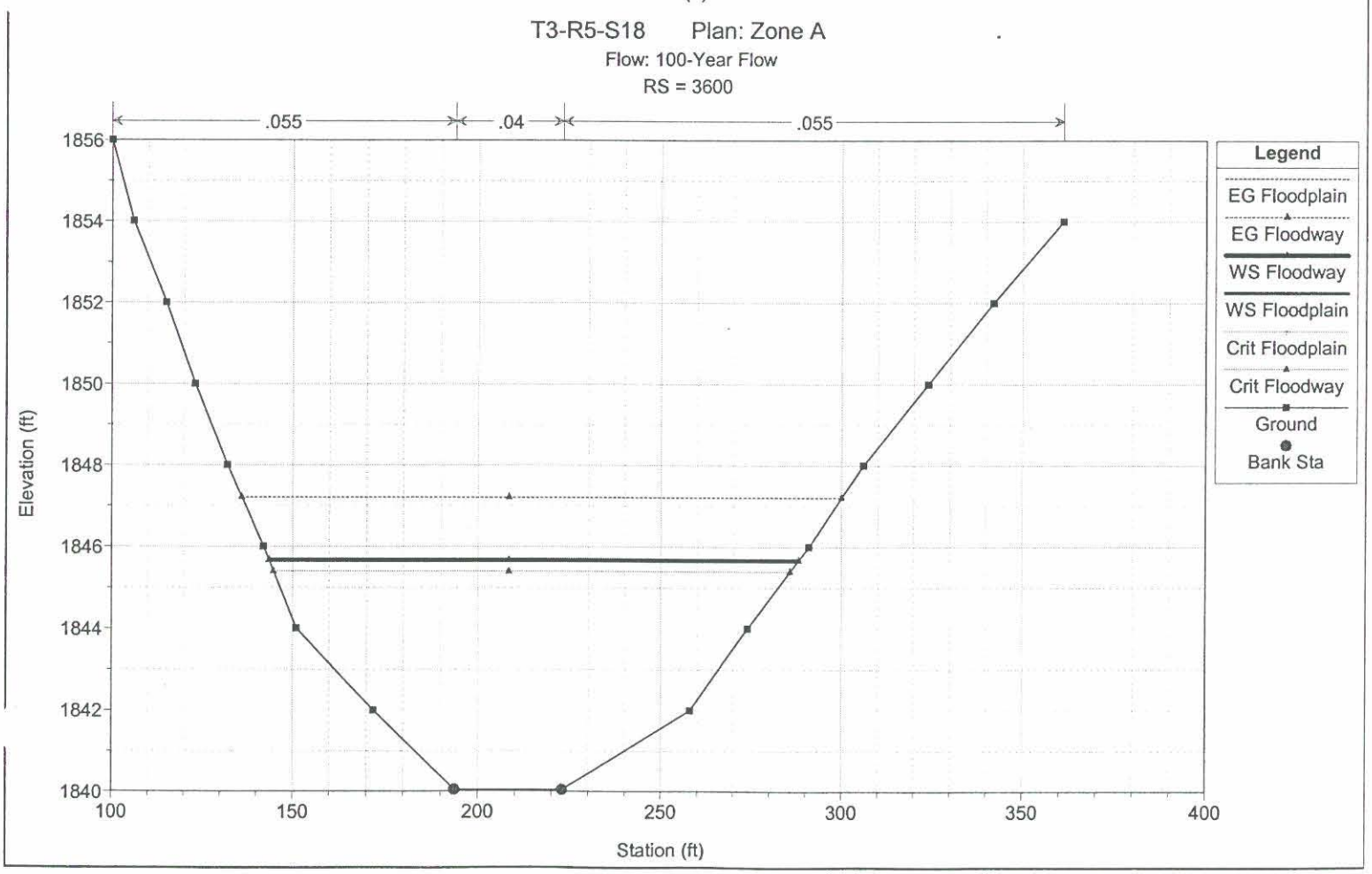

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3100
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

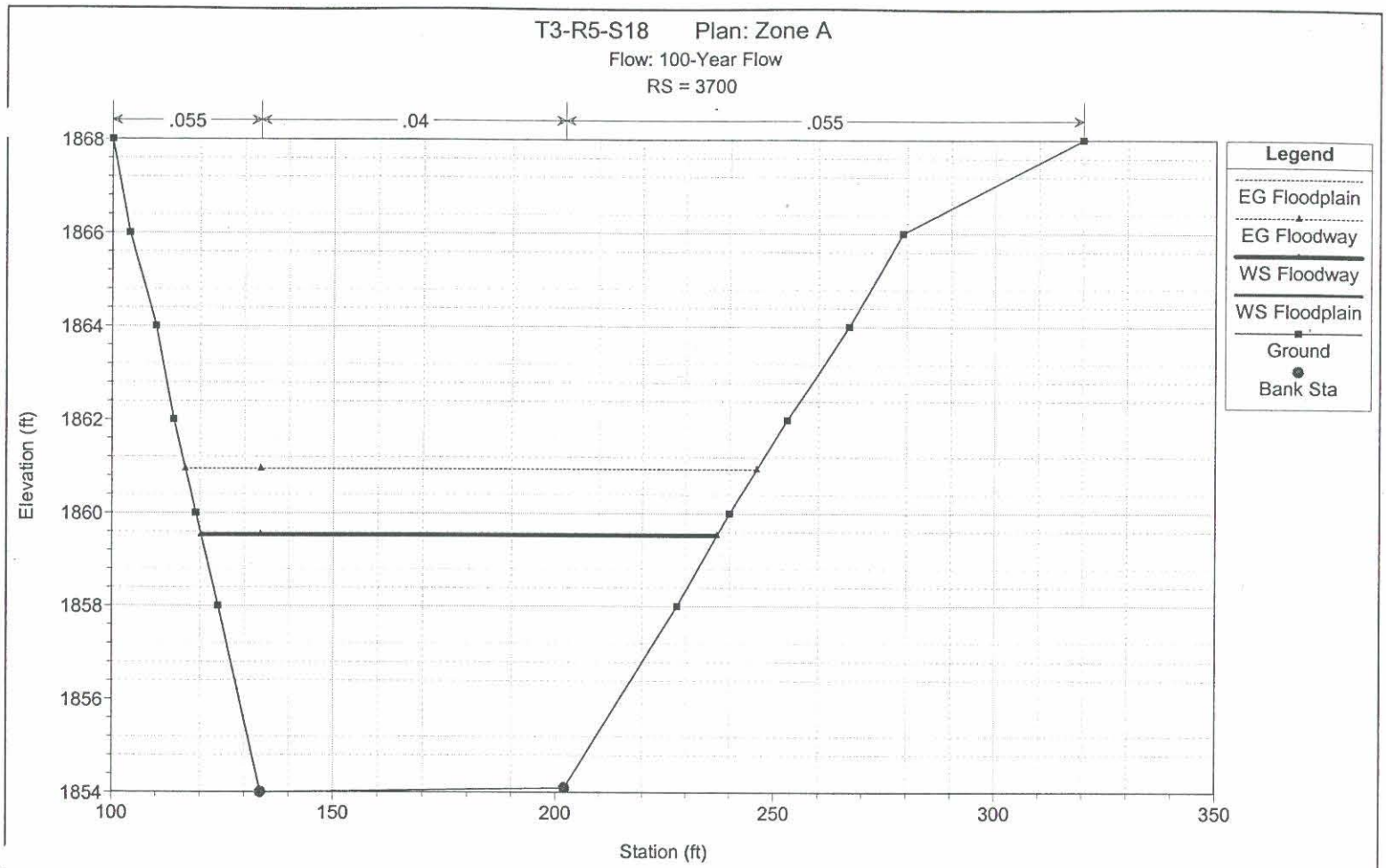

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3200
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

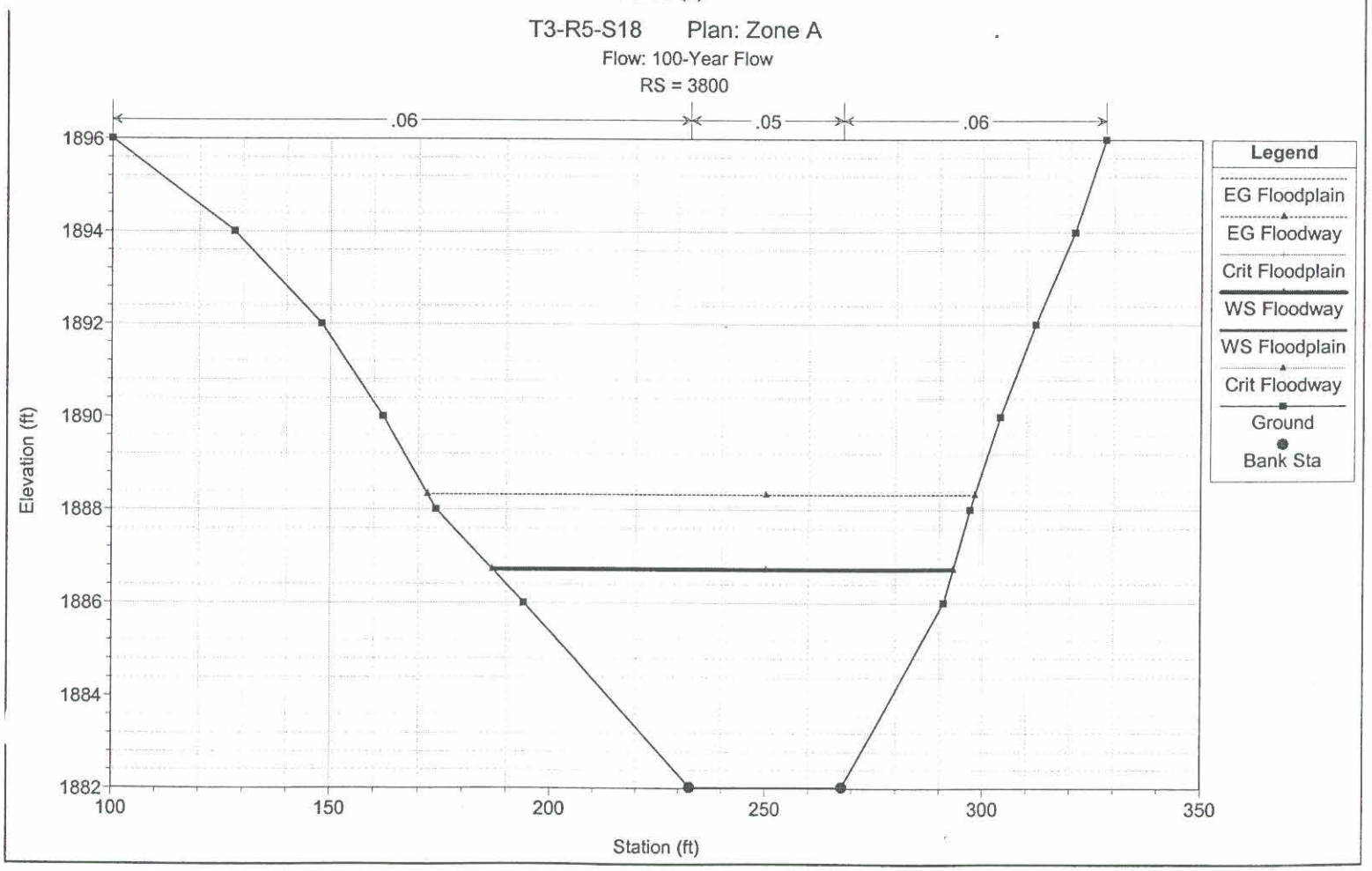

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3300
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
Crit Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Ground
Bank Sta

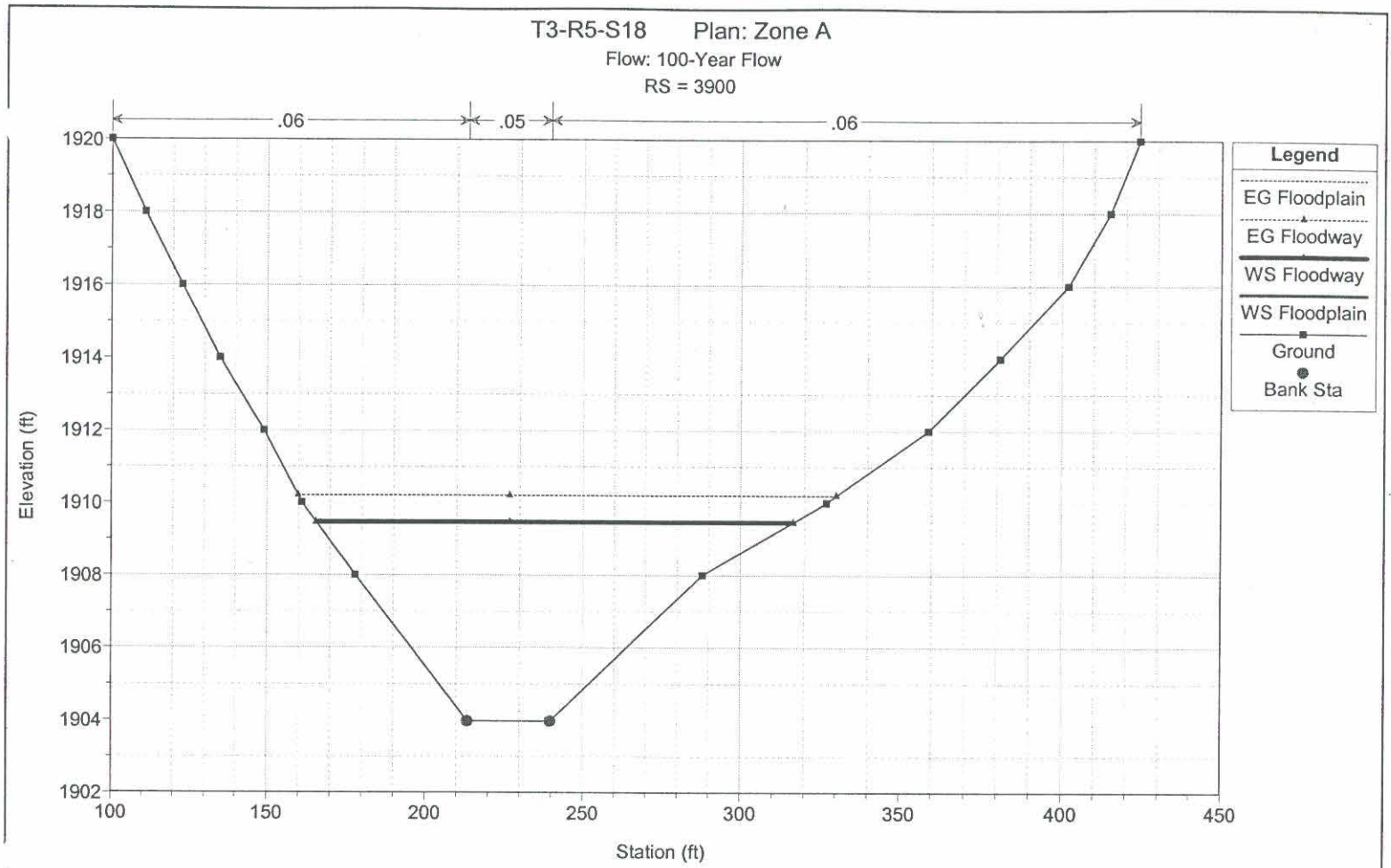

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3400
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

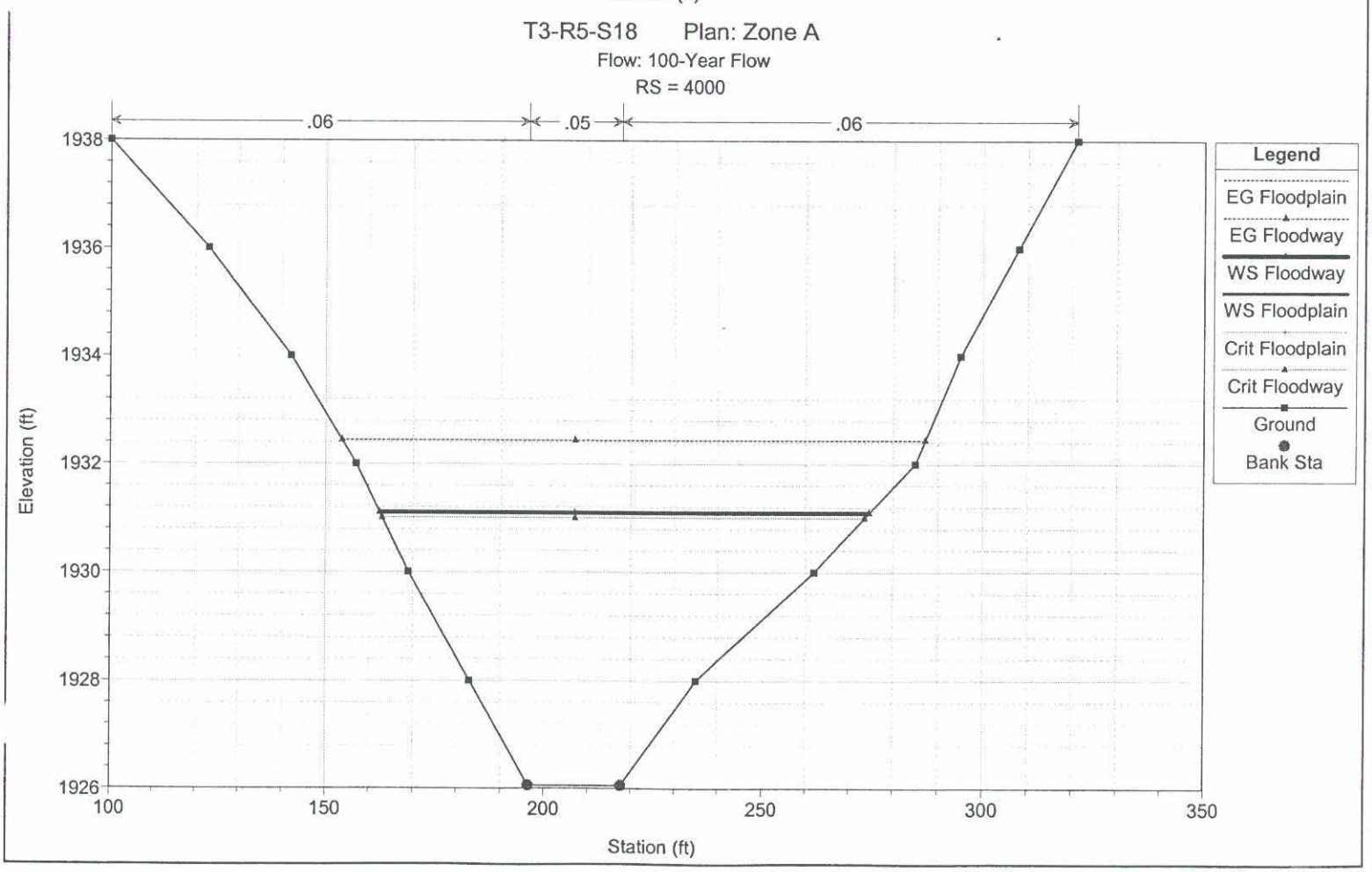

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3500
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

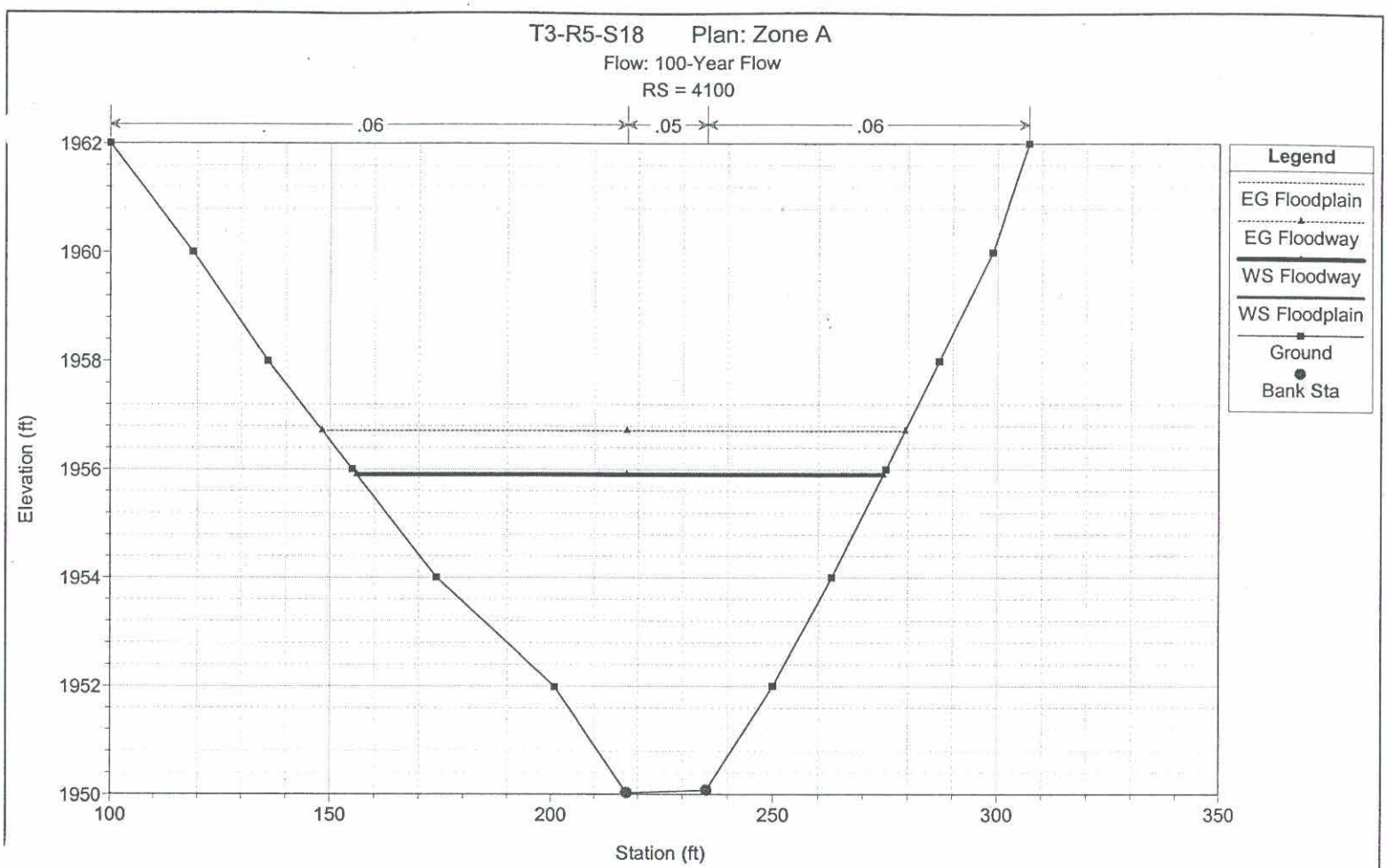

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3600
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

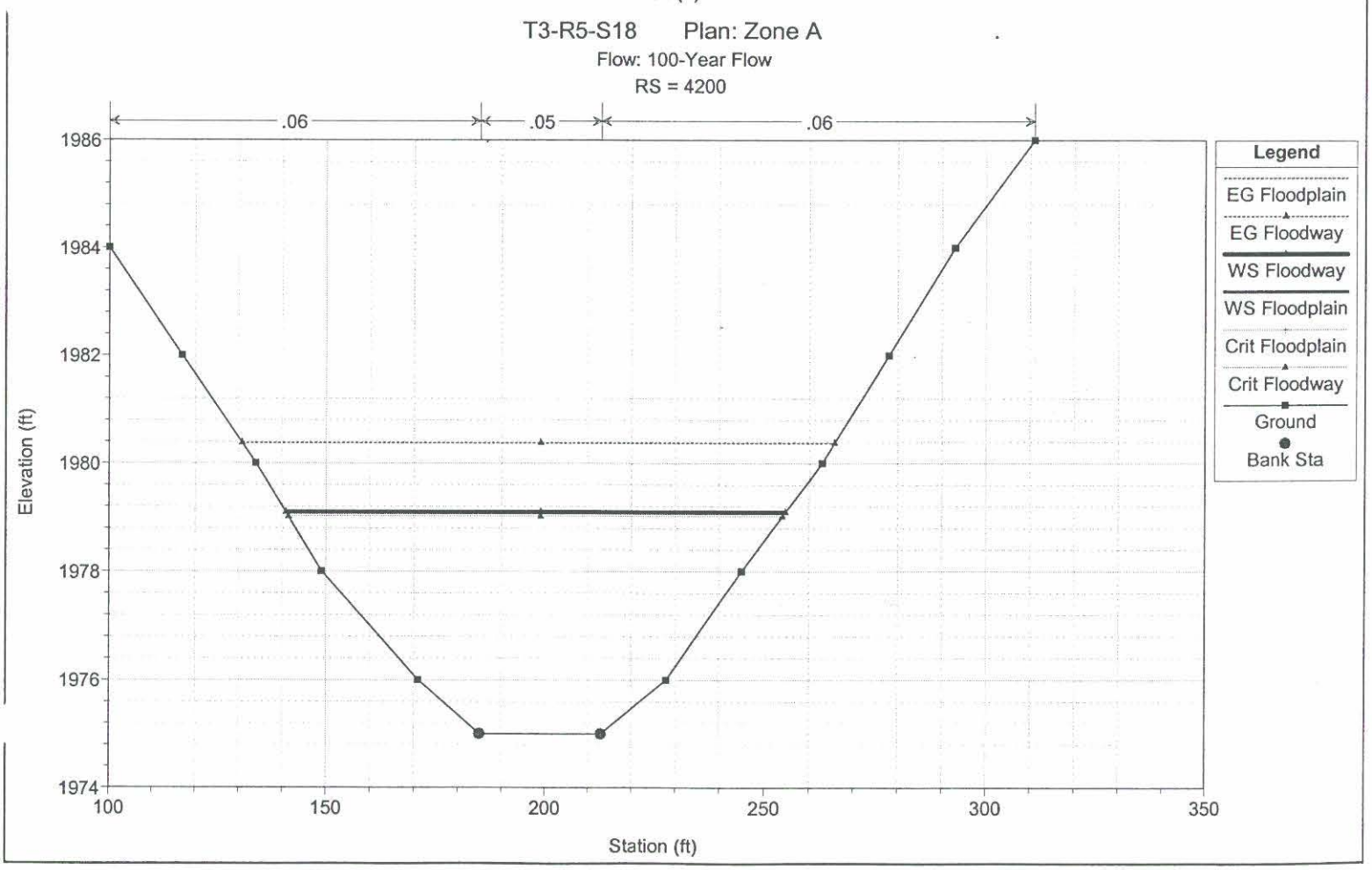

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3700
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Ground
Bank Sta

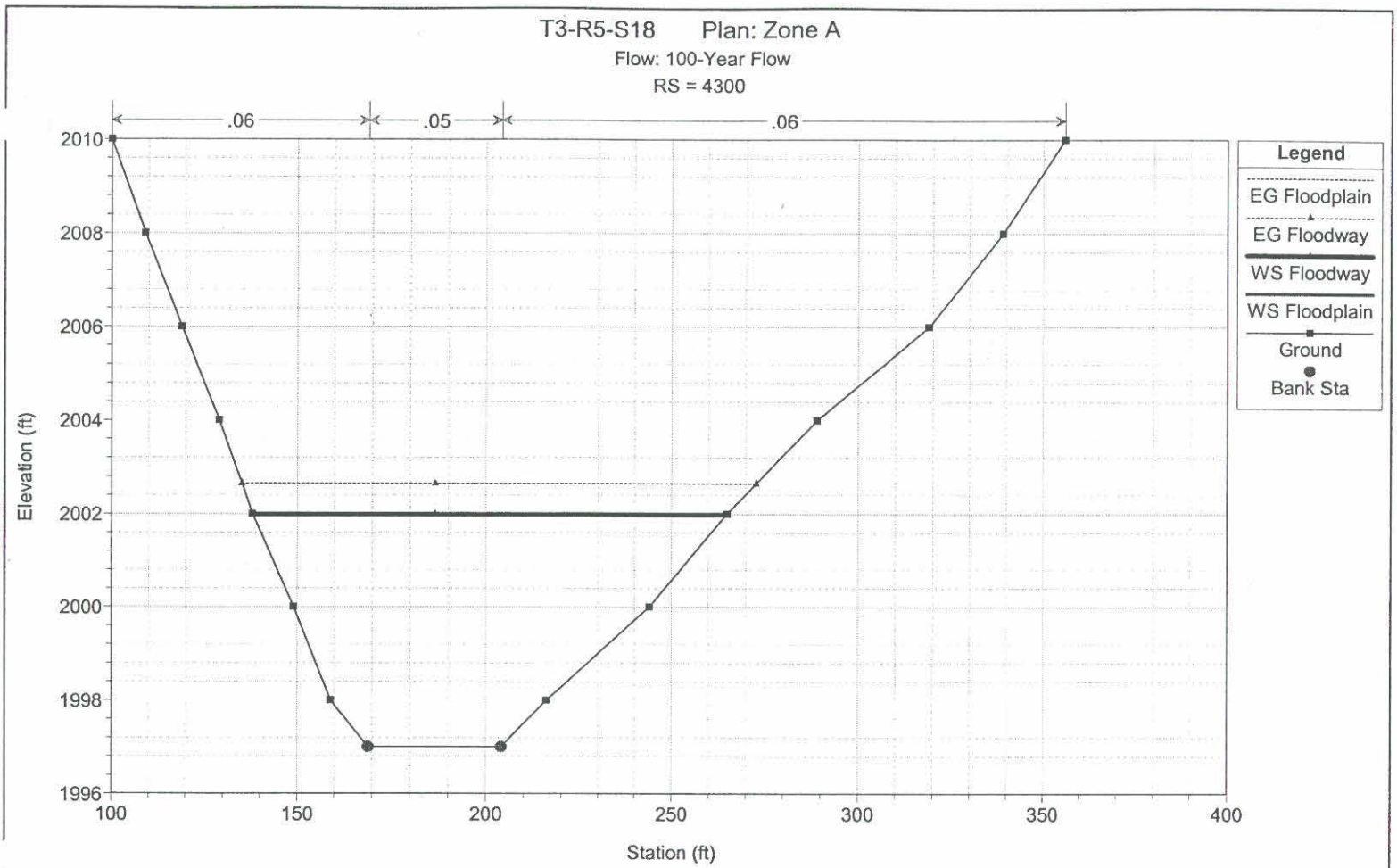

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3800
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
Crit Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Ground
Bank Sta

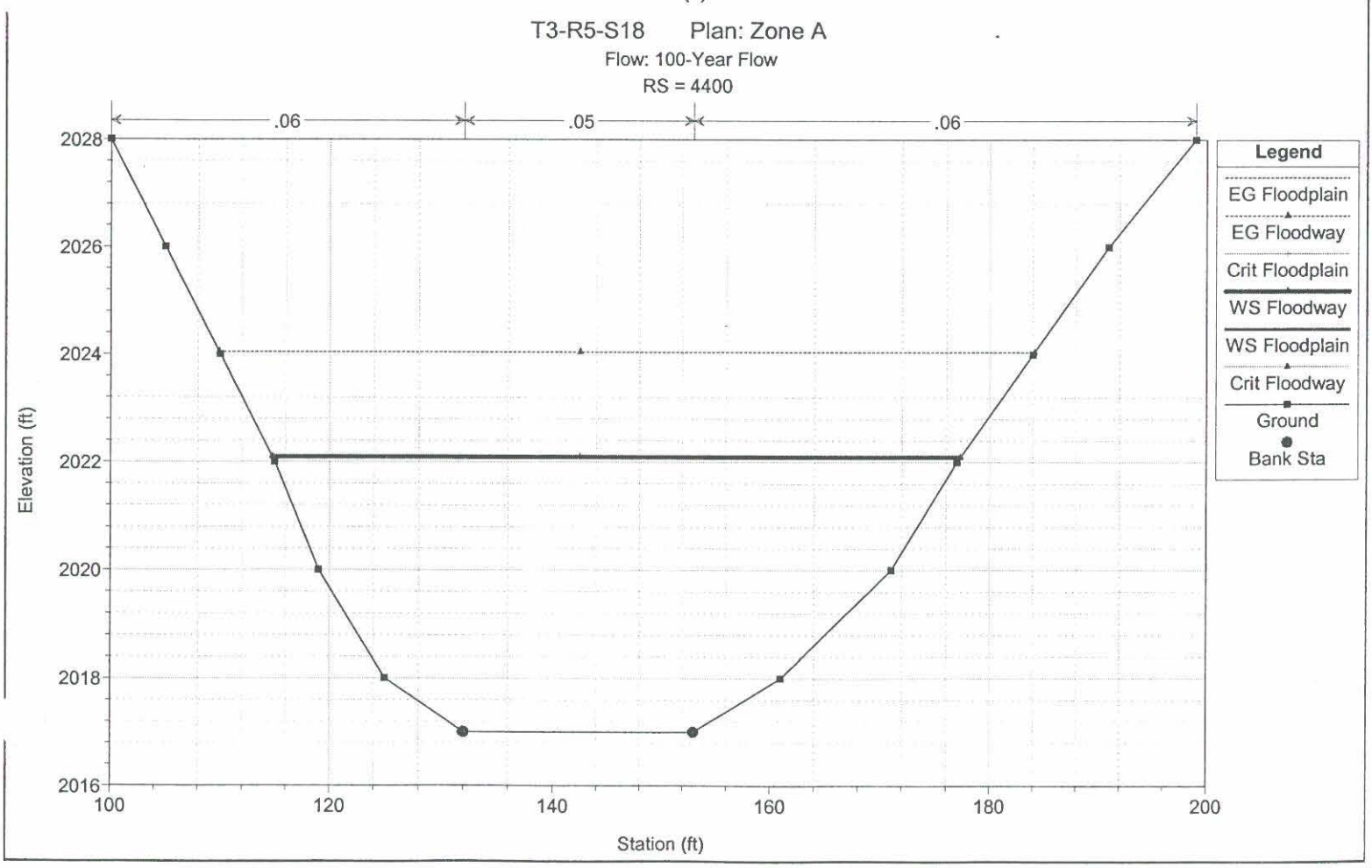

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 3900
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Ground
Bank Sta

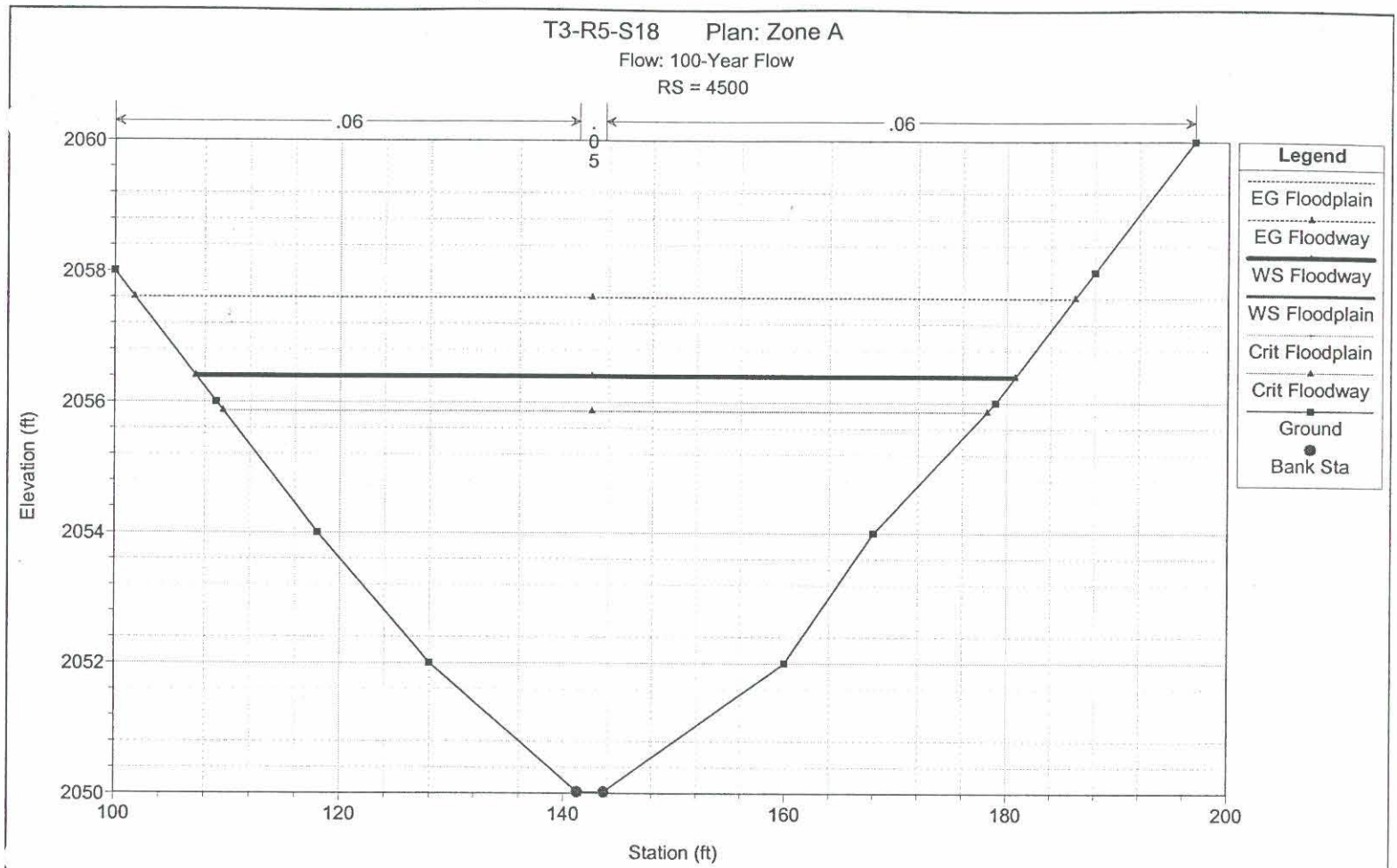

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4000
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

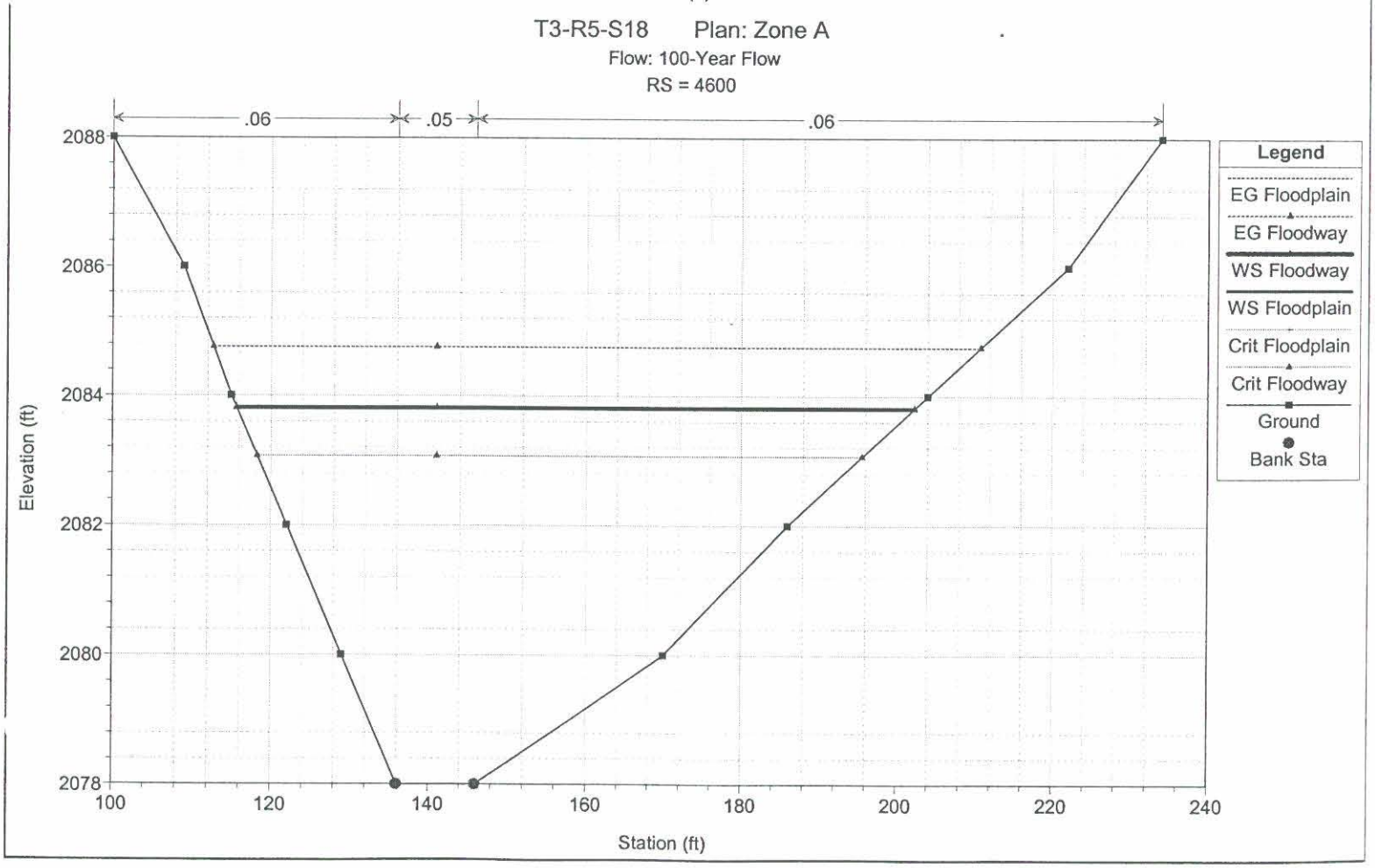

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4100
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Ground
Bank Sta

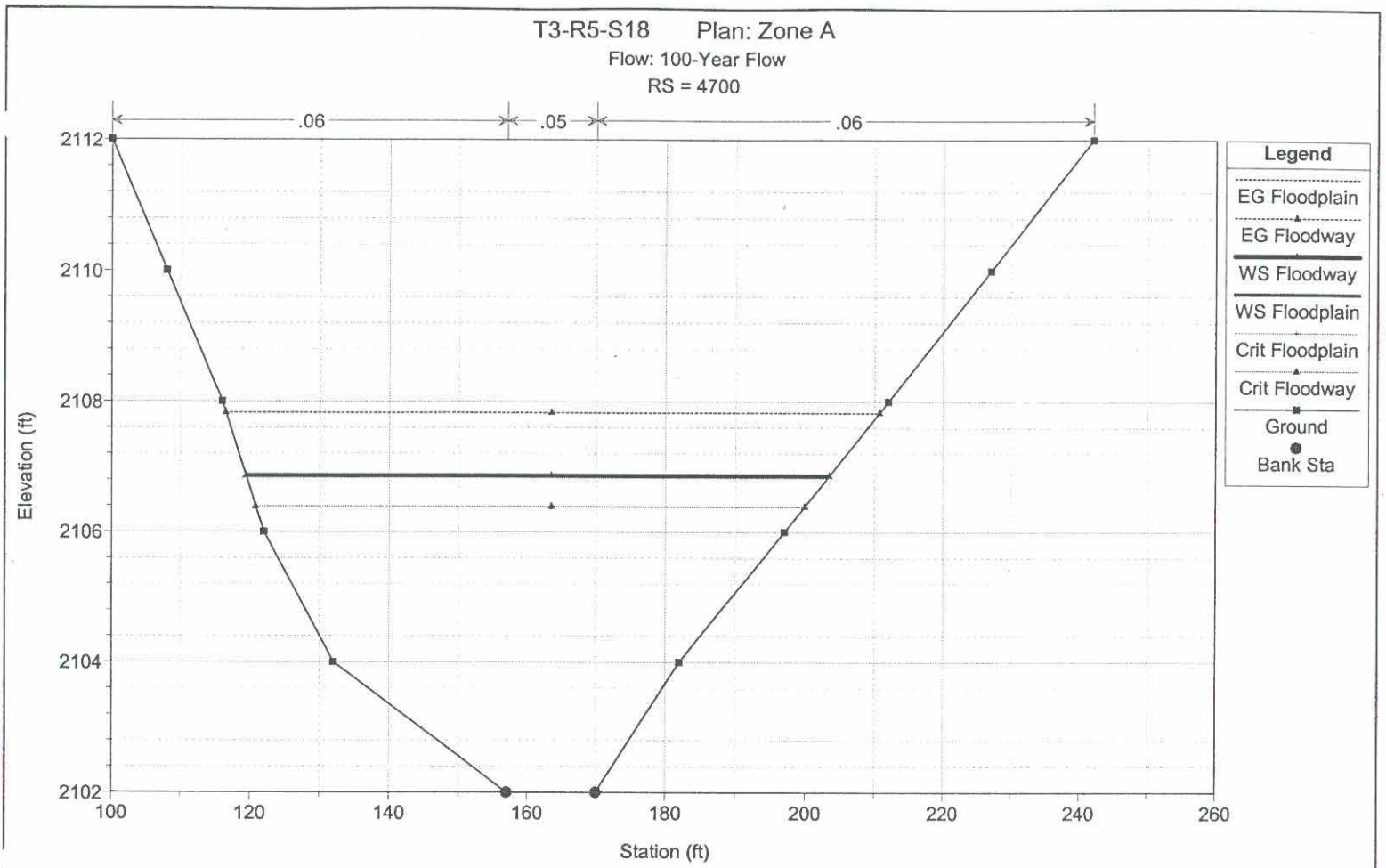

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4200
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta


T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4300
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Ground
Bank Sta

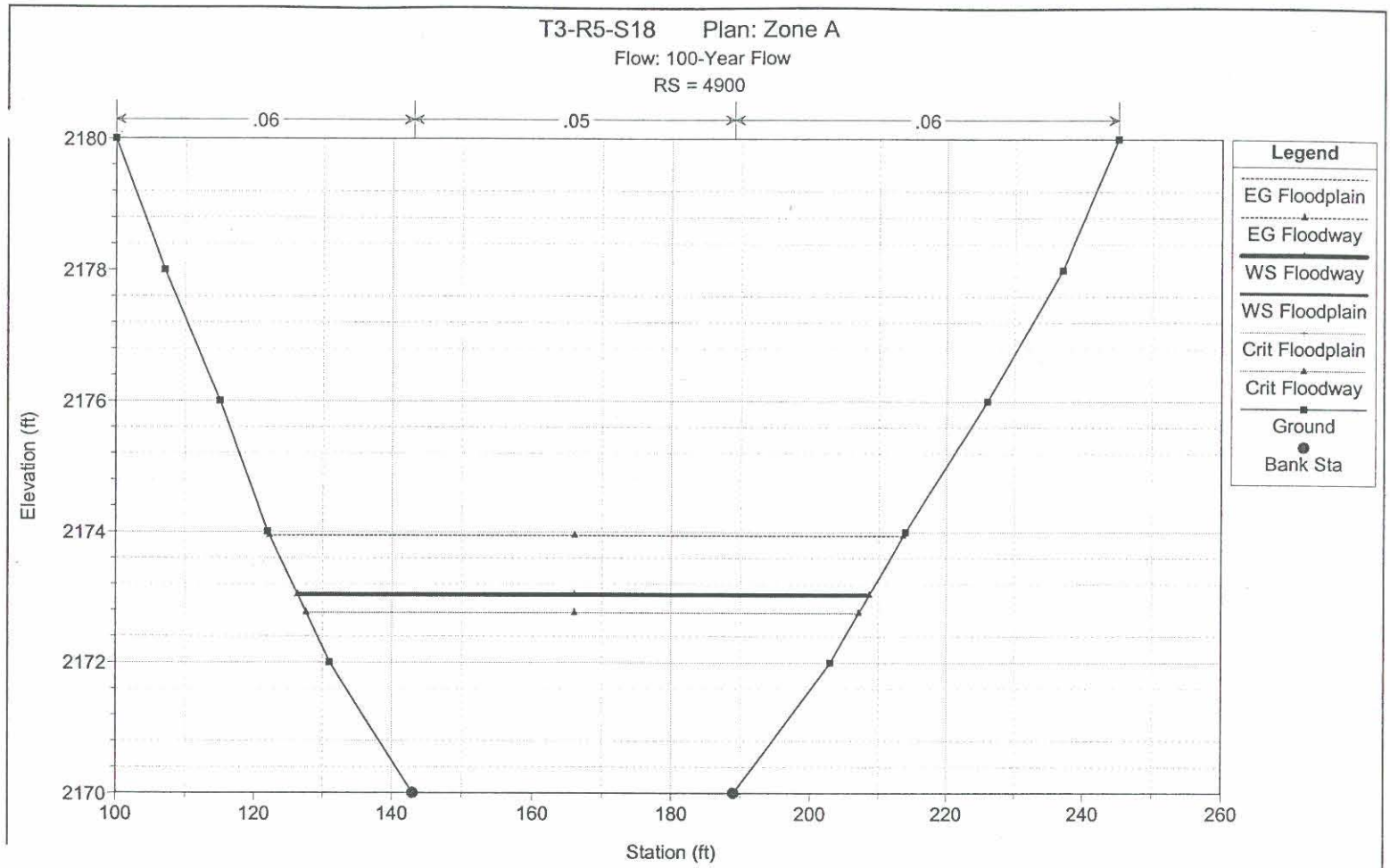

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4400
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
Crit Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Ground
Bank Sta

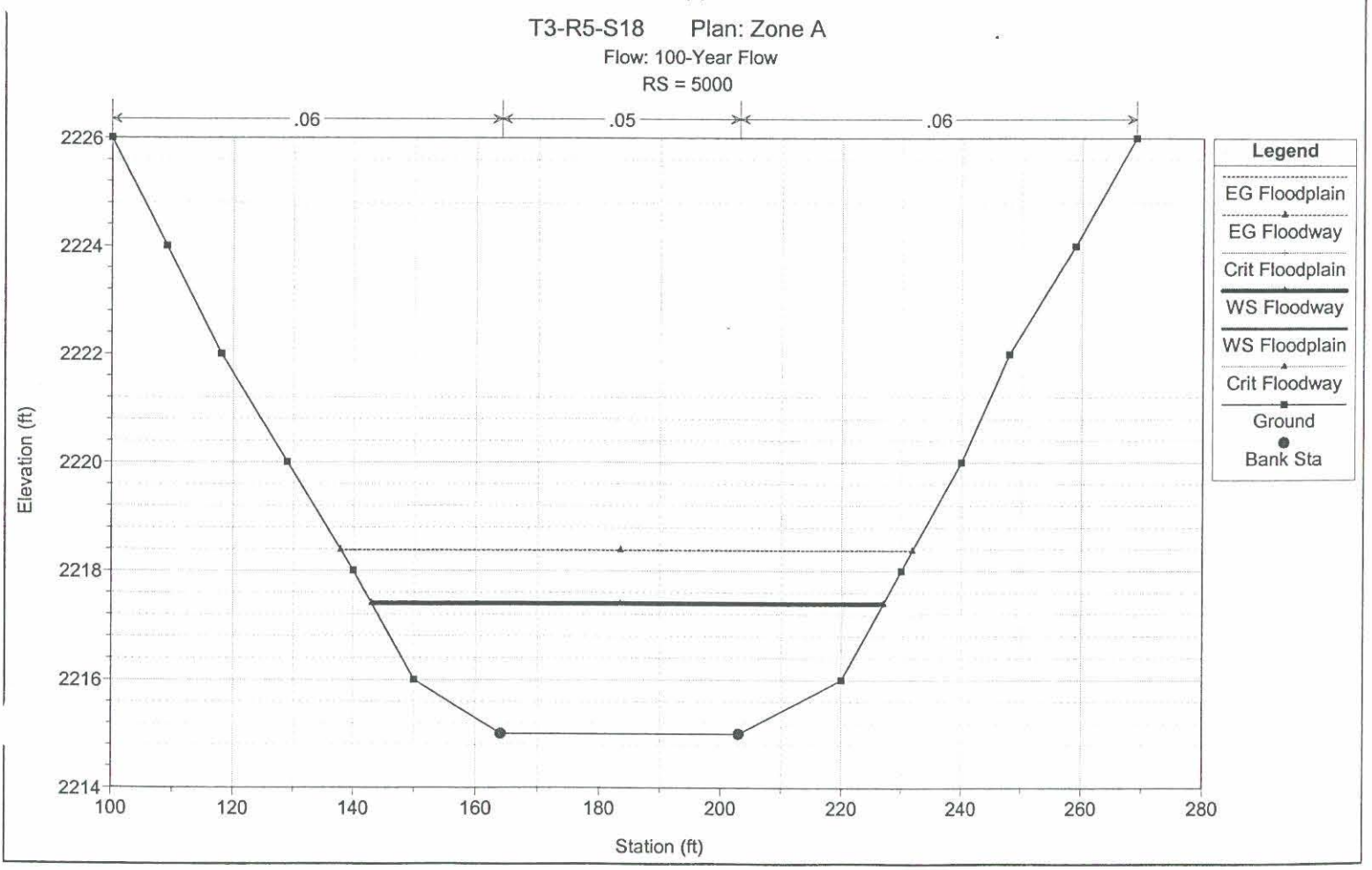

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4500
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

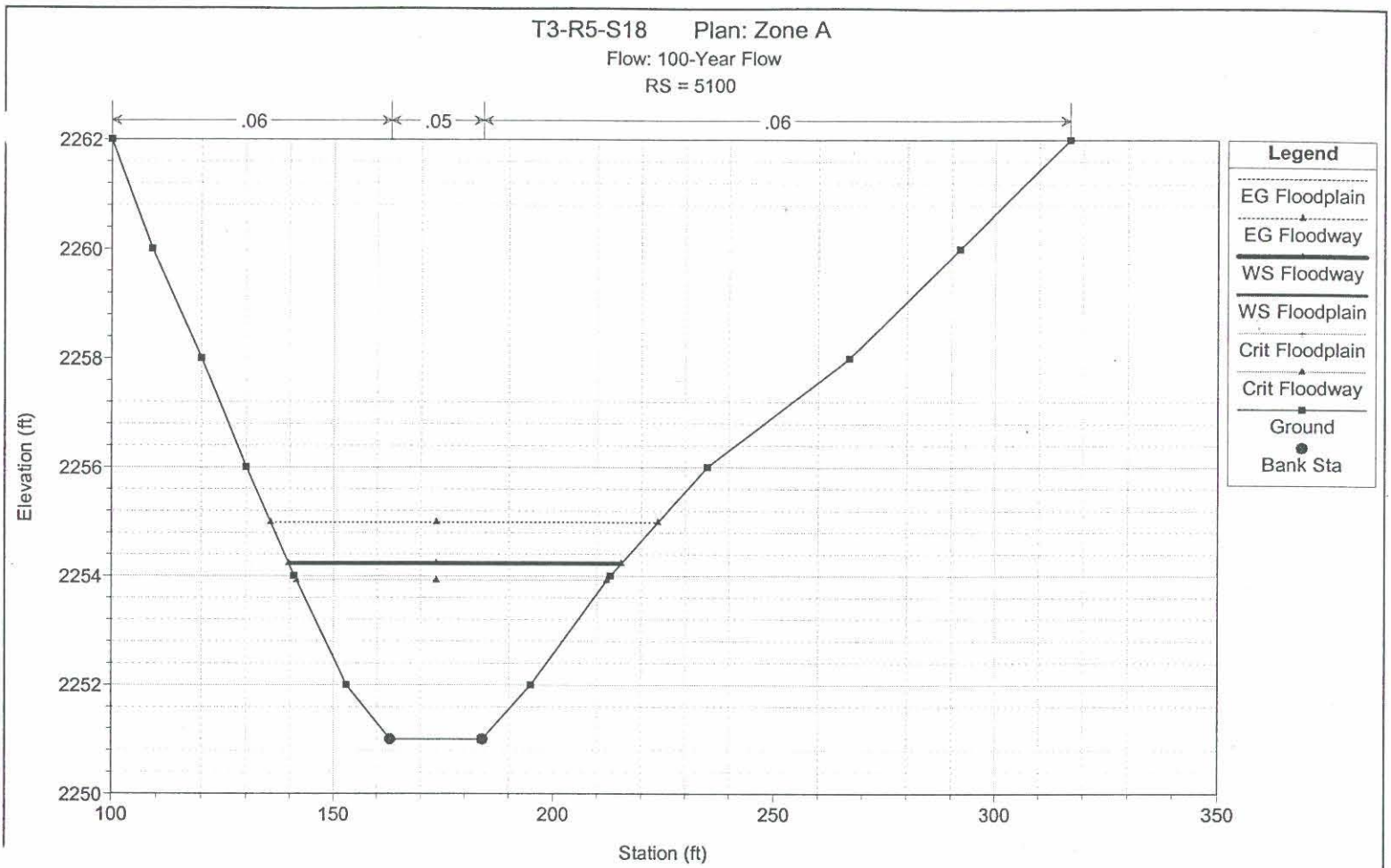

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4600
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

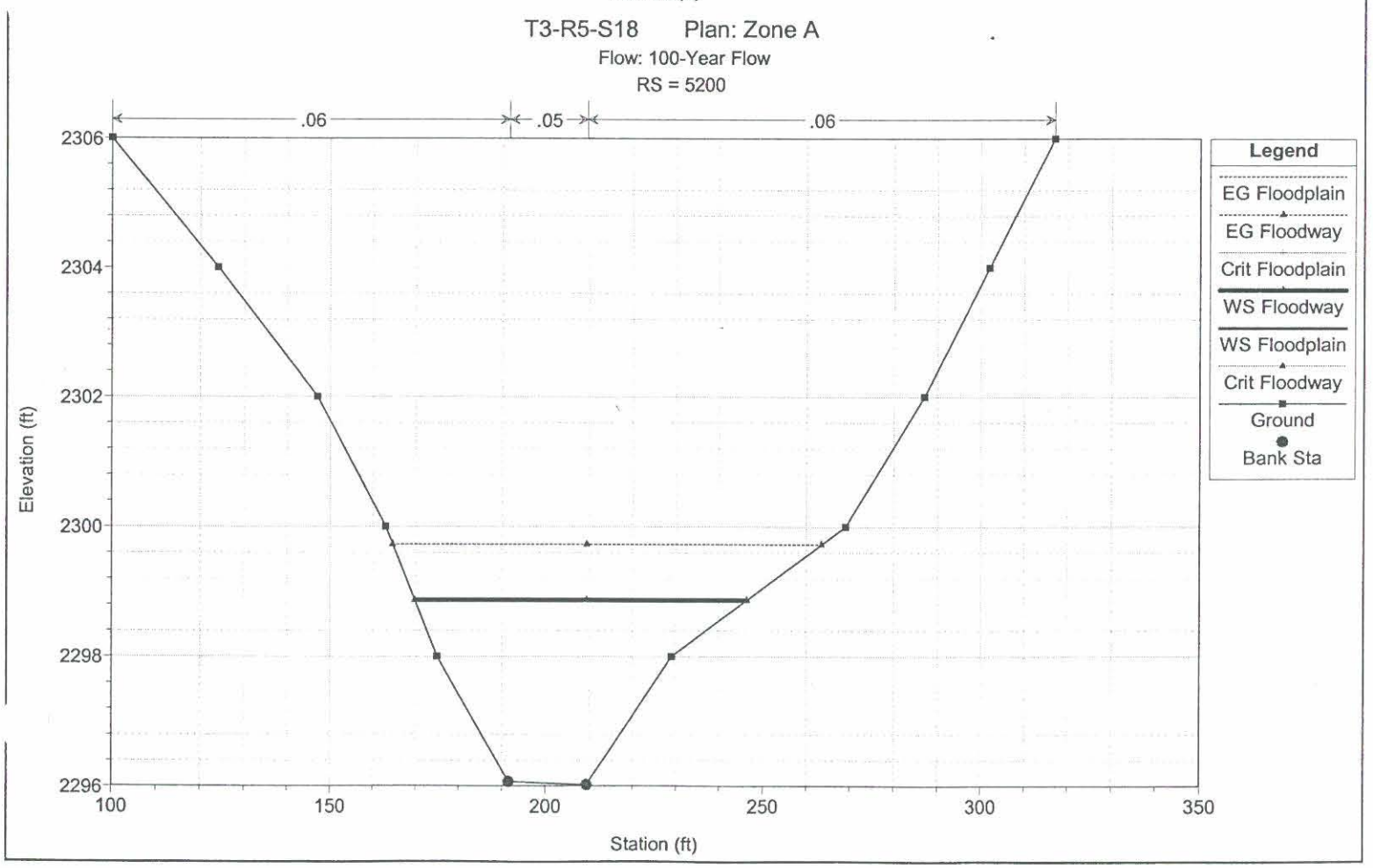

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4700
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4800
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta


T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 4900
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta


T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 5000
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
Crit Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Ground
Bank Sta


T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 5100
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta


T3-R5-S18 Plan: Zone A
Flow: 100-Year Flow
RS = 5200
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
Crit Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Ground
Bank Sta

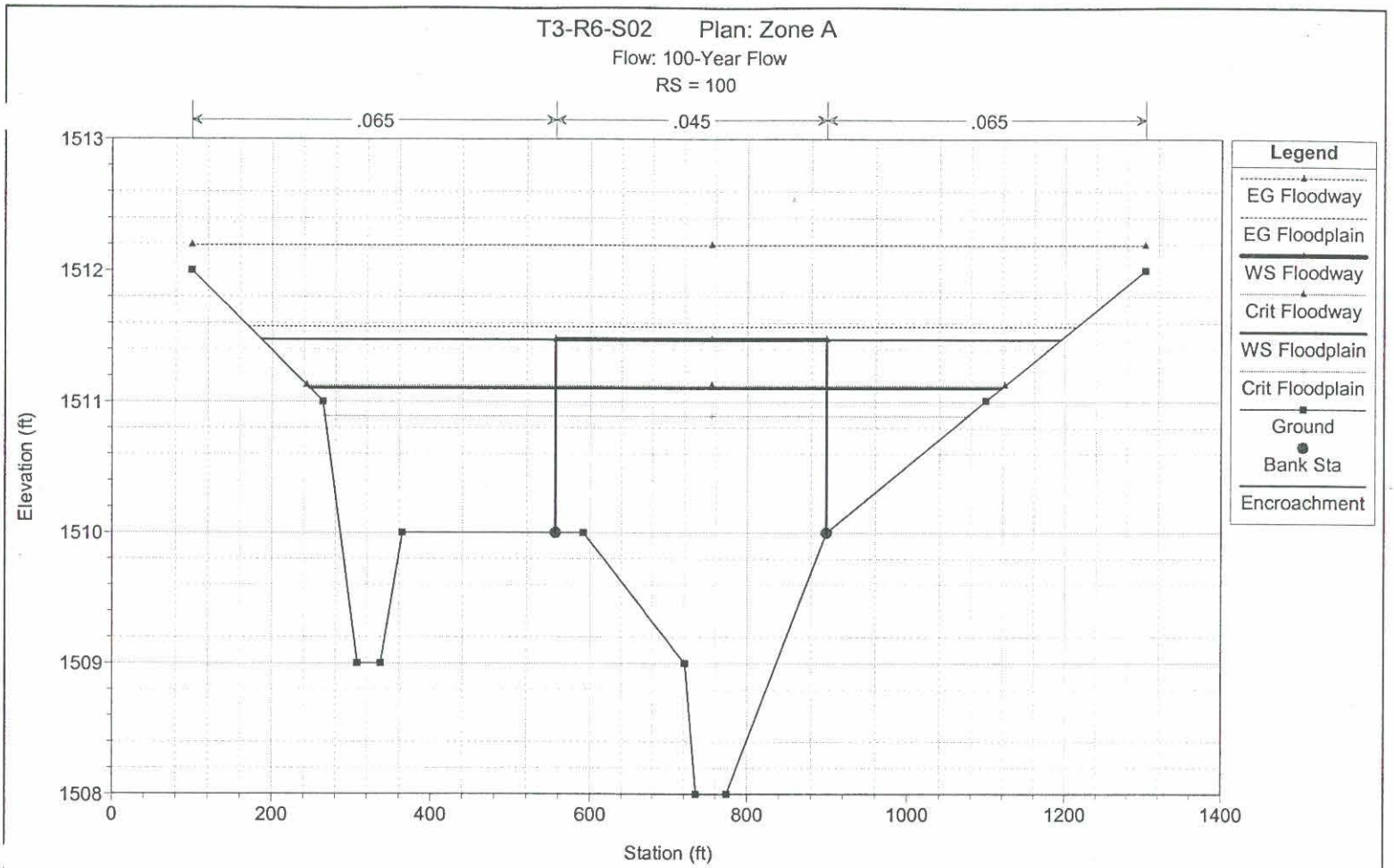
Coyote Wash
T3-R6-S2

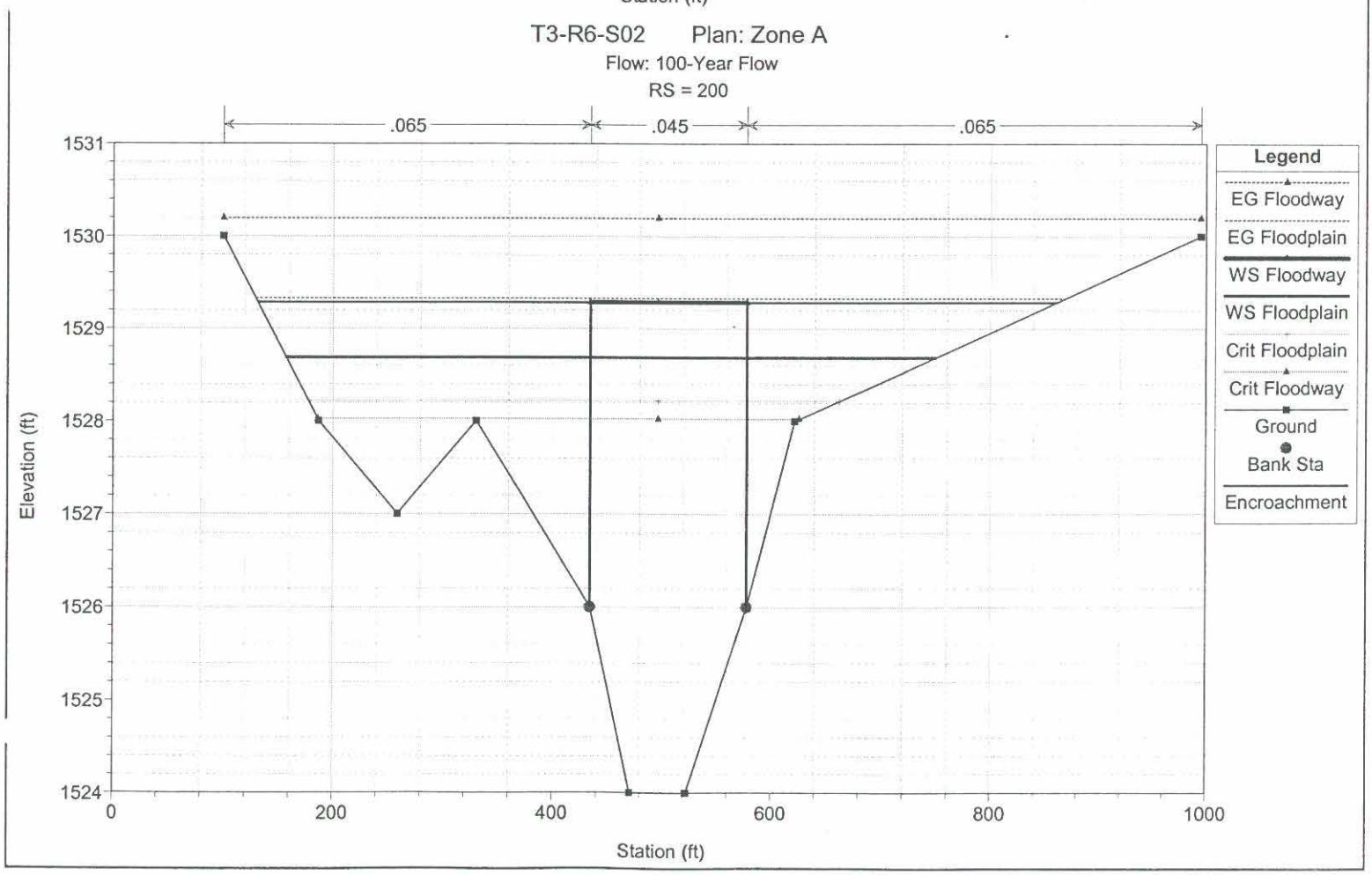
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R6-S02

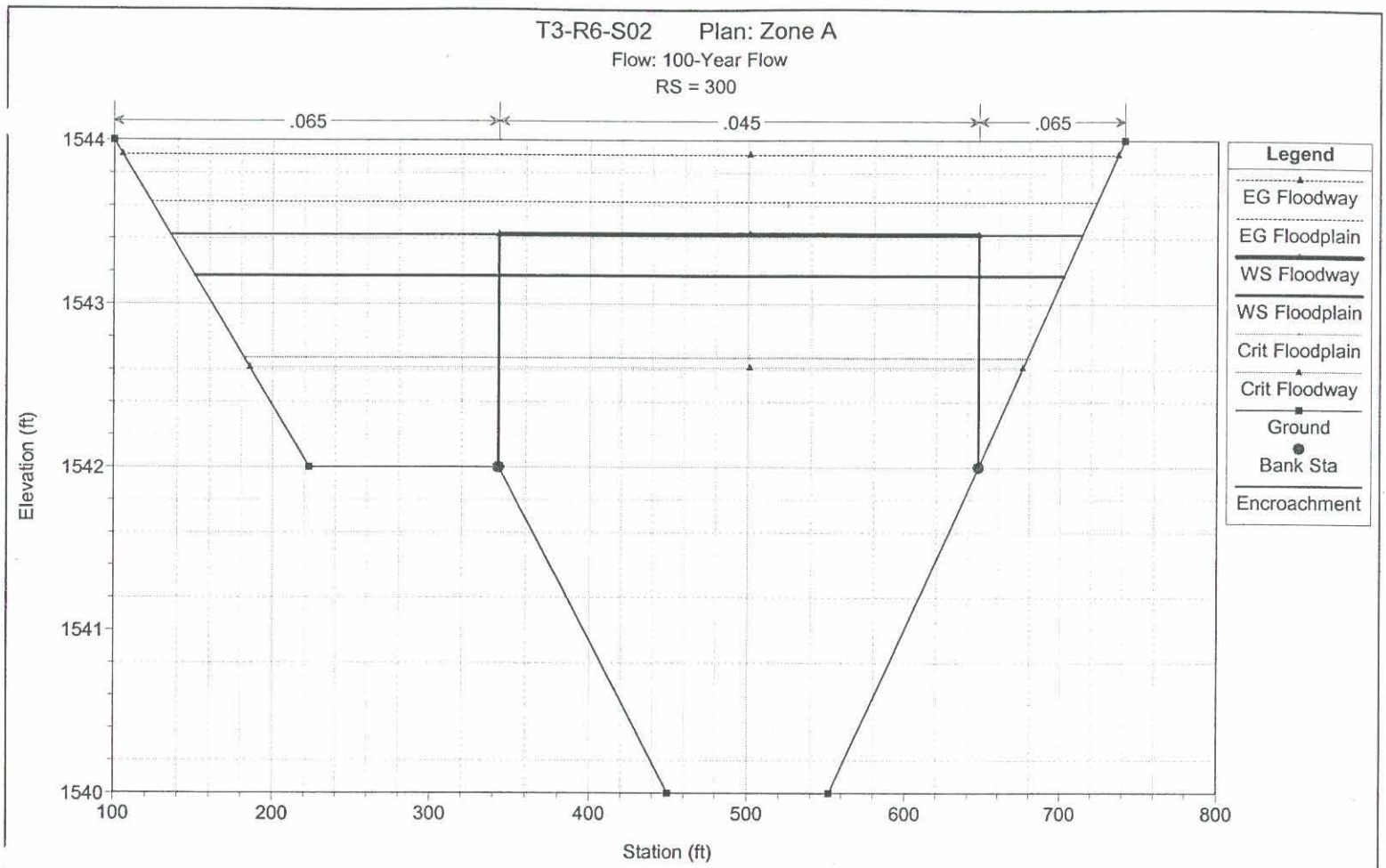
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R6-S02	100	Floodplain	5400.00	1508.00	1511.11	1510.89	1511.57	0.014002	6.09	1155.21	871.65	0.77
T3-R6-S02	100	Floodway	5400.00	1508.00	1511.47	1511.13	1512.19	0.014000	6.80	794.25	343.00	0.79
T3-R6-S02	200	Floodplain	5100.00	1524.00	1528.68	1528.22	1529.33	0.007164	7.08	1052.53	592.00	0.62
T3-R6-S02	200	Floodway	5100.00	1524.00	1529.29	1528.02	1530.19	0.007339	7.63	667.99	144.00	0.62
T3-R6-S02	300	Floodplain	4700.00	1540.00	1543.17	1542.67	1543.62	0.008495	5.62	977.11	551.10	0.63
T3-R6-S02	300	Floodway	4700.00	1540.00	1543.42	1542.61	1543.91	0.007538	5.60	838.70	304.00	0.59
T3-R6-S02	400	Floodplain	4400.00	1554.00	1557.88	1557.40	1558.40	0.009111	6.09	882.00	495.96	0.65
T3-R6-S02	400	Floodway	4400.00	1554.00	1557.99	1557.39	1558.67	0.010406	6.61	665.58	238.00	0.70
T3-R6-S02	500	Floodplain	4100.00	1566.05	1572.59	1571.86	1573.32	0.006517	7.40	755.82	312.44	0.60
T3-R6-S02	500	Floodway	4100.00	1566.05	1573.31	1571.66	1574.22	0.006266	7.65	536.19	100.00	0.58
T3-R6-S02	600	Floodplain	3800.00	1580.07	1586.75		1588.14	0.011064	9.77	454.04	146.51	0.79
T3-R6-S02	600	Floodway	3800.00	1580.07	1587.14		1588.61	0.010936	9.72	391.12	76.00	0.75
T3-R6-S02	700	Floodplain	2500.00	1600.04	1606.10	1605.26	1606.83	0.007607	7.02	403.65	154.96	0.63
T3-R6-S02	700	Floodway	2500.00	1600.04	1606.33	1605.18	1607.09	0.007520	7.01	356.73	88.00	0.61
T3-R6-S02	800	Floodplain	2500.00	1616.06	1621.68	1621.66	1622.96	0.016751	9.29	302.90	135.30	0.91
T3-R6-S02	800	Floodway	2500.00	1616.06	1621.83	1621.57	1623.19	0.016934	9.35	267.44	79.00	0.90
T3-R6-S02	900	Floodplain	2500.00	1634.00	1637.65	1636.87	1638.03	0.005471	5.33	685.99	521.74	0.52
T3-R6-S02	900	Floodway	2500.00	1634.00	1638.03	1636.78	1638.53	0.005601	5.68	440.04	122.00	0.53
T3-R6-S02	1000	Floodplain	2400.00	1648.00	1650.46	1650.46	1650.97	0.018031	6.38	516.86	532.83	0.86
T3-R6-S02	1000	Floodway	2400.00	1648.00	1650.65	1650.57	1651.50	0.021319	7.40	324.17	169.00	0.94
T3-R6-S02	1100	Floodplain	2300.00	1668.00	1669.95	1669.35	1670.21	0.007002	4.31	590.78	363.74	0.54
T3-R6-S02	1100	Floodway	2300.00	1668.00	1670.19	1669.40	1670.48	0.006174	4.32	532.04	243.00	0.51
T3-R6-S02	1200	Floodplain	2200.00	1684.00	1687.06	1687.06	1687.77	0.016009	7.10	382.02	309.07	0.80
T3-R6-S02	1200	Floodway	2200.00	1684.00	1686.90	1686.89	1688.03	0.025649	8.56	257.10	113.00	1.00
T3-R6-S02	1300	Floodplain	2100.00	1706.00	1709.41		1710.02	0.010453	6.38	355.29	177.97	0.70
T3-R6-S02	1300	Floodway	2100.00	1706.00	1709.66	1708.94	1710.15	0.007439	5.73	402.17	188.34	0.60
T3-R6-S02	1400	Floodplain	2000.00	1728.00	1731.70		1732.54	0.012815	7.50	287.35	119.28	0.75
T3-R6-S02	1400	Floodway	2000.00	1728.00	1731.32	1731.28	1732.46	0.019979	8.66	243.98	110.79	0.92

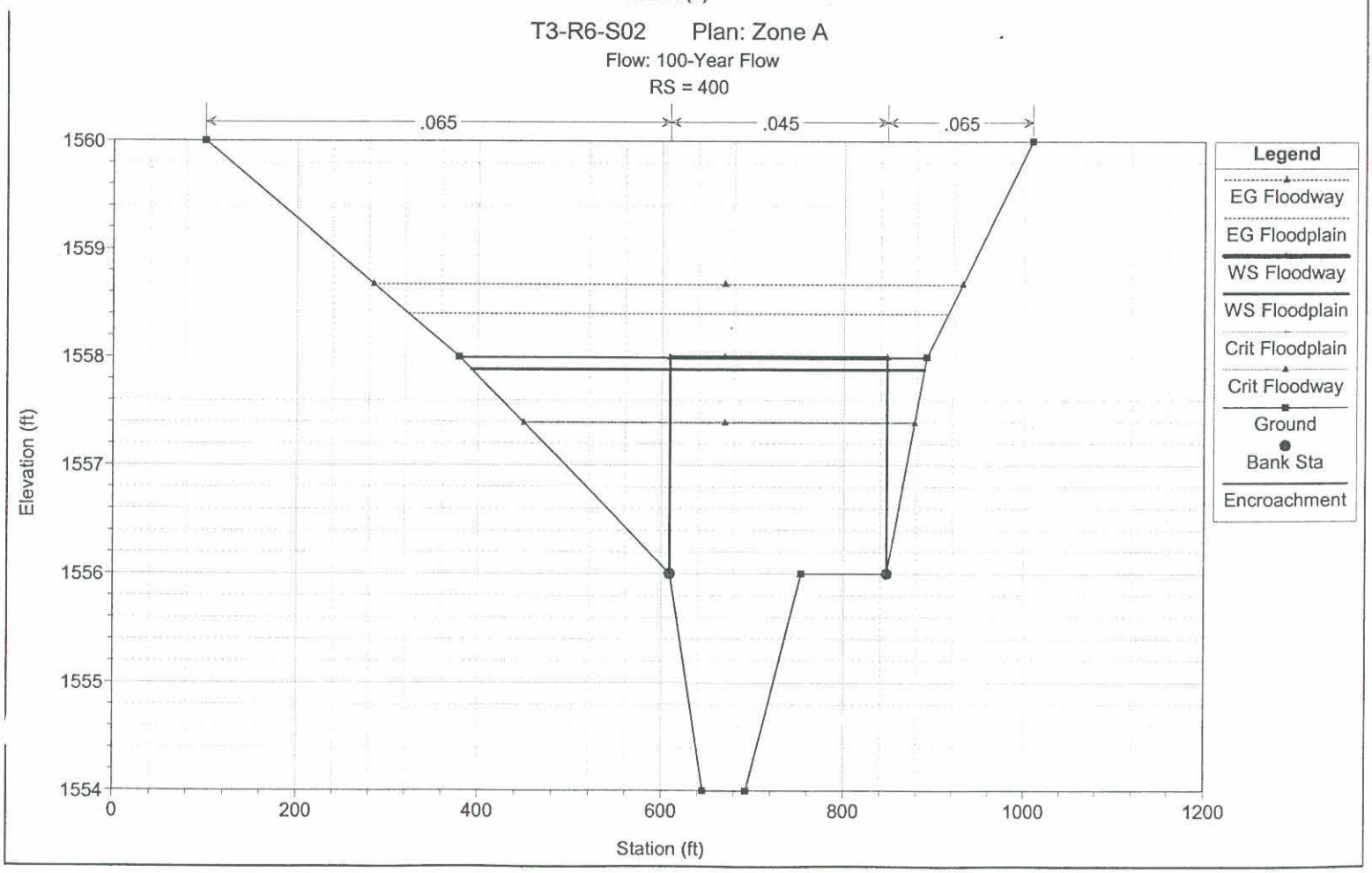
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R6-S02 (Continued)

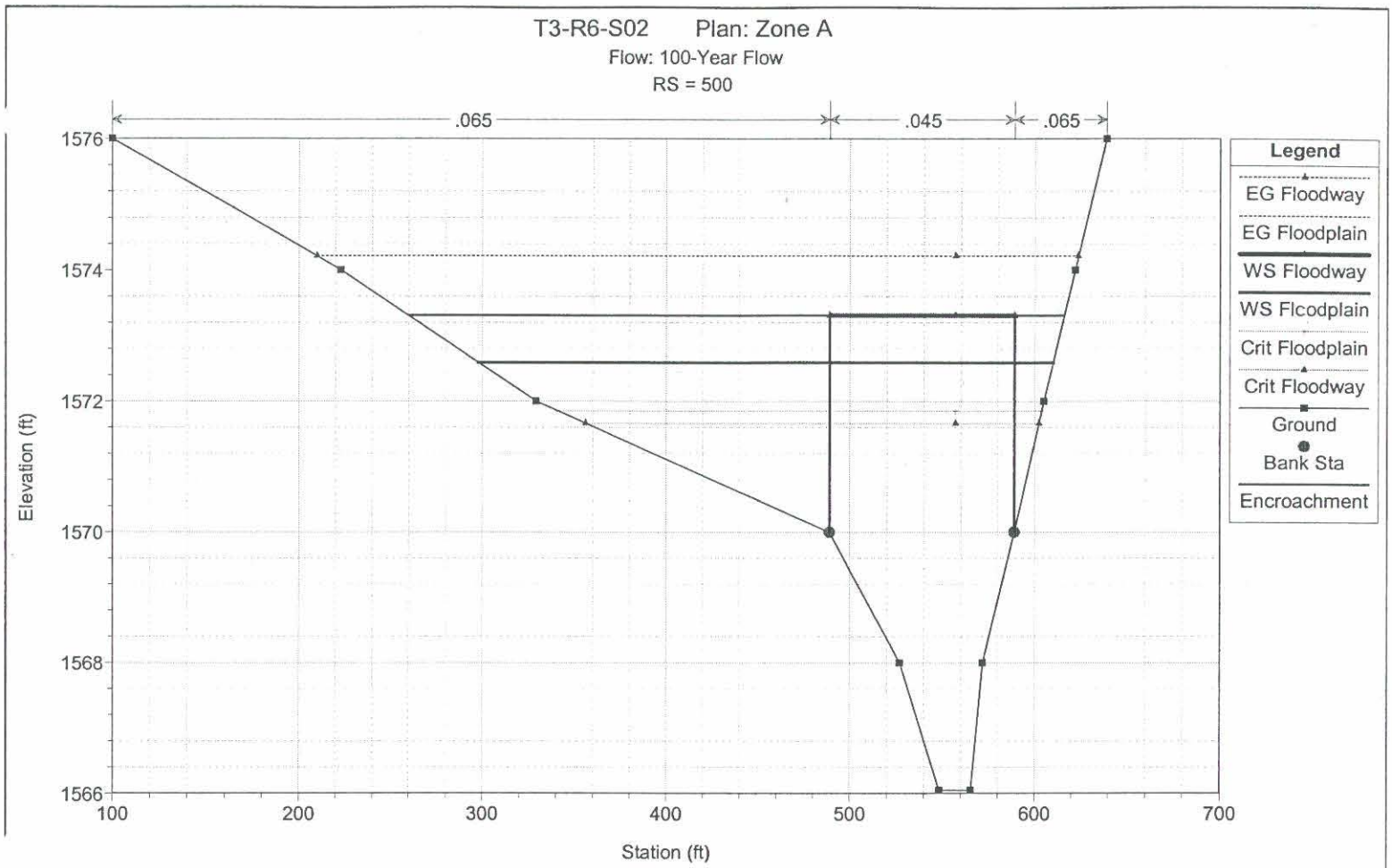
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R6-S02	1500	Floodplain	1900.00	1746.00	1749.57	1748.92	1750.08	0.007776	5.94	363.75	186.51	0.61
T3-R6-S02	1500	Floodway	1900.00	1746.00	1749.79		1750.21	0.005835	5.41	407.54	198.78	0.54
T3-R6-S02	1600	Floodplain	1800.00	1774.00	1775.86	1775.85	1776.54	0.026522	6.62	271.84	198.88	1.00
T3-R6-S02	1600	Floodway	1800.00	1774.00	1775.85	1775.85	1776.54	0.026643	6.63	271.41	198.76	1.00
T3-R6-S02	1700	Floodplain	1700.00	1799.00	1802.17	1801.53	1802.74	0.008723	6.21	295.24	124.75	0.65
T3-R6-S02	1700	Floodway	1700.00	1799.00	1802.17	1801.53	1802.74	0.008700	6.21	295.49	124.79	0.65
T3-R6-S02	1800	Floodplain	1600.00	1818.00	1820.26	1820.26	1820.88	0.018675	6.41	272.79	263.30	0.87
T3-R6-S02	1800	Floodway	1600.00	1818.00	1820.26	1820.26	1820.88	0.018675	6.41	272.79	263.30	0.87
T3-R6-S02	1900	Floodplain	1400.00	1852.00	1854.92	1854.69	1855.72	0.015287	7.23	199.75	99.35	0.83
T3-R6-S02	1900	Floodway	1400.00	1852.00	1854.92	1854.69	1855.72	0.015287	7.23	199.75	99.35	0.83
T3-R6-S02	2000	Floodplain	1200.00	1869.00	1872.23	1872.14	1873.24	0.015951	8.53	164.01	78.42	0.88
T3-R6-S02	2000	Floodway	1200.00	1869.00	1872.23	1872.14	1873.24	0.015951	8.53	164.01	78.42	0.88

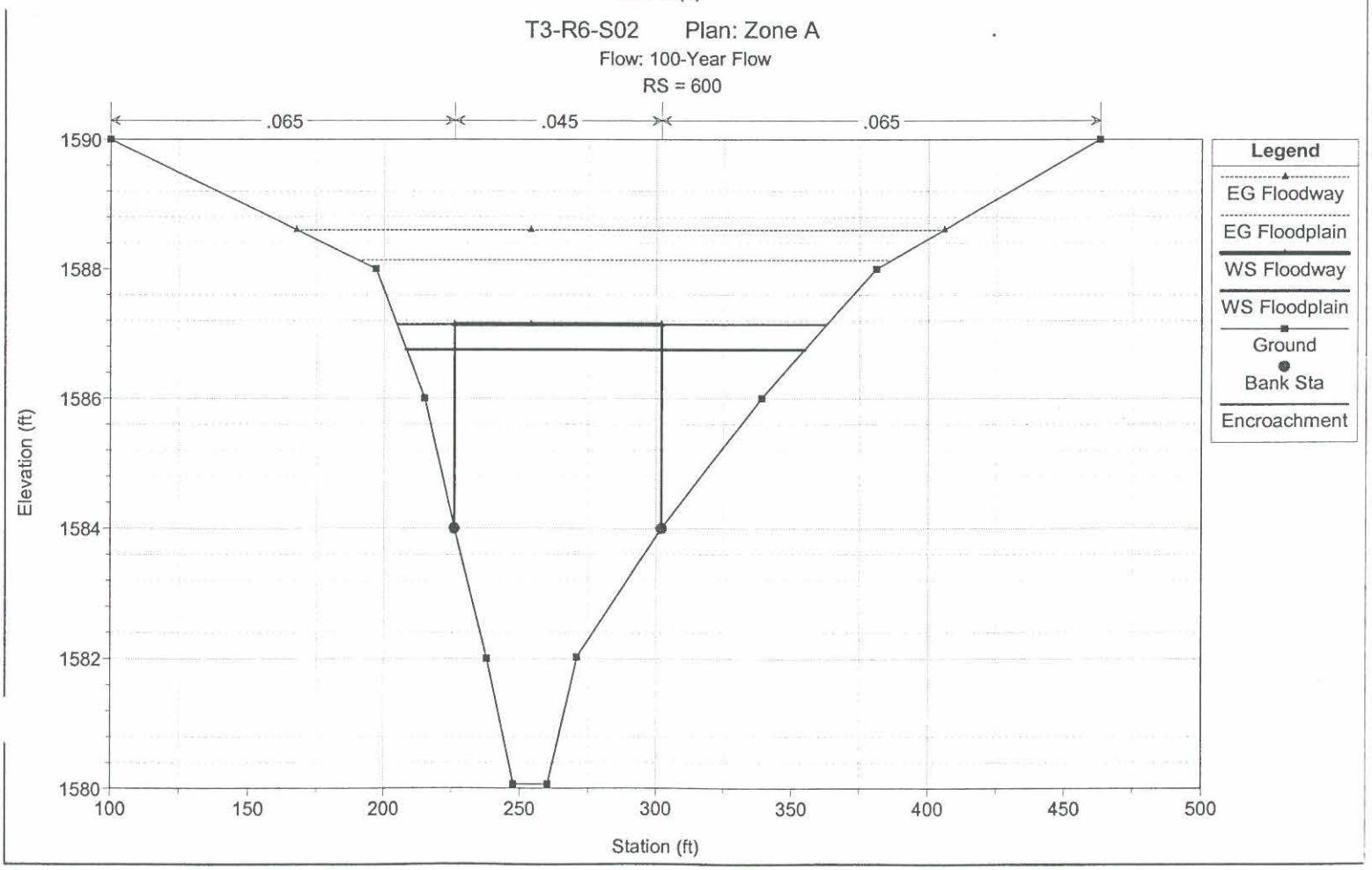

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 100
.065
.045
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
Crit Floodway
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment

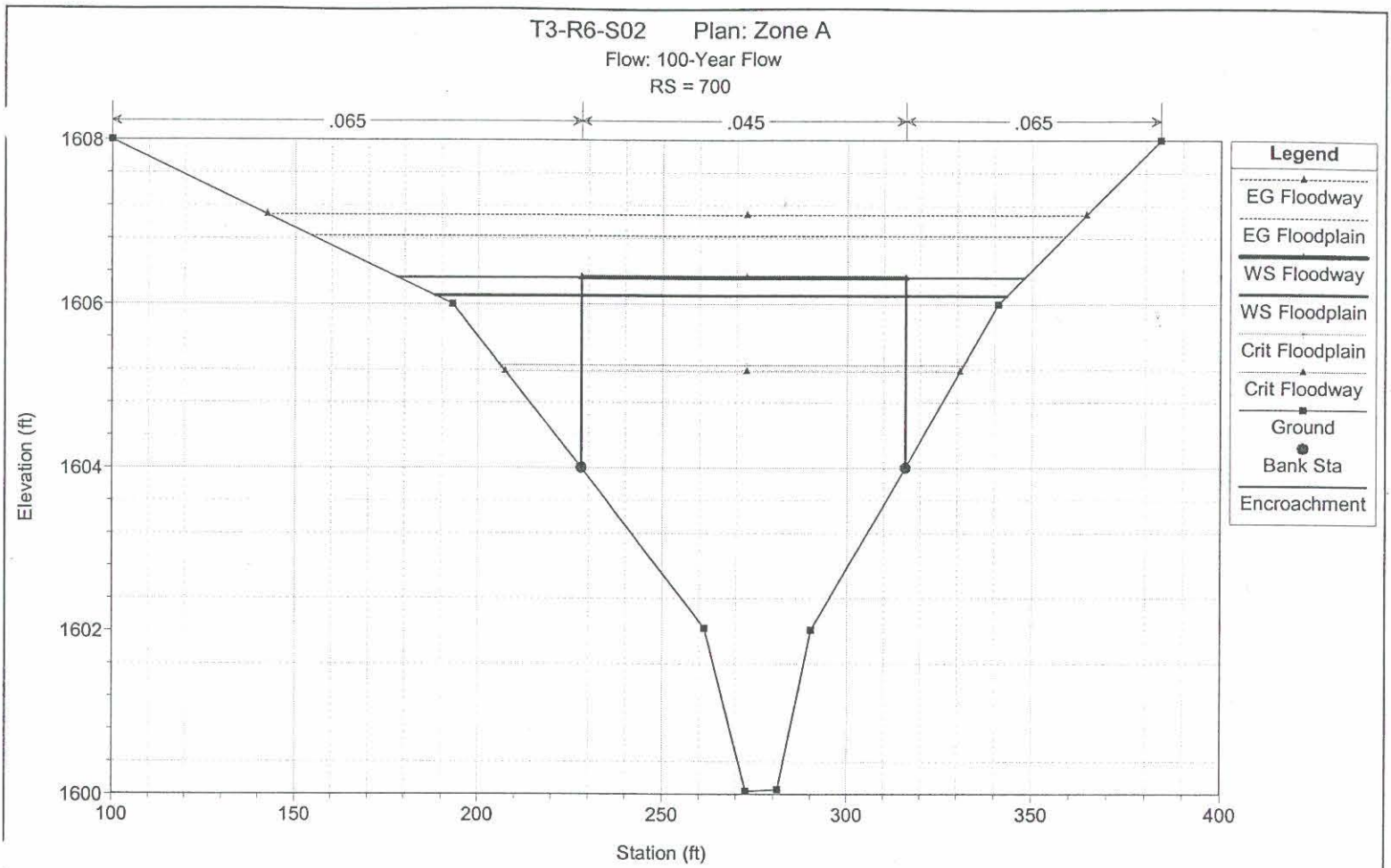

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 200
.065
.045
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

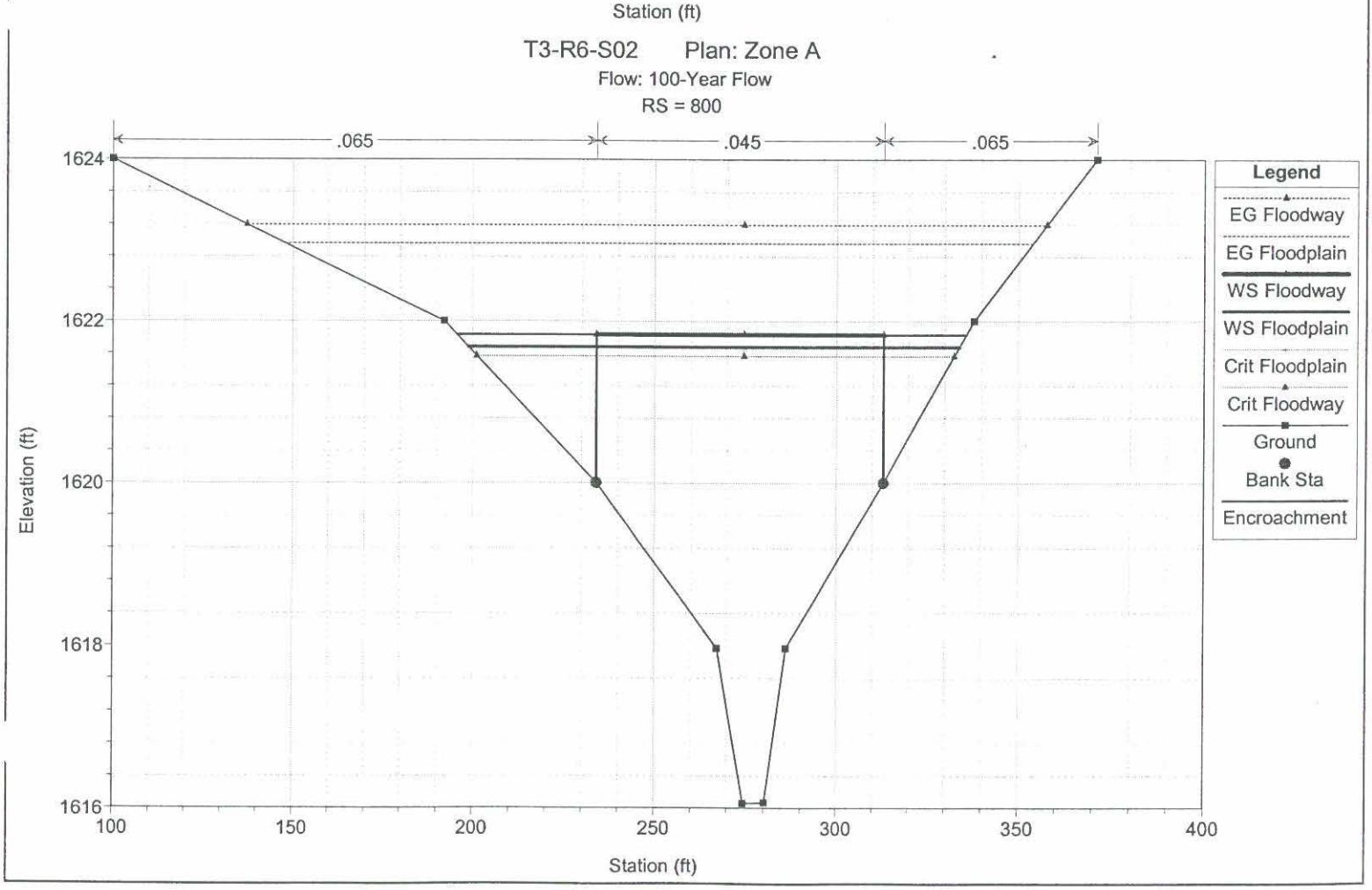

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 300
.065
.045
.065
1544
1543
1542
1541
1540
Elevation (ft)
100
200
300
400
500
600
700
800
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

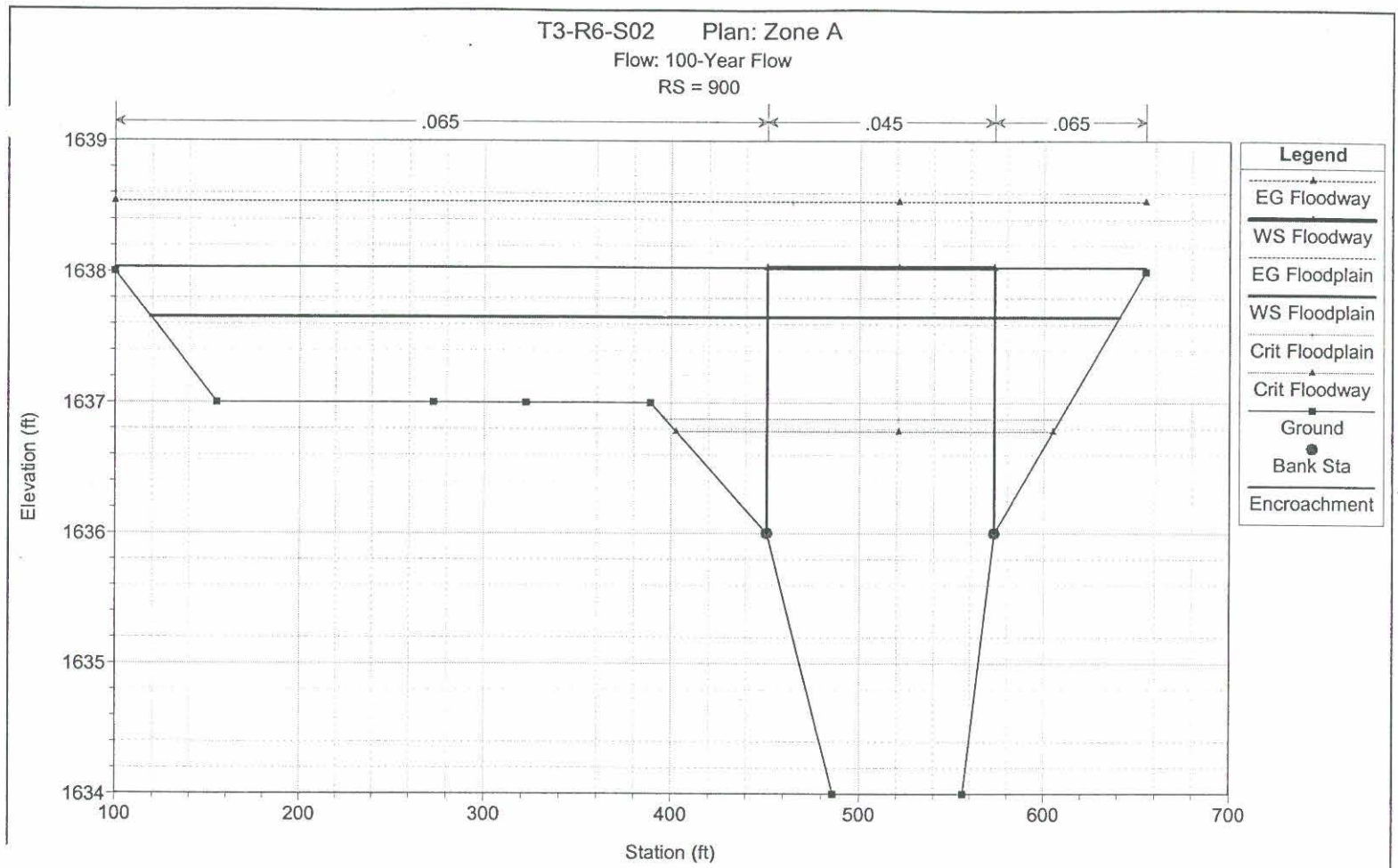

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 400
.065
.045
.065
1560
1559
1558
1557
1556
1555
1554
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

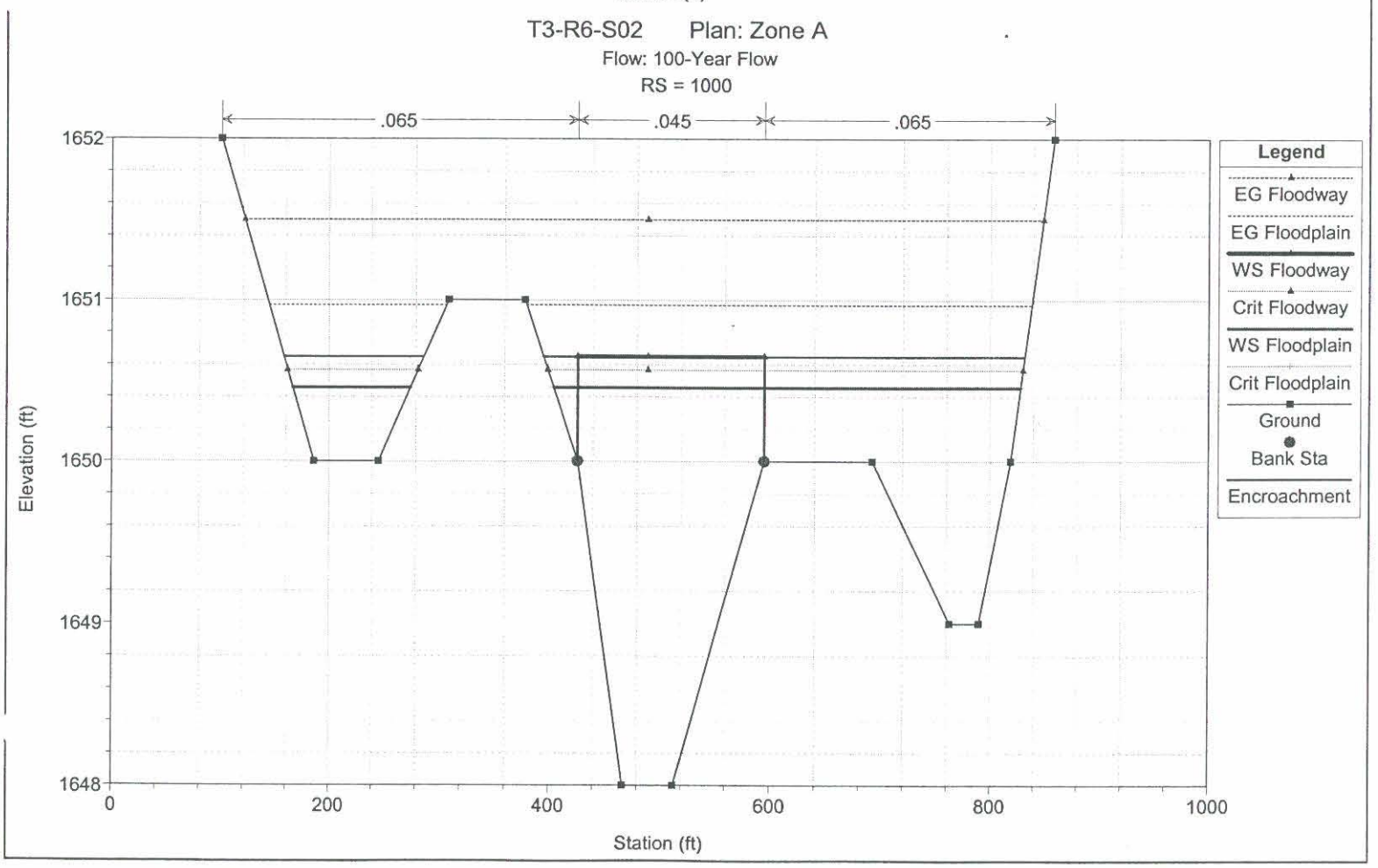

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 500
.065
.045
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Flcodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

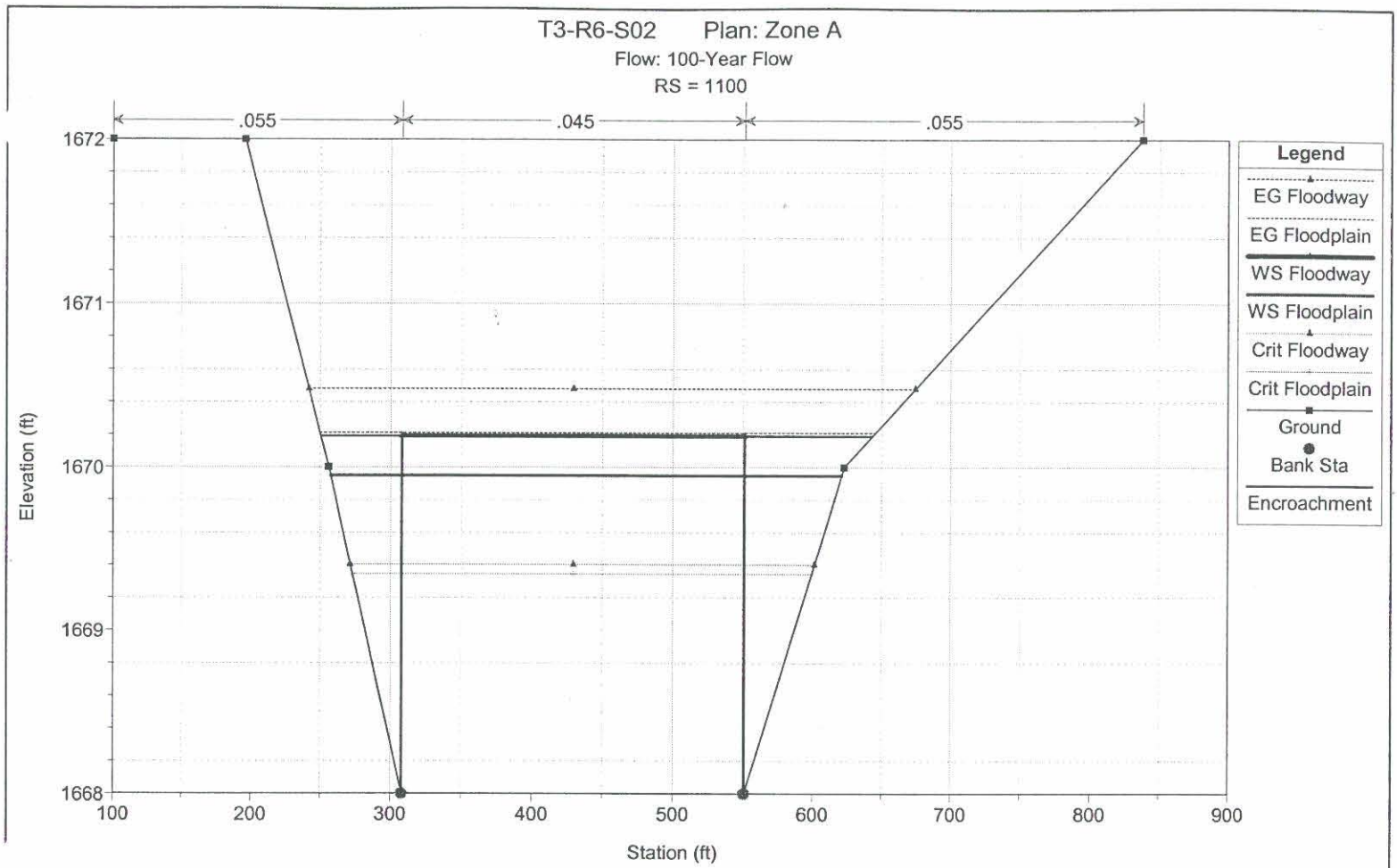

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 600
.065
.045
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Ground
Bank Sta
Encroachment

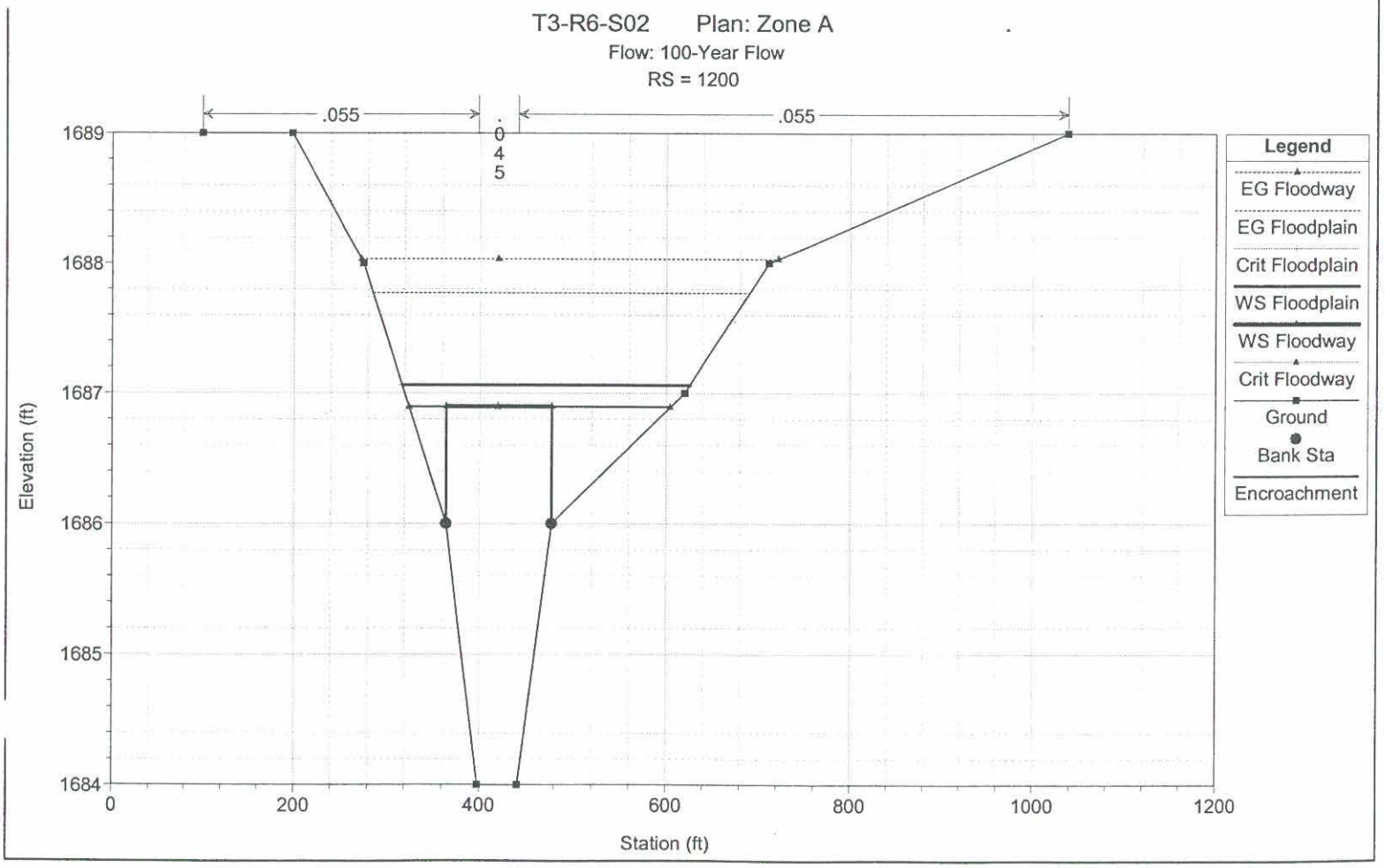

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 700
.065
.045
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

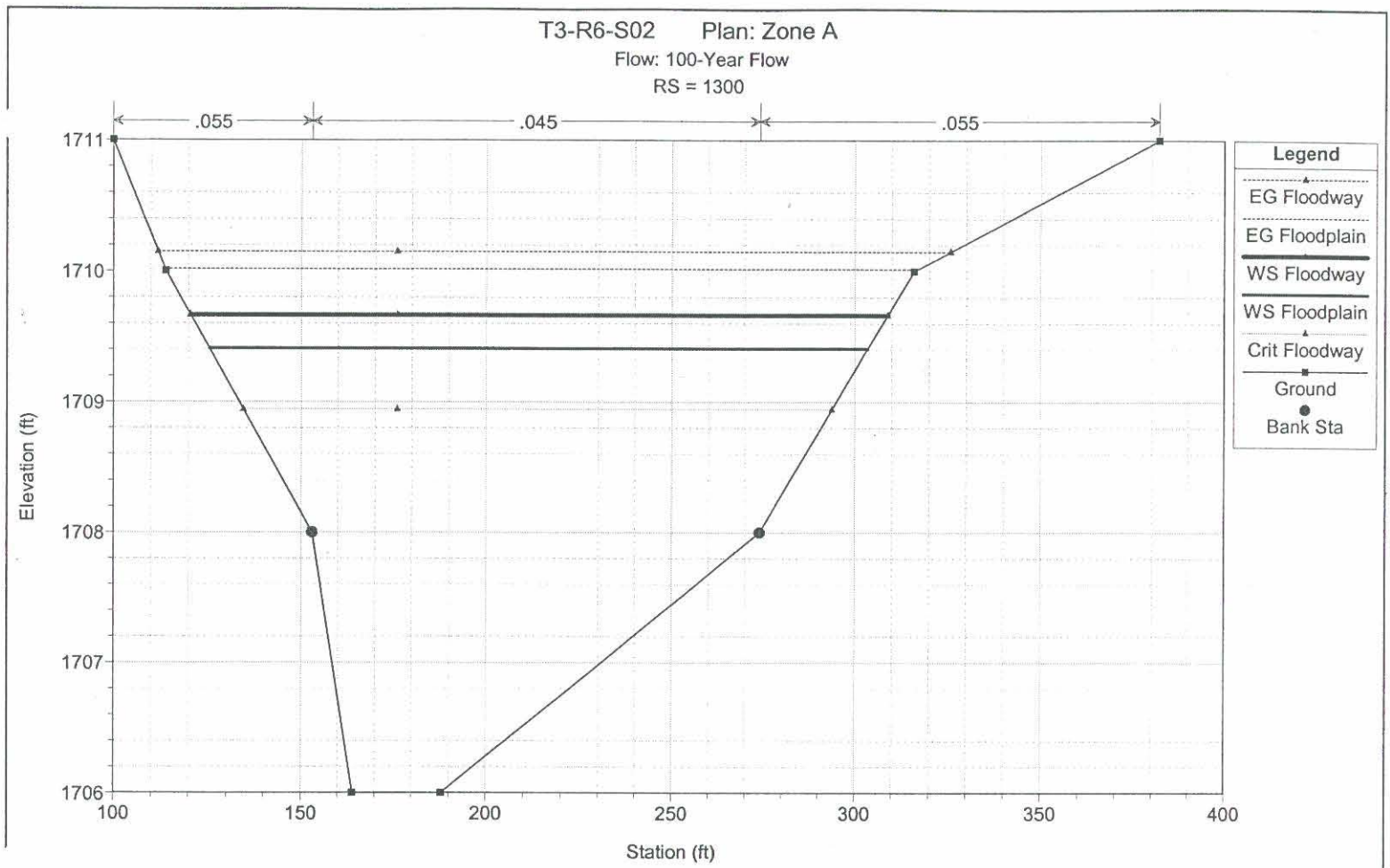

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 800
.065
.045
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

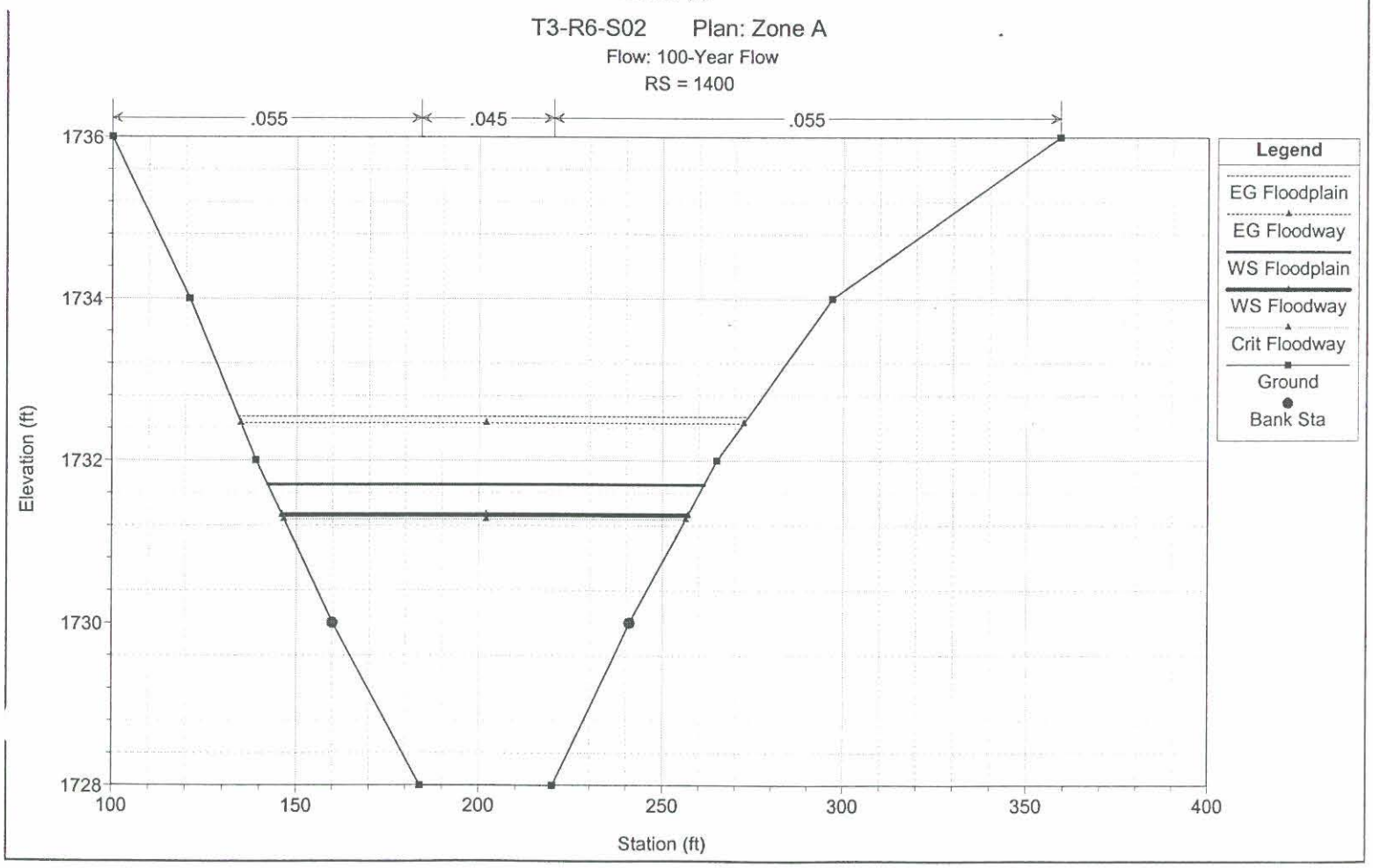

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 900
.065
.045
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

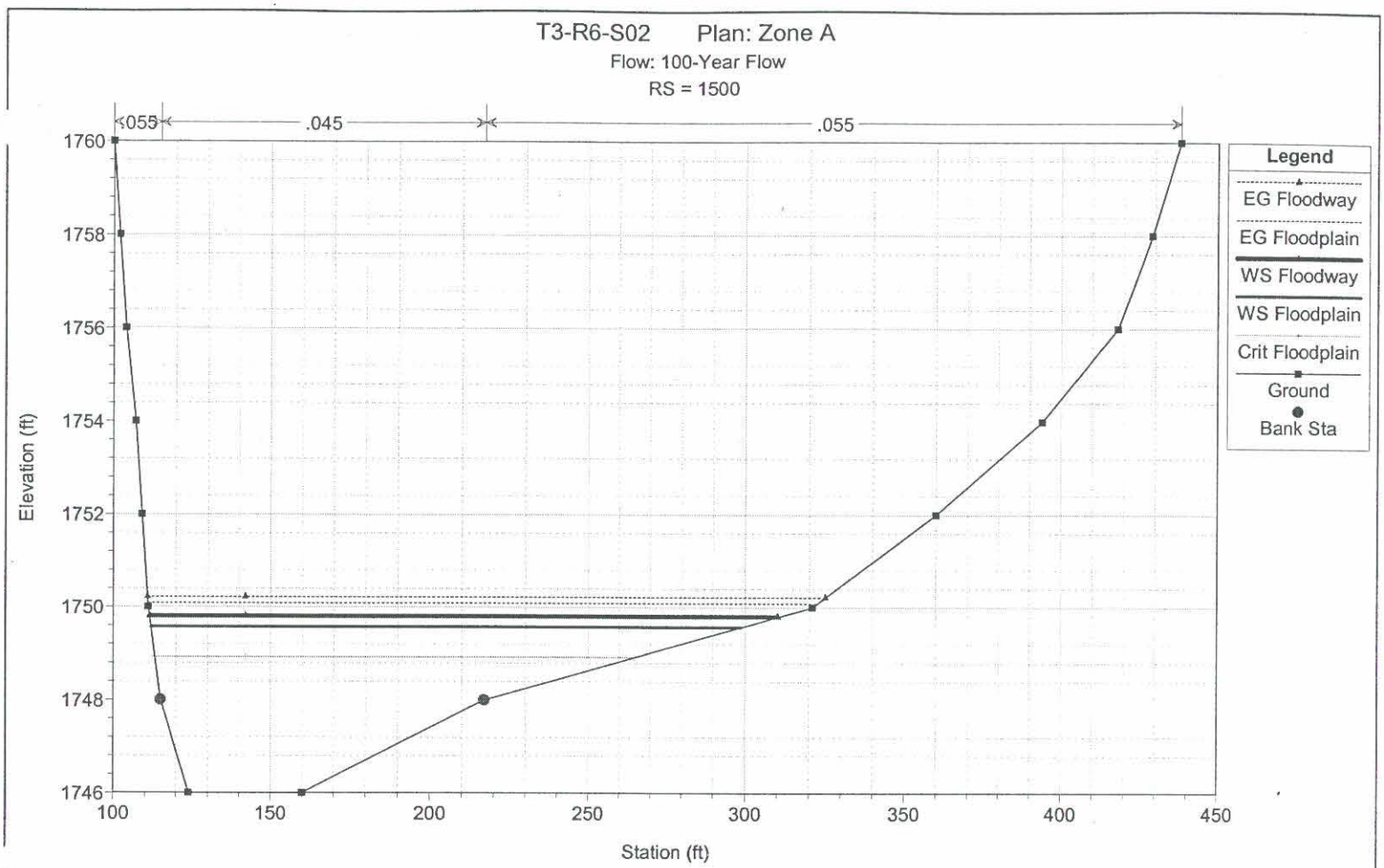

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1000
.065
.045
.065
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
Crit Floodway
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment

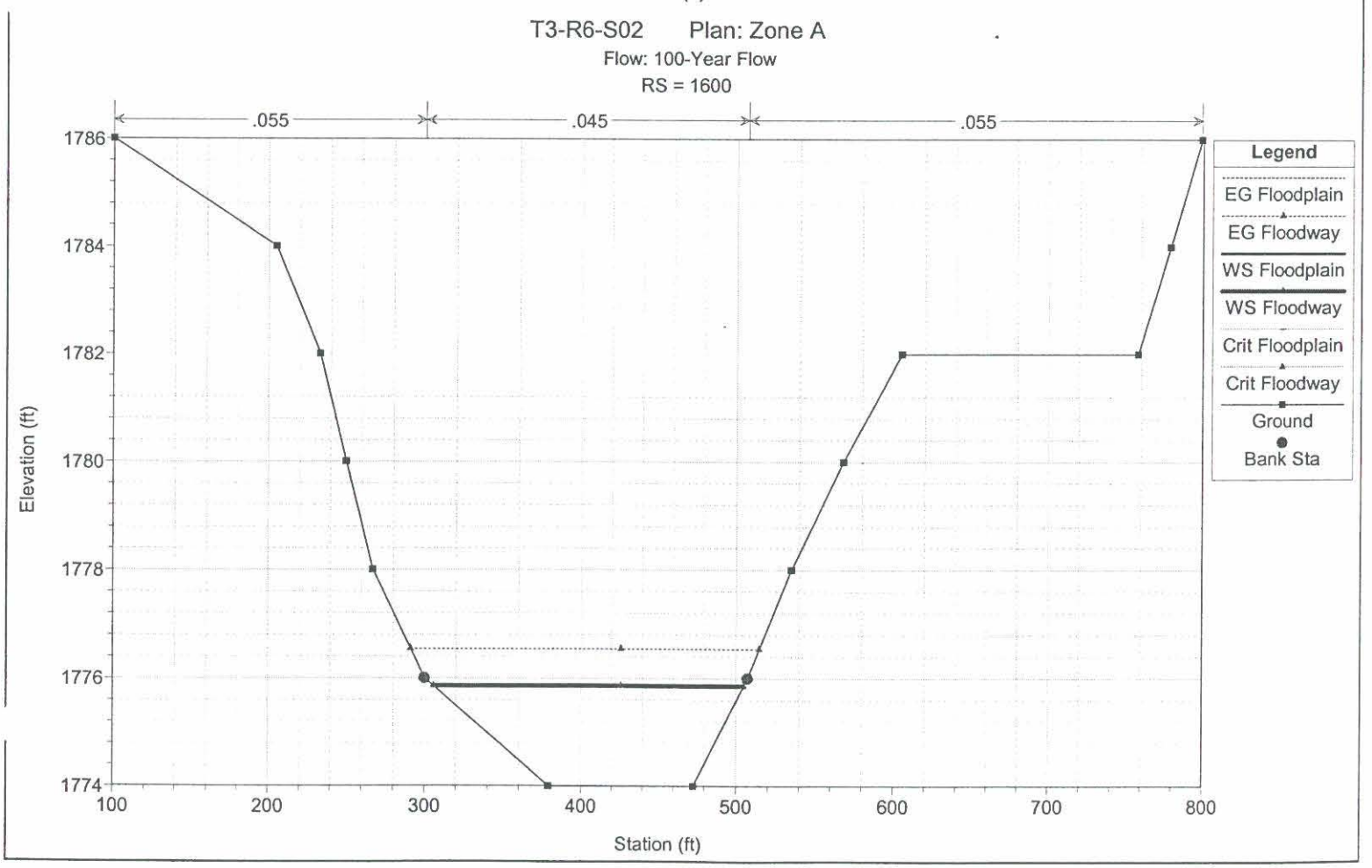

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1100
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

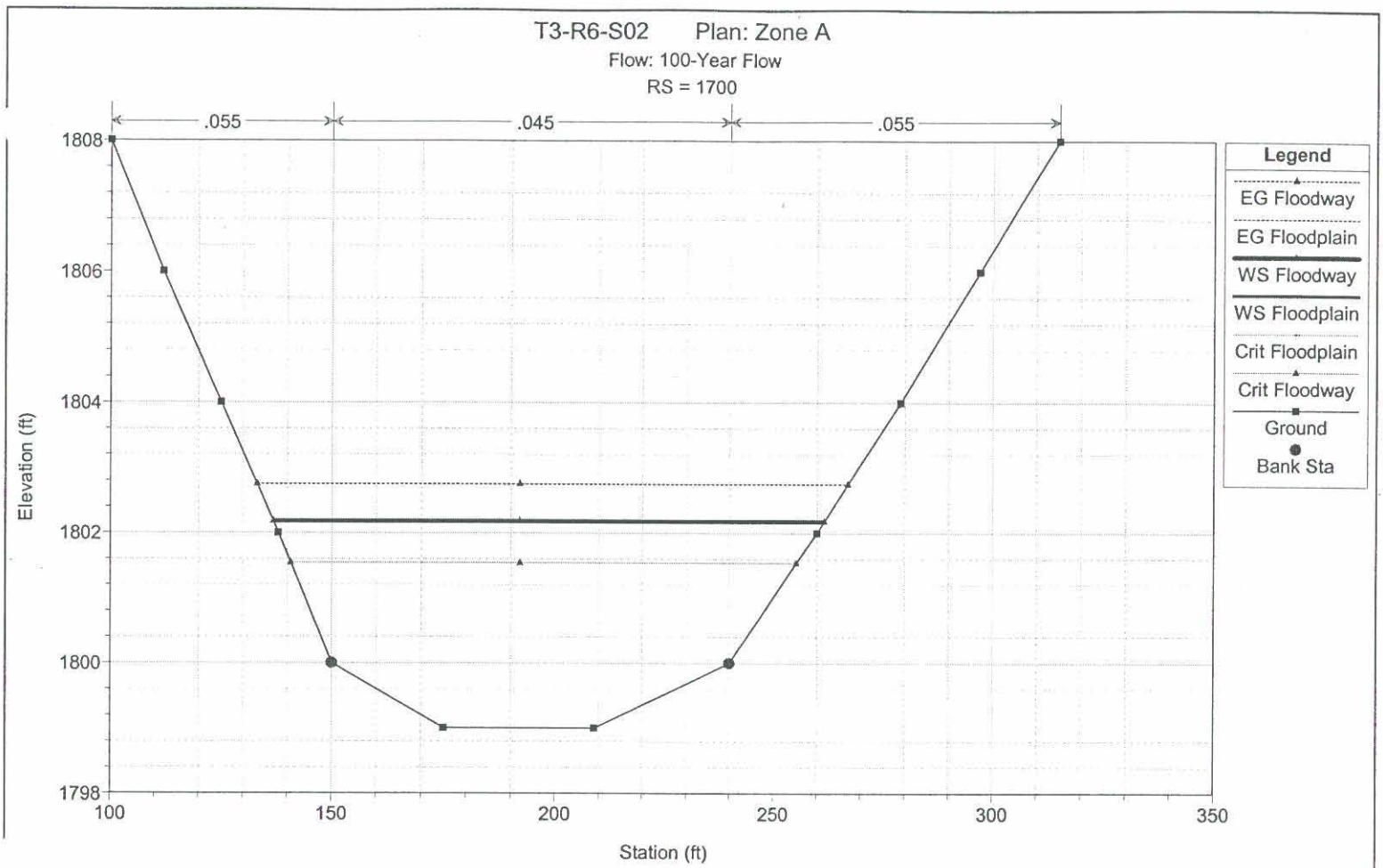

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1200
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
Crit Floodplain
WS Floodplain
WS Floodway
Crit Floodway
Ground
Bank Sta
Encroachment

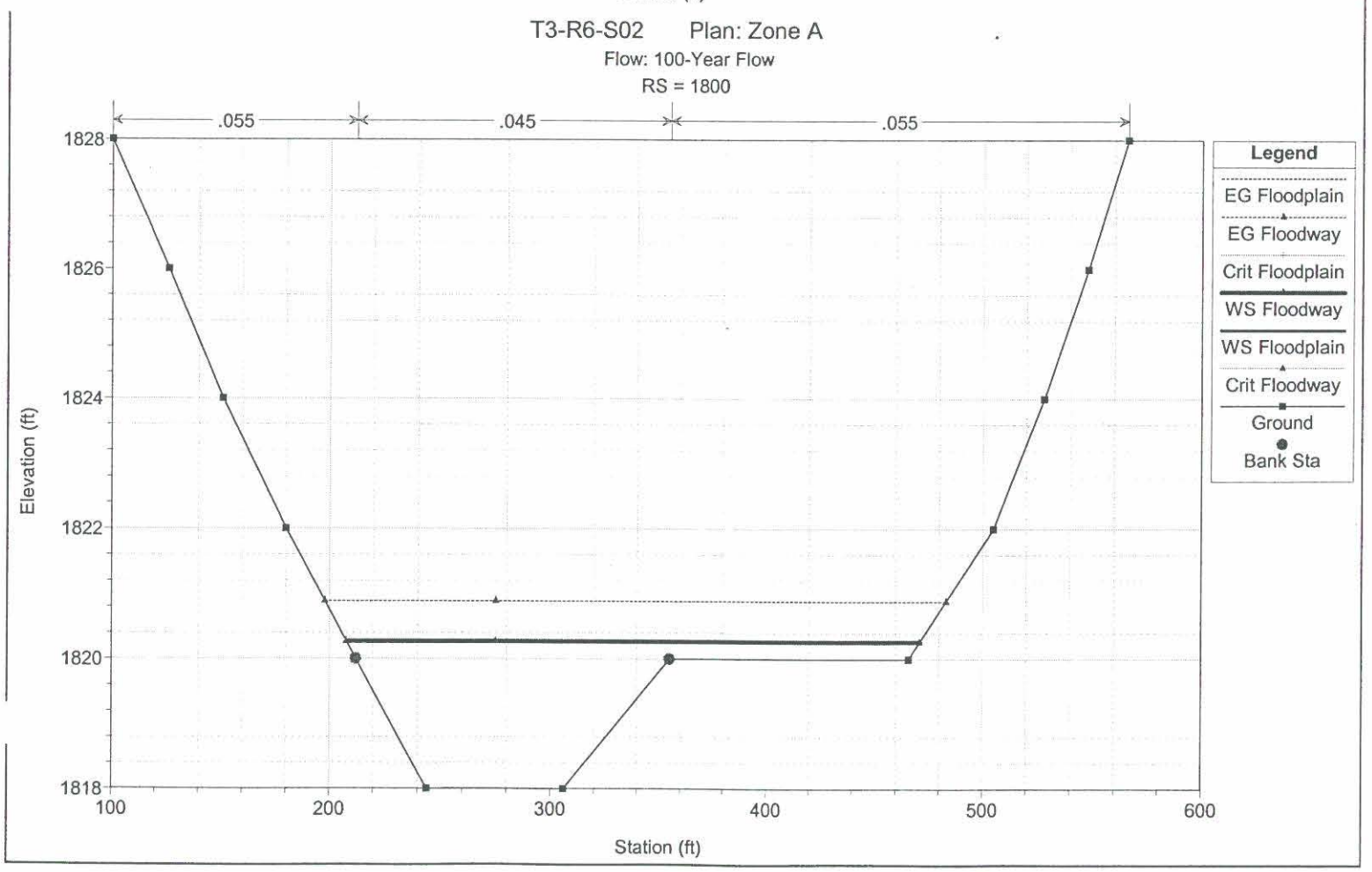

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1300
.055
.045
.055
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Ground
Bank Sta
Elevation (ft)
1711
1710
1709
1708
1707
1706
100
150
200
250
300
350
400
Station (ft)

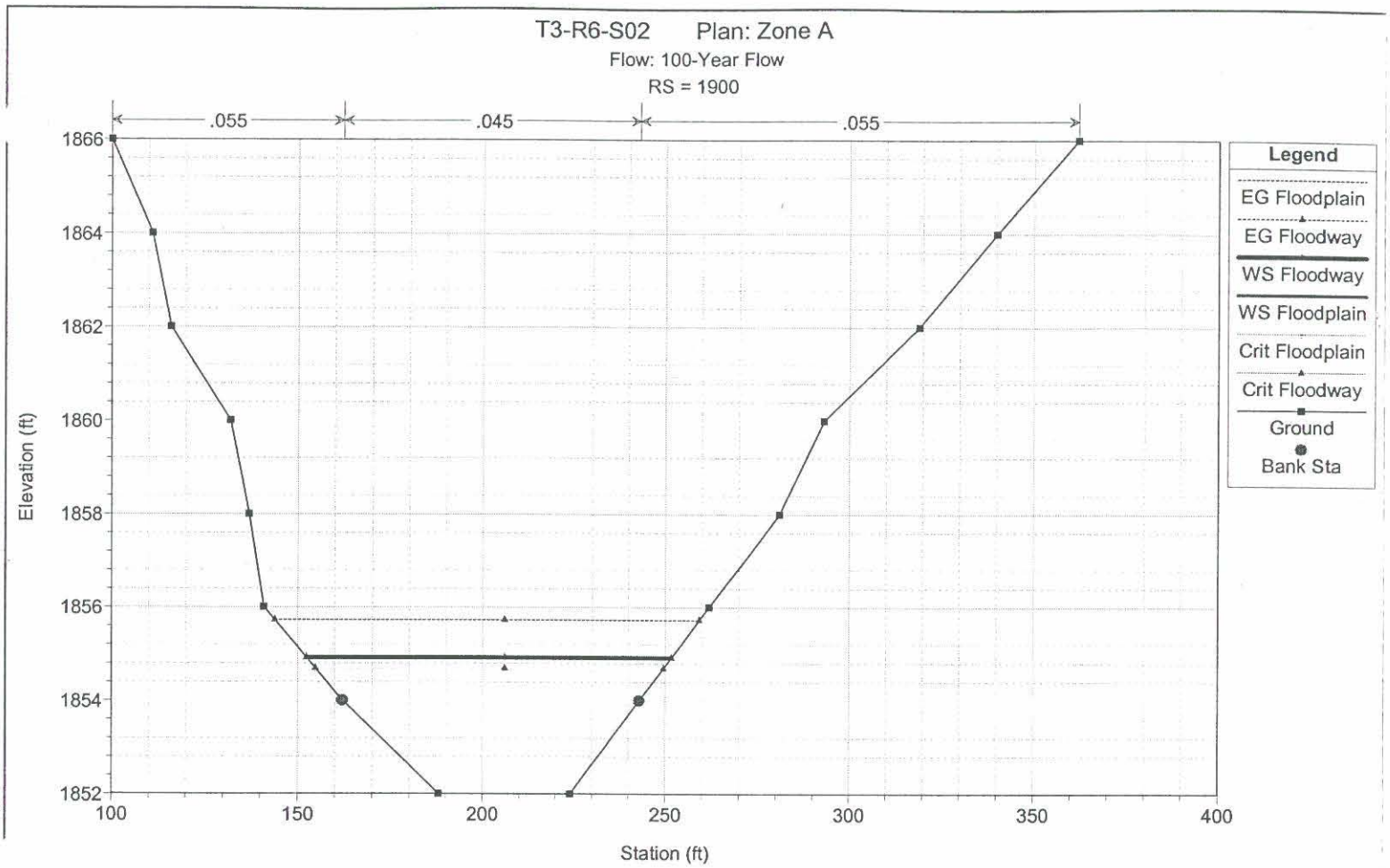

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1400
.055
.045
.055
Legend
EG Floodplain
EG Floodway
WS Floodplain
WS Floodway
Crit Floodway
Ground
Bank Sta
Elevation (ft)
1736
1734
1732
1730
1728
100
150
200
250
300
350
400
Station (ft)

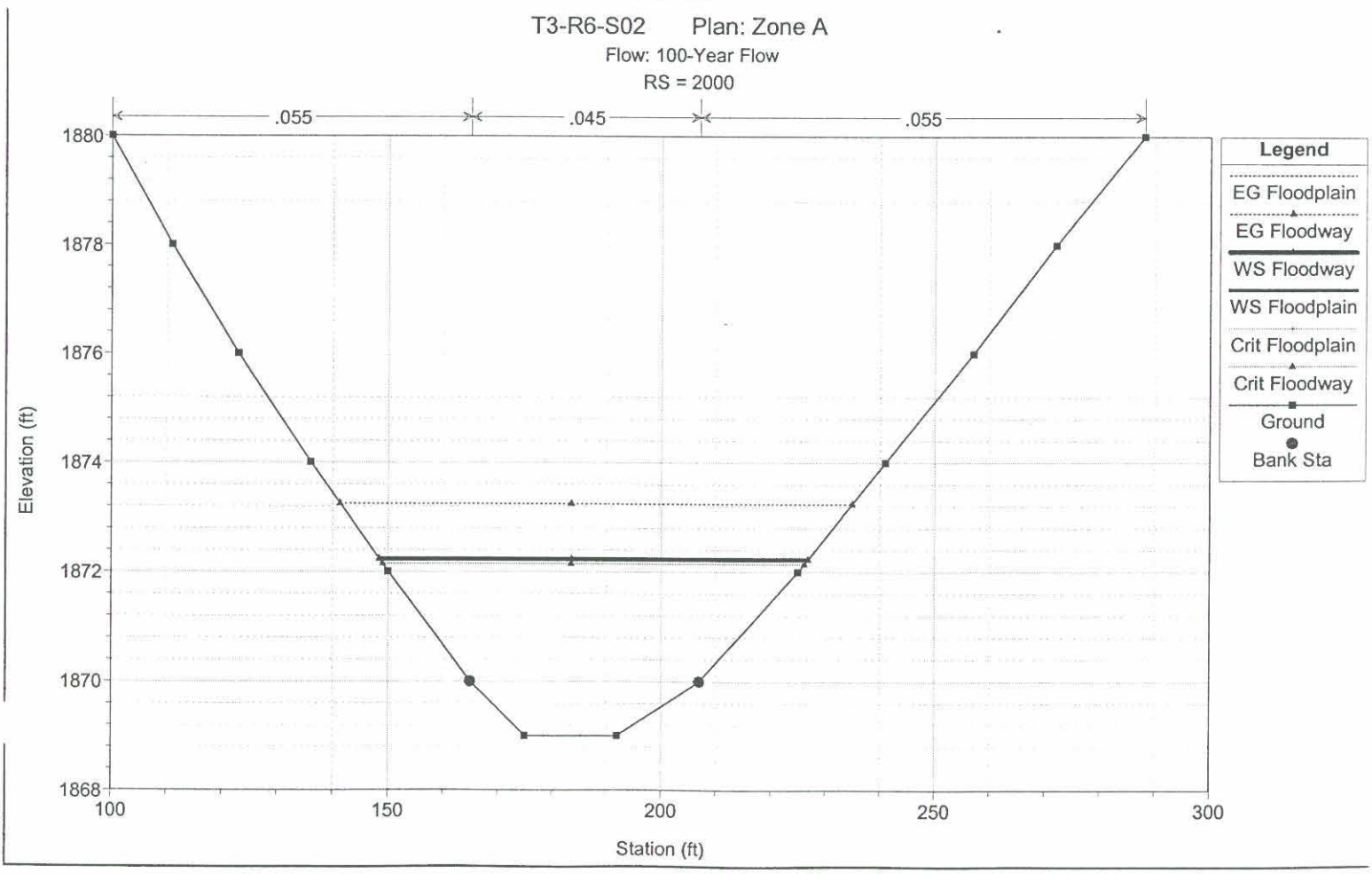

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1500
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Ground
Bank Sta


T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1600
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodplain
WS Floodway
Crit Floodplain
Crit Floodway
Ground
Bank Sta


T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1700
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta


T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1800
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
Crit Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Ground
Bank Sta

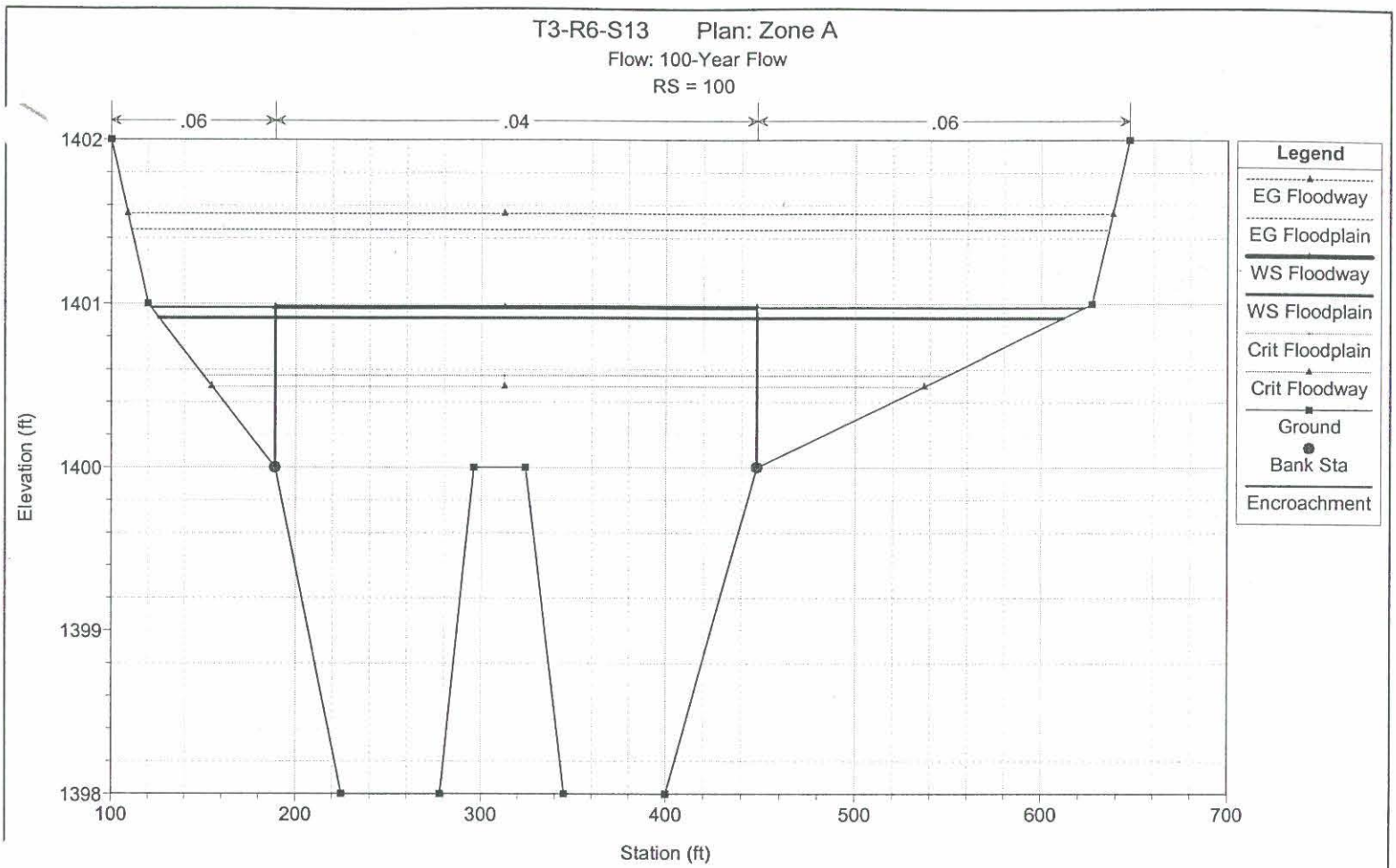

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 1900
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

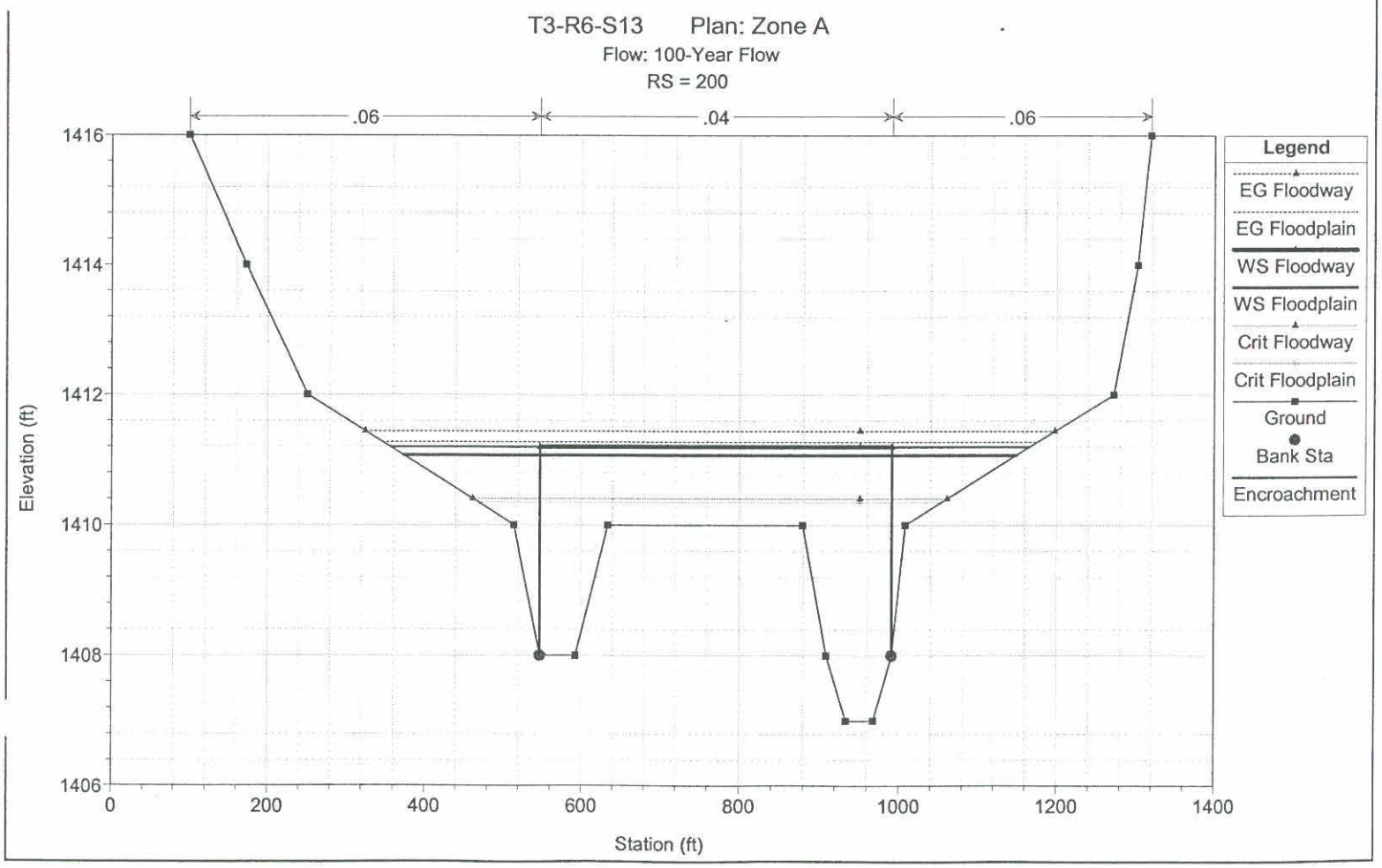

T3-R6-S02 Plan: Zone A
Flow: 100-Year Flow
RS = 2000
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

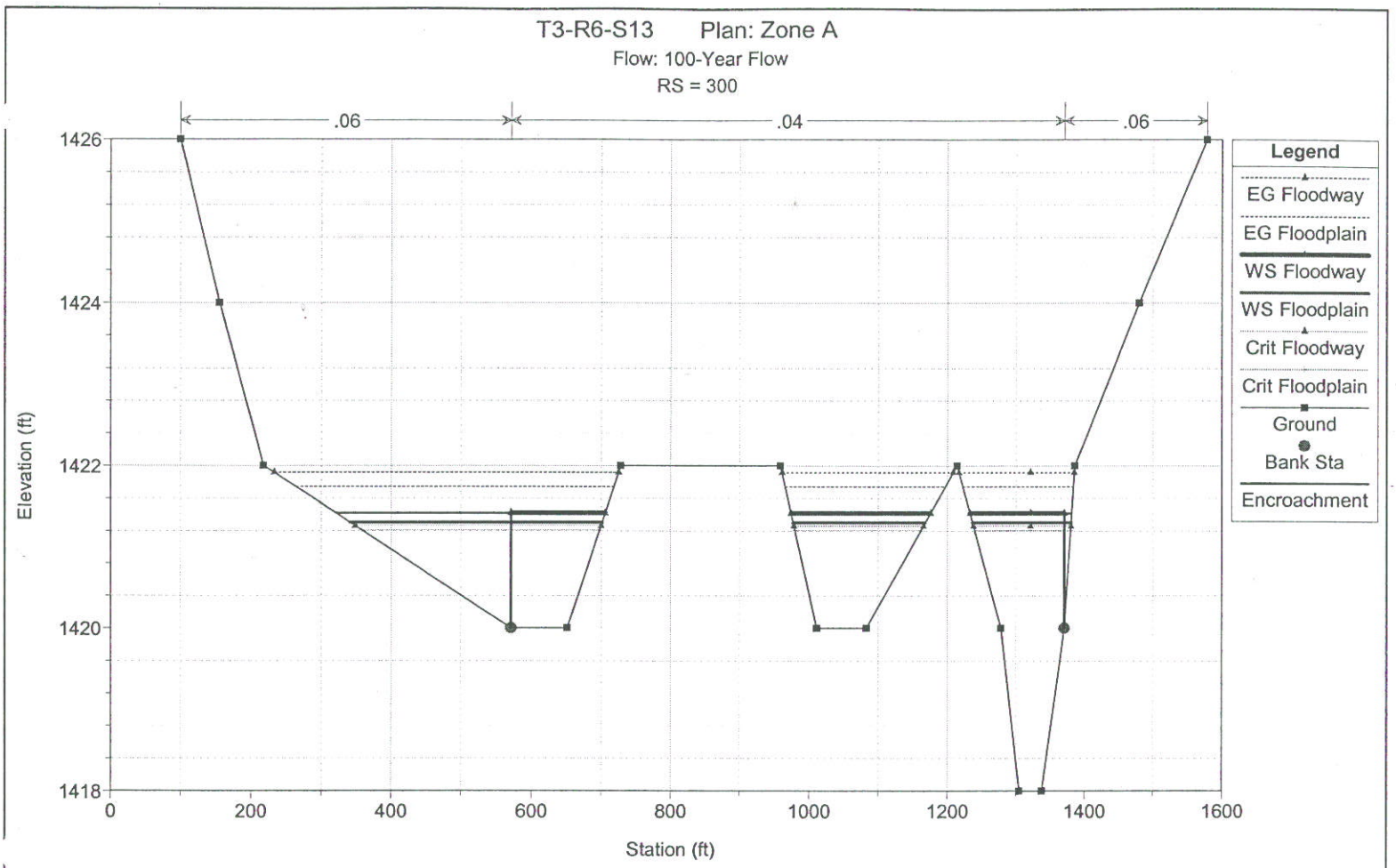
Coyote Wash
T3-R6-S13

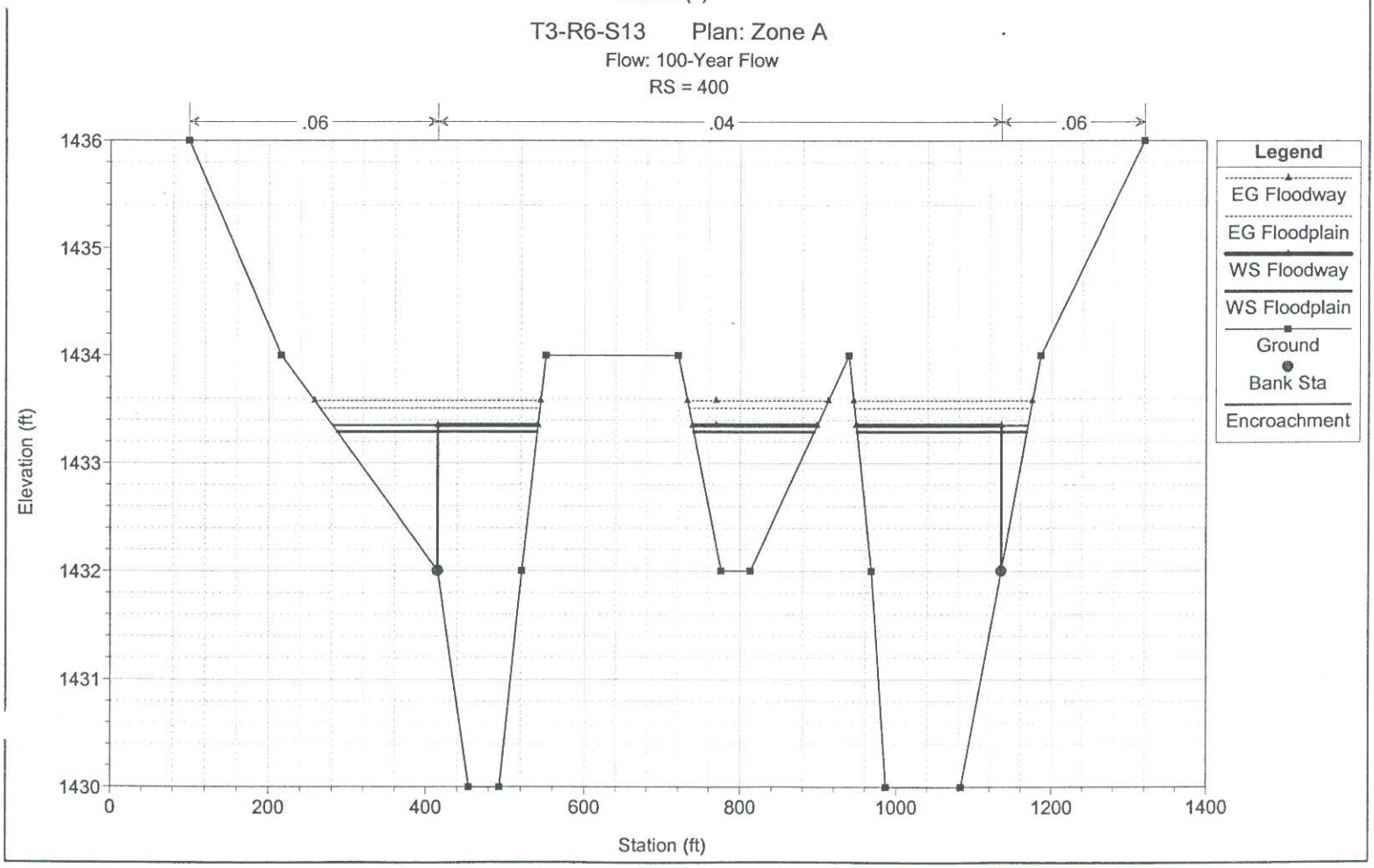
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T3-R6-S13

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T3-R6-S13	100	Floodplain	3600.00	1398.00	1400.91	1400.56	1401.45	0.009006	6.00	679.52	485.78	0.71
T3-R6-S13	100	Floodway	3600.00	1398.00	1400.98	1400.50	1401.55	0.009009	6.08	591.90	259.00	0.71
T3-R6-S13	200	Floodplain	3600.00	1407.00	1411.07	1410.34	1411.28	0.004285	3.78	1115.42	776.28	0.48
T3-R6-S13	200	Floodway	3600.00	1407.00	1411.20	1410.40	1411.44	0.004332	3.93	916.91	444.00	0.48
T3-R6-S13	300	Floodplain	3600.00	1418.00	1421.30	1421.20	1421.74	0.016205	5.56	736.65	694.69	0.87
T3-R6-S13	300	Floodway	3600.00	1418.00	1421.42	1421.26	1421.92	0.015880	5.66	635.57	474.47	0.86
T3-R6-S13	400	Floodplain	3600.00	1430.00	1433.29		1433.51	0.004373	3.83	1010.58	626.46	0.48
T3-R6-S13	400	Floodway	3600.00	1430.00	1433.35		1433.58	0.004359	3.85	935.29	472.67	0.48


T3-R6-S13 Plan: Zone A
Flow: 100-Year Flow
RS = 100
.06
.04
.06
1402
1401
1400
1399
1398
Elevation (ft)
100
200
300
400
500
600
700
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment


T3-R6-S13 Plan: Zone A
Flow: 100-Year Flow
RS = 200
.06
.04
.06
1416
1414
1412
1410
1408
1406
Elevation (ft)
0
200
400
600
800
1000
1200
1400
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

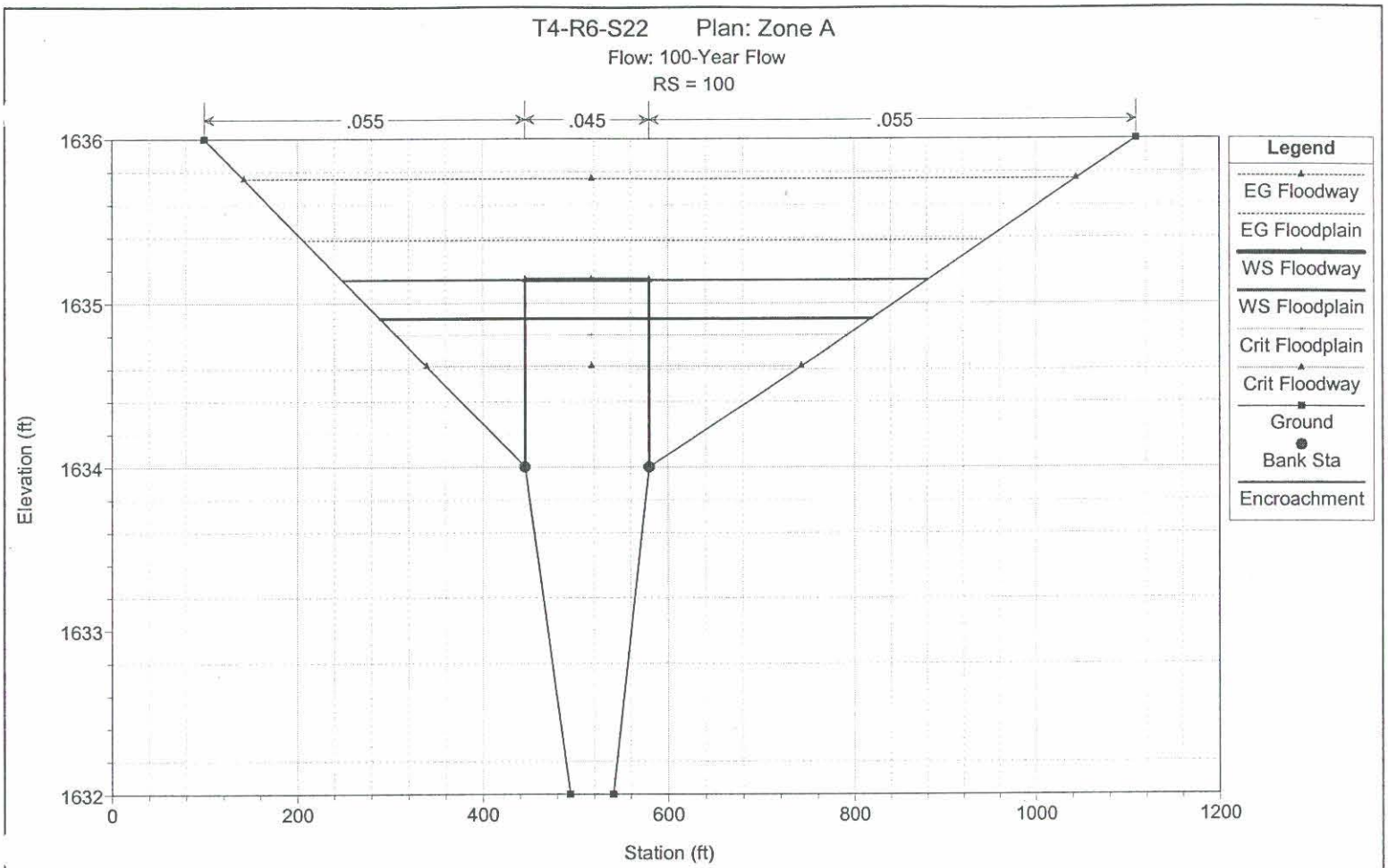

T3-R6-S13 Plan: Zone A
Flow: 100-Year Flow
RS = 300
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

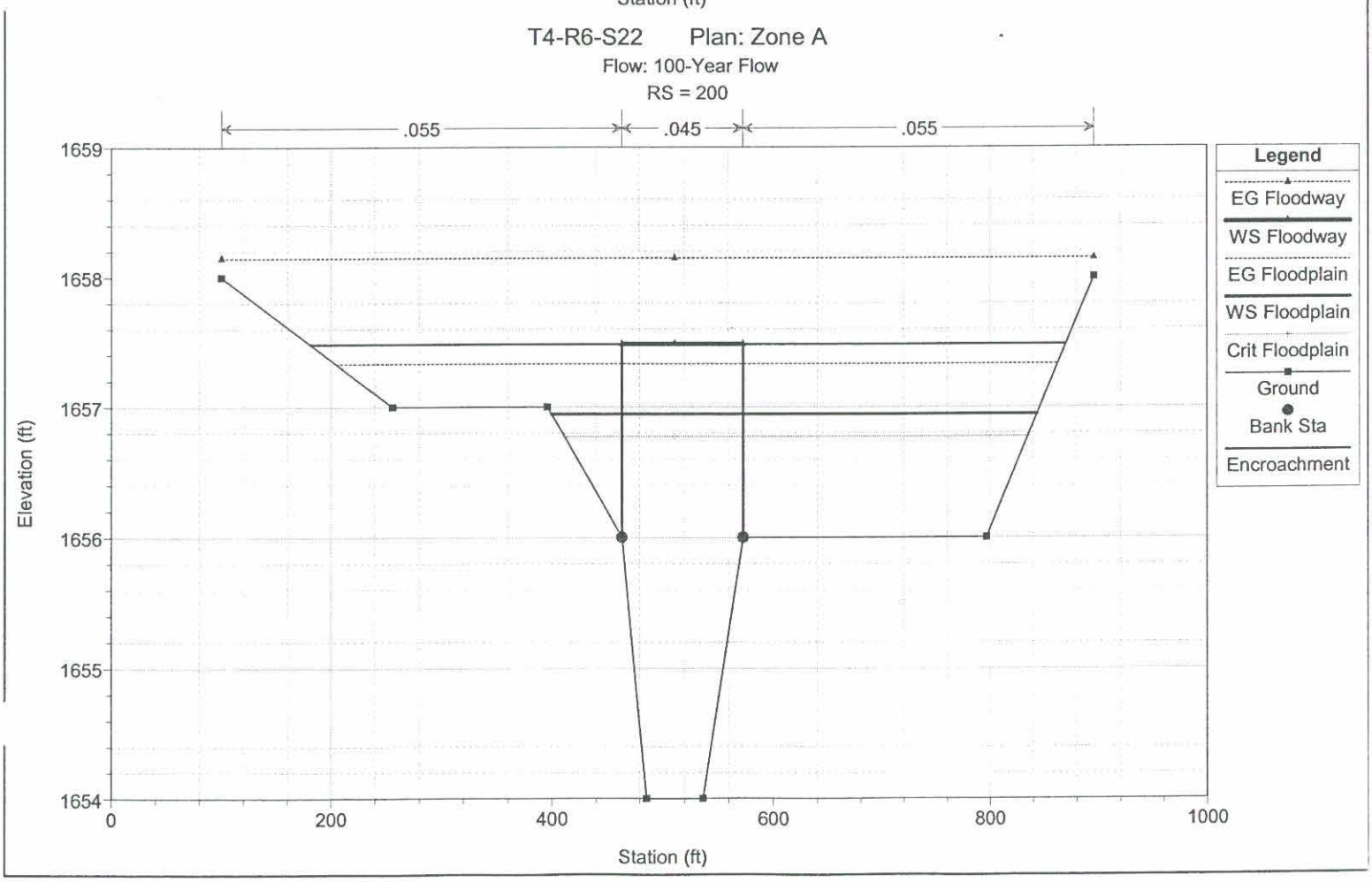

T3-R6-S13 Plan: Zone A
Flow: 100-Year Flow
RS = 400
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Ground
Bank Sta
Encroachment

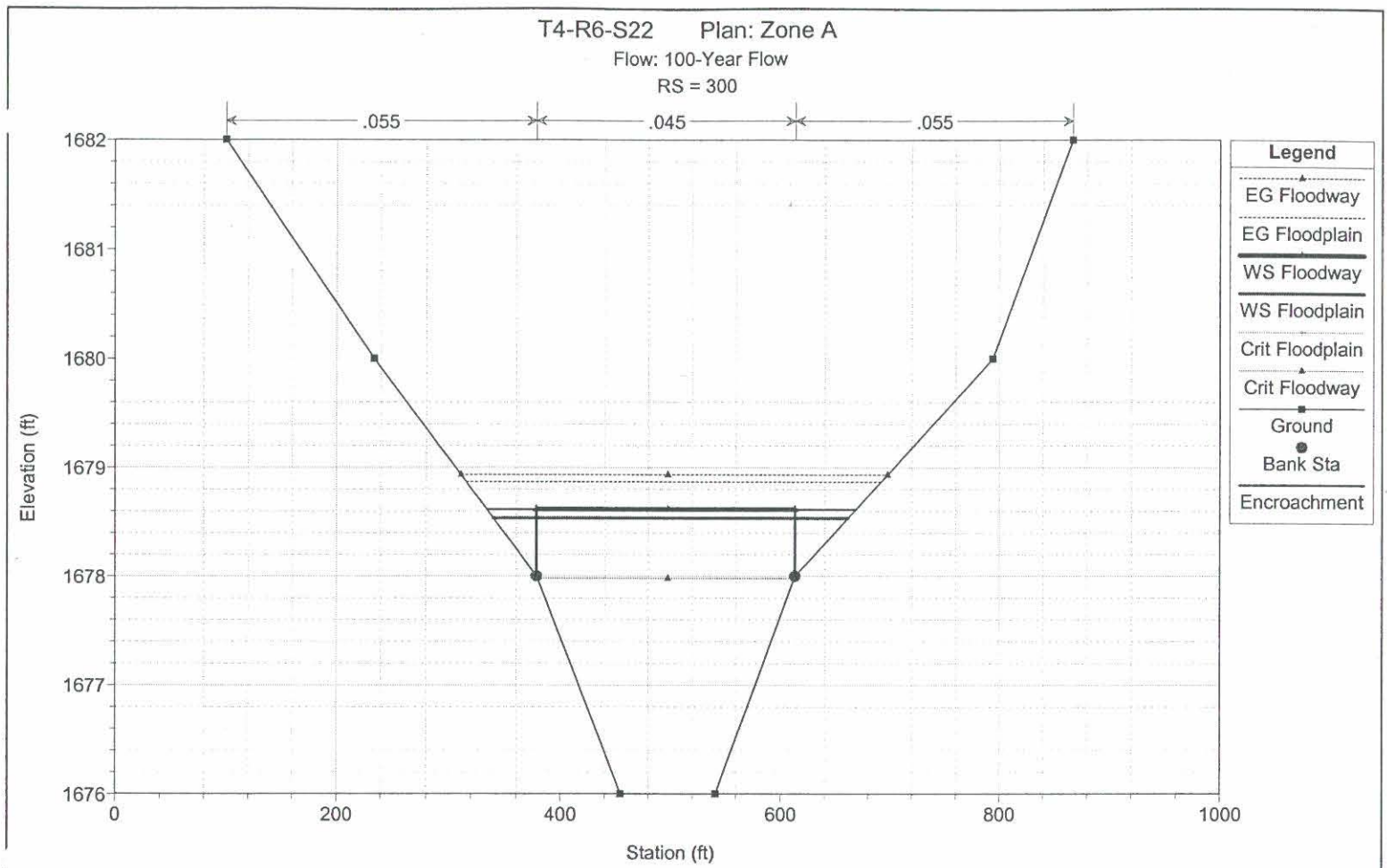
Coyote Wash
T4-R6-S22

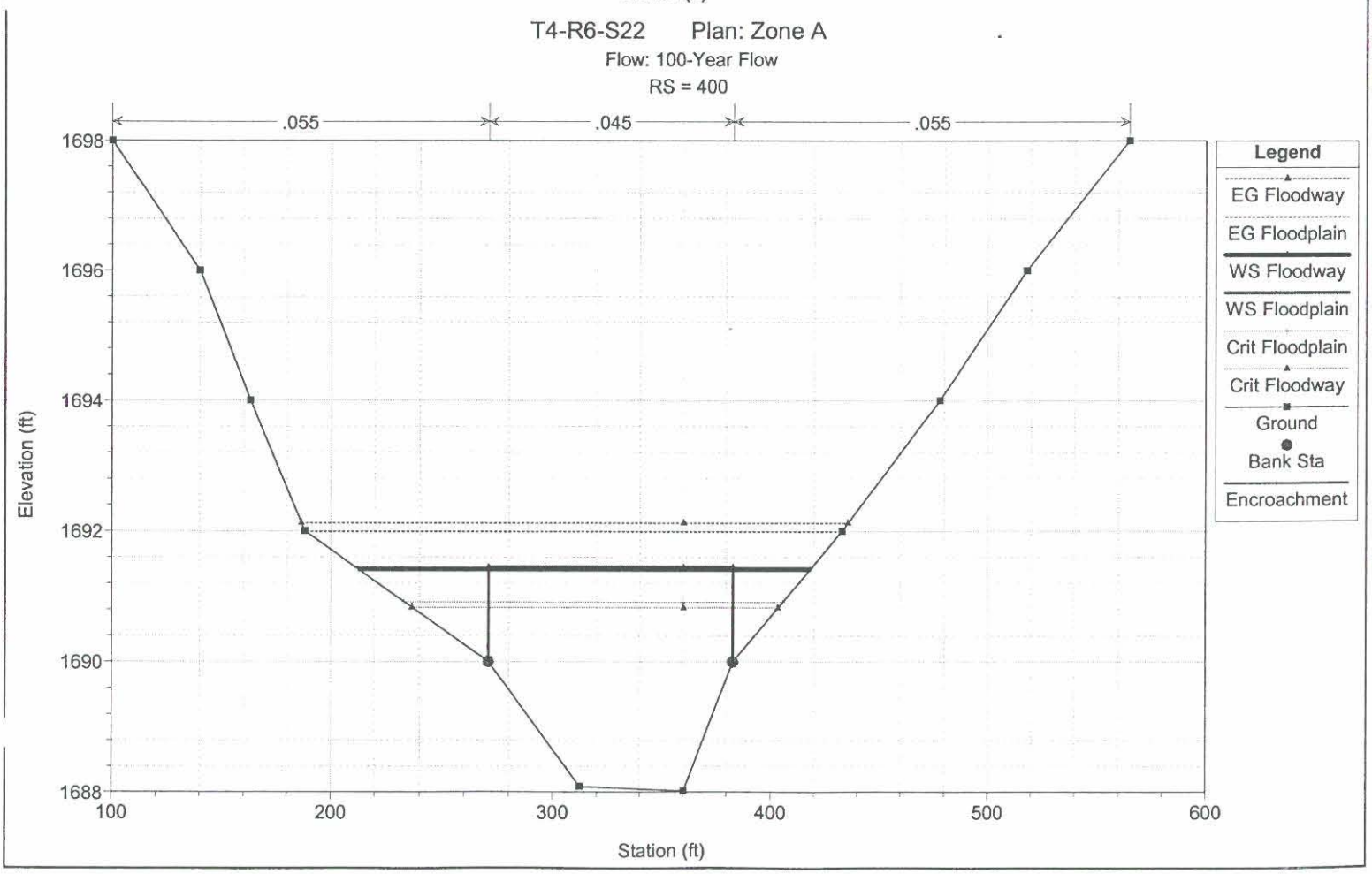
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4-R6-S22

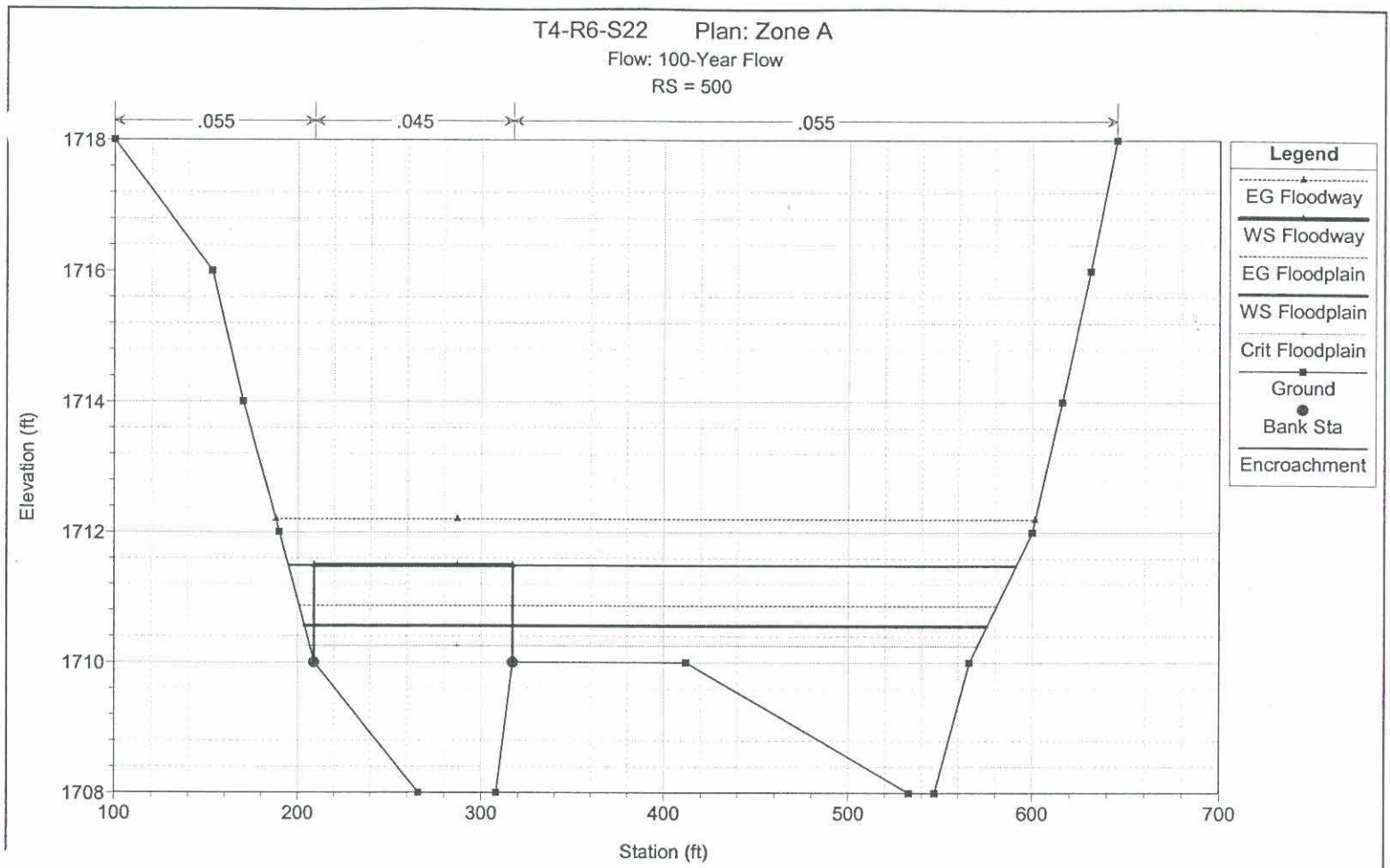
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4-R6-S22	100	Floodplain	2100.00	1632.00	1634.91	1634.81	1635.38	0.011016	5.96	481.32	529.84	0.70
T4-R6-S22	100	Floodway	2100.00	1632.00	1635.14	1634.62	1635.76	0.011003	6.29	333.81	134.00	0.70
T4-R6-S22	200	Floodplain	2100.00	1654.00	1656.95	1656.77	1657.33	0.009229	5.70	527.67	444.17	0.65
T4-R6-S22	200	Floodway	2100.00	1654.00	1657.48		1658.15	0.009597	6.53	321.57	109.00	0.67
T4-R6-S22	300	Floodplain	2100.00	1676.00	1678.54	1677.98	1678.87	0.008378	4.64	470.44	321.82	0.59
T4-R6-S22	300	Floodway	2100.00	1676.00	1678.62	1677.98	1678.93	0.007531	4.51	465.84	234.80	0.56
T4-R6-S22	400	Floodplain	2100.00	1688.02	1691.40	1690.91	1691.98	0.009281	6.30	377.62	205.27	0.66
T4-R6-S22	400	Floodway	2100.00	1688.02	1691.44	1690.82	1692.12	0.010518	6.64	316.06	112.00	0.70
T4-R6-S22	500	Floodplain	2100.00	1708.00	1710.56	1710.25	1710.87	0.010752	5.33	521.28	371.78	0.67
T4-R6-S22	500	Floodway	2100.00	1708.00	1711.48		1712.20	0.010715	6.77	310.13	108.00	0.70
T4-R6-S22	600	Floodplain	2000.00	1727.00	1729.50	1729.27	1730.14	0.014290	6.65	332.36	198.26	0.79
T4-R6-S22	600	Floodway	2000.00	1727.00	1729.70	1729.27	1730.36	0.012752	6.54	305.59	128.00	0.75
T4-R6-S22	700	Floodplain	1900.00	1743.00	1746.07	1745.45	1746.41	0.009146	4.70	405.71	255.19	0.61
T4-R6-S22	700	Floodway	1900.00	1743.00	1746.03		1746.39	0.009832	4.81	395.33	222.00	0.63
T4-R6-S22	800	Floodplain	1800.00	1760.00	1761.68	1761.33	1761.93	0.012795	5.28	491.47	429.81	0.72
T4-R6-S22	800	Floodway	1800.00	1760.00	1762.61	1762.55	1763.18	0.013864	7.17	353.77	238.31	0.78
T4-R6-S22	900	Floodplain	1700.00	1780.00	1782.97	1782.63	1783.50	0.012945	7.77	326.43	171.31	0.79
T4-R6-S22	900	Floodway	1700.00	1780.00	1783.97	1783.12	1784.83	0.012009	8.25	231.81	61.34	0.73
T4-R6-S22	1000	Floodplain	1600.00	1799.00	1801.61	1801.18	1802.17	0.011324	6.09	274.09	135.34	0.71
T4-R6-S22	1000	Floodway	1600.00	1799.00	1801.72	1801.18	1802.28	0.010624	5.97	268.12	112.00	0.68
T4-R6-S22	1100	Floodplain	1500.00	1816.07	1819.23	1818.89	1820.09	0.013476	7.49	207.49	88.61	0.80
T4-R6-S22	1100	Floodway	1500.00	1816.07	1819.24	1818.87	1820.13	0.014409	7.58	197.80	72.00	0.81
T4-R6-S22	1200	Floodplain	1400.00	1835.00	1837.85	1837.23	1838.30	0.009479	6.47	283.13	129.78	0.67
T4-R6-S22	1200	Floodway	1400.00	1835.00	1838.70		1839.43	0.009996	7.38	208.00	57.66	0.68
T4-R6-S22	1300	Floodplain	1300.00	1858.00	1860.74	1860.65	1861.59	0.017552	8.56	196.90	100.97	0.91
T4-R6-S22	1300	Floodway	1300.00	1858.00	1861.68		1863.03	0.016693	9.51	142.80	38.91	0.87

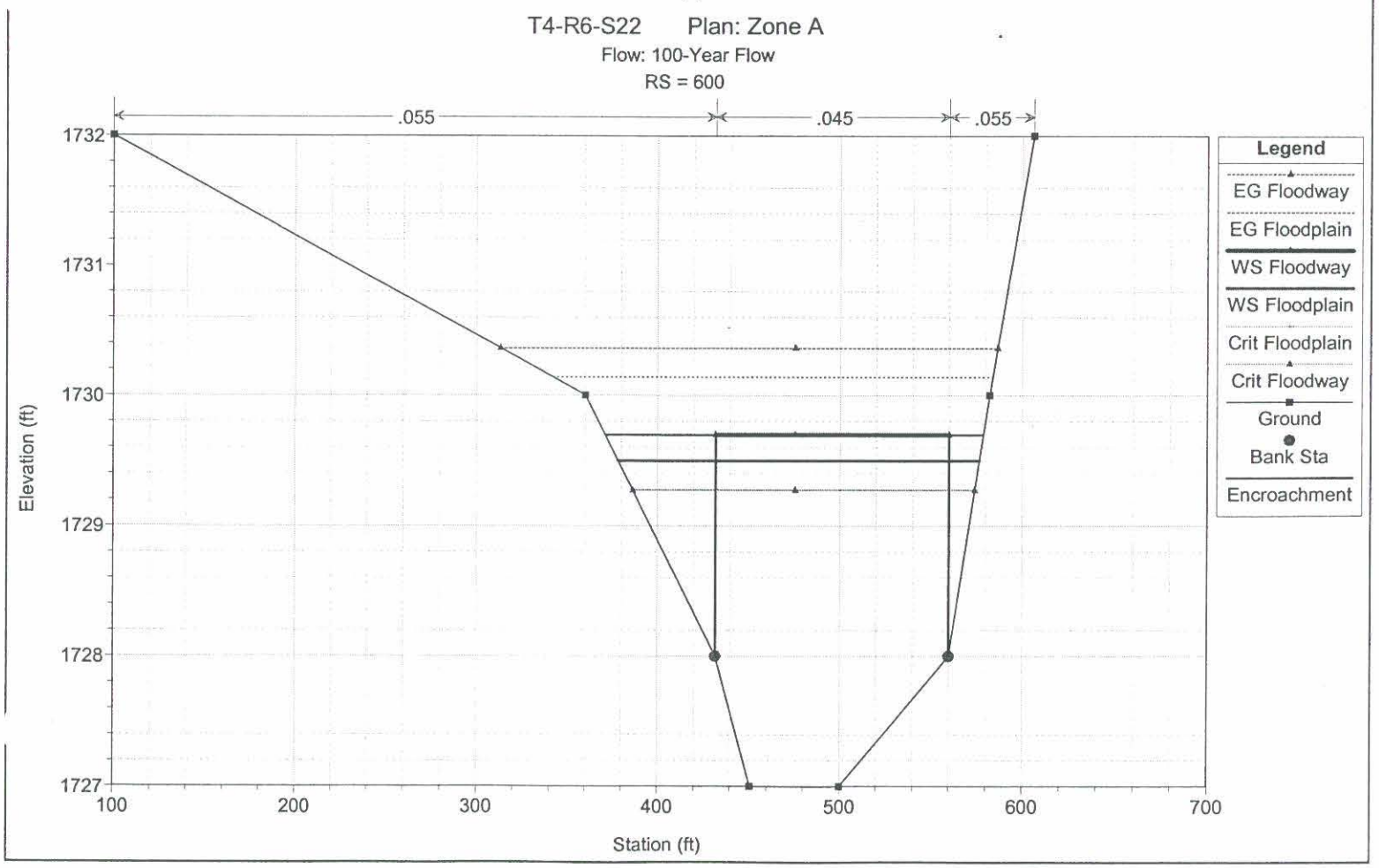

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 100
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

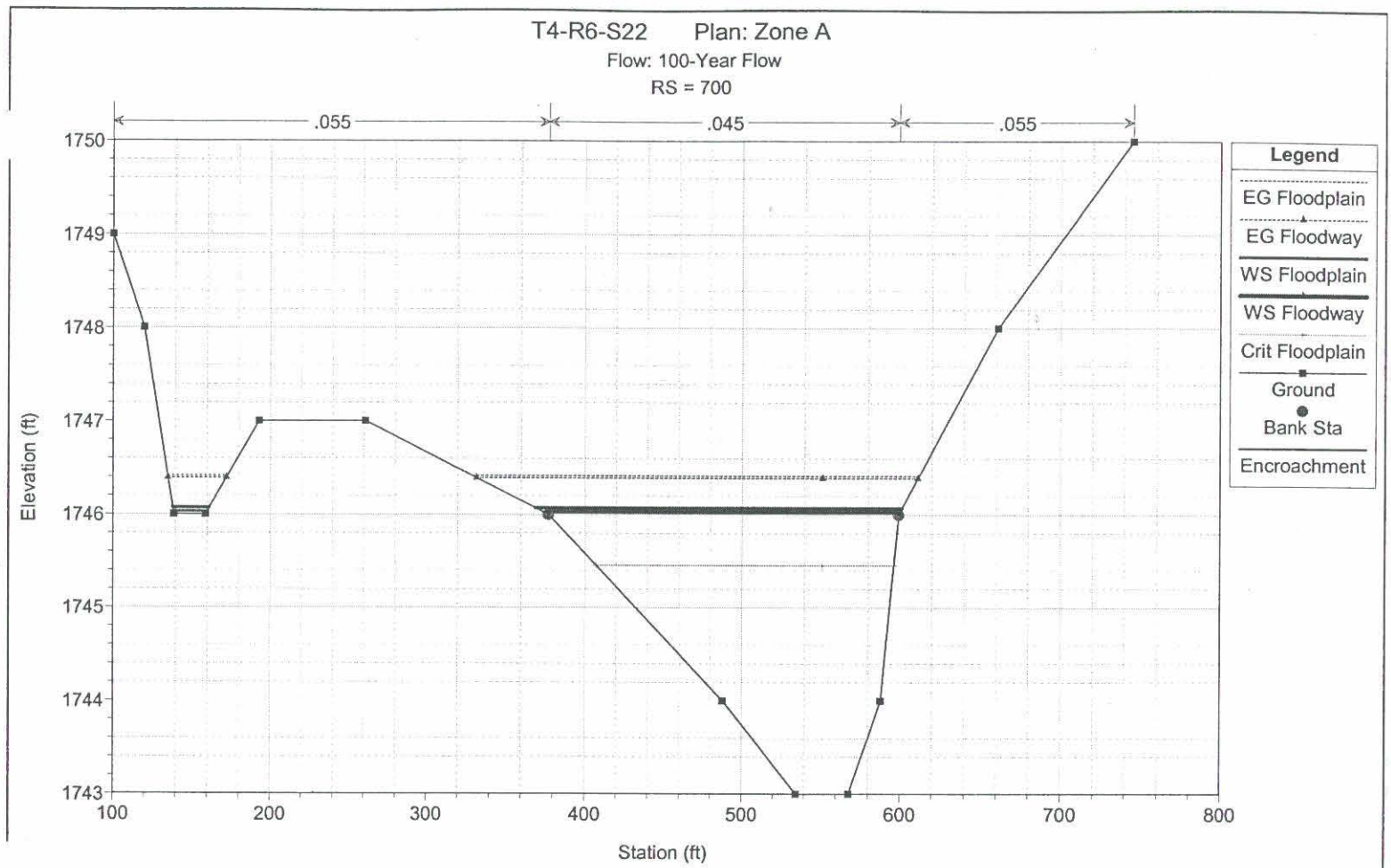

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 200
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment

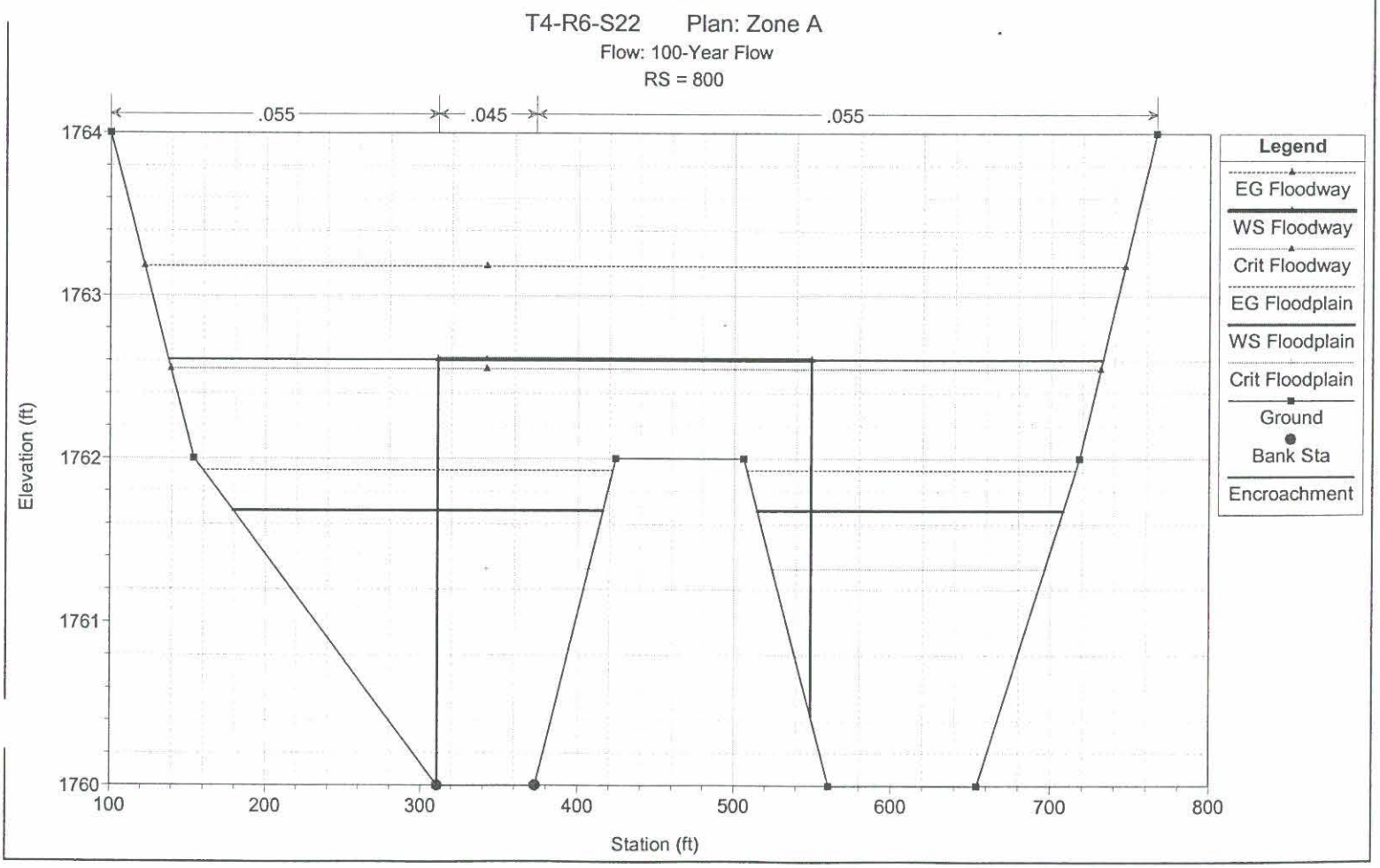

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 300
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

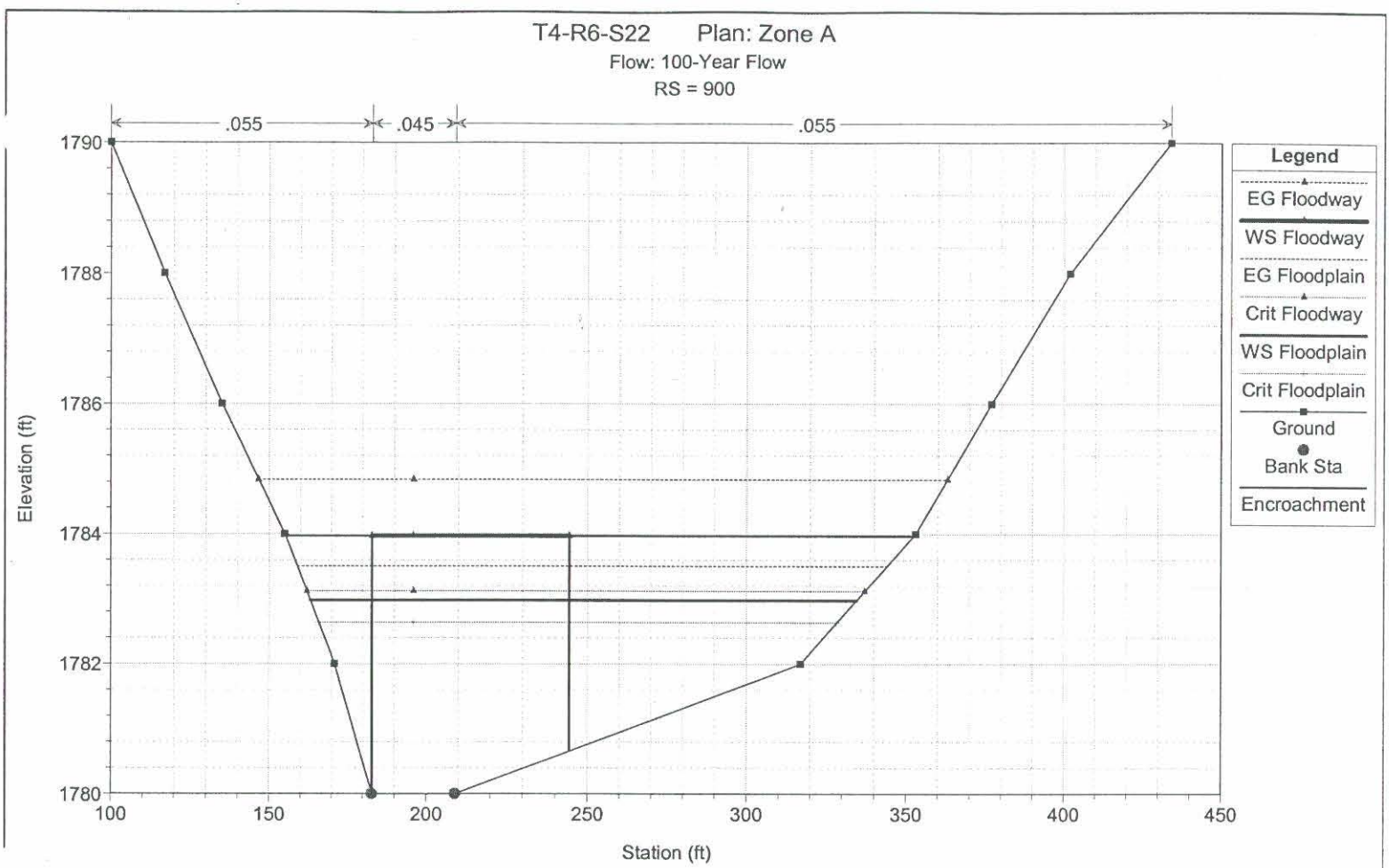

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 400
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

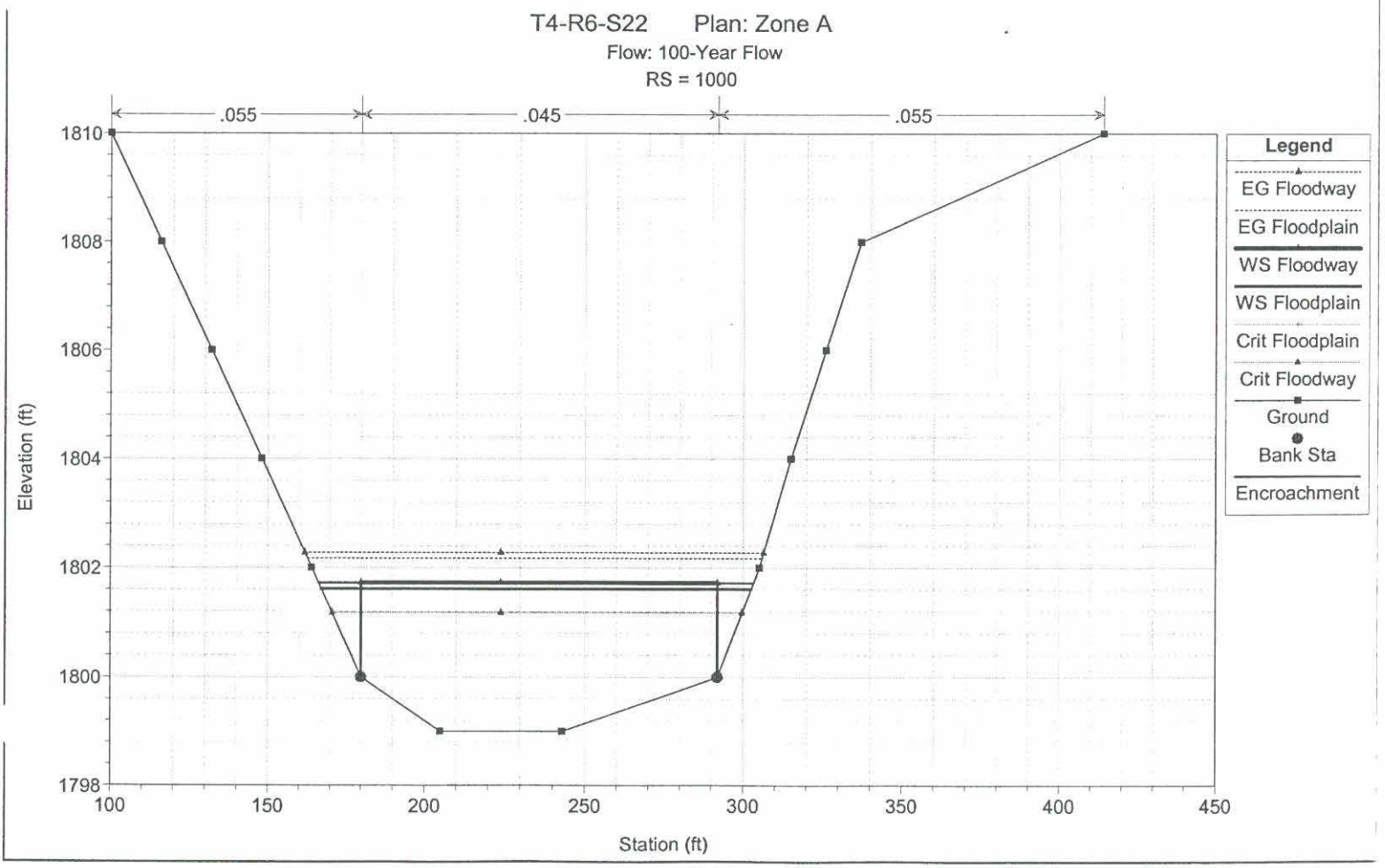

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 500
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment

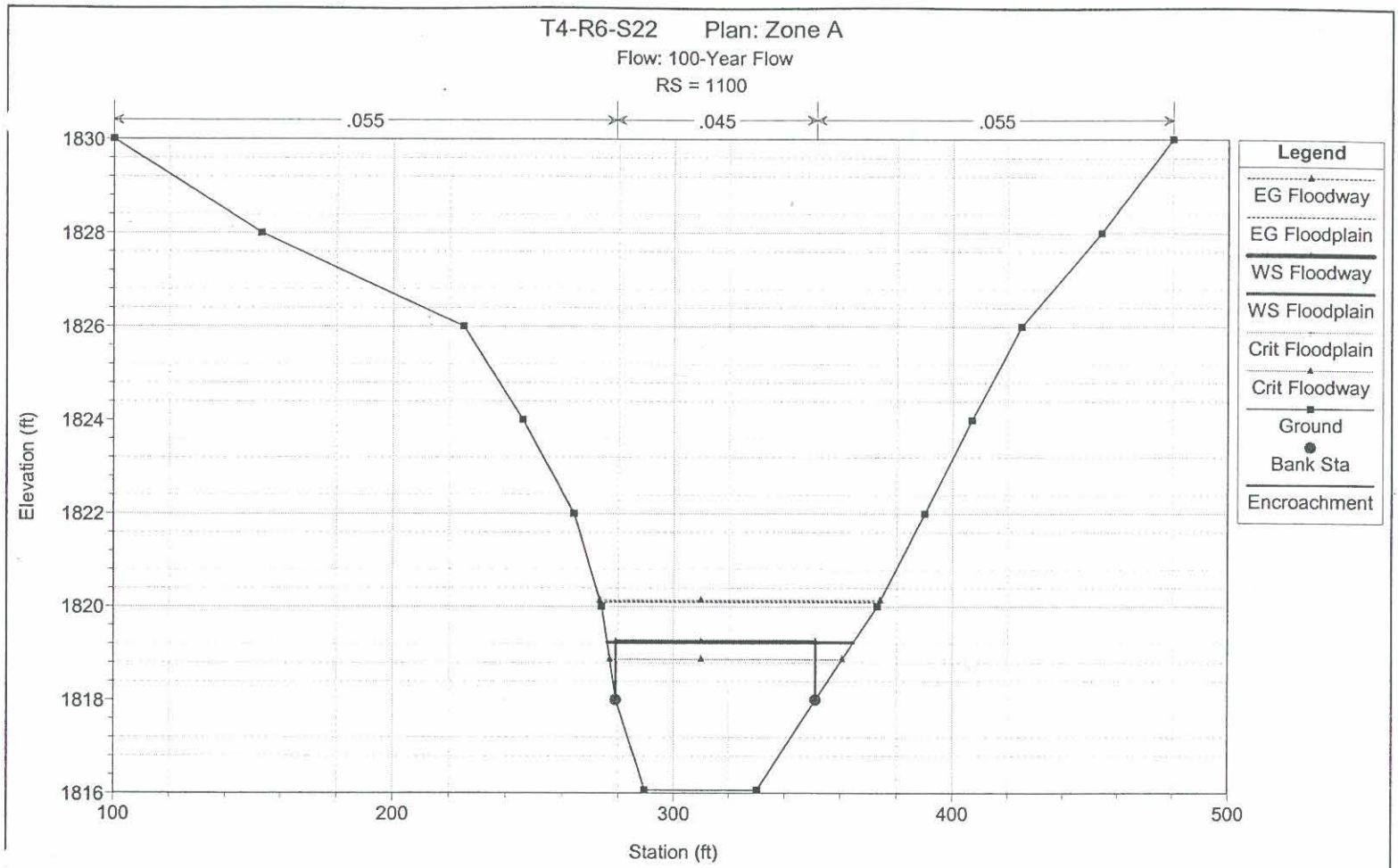

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 600
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

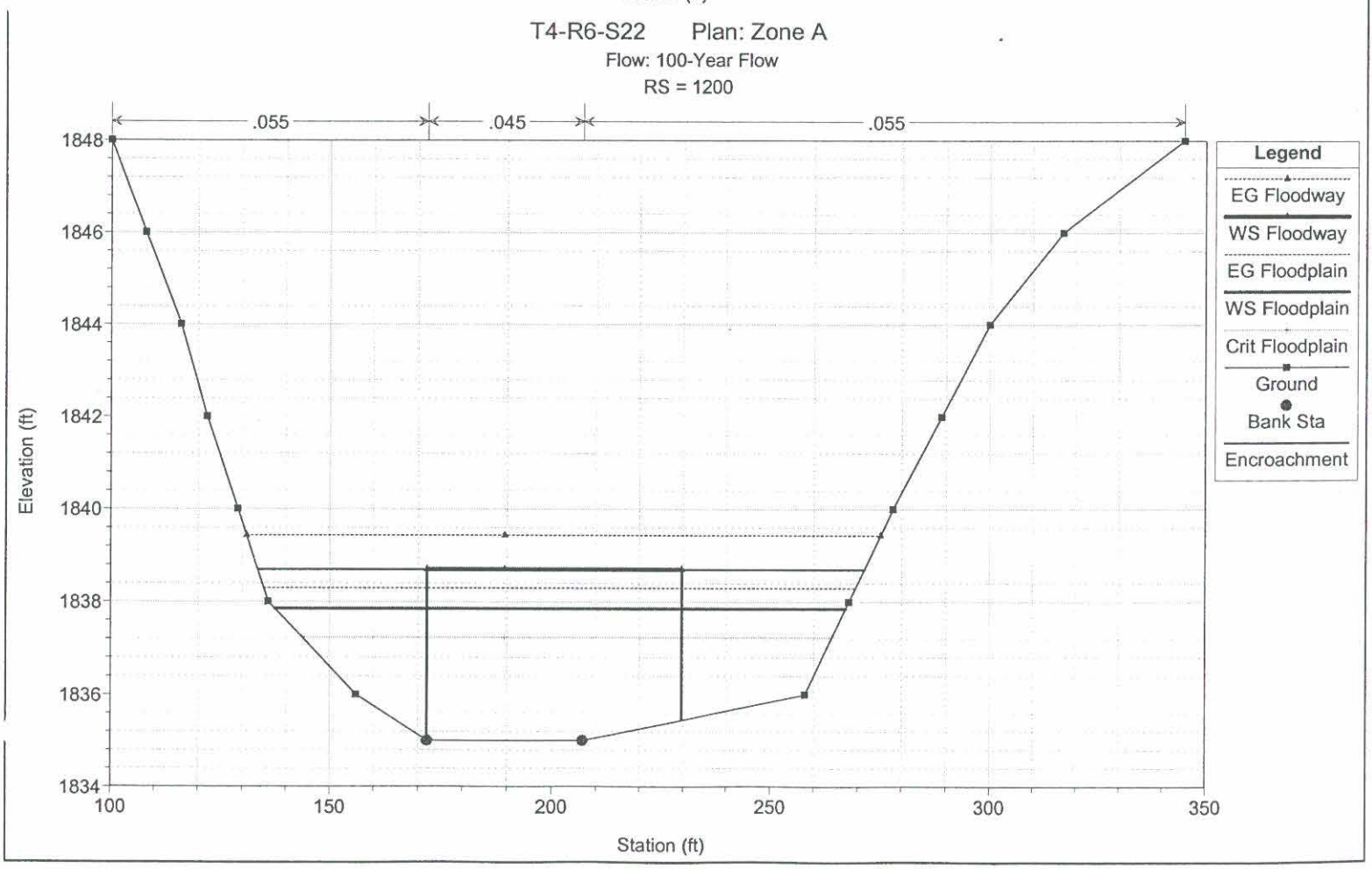

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 700
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
EG Floodway
WS Floodplain
WS Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment

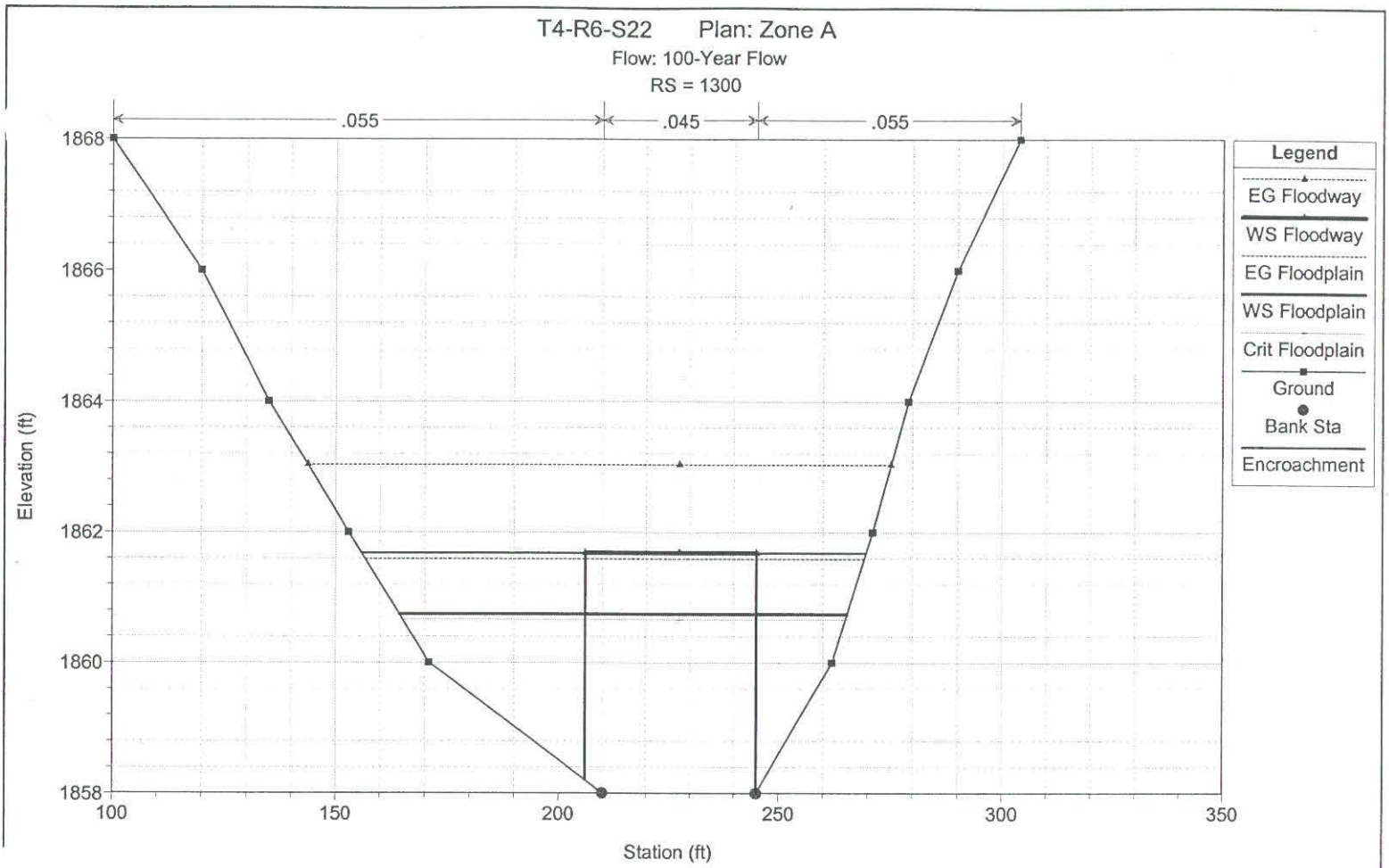

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 800
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
Crit Floodway
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment


T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 900
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
Crit Floodway
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment


T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 1000
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment


T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 1100
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment

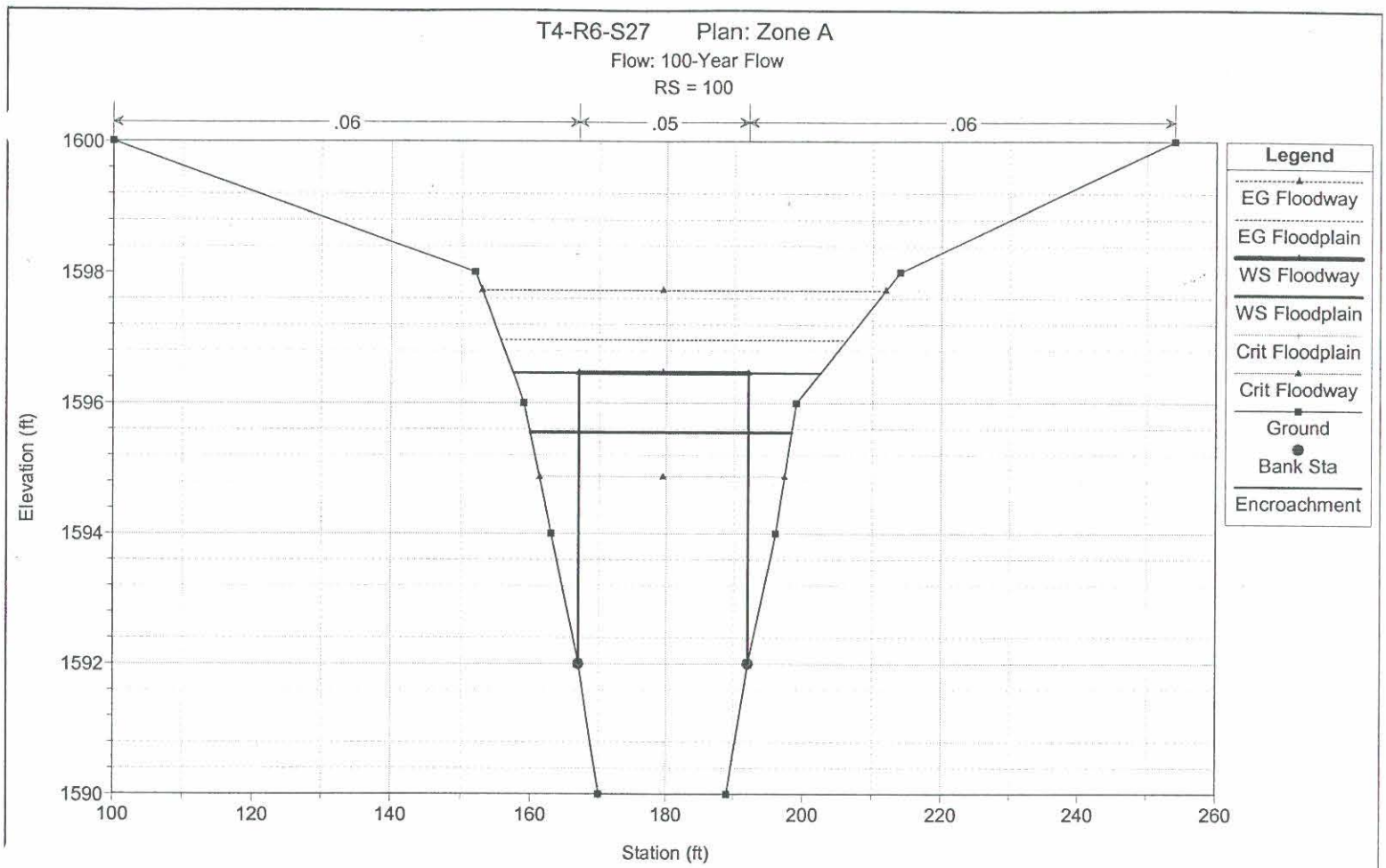

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 1200
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment

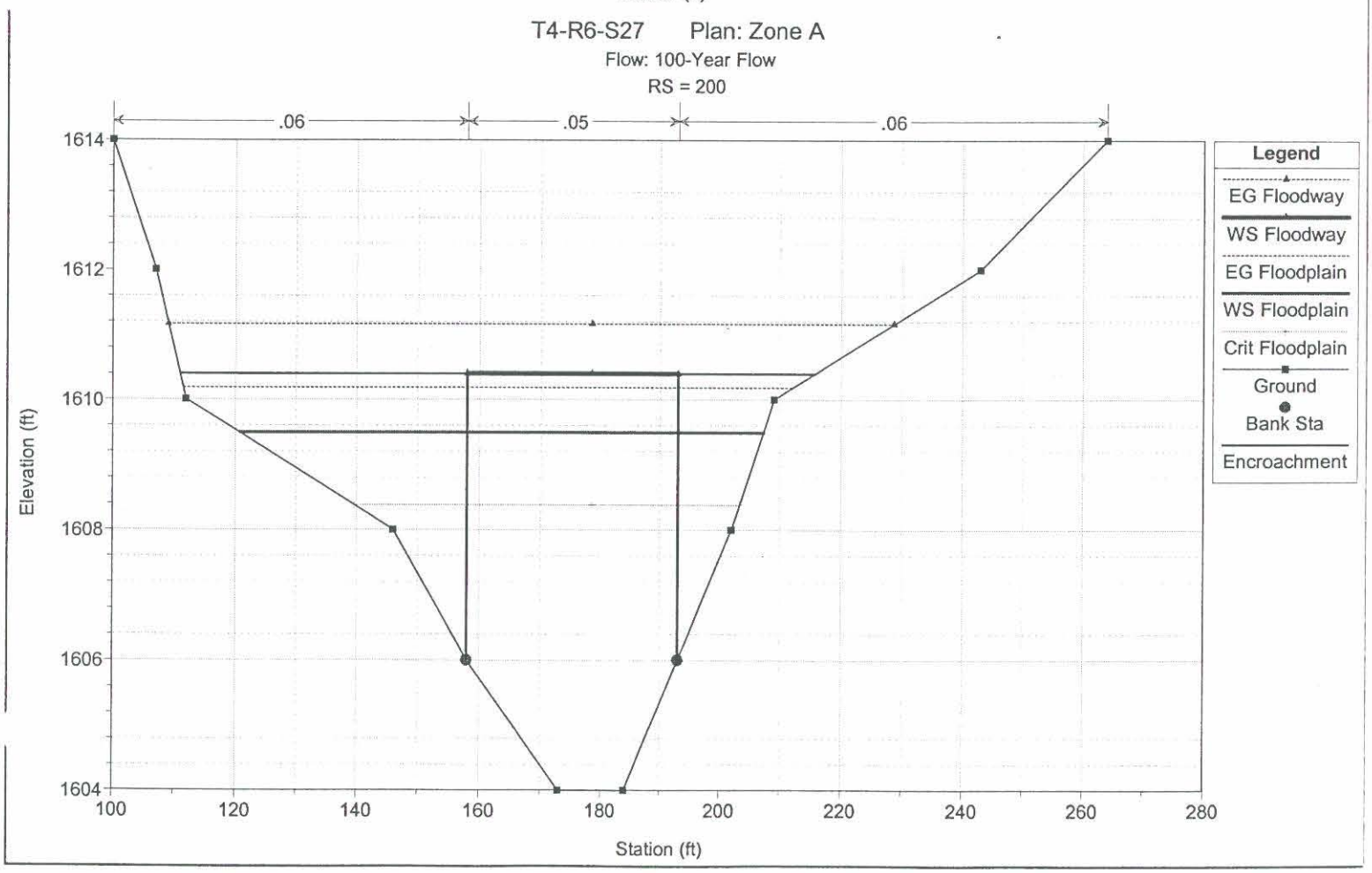

T4-R6-S22 Plan: Zone A
Flow: 100-Year Flow
RS = 1300
.055
.045
.055
1868
1866
1864
1862
1860
1858
Elevation (ft)
100
150
200
250
300
350
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment

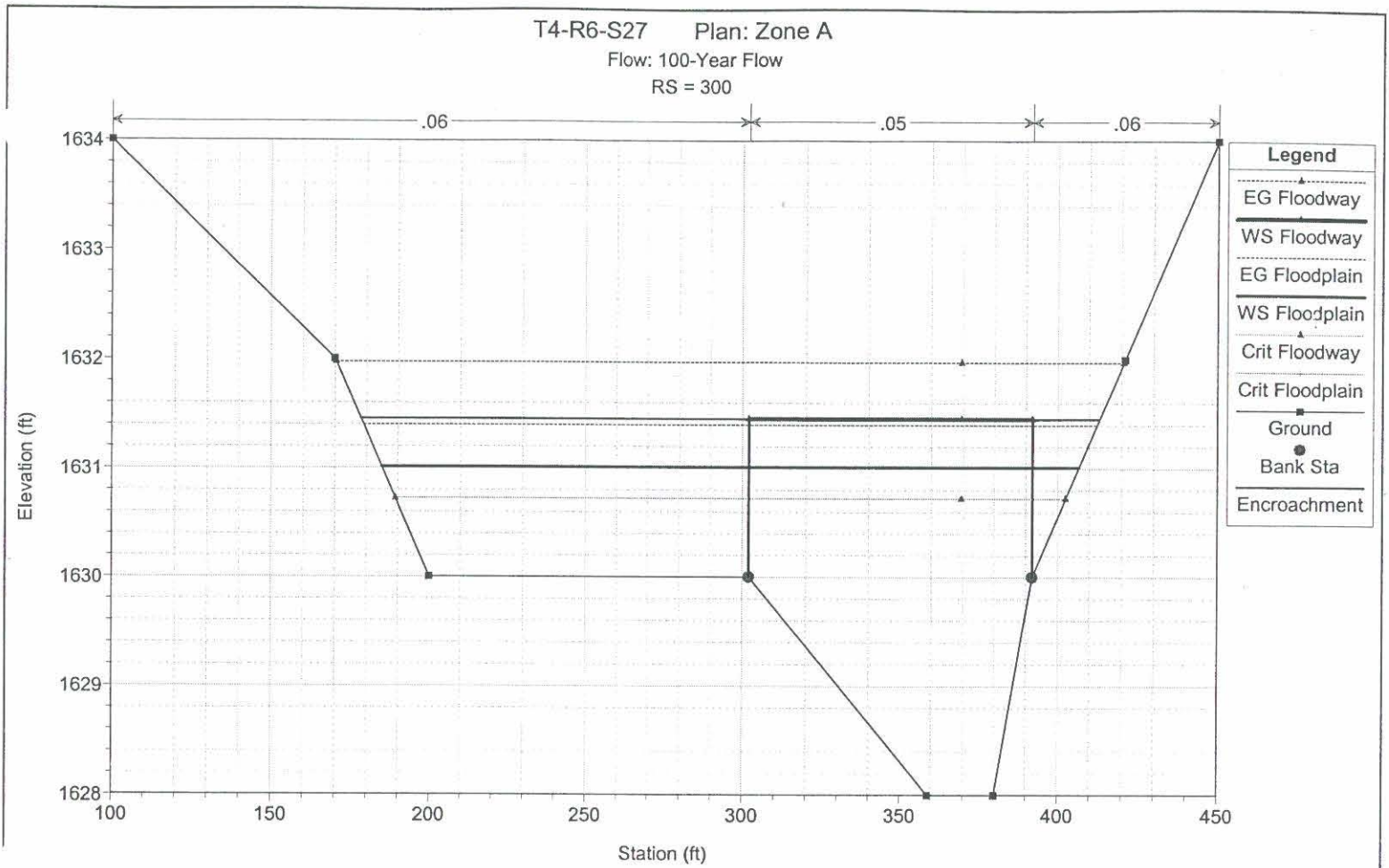
Coyote Wash
T4-R6-S27

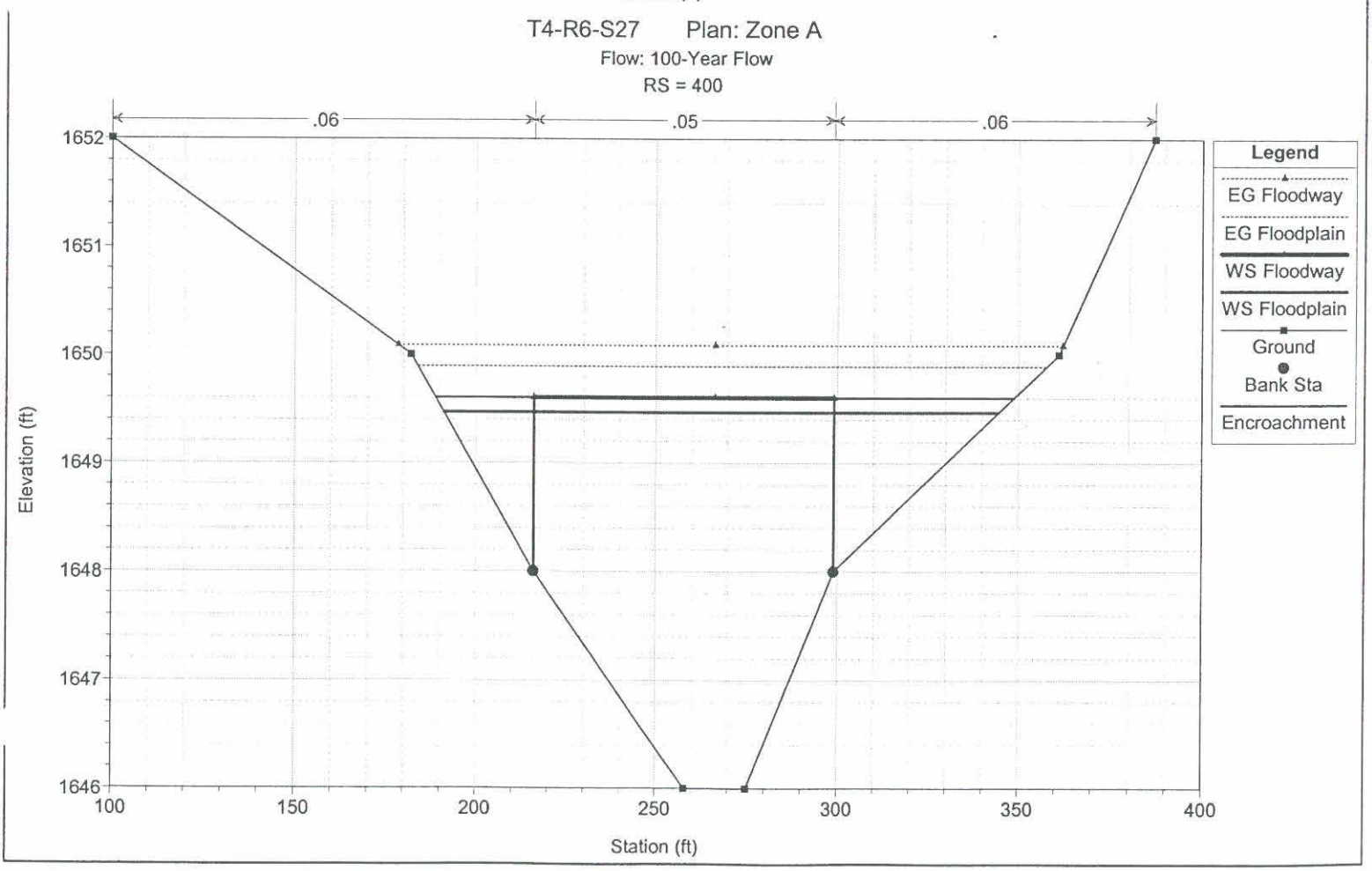
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4-R6-S27

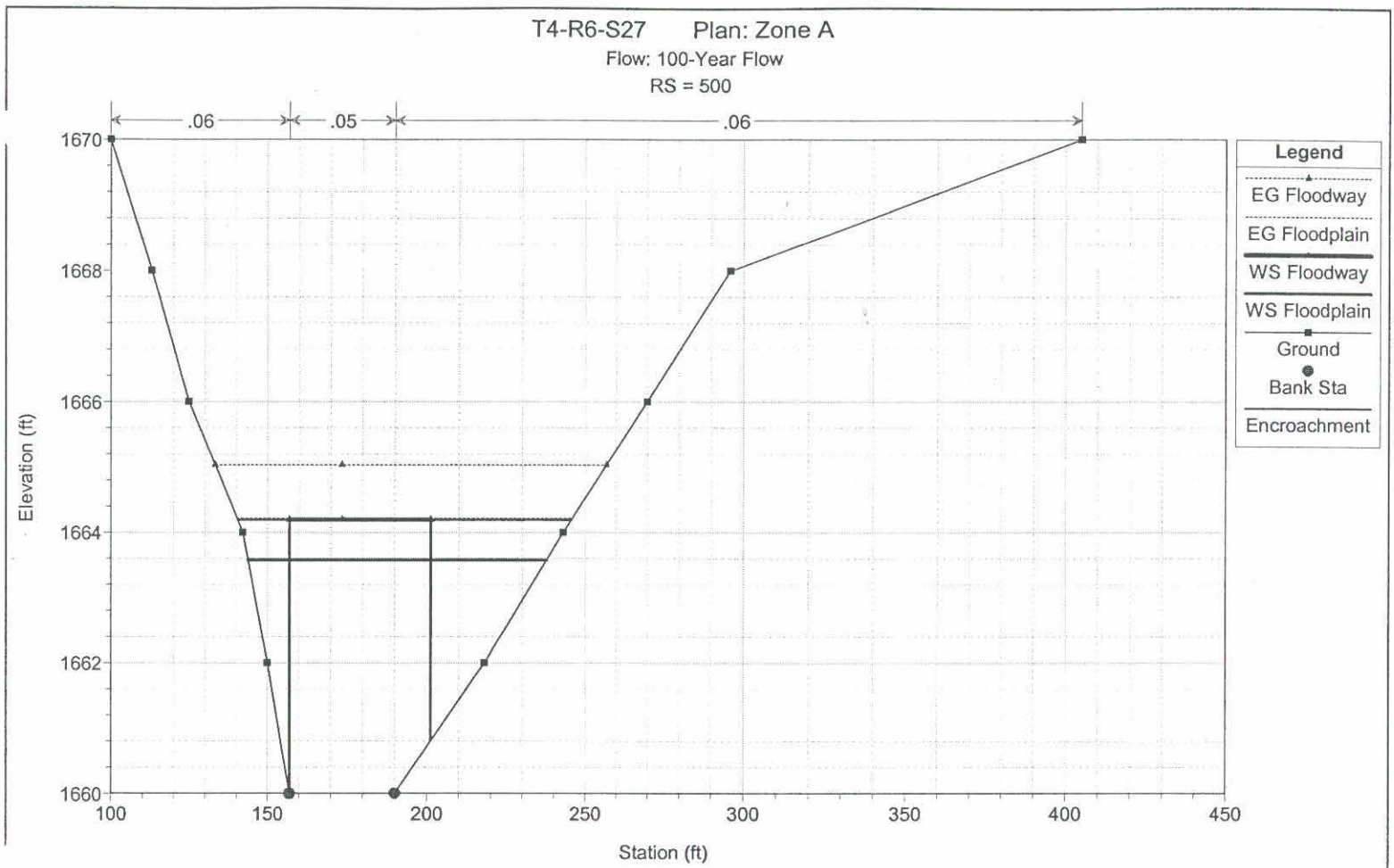
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4-R6-S27	100	Floodplain	1400.00	1590.00	1595.55	1594.86	1596.97	0.012609	9.84	157.29	38.42	0.75
T4-R6-S27	100	Floodway	1400.00	1590.00	1596.46	1594.86	1597.72	0.012606	9.00	155.60	25.00	0.64
T4-R6-S27	200	Floodplain	1400.00	1604.00	1609.49	1608.37	1610.18	0.007169	7.12	243.23	86.55	0.57
T4-R6-S27	200	Floodway	1400.00	1604.00	1610.40		1611.16	0.007409	7.00	199.94	35.00	0.52
T4-R6-S27	300	Floodplain	1400.00	1628.00	1631.01	1630.72	1631.40	0.011568	5.47	319.89	221.78	0.64
T4-R6-S27	300	Floodway	1400.00	1628.00	1631.45	1630.72	1631.97	0.010647	5.79	241.70	90.00	0.62
T4-R6-S27	400	Floodplain	1300.00	1646.00	1649.47		1649.89	0.009003	5.42	273.17	153.34	0.58
T4-R6-S27	400	Floodway	1300.00	1646.00	1649.60		1650.09	0.009374	5.58	233.05	83.00	0.59
T4-R6-S27	500	Floodplain	1300.00	1660.00	1663.58		1664.22	0.011274	7.38	228.53	93.98	0.69
T4-R6-S27	500	Floodway	1300.00	1660.00	1664.19		1665.03	0.011722	7.72	180.83	44.24	0.66
T4-R6-S27	600	Floodplain	1200.00	1681.00	1682.63	1682.43	1682.86	0.015884	5.18	343.17	339.88	0.72
T4-R6-S27	600	Floodway	1200.00	1681.00	1682.68	1682.43	1682.89	0.013712	4.91	360.52	341.67	0.67

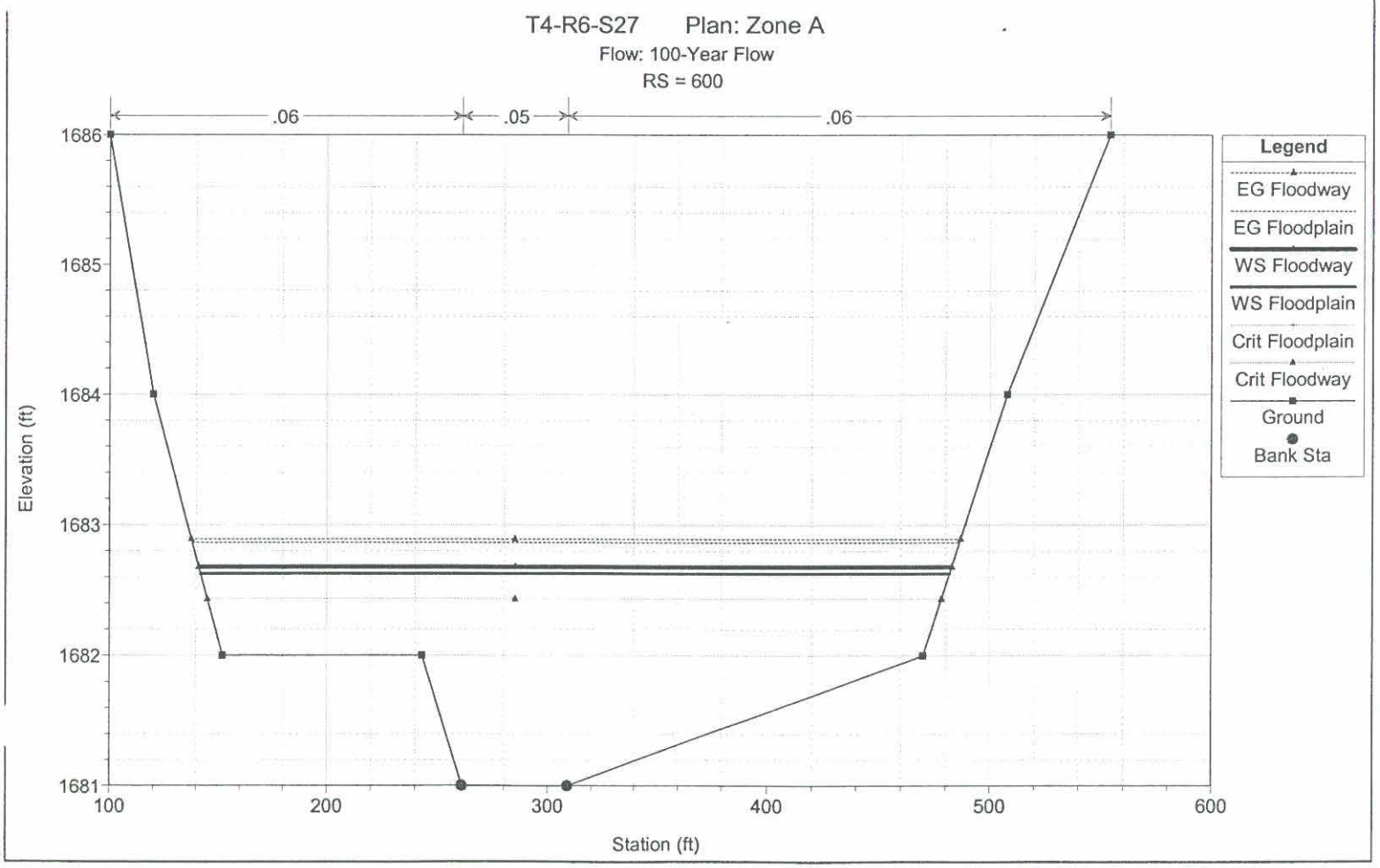

T4-R6-S27 Plan: Zone A
Flow: 100-Year Flow
RS = 100
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta
Encroachment


T4-R6-S27 Plan: Zone A
Flow: 100-Year Flow
RS = 200
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Encroachment


T4-R6-S27 Plan: Zone A
Flow: 100-Year Flow
RS = 300
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
WS Floodway
EG Floodplain
WS Floodplain
Crit Floodway
Crit Floodplain
Ground
Bank Sta
Encroachment


T4-R6-S27 Plan: Zone A
Flow: 100-Year Flow
RS = 400
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Ground
Bank Sta
Encroachment

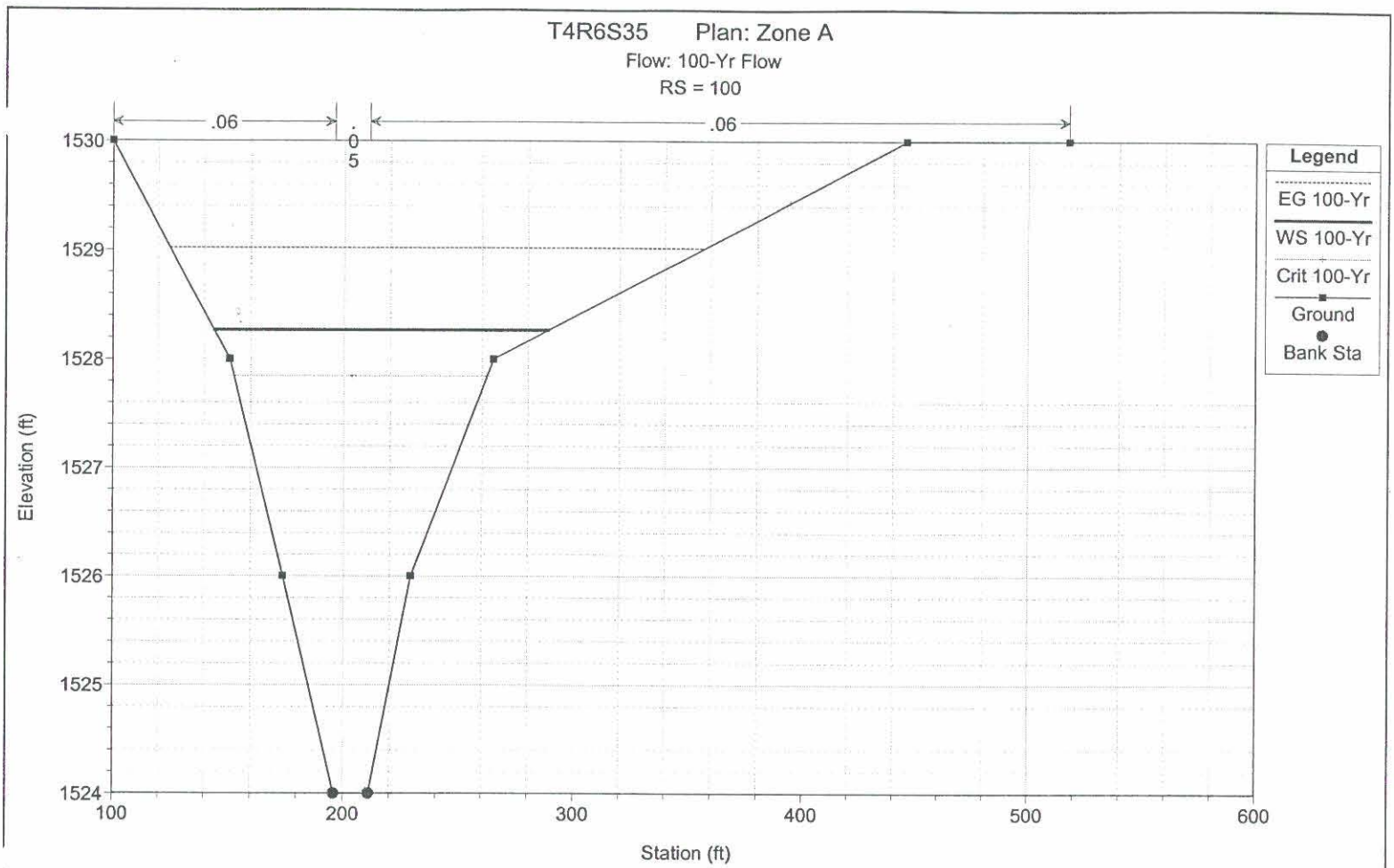

T4-R6-S27 Plan: Zone A
Flow: 100-Year Flow
RS = 500
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Ground
Bank Sta
Encroachment

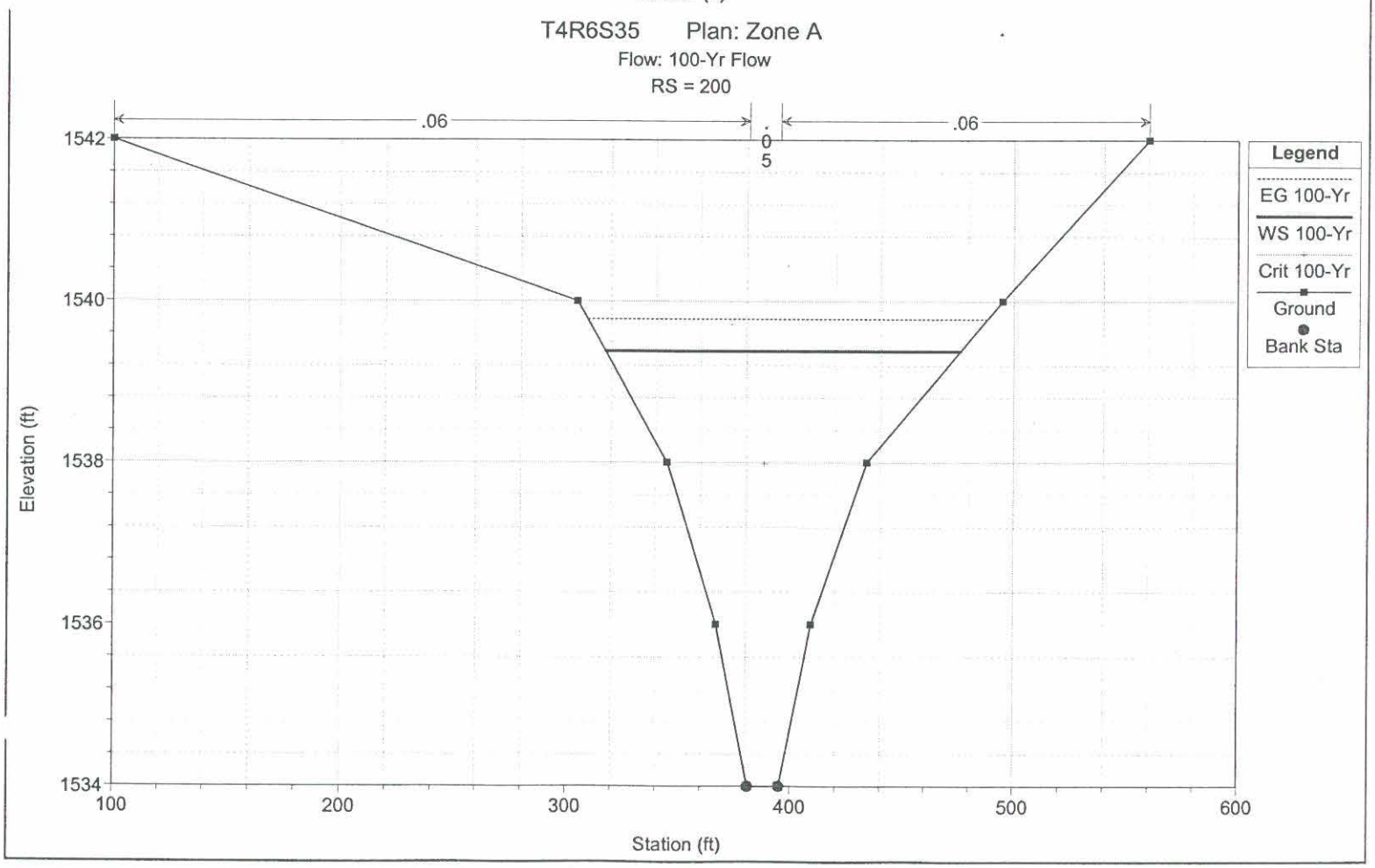

T4-R6-S27 Plan: Zone A
Flow: 100-Year Flow
RS = 600
.06
.05
.06
Elevation (ft)
Station (ft)
Legend
EG Floodway
EG Floodplain
WS Floodway
WS Floodplain
Crit Floodplain
Crit Floodway
Ground
Bank Sta

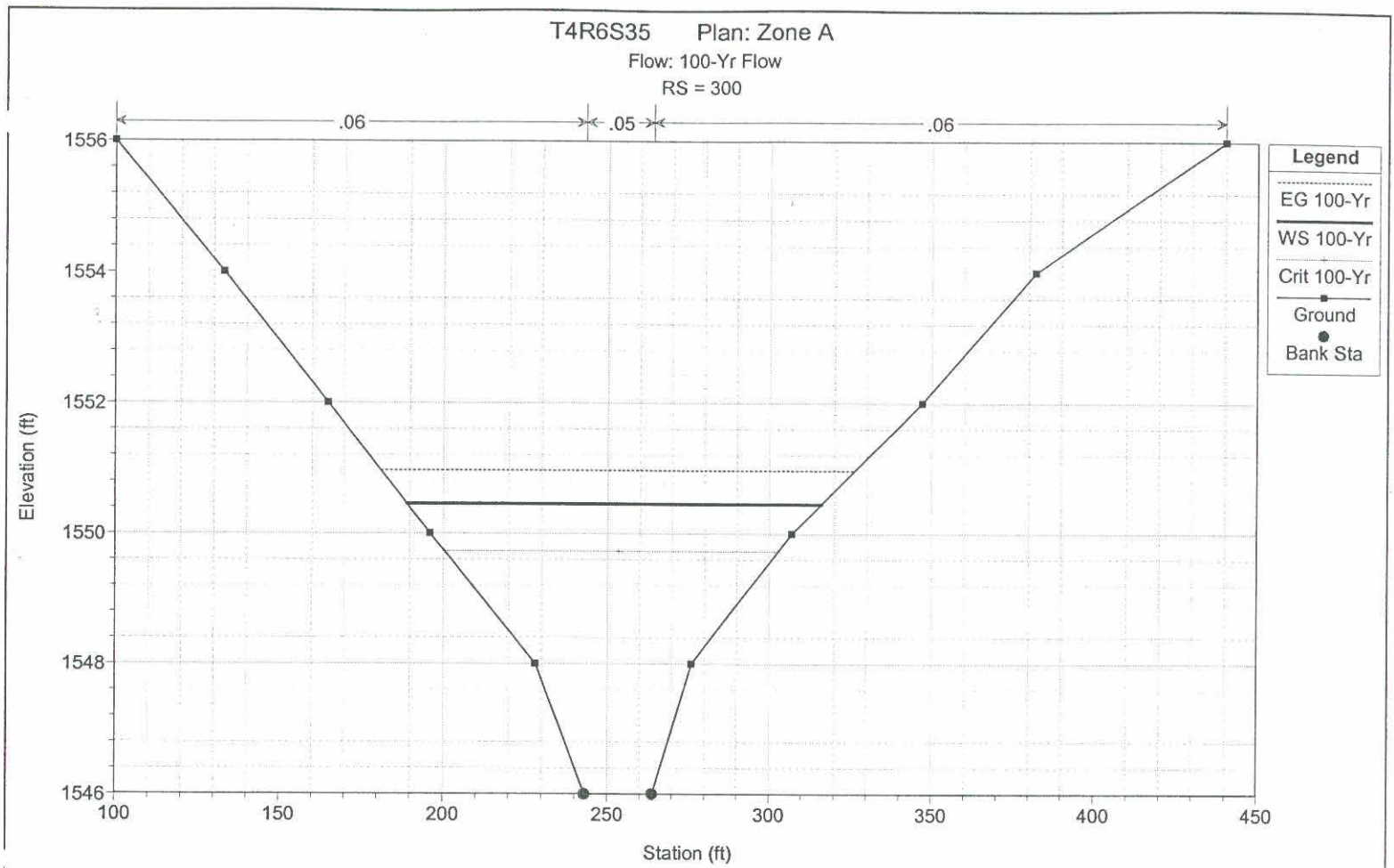
Coyote Wash
T4-R6-S35

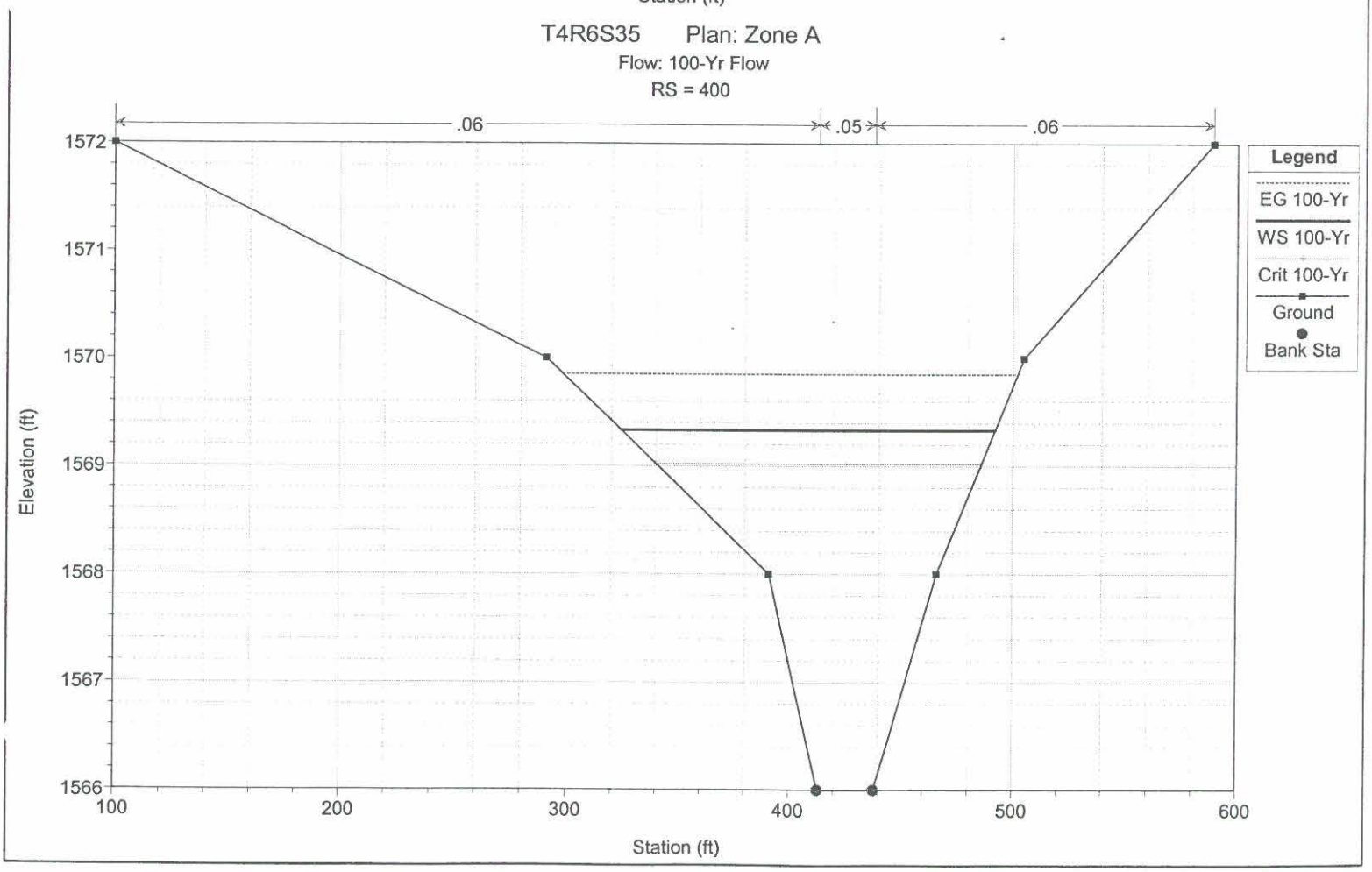
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R6S35

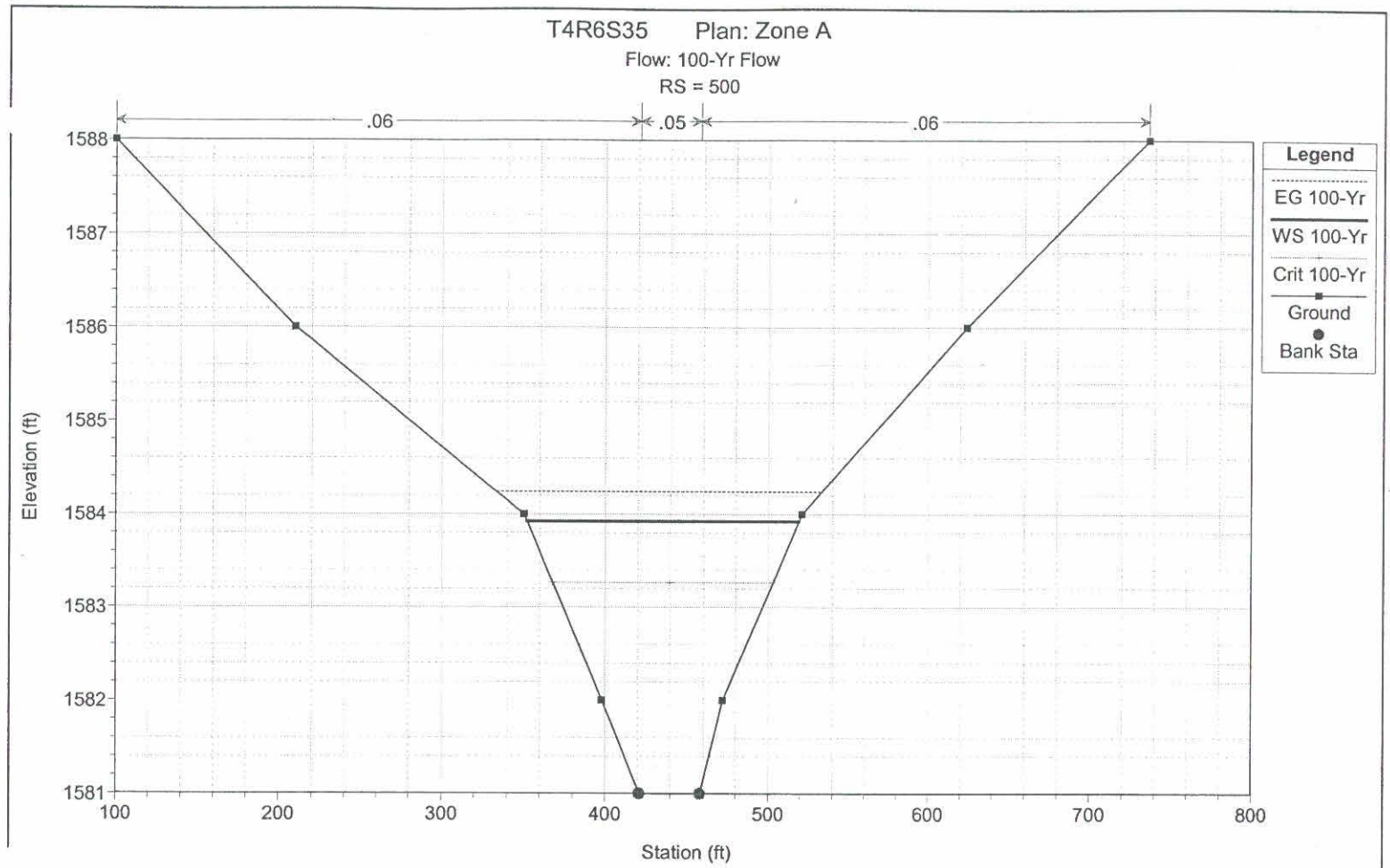
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R6S35	100	Floodplain	1500.00	1524.00	1528.27	1527.84	1529.02	0.015010	9.58	273.31	144.74	0.82
T4R6S35	100	Floodway	1500.00	1524.00	1528.27	1527.84	1529.02	0.015010	9.58	273.31	144.74	0.82
T4R6S35	200	Floodplain	1400.00	1534.00	1539.38	1537.98	1539.78	0.006193	7.18	357.67	158.62	0.55
T4R6S35	200	Floodway	1400.00	1534.00	1539.38		1539.78	0.006193	7.18	357.67	158.62	0.55
T4R6S35	300	Floodplain	1300.00	1546.00	1550.45	1549.72	1550.97	0.008208	7.29	281.86	127.06	0.61
T4R6S35	300	Floodway	1300.00	1546.00	1550.45	1549.72	1550.97	0.008208	7.29	281.86	127.06	0.61
T4R6S35	400	Floodplain	1200.00	1566.00	1569.33	1569.02	1569.86	0.012521	7.42	261.50	167.55	0.72
T4R6S35	400	Floodway	1200.00	1566.00	1569.33	1569.02	1569.86	0.012521	7.42	261.50	167.55	0.72
T4R6S35	500	Floodplain	1100.00	1581.00	1583.92	1583.27	1584.24	0.008311	5.54	287.37	167.23	0.57
T4R6S35	500	Floodway	1100.00	1581.00	1583.92	1583.27	1584.24	0.008311	5.54	287.37	167.23	0.57
T4R6S35	600	Floodplain	1000.00	1598.00	1599.90	1599.67	1600.30	0.017197	5.97	224.73	182.04	0.76
T4R6S35	600	Floodway	1000.00	1598.00	1599.90	1599.67	1600.30	0.017197	5.97	224.73	182.04	0.76
T4R6S35	700	Floodplain	900.00	1626.00	1628.25	1627.88	1628.66	0.014200	6.08	230.78	243.73	0.71
T4R6S35	700	Floodway	900.00	1626.00	1628.25	1627.88	1628.66	0.014200	6.08	230.78	243.73	0.71
T4R6S35	800	Floodplain	800.00	1640.00	1644.50	1644.50	1645.67	0.018039	9.39	109.58	55.26	0.86
T4R6S35	800	Floodway	800.00	1640.00	1644.50	1644.50	1645.67	0.018039	9.39	109.58	55.26	0.86

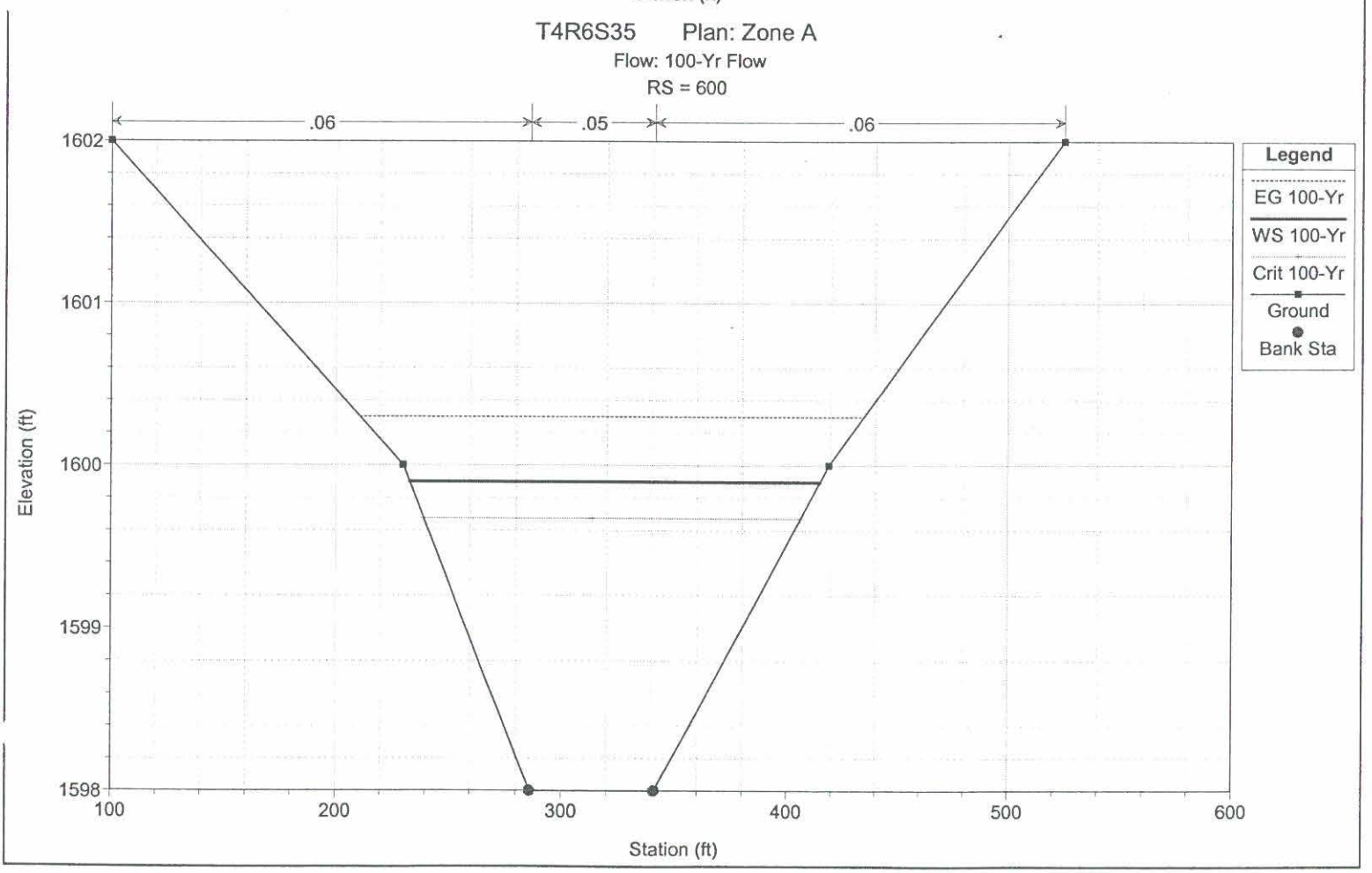

T4R6S35 Plan: Zone A
Flow: 100-Yr Flow
RS = 100
.06
.05
.06
Legend
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Ground
Bank Sta
Elevation (ft)
1530
1529
1528
1527
1526
1525
1524
100
200
300
400
500
600
Station (ft)

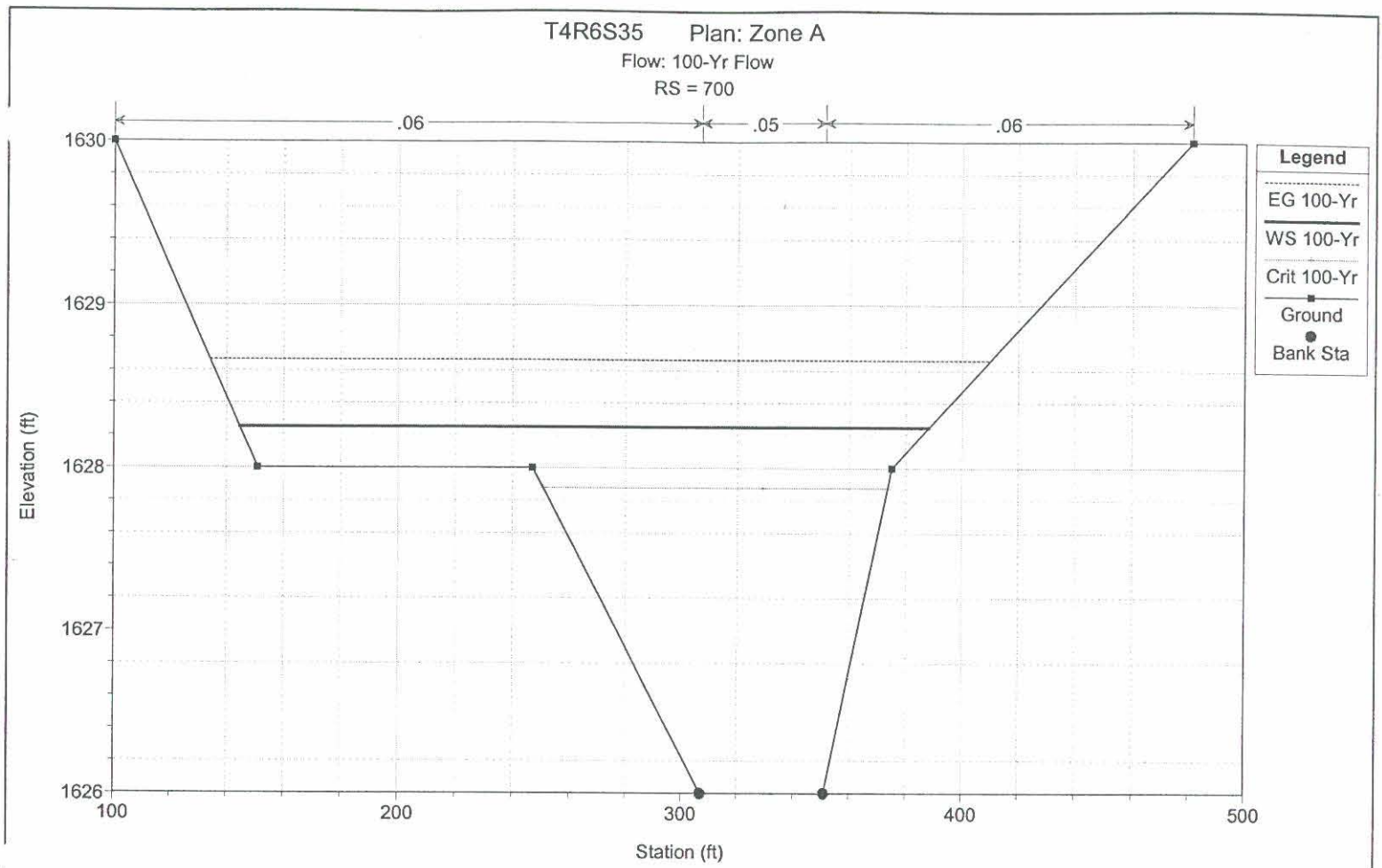

T4R6S35 Plan: Zone A
Flow: 100-Yr Flow
RS = 200
.06
.05
.06
Legend
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Ground
Bank Sta
Elevation (ft)
1542
1540
1538
1536
1534
100
200
300
400
500
600
Station (ft)

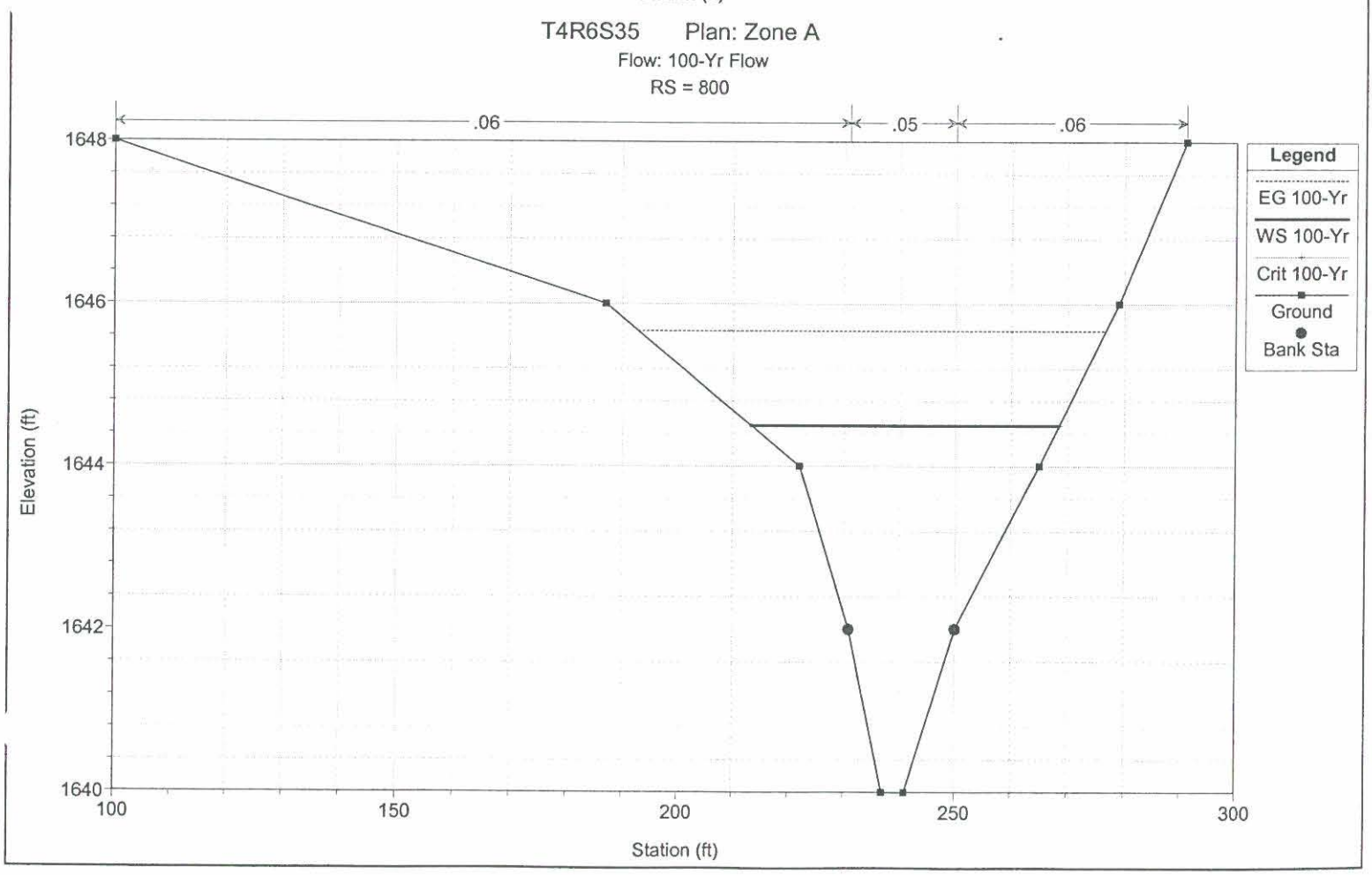

T4R6S35 Plan: Zone A
Flow: 100-Yr Flow
RS = 300
.06
.05
.06
Legend
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Ground
Bank Sta
Elevation (ft)
1556
1554
1552
1550
1548
1546
100
150
200
250
300
350
400
450
Station (ft)


T4R6S35 Plan: Zone A
Flow: 100-Yr Flow
RS = 400
.06
.05
.06
Legend
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Ground
Bank Sta
Elevation (ft)
1572
1571
1570
1569
1568
1567
1566
100
200
300
400
500
600
Station (ft)


T4R6S35 Plan: Zone A
Flow: 100-Yr Flow
RS = 500
.06
.05
.06
Legend
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Ground
Bank Sta
Elevation (ft)
1588
1587
1586
1585
1584
1583
1582
1581
100
200
300
400
500
600
700
800
Station (ft)


T4R6S35 Plan: Zone A
Flow: 100-Yr Flow
RS = 600
.06
.05
.06
Legend
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Ground
Bank Sta
Elevation (ft)
1602
1601
1600
1599
1598
100
200
300
400
500
600
Station (ft)

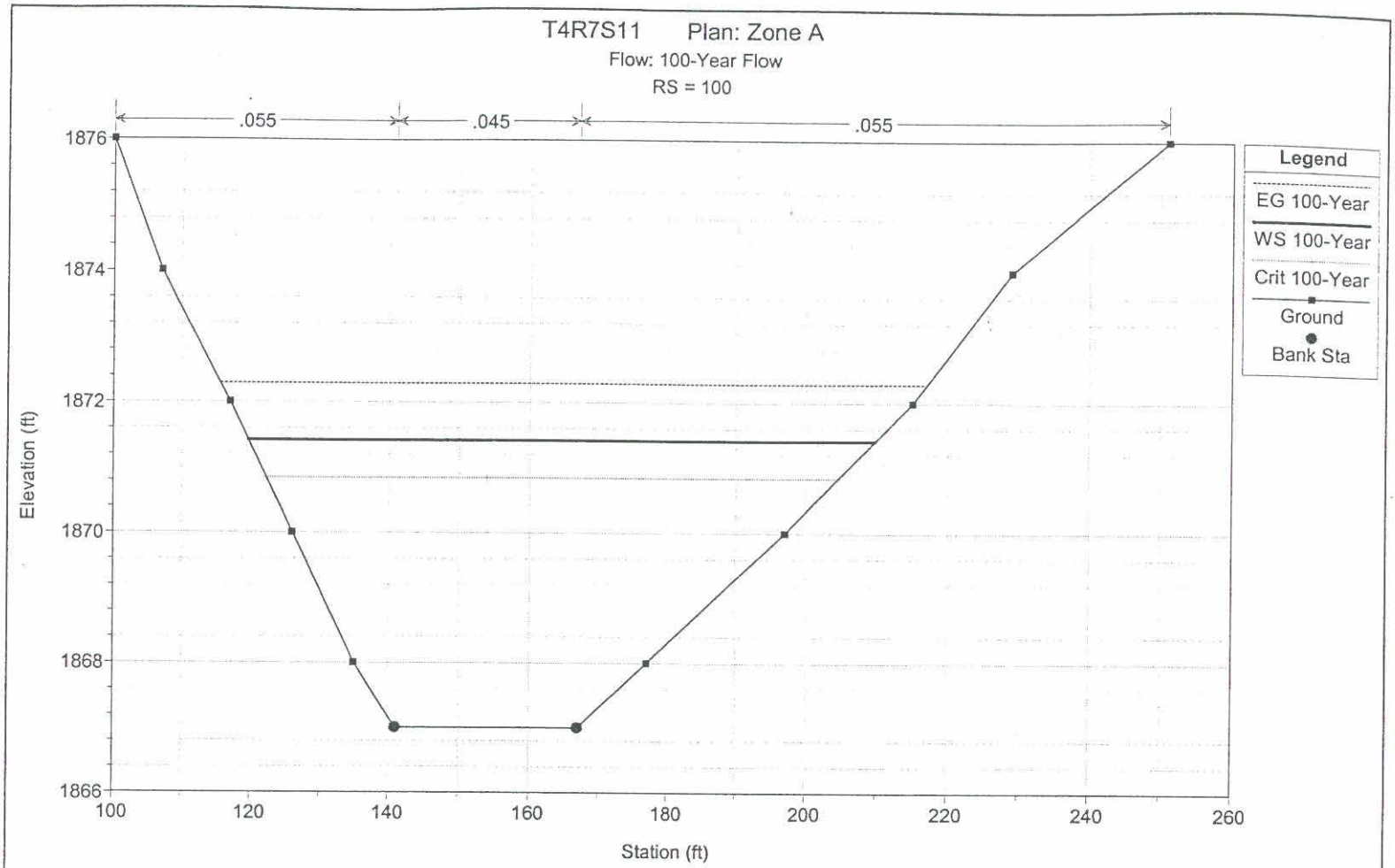

T4R6S35 Plan: Zone A
Flow: 100-Yr Flow
RS = 700
.06
.05
.06
1630
1629
1628
1627
1626
Elevation (ft)
100
200
300
400
500
Station (ft)
Legend
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Ground
Bank Sta

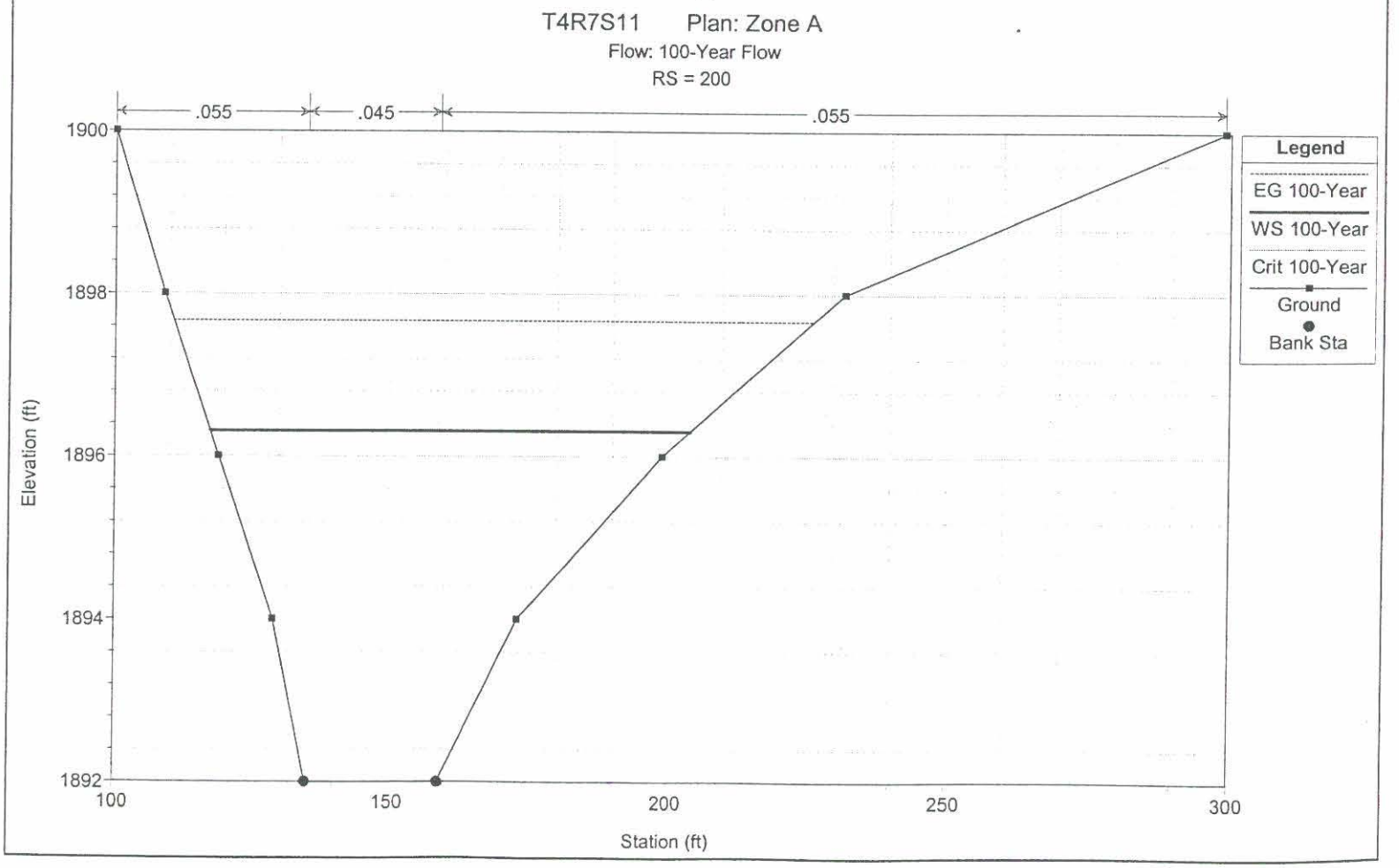

T4R6S35 Plan: Zone A
Flow: 100-Yr Flow
RS = 800
.06
.05
.06
1648
1646
1644
1642
1640
Elevation (ft)
100
150
200
250
300
Station (ft)
Legend
EG 100-Yr
WS 100-Yr
Crit 100-Yr
Ground
Bank Sta

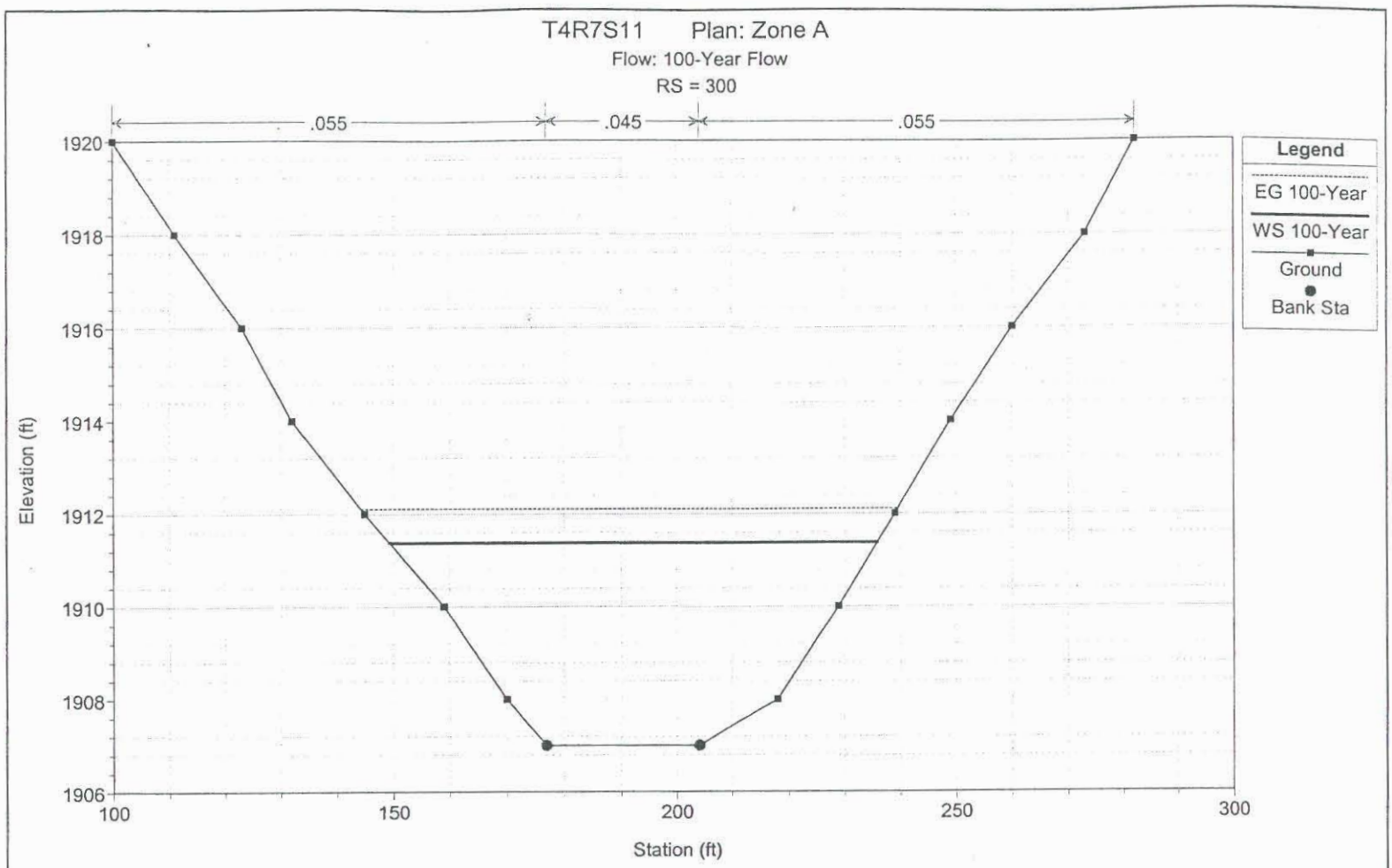
Coyote Wash
T4-R7-S11

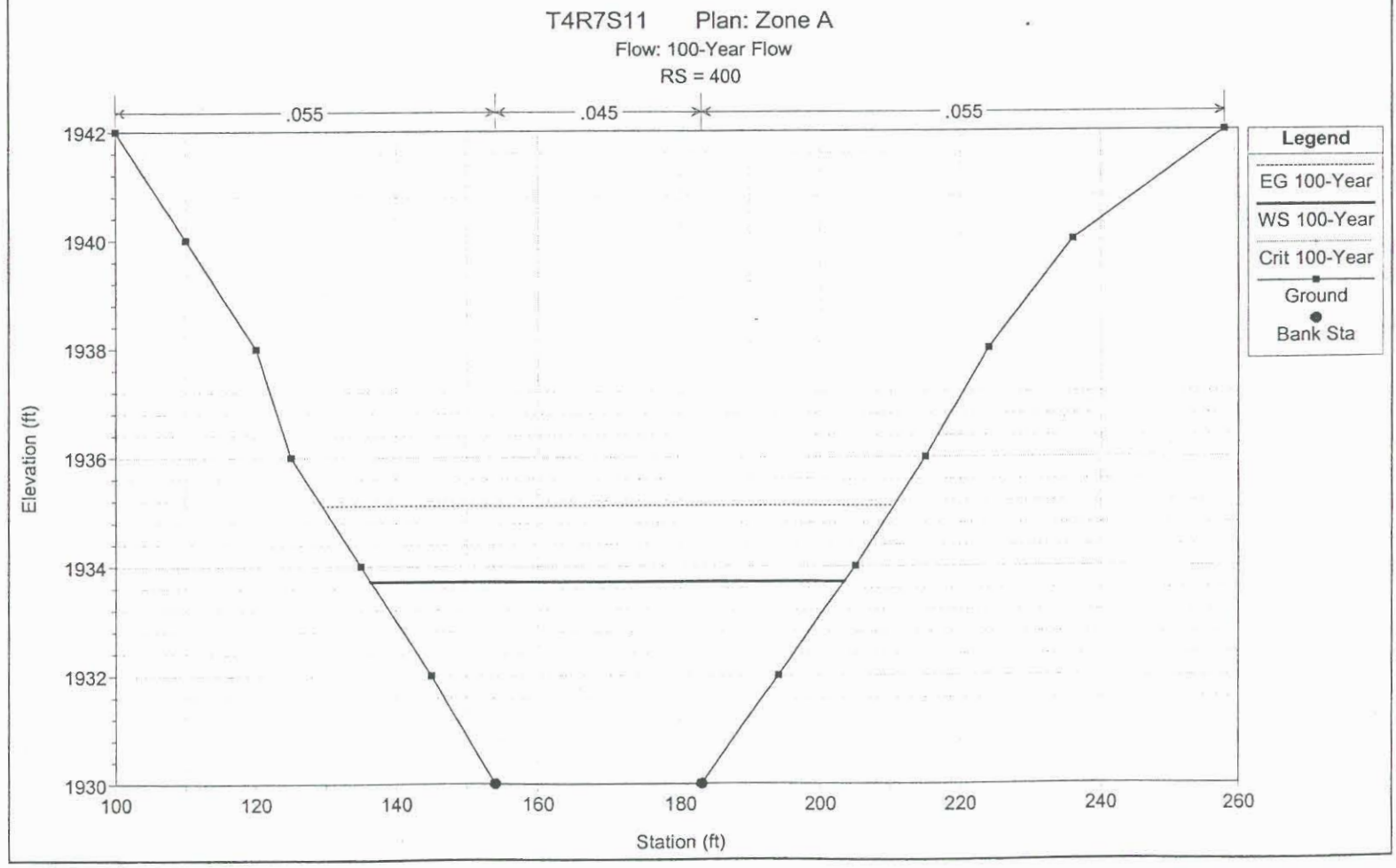
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R7S11

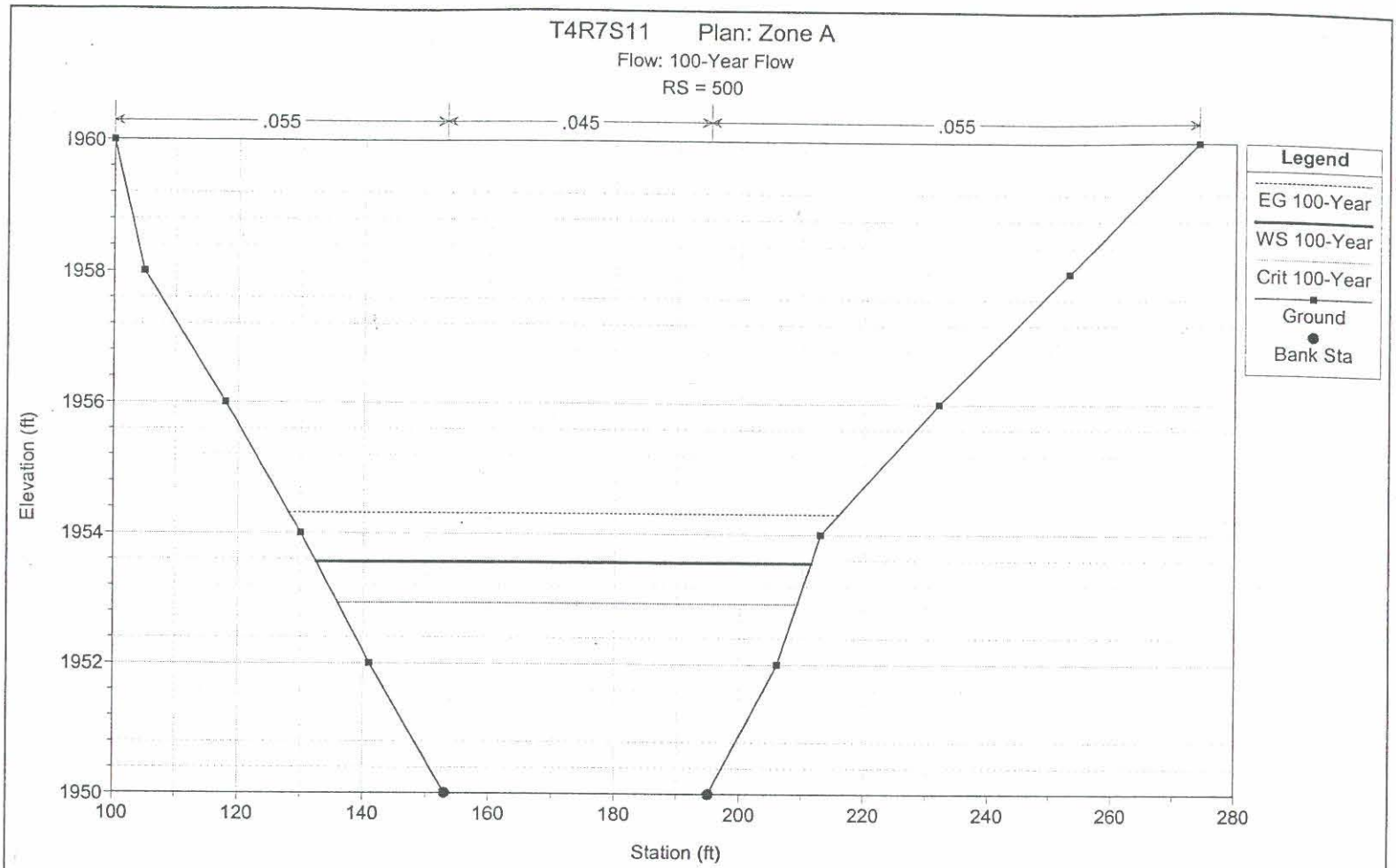
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R7S11	100	Floodplain	1700.00	1867.00	1871.42	1870.83	1872.29	0.010004	8.89	260.99	90.10	0.75
T4R7S11	100	Floodway	1700.00	1867.00	1871.42	1870.83	1872.29	0.010004	8.89	260.99	90.10	0.75
T4R7S11	200	Floodplain	1700.00	1892.00	1896.31	1896.31	1897.67	0.015587	10.92	217.73	86.64	0.93
T4R7S11	200	Floodway	1700.00	1892.00	1896.31	1896.31	1897.67	0.015587	10.92	217.73	86.64	0.93
T4R7S11	300	Floodplain	1600.00	1907.00	1911.38		1912.11	0.008339	8.07	263.19	86.51	0.68
T4R7S11	300	Floodway	1600.00	1907.00	1911.38		1912.11	0.008339	8.07	263.19	86.51	0.68
T4R7S11	400	Floodplain	1500.00	1930.00	1933.72	1933.72	1935.11	0.017525	10.49	177.57	67.02	0.96
T4R7S11	400	Floodway	1500.00	1930.00	1933.72	1933.72	1935.11	0.017525	10.49	177.57	67.02	0.96
T4R7S11	500	Floodplain	1400.00	1950.00	1953.56	1952.92	1954.31	0.009525	7.51	219.23	79.03	0.70
T4R7S11	500	Floodway	1400.00	1950.00	1953.56	1952.92	1954.31	0.009525	7.51	219.23	79.03	0.70
T4R7S11	600	Floodplain	1300.00	1978.00	1980.95	1980.95	1981.96	0.020161	9.64	181.90	89.77	0.99
T4R7S11	600	Floodway	1300.00	1978.00	1980.95	1980.95	1981.96	0.020161	9.64	181.90	89.77	0.99
T4R7S11	700	Floodplain	1300.00	1999.00	2003.19	2002.51	2003.97	0.010186	8.66	206.73	72.67	0.75
T4R7S11	700	Floodway	1300.00	1999.00	2003.19	2002.51	2003.97	0.010186	8.66	206.73	72.67	0.75
T4R7S11	800	Floodplain	1200.00	2026.00	2028.86	2028.86	2030.01	0.019366	9.26	153.34	71.17	0.96
T4R7S11	800	Floodway	1200.00	2026.00	2028.86	2028.86	2030.01	0.019366	9.26	153.34	71.17	0.96
T4R7S11	900	Floodplain	1100.00	2057.00	2060.40	2059.87	2060.99	0.010960	7.82	198.15	84.99	0.75
T4R7S11	900	Floodway	1100.00	2057.00	2060.40	2059.87	2060.99	0.010960	7.82	198.15	84.99	0.75
T4R7S11	1000	Floodplain	1000.00	2093.00	2094.90	2094.90	2095.59	0.025705	8.12	164.64	118.11	1.04
T4R7S11	1000	Floodway	1000.00	2093.00	2094.90	2094.90	2095.59	0.025705	8.12	164.64	118.11	1.04
T4R7S11	1100	Floodplain	900.00	2117.00	2119.76	2119.17	2120.19	0.009798	6.43	184.72	88.33	0.68
T4R7S11	1100	Floodway	900.00	2117.00	2119.76	2119.17	2120.19	0.009798	6.43	184.72	88.33	0.68
T4R7S11	1200	Floodplain	800.00	2143.00	2145.73	2145.73	2146.69	0.022319	9.63	113.00	59.00	1.03
T4R7S11	1200	Floodway	800.00	2143.00	2145.73	2145.73	2146.69	0.022319	9.63	113.00	59.00	1.03
T4R7S11	1300	Floodplain	700.00	2175.00	2177.62	2177.39	2178.23	0.015807	7.88	126.72	74.09	0.86
T4R7S11	1300	Floodway	700.00	2175.00	2177.62	2177.39	2178.23	0.015807	7.88	126.72	74.09	0.86

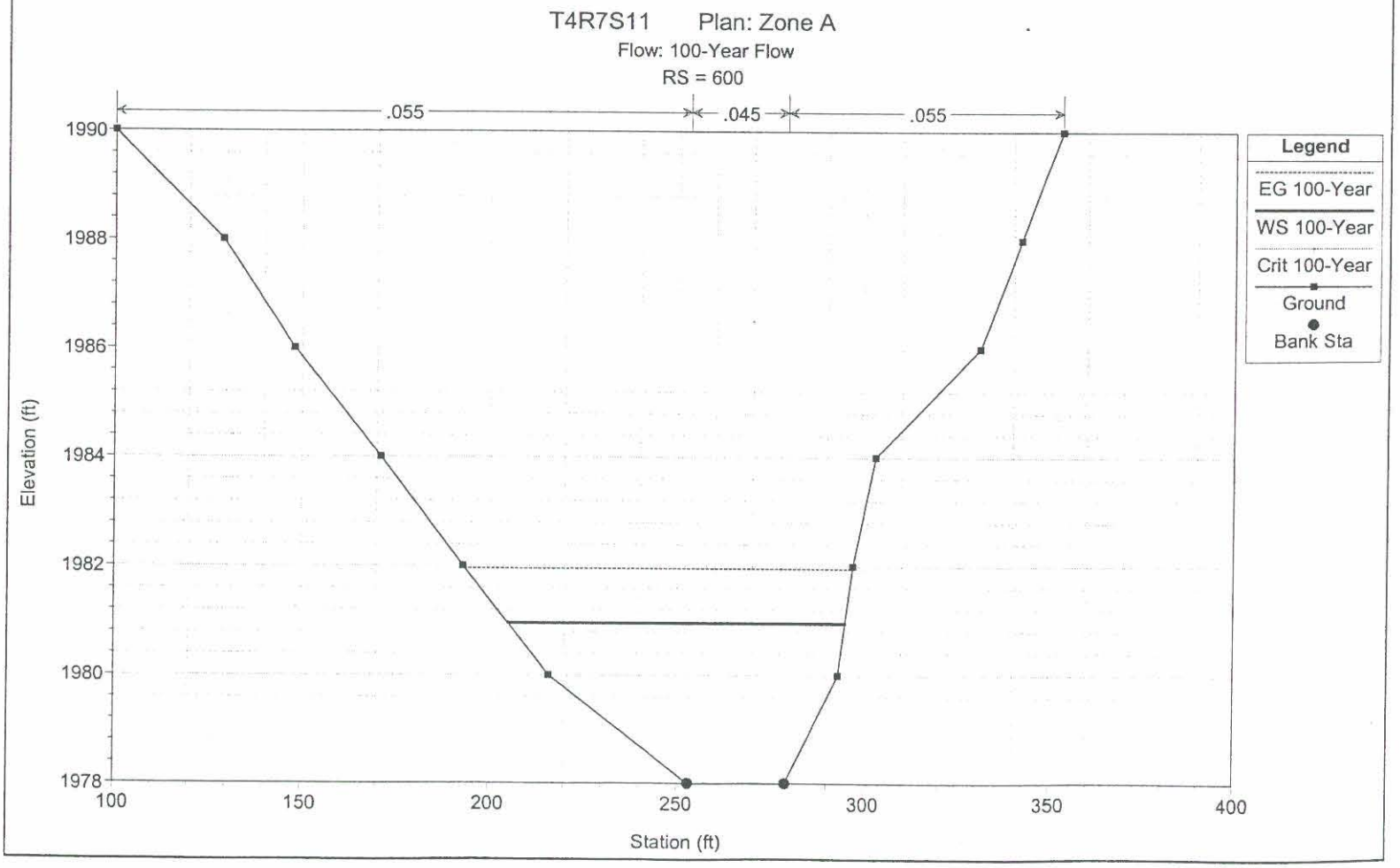

T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 100
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
1876
1874
1872
1870
1868
1866
100
120
140
160
180
200
220
240
260

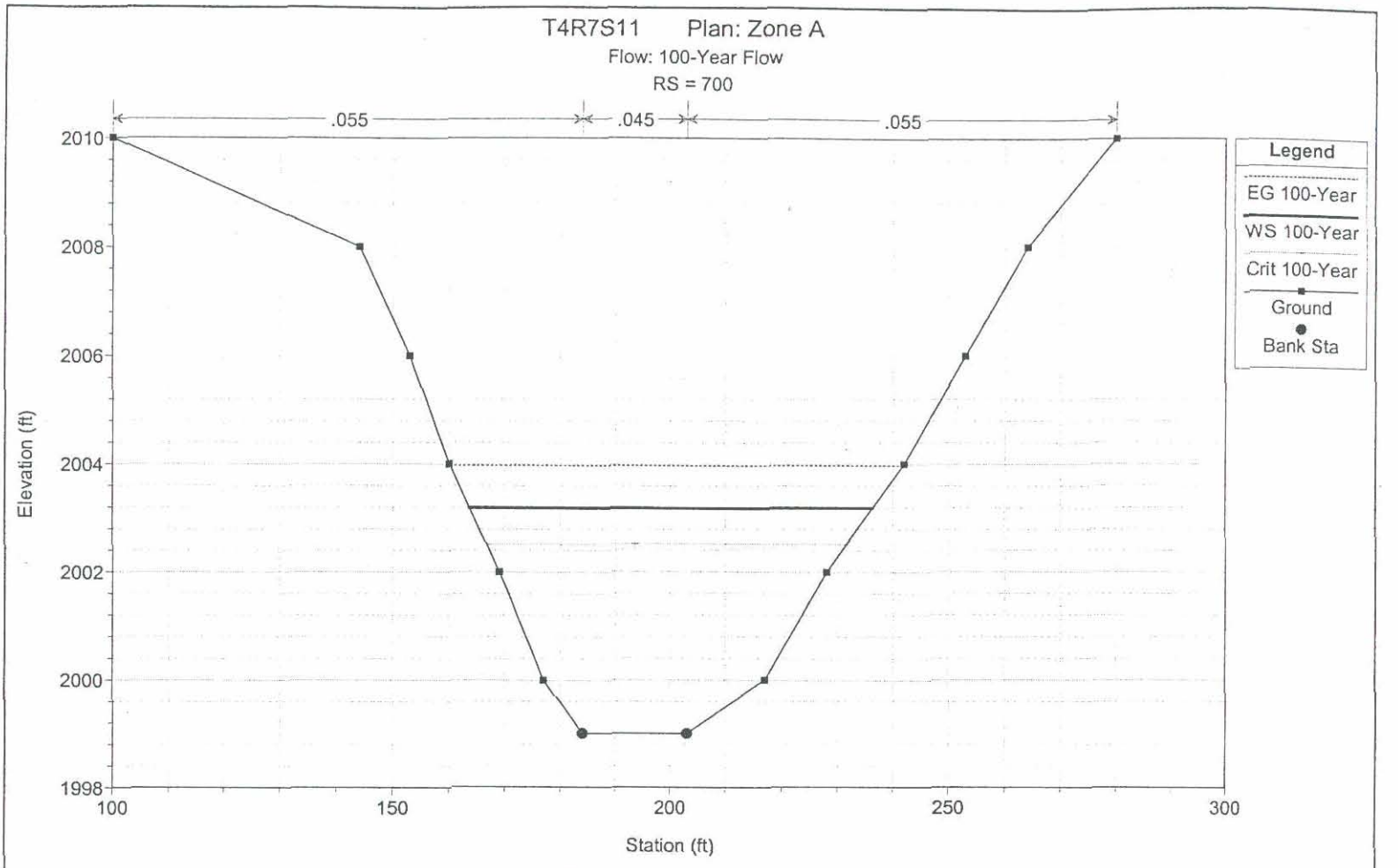

T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 200
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
1900
1898
1896
1894
1892
100
150
200
250
300

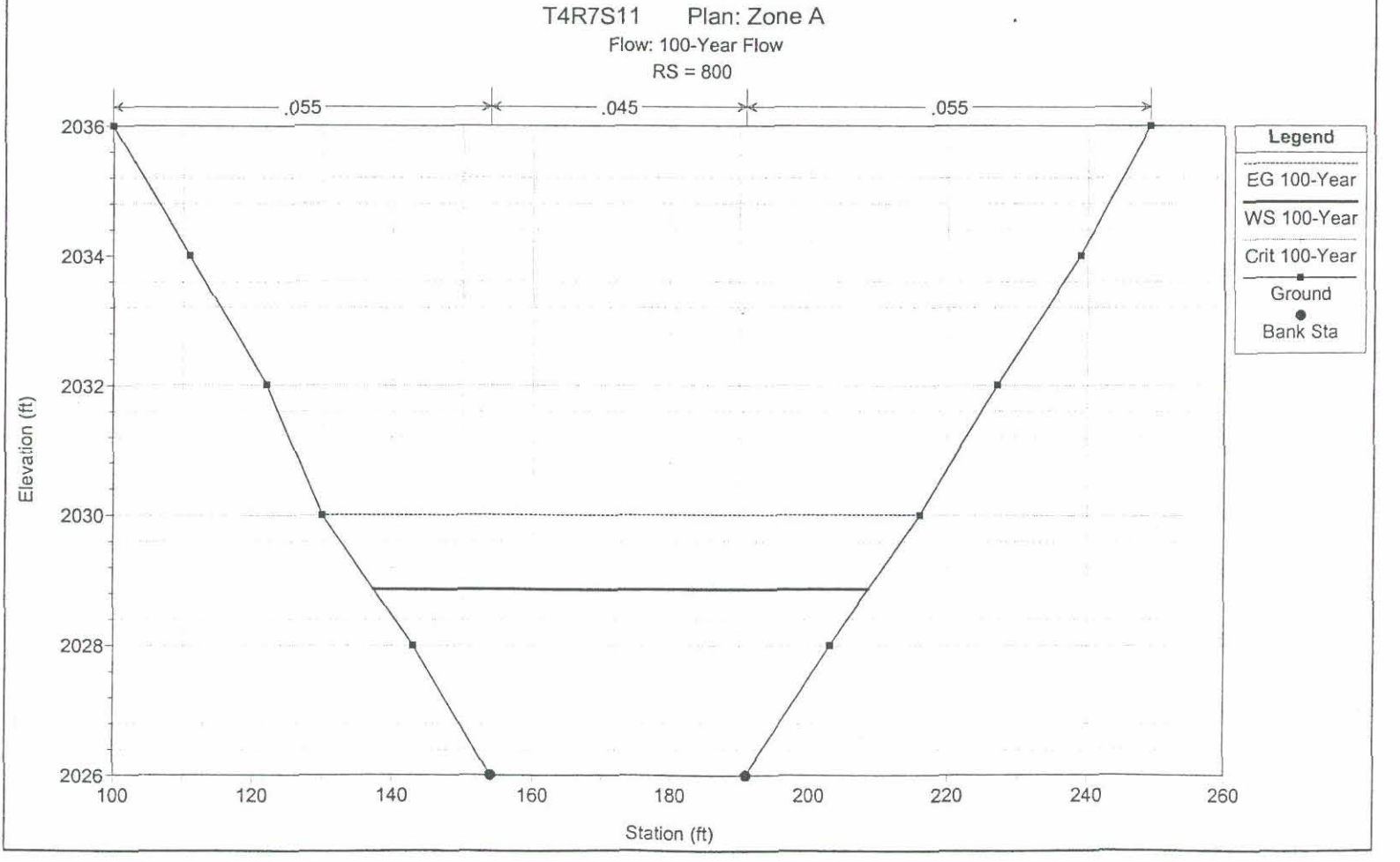

T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 300
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Ground
Bank Sta
Elevation (ft)
1920
1918
1916
1914
1912
1910
1908
1906
100
150
200
250
300
Station (ft)

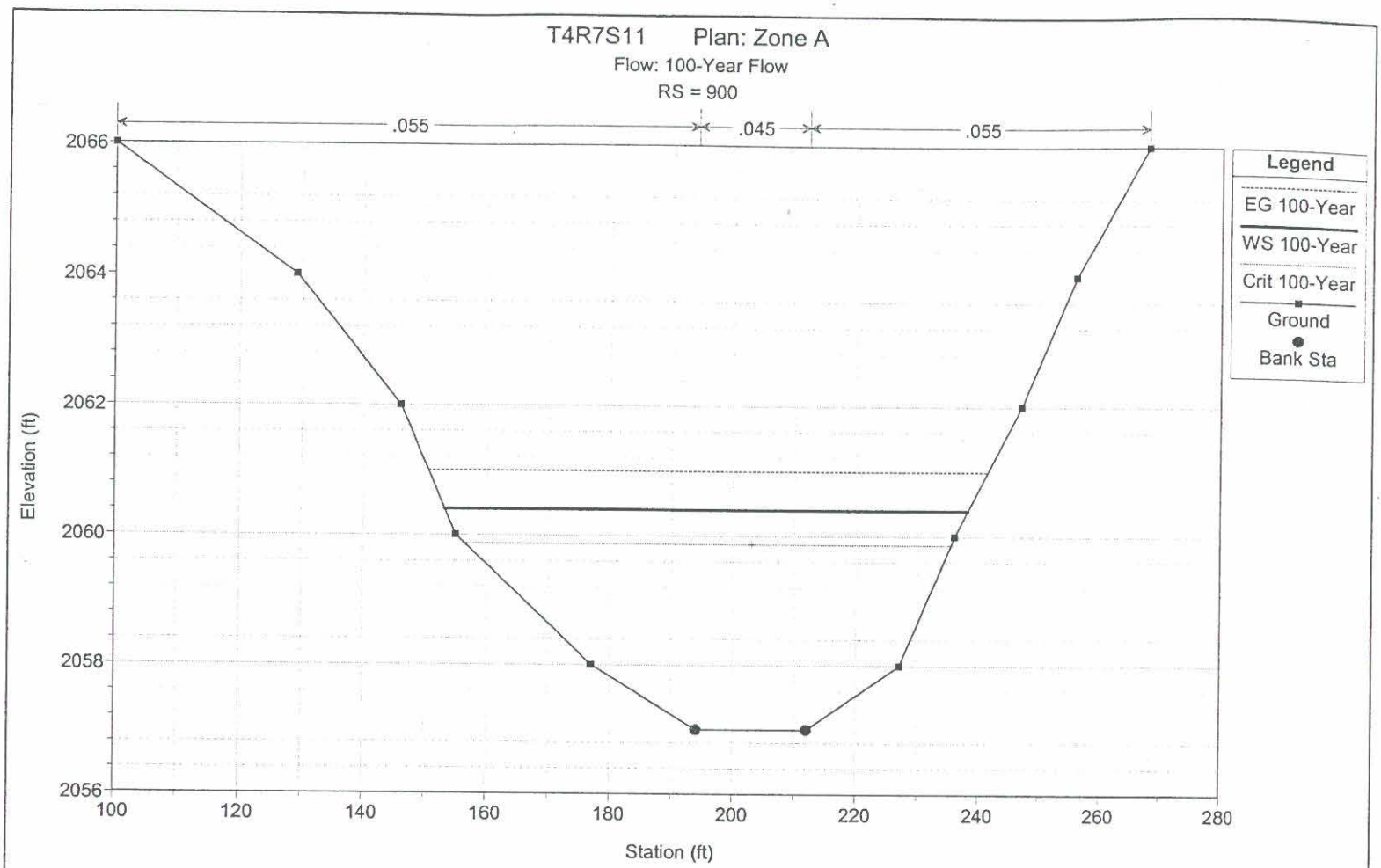

T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 400
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
1942
1940
1938
1936
1934
1932
1930
100
120
140
160
180
200
220
240
260
Station (ft)

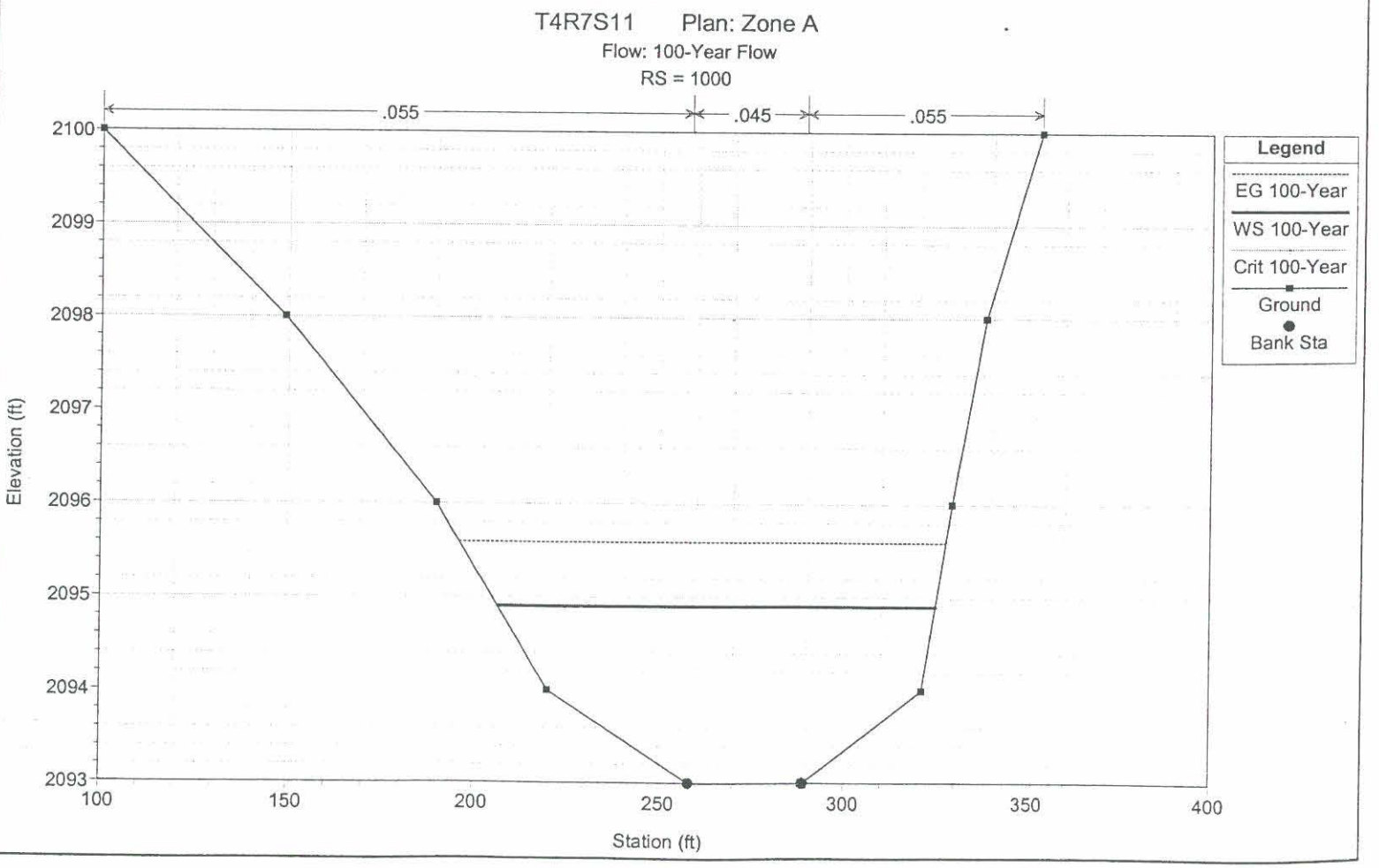

T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 500
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
1960
1958
1956
1954
1952
1950
100
120
140
160
180
200
220
240
260
280

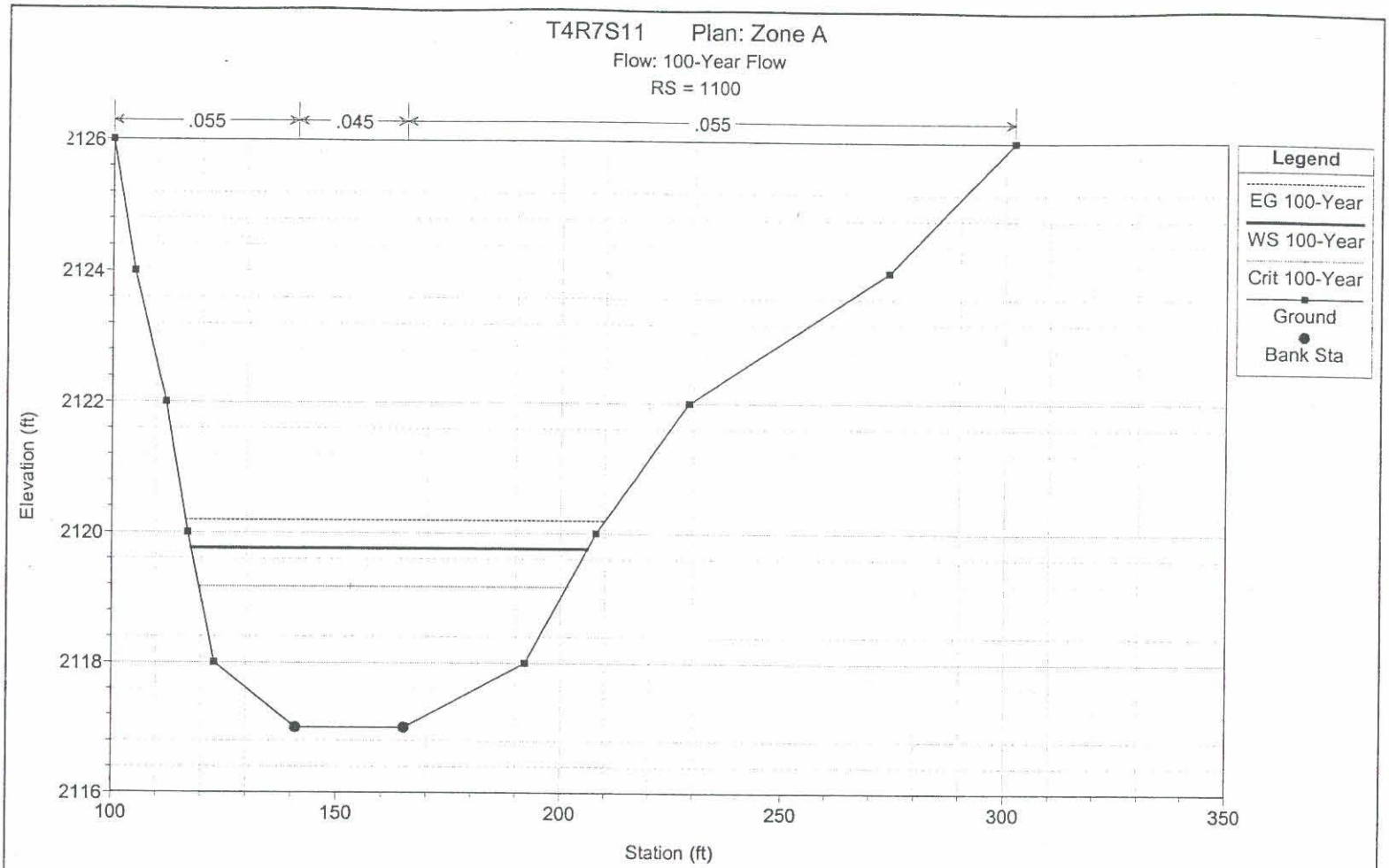

T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 600
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
1990
1988
1986
1984
1982
1980
1978
100
150
200
250
300
350
400

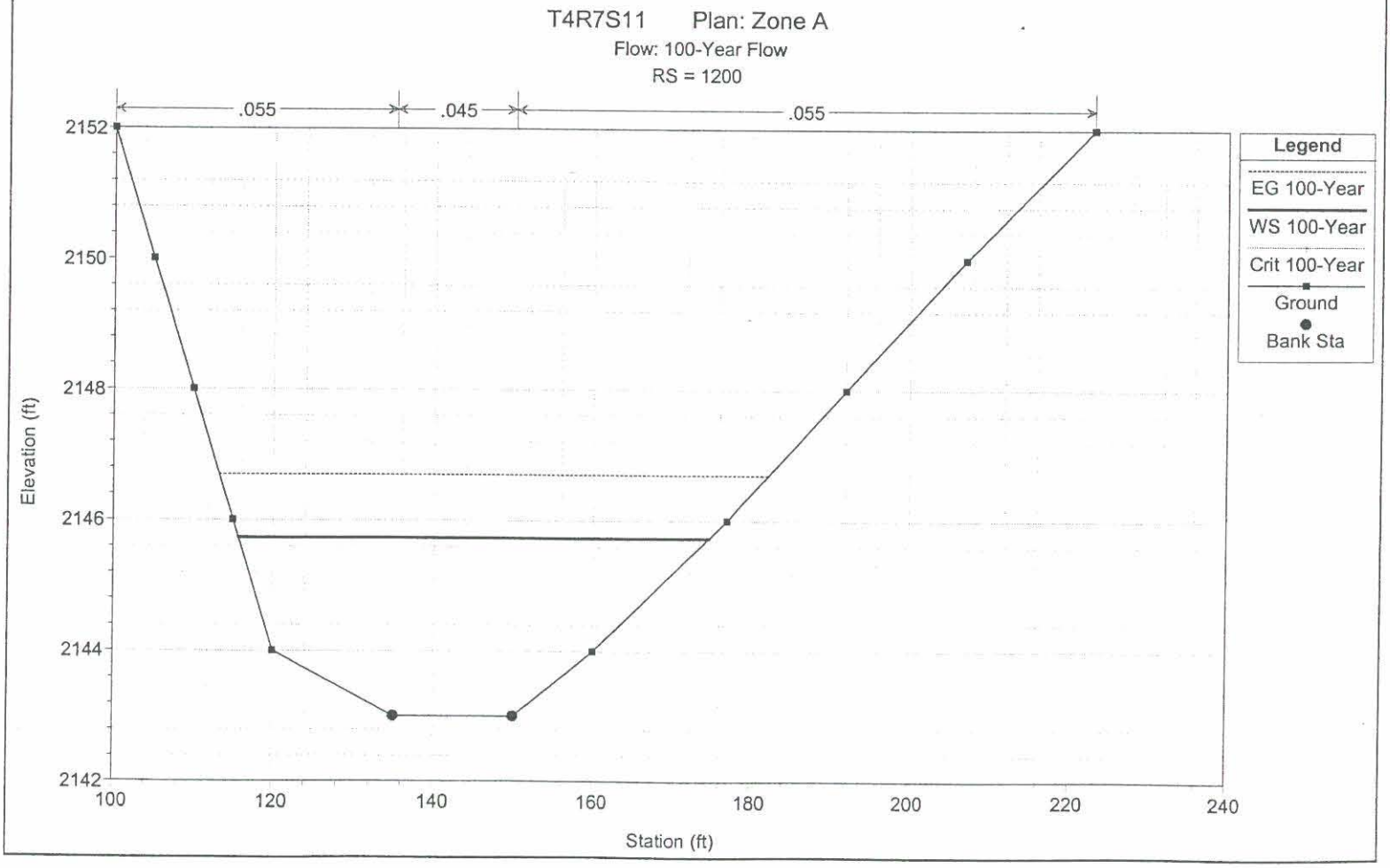

T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 700
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
2010
2008
2006
2004
2002
2000
1998
100
150
200
250
300
Station (ft)

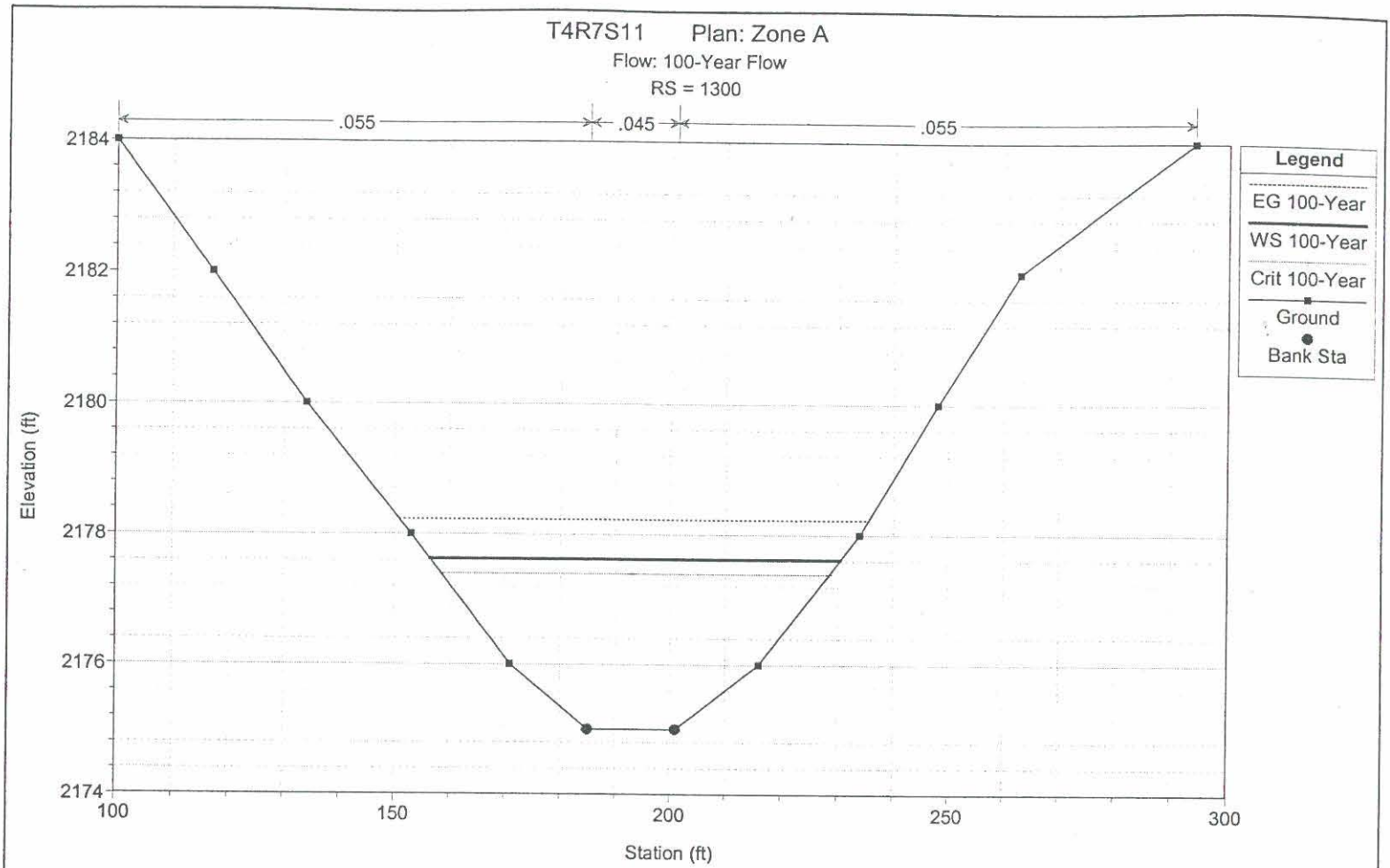

T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 800
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
2036
2034
2032
2030
2028
2026
100
120
140
160
180
200
220
240
260
Station (ft)


T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 900
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
2066
2064
2062
2060
2058
2056
100
120
140
160
180
200
220
240
260
280
Station (ft)


T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 1000
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
2100
2099
2098
2097
2096
2095
2094
2093
100
150
200
250
300
350
400
Station (ft)


T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 1100
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
2126
2124
2122
2120
2118
2116
100
150
200
250
300
350


T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 1200
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
Station (ft)
2152
2150
2148
2146
2144
2142
100
120
140
160
180
200
220
240


T4R7S11 Plan: Zone A
Flow: 100-Year Flow
RS = 1300
.055
.045
.055
Legend
EG 100-Year
WS 100-Year
Crit 100-Year
Ground
Bank Sta
Elevation (ft)
2184
2182
2180
2178
2176
2174
100
150
200
250
300
Station (ft)

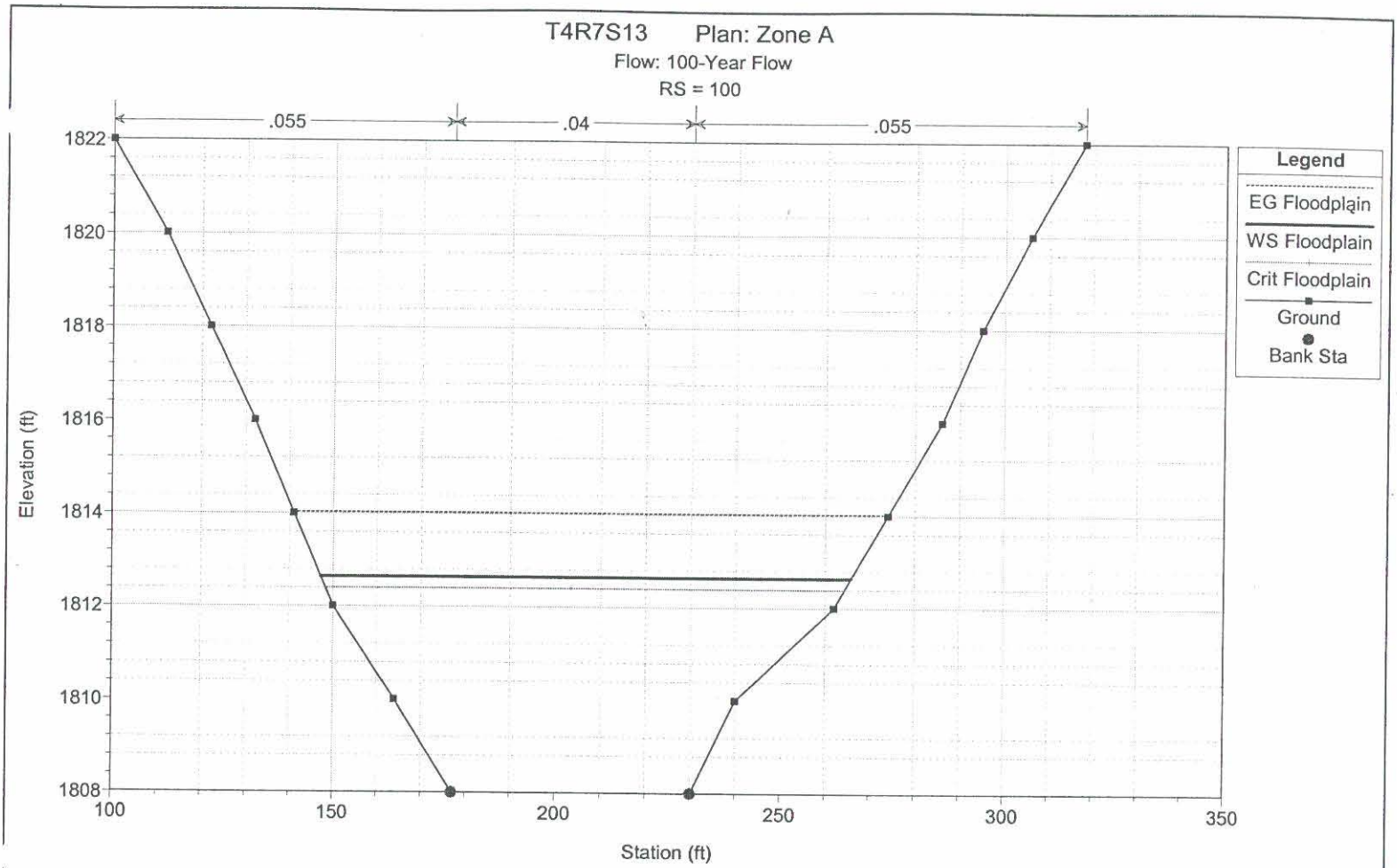
Coyote Wash
T4-R7-S13

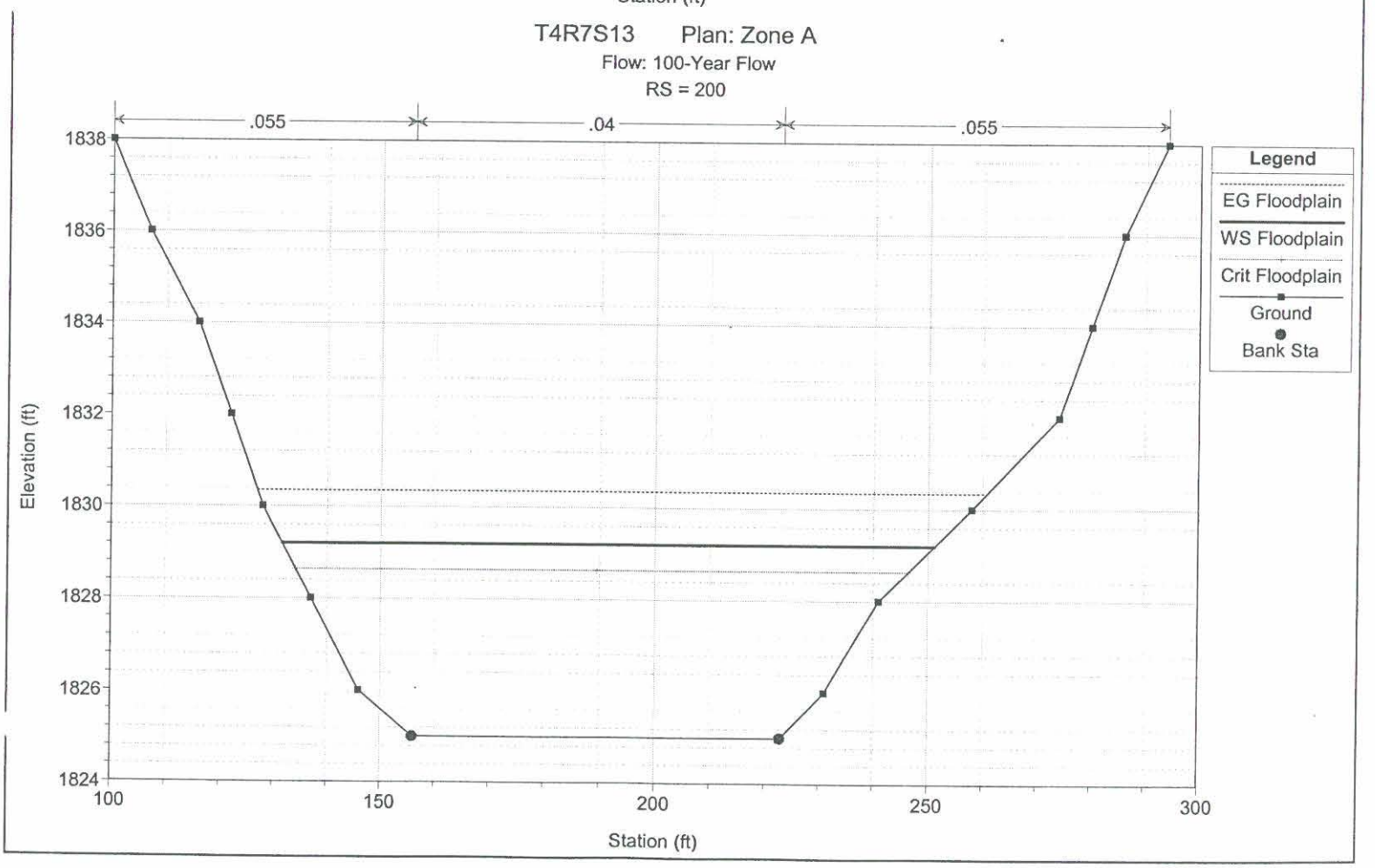
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R7S13

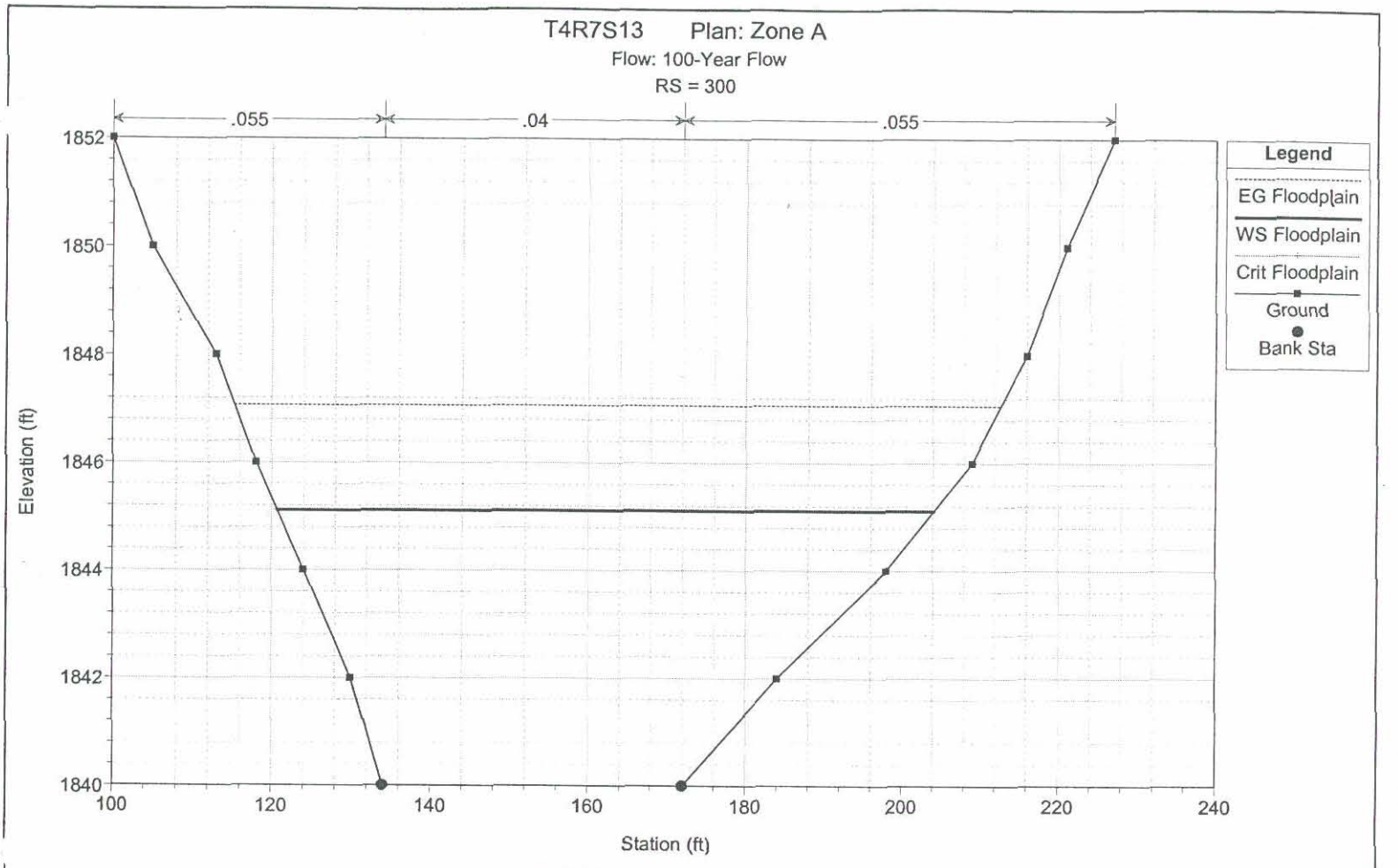
Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R7S13	100	3200.00	1808.00	1812.64	1812.39	1814.02	0.010017	10.34	390.43	118.68	0.85
T4R7S13	100	3200.00	1808.00	1812.64	1812.39	1814.02	0.010017	10.34	390.43	118.68	0.85
T4R7S13	200	3100.00	1825.00	1829.20	1828.64	1830.34	0.009057	9.20	398.67	119.55	0.79
T4R7S13	200	3100.00	1825.00	1829.20	1828.64	1830.34	0.009059	9.20	398.64	119.54	0.79
T4R7S13	300	3000.00	1840.00	1845.12	1845.12	1847.07	0.012354	12.26	307.94	83.49	0.96
T4R7S13	300	3000.00	1840.00	1845.12	1845.12	1847.07	0.012354	12.26	307.94	83.49	0.96
T4R7S13	400	2900.00	1864.00	1869.15	1869.15	1870.80	0.011827	12.05	336.33	98.32	0.94
T4R7S13	400	2900.00	1864.00	1869.15	1869.15	1870.80	0.011827	12.05	336.33	98.32	0.94
T4R7S13	500	2700.00	1890.00	1894.54	1894.54	1896.13	0.012228	11.26	313.18	100.60	0.93
T4R7S13	500	2700.00	1890.00	1894.54	1894.54	1896.13	0.012228	11.26	313.18	100.60	0.93
T4R7S13	600	2600.00	1915.00	1919.62	1919.62	1921.29	0.013690	12.05	292.14	88.92	0.99
T4R7S13	600	2600.00	1915.00	1919.62	1919.62	1921.29	0.013690	12.05	292.14	88.92	0.99
T4R7S13	700	2500.00	1934.00	1939.09	1939.04	1940.57	0.010616	11.33	321.10	109.18	0.88
T4R7S13	700	2500.00	1934.00	1939.09	1939.04	1940.57	0.010616	11.33	321.10	109.18	0.88
T4R7S13	800	2400.00	1955.00	1959.20	1958.99	1960.51	0.012890	10.98	311.77	111.58	0.94
T4R7S13	800	2400.00	1955.00	1959.20	1958.99	1960.51	0.012890	10.98	311.77	111.58	0.94
T4R7S13	900	2300.00	1988.00	1991.96	1991.96	1993.47	0.013909	10.96	268.14	93.49	0.97
T4R7S13	900	2300.00	1988.00	1991.96	1991.96	1993.47	0.013909	10.96	268.14	93.49	0.97
T4R7S13	1000	1400.00	2008.00	2010.42	2010.37	2011.41	0.015679	8.38	189.71	95.02	0.95
T4R7S13	1000	1400.00	2008.00	2010.42	2010.37	2011.41	0.015679	8.38	189.71	95.02	0.95
T4R7S13	1100	1400.00	2036.00	2038.69	2038.69	2039.68	0.019949	9.01	195.45	101.70	0.97
T4R7S13	1100	1400.00	2036.00	2038.69	2038.69	2039.68	0.019949	9.01	195.45	101.70	0.97
T4R7S13	1200	1400.00	2062.00	2065.64	2065.36	2066.59	0.012990	8.90	206.58	86.69	0.82
T4R7S13	1200	1400.00	2062.00	2065.64	2065.36	2066.59	0.012990	8.90	206.58	86.69	0.82
T4R7S13	1300	1300.00	2086.00	2088.61	2088.61	2089.54	0.019596	8.76	192.85	111.74	0.96
T4R7S13	1300	1300.00	2086.00	2088.61	2088.61	2089.54	0.019596	8.76	192.85	111.74	0.96
T4R7S13	1400	1200.00	2109.00	2112.42	2111.92	2113.18	0.010680	7.75	191.97	76.86	0.74
T4R7S13	1400	1200.00	2109.00	2112.42	2111.92	2113.18	0.010680	7.75	191.97	76.86	0.74

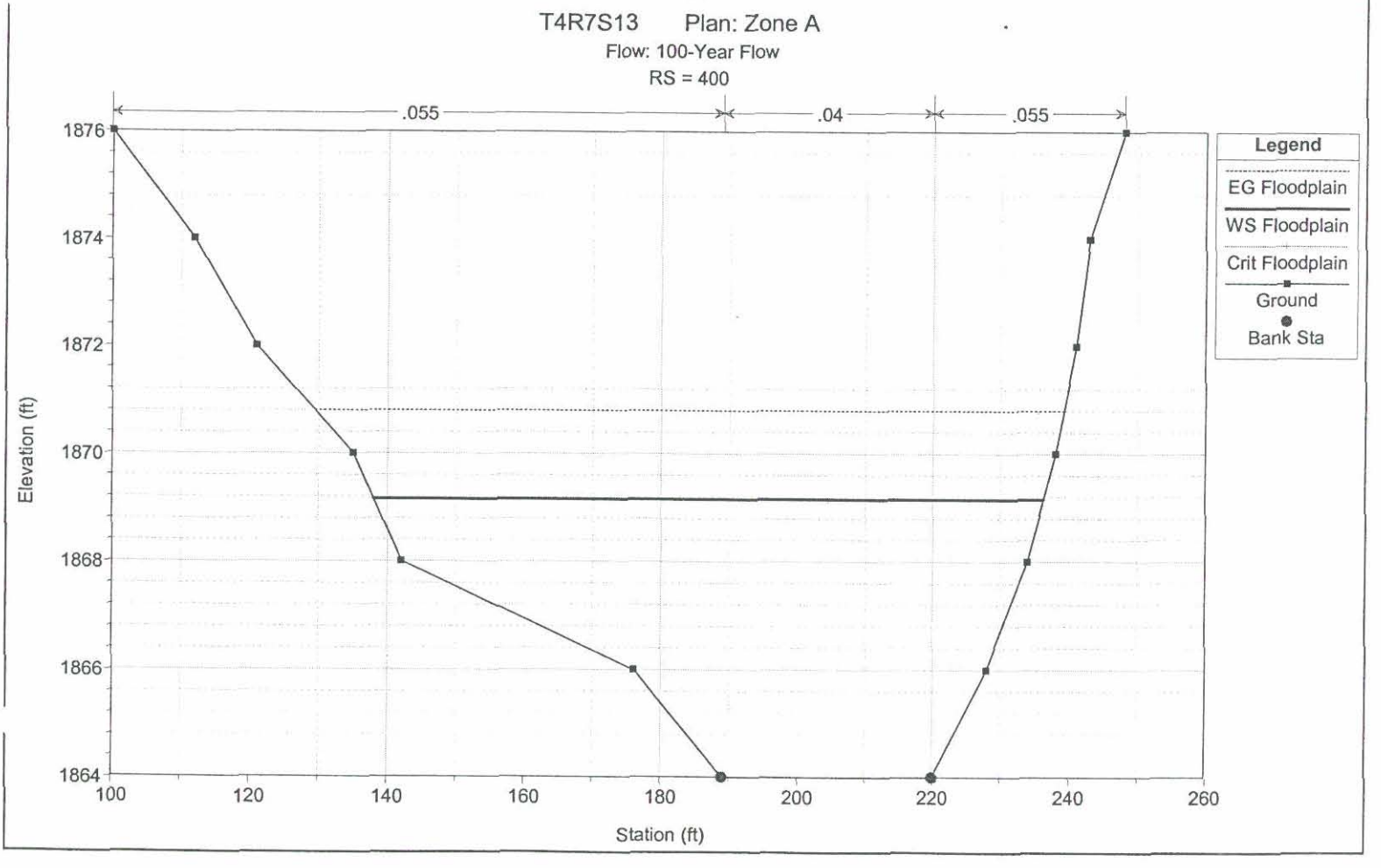
HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R7S13 (Continued)

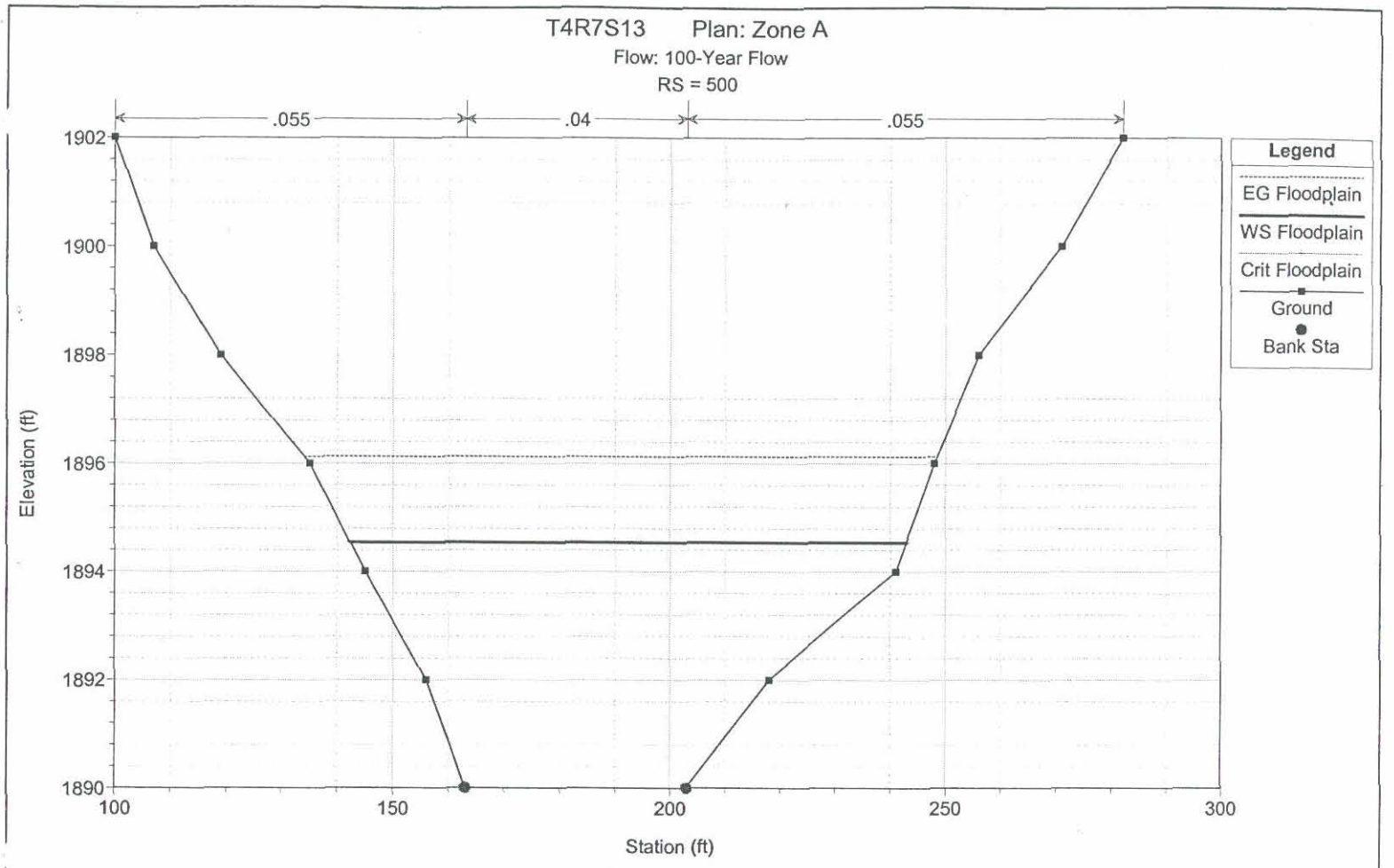
Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R7S13	1500	1100.00	2137.00	2139.42	2139.42	2140.40	0.021684	8.77	151.30	80.48	0.99
T4R7S13	1500	1100.00	2137.00	2139.42	2139.42	2140.40	0.021684	8.77	151.30	80.48	0.99
T4R7S13	1600	1000.00	2175.00	2178.17	2178.17	2179.29	0.018226	9.62	135.39	64.41	0.95
T4R7S13	1600	1000.00	2175.00	2178.17	2178.17	2179.29	0.018226	9.62	135.39	64.41	0.95
T4R7S13	1700	900.00	2209.00	2211.94	2211.94	2213.11	0.020951	9.81	113.99	50.58	1.01
T4R7S13	1700	900.00	2209.00	2211.94	2211.94	2213.11	0.020951	9.81	113.99	50.58	1.01
T4R7S13	1800	800.00	2262.00	2265.16	2265.16	2266.31	0.018433	9.66	106.04	49.19	0.96
T4R7S13	1800	800.00	2262.00	2265.16	2265.16	2266.31	0.018433	9.66	106.04	49.19	0.96

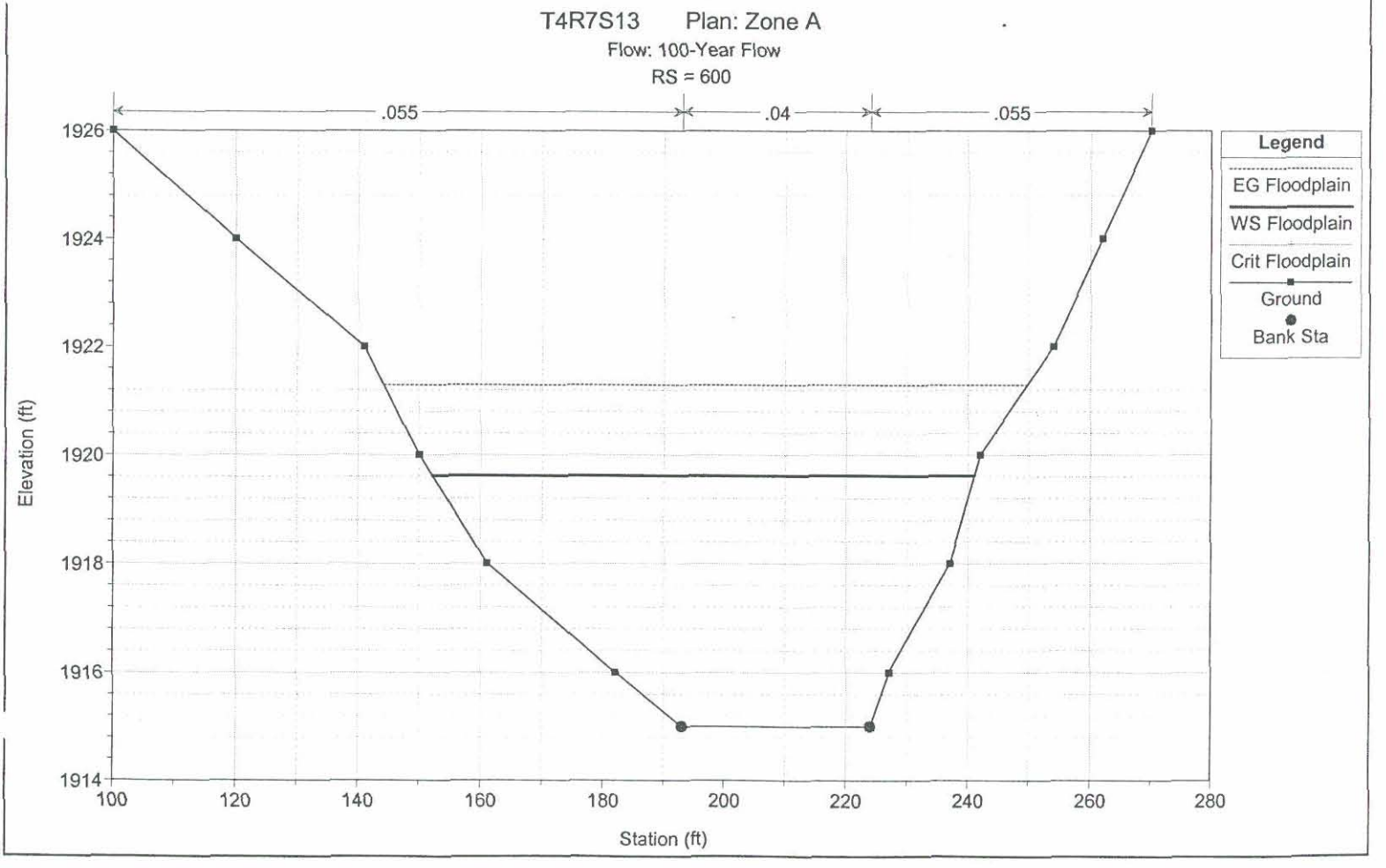

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 100
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta

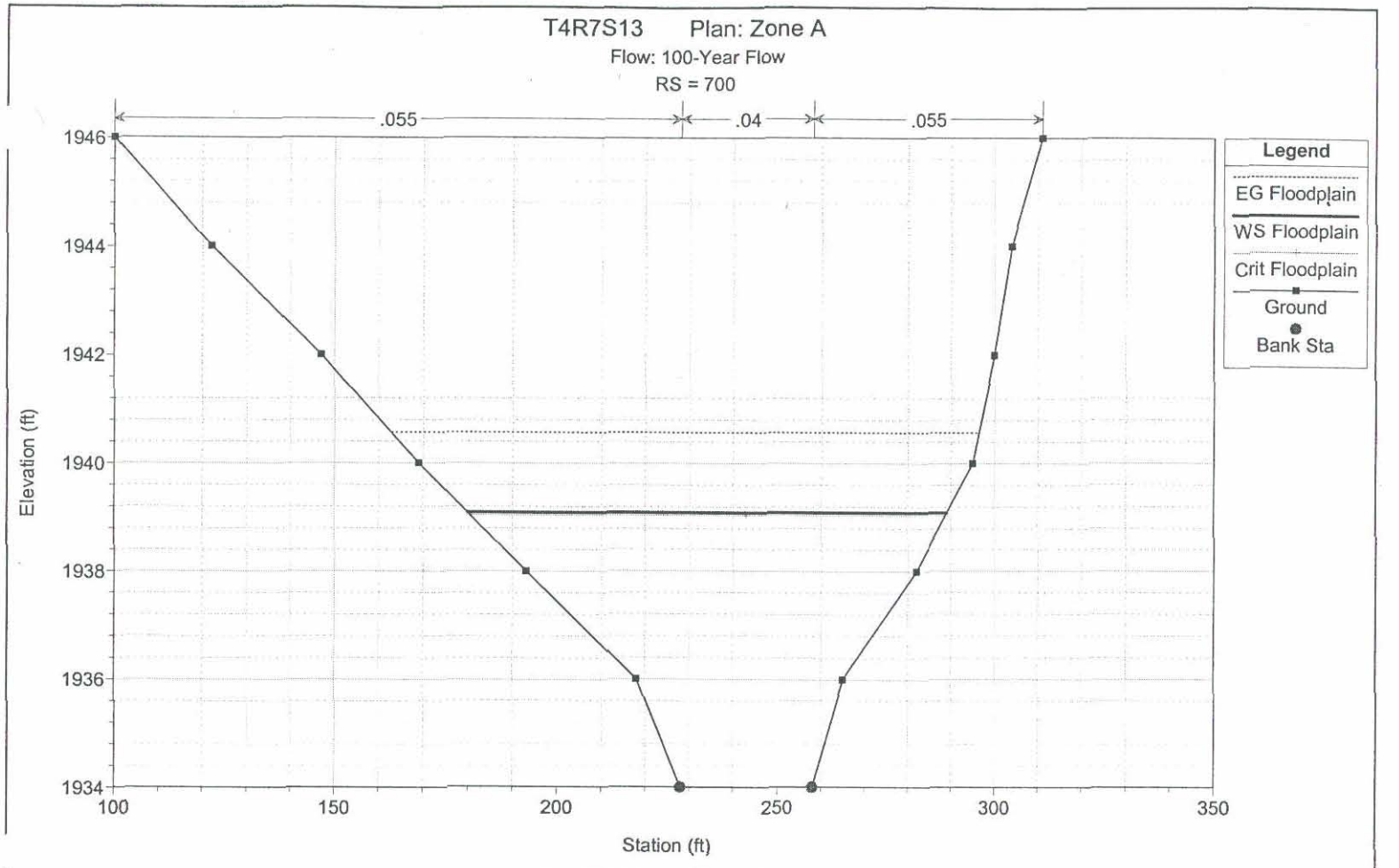

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 200
.055
.04
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta

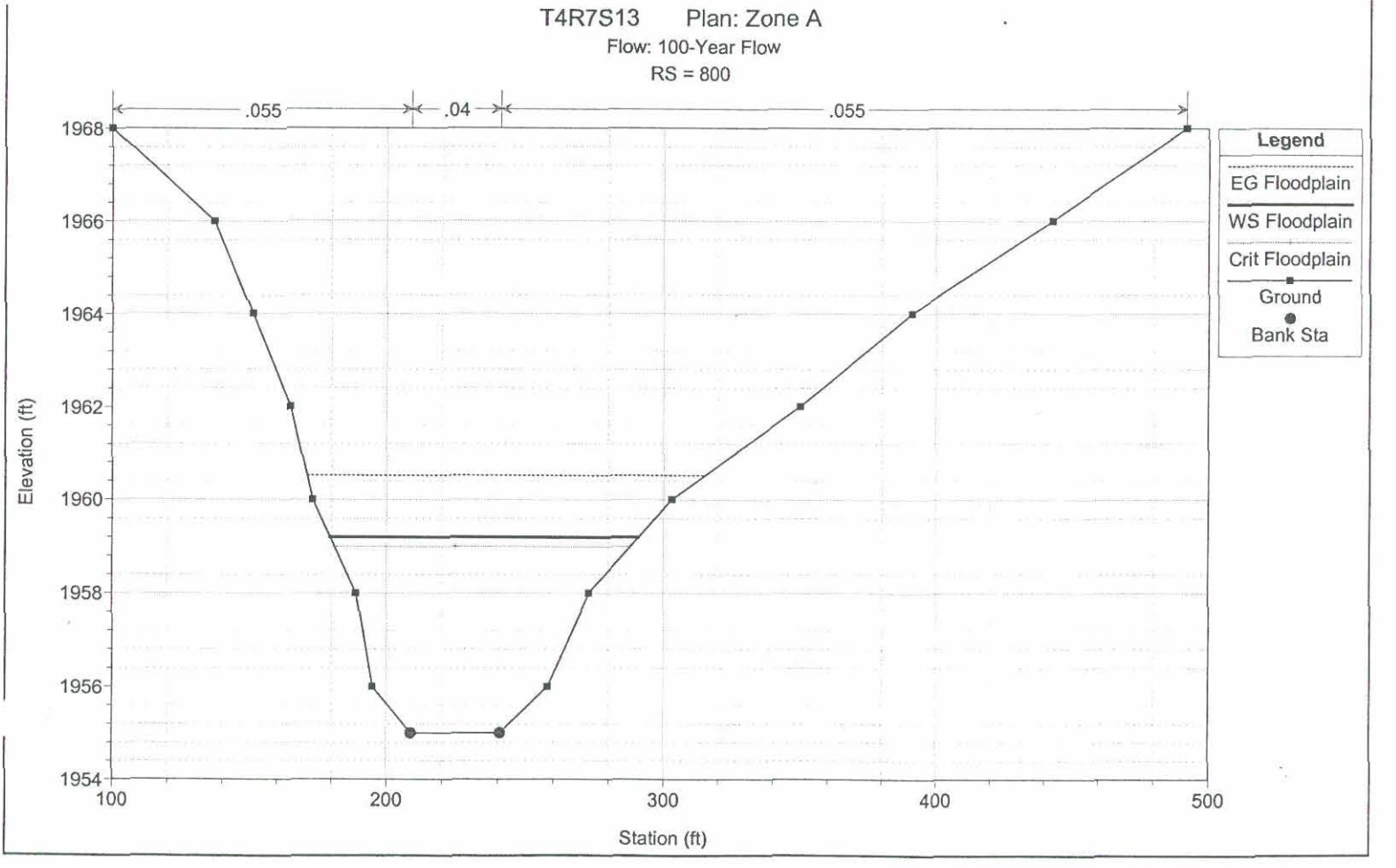

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 300
.055
.04
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
Station (ft)
1852
1850
1848
1846
1844
1842
1840
100
120
140
160
180
200
220
240

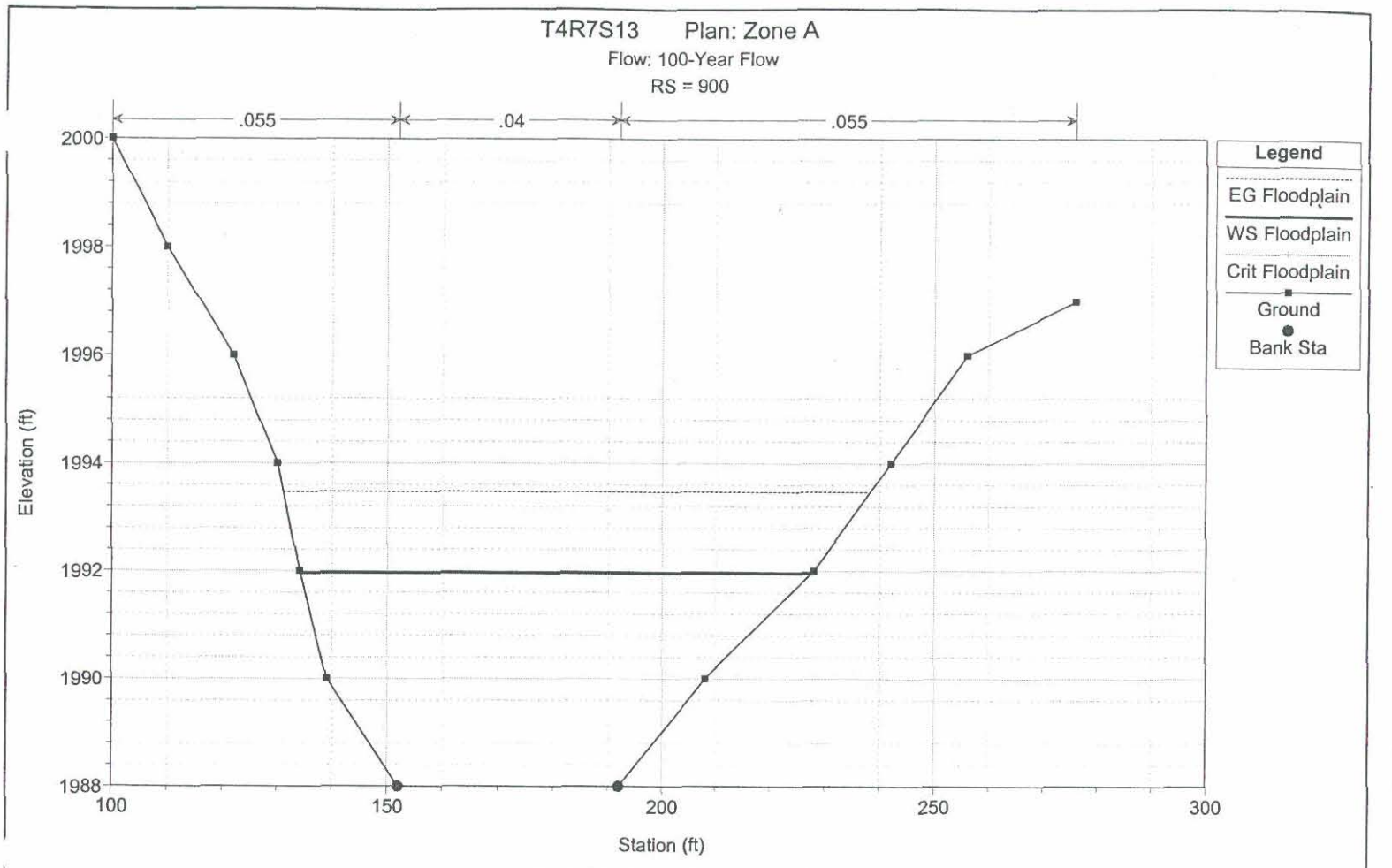

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 400
.055
.04
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
Station (ft)
1876
1874
1872
1870
1868
1866
1864
100
120
140
160
180
200
220
240
260

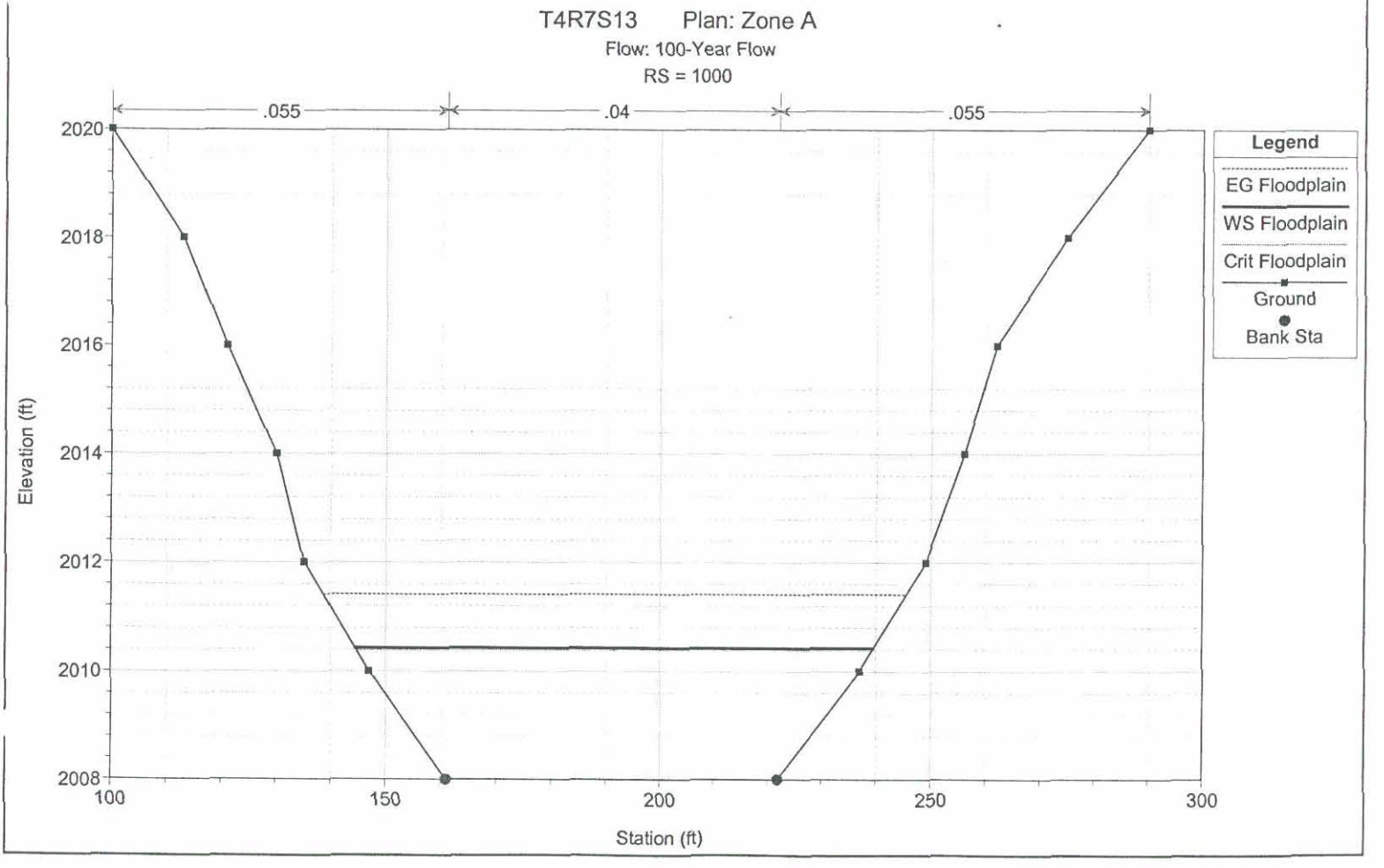

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 500
.055
.04
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
1902
1900
1898
1896
1894
1892
1890
100
150
200
250
300
Station (ft)

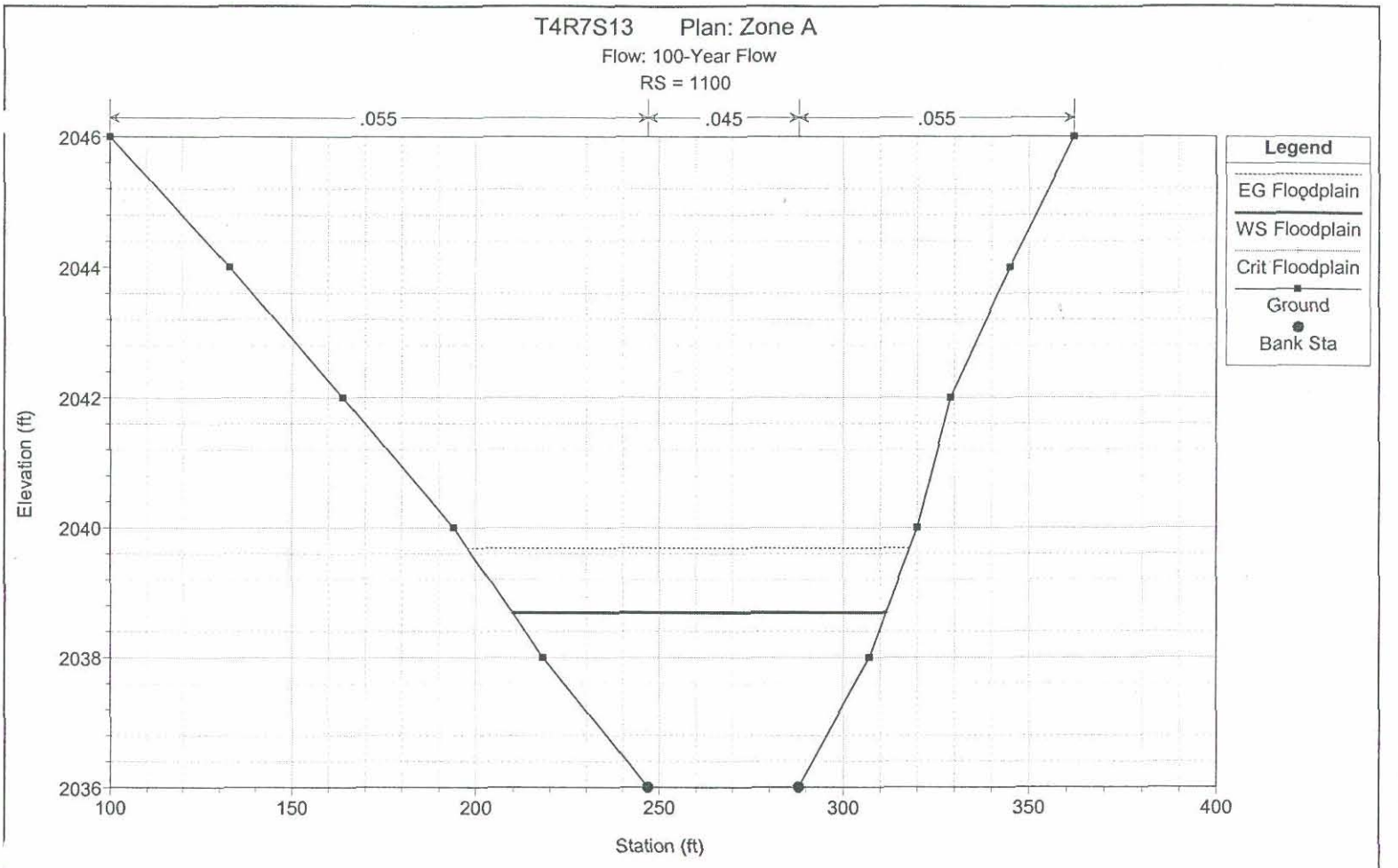

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 600
.055
.04
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
1926
1924
1922
1920
1918
1916
1914
100
120
140
160
180
200
220
240
260
280
Station (ft)

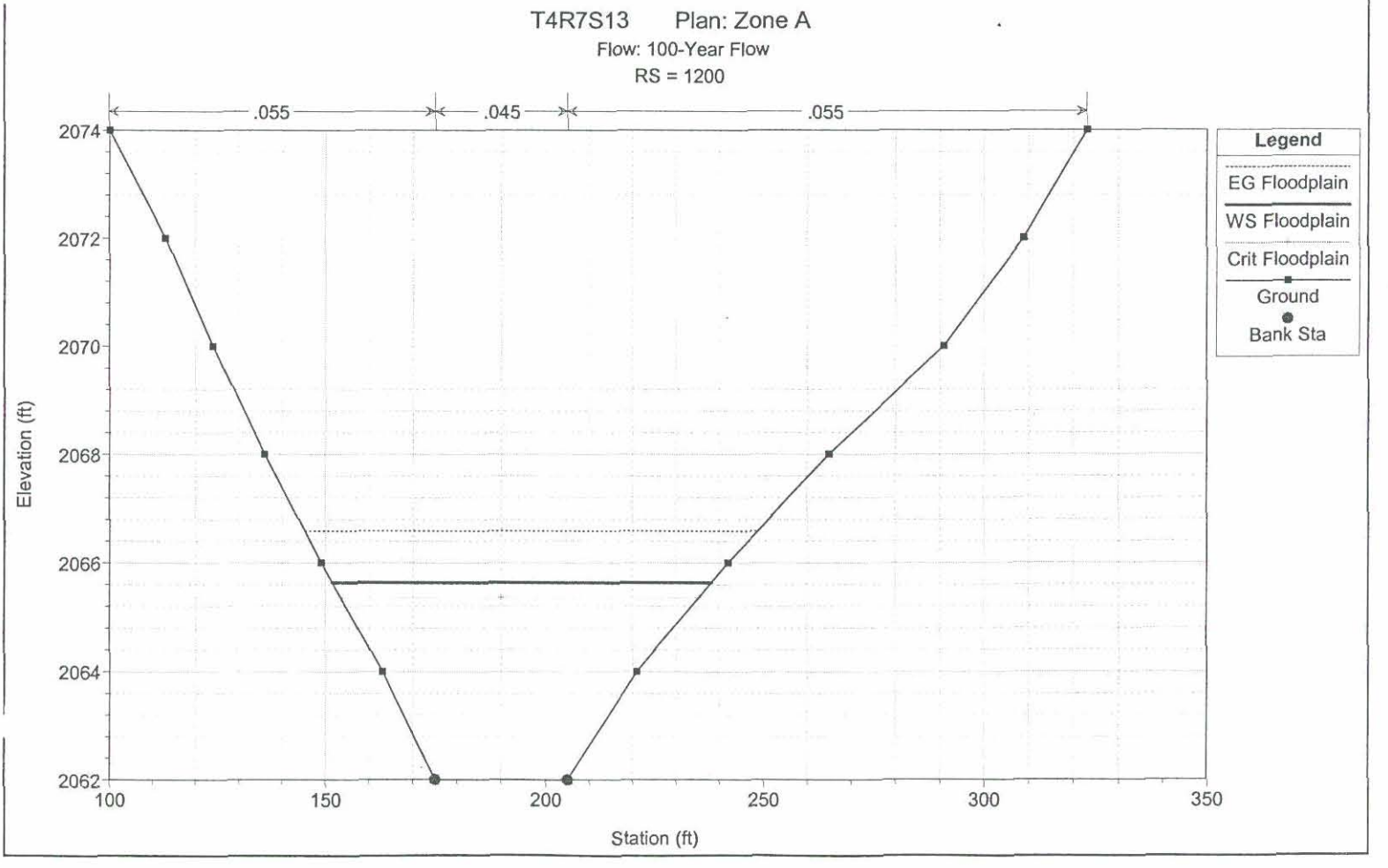

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 700
.055
.04
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
Station (ft)
1946
1944
1942
1940
1938
1936
1934
100
150
200
250
300
350

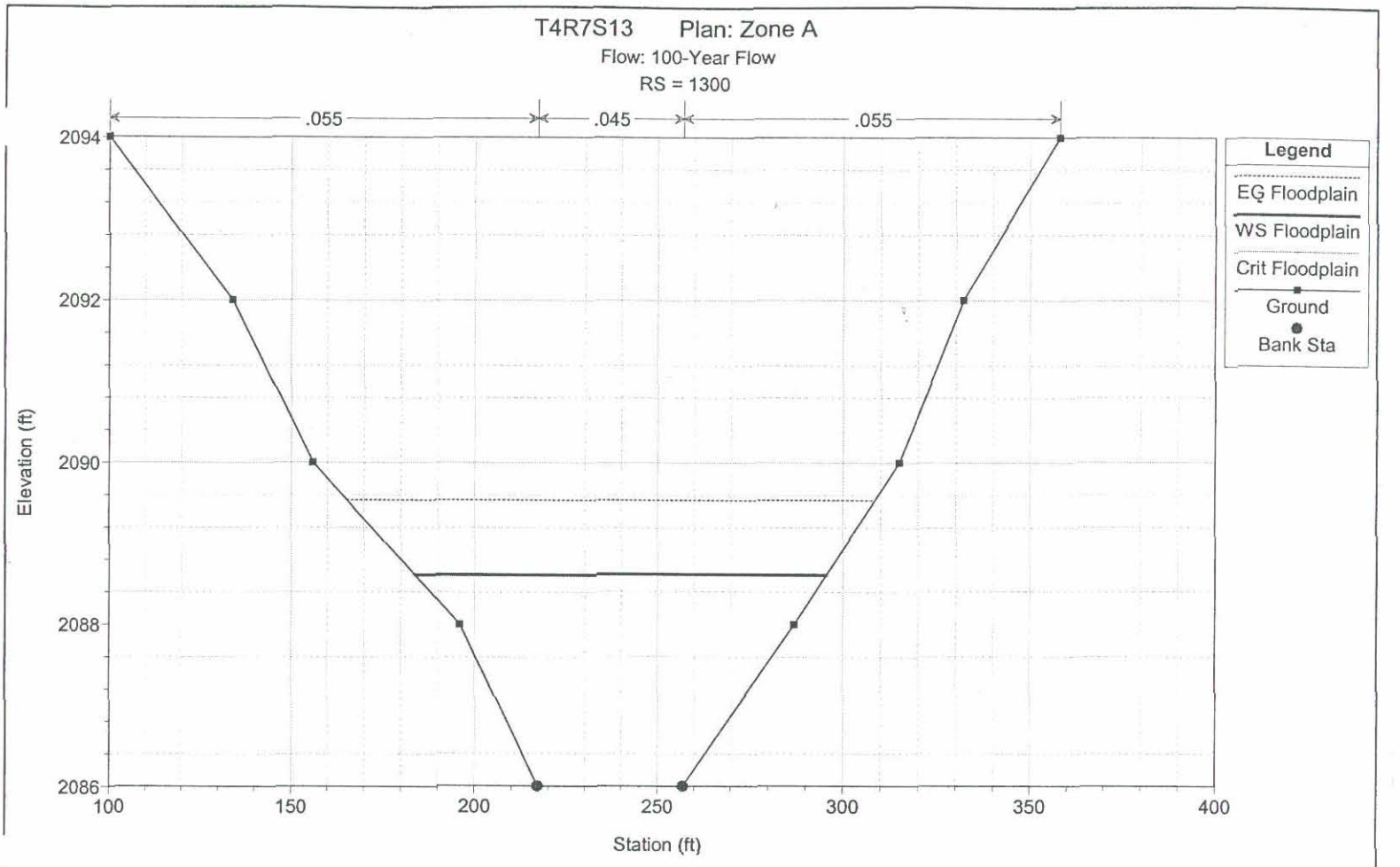

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 800
.055
.04
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
Station (ft)
1968
1966
1964
1962
1960
1958
1956
1954
100
200
300
400
500

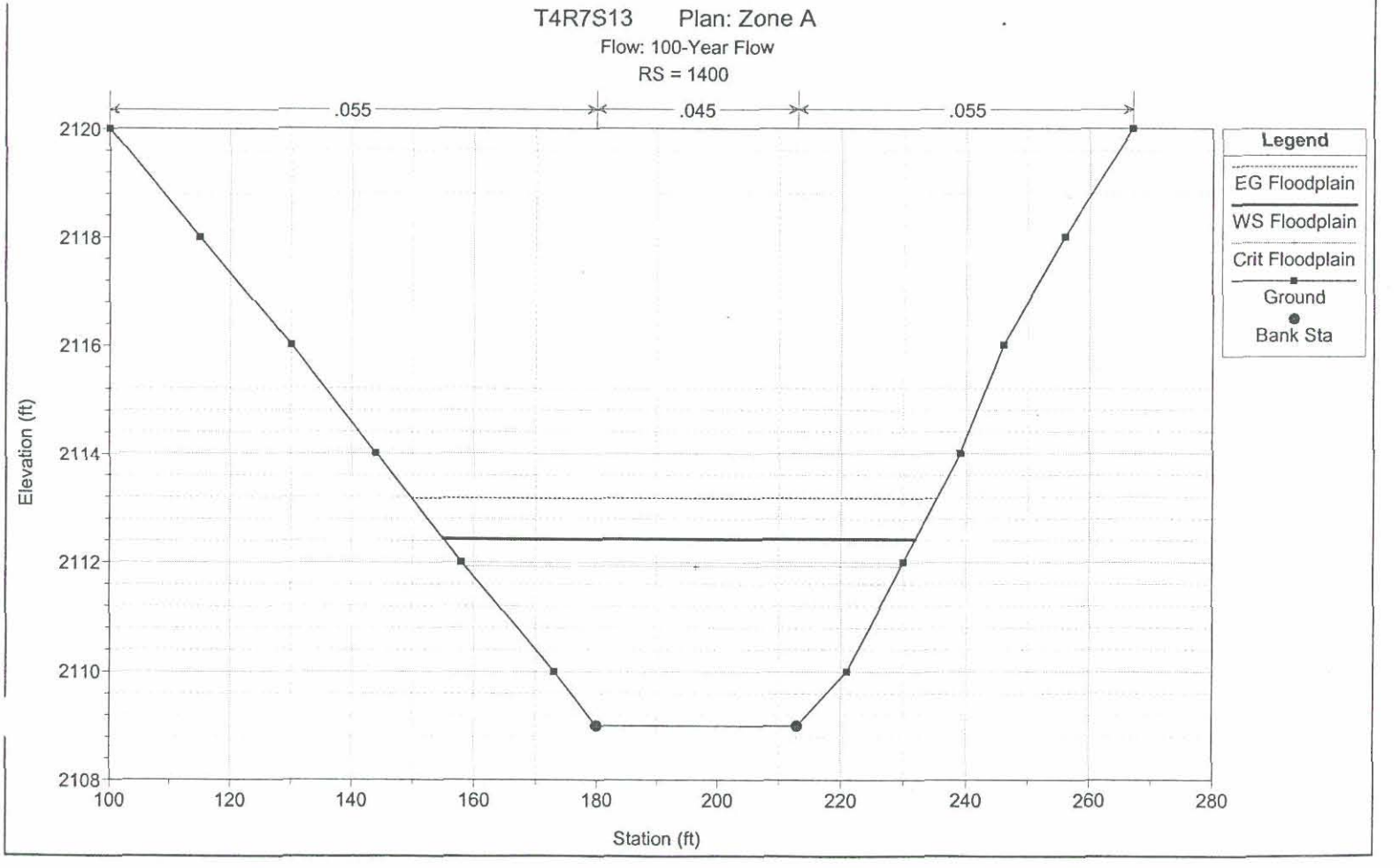

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 900
.055
.04
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
2000
1998
1996
1994
1992
1990
1988
100
150
200
250
300
Station (ft)

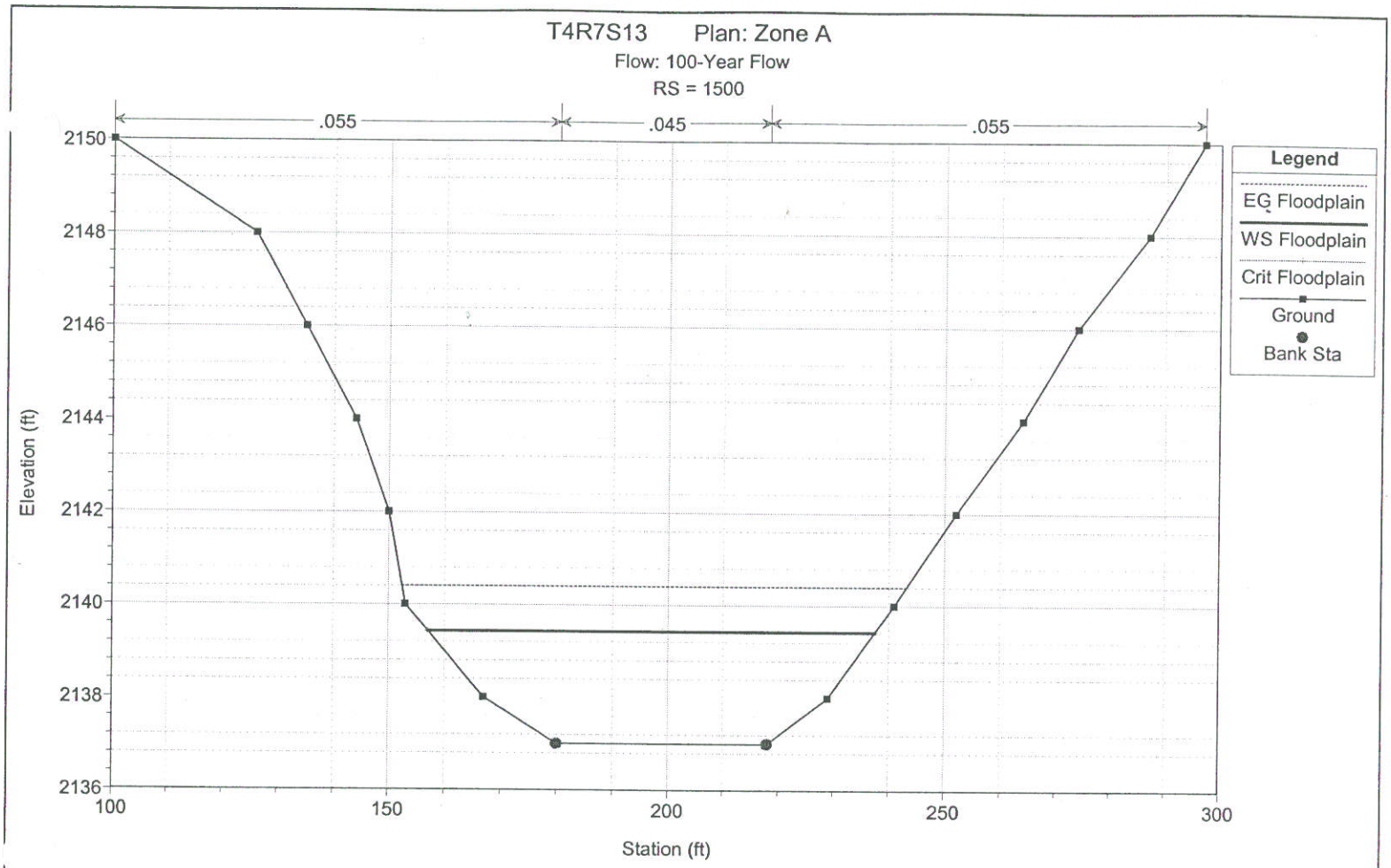

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1000
.055
.04
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
2020
2018
2016
2014
2012
2010
2008
100
150
200
250
300
Station (ft)

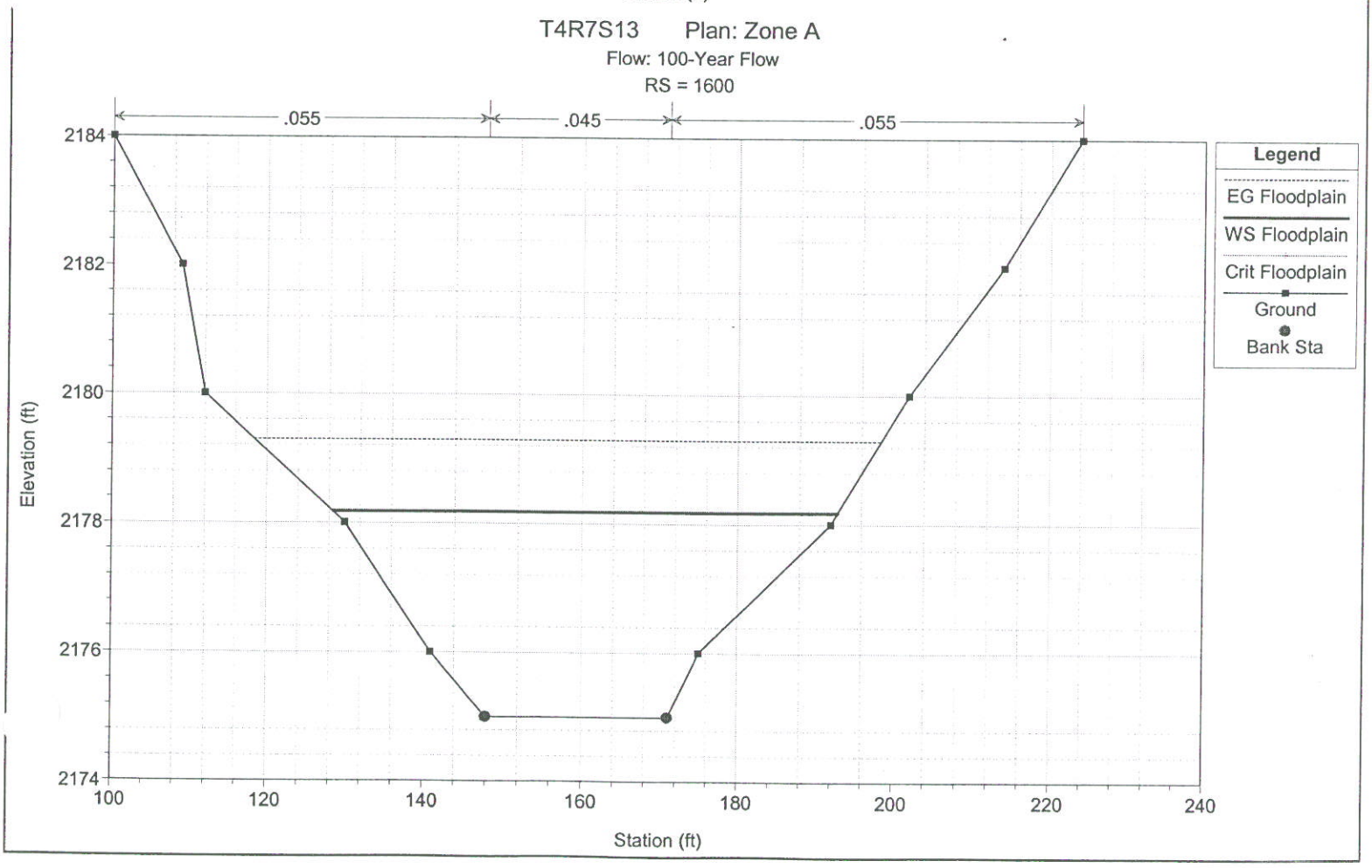

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1100
.055
.045
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
2046
2044
2042
2040
2038
2036
100
150
200
250
300
350
400
Station (ft)

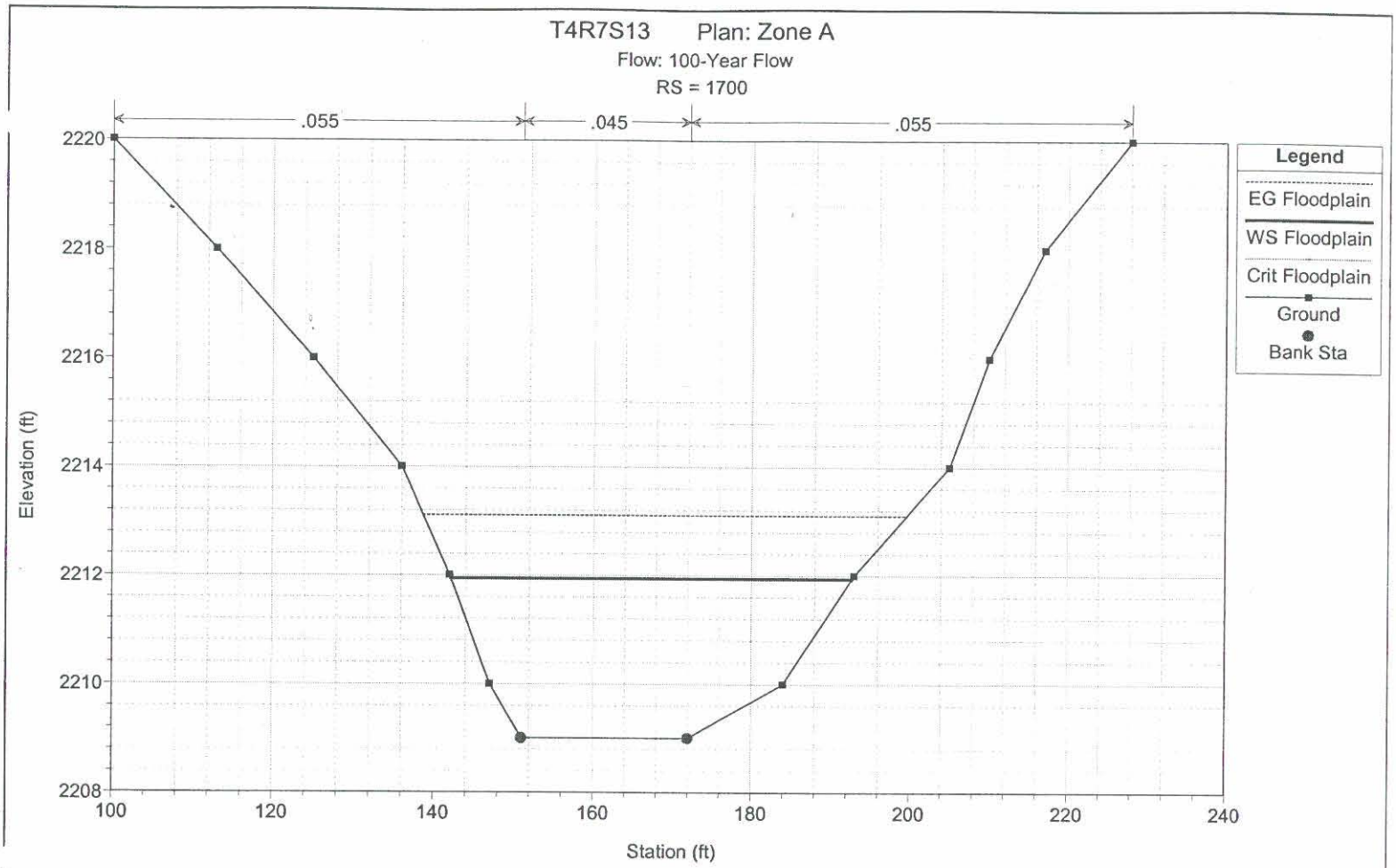

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1200
.055
.045
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
2074
2072
2070
2068
2066
2064
2062
100
150
200
250
300
350
Station (ft)

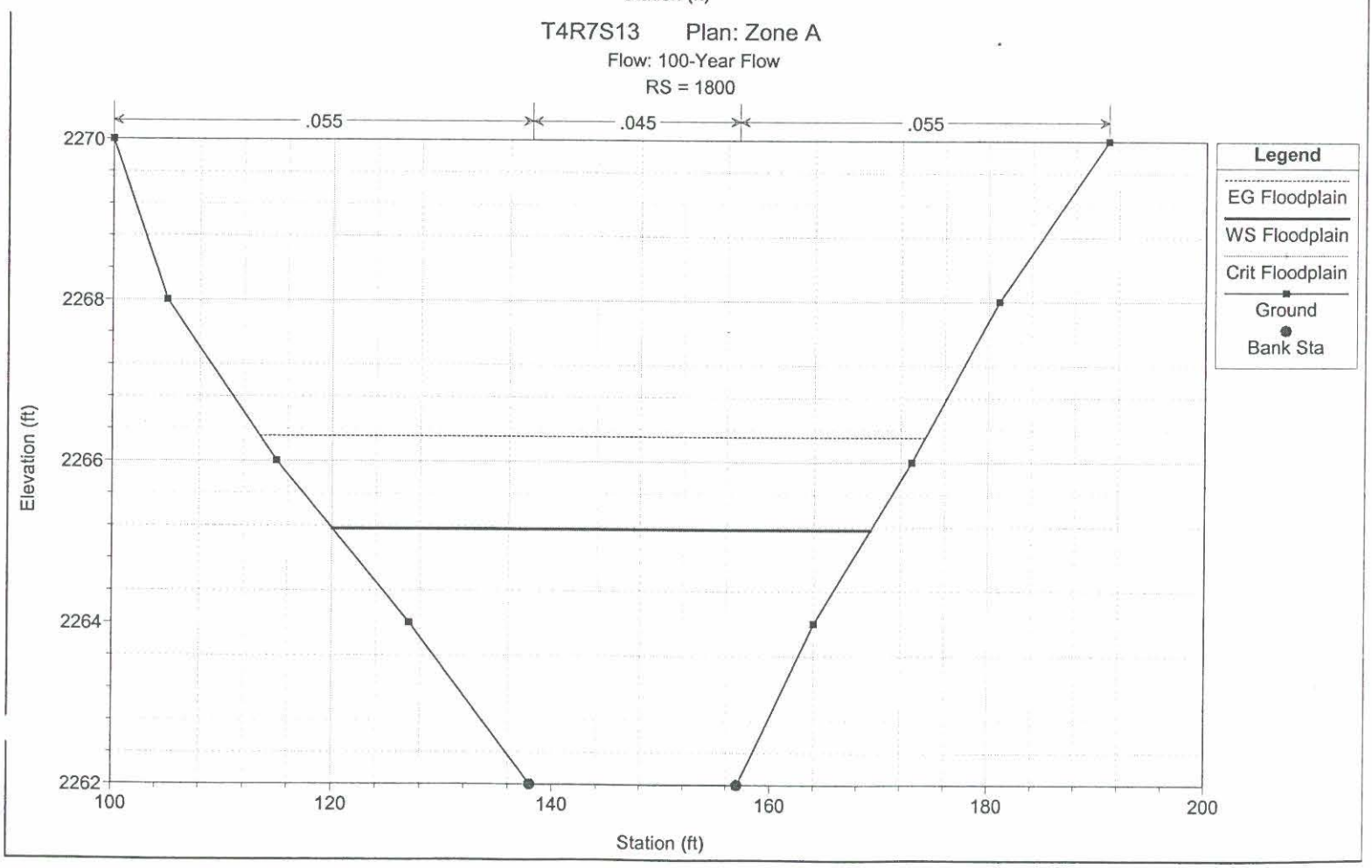

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1300
.055
.045
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
2094
2092
2090
2088
2086
100
150
200
250
300
350
400
Station (ft)


T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1400
.055
.045
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
2120
2118
2116
2114
2112
2110
2108
100
120
140
160
180
200
220
240
260
280
Station (ft)


T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1500
.055
.045
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
2150
2148
2146
2144
2142
2140
2138
2136
100
150
200
250
300
Station (ft)


T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1600
.055
.045
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
2184
2182
2180
2178
2176
2174
100
120
140
160
180
200
220
240
Station (ft)

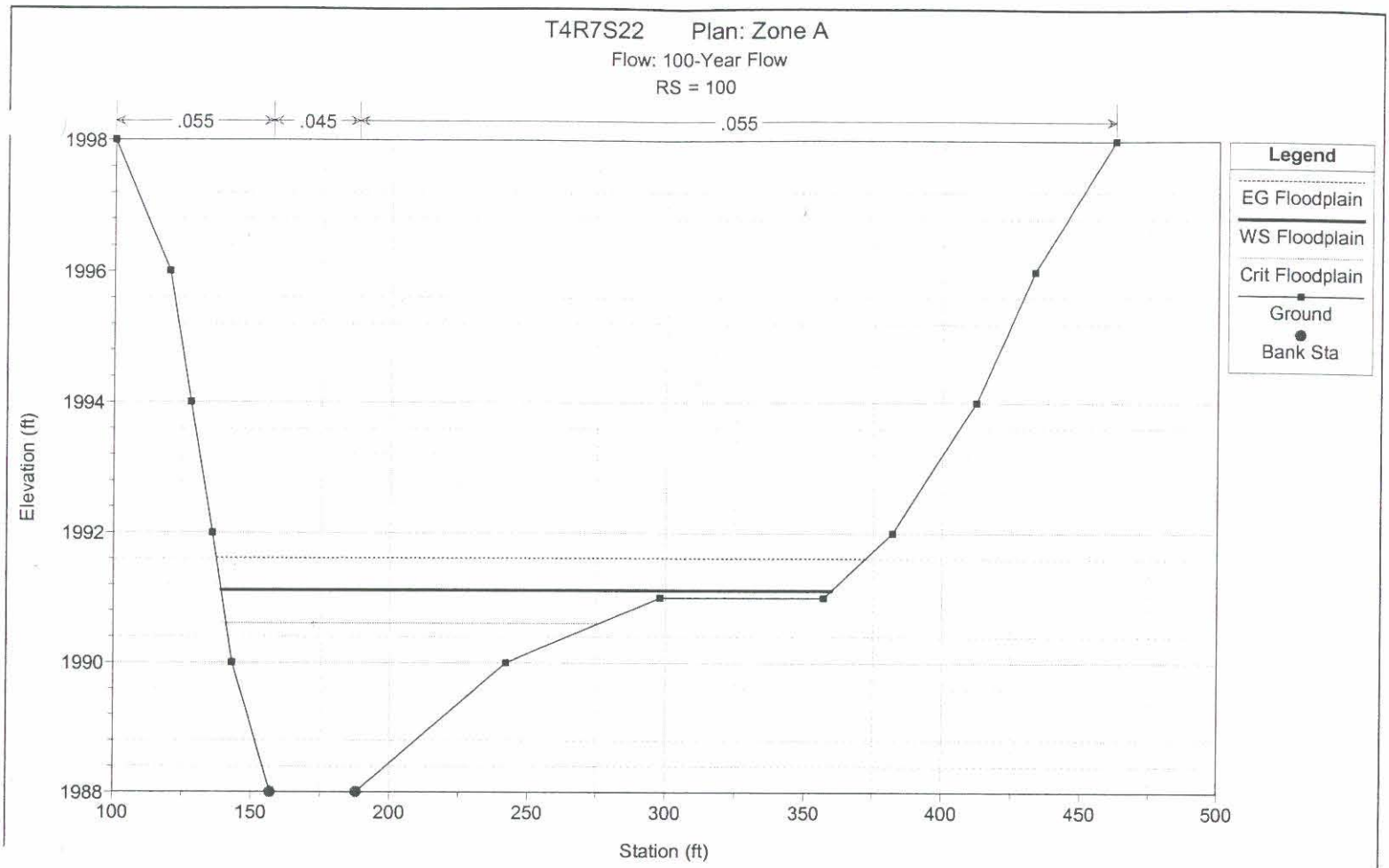

T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1700
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta


T4R7S13 Plan: Zone A
Flow: 100-Year Flow
RS = 1800
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta

Coyote Wash
T4-R7-S22

HEC-RAS Plan: Zone A River: Coyote Wash Reach: T4R7S22

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
T4R7S22	100	Floodplain	1200.00	1988.00	1991.12	1990.60	1991.61	0.010018	7.05	284.14	220.80	0.70
T4R7S22	100	Floodway	1200.00	1988.00	1991.12	1990.60	1991.61	0.010018	7.05	284.14	220.80	0.70
T4R7S22	200	Floodplain	1200.00	1998.00	2000.99	2000.68	2001.71	0.012776	7.74	199.09	97.25	0.79
T4R7S22	200	Floodway	1200.00	1998.00	2000.99	2000.68	2001.71	0.012778	7.74	199.07	97.25	0.79
T4R7S22	300	Floodplain	1200.00	2006.00	2008.63	2008.47	2009.35	0.015713	7.89	199.32	108.44	0.86
T4R7S22	300	Floodway	1200.00	2006.00	2008.63	2008.47	2009.35	0.015710	7.89	199.33	108.44	0.86
T4R7S22	400	Floodplain	1200.00	2016.00	2019.43	2019.11	2020.44	0.013373	8.68	162.91	62.12	0.83
T4R7S22	400	Floodway	1200.00	2016.00	2019.43	2019.11	2020.44	0.013375	8.68	162.90	62.11	0.83


T4R7S22 Plan: Zone A
Flow: 100-Year Flow
RS = 100
.055
.045
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
Station (ft)
1998
1996
1994
1992
1990
1988
100
150
200
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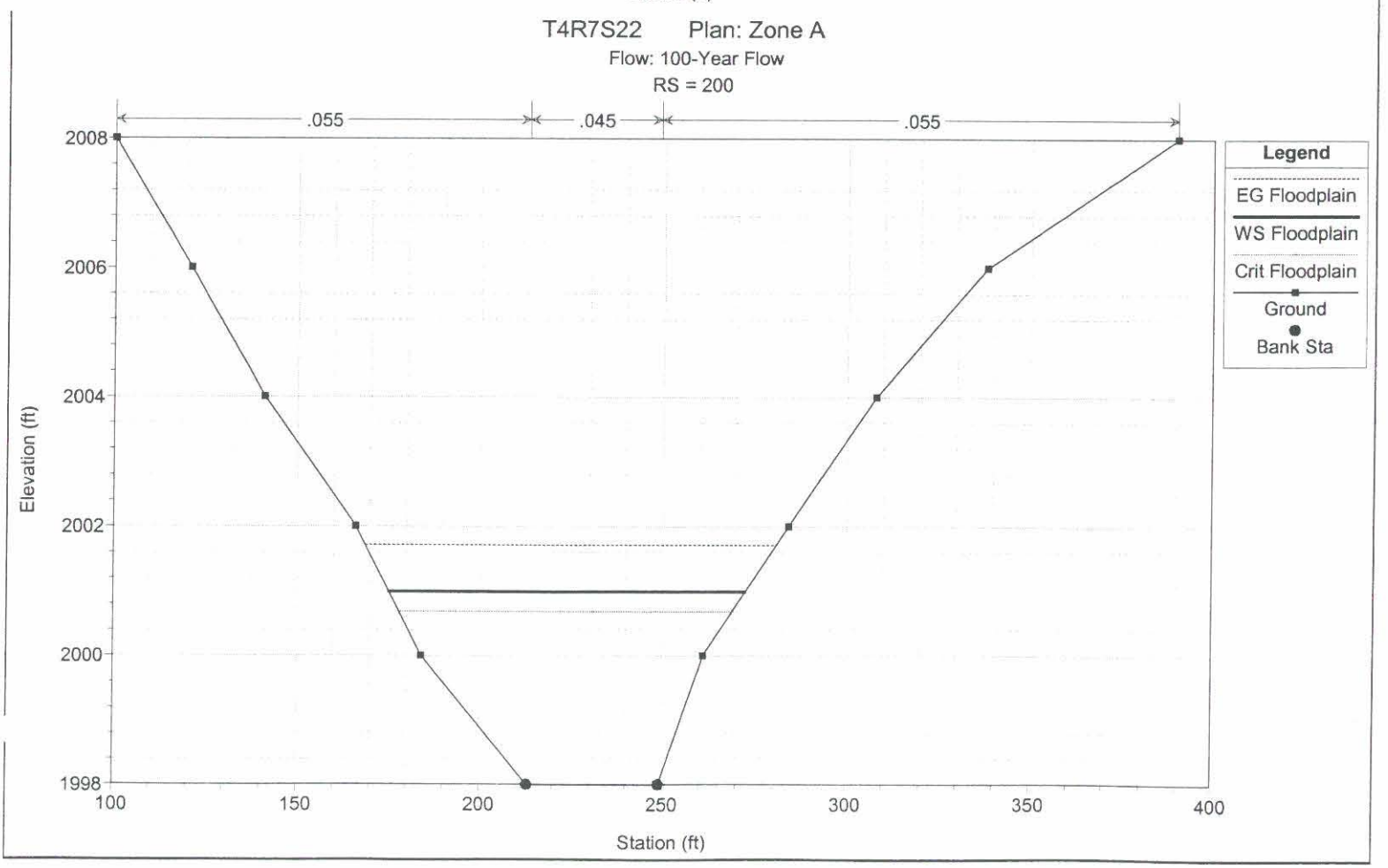
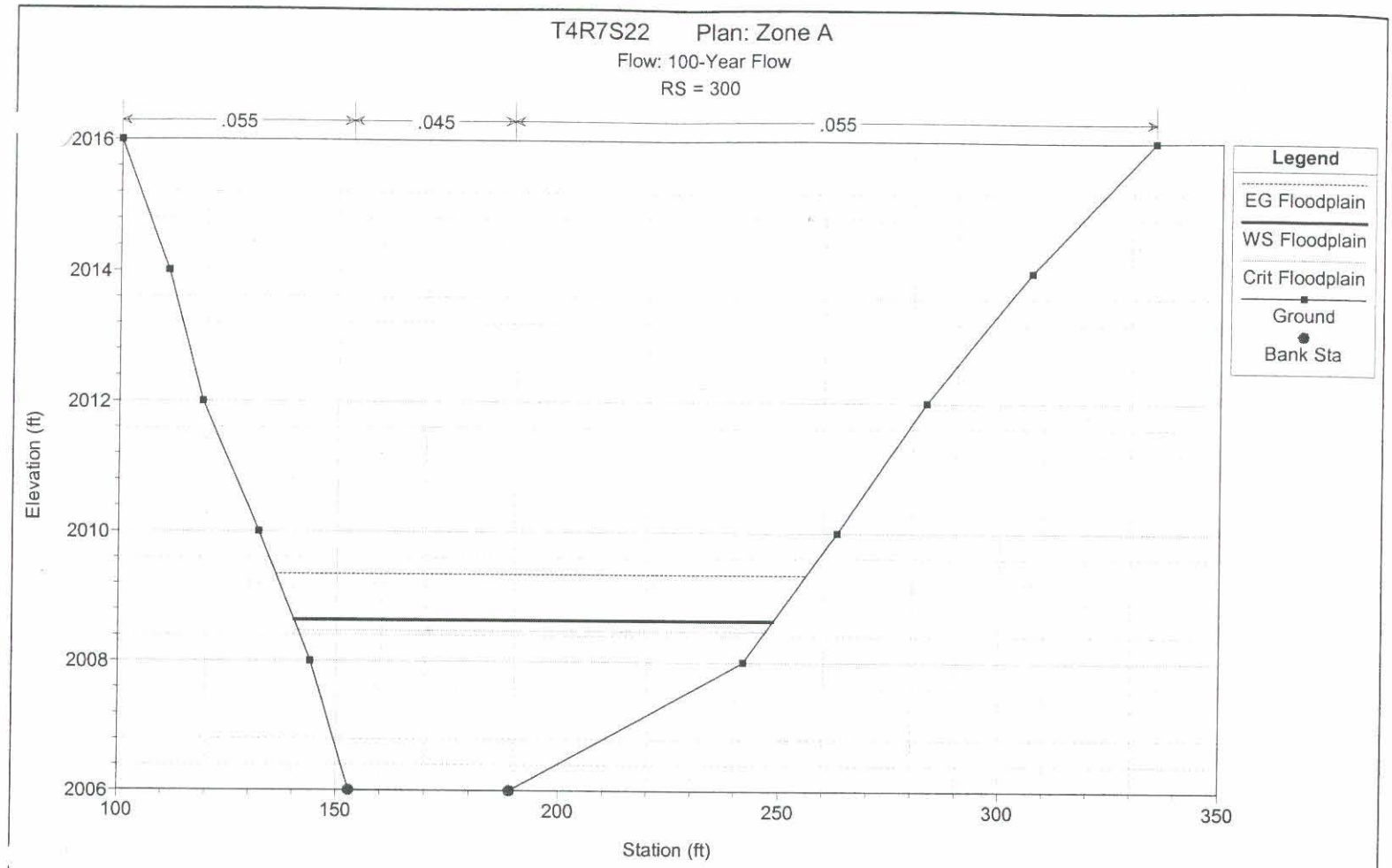
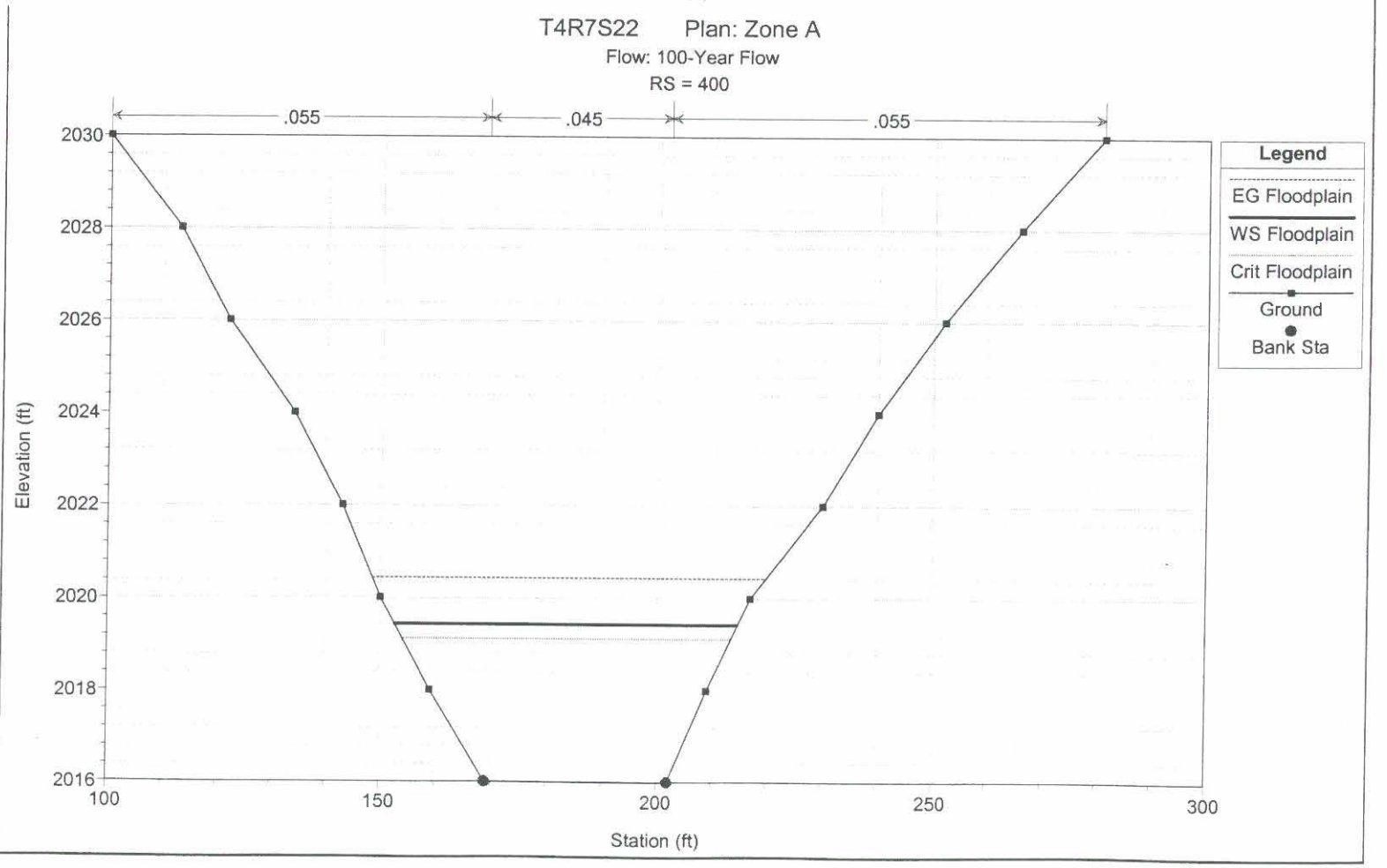
300
350
400
450
500


T4R7S22 Plan: Zone A
Flow: 100-Year Flow
RS = 200
.055
.045
.055
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta
Elevation (ft)
Station (ft)
2008
2006
2004
2002
2000
1998
100
150
200
250
300
350
400


T4R7S22 Plan: Zone A
Flow: 100-Year Flow
RS = 300
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta


T4R7S22 Plan: Zone A
Flow: 100-Year Flow
RS = 400
.055
.045
.055
Elevation (ft)
Station (ft)
Legend
EG Floodplain
WS Floodplain
Crit Floodplain
Ground
Bank Sta