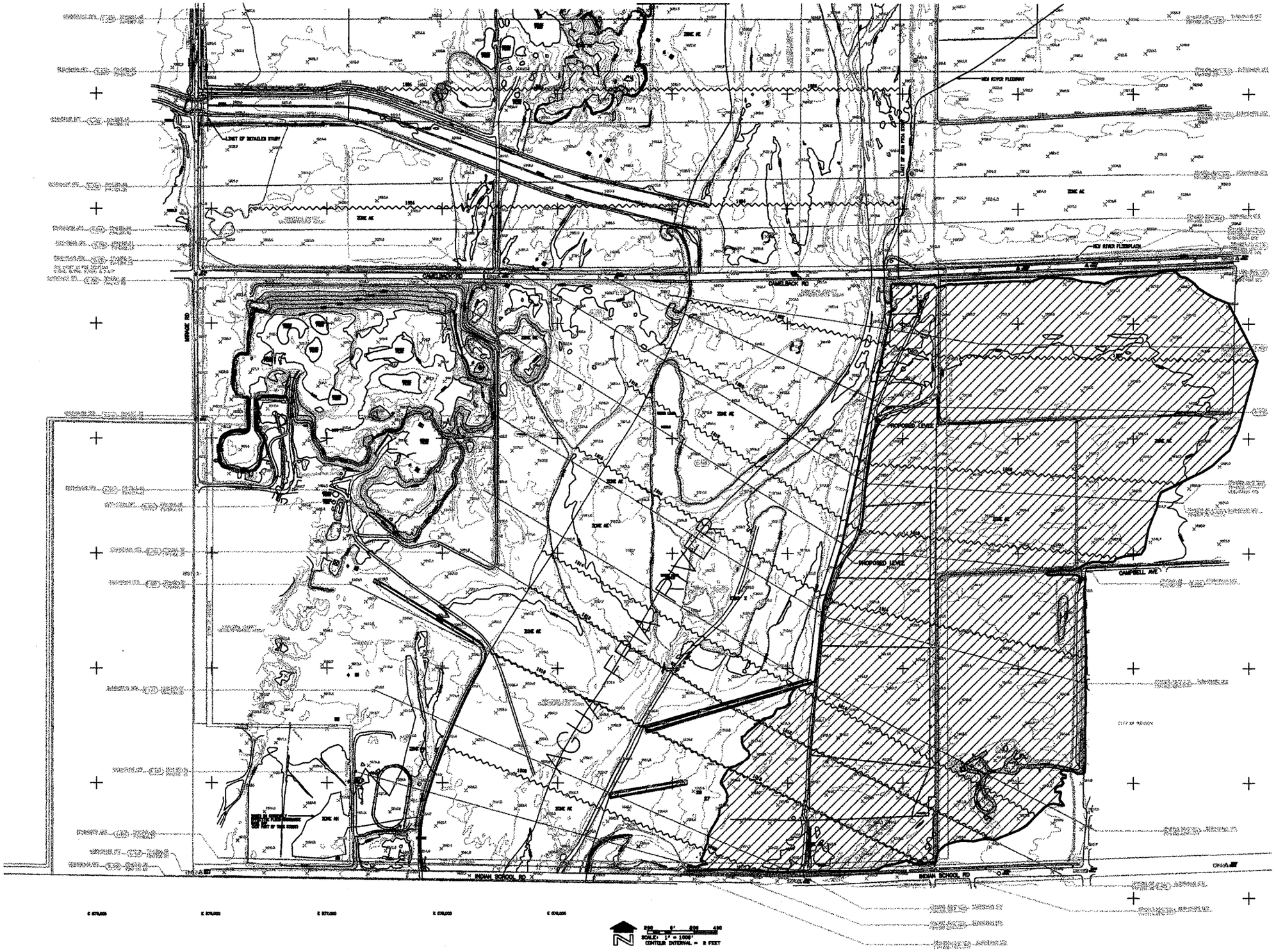
CAMELBACK RANCH LEVEE - SOUTH CONDITIONAL LETTER OF MAP REVISION


NEW RIVER FLOODWAY
LIMIT OF DETAILED STUDY
ZONE AE
NEW RIVER FLOODPLAIN
OAKLEBACK RD
BRIDGE RD
PROPOSED LEVEE
CAMPBELL AVE
INDIAN SCHOOL RD
ZONE AH
SCALE: 1" = 1000'
CONTOUR INTERVAL = 2 FEET

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009-6399
(602) 506-1501
FAX: (602) 506-4601
TT: (602) 506-5897

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

August 12, 1997

MEMO TO: R.W.Shobe

FROM: Hasan Mushtaq

VIA: Pedro Calza
Ed Raleigh

SUBJECT: Camelback Ranch Conditional Letter of Map Revision (CLOMR).

After initial review of the available study documentation for the above-mentioned project, a list of required items were prepared. The list was forwarded to you in a letter dated July 29, 1997, by Koff Awumah. Items 3, 4, and 7 of the list have already been gathered. However, I do need the other items for the preparation of the CLOMR package.

Tentatively, a target date for the submission of the CLOMR package to the Federal Emergency Management Agency (FEMA) is set at September 30, 1997, assuming the required technical documentation and coordination with the interested agencies are completed within reasonable amounts of time.

JOHN KIRCHGASSNER
SAGE ENGINEERING
3414 SOUTH 48TH STREET
SUITE # 8
PHOENIX, ARIZONA 85040

966-9971 (PH)

FLOOD CONTROL DISTRICT of Maricopa County

Interoffice Memorandum

SUBJECT: **CAMELBACK RANCH LEVEE (SOUTH)- CLOMR**
TO: RWS
FROM: KA
DATE: 7/29/97

The following are items we need to enable us put together the paperwork for the Contional Letter of Map Revision for the

1. Design Reports
2. Hydrology report on the interior drainage
3. Construction Plans
4. Hydraulic Models (HEC-2)
5. As-Builts for bridges
6. As-builts for transverse dikes
7. Topographic mapping.

Please contact the Consultant to provide us these information ASAP.
Thanks.

FLOOD CONTROL DISTRICT of Maricopa County

Interoffice Memorandum

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TO: RWS
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CAMELBACK RANCH LEVEE DESIGN
CONTRACT # FCD 95-15
DMJM PROJECT # 6526
FILE 400.1

DATA COLLECTION CHECK SHEET (FCDMC)

No.	ITEMS	DATE REQUESTED:	DATE NEEDED BY:	DATE RECIEVED:
1	RIGHTS OF ENTRY	3/5/96	3/22/96	3/8/1996 FOR J&S, WAITING FOR C.O.P
2	TITLE REPORTS FOR LEVEE AND EASEMENTS ACROSS STEWART JOHNSON PROPERTY SOUTH OF CAMEL BACK ROAD	3/5/96		3/13/96
3	EXISTING HYDROLOGY AND HYDRAULIC REPORTS	-	-	-
A1	DRAFT DESIGN REPORT FOR THE NEW RIVER CHANNELIZATION BETHANY HOME ROAD TO OLIVE AVENUE FCD CONTRACT NO. 91-05	3/5/96		3/6/96
A2	MASTER DRAINAGE REPORT, CAMELBACK RANCH	3/5/96		
A3	AGUA FRIA RIVER SEDIMENT TRANSPORT STUDY	3/5/96		3/6/96
A4	AGUA FRIA RIVER FLOOD INSURANCE STUDY	3/5/96		3/6/96
A5	AGUA FRIA, NEW RIVER, AND SKUNK GREEK STANDARD PROJECT FLOOD EVALUATION	3/5/96		3/11/96
A7	LOMR SUBMITTAL PACKAGE FOR THE NEW RIVER CHANNELIZATION BETHANY HOME ROAD TO OLIVE AVENUE FCD CONTRACT NO. 91-05	3/5/96		3/6/96
A6	STANDARD PROJECT FLOOD AGUA RIVER BETWEEN THE NEW RIVER CONFLUENCE AND THE GILA RIVER WITH NEW WADDELL DAM IN PLACE	3/5/96		3/6/96
A8	CAMELBACK RANCH LEVEE AND INTERIOR DRAINAGE SYSTEM PHASING PLAN	3/5/96		3/11/96
A9	CAMELBACK RANCH FLOOD PLAIN AND INTERIOR DRAINAGE REPORT	3/5/96		3/11/96
A11	GILA RIVER BASIN NEW RIVER AND PHOENIX CITY STREAM ARIZONA DESIGN MEMORANDUM NO. 2 HYDROLOGY PART 1	3/5/96		3/11/96
A12	CAMELBACK RANCH FLOOD PLAIN AND INTERIOR DRAINAGE REPORT	3/5/96		3/11/96
A13	CAMELBACK RANCH FLOOD PLAIN STUDY AND CONDITIONAL LOMR REQUEST	3/5/96		3/11/96
A15	AGUA FRIA RIVER STUDY NEW WADDELL DAM TO GILA RIVER CONFLUENCE, ARIZONA	3/5/96		3/11/96
A16	CAMELBACK RANCH FLOOD PLAIN STUDY AND CONDITIONAL LOMR REQUEST	3/5/96		3/11/96
A17	GILA RIVER BASIN PHOENIX, ARIZONA & VICINITY (INCLUDING NEW RIVER) HYDROLOGY PART 2	3/5/96		3/11/96
	HYDROLOGY, PRE/POST NEW WADDEL DAM (2YR, 5YR, 10YR, 25YR, 50YR, 100YR AND SPF)	3/5/96	3/15/96	3/6/96
	LATEST FLOOD INSURANCE STUDY THAT COVERS THIS REACH	3/4/96	3/15/96	3/4/96
4	A.L.T.A. OF JOHNSON-STEWART PROPERTY	3/5/96		3/11/96
5	GEOTECHNICAL INVESTIGATION REPORT CAMELBACK RANCH LEVEE DESIGN AGUA FRIA RIVER & NEW RIVER 113TH AVE. & CAMELBACK ROAD MARICOPA COUNTY, ARIZONA	3/5/96		3/11/96

CVL 96

don't use

1996 CVL

X

Use new DMJM

old D

✓

CVL 96

Use New DMJM

CAMELBACK RANCH LEVEE DESIGN
CONTRACT # FCD 95-15
DMJM PROJECT # 6526
FILE 400.1

No.	ITEMS	DATE REQUESTED:	DATE NEEDED BY:	DATE RECIEVED:
1	RIGHTS OF ENTRY	3/5/96	3/22/96	3/8/1996 FOR J&S, WAITING FOR C.O.P
6	CONSTRUCTION SPECIAL PROVISIONS FOR NEW CHANNELIZATION GRAND AVENUE TO GREENWAY ROAD FCD CONTRACT NO. 91-04	3/5/96		3/6/96
7	WHITE TANKS ADMS MAPPING ON DISK	2/28/96		2/28/96
8	MARYVALE ADMS MAPPING ON DISK	2/28/96	3/4/96	3/5/96
9	SCS SOILS INFO .DXF (T2N R1E R1W)	2/28/96	3/6/96	3/5/96
10	SURVEY CONTROL POINTS USED BY AERIAL MAPPING INC. ON AGUA FRIA DELINEATION (HORZONTAL AND VERTICAL) NAD 83 HORIZONTAL NAD 29 VERTICAL	2/28/96	3/4/96	3/18/96
11	BOUNDARY MAPS FOR CAMELBACK RANCH/LEGAL DESCRIPTION INCLUDING MICROSTATION FILES AND ASCII FILES FOR COORDINATES ON DISK	2/28/96	3/20/96	
12	FCD COVER SHEET AND BORDER SHEET FOR PLANS AND PROFILES IN MICROSTATION	3/5/96	4/5/96	3/6/96
13	SPECIAL PROVISIONS FOR LATESTSOIL CEMENT LEVEE PROJECT ON DISK	3/5/96	4/5/96	3/6/96
14	BID TABULATION SHEETS FOR LATEST SOIL CEMENT LEVEE PROJECTS FOR FCD	3/5/96	4/5/96	3/6/96
15	AS-BUILTS FOR NEW RIVER SOIL CEMENT LEVEE DESIGN BY COE & VAN LOO NORTH OF OUR PROJECT	3/5/96	3/20/96	3/6/96
16	AS-BUILTS FOR CHANNELIZATION ALONG AGUA FRIA RIVER FROM INDIAN SCHOOL ROAD SOUTH (1/4mi)	3/5/96	3/15/96	3/6/96
17	AS-BUILTS FOR AGUA FRIA RIVER DIVERSION STRUCTURES FROM FROM INDIAN SCHOOL ROAD, NORTH	3/5/96	3/15/96	3/6/96
18	AS-BUILT INFO ON INDIAN SCHOOL ROAD BRIDGE	3/5/96	3/15/96	
19	AS-BUILT INFO ON CAMELBACK ROAD BRIDGE	3/5/96	3/15/96	3/5/96
20	SURVEY INFO ON HARDCOPY AND DIGITAL FORMAT FROM COE & VAN LOO ON ITEMS 16,17, 18 AND 19	3/5/96	3/15/96	WAS NOT SURVEYED
21	LETTER OF AGREEMENT FROM U.S. ARMY COE REGUARDING CRITERIA FOR SPF DESIGN OF THE LEVEE	3/5/96	3/20/96	NOT NEEDED
22	HYDROLOGY FROM ADOT ON AGUA FRIA FWY. OUTFALL CHANNEL ALONG BETHANY HOME ROAD ALIGNMENT	3/5/96	3/20/96	
23	SECTION SURVEY & COGO (SECTIONS 18 & 19)	3/6/96	3/6/96	
24	CONSTRUCTION BUDGET	3/6/96	3/6/96	

Do not need, for North phase

Do not need

Do not use

Note: Change Q in SLA model to 54,500 cfs (55,000 cfs was the old hydrology.)

DATA COLLECTION CHECK SHEET (DMJM)

No.	ITEMS	DATE REQUESTED:	DATE NEEDED BY:	DATE RECIEVED:
1	C.O.P. RIGHT-OF-WAY 1/4 SECTION		3/27/96	
2	TOPO 1/4 SECTION		3/20/96	
3	C.O.P.WATER/WASTE WATER 1/4 SECTION		3/27/96	2/29/96
4	EL PASO GAS 1/4 SECTION OR ASBUILTS		3/15/96	
5	SRP CANAL PLANS OR ASBUILTS		3/15/96	3/18/96
6	RID CANAL PLANS OR ASBUILTS		3/15/96	
7	EXISTING AERIAL PHOTOGRAPHS PER SLA		3/15/96	
8	107TH AVE. ASBUILTS			
9	LAND USE ZONING & (WILLDEN-RED RIVER PLANS)		3/27/96	2/29/96
10	CAMELBACK ROAD AS-BUILTS		3/6/96	3/5/96
11	CABLE TV AS-BUILTS			
12	US WEST AS-BUILTS			2/29/96
13	APS/SRP UNDERGROUND/OVERHEAD AS-BUILTS			
14	SOUTHWEST GAS AS-BUILTS			
15	FIBER OPTIC LINES/COMPANIES AS-BUILTS			
16	HAZARDOUS WASTE SITE INFORMATION FROM ADEQ BY ATL			
17	ADJACENT EXISTING SOILS REPORTS BY ATL			
18	CONTACT BLUE STAKE AND CORPORATION COMMISSION TO SEE WHAT UTILITY COMPANY FRANCHISES ARE IN THE AREA			COMPLETED 3/11/1996
19	CITY OF GLENDALE SANITARY SEWER FORCE MAIN FROM AIRPORT TO BETHANY HOME ROAD AND 107TH AVE.			3/18/96

2.2 A written report summarizing the data collected shall be submitted to the District for information purposes. A preliminary draft of this report will be submitted within 90 days of Notice to Proceed.

TASK 3 - TOPOGRAPHIC MAPPING

3.1 Digital contour and planimetric data developed for this study shall be delivered according to the District's HIS specifications.

3.2 Digital Terrain Models shall be delivered following the guidelines stated in Digital Terrain Model Mapping, Data Collection & Delivery Specifications, Release 1.0 May 1994.

3.3 Prepare topographic mapping to a 2-foot contour interval, with a scale of 1 inch = 200 feet, with spot elevations on all section line and mid-section line roads.

3.4 Ground Control:

a. Montgomery Watson shall provide all survey control using 1983 NAD.

b. Montgomery Watson shall systematically set panel points and establish horizontal and vertical control throughout the areas to be mapped for use in compilation by the aerial survey contractor. Where readily available, surveys will tie into the State Plane Coordinate System 1983 NAD. Field control shall be sufficient to readily allow for compilation of maps by the aerial survey contractor at the desired map scale and contour interval, and will be based on the National Geodetic Vertical Datum of 1929 (NGVD). A conversion factor, including documentation of how it was derived, will be provided by Montgomery Watson to allow comparison of NGVD 1929 elevations to NAVD 1988 elevations and will be included in the Technical Data Notebook.

c. The horizontal and vertical control points shall be located and marked by Montgomery Watson. The controls for the aerial mapping shall be in sufficient numbers and shall be in locations which will be compatible with the accuracy of the mapping requirements. The controls shall be of at least third order accuracy. Section corners, quarter corners, and mid-section points shall be used for control points wherever possible.

3.5 Montgomery Watson shall provide permanent non-erasable topographic mylars of the work study drawings. The drawings shall be 24" X 36" in size, with a scale of 1 inch = 200 feet and a contour interval of 2 foot for all mapping. A cover sheet will be provided with the project title, date of topographic mapping, and a location map showing geographic range covered by each specific mapping sheet. Each drawing shall include the floodplain and floodway delineations and a minimum of a north arrow, scale, section corners and quarter corners, current and proposed streets and highway names, State Plane Coordinate System, major drainage features, corporate boundaries, cross section lines, channel station center line, index map, and description and elevation of elevation reference marks (ERMs). A note explaining the proper means to convert the NGVD 1929 elevations to NAVD 1988 elevations shall be included in "NOTES" in the map border. The mapping will have an accuracy such that ninety percent (90%) of all contours shall be within one-half contour of the true elevations and the remaining ten percent (10%) of the contours shall not be in error by more than one contour interval.

3.6 Montgomery Watson shall compare the new topographic mapping to the mapping used to produce the current floodplain delineations. The comparison will include checking map datums; the presence and elevation of bridge structures; and location of channel banks and

Federal Emergency Management Agency

Washington, D.C. 20472

FLOOD CONTROL DISTRICT
RECEIVED
APR 20 1998
REMARKS 1 HSM

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:
Case No.: 98-09-226P

The Honorable Janice K. Brewer
Chairman, Maricopa County Board
of Supervisors
301 Jefferson Street
Phoenix, Arizona 85003

Community: Maricopa County, Arizona
Community No.: 040037
Panels Affected: 04013C1620 F and
04013C2085 E
Effective Date of This Revision: APR 16 1998

102-I-A-C

Dear Ms. Brewer:

This responds to a request that the Federal Emergency Management Agency (FEMA) revise the effective Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) report for Maricopa County, Arizona and Incorporated Areas (the effective FIRM and FIS report for your community), in accordance with Part 65 of the National Flood Insurance Program (NFIP) regulations. In a letter dated November 14, 1997, Mr. Hasan Mushtaq, P.E., Engineering Division, Flood Control District of Maricopa County, requested that FEMA revise the FIRM and FIS report to show the effects of construction of a levee along the left overbank (looking downstream) of the Agua Fria River from approximately 2,800 feet upstream of Indian School Road to just downstream of Camelback Road.

All data required to complete our review of this request were submitted with letters from Mr. Mushtaq.

We have completed our review of the submitted data and the flood data shown on the effective FIRM and FIS report. We have revised the FIRM and FIS report to modify the elevations, floodplain and floodway boundary delineations, and zone designations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) along the Agua Fria River from approximately 400 feet upstream of Indian School Road to approximately 400 feet upstream of Camelback Road. As a result of the modifications, the base flood elevations (BFEs) for the Agua Fria River increased; the width of the Special Flood Hazard Area (SFHA), the area that would be inundated by the base flood, decreased; and the width of the regulatory floodway increased. The increase in floodway width is contained within the constructed levee. The modifications are shown on the enclosed annotated copies of FIRM Panel(s) 04013C1620 F and 04013C2085 E, Profile Panel(s) 12P and 13P, and affected portions of the Floodway Data Table. This Letter of Map Revision (LOMR) hereby revises the above-referenced panel(s) of the effective FIRM dated September 4, 1991, and the affected portions of the FIS report dated September 30, 1995.

Because this revision request also affects the City of Phoenix, a separate LOMR for that community was issued on the same date as this LOMR.

The modifications are effective as of the date shown above. The map panel(s) as listed above and as modified by this letter will be used for all flood insurance policies and renewals issued for your community.

The following table is a partial listing of existing and modified BFEs:

Location	Existing BFE (feet)*	Modified BFE (feet)*
Approximately 1,000 feet downstream of Camelback Road	1,021	1,022

*Referenced to the National Geodetic Vertical Datum, rounded to the nearest whole foot

Public notification of the proposed modified BFEs will be given in the *Arizona Republic* on or about May 14 and May 21, 1998. A copy of this notification is enclosed. In addition, a notice of changes will be published in the *Federal Register*. Within 90 days of the second publication in the *Arizona Republic*, a citizen may request that FEMA reconsider the determination made by this LOMR. Any request for reconsideration must be based on scientific or technical data. All interested parties are on notice that, until the 90-day period elapses, the determination to modify the BFEs presented in this LOMR may itself be modified.

Because this LOMR will not be printed and distributed to primary users, such as local insurance agents and mortgage lenders, your community will serve as a repository for these new data. We encourage you to disseminate the information reflected by this LOMR throughout the community, so that interested persons, such as property owners, local insurance agents, and mortgage lenders, may benefit from the information. We also encourage you to prepare a related article for publication in your community's local newspaper. This article should describe the assistance that officials of your community will give to interested persons by providing these data and interpreting the NFIP maps.

We are processing a revised FIRM and FIS report for Maricopa County; therefore, we will not physically revise and republish the FIRM and FIS report for your community to incorporate the modifications made by this LOMR at this time. Preliminary copies of the FIRM and FIS report were submitted to your community for review on December 24, 1997. We will incorporate the modifications made by this LOMR into the FIRM and FIS report before they become effective.

The floodway is provided to your community as a tool to regulate floodplain development. Therefore, the floodway modifications described in this LOMR, while acceptable to FEMA, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

This LOMR is based on minimum floodplain management criteria established under the NFIP. Your community is responsible for approving all floodplain development, and for ensuring all necessary permits required by Federal or State law have been received. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If the State, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

This determination has been made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and is in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968,

as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed minimum NFIP criteria. These criteria are the minimum and do not supersede any State or local requirements of a more stringent nature. This includes adoption of the effective FIRM to which the regulations apply and the modifications described in this LOMR. Our records show that your community has met this requirement.

A Consultation Coordination Officer (CCO) has been designated to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Dorothy M. Lacey
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
The Presidio of San Francisco, Building 105
San Francisco, California 94129-1250
(415) 923-7177

If you have any questions regarding floodplain management regulations for your community or the NFIP in general, please contact the CCO for your community at the telephone number cited above. If you have any technical questions regarding this LOMR, please contact Mr. Mike Grimm of our staff in Washington, DC, either by telephone at (202) 646-2878 or by facsimile at (202) 646-4596.

Sincerely,

Matthew B. Miller

Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate

Enclosure(s)

cc: The Honorable Skip Rimsza
Mayor, City of Phoenix

Mr. Raymond U. Acuña, P.E.
Floodplain Manager
City of Phoenix Street
Transportation Department

Mr. Hasan Mushtaq, P.E.
Engineering Division
Flood Control District
of Maricopa County

CHANGES ARE MADE IN DETERMINATIONS OF BASE FLOOD ELEVATIONS FOR THE CITY OF PHOENIX AND THE UNINCORPORATED AREAS OF MARICOPA COUNTY, ARIZONA, UNDER THE NATIONAL FLOOD INSURANCE PROGRAM

On September 4, 1991, the Federal Emergency Management Agency identified Special Flood Hazard Areas (SFHAs) in the City of Phoenix and the unincorporated areas of Maricopa County, Arizona, through issuance of a Flood Insurance Rate Map (FIRM). The Mitigation Directorate has determined that modification of the elevations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) for certain locations in these communities is appropriate. The modified base flood elevations (BFEs) revise the FIRMs for the communities.

The changes are being made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

A hydraulic analysis was performed to incorporate construction of a levee along the left overbank (looking downstream) of the Agua Fria River from approximately 2,800 feet upstream of Indian School Road to just downstream of Camelback Road and has resulted in a revised delineation of the regulatory floodway, a decrease in SFHA width, and increased BFEs for the Agua Fria River. The table below indicates existing and modified BFEs for selected locations along the affected lengths of the flooding source(s) cited above.

Location	Existing BFE (feet)*	Modified BFE (feet)*
[1]Approximately 1,000 feet downstream of Camelback Road	1,021	1,022

[1]Located within City of Phoenix and unincorporated areas of Maricopa County
*National Geodetic Vertical Datum, rounded to nearest whole foot

Under the above-mentioned Acts of 1968 and 1973, the Mitigation Directorate must develop criteria for floodplain management. To participate in the National Flood Insurance Program (NFIP), the community must use the modified BFEs to administer the floodplain management measures of the NFIP. These modified BFEs will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and contents.

Upon the second publication of notice of these changes in this newspaper, any person has 90 days in which he or she can request, through the Chief Executive Officer of the community, that the Mitigation Directorate reconsider the determination. Any request for reconsideration must be based on knowledge of changed conditions or new scientific or technical data. All interested parties are on notice that until the 90-day period elapses, the Mitigation Directorate's determination to modify the BFEs may itself be changed.

Any person having knowledge or wishing to comment on these changes should immediately notify:

The Honorable Skip Rimsza
Mayor, City of Phoenix
200 West Washington Street, 11th Floor
Phoenix, Arizona 85003-1611

OR

The Honorable Janice K. Brewer
Chairman, Maricopa County Board
of Supervisors
301 Jefferson Street
Phoenix, Arizona 85003

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 1620 OF 4350

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GLENDALE, CITY OF	040045	1620	F
MARICOPA COUNTY, UNINCORPORATED AREAS	040037	1620	F
PEORIA, CITY OF	040050	1620	F
PHOENIX, CITY OF	040051	1620	F

REVISED TO REFLECT LOMR DATED APR 16 1998

MAP NUMBER
04013C1620 F

MAP REVISED:
SEPTEMBER 4, 1991

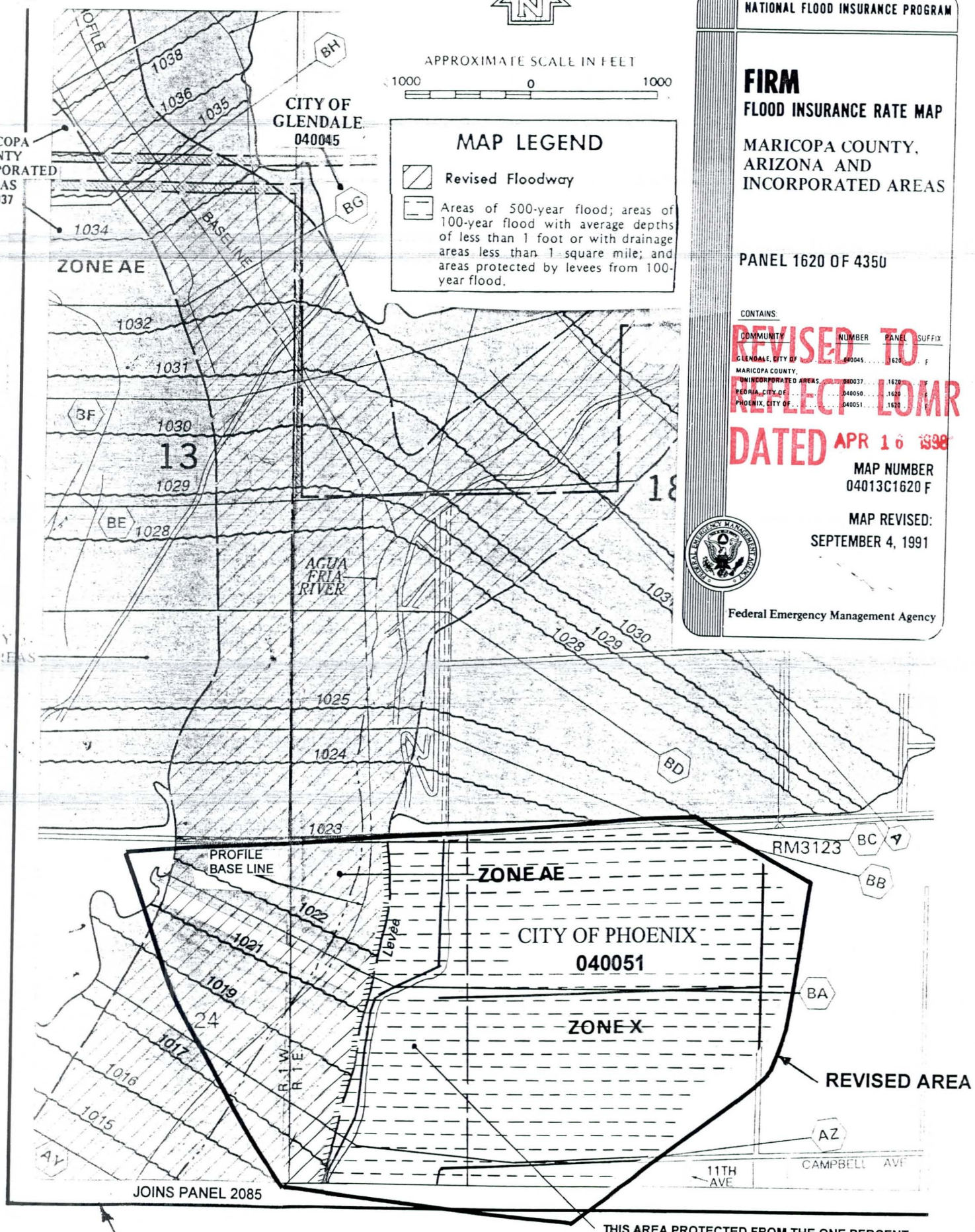
Federal Emergency Management Agency

APPROXIMATE SCALE IN FEET
1000 0 1000

MAP LEGEND

Revised Floodway

Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.



THIS AREA WAS REVISED BY LOMR DATED AUGUST 5,1997

THIS AREA PROTECTED FROM THE ONE PERCENT ANNUAL CHANCE (100-YEAR) FLOOD BY LEVEE, DIKE OR OTHER STRUCTURES SUBJECT TO POSSIBLE FAILURE OR OVERTOPPING DURING LARGER FLOODS.

THIS AREA PROTECTED FROM THE ONE PERCENT ANNUAL CHANCE (100-YEAR) FLOOD BY LEVEE, DIKE OR OTHER STRUCTURES SUBJECT TO POSSIBLE FAILURE OR OVERTOPPING DURING LARGER FLOODS.

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM401	1021.09	Rim of handhole at centerline intersection of 99th Avenue and McDowell Road.
RM402	1025.39	Rim of handhole at centerline intersection of 91st Avenue (Main Street) and McDowell Road.
RM403	1014.82	Rim of handhole Street) and Van B
RM406	1008.13	Rim of handhole Buren Street.

REVISED AREA

ZONE AE

PROFILE BASE LINE

JOINS PANEL 1620

ZONE X

Levee

Agua Fria River

1015 1016 1013 1011 1009 1008 1007 1006 1005

24 19 25 30

CITY OF PHOENIX 040051

RM3116 RM3117 RM3118

AV AW AX AY

INDIAN SCHOOL ROAD

CITY OF AVONDALE 040038

ZONE AE

R.1W. R.1E.

MARICOPA COUNTY UNINCORPORATED AREAS 040037

KEY TO NUMBERED STREETS

1. 11th STREET
2. SELLS DRIVE
3. ROMA AVENUE
4. TURNEY AVENUE
5. GLENROSA AVENUE
6. CALLE DEL SOL
7. 11TH AVENUE

MARICOPA COUNTY UNINCORPORATED AREAS 040037

Flume (Elevated)

THIS AREA WAS REVISED BY LOMR DATED AUGUST 5,1997

This area protected from the one percent annual chance (100-year) flood by levee, dike, or other structures subject to possible failure or overtoping during larger floods.

LEVEE

Roosevelt Canal

CITY OF AVONDALE 040038

MARICOPA COUNTY UNINCORPORATED AREAS 040037

MAP LEGEND

Revised Floodway

Revised 100-Year Floodplain

Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

N

APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 2085 OF 4350

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
AVONDALE, CITY OF	040038	2085	E
MARICOPA COUNTY, UNINCORPORATED AREAS	040037	2085	E
PHOENIX, CITY OF	040051	2085	E
TOLLESON, CITY OF	040055	2085	E

REVISED TO REFLECT LOMR DATED APR 16 1998

MAP NUMBER 04013C2085E

MAP REVISED: SEPTEMBER 4, 1991

Federal Emergency Management Agency

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Agua Fria River (Cont'd)					THESE DATA WERE REVISED BY LOMR DATED AUGUST 5,1997			
AA	4.760	1,107	8,872	5.9	967.6	967.6	967.6	0.0
AB	4.936	1,107	8,580	6.1	968.4	968.4	968.4	0.0
AC	5.031	1,115	6,687	7.8	968.7	968.7	968.7	0.0
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AE	5.385	1,389	5,712	9.1	972.5	972.5	972.5	0.0
AF	5.508	1,330	5,734	9.1	976.0	976.0	976.0	0.0
AG	5.567	1,387	7,518	7.2	977.5	977.5	977.5	0.0
AH	5.723	1,256	7,613	7.1	979.6	979.6	979.6	0.0
AI	5.887	1,127	7,882	6.9	981.6	981.6	981.6	0.0
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AZ	9.027	2,040	7,829	6.9	1,017.2	1,017.2	1,017.5	0.3

[1]Miles above confluence with Gila River

REVISED DATA

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

AGUA FRIA RIVER

REVISED TO REFLECT LOMR DATED APR 16 1998

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
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					(FEET NGVD)			
Agua Fria River (Cont'd)					REVISED DATA			
BA	9.252	1,738	10,150	5.4	1,021.7	1,021.7	1,021.7	0.0
BB	9.437	1,694	10,162	5.4	1,023.1	1,023.1	1,023.1	0.0
BC	9.6	1,852	9,435	5.8	1,024.4	1,024.4	1,024.5	0.1
BD	9.776	1,660	8,492	6.4	1,026.3	1,026.3	1,026.4	0.1
BE	9.953	1,510	7,156	7.6	1,028.7	1,028.7	1,028.7	0.0
BF	10.142	1,396	5,798	5.2	1,030.4	1,030.4	1,031.0	0.6
BG	10.327	1,231	5,360	5.6	1,032.8	1,032.8	1,033.2	0.4
BH	10.521	740	3,639	8.2	1,034.5	1,034.5	1,034.8	0.3
BI	10.699	749	4,886	6.1	1,038.5	1,038.5	1,039.1	0.6
BJ	10.889	985	6,513	4.6	1,040.5	1,040.5	1,041.1	0.6
BK	11.103	730	4,884	6.1	1,043.2	1,043.2	1,043.4	0.2
BL	11.481	812	5,451	5.5	1,046.8	1,046.8	1,047.0	0.2
BM	11.581	620	2,998	10.0	1,048.3	1,048.3	1,048.3	0.0
BN	11.823	892	5,128	6.7	1,054.4	1,054.4	1,054.4	0.0
BO	12.016	1,738	6,858	5.0	1,058.5	1,058.5	1,058.9	0.4
BP	12.164	2,408	6,640	5.2	1,061.1	1,061.1	1,061.4	0.3
BQ	12.307	2,709	17,026	2.0	1,064.0	1,064.0	1,064.5	0.5
BR	12.513	2,786	21,039	1.6	1,065.2	1,065.2	1,066.0	0.8
BS	12.73	2,300	11,248	3.1	1,065.8	1,065.8	1,066.7	0.9
BT	12.896	938	6,621	5.2	1,066.3	1,066.3	1,067.0	0.7
BU	13.082	703	4,849	7.1	1,067.6	1,067.6	1,068.2	0.6
BV	13.273	441	3,297	10.5	1,070.4	1,070.4	1,070.5	0.1
BW	13.465	551	5,555	6.2	1,073.6	1,073.6	1,073.7	0.1
BX	13.716	1,385	8,159	4.2	1,075.5	1,075.5	1,075.6	0.1
BY	13.929	1,334	5,387	6.4	1,079.2	1,079.2	1,079.4	0.2
BZ	14.123	1,040	5,776	6.0	1,082.2	1,082.2	1,082.5	0.3

THESE DATA WERE REVISED BY LOMR DATED AUGUST 5,1997

[1]Miles above confluence with Gila River

TABLE 5

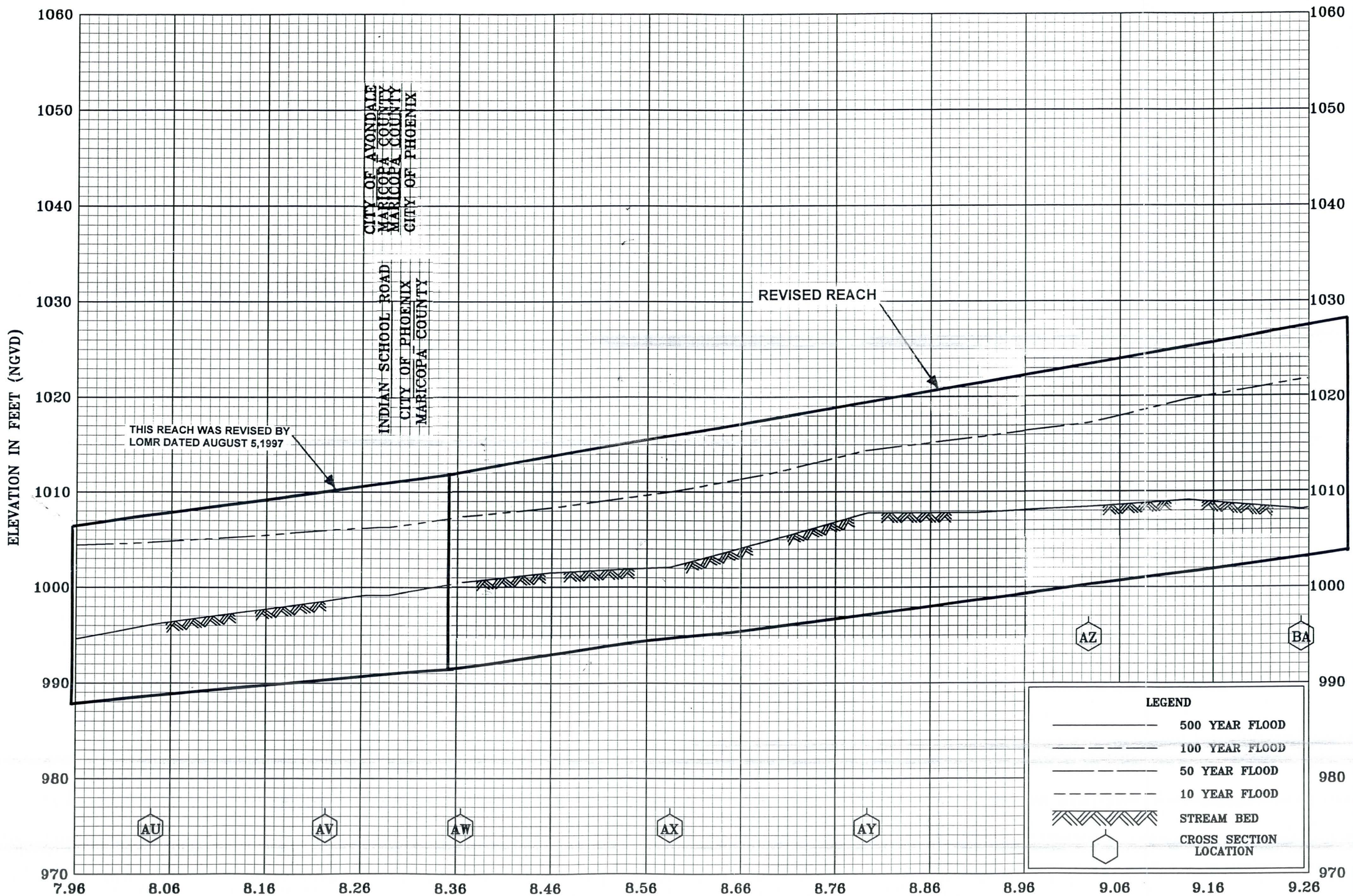
FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

AGUA FRIA RIVER

REVISED TO REFLECT LOMR DATED APR 16 1998



REVISED TO REFLECT LOMR DATED APR 16 1998

FLOOD PROFILES

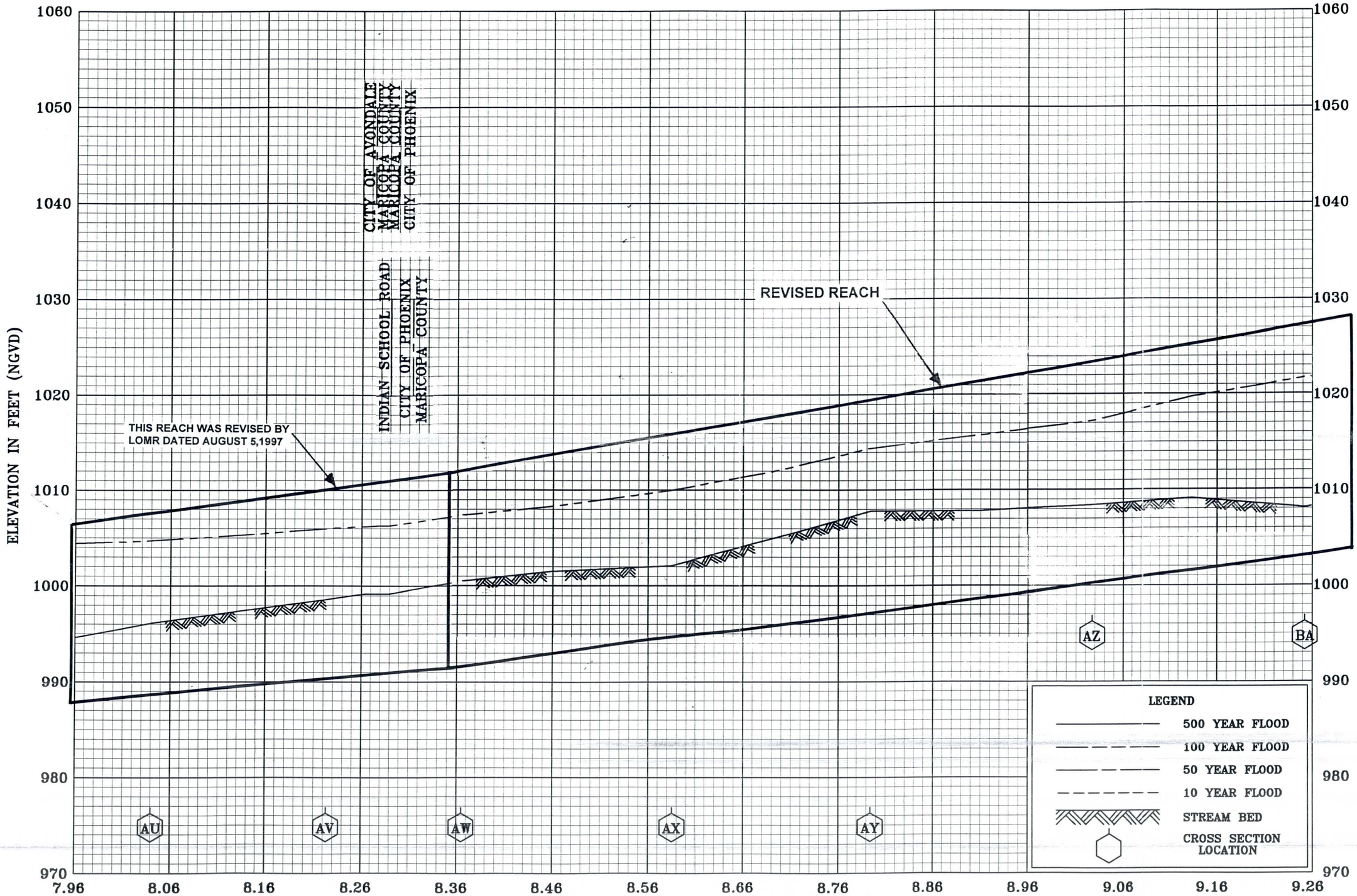
AGUA FRIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

AND INCORPORATED AREAS

12P



REVISED TO REFLECT LOMR DATED APR 16 1998

FLOOD PROFILES

AGUA FRIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

AND INCORPORATED AREAS

12P

Federal Emergency Management Agency

Washington, D.C. 20472

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:
Case No.: 98-09-226P

The Honorable Skip Rimsza
Mayor, City of Phoenix
200 West Washington Street, 11th Floor
Phoenix, Arizona 85003-1611

Community: City of Phoenix, Arizona
Community No.: 040051
Panels Affected: 04013C1620 F and 04013C2085 E
Effective Date of This Revision: APR 16 1998

102-I-A-C

Dear Mayor Rimsza:

This responds to a request that the Federal Emergency Management Agency (FEMA) revise the effective Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) report for Maricopa County, Arizona and Incorporated Areas (the effective FIRM and FIS report for your community), in accordance with Part 65 of the National Flood Insurance Program (NFIP) regulations. In a letter dated November 14, 1997, Mr. Hasan Mushtaq, P.E., Engineering Division, Flood Control District of Maricopa County, requested that FEMA revise the FIRM and FIS report to show the effects of construction of a levee along the left overbank (looking downstream) of the Agua Fria River from approximately 2,800 feet upstream of Indian School Road to just downstream of Camelback Road.

All data required to complete our review of this request were submitted with letters from Mr. Mushtaq.

We have completed our review of the submitted data and the flood data shown on the effective FIRM and FIS report. We have revised the FIRM and FIS report to modify the elevations, floodplain and floodway boundary delineations, and zone designations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) along the Agua Fria River from approximately 400 feet upstream of Indian School Road to approximately 400 feet upstream of Camelback Road. As a result of the modifications, the base flood elevations (BFEs) for the Agua Fria River increased; the width of the Special Flood Hazard Area (SFHA), the area that would be inundated by the base flood, decreased; and the width of the regulatory floodway increased. The increase in floodway width is contained within the constructed levee. The modifications are shown on the enclosed annotated copies of FIRM Panel(s) 04013C1620 F and 04013C2085 E, Profile Panel(s) 12P and 13P, and affected portions of the Floodway Data Table. This Letter of Map Revision (LOMR) hereby revises the above-referenced panel(s) of the effective FIRM dated September 4, 1991, and the affected portions of the FIS report dated September 30, 1995.

Because this revision request also affects the unincorporated areas of Maricopa County, a separate LOMR for that community was issued on the same date as this LOMR.

The modifications are effective as of the date shown above. The map panel(s) as listed above and as modified by this letter will be used for all flood insurance policies and renewals issued for your community.

The following table is a partial listing of existing and modified BFEs:

Location	Existing BFE (feet)*	Modified BFE (feet)*
Approximately 1,000 feet downstream of Camelback Road	1,021	1,022

*Referenced to the National Geodetic Vertical Datum, rounded to the nearest whole foot

Public notification of the proposed modified BFEs will be given in the *Arizona Republic* on or about May 14 and May 21, 1998. A copy of this notification is enclosed. In addition, a notice of changes will be published in the *Federal Register*. Within 90 days of the second publication in the *Arizona Republic*, a citizen may request that FEMA reconsider the determination made by this LOMR. Any request for reconsideration must be based on scientific or technical data. All interested parties are on notice that, until the 90-day period elapses, the determination to modify the BFEs presented in this LOMR may itself be modified.

Because this LOMR will not be printed and distributed to primary users, such as local insurance agents and mortgage lenders, your community will serve as a repository for these new data. We encourage you to disseminate the information reflected by this LOMR throughout the community, so that interested persons, such as property owners, local insurance agents, and mortgage lenders, may benefit from the information. We also encourage you to prepare a related article for publication in your community's local newspaper. This article should describe the assistance that officials of your community will give to interested persons by providing these data and interpreting the NFIP maps.

We are processing a revised FIRM and FIS report for Maricopa County; therefore, we will not physically revise and republish the FIRM and FIS report for your community to incorporate the modifications made by this LOMR at this time. Revised preliminary copies of the FIRM and FIS report will be distributed for review in approximately 2 months. This LOMR will not be included in the revised preliminary FIRM and FIS report; however, it will be incorporated before the FIRM and FIS report become effective.

The floodway is provided to your community as a tool to regulate floodplain development. Therefore, the floodway modifications described in this LOMR, while acceptable to FEMA, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

This LOMR is based on minimum floodplain management criteria established under the NFIP. Your community is responsible for approving all floodplain development, and for ensuring all necessary permits required by Federal or State law have been received. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If the State, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

This determination has been made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and is in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968,

as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed minimum NFIP criteria. These criteria are the minimum and do not supersede any State or local requirements of a more stringent nature. This includes adoption of the effective FIRM to which the regulations apply and the modifications described in this LOMR. Our records show that your community has met this requirement.

A Consultation Coordination Officer (CCO) has been designated to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Dorothy M. Lacey
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
The Presidio of San Francisco, Building 105
San Francisco, California 94129-1250
(415) 923-7177

If you have any questions regarding floodplain management regulations for your community or the NFIP in general, please contact the CCO for your community at the telephone number cited above. If you have any technical questions regarding this LOMR, please contact Mr. Mike Grimm of our staff in Washington, DC, either by telephone at (202) 646-2878 or by facsimile at (202) 646-4596.

Sincerely,

Matthew B. Miller

Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate

Enclosure(s)

cc: The Honorable Janice K. Brewer
Chairman, Maricopa County Board
of Supervisors

Mr. Raymond U. Acuña, P.E.
Floodplain Manager
City of Phoenix Street
Transportation Department

Mr. Hasan Mushtaq, P.E.
Engineering Division
Flood Control District
of Maricopa County

CHANGES ARE MADE IN DETERMINATIONS OF BASE FLOOD ELEVATIONS FOR THE CITY OF PHOENIX AND THE UNINCORPORATED AREAS OF MARICOPA COUNTY, ARIZONA, UNDER THE NATIONAL FLOOD INSURANCE PROGRAM

On September 4, 1991, the Federal Emergency Management Agency identified Special Flood Hazard Areas (SFHAs) in the City of Phoenix and the unincorporated areas of Maricopa County, Arizona, through issuance of a Flood Insurance Rate Map (FIRM). The Mitigation Directorate has determined that modification of the elevations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) for certain locations in these communities is appropriate. The modified base flood elevations (BFEs) revise the FIRMs for the communities.

The changes are being made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

A hydraulic analysis was performed to incorporate construction of a levee along the left overbank (looking downstream) of the Agua Fria River from approximately 2,800 feet upstream of Indian School Road to just downstream of Camelback Road and has resulted in a revised delineation of the regulatory floodway, a decrease in SFHA width, and increased BFEs for the Agua Fria River. The table below indicates existing and modified BFEs for selected locations along the affected lengths of the flooding source(s) cited above.

Location	Existing BFE (feet)*	Modified BFE (feet)*
[1]Approximately 1,000 feet downstream of Camelback Road	1,021	1,022

[1]Located within City of Phoenix and unincorporated areas of Maricopa County
*National Geodetic Vertical Datum, rounded to nearest whole foot

Under the above-mentioned Acts of 1968 and 1973, the Mitigation Directorate must develop criteria for floodplain management. To participate in the National Flood Insurance Program (NFIP), the community must use the modified BFEs to administer the floodplain management measures of the NFIP. These modified BFEs will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and contents.

Upon the second publication of notice of these changes in this newspaper, any person has 90 days in which he or she can request, through the Chief Executive Officer of the community, that the Mitigation Directorate reconsider the determination. Any request for reconsideration must be based on knowledge of changed conditions or new scientific or technical data. All interested parties are on notice that until the 90-day period elapses, the Mitigation Directorate's determination to modify the BFEs may itself be changed.

Any person having knowledge or wishing to comment on these changes should immediately notify:

The Honorable Skip Rimsza
Mayor, City of Phoenix
200 West Washington Street, 11th Floor
Phoenix, Arizona 85003-1611

OR

The Honorable Janice K. Brewer
Chairman, Maricopa County Board
of Supervisors
301 Jefferson Street
Phoenix, Arizona 85003

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 1620 OF 4350

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GLENDALE, CITY OF	040045	1620	F
MARICOPA COUNTY, UNINCORPORATED AREAS	040037	1620	F
PEORIA, CITY OF	040050	1620	F
PHOENIX, CITY OF	040051	1620	F

REVISED TO REFLECT LOMR DATED APR 16 1998

MAP NUMBER
04013C1620 F

MAP REVISED:
SEPTEMBER 4, 1991

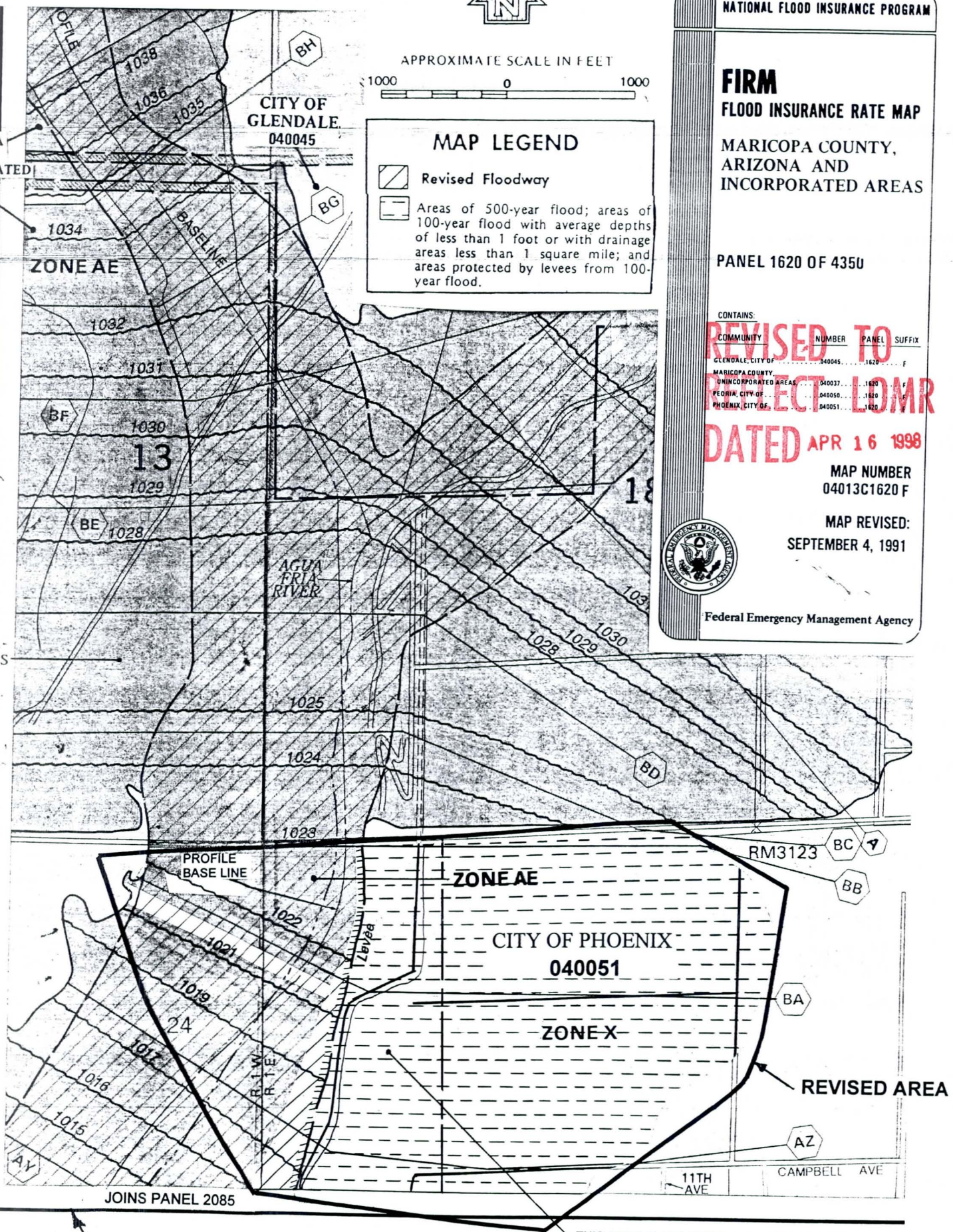
Federal Emergency Management Agency

APPROXIMATE SCALE IN FEET
1000 0 1000

MAP LEGEND

Revised Floodway

Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.



THIS AREA PROTECTED FROM THE ONE PERCENT ANNUAL CHANCE (100-YEAR) FLOOD BY LEVEE, DIKE OR OTHER STRUCTURES SUBJECT TO POSSIBLE FAILURE OR OVERTOPPING DURING LARGER FLOODS.

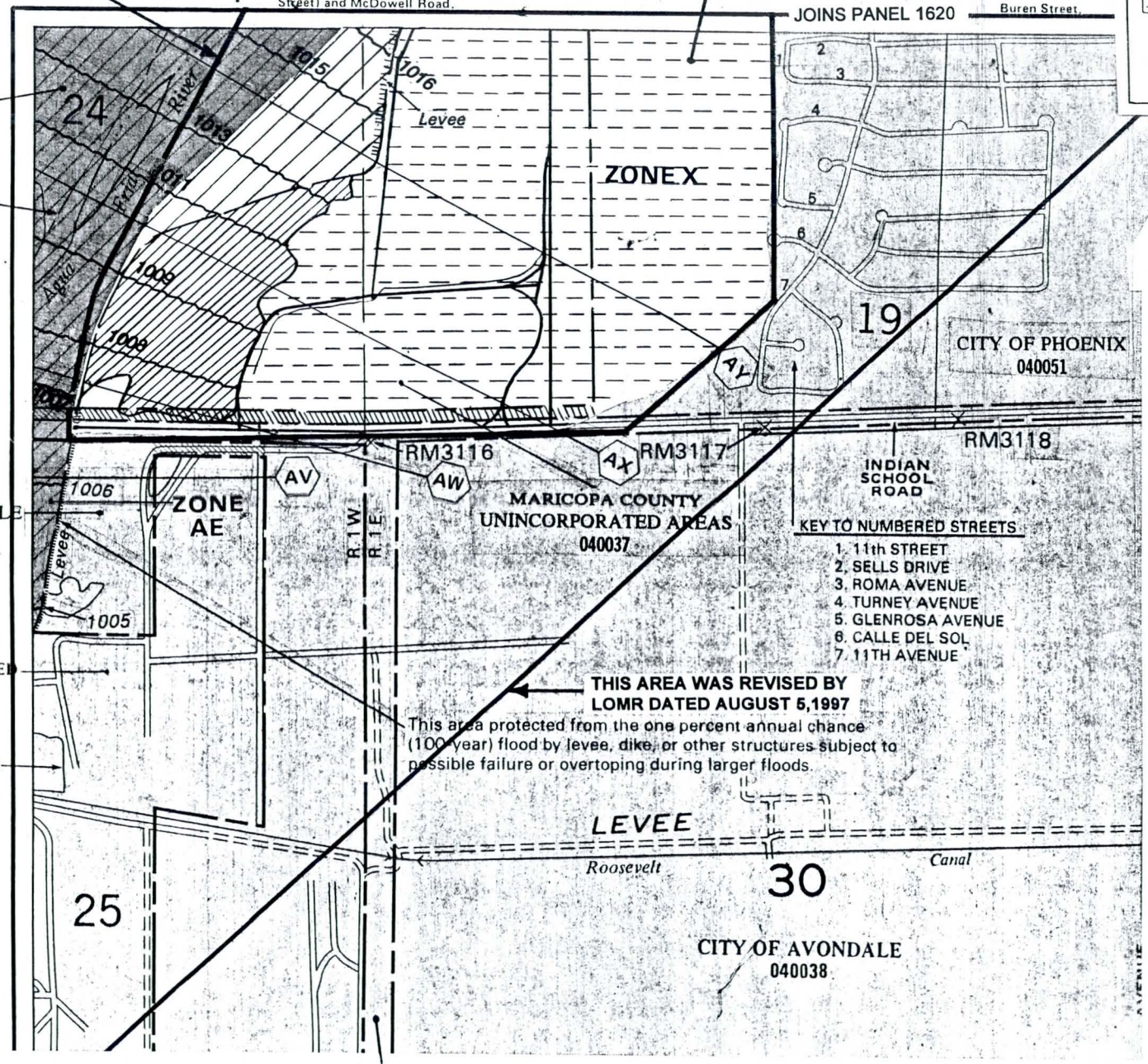
REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM401	1021.09	Rim of handhole at centerline intersection of 99th Avenue and McDowell Road.
RM402	1025.39	Rim of handhole at centerline intersection of 91st Avenue (Main Street) and McDowell Road.
RM403	1014.82	Rim of handhole
RM406	1008.13	Rim of handhole Street) and Van Bu Buren Street.

REVISED AREA

ZONE AE

PROFILE BASE LINE

JOINS PANEL 1620



KEY TO NUMBERED STREETS

1. 11th STREET
2. SELLS DRIVE
3. ROMA AVENUE
4. TURNEY AVENUE
5. GLENROSA AVENUE
6. CALLE DEL SOL
7. 11TH AVENUE

THIS AREA WAS REVISED BY LOMR DATED AUGUST 5,1997

This area protected from the one percent annual chance (100-year) flood by levee, dike, or other structures subject to possible failure or overtoping during larger floods.

MAP LEGEND

- Revised Floodway
- Revised 100-Year Floodplain
- Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

N

APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 2085 OF 4350

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
AVONDALE, CITY OF	040038	2085	E
MARICOPA COUNTY, UNINCORPORATED AREAS	040037	2085	E
PHOENIX, CITY OF	040051	2085	E
TOLLESON, CITY OF	040055	2085	E

REVISED TO REFLECT LOMR DATED APR 16 1998

MAP NUMBER
04013C2085E

MAP REVISED:
SEPTEMBER 4, 1991

Federal Emergency Management Agency

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Agua Fria River (Cont'd)					REVISED DATA			
BA	9.252	1,738	10,150	5.4	1,021.7	1,021.7	1,021.7	0.0
BB	9.437	1,694	10,162	5.4	1,023.1	1,023.1	1,023.1	0.0
BC	9.6	1,852	9,435	5.8	1,024.4	1,024.4	1,024.5	0.1
BD	9.776	1,660	8,492	6.4	1,026.3	1,026.3	1,026.4	0.1
BE	9.953	1,510	7,156	7.6	1,028.7	1,028.7	1,028.7	0.0
BF	10.142	1,396	5,798	5.2	1,030.4	1,030.4	1,031.0	0.6
BG	10.327	1,231	5,360	5.6	1,032.8	1,032.8	1,033.2	0.4
BH	10.521	740	3,639	8.2	1,034.5	1,034.5	1,034.8	0.3
BI	10.699	749	4,886	6.1	1,038.5	1,038.5	1,039.1	0.6
BJ	10.889	985	6,513	4.6	1,040.5	1,040.5	1,041.1	0.6
BK	11.103	730	4,884	6.1	1,043.2	1,043.2	1,043.4	0.2
BL	11.481	812	5,451	5.5	1,046.8	1,046.8	1,047.0	0.2
BM	11.581	620	2,998	10.0	1,048.3	1,048.3	1,048.3	0.0
BN	11.823	892	5,128	6.7	1,054.4	1,054.4	1,054.4	0.0
BO	12.016	1,738	6,858	5.0	1,058.5	1,058.5	1,058.9	0.4
BP	12.164	2,408	6,640	5.2	1,061.1	1,061.1	1,061.4	0.3
BQ	12.307	2,709	17,026	2.0	1,064.0	1,064.0	1,064.5	0.5
BR	12.513	2,786	21,039	1.6	1,065.2	1,065.2	1,066.0	0.8
BS	12.73	2,300	11,248	3.1	1,065.8	1,065.8	1,066.7	0.9
BT	12.896	938	6,621	5.2	1,066.3	1,066.3	1,067.0	0.7
BU	13.082	703	4,849	7.1	1,067.6	1,067.6	1,068.2	0.6
BV	13.273	441	3,297	10.5	1,070.4	1,070.4	1,070.5	0.1
BW	13.465	551	5,555	6.2	1,073.6	1,073.6	1,073.7	0.1
BX	13.716	1,385	8,159	4.2	1,075.5	1,075.5	1,075.6	0.1
BY	13.929	1,334	5,387	6.4	1,079.2	1,079.2	1,079.4	0.2
BZ	14.123	1,040	5,776	6.0	1,082.2	1,082.2	1,082.5	0.3

THESE DATA WERE REVISED BY LOMR DATED AUGUST 5,1997

[1]Miles above confluence with Gila River

TABLE 5

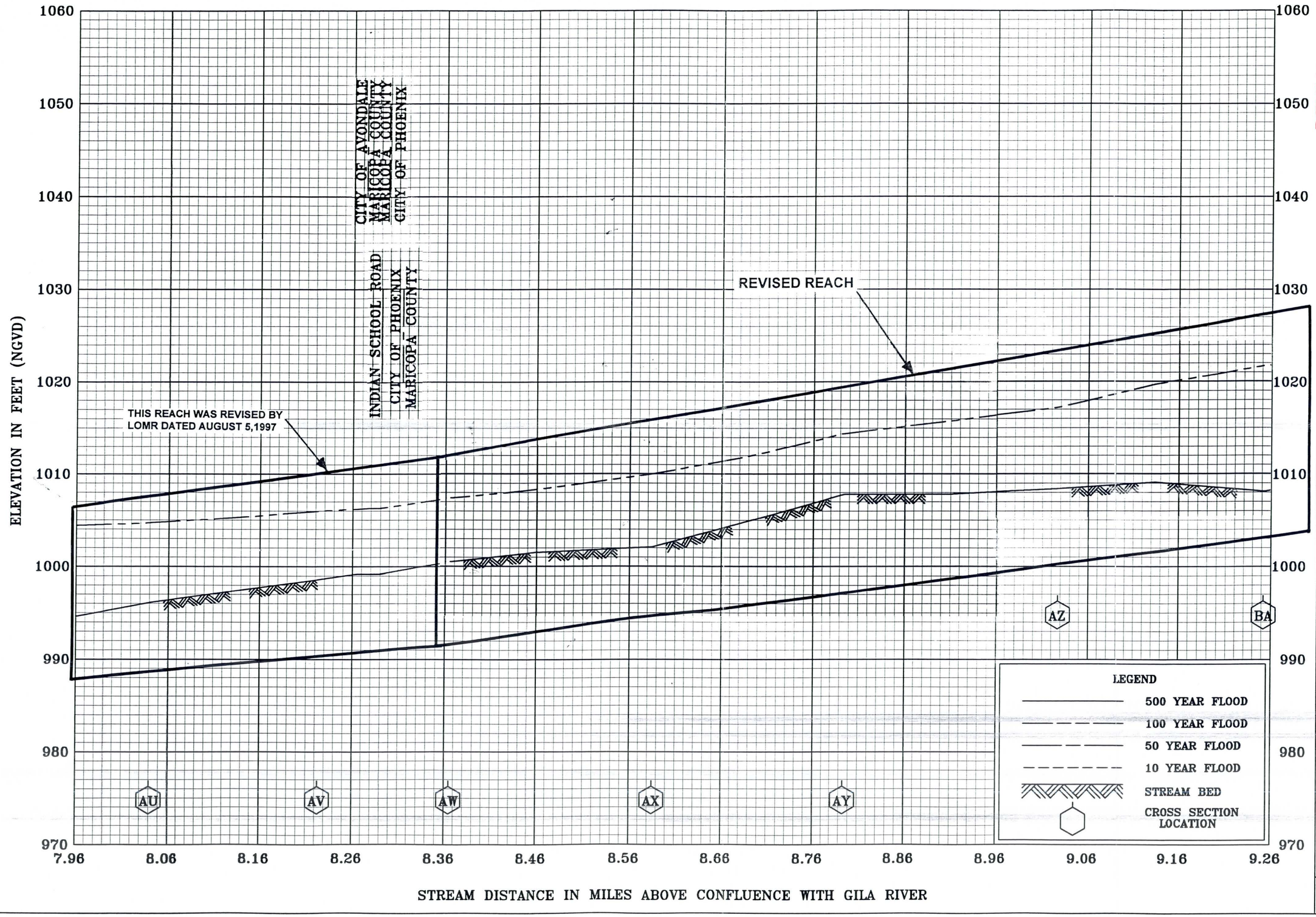
FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

AGUA FRIA RIVER

REVISED TO REFLECT LOMR DATED APR 16 1998



REVISED TO REFLECT LOMR DATED APR 16 1998

FLOOD PROFILES

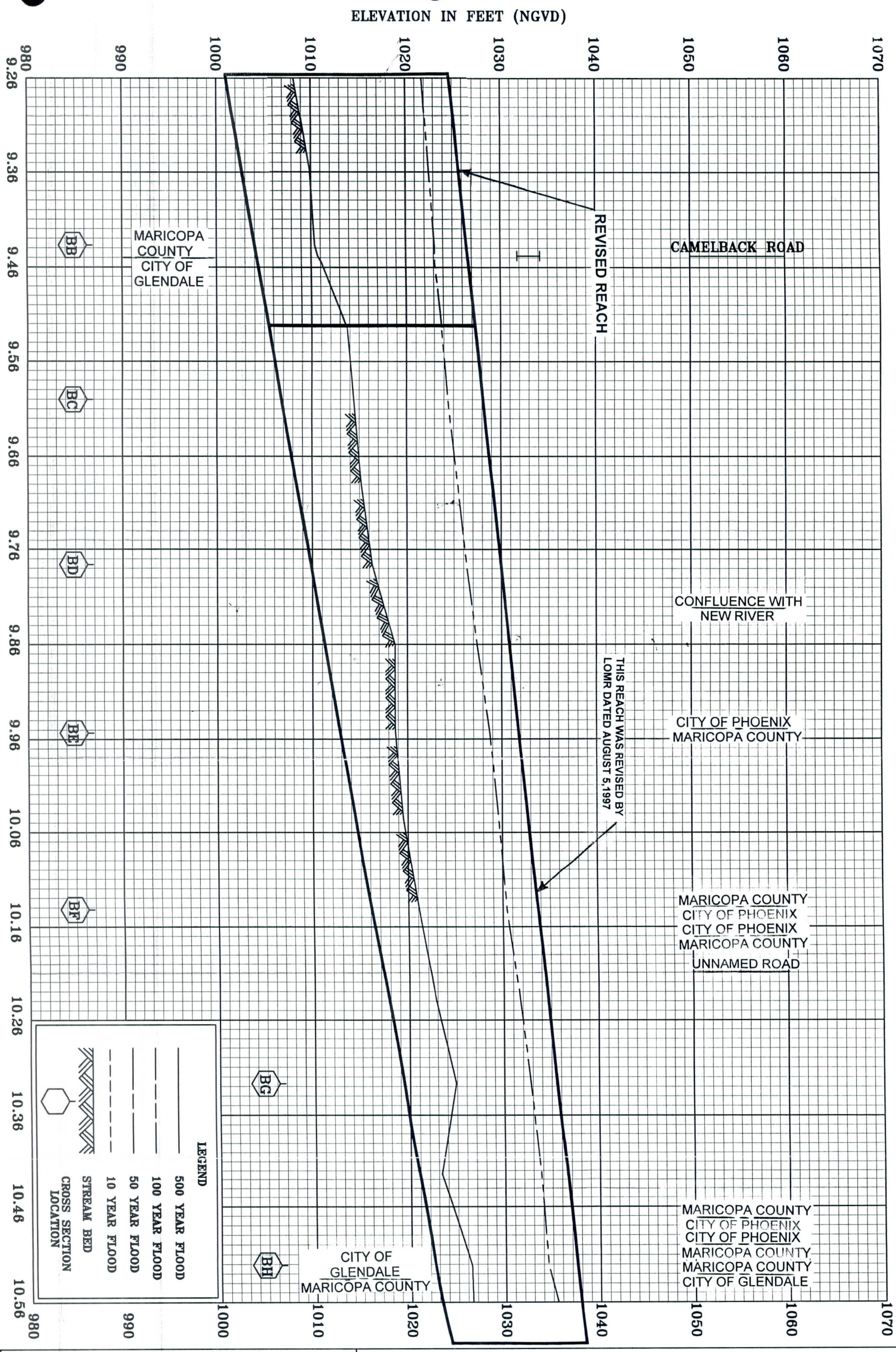
AGUA FRIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

AND INCORPORATED AREAS

12P



13P

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

AND INCORPORATED AREAS

FLOOD PROFILES

AGUA FRIA RIVER

REVISED TO REFLECT LOMR DATED APR 16 1998

Federal Emergency Management Agency

Washington, D.C. 20472

FLOOD CONTROL DISTRICT
RECEIVED
APR 6 1998
C-ENG | P & PM
P/O | REG
ADMIN | PW/MGT
FINANCE | CONTRACT
O & M | FILE
ENGR | 1 HSM
REMARKS

April 3, 1998

Mr. Hasan Mushtaq, P.E.
Engineering Division
Flood Control District
of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009-6399

IN REPLY REFER TO:
Case No.: 98-09-226P
Communities: City of Phoenix and Maricopa County, Arizona
Community Nos.: 040051 and 040037

316-ACK.FRQ

Dear Mr. Mushtaq:

This responds to your facsimile dated March 31, 1998, concerning a November 14, 1997, request that the Federal Emergency Management Agency (FEMA) issue a revision to the Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Camelback Levee—South (FCD 95-15)
Flooding Source:	Aqua Fria River
FIRM Panel(s) Affected:	04013C1615 H, 1620 F, 2080 G, and 2085 E

We have completed an inventory of the items that you submitted. We have received the data and the review and processing fee ($4,300) required to begin a detailed technical review of your request. If additional data are required, we will inform you within 30 days of the date of this letter.

Please direct all questions concerning your request to our Technical Evaluation Contractor at the following address:

Michael Baker Jr., Inc.
3601 Eisenhower Avenue, Suite 600
Alexandria, Virginia 22304

Attention: Ms. Pernille Buch-Pedersen
(703) 317-6224

When you write us about your request, you must include the case number referenced above in your letter.

If you have any questions concerning FEMA policy, or the National Flood Insurance Program in general, please contact Mr. Mike Grimm of our staff in Washington, DC, either by telephone at (202) 646-2878 or by facsimile at (202) 646-4596.

Sincerely,

Matthew B. Miller

Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate

cc: Mr. Raymond U. Acuña, P.E.
Floodplain Manager
City of Phoenix

Mr. Michael Shapiro, P.E.
Daniel, Mann, Johnson & Mendenhall

Ms. Rhonda Holbrook
Hancock Communities

Hasan Mushtaq - FCDX

From: Hasan Mushtaq - FCDX
Sent: Monday, March 09, 1998 12:56 PM
To: Linda Hannan - FCDX
Cc: Pedro Calza - FCDX
Subject: Application fee for Camelback Ranch Levee - South LOMR.

The above-mentioned project was submitted, dated November 14, 1997, as a Conditional Letter of Map Revision (CLOMR) to FEMA. A processing fee of $3,300.00 was disbursed, as per a request dated December 4, 1997, from FEMA. However, in a subsequent submittal with additional information dated February 23, 1998, the CLOMR request was modified to a LOMR request.

According to the acknowledgement letter dated March 4, 1998, the application fees for the LOMR, as it stands now, is $4,300.00. Therefore, a balance of $1,000.00 needs to be processed for this purpose. Copies of the fee request from FEMA is being forwarded to you.

Thank you.

Hasan Mushtaq

Federal Emergency Management Agency

Washington, D.C. 20472

March 4, 1998

Kofi Awumah, Ph.D., P.E.
Engineering Division
Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009-6399

IN REPLY REFER TO:
Case No.: 98-09-226P
(Formerly Case No. 98-09-226R)
Communities: City of Phoenix and Maricopa County, Arizona
Community Nos.: 040051 and 040037

316-ACK.FRQ

Dear Dr. Awumah:

This responds to your letter dated February 23, 1998, concerning a November 14, 1997, request that the Federal Emergency Management Agency (FEMA) issue a revision to the Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Camelback Levee - South
Flooding Source:	Agua Fria River
FIRM Panel(s) Affected:	04013C1615 H, 1620 F, 2080 G, and 2085 E

Effective October 1, 1996, FEMA revised the fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps. FEMA established flat review and processing fees for most types of requests. Effective March 10, 1997, FEMA modified the fee schedule that became effective on October 1. A copy of the notice published in the *Federal Register* is enclosed for your information. The fee for your request is $4,300. The amount you submitted, $3,300, is not sufficient. The balance, $1,000, must be submitted before we can continue processing your request. Payment of this fee must be made in the form of a check or money order, payable in U.S. funds to the National Flood Insurance Program (NFIP), or a credit card payment. For identification purposes, the case number referenced above must be included on the check or money order. We will not perform a detailed technical review of your request until we receive this payment.

Payment must be forwarded to one of the addresses listed below.

Using U.S. Postal Service:
Federal Emergency Management Agency
Fee-Collection System Administrator
P.O. Box 3173
Merrifield, VA 22116-3173

Using overnight service:
Fee-Collection System Administrator
c/o Dewberry & Davis, METS Division
8401 Arlington Boulevard
Fairfax, VA 22031

We have completed an inventory of the items that you submitted. The maintenance plan submitted for the "Camelback Ranch Levee - South" does not meet the minimum requirements of Section 65.10(d) of the NFIP regulations. Please revise this maintenance plan so that it complies with the NFIP regulations.

If all required items are not submitted within 90 days of the date of this letter, we will treat any subsequent request as an original submittal, and it will be subject to all submittal/payment procedures.

Please direct all required items (except the required fee) and questions concerning your request to our Technical Evaluation Contractor at the following address:

Michael Baker Jr., Inc.
3601 Eisenhower Avenue, Suite 600
Alexandria, Virginia 22304

Attention: Ms. Pernille Buch-Pedersen
(703) 317-6224

When you write us about your request, you must include the case number referenced above in your letter.

If you have any questions concerning FEMA policy, or the NFIP in general, please contact Mr. Mike Grimm of our staff in Washington, DC, either by telephone at (202) 646-2878 or by facsimile at (202) 646-4596.

Sincerely,

Matthew B. Miller

Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate

Enclosure(s)

cc: Mr. Hasan Mushtaq, P.E.
Engineering Division
Flood Control District of Maricopa County

Mr. Raymond U. Acuña, P.E.
Floodplain Manager
City of Phoenix

Mr. Michael Shapiro, P.E.
Project Manager
Daniel, Mann, Johnson & Mendenhall

FEDERAL EMERGENCY MANAGEMENT AGENCY ANNOUNCES CHANGES IN USER FEES FOR FLOOD MITIGATION PRODUCTS

On August 30, 1996, FEMA published an Interim Final Rule in the *Federal Register* that detailed how and why the Federal Emergency Management Agency (FEMA) changed the fee schedule for several of the products it provides to the public in support of the National Flood Insurance Program (NFIP). These changes, which became effective on October 1, 1996, were made (1) to simplify existing administrative procedures for individuals who request Letters of Map Change and Flood Insurance Study support information and archived data from FEMA and (2) to help maintain the NFIP as a self-supporting, nontaxpayer-funded program. On August 30, 1996, FEMA also published a notice in the *Federal Register* announcing the revised fee schedule for the following NFIP products:

- Conditional Letters of Map Amendment
- Conditional Letters of Map Revision Based on Fill
- Conditional Letters of Map Revision
- Letters of Map Revision Based on Fill
- Letters of Map Revision
- Physical Map Revisions
- Flood Insurance Study Support Information and Archived Data Products

FEMA recently determined it was appropriate to refine the criteria for assessing fees for map change requests and to revise the fee schedule itself before publishing a Final Rule and final fee schedule notice in the *Federal Register*. The most significant revision FEMA made is the restoration of fee exemptions for: (1) Map change requests based on federally sponsored flood-control projects where 50 percent or more of the project's costs are federally funded; and (2) Map change requests based on detailed hydrologic and hydraulic studies conducted by Federal, State, or local agencies to replace approximate studies conducted by FEMA and shown on the effective FIRM. These and other revisions are documented in the Final Rule and the enclosed Notice. The Notice and Final Rule both were published in the *Federal Register* on February 6, 1997.

Individuals who do not have a subscription to the *Federal Register* may obtain this information through FEMA's World Wide Web site (http:/www.fema.gov/MIT/feesch.htm) or by calling the FEMA Fax-on-Demand, at (202) 646-3362, and requesting Document Number 20018. Hard copies of the Final Rule also may be obtained, free of charge, by contacting Ms. Imelda Edwards at the address shown below.

Federal Emergency Management Agency
Hazard Identification & Risk Assessment Division
500 C Street SW.
Washington, DC 20472
Telephone: (202) 646-3860
Facsimile: (202) 646-4596

FEDERAL EMERGENCY MANAGEMENT AGENCY

Fee Schedule for Processing Requests for Map Changes and for Flood Insurance Study Backup Data for Fiscal Year 1997

AGENCY: Federal Emergency Management Agency (FEMA).

ACTION: Notice.

SUMMARY: This notice contains the revised fee schedules for processing certain requests for changes to National Flood Insurance Program (NFIP) maps and for processing requests for Flood Insurance Study (FIS) backup data. The changes in the fee schedules will allow FEMA to reduce further the expenses to the NFIP by recovering more fully the costs associated with (1) processing conditional and final map change requests and (2) retrieving, reproducing, and distributing technical and administrative support data related to FIS analyses and mapping.

DATES: The revised fee schedules are effective for all requests dated October 1, 1996 or later.

FOR FURTHER INFORMATION CONTACT: Frederick H. Sharrocks, Jr., Chief, Hazard Identification Branch, 500 C Street SW., Washington, DC 20472, (202) 646–2756 or by facsimile at (202) 646–4596 (not toll-free calls).

SUPPLEMENTARY INFORMATION: This notice contains the revised fee schedules for processing certain requests for changes to NFIP maps and for processing requests for FIS backup data. The revised schedule for map changes is effective for all requests dated October 1, 1996, or later, in accordance with the final rule for changes to 44 CFR parts 65, 70, and 72 published elsewhere in this edition of the Federal Register, and supersedes the current fee schedule established on June 30, 1992.

The revised fee schedule for requests for FIS backup data also is effective for all requests dated October 1, 1996 or later, and supersedes the current fee schedule published in the Federal Register on June 30, 1992.

The basis for the fee schedule for requests for Conditional Letters of Map Amendment (CLOMAs), Conditional Letters of Map Revision Based on Fill (CLOMR–Fs), Conditional Letters of Map Revision (CLOMRs), Letters of Map Revision Based on Fill (LOMR–Fs), Letters of Map Revision (LOMRs), and Physical Map Revisions (PMRs) and for the fee schedule for requests for FIS backup data is provided in the separately published final rule.

A primary component of the fees is the prevailing private-sector rates charged to FEMA for labor and materials. Because these rates and the actual review and processing costs may vary from year to year, FEMA will evaluate the fees at the end of each fiscal year and publish revised fee schedules, when needed, as notices in the Federal Register.

Simplification of Fee Schedule for Conditional and Final Map Changes

The existing fee collection process is complex and its administration requires time-intensive efforts on the part of FEMA. It also increases the time required to provide the requesters with the product they require. The current system requires requesters to submit an initial fee that is not intended to cover the full review and processing costs or the cartographic production costs. Requesters subsequently receive invoices for the balances. The current system is complicated further by the pre-authorized spending limits placed on each product. When FEMA determines these limits will be exceeded, written authorization to proceed must be obtained before FEMA can proceed with its review. Processing of the request is delayed until the written authorization is received.

FEMA has streamlined the process by (1) charging flat user fees for most map change products and services; (2) requiring full payment of fees before work is begun on most map change requests; (3) consolidating similar products or services into a limited number of user fee categories; and (4) limiting the number of products for which requesters may receive exemptions from payment of fees. As a result, requesters know the cost of most products before FEMA begins work.

The initial fee for requests for LOMRs and CLOMRs based on structural measures on alluvial fans has been maintained because (1) such requests are rare, (2) the FEMA review for these requests is usually very complex, and (3) the costs involved in processing the requests can fluctuate significantly.

Fees for Conditional and Final Map Revisions Based on Structural Measures on Alluvial Fans

Based on a review of actual cost data for Fiscal Year 1995, FEMA established $5,000 as the initial fee for requests for LOMRs and CLOMRs based on structural measures on alluvial fans. FEMA will recover the remainder of the review and processing costs by invoicing the requester before issuing a determination letter, consistent with current practice. The prevailing private-sector labor rate charged to FEMA ($50 per hour) will be used to calculate the total reimbursable fees.

Fee Schedule for Requests for Conditional Letters of Map Amendment and Conditional and Final Letters of Map Revision Based on Fill

Based on a review of actual cost data for Fiscal Year 1995, FEMA established the following flat user fees, which are to be submitted by requesters with all requests dated October 1, 1996 or later:

- Request for single-lot/single-structure CLOMA, CLOMR–F, and LOMR–F, $400
- Request for multiple-lot/multiple-structure CLOMA, $700
- Request for multiple-lot/multiple-structure CLOMR–F and LOMR–F, $800
- Request for single-lot/single-structure LOMR–F based on as-built information (CLOMR–F previously issued by FEMA), $300
- Request for multiple-lot/multiple-structure LOMR–F based on as-built information (CLOMR–F previously issued by FEMA), $700

Fee Schedule for Requests for Map Revisions

Unless the request is otherwise exempted under 44 CFR 72.5, requesters must submit the flat user fees shown below with requests for LOMRs and PMRs dated October 1, 1996 or later that are not based on structural measures on alluvial fans. These fees are based on a review of actual cost data for Fiscal Year 1995.

- Request based on bridge, culvert, channel, or combination thereof, $3,700
- Request based on levee, berm, or other structural measure, $4,300
- Request based on as-built information submitted as followup to CLOMR, $2,300
- Request based solely on submission of more detailed data, $2,300

Fee Schedule for Requests for Conditional Map Revisions

Unless the request is otherwise exempted under 44 CFR 72.5, requesters must submit the flat user fees shown below with requests for CLOMRs dated October 1, 1996 or later that are not based on structural measures on alluvial fans. These fees are based on a review of actual cost data for Fiscal Year 1995.

- Request based on new hydrology, bridge, culvert, channel, or combination thereof, $3,100
- Request based on levee, berm, or other structural measure, $3,300

Fee Schedule for Requests for Flood Insurance Study Backup Data

Requesters must submit the user fees shown below with requests for FIS backup data dated October 1, 1996 or later. These fees are based on a review of actual cost data for Fiscal Year 1995. They are based on the complete recovery of FEMA's costs for retrieving, reproducing, and distributing the data, as well as a pro rata share of the costs for maintaining the data and operating the fee reimbursement system.

As under the previous fee schedule, all entities except FEMA's Study Contractors, FEMA's Technical Evaluation Contractors, and the Federal agencies involved in performing FISs (i.e., U.S. Army Corps of Engineers, U.S. Geological Survey, Natural Resources Conservation Service, and Tennessee Valley Authority) will be charged for requests for FIS backup data. The only other exception is that one copy of the FIS backup data will be provided to a community free of charge if the data are requested during the statutory 90-day appeal period for an initial or revised FIS for that community.

FEMA has established seven categories into which requests for FIS backup data are separated. These categories are:

(1) Category 1—Paper copies, microfiche, or diskettes of hydrologic and hydraulic backup data for current or previously effective FIS

(2) Category 2—Paper or mylar copies of topographic mapping developed during FIS process

(3) Category 3—Paper copies or microfiche of survey notes developed during FIS process

(4) Category 4—Paper copies of individual Letters of Map Change

(5) Category 5—Paper copies of preliminary map panels

(6) Category 6—Computer tapes of Digital Line Graph files

(7) Category 7—Computer diskettes and user's manuals for FEMA programs (e.g., Wave Height, Wave Runup, Alluvial Fan)

A non-refundable fee of $90, to cover the preliminary costs of research and retrieval, must be submitted to initiate requests for data under Categories 1, 2, and 3. The total costs of processing requests in Categories 1, 2, and 3 above will vary based on the complexity of the research involved in retrieving the data and the volume and medium of data to be reproduced and distributed. The initial fee will be applied against the total costs to process the request, and FEMA will invoice the requester for the balance before the data are provided. No data will be provided to a requester until all required fees have been paid.

No initial fee is required to initiate a request for data under Categories 4 through 7. Requesters will be notified by telephone about the availability of materials and the fees associated with requested data. As with requests for data under Categories 1, 2, and 3, no data will be provided to requesters until all required fees are paid.

The costs for processing requests under Categories 4 through 7 will not vary. Therefore, FEMA established flat user fees for these categories of requests. The flat user fees are shown below.

Request Under Category 4

First letter, $ 40

Each additional letter, $10

Request Under Category 5

First panel, $35

Each additional panel, $2

Request Under Category 6 (per county), $150

Request Under Category 7 (per copy), $25

Payment Submission Requirements

Fee payments must be made in advance of services being rendered. These payments shall be made in the form of a check or money order or by credit card payment. Checks and money orders must be made payable, in U.S. funds, to the National Flood Insurance Program. FEMA will provide receipts to requesters for their records or billing purposes.

The fees collected will be deposited to the National Flood Insurance Fund, which is the source of funding for providing these services.

Dated: January 28, 1997.

Richard W. Krimm,

Executive Associate Director, Mitigation Directorate.

[FR Doc. 97-2964 Filed 2-5-97; 8:45 am]

BILLING CODE 6718-04-P

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Operations and Maintenance Division

Maintenance Procedure

Camelback Ranch Levee – South Project

Inspections:

1. Quarterly Operational Inspections:
   a. List any discrepancies.
   b. Review for action required.
   c. Schedule necessary repairs.

2. Annual Maintenance Inspection:
   a. List all needed maintenance and repairs.
   b. Assign work orders for the noted repairs.

3. Formal Annual Inspection:
   a. Inspect project to insure all maintenance and repairs are completed satisfactorily.
   b. Complete annual inspection reports for file.

4. Major Storm Event:
   a. Inspect project during or after a major storm event.
   b. List any problems.
   c. Record impoundment depth.

5. Citizen Complaints/Inquiries:
   a. Investigate area of complaint.
   b. Respond to citizen within 48 hours.
   c. Take action if in-house/refer to proper agency, if not.

O & M Responsibilities:

- All concrete and rip rap flood control structures and associated metal work (repair/refurbish and debris removal).
- Erosion repairs
- Sediment removal from basin and channels
- Debris removal from flows through basins
- Fencing and access gates
- Maintenance and access roads
- Flood Control District signs
- Landscaping and irrigation
- Safety hazards
- Rodent control
- Vandalism

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
Operations and Maintenance Division

Standard Maintenance Procedures
Prepared for the Camelback Ranch Levee – South Project

SUBJECT: Maintenance of Channels, Basins and Structures

PURPOSE: To insure the integrity of the project is preserved and will function as designed.

PROCEDURE A:

1. Vegetation
   Remove or destroy woody vegetation within the flow area of the channel/basin, collection ditches, or side inlet basins. Also remove trash or other objects that will impede flows in these areas. If grasses are established, maintain the height to a maximum of six inches.

2. Sediment Deposits
   Remove deposits of loose material to obtain designed grades and cross sections. Loose deposited materials shall not be used within the channel/basin unless tested to meet the earthfill criteria in the construction specifications.

3. Erosion
   Make repairs of eroded areas by replacing lost material with compacted earth, or other suitable erosion resistant material, in accordance with the original construction specifications.

PROCEDURE B: If the project has been landscaped, preserve the integrity of the landscape design.

PROCEDURE C: Rodent Control

1. Gophers can damage the structure by burrowing deep holes with more than one outlet. These can be identified by fresh mounds of soil.

2. Ground squirrels can also damage structures even with insignificant numbers and must be treated.

3. A licensed pesticide applicator shall apply the appropriate pesticide and the MSDS shall be with the licensed applicator.

4. After rodent activity has been controlled, holes are to be filled and compacted.

PROCEDURE C: Graffiti Removal

1. Graffiti needs to be removed as soon as possible to discourage repeated application.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

OPERATIONS AND MAINTENANCE DIVISION

CONTACT: DIVISION MANAGER (602) 506-4707

OPERATIONAL INSPECTIONS SCHEDULE - 1998

O&M INSPECTION	Jan-98 OPER. INSP.	Apr-98 OPER. INSP.	Jul-98 OPER. INSP.	Oct-98 OPER. INSP.
CAMELBACK LEVEE	X	X	X	X
SADDLEBACK FRS	X	X	X	X
SADDLEBACK FLOODWAY	X	X	X	X
HARQUAHALA FRS	X	X	X	X
HARQUAHALA FLOODWAY	X	X	X	X
CENTENNIAL DIVERSION	X	X	X	X
DYSART DRAIN	X	X	X	X
ELMIRAGE DRAIN	X	X	X	X
48TH STREET DRAIN	X	X	X	X
ALMA SCHOOL DRAIN	X	X	X	X
AGUA FRIA FLOODWAY	X	X	X	X
COLTER CHANNEL	X	X	X	X
INDIAN SCHOOL DRAIN	X	X	X	X
ADOBE DAM	X	X	X	X
DREAMY DRAW DAM	X	X	X	X
CAVE BUTTES AND CAVE CREEK DAMS	X	X	X	X
SCATTER WASH (BEARDSLEY TO 43RD AVE)	X	X	X	X
NEW RIVER DAM	X	X	X	X
SKUNK CREEK AT I-17	X	X	X	X
McMICKEN DAM	X	X	X	X
McMICKEN FLOODWAY	X	X	X	X
SUNSET FRS	X	X	X	X
SUNNY COVE FRS	X	X	X	X
SUNSET/SUNNY COVE PIPELINE	X	X	X	X
CASANDRAO DAM	X	X	X	X
OLD CROSS-CUT CANAL	X	X	X	X
IBW INLET AND INTERCEPTOR	X	X	X	X
IBW OUTLET	X	X	X	X
IBW SIDE DRAINS	X	X	X	X
IBW GREENBELT	X	X	X	X
BUCKEYE #1	X	X	X	X
BUCKEYE #2	X	X	X	X
BUCKEYE #3	X	X	X	X
WHITE TANKS #3	X	X	X	X
WHITE TANKS #4	X	X	X	X
POWERLINE FRS	X	X	X	X
POWERLINE FLOODWAY	X	X	X	X
VINEYARD FRS	X	X	X	X
RITTENHOUSE FRS	X	X	X	X
SOSSAMAN DRAIN	X	X	X	X
GUADALUPE ROAD CHANNEL AND BOX	X	X	X	X
SPOOK HILL FRS	X	X	X	X
GUADALUPE DAM	X	X	X	X
SIGNAL BUTTE FRS	X	X	X	X
PASS MTN. DIVERSION AND FLOODWAY	X	X	X	X
APACHE JUNCTION FRS	X	X	X	X
E.M.F. & UNIVERSITY DET. BASIN	X	X	X	X
SIGNAL BUTTE FLOODWAY	X	X	X	X
BULLDOG FLOODWAY	X	X	X	X
APACHE JUNCTION FLOODWAY	X	X	X	X
SPOOKHILL FLOODWAY AND SED. BASIN	X	X	X	X
HOLLY ACRES	X	X	X	X
PERYVILLE RIPRAP	X	X	X	X
SALT/GILA CLEARING	X	X	X	X
SALT/GILA LOW FLOW	X	X	X	X
SALT RIVER CHANNEL (ADOT)	X	X	X	X
SALT RIVER CHANNEL- RIO SALADO	X	X	X	X
SALT RIVER CHANNEL - WARNING SIGNS	X	X	X	X
ACDC	X	X	X	X
EAST FORK/ CAVE CREEK/ BASIN #4	X	X	X	X
NEW RIVER CHANNEL	X	X	X	X
SUN CITY DRAINS	X	X	X	X
SUN CITY WEST DRAINS	X	X	X	X
SKUNK CREEK CHANNELIZATION	X	X	X	X
10TH STREET BASIN	X	X	X	X

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

February 23, 1998

Ms. Pernille Buch-Pedersen
Michael Baker Jr., Inc.
3601 Eisenhower Avenue, Suite 600
Alexandria, Virginia 22304

Re: LOMR request for Camelback Ranch Levee – South

When Replying, please refer to:
FCD Contract No. FCD 95-15

Case No.: 98-09-226R
Communities: City of Phoenix and Maricopa County, Arizona
Community Nos.: 040041 and 040037
316-ACK.FRQ

Dear Ms. Pedersen:

This responds to your request dated December 4, 1997, for additional information on the above mentioned Conditional Letter of Map Revision (CLOMR). Since the construction of the above project is now complete (as-built plans are attached), we wish to convert our application to that of Letter of Map Revision (LOMR). Pertinent information about the request is listed below:

Identifier:	Camelback Ranch Levee, South	
Flooding Source:	Agua Fria River	
FIRM Panels Affected:	1615 H (08-05-1997)	2080 G (08-05-1997)
	1620 F (08-05-1997)	2085 E (08-05-1997)

Following are responses to the items requested in your letter dated December 4, 1997:

ITEM

1. Please find attached a copy of the permit for Section 404 of the Clean Water Act (33 U.S.C. 1344) from the Department of the Army, Los Angeles District, Corps of Engineers (Exhibit A).

2. A copy of the public notice stating the intent of the community to restudy the Agua Fria River and revise the floodway based on the construction of the Camelback Levee is included in this package (Exhibit B). Additional pertinent information, i.e., Agreement Regarding Construction of Bank Protection, is also included in Exhibit C, as supporting document.

3. A set of "AS-BUILT" plans of the camelback ranch levee is included in this package.

4. A report of field compaction tests (in-place density) for all embankments constructed is included.

If additional information is required, please contact Michael Shapiro, P.E., Project Manager, DMJM at (602) 264-1397; R.W. Shobe, P.E., Project Manager, Flood Control District at (602) 506-4603, or Hasan Mushtaq, P.E., Engineering Division, Flood Control District at (602) 506-4528.

Sincerely,

Kofi Awumah

Kofi Awumah, Ph.D., P.E.
Engineering Division

Enclosures

Copy to: Terri Miller, State Coordinator, NFIP
Arizona Department of Water Resources
500 North 3rd Street
Phoenix, Arizona 85004

Ray Acuna, P.E, Floodplain Manager
City of Phoenix
200 West Washington Street, 5th Floor
Phoenix, Arizona 85003-1611

Michael Shapiro, P.E.
DMJM
300 West Clarendon Avenue
Phoenix, Arizona 85013-0217

COORD: PAC, EAR, RWS, KOA

INFO: HSM

FILE: FCD 95-15 HSM

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
Betsey Bayless
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Mary Rose Garrido Wilcox

Ms. Pernille Buch-Pedersen
Michael Baker Jr., Inc.
3601 Eisenhower Avenue, Suite 600
Alexandria, Virginia 22304

Re : CLOMR request for Camelback Ranch Levee - South

When replying, please refer to :
FCD Contract No. FCD 95-15

Case No.: 98-09-226R
Communities: City of Phoenix and Maricopa County, Arizona
Community Nos.: 040051 and 040037
316-ACK.FRQ

Dear Ms. Pedersen:

This responds to your request dated December 4, 1997, for additional information on the above-mentioned Conditional Letter of map Revision (CLOMR). Pertinent information about the request is listed below:

Identifier :	Camelback Ranch Levee-South	
Flooding Source :	Agua Fria River	
FIRM Panels Affected :	1615H (08-05-1997)	2080 G (08-05-1997)
	1620 F (08-05-1997)	2085 E (08-05-1997)

Following are responses to the items requested in your letter dated December 4, 1997:

ITEM

1. Please find attached a copy of the permit for Section 404 of the Clean Water Act (33 U.S.C. 1344) from the Department of the Army, Los Angeles District, Corps of Engineers (Exhibit A).

2. A copy of the public notice stating the intent of the community to restudy the Agua Fria River and revise the floodway based on the construction of the Camelback Levee is included in this package (Exhibit B). Additional pertinent information, i.e., Agreement Regarding Construction of Bank Protection is also

included in Exhibit C, as supporting document.

Should additional information be required, please contact Michael Shapiro, P.E., Project Manager, DMJM at (602) 264-1397, R.W. Shobe, P.E., Project Manager, Flood Control District at (602) 506-4603 or Hasan Mushtaq, P.E., Engineering Division, Flood Control District at (602) 506-4528.

Sincerely,

Hasan Mushtaq, P.E.
Engineering Division

Enclosures

Copy to : Terri Miller, State Coordinator, NFIP
Arizona Department of Water Resources
500 North 3rd Street,
Phoenix, Arizona 85004

Ray Acuna, P.E., Floodplain Manager
City of Phoenix
200 West Washington Street, 5th Floor
Phoenix, Arizona 85003-1611

Michael Shapiro, P.E.
DMJM
300 W. Clarendon Avenue
Phoenix, Arizona 85013-0217

Coord: PAC 12/15 EAR RWS HSM

Info: HSM

Federal Emergency Management Agency

Washington, D.C. 20472

December 4, 1997

Mr. Hasan Mushtaq, P.E.
Engineering Division
Flood Control District
of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009-6399

IN REPLY REFER TO:
Case No.: 98-09-226R
Communities: City of Phoenix and
Maricopa County, Arizona
Community Nos.: 040051 and 040037

316-ACK.FRQ

Dear Mr. Mushtaq:

This responds to your request dated November 14, 1997, that the Federal Emergency Management Agency (FEMA) issue a conditional revision to the Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Camelback Levee-South
Flooding Source:	Agua Fria River
FIRM Panel(s) Affected:	04013C1615 H, 1620 F, 2080 G, and 2085 E

To minimize the financial burden on the policyholders while maintaining the National Flood Insurance Program (NFIP) as self-sustaining, FEMA implemented a procedure to recover costs associated with reviewing and processing requests for modifications to published flood information and maps. Effective October 1, 1996, FEMA revised the fee schedule, establishing flat review and processing fees for most types of requests. Effective March 10, 1997, FEMA modified the fee schedule that became effective on October 1. A copy of the notice published in the *Federal Register* is enclosed for your information. The fee for your request is $3,300, and must be submitted before we can continue processing your request. Payment of this fee must be made in the form of a check or money order, made payable in U.S. funds to the National Flood Insurance Program, or credit card payment. For identification purposes, the case number referenced above must be included on the check or money order. We will not perform a detailed technical review of your request until payment is received.

Payment must be forwarded to one of the addresses listed below.

Using U.S. Postal Service:
Federal Emergency Management Agency
Fee-Collection System Administrator
P.O. Box 3173
Merrifield, VA 22116-3173

Using overnight service:
Fee-Collection System Administrator
c/o Dewberry & Davis, METS Division
8401 Arlington Boulevard
Fairfax, VA 22031

We have completed an inventory of the items that you submitted. The items identified below are required before we can begin a detailed review of your request.

1. On Page 1 of Application/Certification Form 8, entitled "Levee/Floodwall System Analysis Form," you indicated that the proposed Camelback Levee has been certified by the U.S. Army Corps of Engineers,

Los Angeles District, as providing protection against the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). Please provide a copy of this certification.

2. With your request, you provided copies of a public notice for a restudy of the Agua Fria River. The public notice states that the restudy extends from the outlet of the New Waddell Dam to the confluence of the Gila River and is based on reduced base flood discharges as a result of the completion of the New Waddell Dam. Please provide a copy of a public notice stating your community's intent to restudy the Agua Fria River and revise the floodway based on the construction of the Camelback Levee.

If all required items are not submitted within 90 days of the date of this letter, we will treat any subsequent request as an original submittal, and it will be subject to all submittal/payment procedures.

Please direct all required items (except the required fee) and questions concerning your request to our Technical Evaluation Contractor at the following address:

Michael Baker Jr., Inc.
3601 Eisenhower Avenue, Suite 600
Alexandria, Virginia 22304

Attention: Ms. Pernille Buch-Pedersen
(703) 317-6224

When you write us about your request, you must include the case number referenced above in your letter.

If you have any questions concerning FEMA policy, or the NFIP in general, please contact Mr. Mike Grimm of our staff in Washington, DC, either by telephone at (202) 646-2878 or by facsimile at (202) 646-4596.

Sincerely,

Frederick H. Sharrocks, Jr., Chief
Hazard Identification Branch
Mitigation Directorate

Enclosure(s)

cc: Mr. Raymond U. Acuña, P.E.
Floodplain Manager
City of Phoenix

Mr. Michael Shapiro, P.E.
Project Manager
Daniel, Mann, Johnson & Mendenhall

FEDERAL EMERGENCY MANAGEMENT AGENCY ANNOUNCES CHANGES IN USER FEES FOR FLOOD MITIGATION PRODUCTS

On August 30, 1996, FEMA published an Interim Final Rule in the *Federal Register* that detailed how and why the Federal Emergency Management Agency (FEMA) changed the fee schedule for several of the products it provides to the public in support of the National Flood Insurance Program (NFIP). These changes, which became effective on October 1, 1996, were made (1) to simplify existing administrative procedures for individuals who request Letters of Map Change and Flood Insurance Study support information and archived data from FEMA and (2) to help maintain the NFIP as a self-supporting, nontaxpayer-funded program. On August 30, 1996, FEMA also published a notice in the *Federal Register* announcing the revised fee schedule for the following NFIP products:

- Conditional Letters of Map Amendment
- Conditional Letters of Map Revision Based on Fill
- Conditional Letters of Map Revision
- Letters of Map Revision Based on Fill
- Letters of Map Revision
- Physical Map Revisions
- Flood Insurance Study Support Information and Archived Data Products

FEMA recently determined it was appropriate to refine the criteria for assessing fees for map change requests and to revise the fee schedule itself before publishing a Final Rule and final fee schedule notice in the *Federal Register*. The most significant revision FEMA made is the restoration of fee exemptions for: (1) Map change requests based on federally sponsored flood-control projects where 50 percent or more of the project's costs are federally funded; and (2) Map change requests based on detailed hydrologic and hydraulic studies conducted by Federal, State, or local agencies to replace approximate studies conducted by FEMA and shown on the effective FIRM. These and other revisions are documented in the Final Rule and the enclosed Notice. The Notice and Final Rule both were published in the *Federal Register* on February 6, 1997.

Individuals who do not have a subscription to the *Federal Register* may obtain this information through FEMA's World Wide Web site (http:/www.fema.gov/MIT/feesch.htm) or by calling the FEMA Fax-on-Demand, at (202) 646-3362, and requesting Document Number 20018. Hard copies of the Final Rule also may be obtained, free of charge, by contacting Ms. Imelda Edwards at the address shown below.

Federal Emergency Management Agency
Hazard Identification & Risk Assessment Division
500 C Street SW.
Washington, DC 20472
Telephone: (202) 646-3860
Facsimile: (202) 646-4596

FEDERAL EMERGENCY MANAGEMENT AGENCY

Fee Schedule for Processing Requests for Map Changes and for Flood Insurance Study Backup Data for Fiscal Year 1997

AGENCY: Federal Emergency Management Agency (FEMA).

ACTION: Notice.

SUMMARY: This notice contains the revised fee schedules for processing certain requests for changes to National Flood Insurance Program (NFIP) maps and for processing requests for Flood Insurance Study (FIS) backup data. The changes in the fee schedules will allow FEMA to reduce further the expenses to the NFIP by recovering more fully the costs associated with (1) processing conditional and final map change requests and (2) retrieving, reproducing, and distributing technical and administrative support data related to FIS analyses and mapping.

DATES: The revised fee schedules are effective for all requests dated October 1, 1996 or later.

FOR FURTHER INFORMATION CONTACT: Frederick H. Sharrocks, Jr., Chief, Hazard Identification Branch, 500 C Street SW., Washington, DC 20472, (202) 646-2756 or by facsimile at (202) 646-4596 (not toll-free calls).

SUPPLEMENTARY INFORMATION: This notice contains the revised fee schedules for processing certain requests for changes to NFIP maps and for processing requests for FIS backup data. The revised schedule for map changes is effective for all requests dated October 1, 1996, or later, in accordance with the final rule for changes to 44 CFR parts 65, 70, and 72 published elsewhere in this edition of the Federal Register, and supersedes the current fee schedule established on June 30, 1992.

The revised fee schedule for requests for FIS backup data also is effective for all requests dated October 1, 1996 or later, and supersedes the current fee schedule published in the Federal Register on June 30, 1992.

The basis for the fee schedule for requests for Conditional Letters of Map Amendment (CLOMAs), Conditional Letters of Map Revision Based on Fill (CLOMR-Fs), Conditional Letters of Map Revision (CLOMRs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs), and Physical Map Revisions (PMRs) and for the fee schedule for requests for FIS backup data is provided in the separately published final rule.

A primary component of the fees is the prevailing private-sector rates charged to FEMA for labor and materials. Because these rates and the actual review and processing costs may vary from year to year, FEMA will evaluate the fees at the end of each fiscal year and publish revised fee schedules, when needed, as notices in the Federal Register.

Simplification of Fee Schedule for Conditional and Final Map Changes

The existing fee collection process is complex and its administration requires time-intensive efforts on the part of FEMA. It also increases the time required to provide the requesters with the product they require. The current system requires requesters to submit an initial fee that is not intended to cover the full review and processing costs or the cartographic production costs. Requesters subsequently receive invoices for the balances. The current system is complicated further by the pre-authorized spending limits placed on each product. When FEMA determines these limits will be exceeded, written authorization to proceed must be obtained before FEMA can proceed with its review. Processing of the request is delayed until the written authorization is received.

FEMA has streamlined the process by (1) charging flat user fees for most map change products and services; (2) requiring full payment of fees before work is begun on most map change requests; (3) consolidating similar products or services into a limited number of user fee categories; and (4) limiting the number of products for which requesters may receive exemptions from payment of fees. As a result, requesters know the cost of most products before FEMA begins work.

The initial fee for requests for LOMRs and CLOMRs based on structural measures on alluvial fans has been maintained because (1) such requests are rare, (2) the FEMA review for these requests is usually very complex, and (3) the costs involved in processing the requests can fluctuate significantly.

Fees for Conditional and Final Map Revisions Based on Structural Measures on Alluvial Fans

Based on a review of actual cost data for Fiscal Year 1995, FEMA established $5,000 as the initial fee for requests for LOMRs and CLOMRs based on structural measures on alluvial fans. FEMA will recover the remainder of the review and processing costs by invoicing the requester before issuing a determination letter, consistent with current practice. The prevailing private-sector labor rate charged to FEMA ($50 per hour) will be used to calculate the total reimbursable fees.

Fee Schedule for Requests for Conditional Letters of Map Amendment and Conditional and Final Letters of Map Revision Based on Fill

Based on a review of actual cost data for Fiscal Year 1995, FEMA established the following flat user fees, which are to be submitted by requesters with all requests dated October 1, 1996 or later:

- Request for single-lot/single-structure CLOMA, CLOMR-F, and LOMR-F, $400
- Request for multiple-lot/multiple-structure CLOMA, $700
- Request for multiple-lot/multiple-structure CLOMR-F and LOMR-F, $800
- Request for single-lot/single-structure LOMR-F based on as-built information (CLOMR-F previously issued by FEMA), $300
- Request for multiple-lot/multiple-structure LOMR-F based on as-built information (CLOMR-F previously issued by FEMA), $700

Fee Schedule for Requests for Map Revisions

Unless the request is otherwise exempted under 44 CFR 72.5, requesters must submit the flat user fees shown below with requests for LOMRs and PMRs dated October 1, 1996 or later that are not based on structural measures on alluvial fans. These fees are based on a review of actual cost data for Fiscal Year 1995.

- Request based on bridge, culvert, channel, or combination thereof, $3,700
- Request based on levee, berm, or other structural measure, $4,300
- Request based on as-built information submitted as followup to CLOMR, $2,300
- Request based solely on submission of more detailed data, $2,300

Fee Schedule for Requests for Conditional Map Revisions

Unless the request is otherwise exempted under 44 CFR 72.5, requesters must submit the flat user fees shown below with requests for CLOMRs dated October 1, 1996 or later that are not based on structural measures on alluvial fans. These fees are based on a review of actual cost data for Fiscal Year 1995.

- Request based on new hydrology, bridge, culvert, channel, or combination thereof, $3,100
- Request based on levee, berm, or other structural measure, $3,300

Fee Schedule for Requests for Flood Insurance Study Backup Data

Requesters must submit the user fees shown below with requests for FIS backup data dated October 1, 1996 or later. These fees are based on a review of actual cost data for Fiscal Year 1995. They are based on the complete recovery of FEMA's costs for retrieving, reproducing, and distributing the data, as well as a pro rata share of the costs for maintaining the data and operating the fee reimbursement system.

As under the previous fee schedule, all entities except FEMA's Study Contractors, FEMA's Technical Evaluation Contractors, and the Federal agencies involved in performing FISs (i.e., U.S. Army Corps of Engineers, U.S. Geological Survey, Natural Resources Conservation Service, and Tennessee Valley Authority) will be charged for requests for FIS backup data. The only other exception is that one copy of the FIS backup data will be provided to a community free of charge if the data are requested during the statutory 90-day appeal period for an initial or revised FIS for that community.

FEMA has established seven categories into which requests for FIS backup data are separated. These categories are:

(1) Category 1—Paper copies, microfiche, or diskettes of hydrologic and hydraulic backup data for current or previously effective FIS

(2) Category 2—Paper or mylar copies of topographic mapping developed during FIS process

(3) Category 3—Paper copies or microfiche of survey notes developed during FIS process

(4) Category 4—Paper copies of individual Letters of Map Change

(5) Category 5—Paper copies of preliminary map panels

(6) Category 6—Computer tapes of Digital Line Graph files

(7) Category 7—Computer diskettes and user's manuals for FEMA programs (e.g., Wave Height, Wave Runup, Alluvial Fan)

A non-refundable fee of $90, to cover the preliminary costs of research and retrieval, must be submitted to initiate requests for data under Categories 1, 2, and 3. The total costs of processing requests in Categories 1, 2, and 3 above will vary based on the complexity of the research involved in retrieving the data and the volume and medium of data to be reproduced and distributed. The initial fee will be applied against the total costs to process the request, and FEMA will invoice the requester for the balance before the data are provided. No data will be provided to a requester until all required fees have been paid.

No initial fee is required to initiate a request for data under Categories 4 through 7. Requesters will be notified by telephone about the availability of materials and the fees associated with requested data. As with requests for data under Categories 1, 2, and 3, no data will be provided to requesters until all required fees are paid.

The costs for processing requests under Categories 4 through 7 will not vary. Therefore, FEMA established flat user fees for these categories of requests. The flat user fees are shown below.

Request Under Category 4

First letter, $ 40

Each additional letter, $10

Request Under Category 5

First panel, $35

Each additional panel, $2

Request Under Category 6 (per county), $150

Request Under Category 7 (per copy), $25

Payment Submission Requirements

Fee payments must be made in advance of services being rendered. These payments shall be made in the form of a check or money order or by credit card payment. Checks and money orders must be made payable, in U.S. funds, to the National Flood Insurance Program. FEMA will provide receipts to requesters for their records or billing purposes.

The fees collected will be deposited to the National Flood Insurance Fund, which is the source of funding for providing these services.

Dated: January 28, 1997.

Richard W. Krimm,

Executive Associate Director, Mitigation Directorate.

[FR Doc. 97-2964 Filed 2-5-97; 8:45 am]

BILLING CODE 6718-04-P

NOV 14, 1997

Frederick H. Sharrocks, Jr., Chief
Hazard Identification Branch
Mitigation Directorate
Federal Emergency Management Agency
500 C Street SW
Washington, D.C. 20472

Attn : Mr. John Magnotti

Re : CLOMR request for Camelback Ranch Levee - South

When replying, please refer to :
FCD Contract No. FCD 95-15

Dear Mr. Sharrocks:

This request is for a revision to the Flood Insurance Rate Maps (FIRM), as listed above, for Maricopa County, Arizona, Unincorporated Areas and the City of Phoenix, Arizona. Pertinent information about the request is listed below:

Identifier :	Agua Fria River	
Flooding Source :	Agua Fria River	
FIRM Panels Affected :	1645H (08-05-1997)	2080 G (08-05-1997)
	1620 F (08-05-1997)	2085 E (08-05-1997)

This is a request for a CLOMR for Camelback Levee - South, which is located within the Maricopa County, Arizona, Unincorporated Areas and the City of Phoenix, Arizona. The proposed levee extends from north of Indian School Road to Camelback Road. It is located on the left overbank area of the Agua Fria River.

This restudy reflects construction of the proposed levee on the left overbank area of the Agua Fria River between Indian School Road and Camelback Road.

The following information is submitted in support of the LOMR request :

1. Application for the Conditional Letter of Map Revision (Exhibit 1)
2. A copy of the notarized Public Notice for the Camelback Ranch Levee - South (Exhibit 2)
3. A complete set of required forms (Exhibit 3)
4. A set of work maps at 1" = 200' scale (Exhibit 4).
5. Annotated map at 1" = 1000' scale (Exhibit 5)
6. Hardcopy Input/Output of the duplicate effective hydraulic model (Exhibit 6).

7. Hardcopy Input/Output of the revised hydraulic model (Exhibit 7).
8. 7 3-1/2" disks with the duplicate effective model, revised hydraulic model, AutoCad drawing files, and FEMA forms (Exhibit 8).
9. "Draft" Interior Drainage Report - Camelback Ranch Levee Design Project.
10. Geotechnical Investigation Report - Camelback Ranch Levee.
11. Calculation and Analysis, Geotechnical Investigation Report - Camelback Ranch Levee.
12. Construction Special Provisions for Camelback Ranch Levee - South.
13. Camelback Ranch Levee Design, Phase I Design Submittal.
14. Final Calculations, Camelback Ranch Levee - South.
15. A set of construction plans for the Camelback Ranch Levee - South.

Following items are also discussed in relation to the LOMR application.

ITEM

1. The starting 100-year water surface elevation was selected from the duplicate effective model at cross section 6.430.

2. The design hydraulic model, which corresponds to item 14, is different from the revised hydraulic model listed in item 7. Cross section 13 of the design hydraulic model coincides with cross section 8.534 of the revised hydraulic model. Both of these cross sections are located at station 10+00.00 of the construction plans, as listed in item 15.

Should additional information be required, please contact Michael Shapiro, P.E., Project Manager, DMJM at (602) 264-1397, R.W. Shobe, P.E., Project Manager, Flood Control District at (602) 506-4603 or Hasan Mushtaq, P.E., Engineering Division, Flood Control District at (602) 506-4528.

Sincerely,

Hasan Mushtaq, P.E.
Engineering Division

Enclosures

Copy to : Terri Miller, State Coordinator, NFIP
Arizona Department of Water Resources
500 North 3rd Street, Phoenix, Arizona 85004

Ray Acuna, P.E., Floodplain Manager
City of Phoenix
200 West Washington Street, Phoenix, Arizona 85004

Michael Shapiro, P.E.
DMJM
300 W. Clarendon Avenue
Phoenix, Arizona 85013-0217

Coord : PAC EAR RWS RGN MSE HM

Info : HM

EXHIBIT A

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA FIELD OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 760
PHOENIX, ARIZONA 85012-1936

June 4, 1997

REPLY TO
ATTENTION OF:

Office of the Chief
Regulatory Branch

FLOOD CONTROL DISTRICT
RECEIVED
JUN 9 1997

	CH ENG		P & PM
	DEP		[illegible]
	ADMIN		[illegible]
	FINANCE		[illegible]
	C&O	/	DBS
	ENGR		

REMARKS

Maricopa County Flood Control District
ATTN: Mr. Douglas B. Stroup
2801 West Durango Street
Phoenix, Arizona 85009

Dear Mr. Stroup:

Enclosed you will find a signed copy of your Department of the Army Permit (File # 97-40087-LSF). Please retain this copy for your files.

Thank you for participating in our regulatory program. If you have any questions, please contact Larry S. Flatau at (602) 640-5383.

Sincerely,

Richard J. Schubel
Chief, Regulatory Branch

Enclosure(s)

DEPARTMENT OF THE ARMY PERMIT

Permittee:

Maricopa County Flood Control District
ATTN: Mr. Douglas B. Stroup
2801 West Durango Street
Phoenix, Arizona 85009

Permit Number: 974-0087-LSF

Issuing Office: Los Angeles District

Note: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To construct a soil cement levee on the east bank of the Agua Fria River, south of the Camelback Road bridge crossing; the levee will be approximately 3400 feet in length, nine feet wide at the base with side slopes of 1.8 foot/1 foot, and six feet high; construction material of sand and gravel (approximately 50,000 cubic yard) will be excavated from the Agua Fria River under a previously issued permit (#934-0365-CJL), and mixed on site to form soil cement; all mixing operations will occur outside the river channel; and the existing riprap located at the southeast Camelback Bridge abutment will be removed, washed, and replaced as shown on the attached drawings.

Project Location: In Agua Fria River at (Section 19, T2N, R1E), Maricopa County, Arizona.

Permit Conditions

General Conditions:

1. The time limit for completing the authorized activity ends on July 1, 2000. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification from this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit.

Special Conditions: See attached sheet.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the River and Harbor Act of 1899 (33 U.S.C. 403).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give you favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

(PERMITTEE) 5/30/97 (DATE)

Doug Stroup
Environmental Program Manager

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Richard J. Schubel 6-4-97 (DATE)
Chief, Regulatory Branch
(for the District Engineer)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE) (DATE)

SPECIAL CONDITIONS
PERMIT NO. 974-0087-LSF

a. The permittee shall comply with all requirements and conditions in the letter of state water quality certification that the Arizona Department of Environmental Quality signed on May 6, 1997. This certification demonstrates that the permittee has complied with Section 401(a) of the Clean Water Act. A copy of this letter is enclosed.

b. Should previously unknown historic or archaeological remains be discovered while accomplishing activities authorized by this permit, the permittee shall immediately cease work in the area of discovery and this office shall be immediately notified. The permittee is restricted from entering any archeological sites on or adjacent to the project area.

c. No fill, or levelling is permitted in the watercourse, outside the boundaries of the permitted 3,400 foot long, 1.14 acre work area. Work shall be contained within the boundaries of this work area.

d. Heavy equipment traffic is restricted from entering the watercourse, outside the boundaries of the permitted work area and the excavation site. Appropriate barricades shall be installed to preclude this activity.

e. During construction the work site shall be maintained such that no construction debris or material spillover is allowed in the watercourse. Upon completion of the work all construction debris and excess material shall be removed from the jobsite, and outside of the Corps' jurisdictional area.

f. During construction provide appropriate measures to accommodate flows within the watercourses, such that waters are not diverted outside the Ordinary High Water Mark.

g. Prior to initiating construction activities under this permit, the permittee shall ensure that the contractor(s) has been provided with a copy of the Section 404 authorization. This is intended to confirm that the contractor(s) has read, understood, and agrees to comply with the terms and conditions of this Section 404 authorization.

EXHIBIT B

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
Fax (602) 506-4601
TT (602) 506-5859

BOARD OF DIRECTORS
Betsey Bayless
Jan Brewer
Fulton Brock
Don Stapley
Mary Rose Garrido Wilcox

DEC 12 1997

Mr. Laron DeWitt
Johnson-Stewart Materials, L.L.C.
1564 N. Alma School Road
Phoenix, Arizona 85009

Subject: **Camelback Ranch Levee South - Public notice of intent to relocate the floodway limit of the Agua Fria River east side, from Camelback to Indian School Roads**

Dear Mr. DeWitt:

As per our agreement for the construction of the Camelback Ranch Levee South Project, the District is pursuing the redelineation of the floodplain. As part of the Federal Emergency Management Agency (FEMA) review and approval process, a public notice is sent to all affected property owners to solicit input. As the District is also requesting a revision to the floodway, moving it from its present location to the west side of the proposed levee and Johnson-Stewart is the only property owner affected by this, we are requesting input from you.

This letter is intended to inform Johnson-Stewart of this revision and to provide you with the opportunity to bring to our attention any relevant technical information you wish the District and FEMA to consider during the course of this review. Your concerns should be addressed to Mr. Hasan Mushtaq or Mr. Pedro Calza of the Flood Control District, at the above address.

If you have no objections and concur with this realignment of the floodway, please indicate so by signing in the space provided below and return the original letter to me in the enclosed, stamped and self-addressed envelope.

Sincerely,

R W Shobe

R. W. Shobe P. E.
Project Manager

RWS/lbw

I Earl C. Johnson representing the interests of Johnson-Stewart Materials, L L.C., fully understand and concur with the realignment of the east floodway limit between Camelback and Indian School Roads.

Earl C. Johnson 1/14/98 — Signature, Date

L.J. DeWitt 1-14-98 — Witness, Date

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
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If you have no objections and concur with this realignment of the floodway, please indicate so by signing in the space provided below and return the original letter to me in the enclosed, stamped and self-addressed envelope.

Sincerely,

RW Shobe

R. W. Shobe P. E.
Project Manager

RWS/lbw

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Earl C. Johnson 1/14/98 — Signature, Date

L.J. DeWitt 1-14-98 — Witness, Date

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
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BOARD OF DIRECTORS
Betsey Bayless
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DEC 12 1997

Mr. Laron DeWitt
Johnson-Stewart Materials, L.L.C.
1564 N. Alma School Road
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This letter is intended to inform Johnson-Stewart of this revision and to provide you with the opportunity to bring to our attention any relevant technical information you wish the District and FEMA to consider during the course of this review. Your concerns should be addressed to Mr. Hasan Mushtaq or Mr. Pedro Calza of the Flood Control District, at the above address.

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Sincerely,

R. W. Shobe P. E.
Project Manager

RWS/lbw

I _____ representing the interests of Johnson-Stewart Materials, L.L.C., fully understand and concur with the realignment of the east floodway limit between Camelback and Indian School Roads.

_____ _____
Signature Date Witness Date

File: _____

EXHIBIT C

When recorded mail to:

OFFICIAL RECORDS OF
MARICOPA COUNTY RECORDER
HELEN PURCELL

96-0783843 11/05/96 12:54

CHRISTINA 1 OF 1

CAPTION HEADING:_____

DO NOT REMOVE

This is part of the official document.

When recorded mail to:

OFFICIAL RECORDS OF
MARICOPA COUNTY RECORDER
HELEN PURCELL
96-0201902 03/26/96 04:09
KATHERINE 20 OF 24

CAPTION HEADING: Agreement Regarding Construction of Bank Protection C-69-96-053-1 — Johnson-Stewart

DO NOT REMOVE

This is part of the official document.

THIS DOCUMENT IS BEING RE-RECORDED TO REFLECT A REVISION IN THE ALIGNMENT OF EXHIBIT "A"

§ 11-480. Requirements for form of instruments

A. Only an instrument which upon presentation to a county recorder for recordation fails to meet any of the following conditions may be rejected for recordation at the time of presentation for recordation:

4. Effective January 1, 1991, each instrument shall be no larger than eight and one-half inches in width and no longer than fourteen inches and shall have a print size no smaller than ten point type.

5. Effective January 1, 1991, each instrument shall have at least a one-half inch margin across the bottom and the left and right sides from the top to the bottom. The first page shall have a top margin of at least two inches of vertical space from left to right and shall be reserved for recordation and return address information.

CONTACT THE RECORDER'S OFFICE IF YOU NEED FURTHER INSTRUCTIONS

AGREEMENT REGARDING CONSTRUCTION OF BANK PROTECTION

C-69-96-053-1

This Agreement Regarding Construction Of Bank Protection ("Agreement") is entered into by and between the **Flood Control District of Maricopa County** ("District") and the **Johnson-Stewart Materials, L.L.C.** ("Johnson-Stewart"), an Arizona Limited Liability Company, for the construction of a levee on the east floodway line of the Agua Fria River.

RECITALS

A. **Johnson-Stewart** is the owner of real property in vicinity of the Agua Fria River, a portion of which property is adjacent to the parcel known as Camelback Ranch. That portion of the **Johnson-Stewart** property is depicted in Exhibit "A", attached hereto and incorporated herein by this reference.

B. The previously named Camelback Ranch parcel is now owned by the **District**. The **District** proposes to construct a levee hereinafter referred to as the "Project". The "Project" may also include an associated drainage channel if a channel is required for approval by the Federal Emergency Management Administration (FEMA). The **District** is authorized to enter into this agreement pursuant to A.R.S. 48-3603, and pursuant to Resolution 95-07 of the **District's** Board of Directors dated September 6, 1995.

C. **Johnson-Stewart** wishes to encourage and facilitate the design and construction by the **District** of the Project on the real property owned by **Johnson-Stewart**, rather than on **District**-owned property, a change of location which will be of significant benefit to **Johnson-Stewart**.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual promises and agreements set forth herein, the parties hereto state, confirm and agree as follows:

AGREEMENT

1. **Johnson-Stewart**, as owner in fee of the real property depicted in Exhibit A, shall donate to the **District** at no cost to the **District** a strip of real property sufficient to construct a levee and drainage channel, if such channel is required by FEMA, for the Project along the east floodway line of the Agua Fria River. This strip of real property (estimated to be 100 feet wide) shall begin

at the east abutment of the Camelback Road bridge over the Agua Fria River and continue south to the east end of the northerly most transverse dike north of Indian School Road, as depicted on Exhibit A. This donation shall be by a warranty deed to be executed by **Johnson-Stewart, L.L.C.** and shall be made concurrently with the execution of this Agreement. The parties understand that the future engineering design for the levee and possible drainage channel may dictate a minor change in location from that described in the deed executed at the time of execution of this Agreement. The parties agree that a second deed or deeds or amendments to documents may be necessary to reflect that minor change in location and understand that failure by either party to execute such a deed or deeds or other documents shall be deemed to be a default of the terms of this Agreement.

2. **Johnson-Stewart** shall provide to the **District** at no cost to the **District** or its contractors all necessary access and temporary construction easements (TCE's) on **Johnson-Stewart** property for the Project. The TCE's defined on Exhibit A shall be granted to the **District** concurrently with the execution of this Agreement and shall be made on forms to be provided by the **District**. Additional TCE's may be required and will be defined at a future time. These future TCE's shall be transferred on forms to be provided by the **District** and executed when legal descriptions are available. **Johnson-Stewart** hereby agrees to execute all necessary future TCE's, and the **District** hereby agrees to repair any damage to concrete structures on the areas covered by the TCE's caused by the **District** or its contractor. **Johnson-Stewart** recognizes that time is of the essence in the construction of the levee project and that the **District** will incur additional expenses if, because of the failure of **Johnson-Stewart** to perform as provided herein, the project is ultimately constructed on property other than that depicted on Exhibit A or constructed on property which the **District** must acquire by eminent domain. Therefore, failure of **Johnson-Stewart** to grant such additional TCE's and access rights which cannot be defined at the time this Agreement is executed shall be deemed to be a breach on the part of **Johnson-Stewart** of the terms of this Agreement and may result in the **District** constructing the project in another location as well as taking appropriate legal action.

3. **Johnson-Stewart** hereby grants to the **District** and its contractors the right to excavate and use materials available and necessary for the construction of the Project from areas designated by **Johnson-Stewart** west of the proposed levee or elsewhere on the site. Neither the **District** nor its contractors shall be required to pay **Johnson-Stewart** for the materials excavated and used for the construction of the Project. All excavation and removal of materials shall be done in accordance with, and in compliance with, all governmental statutes, rules and regulations as well as a

"borrow plan" to be prepared by **Johnson-Stewart** and approved by the District. Any materials excavated but not used in construction of the Project shall be stockpiled on site where designated by **Johnson-Stewart** and shall be the property of **Johnson-Stewart**. Neither the **District** nor its contractors shall remove materials excavated on the site from the site.

4. **Johnson-Stewart** by execution of this document by its duly appointed representative hereby waives any and all rights to and/or opportunity for an appraisal to be done by the **District** and waives any and all compensation from the **District** for the fee ownership and easement rights to be donated to the **District** as described herein. If **Johnson-Stewart** wishes to have an appraisal done for tax or other purposes, it may do so at its own cost; however, the **District** shall not be required in any way to approve or validate the amount or methodology of any such appraisal.

5. **Johnson-Stewart** shall pay to the **District** on or before October 25, 1995 the sum of $150,000. The estimated cost differential for engineering design and construction of the Project is $300,000, of which **Johnson-Stewart's** payment represents one-half of the total. The money will be deposited into a separate account to be set up by the **District** with the State Treasurer. All interest earned by the money on deposit will accrue to the **District** when the project is completed or upon default by **Johnson-Stewart** of any of the terms of this Agreement, and will be withdrawn by the **District** upon completion of the levee project or upon default by **Johnson-Stewart** of any of the terms of this Agreement. If the Project is not completed, the money on deposit plus all interest accrued will be returned to **Johnson-Stewart**.

6. **Johnson-Stewart** shall make available to the **District** immediately upon execution of this Agreement and at no cost to the **District** copies of any environmental permits and all associated information which is available to **Johnson-Stewart**.

7. **Johnson-Stewart** shall obtain on behalf of the **District** approval of this Agreement by BCW Inc., a Delaware Corp. successor in interest to Blue Circle West, Inc. and Johnson-Stewart Johnson Mining Co. Inc. dba Sunward Materials and any other lessees holding current valid leases on the real property depicted on Exhibit A. This approval shall be obtained by **Johnson-Stewart** concurrently with the execution of this Agreement, and failure of lessees to execute any necessary documents for the Project shall be considered a default of this Agreement by **Johnson-Stewart** and result in the **District** building the Project on other **District** property.

8. The parties acknowledge that removal of the **Johnson-Stewart** property located east of the proposed levee from the floodplain is an important consideration in regard to completion of the Project,

but that the Federal Emergency Management Administration (FEMA) must approve any new floodplain boundaries. The **District** agrees to use its best efforts to process and forward on a timely basis the necessary documentation to FEMA to accomplish removal from the FEMA floodplain of the Johnson-Stewart property shown on Exhibit B (attached hereto and incorporated herein) east of the permanent floodway line. In the event that FEMA does not approve the removal from the floodplain of **Johnson-Stewart** property, except for those portions delineated on Exhibit B as within the permanent floodway line, **Johnson-Stewart** shall have the right to cancel this Agreement by written notice to the **District**. Upon receipt of such cancellation notice, the **District** shall return to Johnson-Stewart all property conveyed or transferred to the **District** by **Johnson-Stewart** with the exception of the $150,000 paid by **Johnson-Stewart** and neither party shall have any further liability to the other in regard to this Agreement.

9. **Johnson-Stewart** understands and agrees that future mining and extraction in the vicinity of the Project shall be done in such manner as to not jeopardize the integrity of the levee structure. Future setback and excavation requirements shall be determined by the design engineer and provided to **Johnson-Stewart** by the **District**. **Johnson-Stewart** and its successors shall adhere to all setback and excavation requirements provided to them by the **District** and shall revise their mining plans to exclude the Project areas as required by this Agreement. It is anticipated that the requirements shall be similar to the drawing attached hereto as Exhibit C, attached hereto and incorporated herein, however, the parties acknowledge that the final requirements may vary from the drawing in Exhibit C because of specific requirements in the Project engineering.

10. **Johnson-Stewart** shall enter into and sign such necessary documents as are required to fulfill its obligations as prescribed in this Agreement, and the signature below is that of a person authorized to so commit **Johnson-Stewart**.

11. The **District** shall instruct the engineer under contract to design the Project that efforts shall be made to protect the existing concrete irrigation ditches on the **Johnson-Stewart** property. If the design does not protect the existing concrete ditches the **District** shall repair, or replace at a new location the ditches and provide a temporary conveyance at **District** cost. The **District** shall require its contractor(s) to name **Johnson-Stewart** and **BCW Inc.** as additional insureds on any insurance policies for the construction of the Project.

12. All notices, filings, consents, approvals and other communications provided herein or given in connection herewith shall be validly given, filed, made, delivered or served if in

writing and delivered personally or sent by certified United States Mail, postage prepaid, return receipt requested to:

Flood Control District of Maricopa County
Chief Engineer and General Manager
2801 West Durango
Phoenix, Arizona 85009

Johnson-Stewart Materials, L.L.C.
1564 N. Alma School Road
Mesa, Arizona 85201

BCW Inc.
2625 S. 19th Ave.
Phoenix, AZ 85009

13. This Agreement shall be subject to cancellation pursuant to the terms of A.R.S. 38-511.

14. This Agreement may be amended or modified only upon mutual written agreement of the parties.

15. This Agreement shall remain in effect for 99 years.

16. Upon full performance of **Johnson-Stewart** of the terms of this Agreement and full performance by Indian School West Limited Partnership of the terms of its agreement with the **District**, the **District** shall construct the Project as defined in this Agreement unless its performance is prevented or delayed by events which constitute a force majeure. "Force majeure" for the purpose of this Agreement is defined as any event arising from causes beyond the reasonable control of the **District** that delays or prevents the performance of any obligation under this Agreement. A force majeure may include, but is not limited to: acts of God, fires, natural disasters, riots, war, extreme adverse weather conditions, inability to obtain necessary permits, licenses or governmental approvals despite timely application, and emergency conditions requiring work stoppage. If for any reason the **District** is unable to substantially complete the Project **Johnson-Stewart's** remedy shall be to have the properties donated returned by the **District** along with the funds on deposit as provided in paragraph 5 herein.

17. This Agreement may not be assigned by either party without prior notice to and approval of the other party, and such approval shall not be unreasonably withheld.

18. Except as to the easements and deeds required herein, this Agreement constitutes the entire agreement between the parties hereto pertaining to the subject matter hereof. All prior and contemporaneous agreements, representations, and understandings of the parties, oral or written, are hereby superseded and merged herein.

This Agreement shall be effective on the date it is executed by the Board of Directors of the Flood Control District of Maricopa County and recorded by the Maricopa County Recorder.

JOHNSON-STEWART MATERIALS, L.L.C., an Arizona Limited Liability Company

By Johnson-Stewart Co.,
An Arizona General Partnership
Its Managing Member

By Earl C. Johnson
Earl C. Johnson,
Its General Partner

Date 11/28/95

STATE OF ARIZONA)
)
COUNTY OF MARICOPA)

This foregoing Agreement was acknowledged before me this 28 day of November, 1995, by Earl C. Johnson, General Partner of the Managing Member Johnson-Stewart Co., on behalf of **Johnson-Stewart Materials L.L.C.**, an Arizona Limited Liability Company.

My Commission Expires: 6-11-97

Linda J. Berkley
Notary Public

OFFICIAL SEAL
LINDA J. BERKLEY
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires June 11, 1997

BCW, INC.

By executing this Agreement, **BCW Inc.** acknowledges and consents to this Agreement; provided, however, that **BCW Inc.** does not assume or agree to perform any of the duties, liabilities or obligations of **Johnson-Stewart** hereunder.

BCW INC., a Delaware Corporation

By Chris Reinesch

Its V.P. Operations

Date 12-29-95

STATE OF ARIZONA)
)
COUNTY OF MARICOPA)

The foregoing Agreement was acknowledged before me this 29TH day of DECEMBER, 1995 by CHRIS REINESCH, its VICE PRESIDENT, OPERATIONS of **BCW Inc.**, a Delaware Corporation.

OFFICIAL SEAL
CONNIE M. STEPHERSON
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Exp. Feb. 18, 1996

My Commission Expires:
2-18-96

Connie M. Stepherson
Notary Public

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

By Ed King
Chairman, Board of Directors

Date MAR 20 1996

Attest Fran McCarroll
Clerk of the Board

Recommended by:

Stanley L. Smith Jr. 2-23-96
Stanley L. Smith, Jr. P.E.
Interim Chief Engineer and General Manager

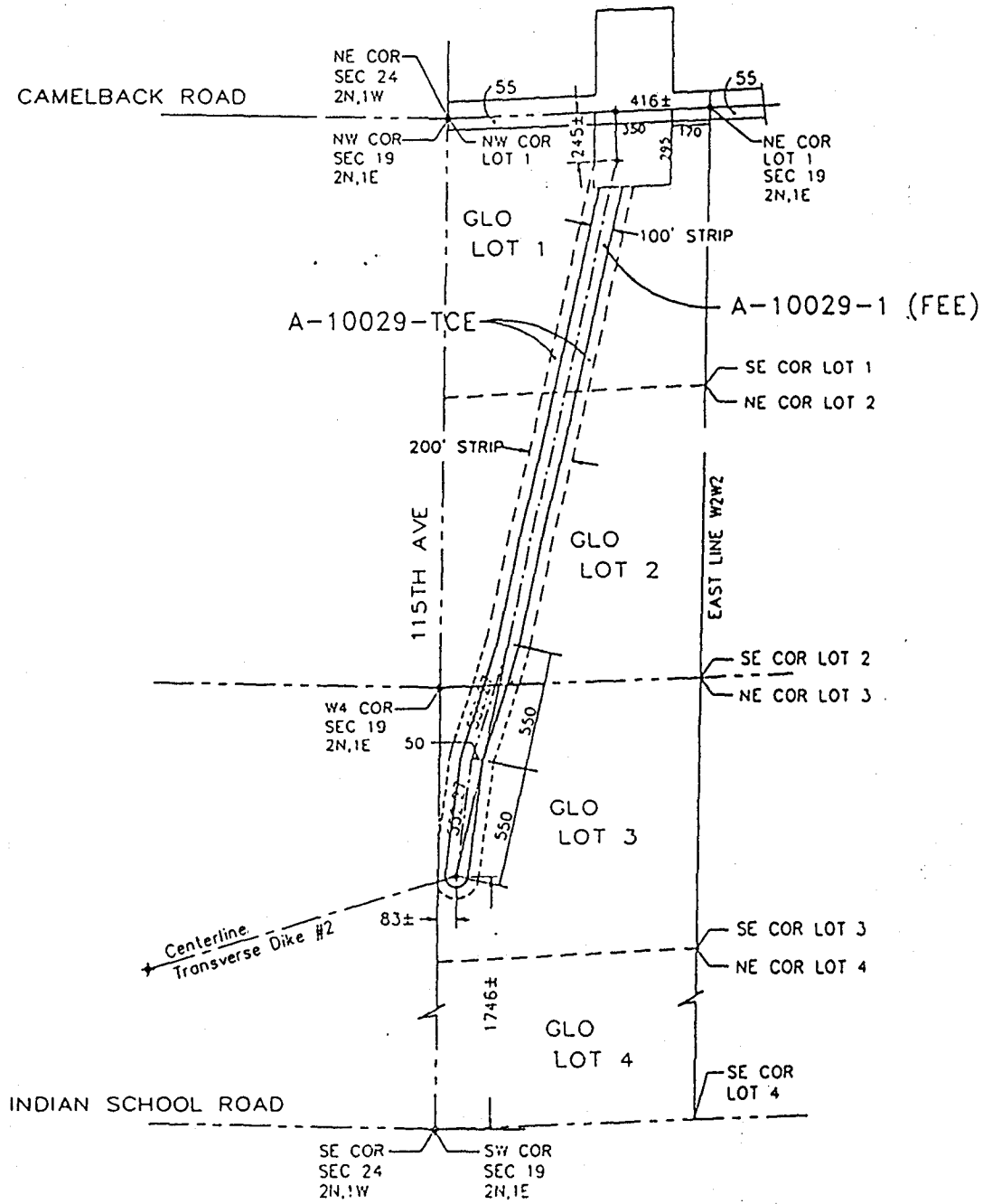
Date 2-23-96

Approved As To Form:

Carli M. Lemmon
General Counsel, Flood Control District

Date 2/27/96

A-10029-1
A-10029-TCE



SCALE 1" = 800'

Exhibit "A"

	SQ. FT.	ACRES
A-10029-1	339,910	7.8033
A-10029-TCE	336,229	7.7188

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY-ARIZONA

AGUA FRIA RIVER CHANNEL

PT OF SECTION 19-T2N,R1E

A-10029-1, TCE
JOHNSON-STEWART MATERIALS, LLC

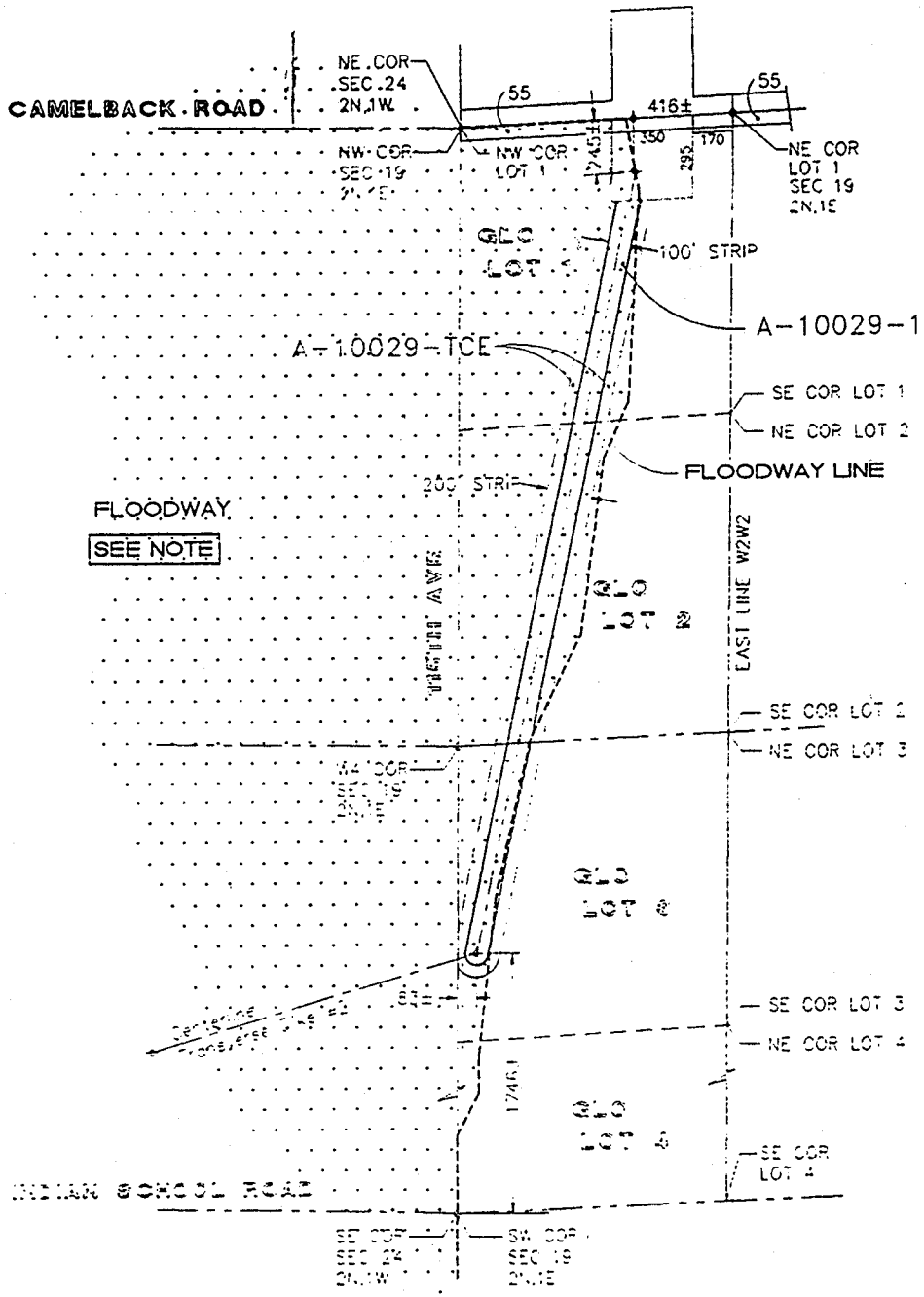
PRELIMINARY: 7-14-95 JLS

REVISED: 9-18-95 10-19-95

FINAL: 11-1-96

A10029-1.DWG

A-10029-1
A-10029-TCE



SCALE 1" = 800'

NOTE:

SHADED AREA IS FLOODWAY / OPEN SPACE LAND AS PER FINAL ORDER OF CONDEMNATION RECORDED IN MARICOPA COUNTY AT 94-0726207, DATED: 10-15-94

	SQ. FT.	ACRES
A-10029-1	330,141	7.5790
A-10029-TCE	336,812	7.7321

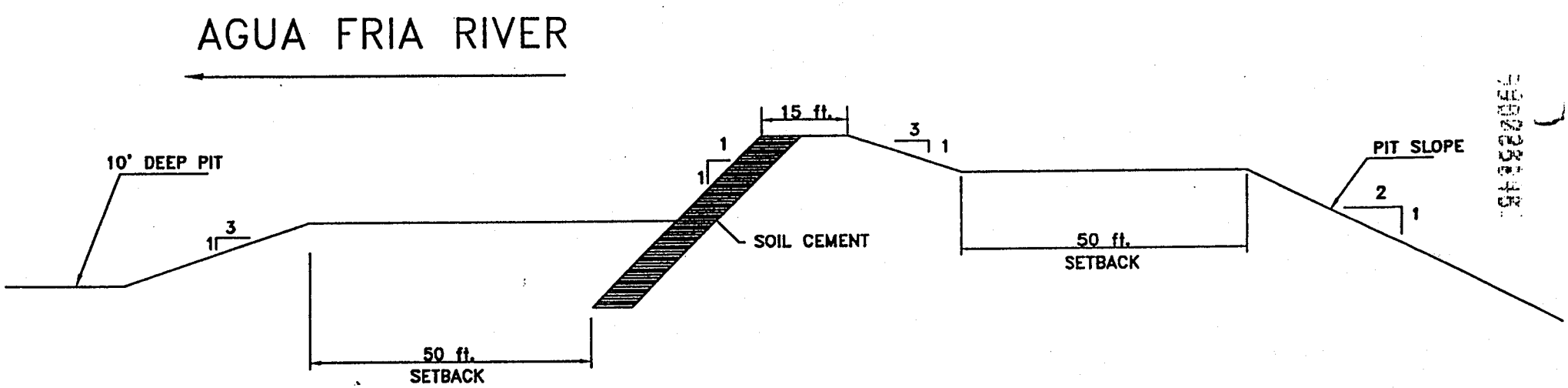
EXHIBIT "B"

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY-ARIZONA

AGUA FRIA RIVER CHANNEL
PT OF SECTION 19-T2N,R1E
A-10029-1, DE; 102-58-2C,G,H,J
JOHNSON-STEWART MATERIALS, LLC

PRELIMINARY: 7-14-95 JLS
REVISED: 9-18-95 10-19-95
FINAL:

EXHIBIT C



ANTICIPATED LEVEE
CROSS SECTION AND PIT SLOPE AND SET-BACK GOALS

NOT TO SCALE

MAXIM TECHNOLOGIES INC

Maxim Technologies • Thomas-Hartig
7031 W. Oakland St.
Chandler, Arizona 85226
Telephone: (602) 961-1169
FAX: (602) 940-0952

REPORT OF IN-PLACE DENSITY

CLIENT: MARICOPA COUNTY FLOOD CONTROL
MCFCD
ATTN LAURENCE SPANULESCU
2801 WEST DURANGO
PHOENIX, AZ 85009

PROJECT: Camelback Levee Construction
Agua Fria River
Phoenix, AZ

PAGE 1 OF 1

PROJECT NO.: 9748497
REPORT NO.: 66680
DATE OF SERVICE: 11/26/97
AUTHORIZATION:
REPORT DATE: 12/03/97

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: PULICE CONSTRUCTION
METHOD OF TEST:
DENSITY: ASTM D1556
MOISTURE: ASTM D4944
SPECIFICATION:
DENSITY: 95% Min.
MOISTURE:

GAUGE:
GAUGE SERIAL NO.:
STANDARD COUNTS
MOISTURE - CURRENT: PREVIOUS:
DENSITY - CURRENT: PREVIOUS:
TEST MODE:
PROBE DEPTH (in.): 0

TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	REFERENCE REPORT NO
Embankment subbase	Silty sand w/41% +#4	8.2	132.8	
	w/50% +#4	2.5	130.3	

REPORT OF TESTS

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
1.	Embankment, @ Sta 22+50 @ 1021' elevation	3.8	8.2	141.0	135.9	132.8	102
2.	Embankment @ Sta 11+60 @ 1021' elevation	3.0	2.5	135.0	131.1	130.3	101

Test results on this report meet project specifications as noted above.

Technician: Linda Collins
Field Technician

Report Distribution:
(1) MARICOPA COUNTY FLOOD CONTROL
(1) Pulice Construction

MAXIM TECHNOLOGIES•THOMAS-HARTIG

Robert M. Anderson, S.E.T.
Laboratory Supervisor

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MAXIM TECHNOLOGIES INC

Maxim Technologies • Thomas-Hartig
7031 W. Oakland St.
Chandler, Arizona 85226
Telephone: (602) 961-1169
FAX: (602) 940-0952

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REPORT OF IN-PLACE DENSITY

CLIENT: MARICOPA COUNTY FLOOD CONTROL
MCFCD
ATTN LAURENCE SPANULESCU
2801 WEST DURANGO
PHOENIX, AZ 85009

PROJECT: Camelback Levee Construction
Agua Fria River
Phoenix, AZ

PAGE 1 OF 1

PROJECT NO.: 9748497
REPORT NO.: 66547
DATE OF SERVICE: 11/20/97
AUTHORIZATION:
REPORT DATE: 11/21/97

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: PULICE CONSTRUCTION
METHOD OF TEST:
DENSITY: ASTM D2922
MOISTURE: ASTM D3017
SPECIFICATION:
DENSITY: 95% Min.
MOISTURE: Opt ±2%

GAUGE:
GAUGE SERIAL NO.:
STANDARD COUNTS
MOISTURE - CURRENT: PREVIOUS:
DENSITY - CURRENT: PREVIOUS:
TEST MODE: Direct Transmission
PROBE DEPTH (in.): 6

TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	REFERENCE REPORT NO
Embankment fill	Native w/38% +#4	11.1	124.5	

REPORT OF TESTS

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
1.	Sta 41+00 on centerline @ 2.4' below finish subgrade	9.3	11.1	136.7	125.1	124.5	100
2.	Sta 34+00 on centerline @ 2' below finish subgrade	9.8	11.1	135.2	123.1	124.5	99

Test results on this report meet project specifications as noted above.

Technician: Wesley Straight
Sr Engineering Technician

Report Distribution:
(1) MARICOPA COUNTY FLOOD CONTROL
(1) Pulice Construction

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Laboratory Supervisor

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NOV 25 1997

REPORT OF IN-PLACE DENSITY

CLIENT: MARICOPA COUNTY FLOOD CONTROL
MCFCD
ATTN LAURENCE SPANULESCU
2801 WEST DURANGO
PHOENIX, AZ 85009

PROJECT: Camelback Levee Construction
Agua Fria River
Phoenix, AZ

PROJECT NO.: 9748497
REPORT NO.: 66510
DATE OF SERVICE: 11/19/97
AUTHORIZATION:
REPORT DATE: 11/20/97

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: PULICE CONSTRUCTION
METHOD OF TEST:
DENSITY: ASTM D2922
MOISTURE: ASTM D3017
SPECIFICATION:
DENSITY: 95% Min.
MOISTURE: Opt ±2%

GAUGE:
GAUGE SERIAL NO.:
STANDARD COUNTS
MOISTURE - CURRENT: PREVIOUS:
DENSITY - CURRENT: PREVIOUS:
TEST MODE: Direct Transmission
PROBE DEPTH (in.): 6

TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	REFERENCE REPORT NO
Embankment fill	Native w/30% +#4	11.1	124.5	
	Native w/20% +#4	11.4	121.3	

REPORT OF TESTS

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
1.	Sta 33+00 on centerline @ 3.7' below finish subgrade	7.3	11.1	132.8	123.8	124.5	99
2.	Sta 39+00 on centerline @ 5' below finish subgrade	6.3	11.1	128.6	121.0	124.5	97
3.	Sta 19+00 on centerline @ 2.8' below finish subgrade	10.4	11.4	134.1	121.5	121.3	100
4.	Sta 26+00 on centerline @ 4.1' below finish subgrade	9.8	11.4	134.1	122.1	121.3	101

Report Of Tests Continued On Page 2

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MARICOPA COUNTY FLOOD CONTROL
PROJECT NO. 9748497
DATE OF SERVICE: 11/19/97

REPORT NO. 66510

REPORT OF TESTS (Continued)

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
5.	Sta 39+00 on centerline @ 3.7' below finish subgrade	10.0	11.1	135.1	122.8	124.5	99
6.	Sta 31+00 on centerline @ 3' below finish subgrade	11.0	11.1	136.7	123.2	124.5	99
7.	Sta 22+00 on centerline @ 1.8' below finish subgrade	8.6	11.4	128.8	118.6	121.3	98
8.	Sta 27+00 on centerline @ 2.2' below finish subgrade	10.6	11.4	129.9	117.4	121.3	97

Test results on this report meet project specifications as noted on page 1.

Technician: Wesley Straight
Sr Engineering Technician

Report Distribution:
(1) MARICOPA COUNTY FLOOD CONTROL
(1) Pulice Construction

MAXIM TECHNOLOGIES•THOMAS-HARTIG

Robert M. Anderson

Robert M. Anderson, S.E.T.
Laboratory Supervisor

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Chandler, Arizona 85226
Telephone: (602) 961-1169
FAX: (602) 940-0952

REPORT OF IN-PLACE DENSITY

CLIENT: MARICOPA COUNTY FLOOD CONTROL
MCFCD
ATTN LAURENCE SPANULESCU
2801 WEST DURANGO
PHOENIX, AZ 85009

PROJECT: Camelback Levee Construction
Agua Fria River
Phoenix, AZ

PROJECT NO.: 9748497
REPORT NO.: 66129
DATE OF SERVICE: 11/04/97
AUTHORIZATION:
REPORT DATE: 11/07/97

SERVICES:

PROJECT DATA

CONTRACTOR: PULICE CONSTRUCTION
METHOD OF TEST:
DENSITY: ASTM D2922
MOISTURE: ASTM D3017
SPECIFICATION:
DENSITY: See remarks
MOISTURE: Opt±2%

GAUGE:
GAUGE SERIAL NO.:
STANDARD COUNTS
MOISTURE - CURRENT: PREVIOUS:
DENSITY - CURRENT: PREVIOUS:
TEST MODE: Direct Transmission
PROBE DEPTH (in.): 6

TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	REFERENCE REPORT NO
Embankment fill/ Foundation Overex/ Bkfl.	Native w/20% +#4	11.4	121.3	

REPORT OF TESTS

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
1.	Turn around pad, Sta 45+00, 20'E of centerline @ 1027' elevation	9.6	11.4	134.2	122.5	121.3	101
2.	Berm, Sta 33+50 on centerline @ 1015' elevation	9.3	11.4	135.8	124.2	121.3	102
3.	Berm, Sta 38+20, 6'W of centerline @ 1019' elevation	10.0	11.4	132.5	120.5	121.3	99
4.	Berm, Sta 26+40, 4'W of centerline @ 1018' elevation	8.2	11.4	134.0	123.8	121.3	102

Report Of Tests Continued On Page 2

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MARICOPA COUNTY FLOOD CONTROL
PROJECT NO. 9748497
DATE OF SERVICE: 11/04/97

REPORT OF TESTS (Continued)

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
5.	Berm, Sta 30+00, 4'E of centerline @ 1018'elevation	9.8	11.4	133.7	121.8	121.3	100

Test results on this report meet project specifications as noted on page 1.

ADDITIONAL COMMENTS:

Test # 1- Specification 95% Min. required.
Remaining test specification 90% Min. required.

Technician: Wesley Straight
Sr Engineering Technician

Report Distribution:
(1) MARICOPA COUNTY FLOOD CONTROL
(1) Pulice Construction

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Sherri Koshiol for RMA
Robert M. Anderson, S.E.T.
Laboratory Supervisor

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REMARKS

REPORT OF IN-PLACE DENSITY

CLIENT: MARICOPA COUNTY FLOOD CONTROL
MCFCD
ATTN LAURENCE SPANULESCU
2801 WEST DURANGO
PHOENIX, AZ 85009

PROJECT: Camelback Levee Construction
Agua Fria River
Phoenix, AZ

PAGE 1 OF 1

PROJECT NO.: 9748497
REPORT NO.: 66097
DATE OF SERVICE: 11/03/97
AUTHORIZATION:
REPORT DATE: 11/06/97

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: PULICE CONSTRUCTION
METHOD OF TEST:
DENSITY: ASTM D2922
MOISTURE: ASTM D3017
SPECIFICATION:
DENSITY: 95% Min.
MOISTURE: Opt ±2%

GAUGE:
GAUGE SERIAL NO.:
STANDARD COUNTS
MOISTURE - CURRENT: PREVIOUS:
DENSITY - CURRENT: PREVIOUS:
TEST MODE: Direct Transmission
PROBE DEPTH (in.): 6

TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	REFERENCE REPORT NO
Embankment fill	Native w/45% +#4	9.3	130.7	

REPORT OF TESTS

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
1.	Turn around pad, Sta 45+00 on centerline @ 1024.2' elevation	7.4	9.3	143.5	133.6	130.7	102
2.	Turn around pad, Sta 45+00 on centerline @ 1026' elevation	6.6	9.3	142.2	133.4	130.7	102
3.	Turn around pad, Sta 44+80 on centerline @ 1020.9' elevation	7.6	9.3	142.1	132.1	130.7	101
4.	Turn around pad, Sta 44+70 , 3' W of centerline @ 1022.3' elevation	7.7	9.3	140.7	130.7	130.7	100

Test results on this report meet project specifications as noted above.

Technician: Wesley Straight
Sr Engineering Technician

Report Distribution:
(1) MARICOPA COUNTY FLOOD CONTROL
(1) Pulice Construction

MAXIM TECHNOLOGIES•THOMAS-HARTIG

Sherri Kostniel for RMA

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Telephone: (602) 961-1169
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REPORT OF IN-PLACE DENSITY

CLIENT: MARICOPA COUNTY FLOOD CONTROL
MCFCD
ATTN LAURENCE SPANULESCU
2801 WEST DURANGO
PHOENIX, AZ 85009

PROJECT: Camelback Levee Construction
Agua Fria River
Phoenix, AZ

PROJECT NO.: 9748497
REPORT NO.: 66018
DATE OF SERVICE: 10/30/97
AUTHORIZATION:
REPORT DATE: 11/04/97

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: PULICE CONSTRUCTION
METHOD OF TEST:
DENSITY: ASTM D2922
MOISTURE: ASTM D3017
SPECIFICATION:
DENSITY: 90% Min.
MOISTURE: Opt ±2%

GAUGE:
GAUGE SERIAL NO.:
STANDARD COUNTS
MOISTURE - CURRENT: PREVIOUS:
DENSITY - CURRENT: PREVIOUS:
TEST MODE: Direct Transmission
PROBE DEPTH (in.): 6

TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	REFERENCE REPORT NO
Overex/backfill	Native w/20% +#4	11.4	121.3	

REPORT OF TESTS

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
1.	Stat 19+25, 8' E of centerline @ 1012' elevation	9.6	11.4	127.3	116.1	121.3	96
2.	Sta 25+00, centerline @ 1009' elevation	9.0	11.4	131.4	120.5	121.3	99
3.	Sta 29+00, 7'W of centerline @ 1008' elevation	9.9	11.4	131.5	119.7	121.3	99
4.	Sta 33+00, centerline @ 1013' elevation	9.6	11.4	128.4	117.1	121.3	97

Report Of Tests Continued On Page 2

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MARICOPA COUNTY FLOOD CONTROL
PROJECT NO. 9748497
DATE OF SERVICE: 10/30/97

REPORT OF TESTS (Continued)

TEST NO	LOCATION	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (Pcf)	DENSITY (% max)
5.	Sta 35+00, 3'E of centerline @ 1012.4' elevation	10.2	11.4	128.7	116.8	121.3	96

Test results on this report meet project specifications as noted on page 1.

Technician: Wesley Straight
Sr Engineering Technician

Report Distribution:
(1) MARICOPA COUNTY FLOOD CONTROL
(1) Pulice Construction

MAXIM TECHNOLOGIES•THOMAS-HARTIG

Sherri Koshiol for RMA

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EXHIBIT 1

ATTENTION

The following forms are a digital version of the Application/Certification forms developed by the Federal Emergency Management Agency for requesting revisions to the National Flood Insurance Program maps. The format contained on following forms matches that of FEMA Form 81-89 Series, dated October 1994; with OMB Burden Number 3067-0148, which expires July 31, 1997.

Since the forms have been reviewed and approved by the Office of Management and Budget the digital version must not be altered in any manner.

After completing the form please copy to a 3.5" or 5.25" diskette. The diskette should be included with your request along with a hardcopy of the completed forms. Please note that there are places for signatures on the hardcopy of this page and all the forms.

I certify that the attached forms have not been altered in any manner.

Signature

NOVEMBER 19, 1997

Date

FEDERAL EMERGENCY MANAGEMENT AGENCY

MITIGATION DIRECTORATE

HAZARD IDENTIFICATION & RISK ASSESSMENT DIVISION

REVISIONS TO

NATIONAL FLOOD INSURANCE PROGRAM MAPS

Application/Certification Forms and Instructions

for

Conditional Letters of Map Revision,

Letters of Map Revision, and

Physical Map Revisions

MT-2 FEMA Form 81-89 SERIES, OCT. 1994

FEDERAL EMERGENCY MANAGEMENT AGENCY **REVISION REQUESTOR AND COMMUNITY OFFICIAL FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1997	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2.13 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.

1. OVERVIEW

1. The basis for this revision request is (are): (check all that apply)
   - X Physical change
     - __ Existing
     - X Proposed
   - __ Improved methodology
   - __ Improved data
   - X Floodway revision
   - __ Other
     - Explain
2. Flooding Source: **Agua Fria River**
3. Project Name/Identifier: **Agua Fria River Floodplain Delineation Re-study**
4. FEMA zone designations affected: **AE**
   (example: A, AH, AO, A1-A30, A99, AE, V, V1-30, VE, B, C, D, X)
5. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	County	State	Map No.	Panel No.	Effective Date
EX:480301 480287	Katy, City Harris County	Harris, Fort Bend, Harris	TX TX	480301 48201C	0005D 0220G	02/08/83 09/28/90
040037	**Unincorporated**	**Maricopa**	**AZ**	**04013C**	**1615H**	**08/05/97**
					1620F	**08/05/97**
040051	**Phoenix, City**	**Maricopa**	**AZ**	**04013C**	**2080G**	**08/05/97**
					2085E	**08/05/97**

6. The area of revision encompasses the following types of flooding, structures, and associated disciplines: *(check all that apply)*

Types of Flooding	Structures	Disciplines*
X Riverine	__ Channelization	X Water Resources
__ Coastal	X Levee/Floodwall	__ Hydrology
__ Alluvial Fan	__ Bridge/Culvert	X Hydraulics
__ Shallow Flooding *(e.g. Zones AO and AH)*	__ Dam	__ Sediment Transport
__ Lakes	__ Coastal	__ Interior Drainage
	__ Fill	__ Structural
	__ Pump Station	X Geotechnical
Affected by wind/wave action	__ None	__ Land Surveying
__ Yes	__ Channel Relocation	__ Other (*describe*)
__ No	__ Excavation	
	__ Other (describe)	
__ Other (describe)		

***Attach completed "Certification by Registered Professional Engineer and/or Land Surveyor" Form for each discipline checked. (Form 2)**

2. FLOODWAY INFORMATION

7. Does the affected flooding source have a floodway designated on the effective FIRM or FBFM? X Yes __ No
8. Does the revised floodway delineation differ from that shown on the effective FIRM or FBFM? X Yes __ No
   If yes, give reason: **Proposed levee construction**

Attach copy of either a public notice distributed by the community stating the community's intent to revise the floodway or a statement by the community that it has notified all affected property owners and affected adjacent jurisdictions.

9. Does the State have jurisdiction over the floodway or its adoption by communities participating in the NFIP?
__Yes _X_ No

If yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

3. PROPOSED ENCROACHMENTS

10. With floodways:

1A. Does the revision request involve fill, new construction, substantial improvement, or other development in the floodway? __ Yes _X_ No

1B. If yes, does the development cause the 100-year water-surface elevation to increase at any location by more than 0.000 feet? __ Yes __ No

11. Without floodways:

2A. Does the revision request involve fill, new construction, substantial improvement, or other development in the 100-year floodplain? __ Yes __ No

2B. If yes, does the cumulative effect of all development that has occurred since the effective SFHA was originally identified cause the 100-year water-surface elevation to increase at any location by more than one foot (*or other surcharge limit if community or state has adopted more stringent criteria)?*
__ Yes __ No

If the answer to either Items 1B or 2B is yes, please provide documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

4. REVISION REQUESTOR ACKNOWLEDGMENT

12. Having read NFIP Regulations, 44 CFR Ch. I, parts 59, 60, 61, and 72, I believe that the proposed revision _X_ is __ is not in compliance with the requirements of the aforementioned NFIP Regulations.

5. COMMUNITY OFFICIAL ACKNOWLEDGMENT

13. Was this revision request reviewed by the community for compliance with the community's adopted floodplain management ordinances? _X_ Yes __ No

14. Does this revision request have the endorsement of the community? _X_ Yes __ No

If no to either of the above questions, please explain:

Please note that community acknowledgment and/or notification is required for all requests as outlined in Section 65.4 (b) of the NFIP Regulations.

6. OPERATION AND MAINTENANCE

15. Does the physical change involve a flood control structure (e.g., levees, floodwalls, channelization, basins, dams)? _X_ Yes __ No

If yes, please provide the following information for each of the new flood control structures:

A. Inspection of the flood control project will be conducted periodically by **Maricopa County Flood Control District** (entity) with a maximum interval of **12** months between inspections.

B. Based on the results of scheduled periodic inspections, appropriate maintenance of the flood control facilities will be conducted by **Maricopa County Flood Control District** (entity) to ensure the integrity and degree of flood protection of the structure.

C. A formal plan of operation, including documentation of the flood warning system, specific actions and assignments of responsibility by individual name or title, and provisions for testing the plan at intervals not less than one year, **X** has __ has not been prepared for the flood control structure.

D. The community is willing to assume responsibility for __ performing X overseeing compliance with the maintenance and operation plans of the **Camelback Ranch Levee - South**
(Name)
flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Attach operation and maintenance plans

7. REQUESTED RESPONSE FROM FEMA

16. After examining the pertinent NFIP regulations and reviewing the document entitled "Appeals, Revisions, and Amendments to Flood Insurance Maps: A Guide for Community Officials," dated January 1990, this request is for a:

X a. CLOMR — A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision *(LOMR or PMR)*, or proposed hydrology changes *(see 44 CFR Ch. I, Parts 60, 65, and 72).*

____b. LOMR — A letter from FEMA officially revising the current NFIP map to show changes to floodplains, floodways, or flood elevations. LOMRs typically depict decreased flood hazards. *(See 44 CFR Ch. I Parts 60 and 65.)*

____c. PMR — A reprinted NFIP map incorporating changes to floodplains, floodways, or flood elevations. Because of the time and cost involved to change, reprint, and redistribute an NFIP map, a PMR is usually processed when a revision reflects increased flood hazards or large-scope changes. *(See 44 CFR Ch. I, Parts 60 and 65.)*

____d. Other: — Describe:

8. FORMS INCLUDED

17. Form 2 entitled, "Certification by Registered Professional Engineer and/or Land Surveyor" must be submitted.

The following forms should be included with this request if (check the included forms):

• Hydrologic analysis for flooding source differs from that used to develop FIRM	__ Hydrologic Analysis Form (Form 3)
• Hydraulic analysis for riverine flooding differs from that used to develop FIRM	X Riverine Hydraulic Analysis Form (Form 4)
• The request is based on updated topographic information or a revised floodplain or floodway delineation is requested	X Riverine/Coastal Mapping Form (Form 5)
• The request involves any type of channel modification	__ Channelization Form (Form 6)
• The request involves new bridge or culvert or revised analysis of an existing bridge or culvert	__ Bridge/Culvert Form (Form 7)
• The request involves a new revised levee/floodwall system	X Levee/Floodwall System Analysis Form (Form 8)
• The request involves analysis of coastal flooding	__ Coastal Analysis Form (Form 9)
• The request involves coastal structures credited as providing protection from the 100-year flood	__ Coastal Structures (Form 10)
• The request involves an existing, proposed, or modified Dam	__ Dam Form (Form 11)
• The request involves structures credited as providing protection from the 100-year flood on an alluvial fan	__ Alluvial Fan Flooding Form (Form 12)

9. INITIAL REVIEW FEE

18. The minimum initial review fee for the appropriate request category has been included. X Yes __ No
Initial fee amount: $ 3,700.00

Or

19. This request is for a project that is for public benefit and is primarily intended for flood loss reduction to insurable structures in identified flood hazard areas which were in existence prior to the commencement of construction of the flood control project. __ Yes __ No

or

20. This request is to correct map errors, to include the effects of natural changes within the areas of special flood hazards, or solely to provide more detailed data. __ Yes __ No

Note: I understand that my signature indicates that all information submitted in support of this request is correct.

Signature of Revision Requestor

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

Printed Name and Title of Revision Requestor

Flood Control District Of Maricopa County, Arizona

Company Name

(602) 506-4700

Telephone No. Date

Note: Signature indicates that the community understands, from the revision requestor, the impacts of the revision on flooding conditions in the community.

Signature of Community Official

Raymond U. Acuña, P.E.
Floodplain Manager

Printed Name and Title of Community Official

City of Phoenix, Arizona

Community Name

Nov. 5, 1997

Date

Does this request impact any other communities: __ Yes X No

If yes, attach letters from all affected jurisdictions acknowledging revision request and approving changes to floodway, if applicable.

Note: Although a photograph of physical changes is not required, it may be helpful for FEMA's review.

EXHIBIT 2

Public Notice

PUBLIC NOTICE
YOUR RIGHT TO KNOW
ANNOUNCEMENT OF
FLOOD HAZARD STUDY

The Flood Control District, ur the authority of the N al Flood Insurance Act o 8 (P.L. 90448), as a ed, and the Flood Disaster Protection Act of 1973 (P.L. 93234), is funding a detailed re-study of Flood Hazard for the Agua Fria River from the outlet of New Waddell Dam to the confluence of Gila River. The study is being performed for Flood Control District by Coe and Van Loo Consultants, Inc. of Phoenix.

This study will examine and evaluate the flood hazard areas in the communities to determine the flood elevation for this area. Those elevations will then be used o determine the flood nsurance rates used by the Federal Emergency Management Agency FEMA). The re-study is to evaluate the effect of the educed flows in the Agua Fria River, due to the recent ompletion of the New Waddell Dam.

This announcement is ntended to inform all nterested persons and ommunities of the ommencement of this study o that they may have an pportunity to bring any elevant technical information the attention of FCDMC/ EMA, so that they could be o red during the course f study. Your comments e addressed to Mr. umah or Mr. Pedro alza, hydrologists at the lood Control District of aricopa County.

Published in West Valley iew and West Valley usiness on October 11, 995.

EST ALLEY BUSINESS

Dysart Rd. Avondale, Arizona 85323 (602) 932-5555

AFFIDAVIT OF PUBLICATION

State of Arizona

County of Maricopa

I, Elliott Freireich, publisher of West Valley View and West Valley Business, newspapers of general circulation in Avondale, Buckeye, Goodyear, Litchfield Park and Tolleson, Arizona, attest that the legal advertisement for

Coe & Van Loo Consultants, Inc.

was published on Oct. 11, 1995

Public Notice Your Right To Know

E Freireich
Elliott Freireich

Oct. 11, 1995
Date

Sworn and Subscribed to before me,

this 11th Day of Oct., 1995

Terry L. Galus
Notary Public

My Commission Expires

OFFICIAL SEAL
TERRY L. GALUS
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires March 14, 1999

PUBLIC NOTICE
YOUR RIGHT TO KNOW
ANNOUNCEMENT OF FLOOD HAZARD STUDY

The Flood Control District, under the authority of the National Flood Insurance Act of 1968 (P.L. 90448), as amended, and the Flood Control Disaster Protection Act of 1973 (P.L. 234), is funding a detailed re-study of Flood Hazard for the Agua Fria River from the outlet of New Waddell Dam to the confluence of Gila River. The study is being performed for Flood Control District by Coe and Van Loo Consultants, Inc. of Phoenix.

This study will examine and evaluate the flood hazard areas in the communities to determine the flood elevation for this area. Those elevations will then be used to determine the flood insurance rates used by the Federal Emergency Management Agency (FEMA). The re-study is to evaluate the effect of the reduced flows in the Agua Fria River, due to the recent completion of the New Waddell Dam.

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 FCDMC/FEMA, so that they could be considered during the course of the study. Your comments should be addressed to Mr. Kofi Awumah or Mr. Pedro Calza, hydrologists at the Flood Control District of Maricopa County.

Published: Arizona Republic, October 6, 1995.

AFFIDAVIT OF PUBLICATION

The Arizona Republic/The Phoenix Gazette

STATE OF ARIZONA
COUNTY OF MARICOPA } SS.

TOM BIANCO, being first duly sworn, upon oath deposes and says: That he is the assistant 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 The Phoenix Gazette, 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
~~XXXXXXXXXXXXXX~~

OCTOBER 6, 1995

Sworn to before me this

16TH day of

OCTOBER A.D. 19 95

OFFICIAL SEAL
MARY LEE BOOHER
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires March 17, 1999

Notary Public

Daily News-Sun

P.O. Box 1779, Sun City, Arizona 85372 • 10102 Santa Fe Drive
Telephone: 602-977-8351 Fax: 602-876-3698

.OE & VAN LOO CONSULTANTS
.TTN ALITA CORCOS
·550 N 12TH STREET
'HOENIX AZ 85014

2932

AFFIDAVIT OF PUBLICATION

TATE OF ARIZONA,
OUNTY OF MARICOPA SS.

, CHERYL J. WILSON,
LEGAL MANAGER OF NEWS-SUN, INC.
EWSPAPER OF GENERAL CIRCULATION,
UBLISHED IN SUN CITY, COUNTY OF
ARICOPA, STATE OF ARIZONA, DO
OLEMNLY SWEAR THAT A COPY OF THE
O CE, AS PER CLIPPING ATTACHED,
PUBLISHED IN THE REGULAR AND
N RE EDITION OF THE SAID NEWSPAPER
ND NOT IN ANY SUPPLEMENT. THE
ELOW LISTED ADVERTISEMENT APPEARED
N THE FOLLOWING ISSUES.

Cheryl J. Wilson

EGAL MANAGER
WORN TO BEFORE ME THIS 10
AY OF October, 1995.

OTARY PUBLIC
Y COMMISSION EXPIRES

OFFICIAL SEAL
SHIRLEY ANN G. OURE
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Exp. Aug. 27, 1997

PUBLIC NOTICE
YOUR RIGHT TO KNOW
ANNOUNCEMENT OF FLOOD HAZARD STUDY

The Flood Control District, under the authority of the National Flood Insurance Act of 1968 (P.L. 90 448), as amended, and the Flood Disaster Protection Act of 1973 (P.L. 93 234), is funding a detailed re-study of Flood Hazard for the Agua Fria River from the outlet of New Waddell Dam to the confluence of Gila River. The study is being performed for Flood Control District by Coe and Van Loo Consultants, Inc. of Phoenix.

This study will examine and evaluate the flood hazard areas in the communities to determine the flood elevation for this area. Those elevations will then be used to determine the flood insurance rates used by the Federal Emergency Management Agency (FEMA). The re-study is to evaluate the effect of the reduced flows in the Agua Fria River, due to the recent completion of the New Waddell Dam.

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 FCDMC/FEMA, so that they could be considered during the course of this study. Your comments should be addressed to Mr. Kofi Awumah or Mr. Pedro Calza, hydrologists at the Flood Control District of Maricopa County.

Publish: Daily News-Sun
October 10, 1995

UBLICATION	EXPIRE DATE	AD CAPTION	# TIMES	AMOUNT
NEWS-SUN	10/10/95	FLOOD HAZARD	1	34.65
'10/95				

EXHIBIT 3

FEDERAL EMERGENCY MANAGEMENT AGENCY **CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1997	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 0.23 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.

1. This certification is in accordance with 44 CFR Ch. I, Section 65.2

2. I am licensed with an expertise in: Hydrology, Hydraulics, Sediment Transport, Drainage [example: water resources (*hydrology, hydraulics, sediment transport, interior drainage*)* structural, geotechnical, land surveying.]

3. I have 22 years experience in the expertise listed above.

4. I have __ prepared X reviewed the attached supporting data and analyses related to my expertise.

5. I __ have X have not visited and physically viewed the project.

6. In my opinion, the following analyses and/or designs, is/are being certified:
   Hydraulic analysis between Sections 8.105 and 9.177.

7. Based upon the following review, the modifications in place have been constructed in general accordance with plans and specifications.

   Basis for above statement: (check all that apply)

   a. __ Viewed all phases of actual construction.
   b. __ Compared plans and specifications with as-built survey information.
   c. __ Examined plans and specifications and compared with completed projects.
   d. __ Other:

8. All information submitted in support of this request is 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: Bart S. Bergendahl

Title: Project Manager

Registration No.: 28660 Expiration Date: 3-31-98

State: Arizona

Type of License: Civil Engineer

Bart S. Bergendahl
Signature

10-8-97
Date

Registered Professional Engineer (Civil)
CERTIFICATE NO. 28660
BART S. BERGENDAHL
Date Signed.....
ARIZONA, U.S.A.

Seal
(Optional)

*Specify Subdiscipline

Note: Insert not applicable (N/A) when statement does not apply.

FEDERAL EMERGENCY MANAGEMENT AGENCY **CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1997	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 0.23 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.

1. This certification is in accordance with 44 CFR Ch. I, Section 65.2

2. I am licensed with an expertise in: Geotechnical Engineering
[example: water resources (*hydrology, hydraulics, sediment transport, interior drainage*)* structural, geotechnical, land surveying.]

3. I have 25 years experience in the expertise listed above.

4. I have X prepared __ reviewed the attached supporting data and analyses related to my expertise.

5. I X have __ have not visited and physically viewed the project.

6. In my opinion, the following analyses and/or designs, is/are being certified:

7. Based upon the following review, the modifications in place have been constructed in general accordance with plans and specifications.

   Basis for above statement: (check all that apply)

   a. __ Viewed all phases of actual construction.
   b. __ Compared plans and specifications with as-built survey information.
   c. __ Examined plans and specifications and compared with completed projects.
   d. X Other: Not Built Yet

8. All information submitted in support of this request is 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: David P. Hayes, P.E.

Title: Executive Vice President

Registration No.: 22719 Expiration Date: 3/31/00

State: Arizona

Type of License:

Signature

October 21, 1997
Date

Registered Professional Engineer (Civil) CERTIFICATE NO. 22719 David Preston Hayes Date Signed ..... Seal ARIZONA, U.S.A. (Optional)

*Specify Subdiscipline

Note: Insert not applicable (N/A) when statement does not apply.

FEDERAL EMERGENCY MANAGEMENT AGENCY **RIVERINE HYDRAULIC ANALYSIS FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1997	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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.

Community Name: **City of Phoenix, Maricopa County Unincorporated Areas**

Flooding Source: **Agua Fria River**
(One form for each flooding source)

Project Name/Identifier: **Agua Fria River Floodplain Delineation Re-study**

1. REACH TO BE REVISED

Downstream Limit: **Cross section 8.030**

Upstream Limit: **Cross section 9.266**

2. EFFECTIVE FIS

__ Not studied

__ Studied by approximate methods

Downstream limit of study:
Upstream limit of study:

X Studied by detailed methods

Downstream limit of study: **Cross section 0.160**
Upstream limit of study: **Cross section 33.820**

X Floodway delineated

Downstream limit of Floodway: **Cross section 0.160**
Upstream limit of Floodway: **Cross section 33.820**

3. HYDRAULIC ANALYSIS

Why is the hydraulic analysis different from that used to develop the FIRM? (*Check all that apply*)

__ Not studied in FIS

__ Improved hydrologic data/analysis. Explain:

__ Improved hydraulic analysis. Explain:

X Flood control structure. Explain: **Proposed construction of a levee on the left over bank area.**

__ Other. Explain:

3. RIVERINE HYDRAULIC ANALYSIS FORM
Models Submitted

For areas which have detailed flooding:
Full input and output listings along with files on diskette (*if available*) for each of the models listed below (items 1, 2, 3, 4, and 5) and summary of the source of input parameters used in the models must be provided. The summary must include a complete 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.

For areas which do not have detailed flooding:
Only the 100-year 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 below must be submitted.

	Natural	Floodway
1. Duplicate Effective Model 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 requestor's equipment to produce the duplicate effective model. This is required to assure that the effective model input data has been transferred correctly to the requestor'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.	X	X
2. Corrected Effective Model 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 corrected 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 The duplicate effective or corrected 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 or duplicate effective model.	_	_
4. Revised or Post-Project Conditions Model The existing or pre-project conditions model (*or duplicate effective 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 proposed project this model should reflect proposed conditions.	X	X
5. Other: Please attach a sheet describing all other models submitted.	_	_

6. Hydraulic Analyses (only if hydraulic models are not developed)
Please attach all calculations for the existing or pre-project conditions and the revised or post-project conditions.
Proceed to Form 5 "Riverine/Coastal Mapping Form."

4. MODEL PARAMETERS (from model used to revise 100-year water-surface elevation)

1. Discharges:	Upstream Limit	Downstream Limit
10-year.....		
50-year.....		
100-year.....	**54,400 cfs.**	**54,400 cfs.**
500-year.....		
Attach diagram showing changes in 100-year discharge		

2. Explain how the starting water-surface elevations were determined: **The revised reach extends from cross section 8.030 to cross section 9.266. However, the revised HEC-2 model starts further downstream at cross section 6.430. The starting water surface elevation (989.0') was selected from the duplicate effective model at cross section 6.430.**

3. Give range of friction loss coefficients (Manning's "n") Channel **0.030 – 0.035**
Overbanks....**0.040 – 0.050**

If friction loss coefficients are different anywhere along the revised reach from those used to develop the FIRM, give location, value used in the effective FIS, and revised values and an explanation as to how the revised values were determined.

Location	FIS	Revised

Explain:

4. Describe how the cross section geometry data were determined (*e.g., field survey, topographic map, taken from previous study*) and list cross sections that were added.

Recent Topographic Mapping and detailed field survey data

5. Were natural channel banks selected as the location of the left and right channel banks in this model?

X Yes ___ No If no, explain why not:

4. MODEL PARAMETERS (Cont'd)

6. Explain how reach lengths for channel and overbanks were determined:

Measured from topographic mapping and survey information

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

1. Do the results indicate:	
a. Water-surface elevations higher than end points of cross sections?	X Yes __ No
b. Supercritical depth?	__ Yes X No
c. Critical depth?	__ Yes X No
d. Other unique situations.....	__ Yes X No
If yes to any of the above, attach an explanation that discusses the situation and how it is presented on the profiles, tables, and maps.	
2. What is the maximum change in energy gradient between cross sections?:	2.88′
Specify location	between 8.646 & 8.768
3. What is the distance between the cross sections in 2 above?:	641.67′
4. What is the maximum distance between cross sections?	668.82′
Specify location	between 8.198 & 8.325
5. Floodway determination	
a. What is the maximum surcharge allowed by the community or State?.....	1.0 foot
b. What is the maximum surcharge for the revised conditions?	0.34 foot
Specify location	cross section 8.768
c. What is the maximum velocity?	8.80 fps
Specify location	cross section 8.768
d. Are there any negative surcharge values at any cross section?	__ Yes X No
If yes, the floodway may need to be widened. If it is not widened, please explain and indicate the maximum negative surcharge.	

Explain:

5. RESULTS (Cont'd)

6. Is the discharge value used to determine the floodway anywhere different from that used to determine the natural 100-year flood elevations? ..... __ Yes X No

   If Yes, explain:

7. Do 100-year water-surface elevations increase at any location? ..... X Yes __ No

   If yes, please attach a list of the locations where the increases occur, state whether or not the increases are located on the requestor's property, and provide an explanation of the reason for the increases. *(For example: State if the increase is due to fill placed within the floodway fringe or placed within the currently adopted floodway limits.)*

   The increase in the 100-year water surface elevation ranges from 0.13' to 0.32'. These occur between cross sections 8.875 to 9.266. The magnitude of the increases are insignificant

Please attach a completed comparison table entitled: Water-Surface Elevation Check (See page 6)

6. REVISED FIRM/FBFM AND FLOOD PROFILES

A. The revised water surface elevations tie into those computed by the effective FIS Model (*10-, 50-, 100-, and 500-year*), downstream of the project at cross section **8.030** within **0.0** feet *(vertical)* and upstream of the project at cross section **9.266** within **0.13** feet *(vertical)*.

B. The revised floodway elevations tie into those computed by the effective FIS model, downstream of the project at cross section **8.030** within **0.0** feet *(vertical)* and upstream of the project at cross section **9.266** within **0.0** feet *(vertical)*.

C. Attach profiles, at the same vertical and horizontal scale as the profiles in the effective FIS report, showing stream bed and profiles of all floods studies (without encroachment). Also, label all cross sections, road crossings (including low chord and top-of-road data), culverts, tributaries, corporate limits, and study limits. If channel distance has changed, the stationing should be revised for all profile sheets.

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

Proceed to Riverine/Coastal Mapping Form

FEDERAL EMERGENCY MANAGEMENT AGENCY
WATER-SURFACE ELEVATION CHECK

COMMUNITY NAME	FLOODING SOURCE	PROJECT NAME/IDENTIFIER
City of Phoenix, Maricopa County Unincorporated Areas	**Agua Fria River**	**Agua Fria River Floodplain Delineation Re-study**

	EFFECTIVE			DUPLICATE EFFECTIVE			CORRECTED EFFECTIVE			EXISTING/PRE-PROJECT			REVISED/PROJECT		
SECNO	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]
8.030				1006.19	1006.19	0.00							1006.19	1006.19	0.00
8.105				1007.40	1007.38	-0.02							1007.40	1007.38	-0.02
8.198				1008.29	1008.35	0.06							1008.29	1008.35	0.06
8.325				1010.00	1010.02	0.02							1010.00	1010.02	0.02
8.433				1011.98	1012.09	0.11							1011.98	1012.05	0.07
8.534				1014.38	1015.12	0.74							1014.38	1014.44	0.06
8.646				1015.75	1016.69	0.94							1015.75	1015.95	0.20
8.768				1017.26	1018.12	0.86							1017.22	1017.56	0.34
8.875				1019.52	1020.01	0.49							1019.66	1019.75	0.09
8.992				1021.34	1021.81	0.47							1021.66	1021.71	0.05
9.098				1022.22	1022.61	0.39							1022.48	1022.54	0.06
9.177				1022.82	1023.11	0.29							1023.06	1023.10	0.04
9.191				1022.88	1023.16	0.28							1023.11	1023.15	0.04

COMMENTS:

[1]100-year (natural) water-surface elevation [2]Encroachment (floodway) Water-Surface Elevation [3]Surcharge Value

Include all cross sections in the models between tie-in points. Any interpolated values should be indicated in parentheses.

FEDERAL EMERGENCY MANAGEMENT AGENCY
WATER-SURFACE ELEVATION CHECK

COMMUNITY NAME	FLOODING SOURCE	PROJECT NAME/IDENTIFIER
City of Phoenix, Maricopa County Unincorporated Areas	**Agua Fria River**	**Agua Fria River Floodplain Delineation Re-study**

	EFFECTIVE			DUPLICATE EFFECTIVE			CORRECTED EFFECTIVE			EXISTING/PRE-PROJECT			REVISED/PROJECT		
SECNO	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]
9.198				1022.92	1023.19	0.27							1023.14	1023.18	0.04
9.266				1023.69	1023.81	0.12							1023.82	1023.81	-0.01

COMMENTS:

[1]100-year (natural) water-surface elevation [2]Encroachment (floodway) Water-Surface Elevation [3]Surcharge Value

Include all cross sections in the models between tie-in points. Any interpolated values should be indicated in parentheses.

Explanation

Form 4, Section 5, Question 1a

Cross section extended message appears at cross sections 5.534 (1.18 ft.) and 9.198 (5.54 ft.). A review of the respective GR records indicate existence of low points outside of the effective floodplain boundaries on the right over bank areas.

FEDERAL EMERGENCY MANAGEMENT AGENCY **RIVERINE/COASTAL MAPPING FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1997	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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.

Community Name: **City of Phoenix, Maricopa County Unincorporated Areas**

Flooding Source: **Agua Fria River**

Project Name/Identifier: **Agua Fria River Floodplain Delineation Re-study**

1. MAPPING CHANGES

1. A topographic work map of suitable scale, contour interval, and planimetric definition must be submitted showing (*indicate N/A when not applicable*):

		Included		
A.	Revised approximate 100-year floodplain boundaries (Zone A)	__ Yes	__ No	X N/A
B.	Revised detailed 100- and 500-year floodplain boundaries	X Yes	__ No	__ N/A
C.	Revised 100-year floodway boundaries	X Yes	__ No	__ N/A
D.	Location and alignment of all cross sections used in the revised hydraulic model with stationing control indicated	X Yes	__ No	__ N/A
E.	Stream alignments, road and dam alignments	X Yes	__ No	__ N/A
F.	Current community boundaries	X Yes	__ No	__ N/A
G.	Effective 100- and 500-year floodplain and 100-year floodway boundaries from the FIRM/FBFM reduced or enlarged to the scale of the topographic work map	X Yes	__ No	__ N/A
H.	Tie-ins between the effective and revised 100- and 500-year floodplains and 100-year floodway boundaries	X Yes	__ No	__ N/A
I.	The requestor's property boundaries and community easements	__ Yes	__ No	X N/A
J.	The signed certification of a registered professional engineer	X Yes	__ No	__ N/A
K.	Location and description of reference marks	X Yes	__ No	__ N/A
L.	Vertical datum (example: NGVD, NAVD, etc.)	X Yes	__ No	N/A
M.	Coastal zone designations tie into adjacent areas not being revised	__ Yes	__ No	X N/A
N.	Location and alignment of all coastal transects used to revise the coastal analyses	__ Yes	__ No	X N/A

If any of the items above are marked no or N/A, please explain: **Existing and revised 100-year floodplain boundaries are designated as Zone AE. Revision is entirely within City of Phoenix and Maricopa County Unincorporated Areas; not in coastal zone**

2. What is the source and date of the updated topographic information (*example: orthophoto maps, July 1985; field survey, May 1979, beach profiles, June 1987, etc.*)? **Topographic map prepared by Photogrammetric method, Photogrammetry flight date 2/26/95**

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

a.	Effective FIS	**1" = 200'**	scale	**2'**	Contour interval
b.	Revision Request	**1" = 200'**	scale	**2'**	Contour interval

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

4. Attach an annotated FIRM and FBFM at the scale of the effective FIRM and FBFM showing the revised 100-year and 500-year floodplains and the 100-year floodway boundaries and how they tie into those shown on the effective FIRM and FBFM downstream and upstream of the revision or adjacent to the area of revision for coastal studies.

Attach additional pages if needed.

1. MAPPING CHANGES (Cont'd)

5. Flood Boundaries and 100-year water surface elevations:

   Has the 100-year floodplain been shifted or increased or the 100-year water surface elevation increased at any location on property other than the requestor's or community's? __ Yes _X_ No

   If yes, please give the location of shift or increase and an explanation for the increase.

   a. Have the affected property owners been notified of this shift or increase and the effect it will have on their property? ..... __ Yes __ No

      If yes, please attach letters from these property owners stating they have no objections to the revised flood boundaries if a LOMR is being requested.

   b. What is the number of insurable structures that will be impacted by this shift or increase? _____

6. Have the floodway boundaries shifted or increased at any location compared to those shown on the effective FBFM or FIRM: ..... __ Yes _X_ No

   If yes, explain:

7. If a V-zone has been designated, has it been delineated to extend landward to the heel of the primary frontal dune? __ Yes __ No

   If no, explain:

8. Manual or digital map submission:

   __ Manual

   _X_ Digital

   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 of submission as possible.

2. EARTH FILL PLACEMENT

1. The fill is: __ Existing __ Proposed

2. Has fill been/will be placed in the regulatory floodway? ..... __ Yes __ No

   If yes, please attach completed Riverine Hydraulic Analysis Form.

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

      If yes, provide certification of fill compaction (item C. above) by the community's NFIP permit official, a registered professional engineer, or an accredited soils engineer.

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.

FEDERAL EMERGENCY MANAGEMENT AGENCY **LEVEE/FLOODWALL SYSTEM ANALYSES FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1997	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.0 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.

Community Name: **City of Phoenix, Maricopa County Unincorporated Areas**

Flooding Source: **Agua Fria River**

Project Name/Identifier: **Agua Fria River Floodplain Delineation Re-study**

REACH TO BE REVISED

Downstream limit: **Cross section 8.030**

Upstream limit: **Cross section 9.266**

This Levee/Floodwall analysis is based on:

__ upgrading of an existing levee/floodwall system
X a newly constructed levee/floodwall system
__ reanalysis of an existing levee/floodwall system

LEVEE/FLOODWALL SYSTEM ELEMENTS

1. Levee elements and locations are:

__ earthen embankment, dike, berm, etc. Station _____ to _____
__ structural floodwall Station _____ to _____
X other (describe): **Soil Cement Levee** Station **8+50** to **46+25.44**

Structural Type:

__ monolithic cast-in place reinforced concrete
__ reinforced concrete masonry block
__ sheet piling
__ other (describe):

2. Has this levee/floodwall system been certified by a Federal agency to provide protection against the 100-year flood event? X Yes __ No

If yes, by which agency? **Corps' of Engineers, Los Angeles District**

If yes, complete only the interior drainage section on pages 7 and 8 of this form and the operation and maintenance section of Revision Requestor and Community Official Form.

LEVEE/FLOODWALL SYSTEM ELEMENTS (Cont'd)

3. Attach certified drawings containing the following information (indicate drawing sheet numbers):

   a. Plan of the levee embankment and floodwall structures. Sheet Numbers 9, 10

   b. A profile of the levee/floodwall system showing the 100-year water-surface elevation, levee and/or wall crest and foundation, and closure locations for the total levee system. Sheet Numbers 9, 10

   c. A profile of the 100-year water-surface elevation, closure opening outlet and inlet invert elevations, type and size of opening, and kind of closure device. Sheet Numbers 9, 10

   d. A layout detail for the embankment protection measures. Sheet Numbers 3-6

   e. Location, layout, and size and shape of the levee embankment features, foundation treatment, floodwall structure, closure structures, and pump stations. Sheet Numbers 18-32

FREEBOARD

1. The minimum freeboard provided above the 100-year water-surface elevation is:

   Riverine

   3.0 feet or more at the downstream end and throughout — X Yes __ No
   3.5 feet or more at the upstream end — X Yes __ No
   4.0 feet immediately upstream of all structures and constrictions — X Yes __ No

   Coastal

   1.0 foot above the height of the one percent wave for the 100-year stillwater surge elevation or maximum wave runup (whichever is greater). __ Yes __ No

   2.0 feet above 100-year stillwater surge elevation __ Yes __ No

Please note, occasionally exceptions are made to the minimum freeboard requirement. If an exception is requested, attach documentation addressing Part 65.10(b)(1)(ii) of the National Flood Insurance Program regulations.

If no is answered to any of the above, please explain where and why:

2. Is there an indication from historical records that ice-jamming can effect the 100-year water-surface elevation? __ Yes X No If yes, provide ice-jam analysis profile and evidence that the minimum freeboard discussed above still exists.

3. Tabulate the elevations at critical locations (tabulate values at each levee crest grade change)

Station	Location	100-year Water Surface Elevation	Levee Crest	Freeboard (ft.)
46+25.44	Upper end	1023.11	1027.60	4.49
43+80.24	D/S of 9.177	1022.95 (estimate)	1027.60	4.65
21+04.54	@ 8.768	1017.22	1021.00	3.78
15+52.27	U/S of 8.646	1015.98 (estimate)	1021.00	5.02
10+00.00	@ 8.534	1014.38 (estimate)	1021.00	6.62
8+50.00	Lower end	1413.37 (estimate)	1021.00	7.63

(Extend table on an added sheet as needed and reference)

SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport (including scour and deposition) can affect the 100-year water-surface elevations? __ Yes _X_ No

   B. Based on the conditions (such as geomorphology, vegetative cover, and development of the water shed and stream bed, and bank conditions), is there a potential for debris and sediment transport (including scour and deposition) to affect the 100-year water-surface elevations and/or the freeboard for the levee/floodwall? __ Yes _X_ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment (bed material) load?

   ____ cfs (attach gradation curve)

   Explain method used to estimate the sediment transport and the depth of scour and/or deposition:

   B. Will sediment accumulate anywhere along the levee/floodwall (such as along any bends in the channel? __ Yes __ No

   If yes, what is the minimum freeboard at these locations? Feet

CLOSURES

1. Openings through the levee system:

   __ exist _X_ do not exist

   If openings exist, list all closures:

Channel Station	Left or Right Bank	Opening Type	Highest Elevation for Opening Invert	Type of Closure Device

(Extend table on an added sheet as needed and reference)

Geotechnical and geologic data:

In addition to the required detail analysis reports, data obtained during field and laboratory investigations And used in the design analysis for the following levee system features should be submitted in a tabulated Summary form. (Reference U.S. Army Corps of Engineers EM-1110-2-1906 Form 2086).

EMBANKMENT PROTECTION

1. The maximum levee slope landside is: **1:1**
2. The maximum levee slope floodside is: **1:1**
3. The range of 100-year riverine flood velocities along the levee? **5.16 fps** (min.) to **8.80 fps** (max.)
4. Embankment material is protected by (describe the kind): **Soil Cement**
5. Riprap Design Parameters: (Include references) __ Velocity __ Tractive stress

Reach	Sideslope	Flow Depth	Velocity	Curve or Straight	Stone Riprap			Depth of Toedown
					D_{100}	D_{50}	Thickness	
Sta to								
Sta to								
Sta to								
Sta to								
Sta to								
Sta to								

(Extend table on an added sheet as needed and reference)

6. Has a bedding/filter analysis and design been included? __ Yes **X** No

Describe the analysis used for other kinds of protection used (include copies of the design analysis): **N/A**

Note: Attach engineering analysis to support construction plans.

EMBANKMENT AND FOUNDATION STABILITY

1. Identify locations and describe the basis for selection of critical location for analysis: **Station 41+40.00**

   __ Overall height: Sta 42+00, height 15.44 ft.

   __ Limiting foundation soil strength:

   Sta 42+00 depth 26.44 to 1011

   strength Ø = 41 degrees, c = 0 psf

   __ slope: SS = 1 (h) to 1 (v) (Backslope 3(h) to 1(v)

   (Repeat as needed on an added sheet for additional locations)

2. Specify the embankment stability analyses methodology used (e.g., circular arc, sliding block, infinite slope, etc.): **Most probable failure circle**

3. Summary of stability analysis results:

Case	Loading Conditions	Critical Safety Factor	Criteria (Min.)
I	End of construction		1.3
II	Sudden drawdown		1.0
III	Critical flood stage		1.4
IV	Steady seepage at flood stage		1.4
VI	Earthquake (Case I)		1.0

(Reference: U.S. Army Corps of Engineers EM-1110-2-1913 Table 6-1)

4. Was a seepage analysis for the embankment performed? XX Yes __ No

   Describe methodology used: Flow Net Using LaPlace's Equations

5. Was a seepage analysis for the foundation performed: __ Yes XX No

   Were uplift pressures at the embankment landside toe checked? XX Yes __ No

   Were seepage exit gradients checked for piping potential? XX Yes __ No

6. The duration of 100-year flood hydrograph against the embankment is _____ Hrs.

Note: Attach engineering analysis to support construction plans.

EMBANKMENT AND FOUNDATION STABILITY

1. Describe analysis submittal based on Code:

   __ UBC (1988) or __ Other (specify):

2. Stability analysis submitted provides for:
   __ Overturning __ Sliding; If not, explain:

3. Loading included in the analyses were:

   __ Lateral earth @ P_A = _____ psf; P_p = _____ psf

   __ Surcharge-Slope @ _____, __ surface _____ psf

   __ Wind @ P_w = _____ psf

   __ Seepage (Uplift); _____ __ Earthquake @ P_{eq} = _____ %g

   __ 100-year significant wave height _____ ft.

   __ 100-year significant wave period _____ sec.

4. Summary of Stability Analysis Results: Factors of Safety. Itemize for each range in site layout dimension and loading condition limitation for each respective reach.

Loading Condition	Criteria (Min)		Sta	To	Sta	To
	Overturn	Sliding	Overturn	Sliding	Overturn	Sliding
Dead & Wind	1.5	1.5				
	1.5	1.5				
	1.5	1.5				
	1.3	1.3				

(Ref: FEMA 114 Sept 1986; COE EM 1110-2-2502)

(Note: Extend table on an added sheet as needed and reference)

5. Foundation bearing strength for each soil type:

Bearing Pressure	Sustained Load	Short Term Load
Computed design maximum	psf	psf
Maximum allowable	psf	psf

6. Foundation scour protection __ is, __ is not provided (describe

Note: Attach engineering analysis to support construction plans.

SETTLEMENT

1. Anticipated potential settlement has been determined and incorporated into the specified construction elevations to maintain the established freeboard margin. X Yes __ No

2. The computed range of settlement is 0.03416 ft. to 0.03416 ft.

3. Settlement of the levee crest is determined to be primarily from:

   __ Foundation consolidation
   __ Embankment compression
   X Other (describe): **Overburden pressure of 420.0 psf and a constant pressure of 720.0 psf.**

4. Differential settlement of floodwalls

   X has __ has not been accommodated in the structural design and construction.

Note: Attach engineering analysis to support construction plans.

INTERIOR DRAINAGE

1. Specify size of each interior watershed

   Draining to pressure conduit:
   Draining to ponding area: **DA3 – 236.67 acres, DA4 – 38.91 acres**

2. Relationships Established

   Ponding elevation vs. storage __ Yes X No
   Ponding elevation vs. gravity flow __ Yes X No
   Differential head vs. gravity flow __ Yes X No

3. The river flow duration curve is enclosed __ Yes X No

4. Specify the discharge capacity of the head pressure conduit: **N/A**

5. Which Flooding Conditions Were Analyzed?

   - Gravity flow (Interior Watershed) X Yes __ No
   - Common storm (River Watershed) X Yes __ No
   - Historical ponding probability __ Yes __ No
   - Coastal wave overtopping __ Yes __ No

   If no, explain why:

6. Interior drainage has been analyzed based on joint probability of interior and exterior flooding and the capacities of pumping and outlet facilities to provide the established level of flood protection. __ Yes X No

   If no, explain why: **The south area will be drained through Johnson-Stewart property and discharge into the Agua Fria River behind the Indian School Road transverse dike as a swale.**

7. The rate of seepage through the levee system for the 100-year flood is 0.0 cfs

INTERIOR DRAINAGE (Cont'd)

1. The length of levee system used to drive this seepage rate is _____ ft.

2. Will a pumping plant(s) be used for interior drainage? __ Yes X No

   If yes, include the number of pumping plants: _____
   For each pumping plant, list:

	Plant #1	Plant #2
The number of pumps		
The ponding storage capacity		
The maximum pumping rate		
The maximum pumping head		
The pumping starting elevation		
The pumping stopping elevation		
Is the discharge facility protected?		
Is there a flood warning plan?		
How much time is available between warning and flooding?		

Will the operations be automatic? __ Yes __ No
If the pumps are electric, are there backup power sources? __ Yes __ No

(Reference: U.S. Army Corps of Engineers EM-1110-2-3101, 3102, 3103, 3104, and 3105)

Note: Include a copy of supporting documentation of data and analysis. Provide a map showing the flooded area and maximum ponding elevations for all interior watersheds that result in flooding.

OTHER DESIGN CRITERIA

1. The following items have been addressed as stated:

   Liquefaction __ is X is not a problem
   Hydrocompaction __ is X is not a problem
   Heave differential movement due to soils of high shrink/swell __ is X is not a problem

2. For each of these problems, state the basic facts and corrective action taken:

   If the levee/floodwall is new or enlarged, will the structure adversely impact flood levels and/or flow velocities floodside of the structure? __ Yes X No

Note: Attach supporting documentation

The planned/installed works are in full compliance with NFIP regulations, Section 44 CFR Ch. 1 1.65.10 X Yes __ No

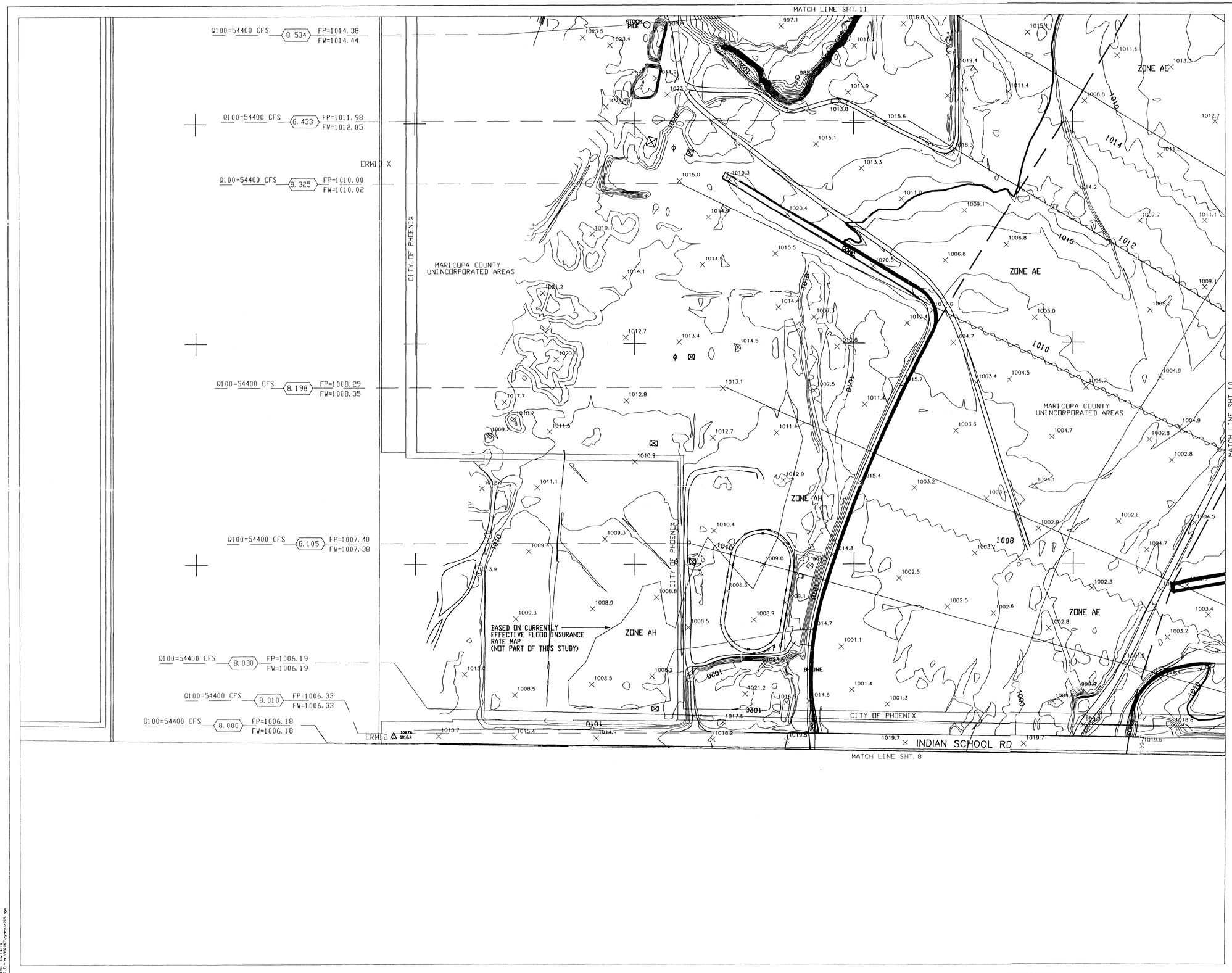
OPERATIONAL PLAN AND CRITERIA

1. he operation plan incorporates all the provisions for closure devices as required in Section 65.10(c)(1), of the NFIP regulations _X_ Yes __ No

2. The operation plan incorporates all the provisions for interior drainage as required in Section 65.10(c)(2), of the NFIP regulations. _X_ Yes __ No

If no to either of the above, please explain:

EXHIBIT 4



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY

F. C. D. CONTRACT NO. 95-5

LEGEND

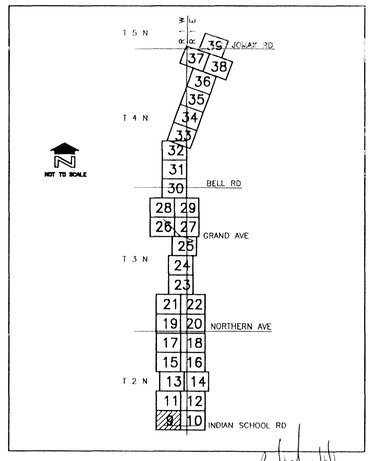
100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE	
CROSS SECTION	25.382 FP=100 Yr WSE / FW=Floodway WSE
ELEVATION REFERENCE MARK	ERM3 X
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CITY LIMITS	

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO OBTAIN NAVD 88 ELEVATIONS, ADD 2.061 FEET

I. D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
ERM 12	1016.04 (106.3 per 1987 survey)	Brass Cap in hand hole at the intersection of Indian School and El Mirage Rd.
ERM 13	1025.38	Brass Cap in hand hole at the Centerline of El Mirage Rd. and projection of Campbell Ave.

INDEX MAP



200 0' 200 400

SCALE: 1" = 200'
CONTOUR INTERVAL = 2 FEET

COE & VAN LOO CONSULTANTS, INC.

	BY	DATE
DESIGN	DB	9/96
DESIGN CHK.	JM	9/96
PLANS	PE/KR	9/96
PLANS CHK.	JM	9/96

SUBMITTED BY: Jack K. Moody, P. E. DATE: 9/96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

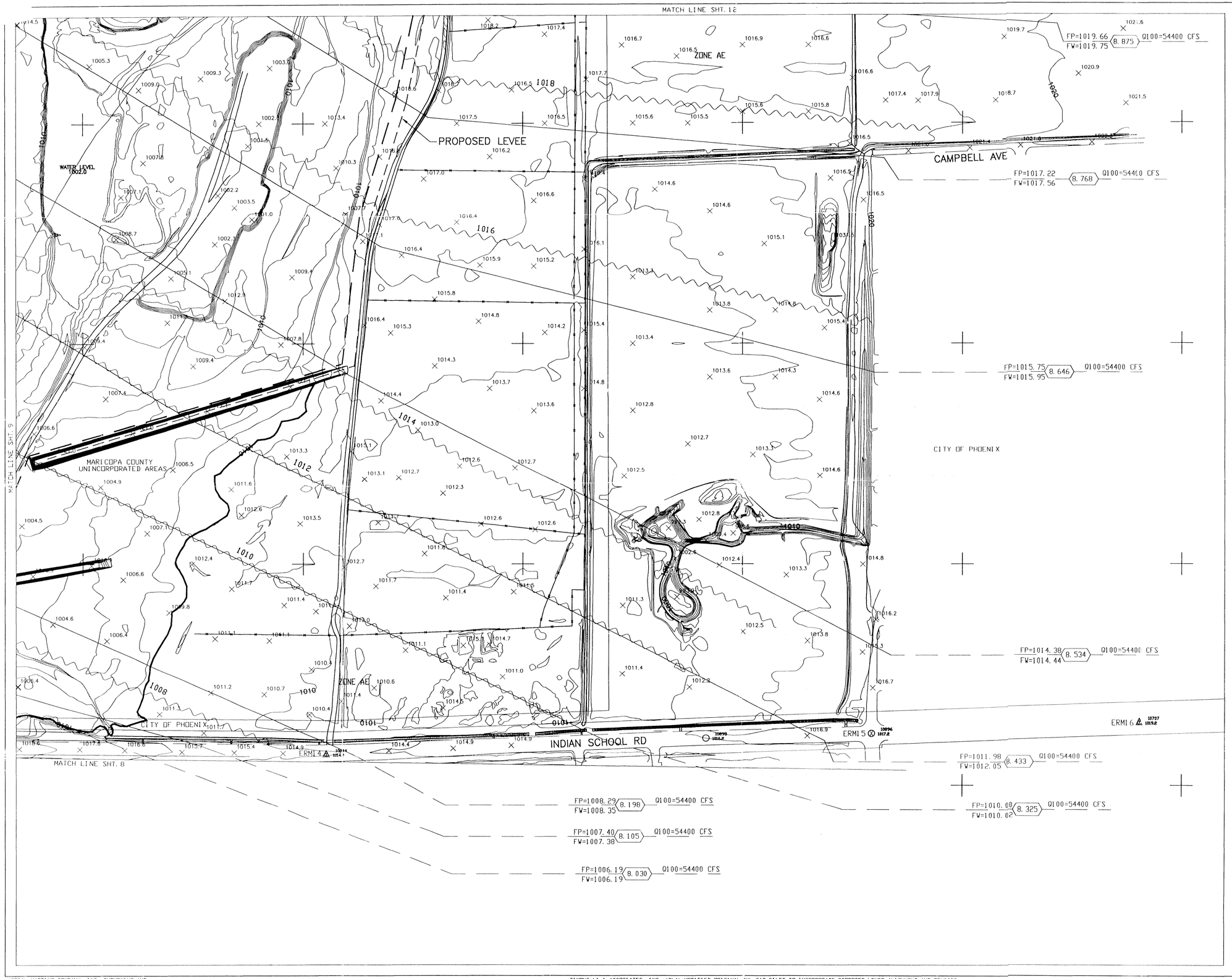
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 9 OF 45

AERIAL MAPPING COMPANY, INC. SURVEYING AND PHOTOGRAMMETRY. FLIGHT DATE: 8/26/95

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS 1"=200' HORIZONTAL SCALE AND 1' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY DATA PROVIDED BY AERIAL MAPPING COMPANY, INC.

SIMONS LI & ASSOCIATES, INC. (SLA) MODIFIED ORIGINAL CVL CAD FILES TO INCORPORATE PROPOSED LEVEE ALIGNMENT AND REVISED FLOODPLAIN AND FLOODWAY WATER SURFACE ELEVATIONS AND BOUNDARIES FROM SECTION 8.105 TO SECTION 9.177 ONLY. SLA IS NOT RESPONSIBLE FOR THE WATER SURFACE INFORMATION OUTSIDE THESE LIMITS OR THE BASE TOPOGRAPHIC MAPPING.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY

F. C. D. CONTRACT NO. 95-5

LEGEND

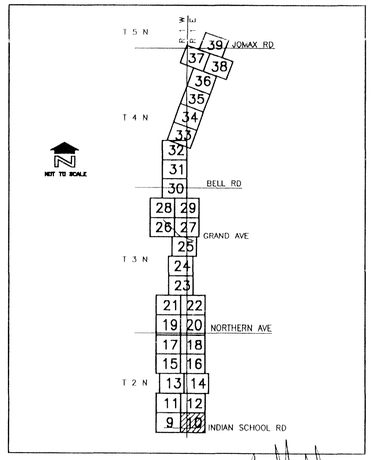
100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE	
CROSS SECTION	(25.382) FP=100 Yr WSE FW=Floodway WSE
ELEVATION REFERENCE MARK	ERM3 X
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CITY LIMITS	

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO OBTAIN NAVD 88 ELEVATIONS, ADD 2.061 FEET

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
ERM 14	1014.11	Brass Cap at the intersection of 115th Ave. and Indian School Rd.
ERM 15	1017.26	Brass Cap in hand hole at the intersection of 111th Ave. and Indian School Rd.
ERM 16	1019.18	Cotton picker spindle at the centerline of Indian School Rd. in line to the south with East wall of Salt River Project substation.

INDEX MAP



SCALE: 1" = 200'
CONTOUR INTERVAL = 2 FEET

COE & VAN LOO CONSULTANTS, INC.

	BY	DATE
DESIGN	DB	9/96
DESIGN CHK.	JM	9/96
PLANS	PE/KR	9/96
PLANS CHK.	JM	9/96

SUBMITTED BY: Jack K. Moody, P. E. DATED 9/96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 10 OF 45

AERIAL MAPPING COMPANY, INC. SURVEYING AND PHOTOGRAMMETRY. FLIGHT DATE: 2/26/95

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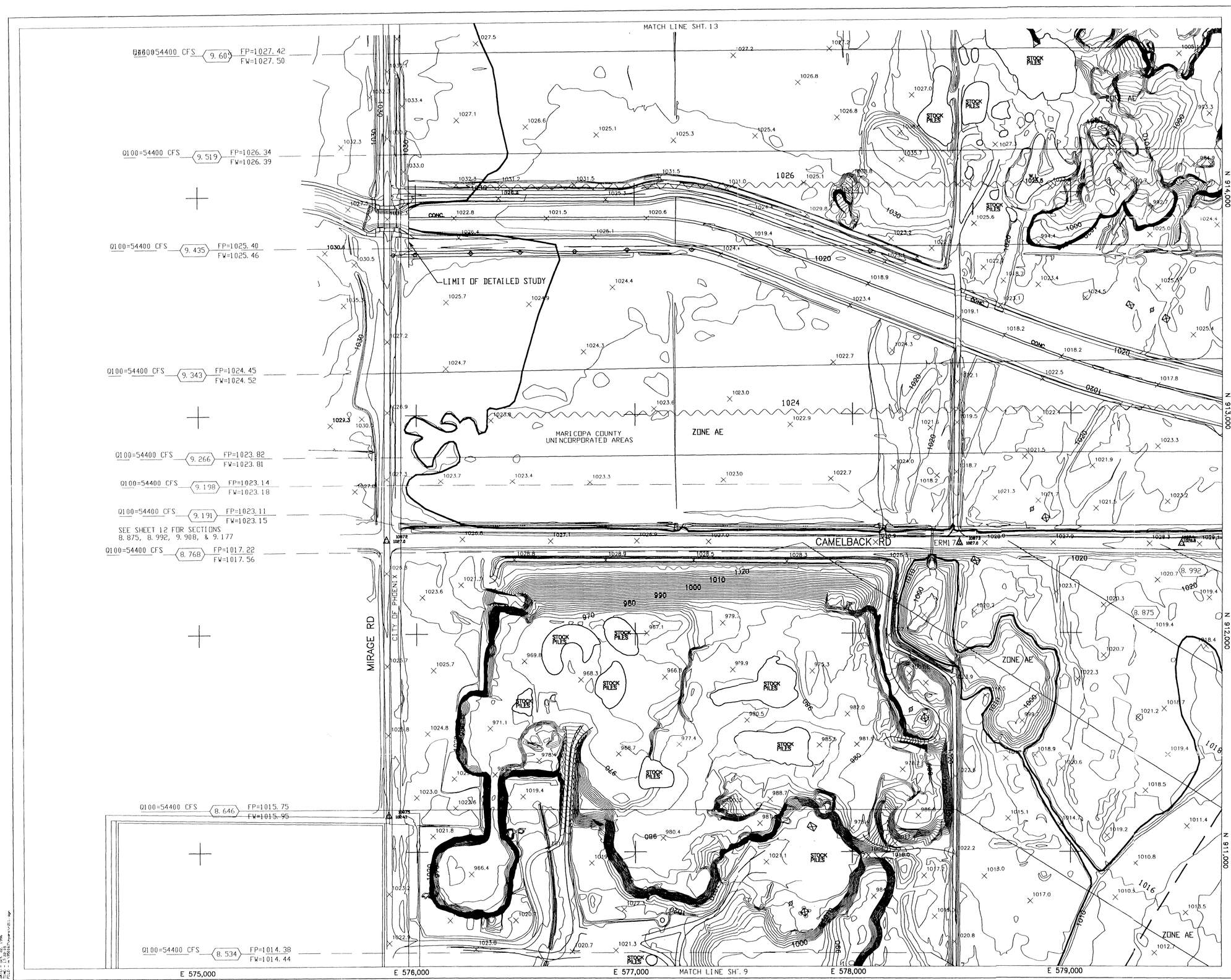


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY

F. C. D. CONTRACT NO. 95-5

LEGEND

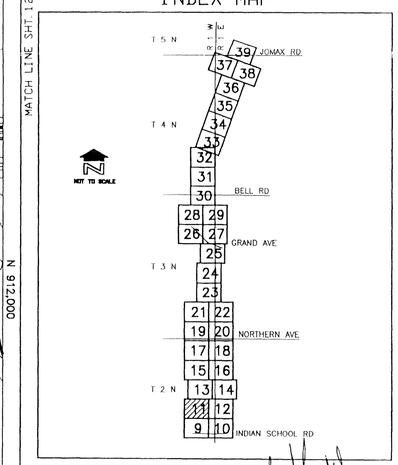
100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE	
CROSS SECTION	25.382 FP=100 Yr WSE FW=Floodway WSE
ELEVATION REFERENCE MARK	ERM3 X
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CITY LIMITS	

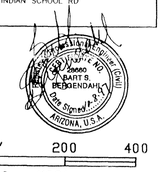
ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO OBTAIN NAVD 88 ELEVATIONS, ADD 2.061 FEET

I. D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
ERM 13	1025.38	See sheet 9
ERM 17	1026.36	Brass cap in hand hole at the intersection of 119th Ave. and Camelback Rd.

INDEX MAP





200 0' 200 400
SCALE: 1" = 200'
CONTOUR INTERVAL = 2 FEET

CVL CDE & VAN LOO CONSULTANTS, INC.

	BY	DATE
DESIGN	DB	9/96
DESIGN CHK.	JM	9/96
PLANS	PE/KR	9/96
PLANS CHK.	JM	9/96

SUBMITTED BY: Jack K. Moody, P. E. DATE: 9/96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

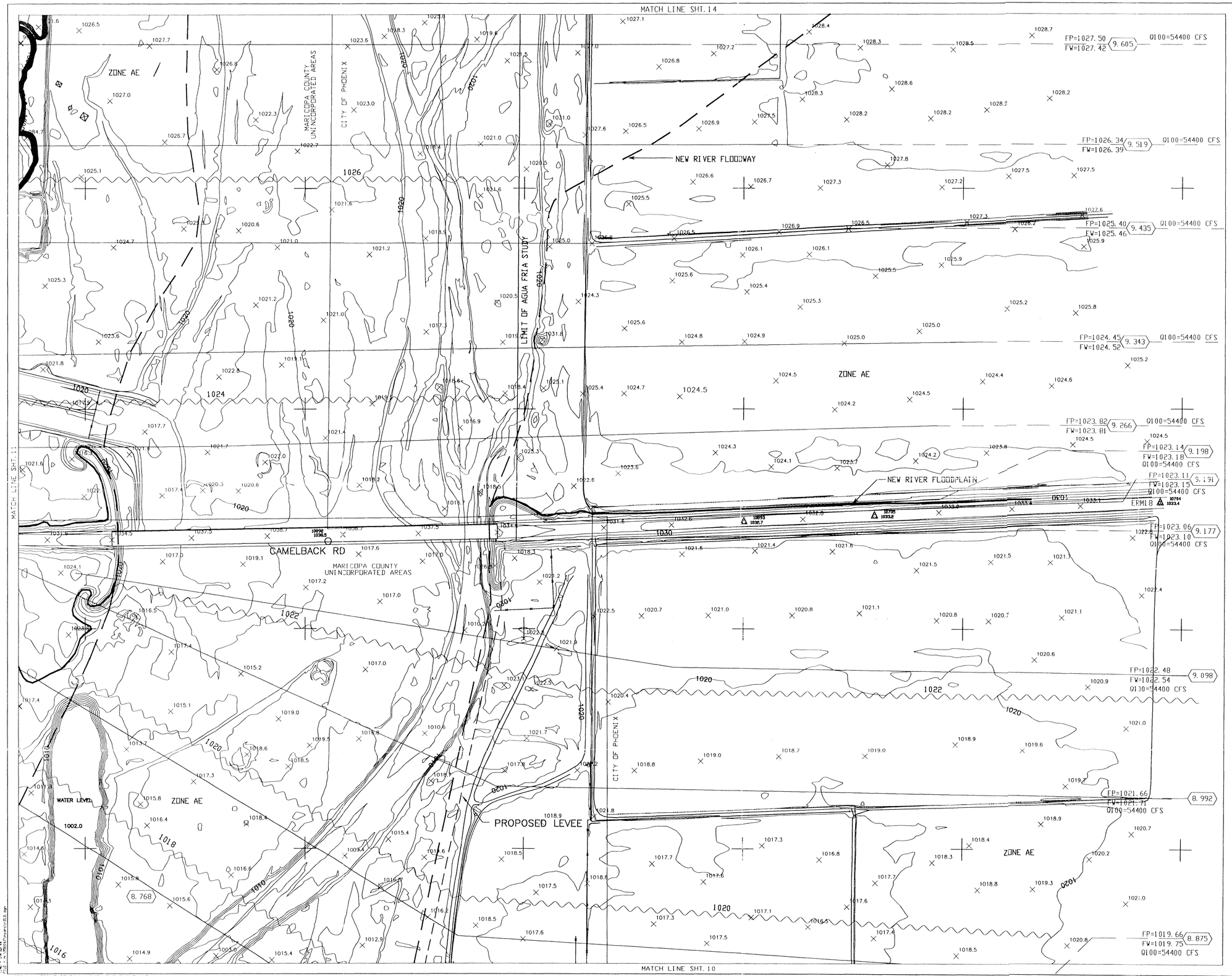
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 11 OF 45

AERIAL MAPPING COMPANY, INC. SURVEYING AND PHOTOGRAMMETRY. FLIGHT DATE: 2/26/95

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS 1"=200' HORIZONTAL SCALE AND 1' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY DATA PROVIDED BY AERIAL MAPPING COMPANY, INC.

SIMONS LI & ASSOCIATES, INC. (SLA) MODIFIED ORIGINAL CVL CAD FILES TO INCORPORATE PROPOSED LEVEE ALIGNMENT AND REVISED FLOODPLAIN AND FLOODWAY WATER SURFACE ELEVATIONS AND BOUNDARIES FROM SECTION 8.105 TO SECTION 9.177 ONLY. SLA IS NOT RESPONSIBLE FOR THE WATER SURFACE INFORMATION OUTSIDE THESE LIMITS OR THE BASE TOPOGRAPHIC MAPPING.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY

F. C. D. CONTRACT NO. 95-5

LEGEND

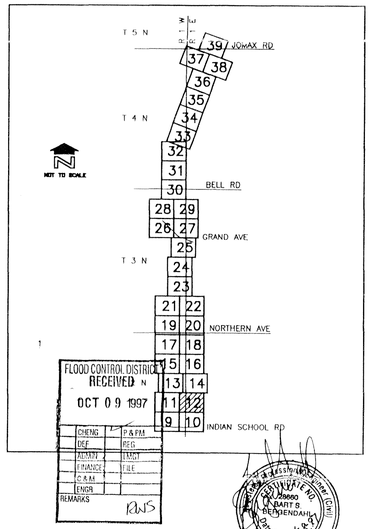
100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE	
CROSS SECTION	25.382 FP=100 Yr WSE / FW=Floodway WSE
ELEVATION REFERENCE MARK	ERM3 X
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CITY LIMITS	

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO OBTAIN NAVD 88 ELEVATIONS, ADD 2.061 FEET

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
ERM 15	1017.26	See sheet 10
ERM 18	1033.41	Cotton picker spindle at the centerline of Camelback at approximately 109th Ave.

INDEX MAP



200 0' 200 400

SCALE: 1" = 200'
CONTOUR INTERVAL = 2 FEET

COE & VAN LOO CONSULTANTS, INC.

	BY	DATE
DESIGN	DB	9/96
DESIGN CHK.	JM	9/96
PLANS	PE/KR	9/96
PLANS CHK.	JM	9/96

SUBMITTED BY: Jack K. Moody, P. E. DATED 9/96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

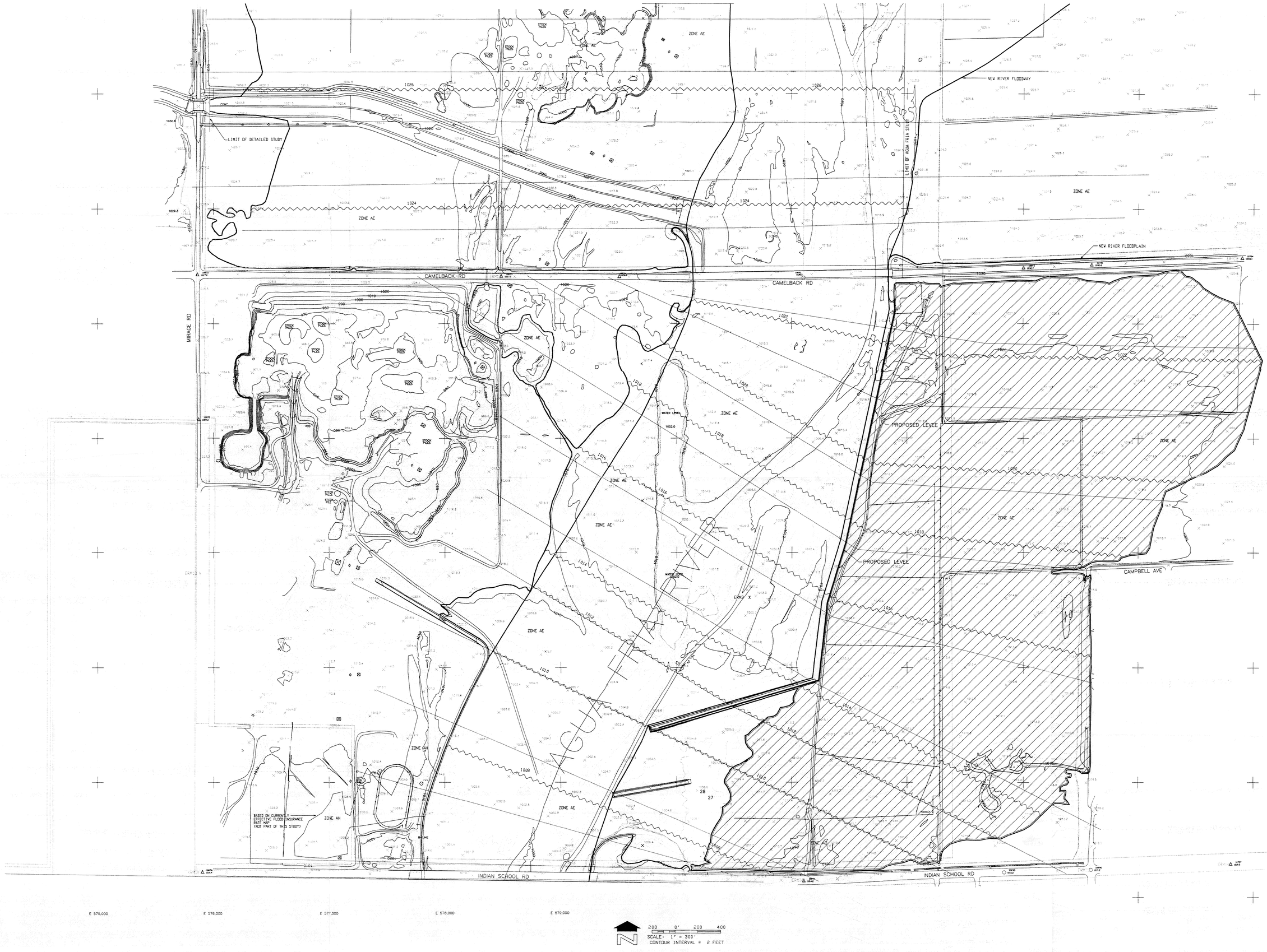
CHIEF ENGINEER AND GENERAL MANAGER

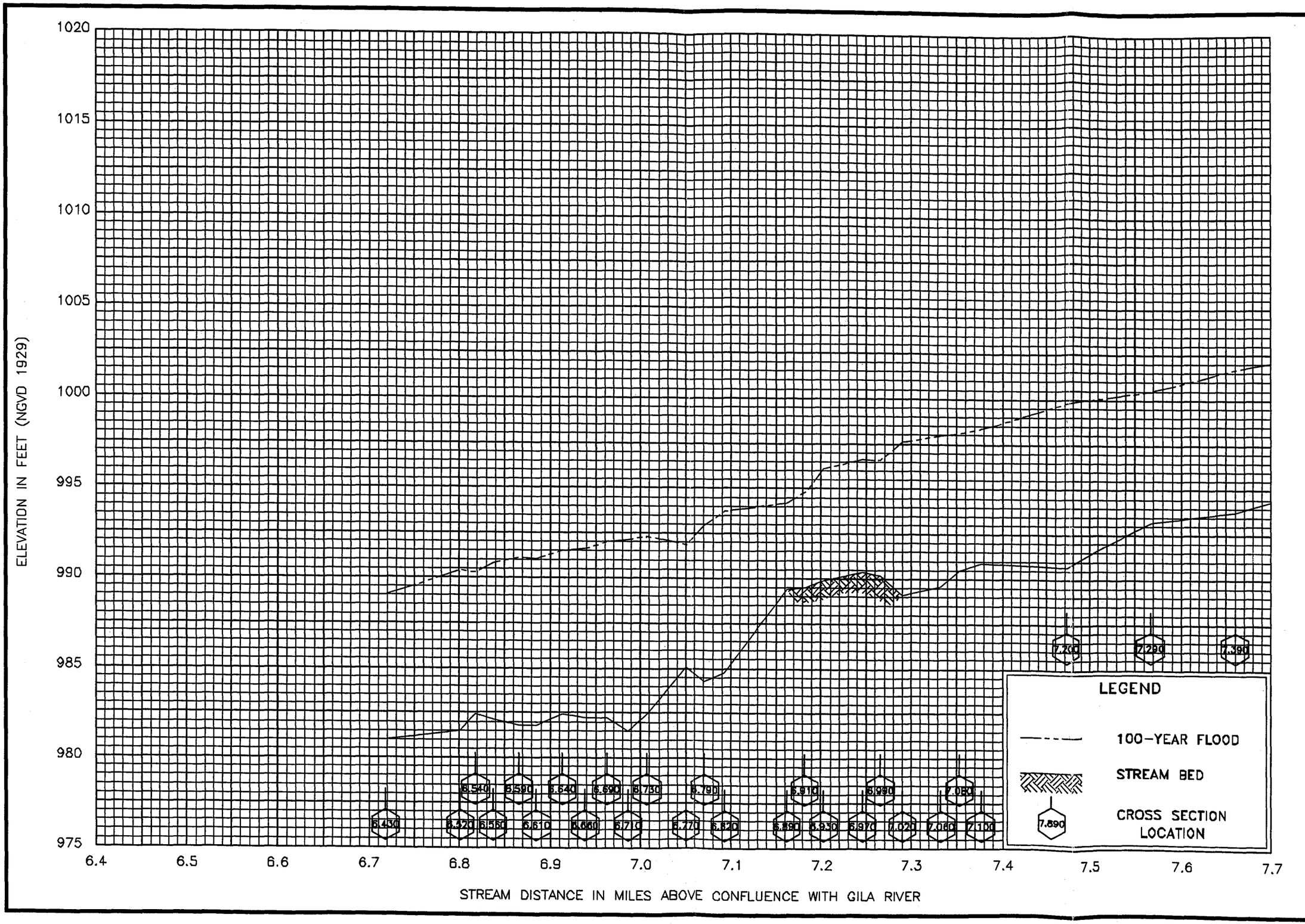
SHEET 12 OF 45

AERIAL MAPPING COMPANY, INC. SURVEYING AND PHOTOGRAMMETRY. FLIGHT DATE: 2/26/95

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS 1"=200' HORIZONTAL SCALE AND 1' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY DATA PROVIDED BY AERIAL MAPPING COMPANY, INC.

SIMONS LI & ASSOCIATES, INC. (SLA) MODIFIED ORIGINAL CVL CAD FILES TO INCORPORATE PROPOSED LEVEE ALIGNMENT AND REVISED FLOODPLAIN AND FLOODWAY WATER SURFACE ELEVATIONS AND BOUNDARIES FROM SECTION 8.105 TO SECTION 9.177 ONLY. SLA IS NOT RESPONSIBLE FOR THE WATER SURFACE INFORMATION OUTSIDE THESE LIMITS OR THE BASE TOPOGRAPHIC MAPPING.


LIMIT OF DETAILED STUDY
NEW RIVER FLOODWAY
NEW RIVER FLOODPLAIN
LIMIT OF AGUA FRIA STUDY
CAMELBACK RD
MIRAGE RD
ZONE AE
ZONE AH
PROPOSED LEVEE
CAMPBELL AVE
INDIAN SCHOOL RD
WATER LEVEL
BASED ON CURRENTLY EFFECTIVE FLOOD INSURANCE RATE MAP (NOT PART OF THIS STUDY)
E 575,000
E 576,000
E 577,000
E 578,000
E 579,000
200 0' 200 400
SCALE: 1" = 300'
CONTOUR INTERVAL = 2 FEET

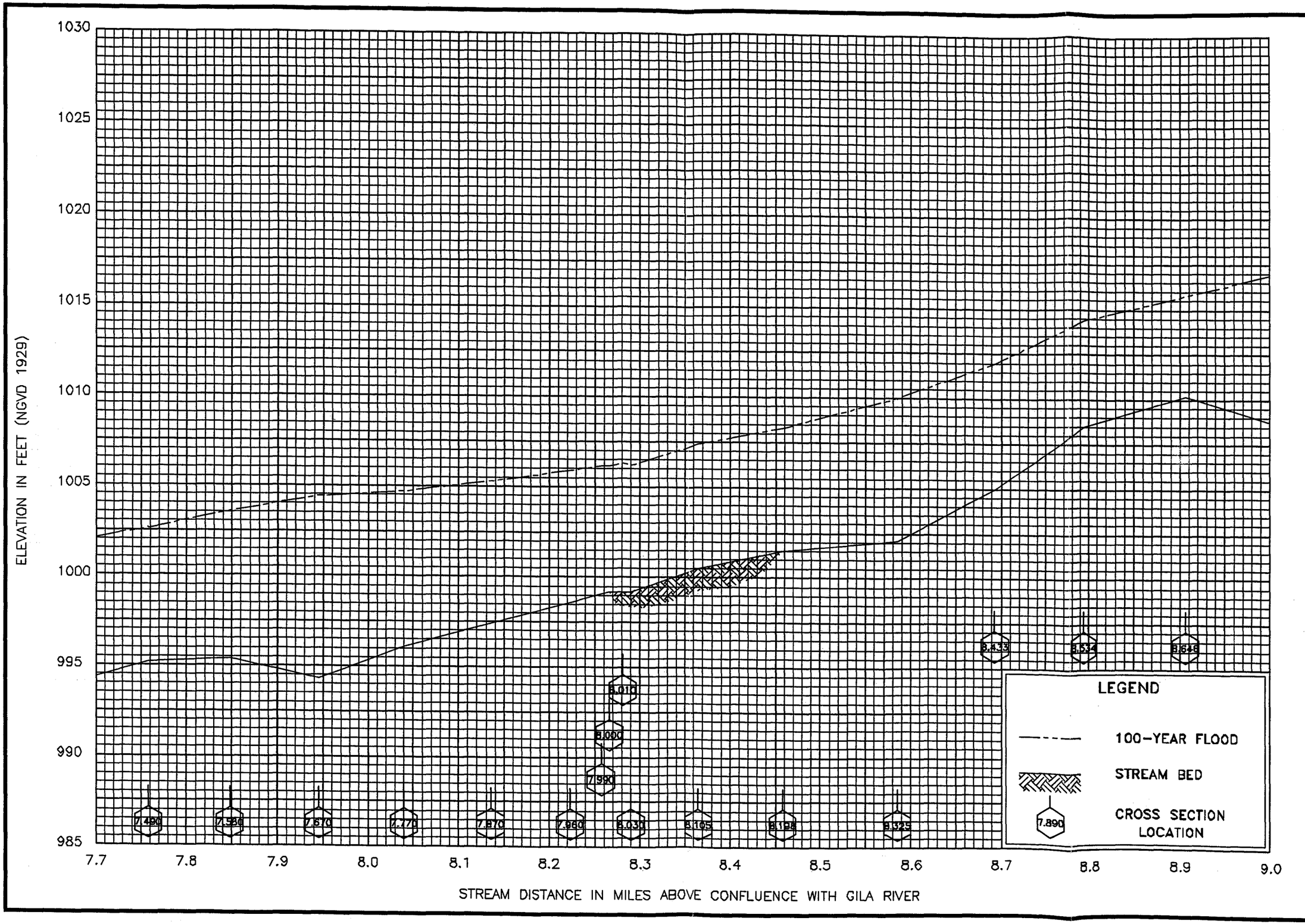


FLOOD PROFILE

AGUA FRIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

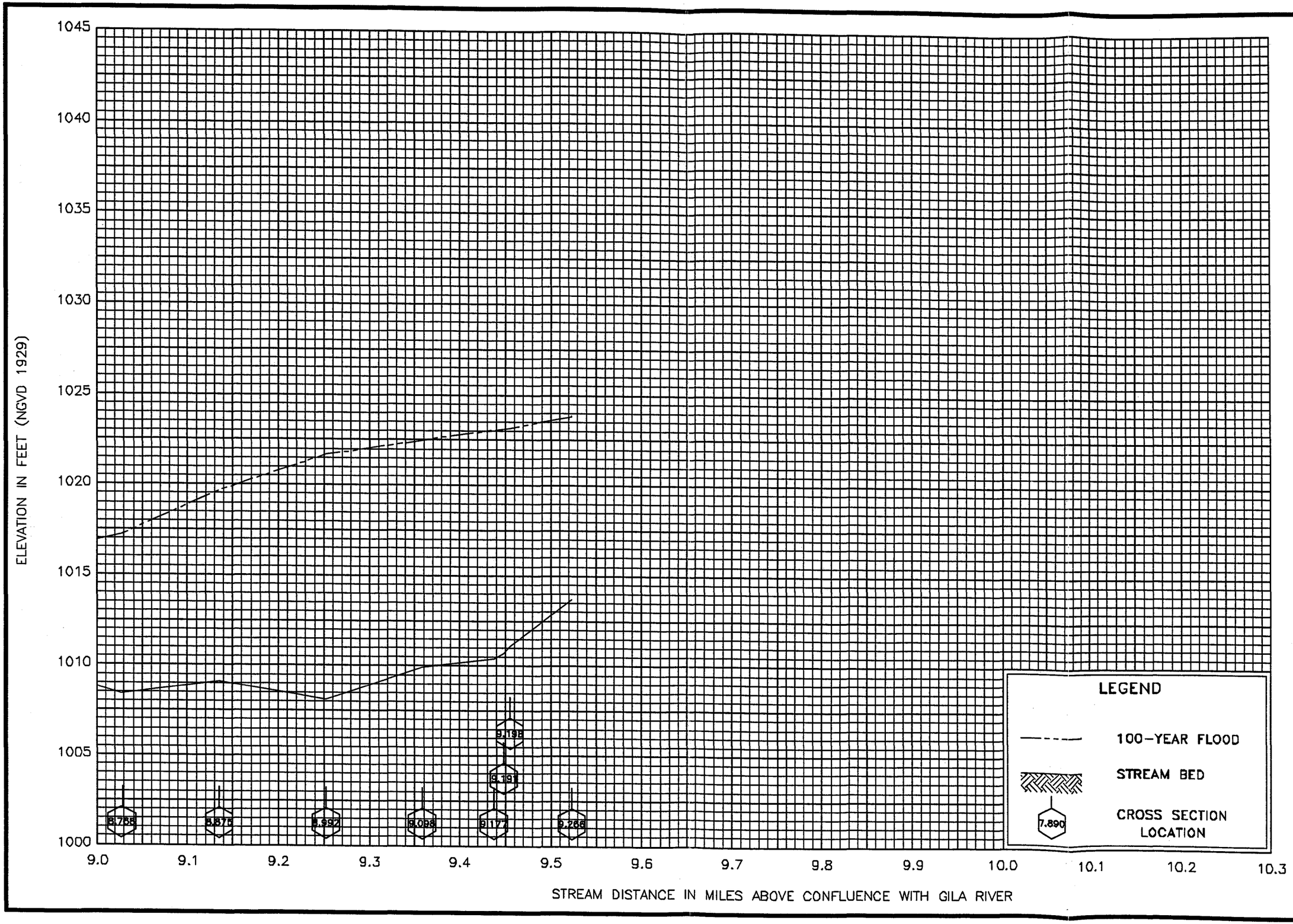


FLOOD PROFILE

AGUA FRIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS



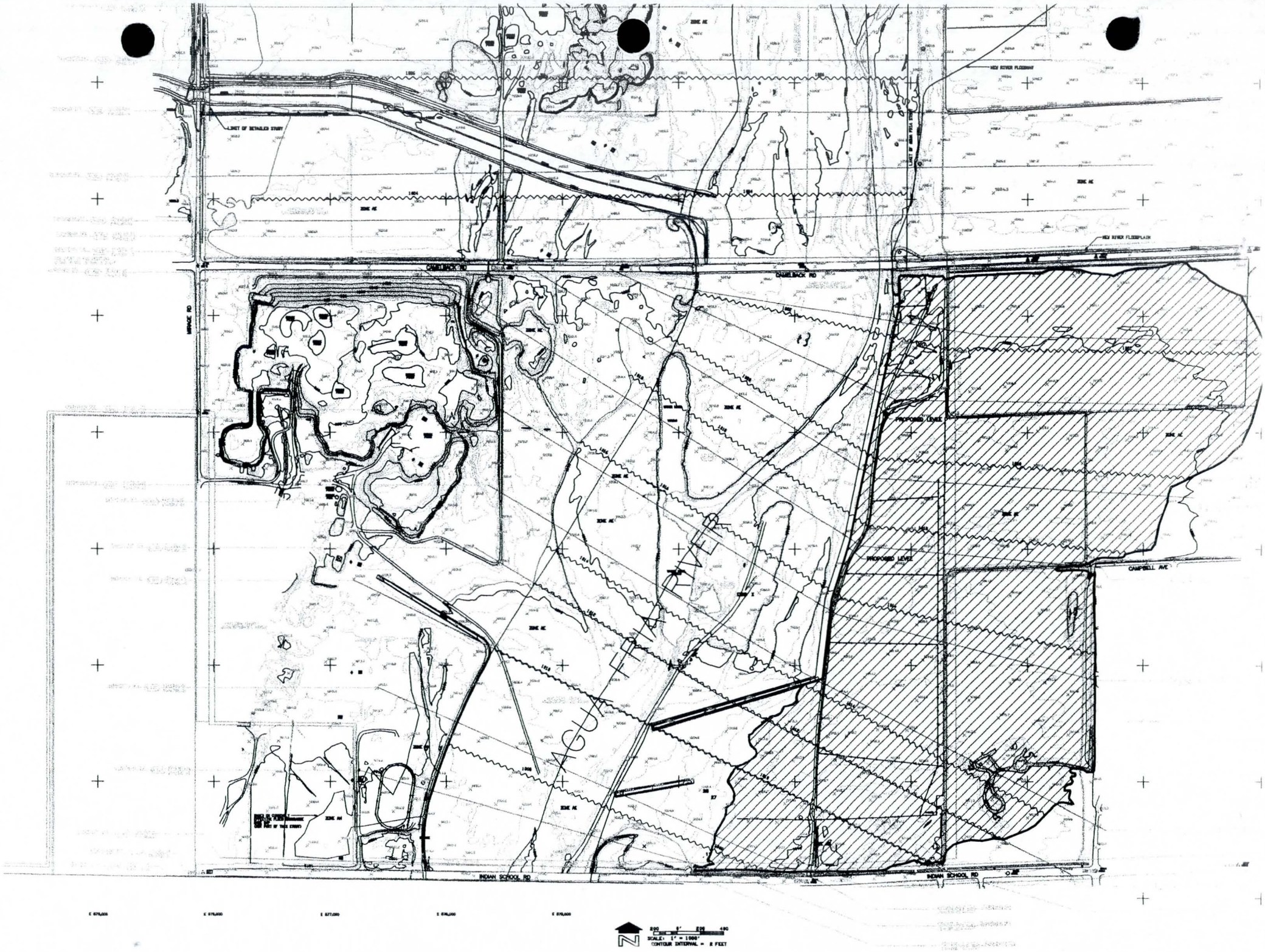
FLOOD PROFILE

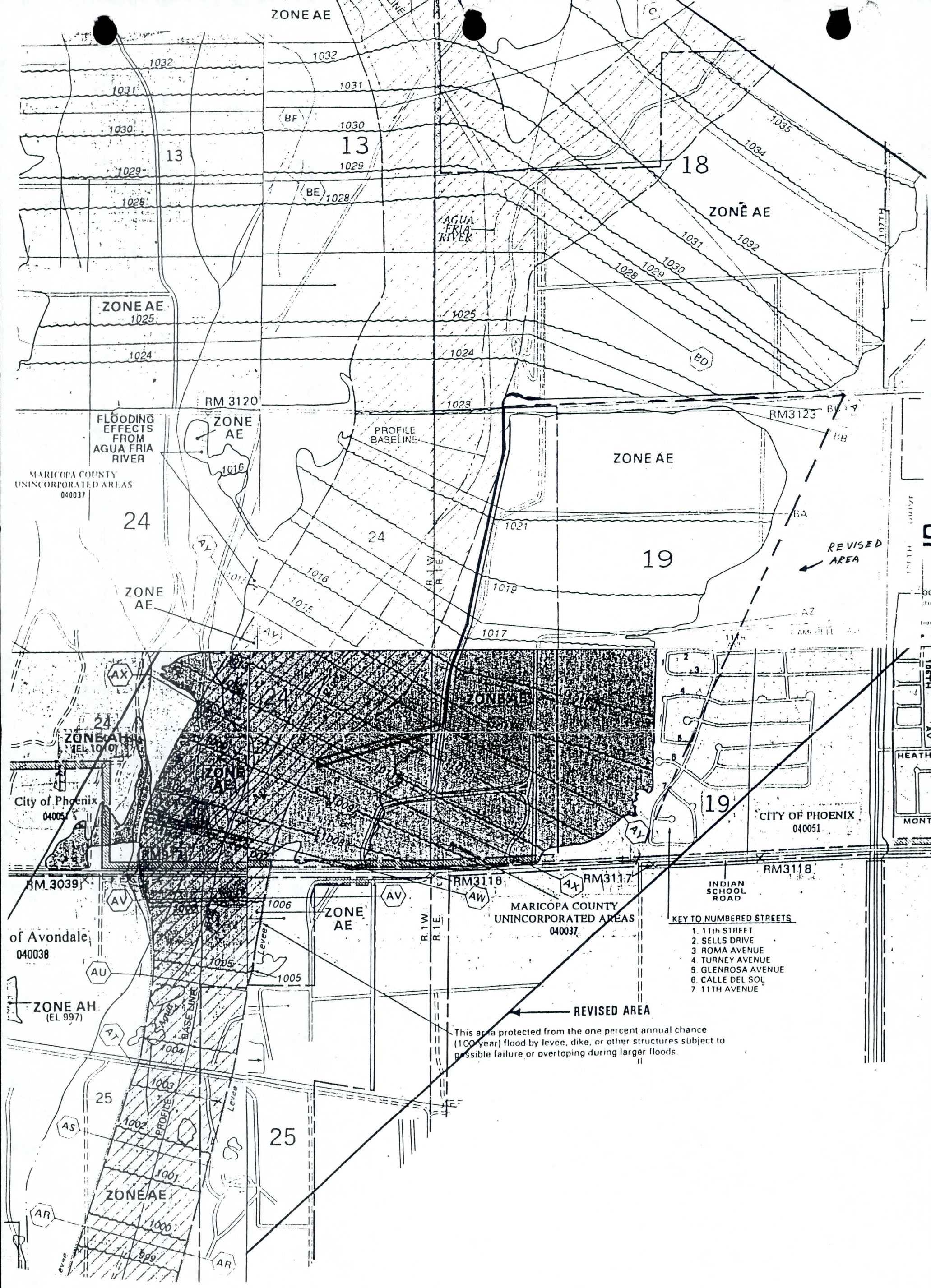
AGUA FRIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

EXHIBIT 5


LIMIT OF DETAILED STUDY
NEW RIVER FLOODWAY
NEW RIVER FLOODPLAIN
CAMELBACK RD
CAMELBACK RD
BRADE RD
ZONE AE
ZONE AE
ZONE AE
ZONE AE
ZONE AE
ZONE AE
ZONE AE
ZONE AE
ZONE AE
ZONE AE
ZONE AH
PROPOSED LEVEE
PROPOSED LEVEE
CAMPBELL AVE
INDIAN SCHOOL RD
INDIAN SCHOOL RD
GULF
LINE
SCALE: 1" = 1000'
CONTOUR INTERVAL = 2 FEET


ZONE AE
13
18
ZONE AE
AGUA FRIA RIVER
ZONE AE
RM 3120
FLOODING EFFECTS FROM AGUA FRIA RIVER
ZONE AE
PROFILE BASELINE
ZONE AE
RM3123
MARICOPA COUNTY UNINCORPORATED AREAS 040037
24
24
19
REVISED AREA
ZONE AE
ZONE AE
ZONE AE
ZONE AE
City of Phoenix 040051
19
CITY OF PHOENIX 040051
RM 3039
RM3116
RM3117
RM3118
INDIAN SCHOOL ROAD
MARICOPA COUNTY UNINCORPORATED AREAS 040037
of Avondale 040038
ZONE AE
KEY TO NUMBERED STREETS
1. 11th STREET
2. SELLS DRIVE
3. ROMA AVENUE
4. TURNEY AVENUE
5. GLENROSA AVENUE
6. CALLE DEL SOL
7. 11TH AVENUE
ZONE AH (EL 997)
REVISED AREA
This area protected from the one percent annual chance (100 year) flood by levee, dike, or other structures subject to possible failure or overtoping during larger floods.
25
25
ZONE AE

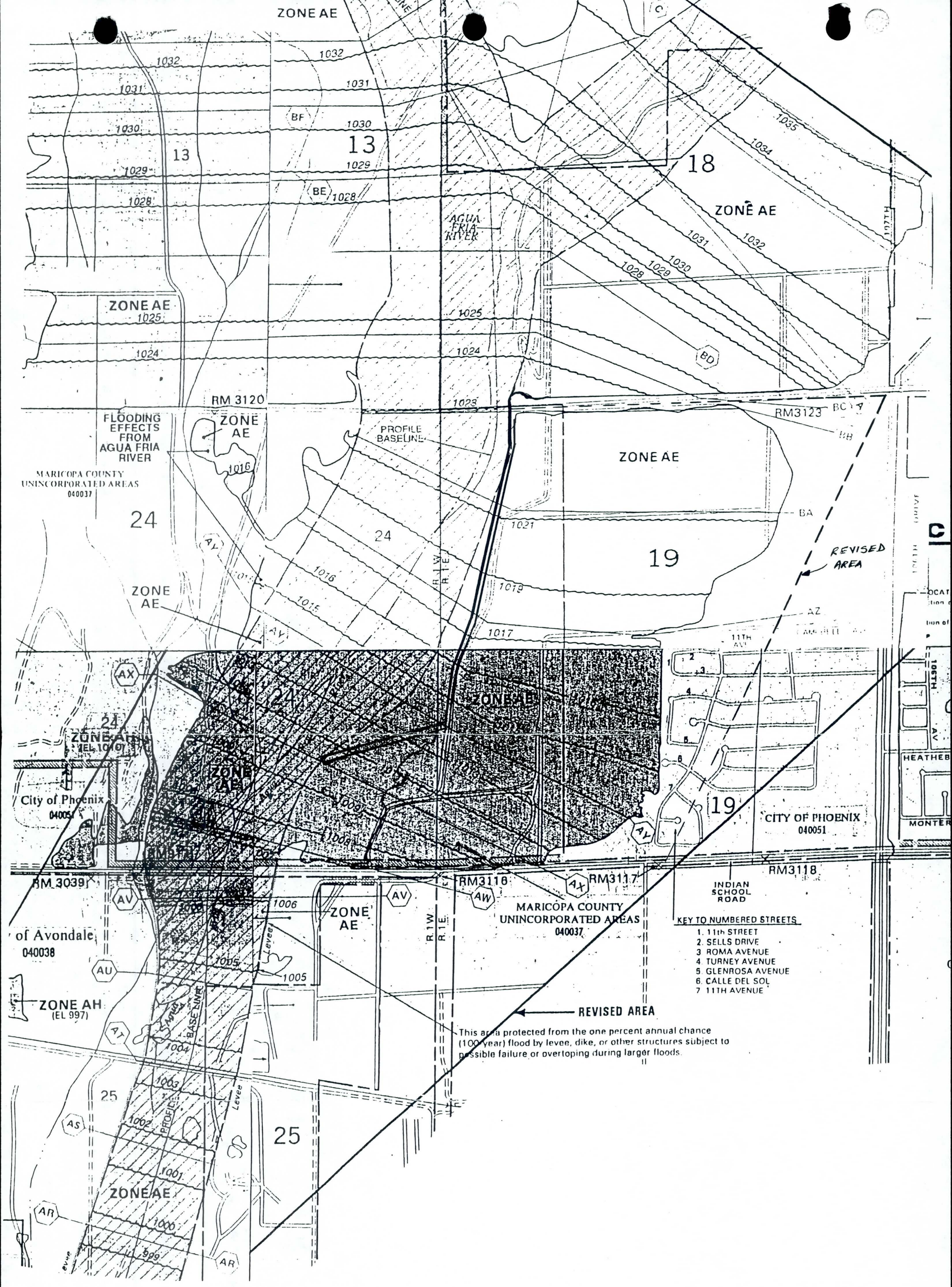

ZONE AE
1032
1031
1030
1029
1028
1025
1024
1021
1019
1017
1016
1015
1035
1034
1006
1005
1004
1003
1002
1001
1000
999
13
18
19
24
25
BF
BE
BD
BC
BB
BA
AZ
AY
AX
AW
AV
AU
AT
AS
AR
AGUA FRIA RIVER
RM 3120
RM3123
FLOODING EFFECTS FROM AGUA FRIA RIVER
PROFILE BASELINE
MARICOPA COUNTY UNINCORPORATED AREAS 040037
REVISED AREA
ZONE AH (EL 997)
City of Phoenix 040051
RM 3039
RM3118
RM3117
CITY OF PHOENIX 040051
INDIAN SCHOOL ROAD
of Avondale 040038
R 1 W
R 1 E
Levee
KEY TO NUMBERED STREETS
1. 11th STREET
2. SELLS DRIVE
3. ROMA AVENUE
4. TURNEY AVENUE
5. GLENROSA AVENUE
6. CALLE DEL SOL
7. 11TH AVENUE
This area protected from the one percent annual chance (100 year) flood by levee, dike, or other structures subject to possible failure or overtoping during larger floods.

EXHIBIT 6

```
C
C     98
C  0.160 AGUA FRIA DETAILED FDR PREPARED FOR THE FLOOD CONTROL DISTRICT OF
C  0.160 MARICOPA COUNTY BY COE & VAN LOO CONSULTANTS, INC., 1996.
C  0.160 THE CONTROL LINE ON THE MAIN CHANNEL OF THE AGUA FRIA RIVER IS
C  0.160 STATION 10,000. ALL SECTIONS ARE STATIONED IN RIVER MILES FROM THE
C  0.160 CONFLUENCE WITH THE GILA RIVER. ENCROACHMENT CARDS (ET) WERE USED
C  0.160 IN SOME CASES TO BETTER MODEL DEAD OR NON-EFFECTIVE FLOW AREAS.
C  0.160 CONSEQUENTLY, "SSTA" AND "ENDST" DO NOT REPRESENT THE ACTUAL FLOODING
C  0.160 LIMITS, AND THE DELINEATION WAS ESTABLISHED BASED ON THE CROSS SECTION
C  0.160 POINT ELEVATIONS AND THE TOPOGRAPHY. IN SOME CASES "TOPWID" DOES NOT
C  0.160 REPRESENT THE FULL WIDTH OF THE FLOODPLAIN DUE TO NON-EFFECTIVE FLOW
C  0.160 AREAS OR LOW ISLANDS WITHIN THE FLOODPLAIN. THE RUN WAS STARTED BASED
C  0.160 SLOPE-AREA METHOD. THE HIGH WATER IN THE GILA RIVER WAS NOT USED TO
C  0.160 START THE RUN, DUE TO THE DIFFERENCE IN THE TIME TO PEAK.
C  0.160 ENCROACHMENTS ARE PLACED ON THE UPSTREAM SECTION OF THE BRIDGES TO
C  0.160 REPRESENT THE 1:1 CONTRACTION OF FLOW. IN ADDITION, ENCROACHMENTS ARE
C  0.160 PLACED ON THE DOWNSTREAM SECTION OF THE BRIDGES TO REPRESENT THE 4:1
C  0.160 EXPANSION OF FLOW.
C  0.160 ****************************************
C  0.160 ***** BEGIN NONSTRUCTURAL DIKES ******
C  0.160 *****  CONSIDERED NONEFFECTIVE  ******
C  0.160 ****************************************
C  1.330 ****************************************
C  1.330 ***** END NONSTRUCTURAL DIKES ********
C  1.330 ****************************************
C  1.870 ****************************************
C  1.870 ***** BEGIN WEST BANK LEVEE **********
C  1.870 ****************************************
C  2.800 ****************************************
C  2.800 *****       EAST BANK LEVEE       *****
C  2.800 ***** CROSS SECTIONS 2.80 & 2.89 *****
C  2.800 ****************************************
C  2.890 ****************************************
C  2.890 *****       EAST BANK LEVEE       *****
C  2.890 ***** CROSS SECTIONS 2.80 & 2.89 *****
C  2.890 ****************************************
C  3.400 ****************************************
C  3.400   DIVIDED FLOW AT TRANSMISSION TOWER
C  3.400 ****************************************
C  3.734    ******************************
C  3.734    *****    BUCKEYE ROAD   *****
C  3.734    ***** LOW CHORD = 967.4 *****
C  3.734    ******************************
C  3.767    ******************************
C  3.767    ***** SO. PACIFIC R.R.  *****
C  3.767    ***** LOW CHORD = 966.1 *****
C  3.767    ******************************
C  4.754    ******************************
C  4.754    *****      VAN BUREN     *****
C  4.754    ***** LOW CHORD = 980.6 *****
C  4.754    ******************************
C  5.290    ******************************
C  5.290    *****  I-10 EAST BOUND  *****
C  5.290    ***** LOW CHORD = 986.4 *****
C  5.290    ******************************
C  5.317    ******************************
C  5.317    *****  I-10 WEST BOUND  *****
C  5.317    ***** LOW CHORD = 986.4 *****
C  5.317    ******************************
C  5.689    ******************************
C  5.689    *****   MCDOWELL ROAD   *****
C  5.689    ***** LOW CHORD = 990.8 *****
C  5.689    ******************************
C  8.000    ******************************
C  8.000    ***** INDIAN SCHOOL ROAD ****
C  8.000    ***** LOW CHORD = 1013.3 ****
C  8.000    ******************************
C  9.177    ******************************
C  9.177    ***** CAMELBACK ROAD ********
C  9.177    ***** LOW CHORD = 1027.5 ****
C  9.177    ******************************
C 11.410    ******************************
C 11.410    ***** GLENDALE ROAD *********
C 11.410    ***** LOW CHORD = 1057.5 ****
C 11.410    ******************************
C 13.450    ******************************
C 13.450    ***** OLIVE AVENUE **********
C 13.450    ***** LOW CHORD = 1086.4 ****
C 13.450    ******************************
C 16.482    ******************************
C 16.482    ***** GRAND AVENUE **********
C 16.482    ***** LOW CHORD = 1126.6 ****
C 16.482    ******************************
C 16.514    ******************************
C 16.514    ***** SANTA FE R.R. *********
C 16.514    ***** LOW CHORD = 1129.9 ****
C 16.514    ******************************
C 18.962    ******************************
C 18.962    ***** BELL ROAD **************
C 18.962    ***** LOW CHORD = 1160.5 ****
C 18.962    ******************************
C 29.611    ******************************
C 29.611    ***** BEARDSLEY CANAL FLUME *
C 29.611    ***** LOW CHORD = 1347.0  ***
C 29.611    ******************************
C 32.984    ******************************
C 32.984    *****   STATE ROUTE 74   ****
C 32.984    ***** LOW CHORD = 1427.0 ****
C 32.984    ******************************
T1 AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY
T1 PREPARED FOR THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC #95-05)
T1 PREPARED BY COE & VAN LOO CONSULTANTS, INC. (CVL #95-0067-01)
T2 AGUA FRIA RIVER, GILA RIVER TO THE NEW WADDELL DAM
T3 100-YEAR EVENT    EXISTING CONDITION            FILE NAME - AGUAFRIA
J1      0       2       0       0   0.003       0       0       0  916.39       0
J2      1       0      -1       0       0       0      -1       0       0      15
J3     38      43       1       8       3       2      26       5      39      53
```

```
J3      4       54       37              200
*  NON-STRUCTURAL DIKES BETWEEN SECTIONS 0.16 AND 1.33 AT RIGHT OVERBANK
*  ARE ASSUMED NON-EFFECTIVE.
NC                                .1       .3
ET  0.16             7.1                              9300   11600
NH     5      .10    9030     .045    9720     .035   10184     .06   11500     .10
NH 15459
QT     2    50900   50900
X1  0.16       52    9720   10184       0        0       0
GR 924.4  4925.0   924.2  5199.0   921.8  5600.0   919.5  5760.0   919.4  5959.0
GR 920.9  6245.0   920.8  6516.0   919.3  6554.0   919.8  6850.0   919.6  7271.0
GR 920.5  7535.0   919.6  8000.0   917.6  8136.0   917.4  8339.0   912.3  8356.0
GR 917.2  8376.0   916.4  8991.0   916.0  9030.0   914.0  9212.0   911.6  9231.0
GR 913.2  9494.0   911.2  9620.0   911.8  9720.0   910.7 10000.0   909.7 10120.0
GR 909.6  10136.   921.6 10167.0   923.0 10184.0   913.7 10213.0   913.7 10477.0
GR 917.1  10590.   916.6 10873.0   910.5 10909.0   910.5 11042.0   915.2 11068.0
GR 912.1  11265.   911.5 11500.0   911.5 11516.0   908.3 11664.0   910.4 11830.0
GR 916.1  11911.   914.1 12098.0   914.9 12628.0   922.1 12652.0   922.7 12725.0
GR 916.5  12758.   916.8 13671.0   916.2 14363.0   917.2 14971.0   917.8 15391.0
GR 913.5  15403.   920.3 15459.0
ET  0.25             7.1                              9250   11600
NH     5      .10    8960     .045    9958     .035   10230     .06   10650     .10
NH 15692
X1  0.25       34.0   9958   10230     505      480     495
GR 922.0  5566.0   922.0  6553.0   918.5  7867.0   919.0  8256.0   912.7  8264.0
GR 912.7  8284.0   917.8  8296.0   916.9  8960.0   916.8  9040.0   913.2  9109.0
GR 913.5  9486.0   913.5  9620.0   913.5  9958.0   911.1  9972.0   911.1 10000.0
GR 910.9 10130.0   910.9 10151.0   922.5 10230.0   916.6 10298.0   916.6 10396.0
GR 914.0 10454.0   915.1 10650.0   915.4 10701.0   912.8 10725.0   915.1 11054.0
GR 915.5 12126.0   915.7 12846.0   920.7 12871.0   920.7 12921.0   917.2 12948.0
GR 917.5 13769.0   918.6 14680.0   918.1 15619.0   920.7 15692.0
ET  0.35             7.1                              9130   11690
NH     4      .10    8850     .045    9965     .035   10223     .10   17880
X1  0.35       35.0   9965   10223     485      485     485
GR 926.3  3975.0   925.0  4440.0   924.4  4533.0   924.4  5087.0   923.2  5581.0
GR 920.8  7250.0   918.6  7964.0   919.2  8280.0   913.2  8291.0   913.2  8307.0
GR 918.8  8317.0   916.9  8850.0   916.1  9069.0   913.9  9084.0   915.3  9474.0
GR 915.2  9640.0   915.1  9965.0   911.8  9991.0   911.8 10000.0   911.4 10140.0
GR 911.4  10156.   923.3 10223.0   916.4 10256.0   917.2 11060.0   915.5 11078.0
GR 916.2  12132.   916.6 12355.0   918.8 12420.0   918.9 13457.0   918.8 14308.0
GR 919.2   15650   921.2   16350   921.8   16820   922.4   17200   922.7   17880
ET  0.44             7.1                              8970   11640
NH     4      .10    8300     .045    9798     .035   10420     .10   17640
X1  0.44       44.0   9798   10420     520      500     505
GR 927.5  3107.0   925.0  4575.0   922.8  5984.0   921.8  6974.0   920.3  7816.0
GR 923.1  7847.0   923.3  7915.0   919.1  7942.0   919.1  7995.0   923.7  8029.0
GR 919.5  8152.0   918.5  8300.0   916.2  8640.0   915.1  8999.0   916.8  9023.0
GR 916.7  9710.0   916.7  9798.0   913.9  9815.0   913.5  9842.0   912.8 10000.0
GR 917.6 10016.0   916.8 10120.0   916.2 10201.0   917.0 10263.0   917.7 10313.0
GR 917.7 10385.0   925.2 10420.0   917.7 10455.0   917.8 11076.0   920.3 11103.0
GR 916.9 11133.0   916.4 11365.0   919.1 11391.0   918.7 12229.0   918.8 12650.0
GR 920.6 12691.0   919.8 12785.0   919.6 13644.0   920.2 14200.0   920.4 14355.0
GR 921.0   16110   921.8   16630   922.9   17240   924.0   17640
ET  0.54             7.1                              8920   11540
NH     5      .10    8490     .045    9904     .035   10199     .05   10549     .10
NH 16800
X1  0.54       36.0   9904   10199     530      495     505
GR 928.1  3050.0   927.2  4613.0   926.1  5092.0   927.1  5206.0   924.6  6382.0
GR 922.3  6916.0   924.4  6951.0   918.5  6971.0   918.5  6993.0   925.0  7013.0
GR 921.6  7072.0   921.2  8124.0   920.0  8490.0   919.5  8647.0   916.2  8667.0
GR 918.0  8997.0   917.8  9446.0   917.4  9720.0   917.2  9904.0   913.7  9926.0
GR 914.0 10000.0   914.4 10070.0   914.5 10097.0   927.5 10199.0   917.5 10248.0
GR 919.3 10515.0   925.8 10549.0   918.7 10598.0   918.6 11525.0   920.7 12024.0
GR 921.0 13063.0   921.1 14220.0   921.2 15038.0   921.8 15800.0   923.0 16350.0
GR 924.0 16800.0
ET  0.63       9.1     7.1                              8970   11440    6600   16199
NH     5      .10    8670     .045    9888     .035   10209     .05   10644     .10
NH 16200
X1  0.63       36.0   9888   10209     525      490     505
GR 927.8  3220.0   928.7  4462.0   927.0  5328.0   924.8  6127.0   923.4  6520.0
GR 925.1  6530.0   925.1  6553.0   917.7  6571.0   926.5  6600.0   923.7  6645.0
GR 923.1  7426.0   922.5  8068.0   921.2  8670.0   921.1  8772.0   917.5  8831.0
GR 920.1  9149.0   920.4  9522.0   919.9  9740.0   919.6  9888.0   915.7  9908.0
GR 916.1 10000.0   916.0 10095.0   929.0 10209.0   917.1 10273.0   916.6 10424.0
GR 919.7 10448.0   920.7 10644.0   926.6 10667.0   919.1 10704.0   921.3 11646.0
GR 921.5 12511.0   921.7 13595.0   921.7 14582.0   923.3   15500   923.8   15950
GR 925.0   16200
ET  0.73             7.1                              8980   11280
NH     5      .10    8800     .045    9917     .035   10162     .05   10655     .10
NH 15560
X1  0.73       39.0   9917   10162     510      490     500
GR 926.5  3285.0   926.3  3986.0   925.6  4737.0   925.2  5415.0   925.6  5760.0
GR 925.6  5797.0   925.7  5889.0   925.7  5945.0   924.5  6306.0   924.5  7206.0
GR 924.3  8340.0   921.6  8530.0   921.3  8800.0   921.1  8982.0   919.1  8999.0
GR 918.6  9126.0   921.0  9195.0   920.8  9760.0   920.0  9917.0   917.8  9927.0
GR 917.9 10000.0   916.9 10087.0   919.0 10100.0   928.8 10162.0   919.2 10205.0
GR 917.0 10479.0   919.8 10521.0   918.9 10591.0   928.7 10655.0   919.2 10697.0
GR 919.2 10771.0   922.2 10794.0   921.6 11725.0   922.6 11783.0   924.5 12394.0
GR 924.5 13563.0   924.0   14000   924.3   15050   926.0   15560
ET  0.83             7.1                              8983   11150
NH     5      .10    8920     .045    9925     .035   10128     .05   10717     .10
NH 14828
X1  0.83       29.0   9925   10128     495      495     495
GR 928.3  3800.0   925.2  5150.0   925.1  6300.0   925.2  8028.0   922.1  8616.0
GR 921.7  8920.0   921.7  8934.0   920.2  8952.0   921.1  9120.0   921.8  9540.0
GR 921.7  9770.0   920.9  9925.0   918.3  9940.0   918.5 10000.0   917.6 10060.0
GR 917.3 10080.0   925.9 10128.0   918.7 10150.0   918.8 10277.0   922.5 10302.0
GR 923.1 10717.0   929.2 10742.0   922.6 10778.0   924.3 11882.0   924.4 12871.0
GR 925.2   14360   928.0   14650   932.0   14700   932.0   14828
ET  0.92             7.1                              9100   11130
NH     5      .10    8330     .045    9614     .035   10222     .05   10944     .10
NH 14280
X1  0.92       32.0   9614   10222     445      440     440
GR 928.0  5200.0   925.6  5350.0   925.9  6388.0   928.2  6415.0   925.9  7213.0
GR 926.8  8231.0   926.4  8330.0   925.3  8450.0   924.2  8611.0   924.2  9039.0
GR 925.2  9078.0   920.8  9108.0   921.1  9200.0   922.3  9239.0   923.3  9614.0
GR 922.5  9720.0   920.9  9922.0   919.3 10000.0   919.8 10150.0   919.9 10172.0
GR 930.7 10222.0   920.6  10256.   924.9 10397.0   923.9 10903.0   929.9 10922.0
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GR 930.0 10944.0   923.0  10982.   924.5 12062.0   924.5   12500   926.3   13900
GR 928.0   14100   931.8   14280
ET  1.01            7.1                            9300   11250
NH     5     .10    8490    .045    9682    .035   10471     .05   11284     .10
NH 14000
X1  1.01    35.0    9682   10471     440     440     440
GR 928.9  4205.0   928.5  5661.0   929.2  6721.0   928.4  7602.0   928.7  8490.0
GR 928.7  8566.0   928.2  8695.0   928.3  8740.0   928.5  9048.0   928.6  9151.0
GR 928.8  9185.0   922.0  9235.0   921.8  9300.0   921.4  9400.0   924.5  9437.0
GR 924.9  9682.0   921.5 10000.0   921.2 10380.0   921.2 10405.0   931.4 10471.0
GR 924.0  10505.   924.0 10677.0   924.0 10694.0   924.0 10715.0   922.9 10733.0
GR 923.6  10830.   929.5 10849.0   924.2 10867.0   925.3 11259.0   930.4 11284.0
GR 930.4  11298.   924.4 11319.0   924.6 12194.0   929.7   13800   932.0   14000
ET  1.10            7.1                            9450   11220
NH     5     .10    8600    .045    9719    .035   10678     .05   11128     .10
NH 13600
X1  1.10    37.0    9719   10678     500     470     490
GR 929.3  6000.0   930.4  6858.0   929.4  7741.0   929.3  8585.0   929.3  8600.0
GR 929.6  8801.0   928.2  9000.0   931.4  9071.0   919.5  9267.0   920.8  9325.0
GR 923.6  9368.0   924.3  9660.0   923.6  9700.0   923.2  9719.0   922.5 10000.0
GR 923.1 10141.0   923.0 10171.0   923.0 10387.0   923.0 10419.0   923.0 10556.0
GR 923.0 10595.0   934.3 10678.0   925.5 10729.0   924.0 10913.0   924.0 10941.0
GR 924.0 10966.0   924.7 11005.0   927.9 11017.0   927.9 11033.0   924.6 11128.0
GR 929.4 11150.0   925.5 11188.0   925.5 11400.0   925.6 11660.0   926.3 12105.0
GR 928.0   13150   930.3   13600
ET  1.17            7.1                            9400   11020
NH     5     .10    8500    .045    9917    .035   10654     .05   11220     .10
NH 13150
X1  1.17    25.0    9917   10654     560     490     540
GR 932.2  6215.0   929.9  7229.0   929.9  7805.0   929.7  8500.0   929.7  8639.0
GR 926.5  8784.0   927.1  9032.0   928.5  9439.0   926.8  9778.0   927.2  9917.0
GR 923.7  9929.0   923.6  9940.0   924.3 10000.0   923.6 10113.0   924.3 10142.0
GR 924.3 10608.0   926.6 10620.0   933.0 10654.0   924.0 10704.0   927.0 11220.0
GR 927.3 11266.0   926.6 11765.0   926.8 12280.0   930.3   13060   934.0   13150
ET  1.25            7.1                            9200   10700
NH     5     .10    8340    .045    9974    .035   10571     .05   11240     .10
NH 13000
X1  1.25    24.0    9974   10571     480     490     485
GR 933.2  6235.0   931.2  6887.0   932.2  8114.0   932.2  8340.0   932.2  8429.0
GR 927.9  8531.0   930.3  8831.0   927.5  9204.0   930.3  9306.0   929.1  9974.0
GR 926.2  9990.0   924.4 10000.0   924.4 10533.0   933.6 10571.0   924.4 10594.0
GR 924.4 10702.0   929.8 10742.0   930.1 11083.0   929.4 11240.0   928.7 11410.0
GR 928.5 12013.0   930.4 12109.0   936.0   12500   940.0   13000
ET  1.33            7.1                            8853   10470
NH     5     .10    8120    .045    9911    .035   10456     .05   11200     .10
NH 12490
X1  1.33    32.0    9911   10456     485     500     495
GR 934.6  6000.0   933.3  6025.0   932.9  6490.0   931.0  6748.0   931.3  7154.0
GR 931.8  7239.0   933.2  7837.0   934.0  8038.0   931.1  8083.0   930.0  8120.0
GR 929.8  8339.0   931.4  8777.0   929.3  8916.0   931.1  8945.0   929.8  9282.0
GR 929.1  9911.0   927.0  9920.0   927.0 10000.0   925.9 10122.0   925.5 10364.0
GR 932.0 10456.0   925.5 10490.0   931.1 10701.0   931.6 11006.0   930.6 11200.0
GR 930.4 11242.0   934.9 11261.0   931.9 11306.0   933.2 11377.0   934.8 11409.0
GR 936.3 12061.0   941.3 12490.0
*  NON-STRUCTURAL DIKES BETWEEN SECTIONS 1.40 AND 2.10 IN LEFT OVERBANK
*  ARE ASSUMED NON-EFFECTIVE.
ET  1.40            7.1                            8550   10306
NC  .045     .05    .035
X1  1.40    26.0    9748   10305     430     485     475
GR 935.7  5935.0   932.0  6523.0   934.9  7105.0   934.4  7578.0   935.1  7675.0
GR 938.3  7684.0   938.3  7694.0   932.6  7717.0   934.2  8141.0   932.3  8517.0
GR 932.0  8913.0   931.6  9748.0   929.1  9770.0   929.0  9876.0   928.8  9957.0
GR 927.6 10000.0   927.1 10285.0   935.2 10305.0   927.9 10330.0   931.0 10380.0
GR 931.7 10500.0   932.0 10717.0   935.2 10937.0   936.6 11245.0   938.0 11327.0
GR 940.0 11836.0
ET  1.48            7.1                            8370   10280
X1  1.48    23.0    9441   10279     450     520     505
GR 939.0  6000.0   934.8  6383.0   932.5  6699.0   933.5  7062.0   936.6  7336.0
GR 939.9  7347.0   939.9  7360.0   932.9  7434.0   934.1  7639.0   933.9  8044.0
GR 932.9  8368.0   933.5  8794.0   933.2  9118.0   932.9  9441.0   929.4  9799.0
GR 927.3  9816.0   927.5 10000.0   926.7 10206.0   932.5 10237.0   933.3 10279.0
GR 934.5  10343.   945.5 10436.0   946.7 10552.0
ET  1.56            7.1                            8330   10173
X1  1.56       32  9493.5   10172     370     515     495
GR 940.0  6400.0   935.8  6507.0   932.7  6583.7   933.0  6879.4   934.8  7130.2
GR 940.4  7141.1   940.4  7158.6   934.3  7172.1   932.3  7320.7   933.7  7714.5
GR 932.0  7797.1   933.1  7911.0   933.5  8292.1   933.5  8654.4   933.2  8792.3
GR 932.8  9081.8   930.4  9135.4   929.8  9202.0   932.2  9220.0   932.1  9238.3
GR 930.8  9250.5   930.8  9268.2   932.2  9278.3   932.2  9493.5   926.5  9504.2
GR 926.6  9651.5   926.3 10000.0   926.1 10145.1   939.0 10172.0   943.2 10582.1
GR 943.8 10849.4   948.4 11118.0
ET  1.64            7.1                            8360   10312
X1  1.64       30  9224.4 10311.3     380     540     510
GR 942.5  5971.0   942.5  6431.1   938.5  6466.5   935.9  6871.7   942.5  6885.4
GR 942.5  6899.0   934.6  6916.1   933.6  7307.5   934.6  7599.0   932.1  7650.5
GR 934.5  7769.0   934.5  7989.3   932.9  8037.6   934.8  8150.0   934.6  8543.2
GR 934.5  8779.8   934.2  8987.7   931.8  9030.6   934.2  9056.7   934.0  9213.9
GR 931.3  9224.4   931.3  9368.2   928.0  9380.9   928.0  9560.3   927.9 10000.0
GR 928.4 10286.6   935.2 10311.3   938.5 10541.3   950.8 10987.3   952.7 11328.0
ET  1.71            7.1                            8350   10285
X1  1.71       44  9091 10284.4     370     525     495
GR 940.9  5684.9   943.3  5808.0   945.3  6004.6   945.1  6078.9   947.4  6100.1
GR 947.4  6117.9   939.1  6148.7   948.7  6187.8   948.6  6226.4   934.0  6296.9
GR 936.8  6795.4   942.6  6807.8   942.6  6816.3   935.2  6833.2   933.6  7016.1
GR 935.7  7029.0   935.7  7052.6   932.4  7065.5   932.0  7135.0   934.3  7164.7
GR 934.3  7198.3   931.9  7209.5   934.6  7333.9   933.3  7541.5   933.4  7601.4
GR 936.1  7704.9   936.0  8010.3   935.3  8305.9   935.8  8591.1   935.4  8888.0
GR 935.8  9091.0   933.0  9104.6   933.1  9230.9   931.1  9247.7   929.7  9534.8
GR 928.2  9542.9   928.2  9966.4   928.2 10000.0   930.4 10058.7   930.5 10277.8
GR 935.9 10284.4   941.2 10511.3   951.5 11351.7   952.3 11442.6
ET  1.79            7.1                            8260   10253
X1  1.79       40  8982.8 10252.2     270     540     500
GR 945.4  5859.7   948.0  6020.8   951.5  6030.4   940.6  6171.9   937.6  6183.7
GR 938.7  6195.5   938.4  6217.5   935.8  6244.4   936.4  6656.1   941.8  6670.9
GR 941.8  6684.7   935.8  6696.9   936.3  6796.0   944.5  6807.6   944.5  6816.2
GR 936.1  6836.1   937.4  7002.1   935.9  7226.7   934.4  7523.2   936.2  7537.5
GR 937.1  7837.2   936.9  8019.2   935.7  8203.0   936.5  8507.4   936.8  8749.1
GR 936.4  8982.8   933.6  8991.6   932.4  9293.8   930.3  9388.0   932.2  9425.8
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GR 932.4  9540.5   929.7  9571.1   929.2  9685.9   929.2  9831.1   930.7 10000.0
GR 929.2 10224.9   936.3 10252.2   943.2 10542.3   948.2 10996.3   952.7 11389.3
ET  1.87     9.1     7.1                            8190   10051    6000   10051
X1  1.87      35  8841.4 10050.0     200     510     475
GR 945.0  5635.3   949.8  5891.6   951.8  5966.3   949.9  6124.7   938.3  6184.0
GR 936.7  6867.9   943.5  6888.1   943.6  6903.7   937.3  6922.7   934.8  6963.8
GR 936.8  6986.5   938.0  7150.6   936.9  7313.3   935.6  7357.9   934.8  7508.3
GR 938.0  7648.7   937.8  7959.1   936.4  8126.1   937.4  8428.2   938.1  8746.2
GR 934.4  8841.4   932.4  9098.4   932.1  9275.0   932.9  9528.1   931.4  9544.2
GR 931.4  9822.4   931.1 10000.0   931.2 10050.0   930.8 10250.6   938.7 10268.5
GR 944.2 10663.4   948.3 10701.7   947.3 10902.9   951.2 11290.4   953.2 11505.5
*  BEGIN LEVEE RIGHT BANK SECTION 1.94
ET  1.94             7.1                            8210 10063.3
X1  1.94      30  8654.9 10063.3     200     540     520
GR 950.2  5544.2   945.9  5742.0   949.8  5887.9   953.0  6033.9   943.4  6166.0
GR 940.8  6245.9   938.2  6256.8   936.8  6547.8   937.4  6963.8   944.3  6982.4
GR 944.3  6999.6   937.0  7022.3   935.9  7064.7   938.0  7095.2   938.7  7342.6
GR 938.4  7430.6   936.1  7462.5   936.5  7591.9   938.8  7667.5   938.7  7987.0
GR 936.9  8041.7   937.8  8375.2   938.2  8654.9   933.9  8673.3   934.3  9158.5
GR 934.2  9446.2   932.3  9835.8   932.6 10000.0   934.0 10054.1   944.5 10063.3
ET  2.02             7.1                            8410   10078
X1  2.02      31  8839.4 10077.3     220     475     470
GR 950.0  5981.1   948.6  6066.6   951.6  6121.6   954.7  6293.7   955.1  6434.3
GR 940.7  6514.7   939.9  6533.9   937.1  6557.3   936.4  6934.6   937.1  7244.1
GR 944.6  7260.1   944.6  7278.4   937.0  7304.1   936.3  7340.1   938.6  7388.3
GR 938.4  7687.8   936.3  7711.0   938.5  7824.6   938.8  7961.0   937.2  8390.4
GR 938.4  8544.9   938.1  8839.4   935.2  8854.5   935.2  9121.5   935.4  9418.2
GR 934.2  9860.0   932.7  9918.6   933.3 10000.0   934.5 10062.4   944.8 10077.3
GR 944.8 10079.1
ET  2.10             7.1                            8640   10166
X1  2.10      28  8997.7 10165.4     280     450     440
GR 954.3  6270.6   954.6  6362.7   952.8  6418.8   951.0  6489.6   954.2  6636.6
GR 951.4  6705.4   945.5  6741.6   940.3  6947.5   938.4  7284.2   937.8  7594.7
GR 944.1  7608.1   944.1  7625.3   938.3  7638.4   936.3  7695.9   939.4  7783.5
GR 940.7  7910.0   938.4  8141.9   938.5  8570.4   939.6  8855.2   938.7  8997.7
GR 937.1  9019.7   935.8  9320.1   937.1  9621.2   934.3  9638.9   934.3 10000.0
GR 935.2 10152.0   946.7 10165.4   946.7 10172.6
ET  2.18             7.1                            8920 10405.1
X1  2.18      19  9390.6 10405.1     280     420     400
GR 952.1  6729.9   952.2  6849.9   950.0  6882.9   950.4  6998.0   955.5  7118.0
GR 940.2  7376.3   939.4  7878.5   939.9  8327.0   938.5  8469.2   939.7  8768.5
GR 939.3  9030.0   938.3  9390.6   938.1  9626.3   936.5  9650.4   934.5  9836.0
GR 934.4 10000.0   935.3 10117.5   935.3 10391.1   947.1 10405.1
ET  2.25             7.1                            9000 10365.7
X1  2.25      23  9684.2 10365.7     260     510     490
GR 954.6  6973.8   953.6  7063.0   957.3  7084.1   945.1  7408.7   953.4  7513.4
GR 951.1  7578.6   940.4  7676.3   940.6  8186.8   940.0  8478.1   941.4  8489.6
GR 940.9  8645.7   938.5  8690.0   940.7  8962.5   940.0  9279.9   938.3  9684.2
GR 936.0  9696.4   937.2  9756.3   935.8  9964.0   935.3 10000.0   935.0 10117.0
GR 936.7 10131.4   936.9 10351.5   949.3 10365.7
ET  2.33             7.1                            8980 10339.4
X1  2.33      20  9548.8 10339.4     380     490     490
GR 955.8  7045.3   958.5  7085.4   954.0  7227.0   942.3  7809.4   943.1  7838.7
GR 941.1  7934.6   940.7  8401.7   939.5  8650.4   941.2  8697.6   941.3  8936.8
GR 940.0  8954.8   940.1  9280.5   940.3  9548.8   938.3  9698.8   937.7  9922.9
GR 936.4  9938.9   936.2 10000.0   936.2 10087.5   938.9 10316.6   949.6 10339.4
ET  2.41             7.1                            9180   10790
X1  2.41      20  9735.9 10550.0     350     500     500
GR 962.0    7263   959.3  7518.0   954.9  7587.2   952.7  7738.2   952.5  7876.7
GR 951.3  8043.5   941.5  8423.9   941.8  8908.1   941.5  9149.3   942.2  9516.6
GR 941.6  9735.9   937.9  9829.9   937.4 10000.0   940.4 10258.0   940.4 10367.9
GR 938.5 10449.1   940.6   10550   942.4 10632.6   941.6 10800.0   951.1 10810.0
ET  2.51             7.1                            9320   10840
X1  2.51      25  9609.3 10760.0     510     345     495
GR 962.2    7481   961.4  7587.5   966.2  7682.9   960.1  7980.9   964.0  8029.4
GR 955.2  8101.8   958.1  8206.7   952.8  8303.6   954.2  8345.7   952.1  8457.0
GR 947.9  8509.0   952.2  8540.8   943.2  8651.5   942.6  9047.3   941.3  9179.8
GR 942.9  9211.8   943.9  9609.3   938.8  9636.7   938.7 10000.0   940.3 10091.8
GR 940.4 10330.9   941.0 10598.6   943.7 10760.0   944.5 10809.0   952.8   10860
ET  2.60             7.1                            9300   11160
NC   .04     .04    .035
X1  2.60      26    9437   10850     640     230     505
GR 967.1    7292   967.4  7442.4   961.7  7739.8   957.5  7927.3   953.0  8217.8
GR 947.7  8560.5   944.7  8730.1   944.9  9057.3   944.8  9437.0   940.5  9449.9
GR 941.9  9684.7   939.6  9951.4   939.6 10000.0   939.6 10090.3   941.7 10102.7
GR 943.1 10322.7   940.5 10500.3   946.6 10580.6   946.6 10625.8   945.8 10652.9
GR 942.2 10671.4   943.4 10811.0   943.6 10850.0   944.8 11140.9   954.6 11152.0
GR 954.6   11164
ET  2.70             7.1                            9180   11238
X1  2.70      23  9268.0   11238     790     265     500
GR 973.3    7118   972.6  7364.3   965.5  7682.7   953.1  8465.4   945.5  8596.8
GR 946.0  9106.8   945.2  9268.0   941.9  9286.7   943.0  9517.5   943.0  9639.8
GR 941.3  9672.5   940.4  9879.6   942.1 10000.0   942.1 10084.8   945.5 10132.0
GR 942.2 10207.1   942.2 10369.3   944.8 10394.7   944.8 10466.1   942.8 10486.0
GR 944.4 10745.5   945.8 11226.7   955.5   11238
ET  2.80             7.1                            9160   11222
X1  2.80      19    9200   11222     460     390     500
GR 956.4  8817.0   952.8  8856.3   944.9  9060.9   943.4    9200   943.2  9214.4
GR 943.5  9447.6   942.0 10000.0   943.9 10091.2   943.9 10170.9   942.8 10185.3
GR 943.0 10439.2   945.6 10464.6   945.8 10582.0   943.7 10628.0   945.8 10774.1
GR 945.7 10820.4   942.3 10890.9   945.9 11203.4   956.6   11222
ET  2.89             7.1                            9200 11261.2
X1  2.89      14  9672.7 11261.2     485     415     485
GR 956.3  9036.4   945.7  9072.8   942.8  9142.7   942.8  9349.2   943.8  9383.0
GR 943.8  9672.7   943.0  9691.4   942.9  9950.5   942.9 10000.0   944.2 10381.7
GR 945.3 10624.7   945.8 10895.8   947.6 11244.6   958.0 11261.2
ET  2.99             7.1                            9323 11260.5
X1  2.99    25.0  9323.3 11260.5     510     430     510
GR 962.6  7939.8   960.0  8267.7   951.0  8367.2   950.9  8599.5   950.0  8850.0
GR 949.2  9079.5   945.0  9220.0   948.6  9297.9   948.6  9323.3   942.4  9360.9
GR 942.3  9406.1   944.0  9444.6   944.3  9603.0   943.2  9617.2   943.0  9673.1
GR 943.0  9950.0   943.0 10000.0   943.1 10383.7   944.9 10446.9   948.5 10615.0
GR 946.6 10883.2   942.8 10924.1   945.4 11084.4   947.0 11240.7   959.0 11260.5
ET  3.08             7.1                            9393 11278.2
X1  3.08      20  9394.2 11278.2     550     380     500
GR 963.8  7362.4   958.2  8042.5   959.4  8129.2   956.3  8659.2   951.4  8684.6
GR 949.5  9339.0   951.4  9394.2   946.4  9411.6   945.4  9444.8   943.5  9456.0
GR 943.1 10000.0   942.8 10466.0   946.6 10482.8   949.0 10575.0   947.7 10691.4
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GR 945.7 10743.6   945.3 10903.2   942.5 10939.8   948.1 11258.6   960.0 11278.2
ET  3.18            7.1                             9545 11211.1
X1  3.18    20.0 9545.9 11211.1     680     350     500
GR 963.9  7657.9   956.6  8228.7   958.0  8311.2   955.3  8840.9   950.7  8878.1
GR 951.3  9207.9   951.3  9514.4   952.2  9545.9   945.1  9575.3   944.2  9620.0
GR 943.5  9653.8   943.4 10000.0   943.9 10376.0   951.8 10390.0   950.2 10431.2
GR 947.9 10455.7   947.2 10723.6   944.7 10958.7   948.3 11195.1   959.2 11211.1
ET  3.27            7.1                             9692 11130.5
X1  3.27      17 9692.6 11130.5     575     420     510
GR 961.5  7808.3   958.3  8137.4   956.3  8362.4   953.4  9316.6   950.7  9692.6
GR 945.5  9724.1   944.5  9770.5   944.8 10000.0   944.8 10158.6   951.4 10188.1
GR 947.8 10278.9   948.5 10405.5   944.5 10606.9   944.5 10822.2   945.7 10915.2
GR 948.5 11116.0   960.5 11130.5
ET  3.37            7.1                             9750 10970.3
X1  3.37      17 9716.5 10970.3     585     460     510
GR 951.6  7874.4   957.2  8296.6   954.5  8930.2   950.8  9667.0   950.9  9716.5
GR 945.1  9738.3   945.1 10000.0   945.5 10237.8   948.9 10256.9   946.7 10280.2
GR 945.1 10477.2   945.1 10515.3   945.6 10619.0   943.4 10669.0   950.7 10741.4
GR 949.3 10945.1   961.9 10970.3
ET  3.40            7.1                             9730 10928.5
X1  3.40      23 9760.9 10928.5     175     175     175
GR 961.9  7939.2   957.7  8317.0   955.0  9117.3   952.3  9683.9   952.0  9760.9
GR 945.4  9784.1   945.4 10000.0   945.4 10039.4   950.7 10054.0   951.3 10107.8
GR 953.0 10116.4   953.1 10158.4   951.2 10170.2   951.1 10228.2   945.2 10238.1
GR 945.1 10277.1   950.5 10294.4   948.9 10485.8   946.0 10546.7   949.6 10607.8
GR 950.1 10703.8   952.3 10913.8   963.2 10928.5
ET  3.43            7.1                             9700 10873.4
X1  3.43      12 9758.5 10873.4     165     160     165
GR 961.5  7958.9   957.8  8287.1   956.3  8796.5   955.8  9654.5   953.0  9684.2
GR 952.8  9758.5   946.2  9788.6   946.0 10000.0   946.0 10271.7   951.1 10293.1
GR 951.1 10849.9   963.7 10873.4
ET  3.47            7.1                             9650 10811.2
X1  3.47      12 9779.1 10811.2     200     200     200
GR 960.8  7985.2   957.0  8505.9   955.5  9212.5   953.7  9694.6   953.2  9779.1
GR 946.1  9811.1   946.1 10000.0   946.1 10293.1   951.0 10316.8   951.5 10589.1
GR 952.6 10793.4   965.1 10811.2
ET  3.55            7.1                             9540 10684.5
X1  3.55      12 9813.5 10684.5     395     395     395
GR 962.5  7987.2   957.8  8515.4   957.3  8953.5   953.0  9750.6   952.3  9813.5
GR 948.0  9824.3   948.0 10000.0   948.2 10330.9   951.2 10339.8   952.4 10461.9
GR 953.9 10669.0   964.0 10684.5
ET  3.64            7.1                             9430   10593
X1  3.64      22 9574.7 10593.9     480     480     480
GR 964.1  8083.6   959.1  8247.8   959.4  8668.0   959.3  9544.2   963.1  9559.3
GR 963.2  9574.7   959.3  9594.4   958.4  9762.8   952.7  9785.9   952.3  9829.7
GR 949.9  9837.5   949.9  9867.7   951.2  9881.8   951.7 10004.4   951.1 10170.0
GR 949.5 10358.3   948.8 10389.3   951.1 10405.1   952.3 10560.9   954.8 10570.4
GR 954.9 10580.1   965.2 10593.9
ET  3.69            7.1                             9430   10575
X1  3.69      10    9510   10575     240     240     240
GR   959    9330     960    9510     964    9520     959    9530     956    9685
GR   952   10170     951   10340     952   10470     954   10550     966   10575
ET 3.729            7.1                             9419   10604
X1 3.729     6.0    9420   10603     260     270     265
GR 972.0    9405     968    9420   952.2    9425   952.2   10588   967.2   10603
GR 967.2   10613
NC                              0.3     0.5
X1 3.734    63.0 9400.9 10599.3      25      25      25
BT   61  9400.8   972.4   972.4 9400.9   974.9   967.5  9422.1   974.9   967.5
BT9474.5   974.8   967.4  9474.6   974.8   952.3  9481.6   974.8   952.3  9481.7
BT 974.8   967.4  9554.7   974.8   967.4  9554.8   974.8   952.3  9561.8   974.8
BT 952.3  9561.9   974.8   967.4  9634.6   974.7   967.3  9634.7   974.7   952.3
BT9641.7   974.7   952.3  9641.8   974.7   967.3  9714.5   974.6   967.2  9714.6
BT 974.6   952.3  9721.6   974.6   952.3  9721.7   974.6   967.2  9794.7   974.5
BT 967.1  9794.8   974.5   952.3  9801.8   974.5   952.3  9801.9   974.5   967.1
BT9874.9   974.4   967.0  9875.0   974.4   952.3  9882.0   974.4   952.3  9882.1
BT 974.4   967.0  9955.1   974.4   967.0  9955.2   974.4   952.3  9962.2   974.4
BT 952.3  9962.3   974.4   967.0 10034.9   974.3   966.9 10035.0   974.3   952.3
BT 10042   974.3   952.3 10042.1   974.3   966.9 10115.1   974.2   966.8 10115.2
BT 974.2   952.3 10122.2   974.2   952.3 10122.3   974.2   966.8 10194.8   974.1
BT 966.7 10194.9   974.1   952.3 10201.9   974.1   952.3 10202.0   974.1   966.7
BT 10275   974.0   966.6 10275.1   974.0   952.3 10282.1   974.0   952.3 10282.2
BT 974.0   966.6 10355.2   974.0   966.6 10355.3   974.0   952.3 10362.3   974.0
BT 952.3 10362.4   974.0   966.6 10434.9   973.9   966.5 10435.0   973.9   952.3
BT 10442   973.9   952.3 10442.1   973.9   966.5 10515.1   973.8   966.4 10515.2
BT 973.8   952.3 10522.2   973.8   952.3 10522.3   973.8   966.4 10599.3   973.8
BT 967.6 10599.4   971.1   971.1
GR 972.4  9400.8   967.5  9400.9   952.3  9416.0   952.3  9422.1   952.3  9474.5
GR 952.3  9474.6   952.3  9481.6   952.3  9481.7   952.3  9554.7   952.3  9554.8
GR 952.3  9561.8   952.3  9561.9   952.3  9634.6   952.3  9634.7   952.3  9641.7
GR 952.3  9641.8   952.3  9714.5   952.3  9714.6   952.3  9721.6   952.3  9721.7
GR 952.3  9794.7   952.3  9794.8   952.3  9801.8   952.3  9801.9   952.3  9874.9
GR 952.3  9875.0   952.3  9882.0   952.3  9882.1   952.3  9955.1   952.3  9955.2
GR 952.3  9962.2   952.3  9962.3   952.3 10034.9   952.3 10035.0   952.3 10042.0
GR 952.3 10042.1   952.3 10115.1   952.3 10115.2   952.3 10122.2   952.3 10122.3
GR 952.3 10194.8   952.3 10194.9   952.3 10201.9   952.3 10202.0   952.3 10275.0
GR 952.3 10275.1   952.3 10282.1   952.3 10282.2   952.3 10355.2   952.3 10355.3
GR 952.3 10362.3   952.3 10362.4   952.3 10434.9   952.3 10435.0   952.3 10442.0
GR 952.3 10442.1   952.3 10515.1   952.3 10515.2   952.3 10522.2   952.3 10522.3
GR 952.3 10585.2   967.6 10599.3   971.1 10599.4
X1 3.747                               70      70      70
X2                                                      1
X1 3.757     7.0    9425   10555      50      50      50
GR 968.3  9400.0   966.5  9425.0   952.3  9454.0   952.4  9708.0   952.1 10000.0
GR 952.1 10538.0   967.7 10555.0
X1 3.767      92 9428.1 10572.0      50      50      50
BT    76  9428.0   970.9   970.9 9428.1   970.9   966.9  9457.5   970.9   966.9
BT9457.6   970.9   952.9  9460.6   970.9   952.9  9460.7   970.9   966.9  9492.4
BT 970.9   966.9  9492.5   970.9   952.9  9498.5   970.9   952.9  9498.6   970.9
BT 966.9  9510.4   970.9   966.9  9510.5   970.9   952.9  9513.5   970.9   952.9
BT9513.6   970.9   966.9  9525.5   970.9   966.9  9525.6   970.9   952.9  9528.6
BT 970.9   952.9  9528.7   970.9   966.9  9540.4   970.9   966.9  9540.5   970.9
BT 952.9  9543.5   970.9   952.9  9543.6   970.9   966.9  9555.4   970.9   966.9
BT9555.5   970.9   952.9  9558.5   970.9   952.9  9558.6   970.9   966.9  9570.4
BT 970.9   966.9  9570.5   970.9   952.9  9573.5   970.9   952.9  9573.6   970.9
BT 966.9  9585.4   970.9   966.9  9585.5   970.9   952.9  9588.5   970.9   952.9
BT9588.6   970.9   966.9  9600.4   970.9   966.9  9600.5   970.9   952.9  9625.0
BT 970.9   952.9  9625.1   970.9   966.1 10374.9   970.9   966.1   10375   970.9
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BT 952.9 10400.2   970.9   952.9 10400.3   970.9   966.9 10410.9   970.9   966.9
BT 10411   970.9   952.9 10414.9   970.9   952.9   10415   970.9   966.9 10426.9
BT 970.9   966.9 10427.0   970.9   952.9 10430.0   970.9   952.9 10430.1   970.9
BT 966.9 10441.8   970.9   966.9 10441.9   970.9   952.9 10444.9   970.9   952.9
BT 10445   970.9   966.9 10456.9   970.9   966.9   10457   970.9   952.9 10460.0
BT 970.9   952.9 10460.1   970.9   966.9 10472.0   970.9   966.9 10472.1   970.9
BT 952.9 10475.1   970.9   952.9 10475.2   970.9   966.9 10486.9   970.9   966.9
BT 10487   970.9   952.9 10490.0   970.9   952.9 10490.1   970.9   966.9 10501.9
BT 970.9   966.9 10502.0   970.9   952.9 10508.9   970.9   952.9 10509.0   970.9
BT 966.9 10540.8   970.9   966.9 10540.9   970.9  952.9  10543.9   970.9   952.9
BT 10544   970.9   966.9 10571.9   970.9   966.9   10572   970.9   970.9
GR 970.9  9428.0   966.9  9428.1   952.9  9457.5   952.9  9457.6   952.9  9460.6
GR 952.9  9460.7   952.9  9492.4   952.9  9492.5   952.9  9498.5   952.9  9498.6
GR 952.9  9510.4   952.9  9510.5   952.9  9513.5   952.9  9513.6   952.9  9525.5
GR 952.9  9525.6   952.9  9528.6   952.9  9528.7   952.9  9540.4   952.9  9540.5
GR 952.9  9543.5   952.9  9543.6   952.9  9555.4   952.9  9555.5   952.9  9558.5
GR 952.9  9558.6   952.9  9570.4   952.9  9570.5   952.9  9573.5   952.9  9573.6
GR 952.9  9585.4   952.9  9585.5   952.9  9588.5   952.9  9588.6   952.9  9600.4
GR 952.9  9600.5   952.9  9625.0   952.9  9625.1   952.9  9761.9   966.1  9762.0
GR 966.1  9778.0   952.9  9778.1   952.9  9915.0   966.1  9915.1   966.1  9931.1
GR 952.9  9931.2   952.9 10068.9   966.1 10069.0   966.1 10085.0   952.9 10085.1
GR 952.9 10220.9   966.1 10221.0   966.1 10237.0   952.9 10237.1   952.9 10374.9
GR 952.9 10375.0   952.9 10400.2   952.9 10400.3   952.9 10410.9   952.9 10411.0
GR 952.9 10414.9   952.9 10415.0   952.9 10426.9   952.9 10427.0   952.9 10430.0
GR 952.9 10430.1   952.9 10441.8   952.9 10441.9   952.9 10444.9   952.9 10445.0
GR 952.9 10456.9   952.9 10457.0   952.9 10460.0   952.9 10460.1   952.9 10472.0
GR 952.9 10472.1   952.9 10475.1   952.9 10475.2   952.9 10486.9   952.9 10487.0
GR 952.9 10490.0   952.9 10490.1   952.9 10501.9   952.9 10502.0   952.9 10508.9
GR 952.9 10509.0   952.9 10540.8   952.9 10540.9   952.9 10543.9   952.9 10544.0
GR 967.2 10571.9   970.9 10572.0
X1 3.770                              20      20      20
X2                                                     1
*  BEGIN LEVEE LEFT BANK SECTION 3.78
NC   .04     .04     .03     0.1     0.3
QT    2   52000   52000
X1  3.78     7.0  9444.0 10572.0      35      35      35
GR 968.0  9444.0   953.4  9464.0   952.9 10000.0   952.9 10388.0   953.2 10554.0
GR 968.0 10572.0   968.1 10586.0
X1  3.80     8.0    9439   10590     125     125     125
GR 967.5  9439.0   953.9  9463.0   953.2  9699.0   953.1  9904.0   953.1 10000.0
GR 953.2 10302.0   953.2 10555.0   968.2 10590.0
X1  3.81    15.0    9447   10596      85      75      80
GR 967.5  9425.0   967.5  9447.0   953.4  9467.0   953.7  9800.0   963.9  9816.0
GR 961.7  9824.0   961.7  9882.0   964.9  9890.0   953.3  9911.0   953.3 10000.0
GR 953.3 10311.0   953.3 10559.0   962.7 10568.0   962.8 10582.0   968.5 10596.0
X1  3.83    11.0    9429   10577     105     105     105
GR 968.0  9420.0   968.0  9429.0   958.5  9437.0   958.4  9449.0   953.4  9459.0
GR 954.0  9777.0   952.8 10000.0   952.8 10286.0   954.2 10562.0   968.2 10577.0
GR 968.2 10589.0
X1  3.93     8.0    9445   10577     500     500     500
GR 969.1  9430.0   969.1  9445.0   955.3  9461.0   954.7  9732.0   953.5 10000.0
GR 953.5 10323.0   954.4 10556.0   970.6 10577.0
X1  4.02     8.0    9440   10577     500     500     500
GR 971.5  9440.0   954.4  9464.0   954.5  9725.0   953.9 10000.0   953.9 10340.0
GR 955.0 10554.0   970.6 10577.0   970.7 10592.0
X1  4.04    15.0    9450   10582     100     100     100
GR 972.2  9450.0   954.5  9470.0   954.6  9798.0   966.6  9814.0   966.6  9823.0
GR 963.0  9829.0   963.4  9885.0   966.8  9892.0   966.8  9900.0   954.7  9916.0
GR 954.7 10000.0   954.7 10100.0   954.7 10564.0   971.1 10582.0   971.2 10594.0
X1  4.06     7.0    9440   10578     120     120     120
GR 973.4  9440.0   955.1  9465.0   955.0  9757.0   954.9 10000.0   955.0 10558.0
GR 971.6 10578.0   971.6 10582.0
X1 4.092     7.0    9440   10578     170     170     170
GR 973.3  9440.0   955.2  9465.0   955.2  9757.0   955.2 10000.0   955.2 10558.0
GR 973.0 10578.0   973.0 10582.0
X1 4.094     7.0    9440   10578      10      10      10
GR 973.3  9440.0   958.5  9465.0   958.5  9757.0   958.5 10000.0   958.5 10558.0
GR 973.0 10578.0   973.0 10582.0
X1  4.16     7.0    9448   10600     330     330     330
GR 970.1  9430.0   973.6  9448.0   958.9  9471.0   958.6  9717.0   957.2 10000.0
GR 958.7 10569.0   974.3 10600.0
X1  4.26     7.0    9410   10556     495     495     495
GR 975.7  9410.0   960.5  9436.0   959.5  9709.0   957.0 10000.0   958.5 10294.0
GR 961.4 10532.0   974.4 10556.0
X1  4.27    15.0    9449   10588     100     100     100
GR 975.0  9440.0   974.9  9449.0   959.5  9466.0   958.0  9791.0   970.4  9807.0
GR 970.6  9818.0   968.3  9822.0   967.9  9877.0   971.5  9883.0   971.5  9891.0
GR 958.0  9910.0   957.1 10000.0   958.9 10317.0   959.7 10563.0   974.4 10588.0
X1  4.30     7.0    9458   10594     115     115     115
GR 974.8  9458.0   959.6  9475.0   958.7  9760.0   957.6 10000.0   958.6 10293.0
GR 961.1 10573.0   974.9 10594.0
X1  4.39     6.0    9440   10590     515     445     480
GR 976.1  9440.0   959.6  9462.0   958.9  9801.0   957.6 10000.0   961.4 10561.0
GR 976.2 10590.0
X1  4.48     8.0    9435   10586     535     465     500
GR 978.3  9435.0   961.5  9461.0   959.8  9734.0   957.8  9864.0   957.8 10000.0
GR 959.2 10310.0   960.5 10557.0   975.7 10586.0
X1  4.50    15.0    9440   10576     110     110     110
GR 978.4  9440.0   960.8  9462.0   959.5  9740.0   973.9  9758.0   973.9  9769.0
GR 971.1  9772.0   970.9  9830.0   973.8  9834.0   973.8  9844.0   957.8  9863.0
GR 957.8 10000.0   958.0 10262.0   960.4 10557.0   975.9 10576.0   976.5 10592.0
X1  4.52     8.0    9440   10567     115     125     120
GR 976.5  9440.0   961.4  9457.0   959.1  9772.0   958.0 10000.0   959.2 10301.0
GR 961.7 10550.0   976.0 10567.0   976.0 10578.0
X1  4.60     8.0    9445   10581     430     420     425
GR 978.9  9445.0   961.8  9468.0   959.2  9772.0   958.1 10000.0   960.2 10346.0
GR 961.7 10564.0   976.9 10581.0   976.9 10594.0
X1  4.70     9.0    9451   10579     500     500     500
GR 978.4  9440.0   978.4  9451.0   961.5  9467.0   960.2  9774.0   959.1 10000.0
GR 961.1 10353.0   962.8 10562.0   978.8 10579.0   978.9 10595.0
X1 4.754    53.0  9402.5 10572.3     150     310     225
X3    10
BT    44  9402.5   988.1   988.1  9427.7   988.1   988.1  9427.8   988.1   980.6
BT9445.8   988.1   980.6  9525.5   989.4   981.9  9525.6   989.4   960.3  9537.6
BT 989.4   960.3  9537.7   989.4   981.9  9641.5   990.8   983.3  9641.6   990.8
BT 960.3  9653.6   990.8   960.3  9653.7   990.8   983.3  9757.4   991.8   984.3
BT9757.5   991.8   960.3  9769.5   991.8   960.3  9769.6   991.8   984.3  9873.4
BT 992.3   984.8  9873.5   992.3   960.3  9885.5   992.3   960.3  9885.6   992.3
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BT 984.8  9997.8   992.8   985.3  9997.9   992.8   960.3 10009.9   992.8   960.3
BT 10010   992.8   985.3 10105.8     993   985.5 10105.9     993   960.3 10117.9
BT   993   960.3   10118     993   985.5 10221.3   992.8   985.3 10221.4   992.8
BT 960.3 10233.4   992.8   960.3 10233.5   992.8   985.3 10337.9   991.9   984.4
BT 10338   991.9   960.3   10349   991.9   960.3 10349.1   991.9   984.4 10453.5
BT 990.4   982.9 10453.6   990.4   960.3 10465.6   990.4   960.3 10465.7   990.4
BT 982.9 10555.9   988.7   981.2 10572.3   988.7   981.2 10572.4   988.7   988.7
BT 10597   988.7   988.7
GR 973.0  7150.0   972.7  8115.0   973.6  8831.0   984.3  9296.0   988.1  9402.5
GR 988.1  9427.7   980.6  9427.8   960.3  9445.8   960.3  9525.5   960.3  9525.6
GR 960.3  9537.6   960.3  9537.7   960.3  9641.5   960.3  9641.6   960.3  9653.6
GR 960.3  9653.7   960.3  9757.4   960.3  9757.5   960.3  9769.5   960.3  9769.6
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GR 960.3  9997.9   960.3 10009.9   960.3   10010   960.3 10105.8   960.3 10105.9
GR 960.3 10117.9   960.3 10118.0   960.3 10221.3   960.3 10221.4   960.3 10233.4
GR 960.3 10233.5   960.3 10337.9   960.3 10338.0   960.3 10349.0   960.3 10349.1
GR 960.3 10453.5   960.3 10453.6   960.3 10465.6   960.3 10465.7   960.3 10555.9
GR 981.2 10572.3   988.7 10572.4   988.7 10597.0   987.2 10612.0   978.1 11023.0
GR 978.7 11497.0   980.6 12014.0   982.4 12466.0
X1 4.759                              77      77      77
X2                                                     1
X3    10
X1  4.79     6.0    9440   10590     280     110     200
GR 980.2  9440.0   964.0  9466.0   961.1 10000.0   964.6 10568.0   980.8 10590.0
GR 980.8 10600.0
X1  4.89     9.0    9385   10582     455     510     485
GR 982.3  9375.0   982.3  9385.0   965.4  9400.0   963.9  9607.0   961.8 10000.0
GR 964.2 10311.0   965.5 10560.0   982.0 10582.0   982.0 10593.0
X1  4.98     9.0    9348   10630     515     520     515
GR 983.5  9340.0   983.5  9348.0   966.6  9368.0   965.2  9515.0   962.8 10000.0
GR 964.3 10382.0   965.9 10608.0   985.3 10630.0   985.3 10643.0
X1  5.00    16.0    9344   10638      90      85      88
GR 983.3  9335.0   983.3  9344.0   966.7  9363.0   966.7  9393.0   979.7  9407.0
GR 979.7  9414.0   975.7  9421.0   975.7  9470.0   979.5  9476.0   979.5  9482.0
GR 963.8  9500.0   963.4 10000.0   964.0 10283.0   965.3 10616.0   985.7 10638.0
GR 985.7 10648.0
X1  5.02     9.0    9343   10657     100     100     100
GR 983.2  9330.0   983.2  9343.0   966.3  9361.0   965.7  9634.0   964.1 10000.0
GR 964.2 10348.0   965.5 10630.0   985.0 10657.0   985.0 10661.0
X1  5.10     8.0    9300   10682     405     415     410
GR 985.3  9300.0   968.0  9329.0   967.4  9687.0   965.2 10000.0   966.3 10375.0
GR 967.3 10663.0   985.9 10682.0   985.9 10694.0
X1  5.15     9.0    9291   10713     215     330     275
GR 986.0  9275.0   986.0  9291.0   969.9  9310.0   968.1  9678.0   967.4 10000.0
GR 968.7 10469.0   968.9 10691.0   986.0 10713.0   986.0 10720.0
X1 5.201     9.0    9291   10713     180     360     270
GR 987.0  9275.0   987.0  9291.0   969.1  9310.0   969.1  9678.0   969.1 10000.0
GR 969.1 10469.0   969.1 10691.0   987.0 10713.0   987.0 10720.0
X1 5.203     9.0    9291   10713      10      10      10
GR 987.0  9275.0   987.0  9291.0   970.0  9310.0   970.0  9678.0   970.0 10000.0
GR 970.0 10469.0   970.0 10691.0   987.0 10713.0   987.0 10720.0
X1 5.250    21.0   9268.0 10735.0     265     220     245
GR 987.9  9268.0   971.9  9321.0   971.5  9344.0   970.2  9350.0   970.2  9429.0
GR 970.4  9530.0   970.6  9636.0   970.7  9731.0   970.8  9838.0   970.8 10000.0
GR 970.4 10030.0   970.4 10101.0   970.5 10200.0   972.0 10225.0   972.2 10319.0
GR 972.2 10473.0   972.2 10609.0   972.2 10682.0   987.9 10703.0   987.9 10719.0
GR 996.1 10735.0
X1 5.270    23.0   9317.0 10676.0     125     125     125
GR 987.2  9317.0   970.8  9336.0   970.8  9391.0   979.1  9408.0   979.7  9459.0
GR 971.0  9473.0   971.0  9558.0   971.2  9675.0   971.2  9819.0   971.2  9940.0
GR 971.2  9987.0   970.7 10000.0   970.7 10085.0   970.7 10184.0   972.2 10207.0
GR 972.2 10316.0   972.2 10453.0   972.2 10573.0   972.2 10655.0   989.0 10676.0
GR 989.0 10686.0   996.3 10708.0   996.3 10721.0
X1 5.290      82   9250.8 10672.4     115     150     125
BT    82  9250.7   994.5   994.5  9250.8   996.3   986.4  9277.5   996.3   986.4
BT9318.7   996.3   986.4  9318.8   996.3   971.5  9323.4   996.3   971.5  9323.5
BT 996.3   986.4  9389.9   996.5   986.6  9390.0   996.5   971.5  9394.5   996.5
BT 971.5  9394.6   996.5   986.6  9460.9   996.6   986.7  9461.0   996.6   971.5
BT9465.6   996.6   971.5  9465.7   996.6   986.7  9532.1   996.8   986.9  9532.2
BT 996.8   971.5  9536.8   996.8   971.5  9536.9   996.8   986.9  9603.3   996.9
BT 987.0  9603.4   996.9   971.5  9608.0   996.9   971.5  9608.1   996.9   987.0
BT9674.5   997.1   987.2  9674.6   997.1   971.5  9679.2   997.1   971.5  9679.3
BT 997.1   987.2  9745.7   997.3   987.4  9745.8   997.3   971.5  9750.4   997.3
BT 971.5  9750.5   997.3   987.4  9816.9   997.4   987.5  9817.0   997.4   971.5
BT9821.6   997.4   971.5  9821.7   997.4   987.5  9888.1   997.6   987.7  9888.2
BT 997.6   971.5  9892.8   997.6   971.5  9892.9   997.6   987.7  9959.3   997.7
BT 987.8  9959.4   997.7   971.5  9964.0   997.7   971.5  9964.1   997.7   987.8
BT10030.   997.9   988.0 10030.1   997.9   971.5 10034.7   997.9   971.5 10034.8
BT 997.9   988.0 10101.2   998.0   988.1 10101.3   998.0   971.5 10105.9   998.0
BT 971.5 10106.0   998.0   988.1 10172.3   998.2   988.3 10172.4   998.2   971.5
BT10177.   998.2   971.5 10177.1   998.2   988.3 10243.7   998.4   988.5 10243.8
BT 998.4   971.5 10248.4   998.4   971.5 10248.5   998.4   988.5 10314.9   998.5
BT 988.6 10315.0   998.5   971.5 10319.6   998.5   971.5 10319.7   998.5   988.6
BT10386.   998.7   988.8 10386.1   998.7   971.5 10390.7   998.7   971.5 10390.8
BT 998.7   988.8 10457.2   998.9   989.0 10457.3   998.9   971.5 10461.9   998.9
BT 971.5 10462.0   998.9   989.0 10528.4   999.1   989.1 10528.5   999.1   971.5
BT10533.   999.1   971.5 10533.1   999.1   989.1 10599.5   999.3   989.2 10599.6
BT 999.3   971.5 10604.2   999.3   971.5 10604.3   999.3   989.2 10645.5   999.3
BT 989.2 10672.3   999.5   989.4 10672.4   997.7   997.7
GR 994.5  9250.7   986.4  9250.8   971.5  9277.5   971.5  9318.7   971.5  9318.8
GR 971.5  9323.4   971.5  9323.5   971.5  9389.9   971.5  9390.0   971.5  9394.5
GR 971.5  9394.6   971.5  9460.9   971.5  9461.0   971.5  9465.6   971.5  9465.7
GR 971.5  9532.1   971.5  9532.2   971.5  9536.8   971.5  9536.9   971.5  9603.3
GR971.5   9603.4   971.5  9608.0   971.5  9608.1   971.5  9674.5   971.5  9674.6
GR971.5   9679.2   971.5  9679.3   971.5  9745.7   971.5  9745.8   971.5  9750.4
GR971.5   9750.5   971.5  9816.9   971.5  9817.0   971.5  9821.6   971.5  9821.7
GR971.5   9888.1   971.5  9888.2   971.5  9892.8   971.5  9892.9   971.5  9959.3
GR971.5   9959.4   971.5  9964.0   971.5  9964.1   971.5 10030.0   971.5 10030.1
GR971.5  10034.7   971.5 10034.8   971.5 10101.2   971.5 10101.3   971.5 10105.9
GR971.5  10106.0   971.5 10172.3   971.5 10172.4   971.5 10177.0   971.5 10177.1
GR971.5  10243.7   971.5 10243.8   971.5 10248.4   971.5 10248.5   971.5 10314.9
GR971.5  10315.0   971.5 10319.6   971.5 10319.7   971.5 10386.0   971.5 10386.1
GR971.5  10390.7   971.5 10390.8   971.5 10457.2   971.5 10457.3   971.5 10461.9
GR971.5  10462.0   971.5 10528.4   971.5 10528.5   971.5 10533.0   971.5 10533.1
GR971.5  10599.5   971.5 10599.6   971.5 10604.2   971.5 10604.3   971.5 10645.5
GR989.4  10672.3   997.7 10672.4
X1 5.305                              60      60      60
X2                                                     1
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QT     2   54400   54400
X1 5.317      82  9250.8 10672.4      65      65      65
BT    82  9250.7   994.5   994.5  9250.8   996.3   986.4  9277.5   996.3   986.4
BT9318.7   996.3   986.4  9318.8   996.3   971.7  9323.4   996.3   971.7  9323.5
BT 996.3   986.4  9389.9   996.5   986.6  9390.0   996.5   971.7  9394.5   996.5
BT 971.7  9394.6   996.5   986.6  9460.9   996.6   986.7  9461.0   996.6   971.7
BT9465.6   996.6   971.7  9465.7   996.6   986.7  9532.1   996.8   986.9  9532.2
BT 996.8   971.7  9536.8   996.8   971.7  9536.9   996.8   986.9  9603.3   996.9
BT 987.0  9603.4   996.9   971.7  9608.0   996.9   971.7  9608.1   996.9   987.0
BT9674.5   997.1   987.2  9674.6   997.1   971.7  9679.2   997.1   971.7  9679.3
BT 997.1   987.2  9745.7   997.3   987.4  9745.8   997.3   971.7  9750.4   997.3
BT 971.7  9750.5   997.3   987.4  9816.9   997.4   987.5  9817.0   997.4   971.7
BT9821.6   997.4   971.7  9821.7   997.4   987.5  9888.1   997.6   987.7  9888.2
BT 997.6   971.7  9892.8   997.6   971.7  9892.9   997.6   987.7  9959.3   997.7
BT 987.8  9959.4   997.7   971.7  9964.0   997.7   971.7  9964.1   997.7   987.8
BT10030.   997.9   988.0 10030.1   997.9   971.7 10034.7   997.9   971.7 10034.8
BT 997.9   988.0 10101.2   998.0   988.1 10101.3   998.0   971.7 10105.9   998.0
BT 971.7 10106.0   998.0   988.1 10172.3   998.2   988.3 10172.4   998.2   971.7
BT10177.   998.2   971.7 10177.1   998.2   988.3 10243.7   998.4   988.5 10243.8
BT 998.4   971.7 10248.4   998.4   971.7 10248.5   998.4   988.5 10314.9   998.5
BT 988.6 10315.0   998.5   971.7 10319.6   998.5   971.7 10319.7   998.5   988.6
BT10386.   998.7   988.8 10386.1   998.7   971.7 10390.7   998.7   971.7 10390.8
BT 998.7   988.8 10457.2   998.9   989.0 10457.3   998.9   971.7 10461.9   998.9
BT 971.7 10462.0   998.9   989.0 10528.4   999.1   989.1 10528.5   999.1   971.7
BT10533.   999.1   971.7 10533.1   999.1   989.1 10599.5   999.3   989.2 10599.6
BT 999.3   971.7 10604.2   999.3   971.7 10604.3   999.3   989.2 10645.5   999.3
BT 989.2 10672.3   999.5   989.4 10672.4   997.7   997.7
GR 994.5  9250.7   986.4  9250.8   971.7  9277.5   971.7  9318.7   971.7  9318.8
GR 971.7  9323.4   971.7  9323.5   971.7  9389.9   971.7  9390.0   971.7  9394.5
GR 971.7  9394.6   971.7  9460.9   971.7  9461.0   971.7  9465.6   971.7  9465.7
GR 971.7  9532.1   971.7  9532.2   971.7  9536.8   971.7  9536.9   971.7  9603.3
GR971.7   9603.4   971.7  9608.0   971.7  9608.1   971.7  9674.5   971.7  9674.6
GR971.7   9679.2   971.7  9679.3   971.7  9745.7   971.7  9745.8   971.7  9750.4
GR971.7   9750.5   971.7  9816.9   971.7  9817.0   971.7  9821.6   971.7  9821.7
GR971.7   9888.1   971.7  9888.2   971.7  9892.8   971.7  9892.9   971.7  9959.3
GR971.7   9959.4   971.7  9964.0   971.7  9964.1   971.7 10030.0   971.7 10030.1
GR971.7  10034.7   971.7 10034.8   971.7 10101.2   971.7 10101.3   971.7 10105.9
GR971.7  10106.0   971.7 10172.3   971.7 10172.4   971.7 10177.0   971.7 10177.1
GR971.7  10243.7   971.7 10243.8   971.7 10248.4   971.7 10248.5   971.7 10314.9
GR971.7  10315.0   971.7 10319.6   971.7 10319.7   971.7 10386.0   971.7 10386.1
GR971.7  10390.7   971.7 10390.8   971.7 10457.2   971.7 10457.3   971.7 10461.9
GR971.7  10462.0   971.7 10528.4   971.7 10528.5   971.7 10533.0   971.7 10533.1
GR971.7  10599.5   971.7 10599.6   971.7 10604.2   971.7 10604.3   971.7 10645.5
GR989.4  10672.3   997.7 10672.4
X1 5.328                              60      60      60
X2                                                     1
X1 5.380     20.0  9266.0 10656.0     120     460     280
GR 993.0  9214.0   987.7  9266.0   985.7  9342.0   972.8  9358.0   972.3  9413.0
GR 972.2  9565.0   972.2  9734.0   972.2  9889.0   972.2  9994.0   971.4 10000.0
GR 971.4 10062.0   971.4 10195.0   974.3 10208.0   974.2 10263.0   974.2 10420.0
GR 974.2 10582.0   974.2 10639.0   988.4 10656.0   988.6 10671.0   982.3 10702.0
ET 5.480      9.1     9.1                                            9310   10594
X1 5.480     17.0  9320.0 10579.0     250     700     540
GR 980.0     9140   973.3     9160   973.2  9320.0   973.0  9500.0   973.4  9624.0
GR 973.5  9753.0   973.0  9866.0   972.7  9947.0   972.8 10000.0   972.8 10082.0
GR 972.9  10155.   973.9  10179.   974.4 10305.0   974.4 10507.0   974.4 10559.0
GR 988.8  10579.   989.0  10594.       0
ET 5.510      9.1     9.1                                            9320   10584
X1 5.510     24.0  9325.0 10567.0     150     100     150
GR 980.0  8930.0   973.3  8950.0   973.4  9325.0   974.0  9512.0   974.2  9629.0
GR 973.9  9728.0   973.9  9794.0   982.8  9804.0   982.8  9818.0   980.6  9822.0
GR 980.5  9873.0   983.8  9881.0   983.8  9892.0   973.9  9904.0   973.9  9937.0
GR 972.7  9972.0   972.7  10000.   973.1 10158.0   974.9 10185.0   974.9 10308.0
GR 974.9  10468.   974.9  10549.   990.1 10567.0   990.1 10584.0
ET 5.540      9.1     9.1                                            9330   10562
X1 5.540     18.0  9340.0 10550.0     130     150     140
GR 980.0  8730.0   973.3  8750.0   972.6  9340.0   973.3  9412.0   974.1  9523.0
GR 974.2  9631.0   974.7  9753.0   975.1  9921.0   974.1  9943.0   974.1 10000.0
GR 974.1  10060.   974.1  10173.   975.7 10189.0   975.7 10293.0   975.7 10430.0
GR 975.7  10533.   988.4  10550.   988.6 10562.0
X1 5.650     17.0  9409.0 10577.0     580     580     580
GR 987.4  9409.0   975.0  9431.0   975.0  9495.0   975.0  9613.0   975.0  9747.0
GR 975.2  9863.0   975.3  9940.0   972.9  9966.0   973.0 10000.0   973.0 10101.0
GR 973.0 10191.0   974.9 10218.0   974.9 10338.0   974.9 10528.0   993.2 10577.0
GR 995.0 10597.0   995.5 10626.0
X1 5.689     42  9371.3 10552.8     210     210     210
BT    40  9371.2   996.9   996.9  9371.3  1000.3   990.8  9488.7  1002.4   992.9
BT9488.8  1002.4  973.85  9496.2  1002.4  973.85  9496.3  1002.4   992.9  9606.6
BT1004.1   994.6  9606.7  1004.1  973.85  9614.1  1004.1  973.85  9614.2  1004.1
BT 994.6  9725.8  1005.3   995.8  9725.9  1005.3  973.85  9733.3  1005.3  973.85
BT9733.4  1005.3   995.8  9843.3  1006.0   996.5  9843.4  1006.0  973.85  9850.8
BT1006.0  973.85  9850.9  1006.0   996.5  9961.3  1006.3   996.8  9961.4  1006.3
BT973.85  9968.8  1006.3  973.85  9968.9  1006.3   996.8 10078.9  1006.0   996.5
BT10079.  1006.0  973.85 10086.4  1006.0  973.85 10086.5  1006.0   996.5 10196.2
BT1005.3   995.8 10196.3  1005.3  973.85 10203.7  1005.3  973.85 10203.8  1005.3
BT 995.8 10314.4  1004.1   994.6 10314.5  1004.1  973.85 10321.9  1004.1  973.85
BT10322.  1004.1   994.6 10432.1  1002.4   992.9 10432.2  1002.4  973.85 10439.6
BT1002.4  973.85 10439.7  1002.4   992.9 10552.8  1000.3   990.8 10552.9   996.9
BT 996.9
GR996.9   9371.2   990.8  9371.3  973.85  9399.5  973.85  9488.7  973.85  9488.8
GR973.85  9496.2  973.85  9496.3  973.85  9606.6  973.85  9606.7  973.85  9614.1
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GR973.85  9843.3  973.85  9843.4  973.85  9850.8  973.85  9850.9  973.85  9961.3
GR973.85  9961.4  973.85  9968.8  973.85  9968.9  973.85 10078.9  973.85 10079.0
GR973.85 10086.4  973.85 10086.5  973.85 10196.2  973.85 10196.3  973.85 10203.7
GR973.85 10203.8  973.85 10314.4  973.85 10314.5  973.85 10321.9  973.85 10322.0
GR973.85 10432.1  973.85 10432.2  973.85 10439.6  973.85 10439.7  973.85 10524.6
GR 990.8 10552.8   996.9 10552.9
X1 5.700                              60      60      60
X2                                                     1
X1 5.750     22.0  9426.0 10579.0     310     310     310
GR 990.7  9287.0   990.7  9295.0   985.9  9330.0   983.9  9362.0   985.6  9388.0
GR 990.1  9416.0   990.3  9426.0   975.3  9477.0   975.3  9595.0   975.5  9715.0
GR 975.5  9864.0   975.5  9981.0   974.0  9994.0   973.7 10030.0   973.7 10095.0
GR 973.7 10244.0   975.6 10259.0   975.6 10349.0   975.7 10474.0   975.7 10565.0
GR 989.2 10579.0   989.6 10596.0
X1 5.770     16.0  9416.0 10568.0     140.0   150.0   145.0
GR 989.4  9416.0   976.8  9452.0   976.2  9519.0   975.7  9613.0   975.7  9744.0
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GR 975.7  9874.0   975.7  9965.0   973.5  9980.0   973.5 10040.0   973.5 10120.0
GR 973.5 10216.0   975.6 10237.0   976.0 10304.0   976.0 10461.0   976.0 10552.0
GR 991.1 10568.0
X1 5.790    24.0  9425.0 10567.0   150.0   160.0   155.0     0.0     0.0     0.0
GR 992.3  9409.0   992.3  9425.0   978.2  9452.0   978.2  9515.0   976.4  9593.0
GR 976.1  9728.0   987.2  9740.0   987.2  9749.0   983.4  9758.0   983.5  9807.0
GR 987.7  9814.0   987.8  9828.0   976.8  9839.0   976.7  9964.0   974.7  9975.0
GR 974.6 10020.0   974.6 10105.0   974.6 10222.0   976.1 10242.0   976.1 10324.0
GR 976.1 10452.0   976.6 10550.0   990.2 10567.0   990.3 10581.0
X1 5.810    17.0  9442.0 10570.0   160.0   140.0   150.0     0.0     0.0     0.0
GR 990.8  9432.0   990.8  9442.0   975.3  9458.0   975.3  9552.0   976.6  9641.0
GR 976.6  9731.0   976.6  9845.0   976.6  9969.0   974.6  9977.0   974.6 10020.0
GR 974.6 10099.0   974.6 10229.0   977.1 10250.0   976.8 10331.0   976.5 10448.0
GR 976.5 10552.0   991.0 10570.0
X1 5.900    17.0  9429.0 10561.0   495.0   500.0   500.0
GR 993.0  9414.0   993.0  9429.0   977.5  9447.0   977.5  9506.0   977.5  9598.0
GR 977.5  9714.0   977.6  9829.0   977.4  9946.0   975.4  9958.0   975.5 10040.0
GR 975.5 10099.0   975.5 10230.0   977.4 10257.0   977.6 10344.0   977.6 10459.0
GR 977.6 10544.0   991.1 10561.0
X1 5.990    16.0  9429.0 10561.0     515     485     500
GR 992.5  9418.0   992.5  9429.0   979.0  9447.0   978.7  9527.0   978.7  9618.0
GR 979.0  9688.0   979.0  9801.0   978.0  9930.0   975.5  9947.0   975.5 10000.0
GR 975.5 10090.0   975.5 10240.0   978.4 10257.0   978.4 10338.0   978.4 10540.0
GR 993.2 10561.0
X1 6.070    15.0  9416.0 10545.0     400     420     410
GR 992.7  9416.0   979.3  9431.0   979.3  9490.0   979.2  9585.0   979.2  9712.0
GR 979.0  9831.0   978.7  9925.0   976.7  9971.0   976.7 10000.0   976.7 10114.0
GR 976.7 10208.0   977.8 10260.0   978.4 10376.0   978.6 10528.0   992.4 10545.0
X1 6.160    13.0  9420.0 10553.0     500     500     500
GR 994.0  9420.0   979.1  9437.0   979.1  9527.0   979.1  9638.0   979.1  9781.0
GR 979.3  9906.0   979.3 10000.0   979.3 10063.0   979.3 10215.0   979.3 10397.0
GR 979.3 10535.0   993.2 10553.0   993.1 10566.0
X1 6.260    16.0  9425.0 10559.0     510     495     500
GR 993.8  9409.0   994.1  9425.0   981.3  9443.0   981.3  9522.0   981.4  9639.0
GR 981.2  9768.0   981.1  9888.0   980.2  9966.0   980.2 10000.0   980.2 10056.0
GR 980.3 10165.0   980.5 10289.0   980.5 10412.0   980.9 10543.0   993.3 10559.0
GR 993.3 10572.0
X1 6.350    15.0  9446.0 10560.0     525     475     500
GR 996.1  9421.0   996.3  9446.0   980.7  9464.0   981.8  9576.0   982.6  9667.0
GR 982.6  9792.0   982.4  9959.0   980.5  9974.0   980.5 10000.0   980.5 10085.0
GR 980.5 10205.0   981.7 10326.0   981.8 10459.0   981.8 10543.0   996.3 10560.0
X1 6.430    20.0  9452.0 10537.0     510     380     445
GR 996.1  9390.0   991.8  9409.0   991.6  9433.0   996.5  9443.0   996.5  9452.0
GR 984.1  9467.0   984.0  9528.0   984.3  9631.0   984.3  9768.0   984.1  9894.0
GR 983.2  9980.0   981.0 10000.0   981.0 10057.0   981.3 10156.0   981.9 10213.0
GR 983.2 10232.0   983.2 10359.0   982.5 10519.0   996.1 10537.0   996.1 10550.0
X1 6.520    18.0  9459.0 10571.0     510     370     440
GR 997.6  9431.0   997.6  9459.0   984.0  9479.0   983.6  9542.0   983.6  9640.0
GR 983.6  9770.0   983.6  9903.0   983.4 10000.0   983.4 10058.0   981.6 10077.0
GR 981.5 10167.0   981.6 10283.0   982.4 10298.0   982.4 10393.0   982.2 10512.0
GR 982.3 10558.0   997.6 10571.0   997.6 10589.0
X1 6.540    25.0  9462.0 10583.0     100      75      90
GR 997.9  9436.0   997.9  9462.0   984.9  9481.0   984.9  9553.0   992.8  9564.0
GR 992.8  9574.0   990.9  9580.0   990.9  9631.0   993.7  9641.0   993.8  9653.0
GR 984.3  9670.0   984.3  9746.0   984.1  9830.0   984.1  9939.0   984.1 10000.0
GR 983.9 10063.0   982.4 10082.0   982.4 10163.0   982.4 10292.0   983.4 10306.0
GR 983.1 10364.0   983.1 10506.0   983.1 10563.0   997.5 10583.0   997.5 10595.0
X1 6.560    17.0  9462.0 10591.0     115      85     100
GR 998.1  9440.0   998.1  9462.0   985.1  9482.0   985.0  9547.0   985.0  9657.0
GR 984.5  9764.0   983.6  9848.0   983.6  9941.0   983.6 10000.0   983.6 10073.0
GR 982.6 10089.0   982.6 10171.0   982.1 10300.0   983.0 10319.0   983.0 10433.0
GR 983.0 10570.0   997.7 10591.0
X1 6.590    18.0  9454.0 10584.0     165     155     150
GR 998.5  9441.0   998.5  9454.0   984.0  9471.0   983.7  9532.0   983.8  9661.0
GR 984.2  9769.0   983.9  9852.0   983.6  9964.0   983.6 10000.0   983.6 10058.0
GR 981.8 10078.0   981.8 10175.0   981.8 10288.0   983.0 10304.0   983.0 10405.0
GR 983.2 10564.0   998.0 10584.0   998.0 10596.0
X1 6.610    24.0  9439.0 10570.0     115      85     100
GR 998.8  9428.0   998.8  9439.0   985.3  9456.0   985.3  9540.0   985.3  9654.0
GR 985.1  9784.0   984.0  9858.0   994.7  9870.0   994.7  9883.0   990.1  9890.0
GR 990.1  9939.0   995.4  9950.0   995.4  9959.0   984.3  9976.0   984.3 10000.0
GR 984.0 10049.0   981.9 10063.0   981.8 10154.0   981.8 10279.0   983.7 10291.0
GR 983.8 10364.0   983.8 10555.0   998.2 10570.0   998.2 10584.0
X1 6.640    16.0  9445.0 10575.0     165     135     150
GR 999.3  9435.0   999.3  9445.0   985.5  9462.0   985.5  9574.0   984.5  9697.0
GR 984.3  9837.0   984.3 10000.0   984.2 10036.0   982.4 10053.0   982.4 10128.0
GR 982.4 10266.0   984.2 10280.0   984.2 10397.0   984.2 10558.0   998.4 10575.0
GR 998.4 10591.0
X1 6.660    21.0  9466.0 10599.0     150     120     135
GR 999.6  9455.0   999.6  9466.0   985.7  9484.0   985.7  9553.0   985.7  9682.0
GR 985.7  9830.0   985.3  9951.0   985.0 10000.0   985.0 10041.0   982.2 10057.0
GR 982.2 10126.0   982.2 10238.0   982.2 10265.0   984.6 10282.0   984.7 10388.0
GR 988.7 10400.0   989.9 10445.0   984.7 10459.0   984.7 10579.0   999.0 10599.0
GR 999.0 10608.0
X1 6.690    17.0  9451.0 10585.0     145     100     125
GR1000.0  9442.0  1000.0  9451.0   985.4  9472.0   985.4  9554.0   985.4  9692.0
GR 985.3  9832.0   985.3  9934.0   984.9 10000.0   982.6 10017.0   982.6 10102.0
GR 982.2 10235.0   983.9 10255.0   984.0 10345.0   984.0 10490.0   984.3 10564.0
GR 998.8 10585.0   998.8 10598.0
X1 6.710    24.0  9452.0 10585.0     130     115     125
GR1000.3  9441.0  1000.3  9452.0   984.3  9474.0   984.3  9574.0   984.5  9690.0
GR 984.5  9833.0   993.8  9846.0   994.6  9862.0   992.7  9868.0   992.9  9918.0
GR 995.5  9928.0   995.5  9936.0   985.7  9951.0   985.2  9979.0   981.5  9997.0
GR 981.5 10000.0   981.5 10111.0   981.5 10201.0   983.6 10225.0   983.7 10320.0
GR 984.2 10462.0   984.3 10562.0   999.1 10585.0   999.1 10594.0
X1 6.730    18.0  9452.0 10584.0     110     110     110
GR1000.5  9442.0  1000.5  9452.0   985.1  9470.0   985.0  9536.0   985.0  9650.0
GR 985.0  9792.0   984.8  9898.0   984.8  9943.0   982.4  9962.0   982.4 10000.0
GR 982.4 10073.0   982.4 10180.0   984.0 10202.0   984.3 10322.0   984.7 10491.0
GR 984.7 10563.0   999.3 10584.0   999.3 10596.0
X1 6.770    18.0  9443.0 10574.0     215     245     230
GR1002.1  9430.0  1002.1  9443.0   987.9  9463.0   988.1  9523.0   988.6  9649.0
GR 988.6  9757.0   985.6  9777.0   985.5  9916.0   985.2  9978.0   985.1 10000.0
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GR 988.2 10555.0  1001.4 10574.0  1001.7 10590.0
X1 6.790    23.0  9444.0 10573.0     110     110     110
GR1002.9  9429.0  1002.9  9444.0   988.8  9462.0   988.8  9545.0   987.7  9672.0
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GR 987.5 10091.0   998.1 10103.0   998.1 10117.0   996.1 10126.0   996.2 10178.0
GR 998.5 10184.0   998.5 10191.0   987.8 10209.0   987.8 10320.0   987.8 10455.0
GR 988.1 10555.0  1002.2 10573.0  1002.2 10585.0
X1 6.820    17.0  9444.0 10573.0     115     115     115
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GR 985.7  9745.0   985.9  9860.0   984.8  9990.0   984.8 10000.0   985.9 10065.0
GR 988.4 10076.0   988.4 10157.0   988.0 10268.0   988.0 10400.0   988.0 10557.0
GR1001.0 10573.0  1001.0 10591.0
X1 6.890    16.0  9439.0 10577.0     365     365     365
GR1004.2  9428.0  1004.2  9439.0   989.9  9461.0   989.9  9574.0   989.9  9700.0
GR 989.8  9818.0   989.4  9954.0   989.4  9973.0   989.4 10000.0   989.4 10039.0
GR 989.4 10132.0   989.4 10266.0   989.4 10427.0   989.4 10558.0  1002.7 10577.0
GR1002.7 10588.0
X1 6.910    17.0  9430.0 10579.0     105     115     110
GR1002.8  9417.0  1002.8  9430.0   989.5  9452.0   989.9  9524.0   989.9  9677.0
GR 989.9  9807.0   989.5  9970.0   989.5 10000.0   989.5 10018.0  1000.2 10037.0
GR1000.2 10125.0   989.8 10142.0   989.8 10236.0   989.8 10390.0   989.8 10561.0
GR1002.7 10579.0  1002.7 10589.0
X1 6.930    17.0  9413.0 10573.0     105     105     105
GR1004.8  9405.0  1004.8  9413.0   999.9  9417.0   999.9  9426.0   989.9  9442.0
GR 989.9  9572.0   989.9  9706.0   990.0  9833.0   990.1  9955.0   989.9 10000.0
GR 989.9 10053.0   989.9 10201.0   989.9 10359.0   990.1 10545.0   990.9 10558.0
GR1003.9 10573.0  1003.9 10582.0
X1 6.970    15.0  9405.0 10570.0     220     240     230
GR1004.1  9395.0  1004.2  9405.0   991.7  9423.0   991.3  9444.0   990.4  9703.0
GR 990.4  9859.0   990.4 10000.0   990.4 10050.0   990.4 10156.0   990.4 10291.0
GR 990.4 10417.0   990.4 10542.0   991.7 10552.0  1004.6 10570.0  1004.6 10583.0
X1 6.990    19.0  9400.0 10559.0      95     115     105
GR1003.3  9393.0  1003.4  9400.0   997.4  9411.0   997.3  9418.0   991.4  9429.0
GR 991.4  9534.0   991.1  9695.0   991.1  9871.0   991.1 10000.0   991.1 10072.0
GR 991.2 10186.0   991.3 10300.0   998.4 10313.0   998.4 10323.0   998.4 10404.0
GR 990.2 10418.0   990.2 10540.0  1003.5 10559.0  1004.0 10574.0
X1 7.020    16.0  9433.0 10570.0     120     130     125
GR1004.3  9421.0  1004.5  9433.0   991.5  9455.0   991.5  9560.0   991.5  9711.0
GR 991.1  9854.0   989.1  9913.0   990.1  9991.0   990.1 10000.0   990.1 10068.0
GR 990.7 10175.0   991.3 10301.0   990.6 10427.0   990.5 10549.0  1004.0 10570.0
GR1004.0 10583.0
X1 7.060    15.0  9442.0 10559.0     210     235     225
GR1005.0  9419.0  1006.0  9442.0   993.3  9467.0   992.3  9545.0   992.1  9691.0
GR 990.7  9877.0   989.6  9894.0   990.1 10000.0   990.1 10124.0   991.5 10151.0
GR 991.9 10259.0   991.8 10389.0   991.8 10543.0  1004.8 10559.0  1004.8 10571.0
X1 7.080    18.0  9440.0 10563.0     110     110     110
GR1006.6  9440.0  1006.5  9456.0   991.7  9475.0   991.7  9583.0   991.7  9730.0
GR 991.7  9878.0   990.5  9895.0   990.5  9985.0   990.5 10000.0   990.5 10133.0
GR 992.2 10156.0   992.1 10278.0  1000.4 10293.0  1000.4 10375.0   991.7 10388.0
GR 991.7 10548.0  1005.6 10563.0  1005.6 10578.0
X1 7.100    15.0  9440.0 10543.0     125     125     125
GR1006.2  9427.0  1006.3  9440.0   993.4  9459.0   993.4  9562.0   993.2  9687.0
GR 992.4  9860.0   990.9  9879.0   990.9 10000.0   991.0 10115.0   993.1 10133.0
GR 993.4 10239.0   993.0 10375.0   992.2 10527.0  1006.1 10543.0  1006.1 10555.0
X1 7.200    16.0  9474.0 10558.0     515     490     500
GR1006.9  9461.0  1006.9  9474.0   991.9  9491.0   991.9  9591.0   992.5  9703.0
GR 992.5  9866.0   990.7  9888.0   991.7  9994.0   991.7 10000.0   991.7 10121.0
GR 993.0 10133.0   993.2 10236.0   993.2 10374.0   993.2 10534.0  1007.2 10558.0
GR1007.5 10578.0
X1 7.290    15.0  9456.0 10529.0     490     510     500
GR1008.9  9456.0  1008.9  9473.0   994.9  9490.0   994.7  9578.0   994.6  9691.0
GR 994.5  9806.0   993.4  9889.0   993.2 10000.0   993.2 10077.0   993.9 10117.0
GR 994.0 10230.0   994.0 10371.0   994.0 10488.0  1009.1 10529.0  1009.1 10546.0
X1 7.390    16.0  9499.0 10536.0     500     495     495
GR1008.8  9484.0  1008.8  9499.0   994.4  9516.0   993.9  9614.0   993.8  9735.0
GR 994.2  9841.0   994.8  9894.0   994.4  9985.0   994.2 10000.0   994.2 10064.0
GR 994.8 10155.0   994.8 10289.0   995.3 10433.0   995.4 10489.0  1009.9 10536.0
GR1009.9 10556.0
X1 7.490    13.0  9509.0 10525.0     575     515     515
GR1009.5  9493.0  1009.5  9509.0   995.2  9526.0   995.4  9612.0   995.6  9736.0
GR 995.5  9871.0   995.3 10000.0   995.3 10064.0   995.4 10173.0   995.7 10289.0
GR 995.7 10474.0  1010.9 10525.0  1010.9 10541.0
X1 7.580    14.0  9499.0 10529.0     540     405     480
GR1010.3  9499.0   996.5  9536.0   995.9  9644.0   995.4  9797.0   995.4  9949.0
GR 995.4 10000.0   995.4 10048.0   995.4 10190.0   995.4 10311.0   995.4 10387.0
GR 996.7 10447.0  1006.7 10499.0  1010.9 10529.0  1011.0 10544.0
X1 7.670    10.0  9515.0 10552.0     480     530     510
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GR 994.7 10000.0   995.0 10281.0   994.6 10496.0  1010.1 10552.0  1010.1 10575.0
X1 7.770    10.0  9490.0 10556.0     510     500     500
X3    10
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GR 996.4 10000.0   996.4 10242.0   996.1 10496.0  1010.9 10556.0  1010.9 10577.0
X1 7.870    32.0  9450.0 10589.0     650     410     500
X3    10
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GR1001.2  9145.0   997.2  9215.0   994.3  9277.0  1006.5  9342.0  1010.8  9374.0
GR1010.5  9450.0   997.4  9476.0   997.5  9620.0   997.7  9849.0   997.8  9992.0
GR 997.8 10000.0   997.8 10178.0   998.1 10433.0   998.1 10560.0  1013.1 10589.0
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X1 7.990    37.0  9293.0 10732.0     175     175     175
X3    10
GR1012.2  8010.0  1013.2  8065.0  1014.0  8150.0  1012.5  8436.0  1010.7  8709.0
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GR 999.1 10000.0   999.1 10303.0   999.3 10681.0  1014.8 10732.0  1017.3 10907.0
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NC                             .3      .5
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BT1013.3  9452.9  1021.3  1013.3  9453.0  1021.3   999.2  9467.0  1021.3   999.2
BT9467.1  1021.3  1013.3  9542.9  1021.3  1013.3  9543.0  1021.3   999.2  9557.0
BT1021.3   999.2  9557.1  1021.3  1013.3  9632.9  1021.3  1013.3  9633.0  1021.3
BT 999.2  9647.0  1021.3   999.2  9647.1  1021.3  1013.3  9722.9  1021.3  1013.3
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BT1021.3  1013.3  9813.0  1021.3   999.2  9827.0  1021.3   999.2  9827.1  1021.3
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GR 999.2  9633.0   999.2  9647.0   999.2  9647.1   999.2  9722.9   999.2  9723.0
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GR 999.2  9827.1   999.2  9902.9   999.2  9903.0   999.2  9917.0   999.2  9917.1
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X1 8.010       0                     75      75      75
X2                                                    1
NC  .040    .040    .030      .1      .3
ET 8.030     9.1     9.1                                            9440   10904
X1 8.030      94  9441.4 10903.2      50      50      50
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GR1009.4  9154.7  1011.8  9200.0  1011.6  9204.3  1018.9  9237.5  1014.1  9397.9
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*  END LEFT LEVEE SECTION 8.105
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X1 8.105      91  9493.9 10978.6     280     620  397.59
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X1 8.198      92  9458.7 10971.0     420     620  490.43
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NC  .040    .040    .035
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GR1017.9   9472.2   1013.1   9480.0   1010.0   9483.5  1006.6   9491.1   1005.7   9507.2
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GR1004.8   9589.2   1002.1   9603.3   1002.6   9761.4  1003.7   9776.2   1004.9   9804.7
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GR1005.0  10746.6   1005.6  10896.0   1005.3  10922.7  1004.4  10932.4   1005.1  10947.0
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ET 8.433      9.1      7.1                                9250   10975   9009.5   11000
X1 8.433       87   9583.1 10597.5      510      660  572.54
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GR1011.1   6957.5   1012.4   6964.4   1010.1   6973.7  1011.4   7022.6   1011.2   7053.6
GR1010.3   7053.9   1010.3   7111.1   1011.8   7151.3  1011.0   7155.6   1012.0   7391.8
GR1011.6   7613.9   1012.1   7874.2   1013.4   8117.3  1013.0   8158.4   1014.3   8163.4
GR1014.4   8173.5   1012.8   8179.0   1013.0   8214.2  1014.4   8284.9   1013.6   8286.3
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GR1011.6  10827.2   1010.6  10883.1   1011.5  10884.0  1011.7  10991.4   1013.3  10999.4
GR1011.9  11154.1   1013.8  11176.2   1014.1  11233.5  1013.1  11268.3   1013.7  11274.5
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GR1015.0  11376.3   1014.8  11586.0
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 8.534 TO 8.875.
ET 8.534      9.1      7.1                                9010   10965   8509.0   11252
X1 8.534       73   9067.4 10611.9      540      525  531.32
GR1016.7   5726.8   1016.6   5763.5   1015.5   5775.8  1014.8   5877.7   1017.3   5885.8
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GR1014.2     8464   1016.0     8470   1017.7     8509  1013.9   8513.3   1009.9   8638.3
GR1009.6   8679.7   1007.8   8697.3   1008.1   8905.8  1010.6   8914.7   1011.7   8983.8
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GR  1010  10072.1   1011.2  10082.5   1012.0     10395  1012.2  10611.9   1010.2  10765.5
GR1010.9  10786.3   1010.0  10789.7   1008.5  11095.7  1014.8     11122   1016.1  11251.5
GR1015.0  11309.6   1014.9  11425.9   1013.8  11604.2  1020.3     11624   1020.1     11649
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X1 8.646       70   9268.7 10600.8      575      600  591.78
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X1 8.768       73   9584.7 10102.8      620      640  641.67
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GR1034.5 14111.5  1033.9 14119.2  1034.4 14126.8
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 10.343 TO 10.538.
NC  .050    .050    .045
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GR1057.0  9076.1  1055.8  9081.4  1057.8  9120.0  1059.0  9222.0  1057.1  9241.3
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GR1062.2  9431.7  1058.7  9446.3  1058.1  9460.4  1061.1  9473.0  1060.3  9587.0
GR1058.2  9587.8  1058.3  9604.0  1058.6  9607.0  1056.6  9613.1  1053.6  9620.2
GR1051.9  9625.0    1050  9632.2    1050  9640.6    1050  9714.2    1050  9725.0
GR  1050  9750.0    1050  9763.8    1050  9786.9    1050  9794.8  1049.8  9814.2
GR1048.4  9820.3  1045.1  9831.8  1044.5  9880.4  1044.2  9937.0  1043.7  9966.4
GR1042.2  9986.0  1042.6 10059.1  1041.8 10166.5  1050.7 10188.8  1056.7 10205.7
GR1057.7 10207.0  1059.3 10210.4  1060.1 10227.2  1060.7 10253.1
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 11.460 TO 12.529.
NC  0.15   0.055   0.035
QT     2   34500   34500
ET11.460     9.1     7.1                           9530   10194    9515   10610
X111.460      96  9829.2 10193.7     165     165  166.83
GR1048.7  3331.8  1050.6  3427.5  1051.5  3449.8  1050.7  3451.6  1051.4  3457.3
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GR1047.5	3475.5	1047.8	3787.8	1047.7	4087.8	1047.7	4400.0	1049.2	4727.8
GR1049.3	5045.8	1050.7	5387.8	1049.6	5687.8	1048.7	5737.8	1049.1	5784.3
GR1055.8	5826.6	1054.9	5953.7	1053.2	5972.8	1050.3	5989.9	1051.3	6007.3
GR1046.1	6051.2	1047.7	6088.8	1051.6	6106.6	1051.2	6115.8	1045.9	6133.4
GR1043.8	6185.1	1044.8	6204.8	1050.4	6231.6	1051.0	6251.9	1049.7	6263.2
GR1048.8	6341.8	1047.7	6356.9	1049.7	6370.8	1050.8	6685.0	1049.9	6906.9
GR1046.6	6933.3	1046.5	6941.5	1051.7	6976.3	1052.4	6995.7	1051.5	7009.8
GR1049.3	7016.2	1048.9	7336.7	1051.1	7392.1	1051.6	7434.1	1053.8	7444.7
GR1050.7	7460.5	1048.7	7594.5	1050.3	7926.5	1050.9	8005.2	1052.8	8015.8
GR1050.0	8025.2	1049.3	8297.7	1050.3	8351.7	1049.9	8387.9	1051.5	8439.7
GR1050.6	8526.3	1049.4	8558.8	1051.0	8584.4	1049.5	8886.8	1049.2	9051.9
GR1038.5	9080.3	1032.5	9093.3	1027.2	9157.5	1027.6	9186.2	1041.9	9228.5
GR1043.4	9238.8	1048.0	9247.9	1052.5	9272.9	1049.3	9280.5	1046.6	9300.4
GR1045.4	9360.4	1061.5	9405.4	1061.0	9439.8	1046.6	9474.4	1047.1	9491.2
GR1051.8	9501.9	1054.1	9509.6	1054.5	9517.3	1050.9	9533.8	1050	9543.0
GR 1050	9569.7	1050	9687.9	1050	9811.5	1052.0	9829.2	1045.8	9844.2
GR1043.8	9975.9	1042.4	9999.1	1042.2	10044.5	1044.8	10061.6	1043.3	10146.0
GR1041.3	10161.4	1046.8	10193.7	1048.9	10197.1	1053.1	10216.9	1054.2	10228.7
GR 1058	10610								
ET11.557	9.1	7.1				9200	10101	8970	10122.1
X111.557	95	9881.6	10100.9	510	510	510.85			
GR1049.8	5996.1	1049.4	6005.2	1050.0	6052.1	1051.1	6070.8	1057.1	6085.5
GR1049.3	6107.5	1050.7	6151.4	1051.3	6203.3	1051.5	6352.2	1051.1	6402.8
GR1051.2	6502.5	1050.4	6552.2	1051.6	6710.5	1051.5	6753.3	1050.9	6760.4
GR1051.5	6802.2	1051.7	6971.8	1049.9	6995.6	1050.4	7260.8	1050.8	7302.2
GR1050.1	7352.2	1050.0	7472.8	1049.1	7482.4	1049.0	7502.2	1050.4	7591.0
GR1051.9	7595.5	1052.2	7607.9	1050.4	7618.5	1050.2	7664.5	1051.2	7715.0
GR1051.2	7802.2	1052.4	7855.1	1052.8	7902.2	1052.2	7957.7	1051.8	7962.9
GR1052.4	7973.1	1056.4	7982.2	1023.7	8030.9	1023.9	8118.8	1022.8	8202.2
GR1026.1	8452.2	1026.3	8492.9	1038.0	8514.0	1041.3	8520.6	1044.5	8525.6
GR1051.8	8540.7	1051.9	8602.3	1052.7	8617.6	1046.2	8630.3	1036.0	8651.4
GR1035.2	8702.3	1037.2	8852.3	1037.2	8928.2	1050	8970.0	1050	9126.4
GR 1050	9259.7	1050	9271.6	1050	9282.5	1050	9301.2	1050	9317.2
GR 1050	9332.6	1050	9347.1	1050	9367.0	1050	9390.9	1050	9410.4
GR 1050	9433.5	1050	9440.9	1050	9463.7	1050	9490.9	1050	9521.8
GR 1050	9550.3	1050	9585.2	1050	9602.3	1050	9632.9	1050	9701.6
GR 1050	9717.3	1050	9742.1	1050	9774.0	1050	9782.9	1050	9799.3
GR 1050	9845.0	1050	9865.4	1050	9872.3	1051.2	9881.6	1044.5	9900.1
GR1043.9	9927.3	1042.7	9944.6	1041.8	9978.7	1041.7	9995.0	1045.5	10011.0
GR1042.9	10052.3	1043.4	10070.4	1058.9	10100.9	1062.0	10119.6	1062.0	10122.1
ET11.653	9.1	7.1				8800	10123	8420	10245
X111.653	96	9908.3	10122.7	510	510	508.97			
GR1050.9	5993.5	1051.1	6010.5	1053.5	6039.1	1058.4	6055.9	1052.5	6069.4
GR1022.3	6097.8	1022.1	6350.9	1023.6	6352.3	1033.6	6376.4	1032.4	6378.9
GR1032.6	6382.9	1054.0	6400.7	1053.2	6577.2	1052.3	6627.2	1052.3	6827.2
GR1052.2	6888.9	1051.0	6940.7	1050.8	6971.3	1049.6	6985.6	1047.6	6998.8
GR1050.6	7039.3	1050.4	7077.2	1051.4	7127.2	1050.5	7209.1	1051.7	7298.5
GR1051.3	7377.2	1052.1	7435.2	1053.8	7445.0	1051.2	7455.8	1051.2	7577.2
GR1052.0	7627.2	1052.2	7677.2	1052.7	7687.9	1052.4	7725.2	1054.8	7781.2
GR1055.7	7827.2	1054.5	7850.9	1054.3	7877.2	1052.7	7927.2	1054.6	7946.9
GR1058.1	7959.7	1031.6	7987.9	1029.5	7990.7	1026.0	7993.9	1025.1	8027.2
GR 1052	8153.5	1052	8439.3	1052	8472.1	1052	8496.3	1052	8500.9
GR 1052	8598.9	1055.4	8610.0	1052	8621.6	1052	8640.8	1052	8677.2
GR 1052	8745.8	1052	8840.7	1052	8944.1	1052	9077.3	1052	9177.3
GR 1052	9222.7	1052	9274.2	1052	9287.7	1052	9302.9	1052	9317.3
GR 1052	9325.1	1052	9329.2	1052	9377.3	1052	9427.3	1052	9528.9
GR 1052	9547.5	1054.8	9572.1	1055.4	9582.0	1052.0	9595.0	1053.8	9659.3
GR1055.3	9666.5	1055.7	9684.0	1052.7	9700.4	1053.0	9705.9	1052.7	9710.0
GR1054.4	9733.4	1058.7	9766.6	1058.0	9772.8	1055.8	9782.8	1052	9827.2
GR 1052	9835.0	1054.4	9856.8	1052.8	9871.3	1053.5	9894.6	1057.3	9908.3
GR1052.0	9920.3	1047.5	9935.0	1043.1	9959.2	1044.7	10077.3	1058.0	10122.7
GR 1062	10245								
ET11.750	9.1	7.1				8400	10170	7870	10170
X111.750	95	9901.0	10107.0	510	510	510.54			
GR1054.1	5963.9	1054.4	5986.6	1060.3	6008.2	1054.5	6034.3	1052.8	6039.1
GR1021.9	6080.6	1022.3	6298.0	1025.0	6532.5	1024.0	6582.5	1026.6	6701.8
GR1026.1	6802.8	1027.0	6853.3	1026.7	6983.6	1053.0	7017.3	1053.8	7044.6
GR1052.9	7107.3	1051.1	7134.3	1051.9	7163.2	1057.9	7178.1	1055.1	7186.3
GR1052.8	7191.0	1052.9	7410.4	1053.8	7416.5	1051.7	7424.7	1052.6	7521.1
GR1053.7	7532.5	1058.8	7555.5	1058.0	7588.7	1056.0	7592.3	1053.9	7692.3
GR1055.8	7827.0	1058.1	7846.8	1057.9	7885.5	1054	7899.1	1055.2	7905.7
GR1057.9	7913.3	1054	7949.4	1054	8013.4	1054	8049.1	1054	8069.1
GR 1054	8129.0	1054	8149.2	1054	8159.4	1059.4	8188.5	1059.3	8223.3
GR1057.1	8231.3	1059.7	8243.2	1058.0	8279.5	1058.8	8291.3	1058.7	8301.5
GR1058.0	8304.4	1057.0	8339.5	1056.9	8382.6	1056.0	8432.6	1056.1	8464.0
GR1055.5	8475.9	1055.8	8487.5	1057.0	8496.8	1056.1	8501.6	1054	8508.1
GR 1054	8512.0	1054	8542.6	1054	8560.9	1054	8605.3	1054	8659.0
GR 1054	8796.7	1054	8832.6	1054	8842.6	1054	8875.1	1054	8889.6
GR 1054	8926.4	1054	8982.6	1054	9032.6	1054.9	9123.3	1054.7	9137.1
GR1062.1	9159.1	1063.1	9163.8	1059.7	9185.0	1058.0	9232.6	1057.6	9282.6
GR1058.1	9338.1	1057.1	9432.6	1057.8	9532.6	1056.5	9783.6	1055.0	9885.1
GR1057.1	9892.6	1061.0	9901.0	1047.5	9947.4	1046.4	9991.8	1043.2	10000.3
GR1043.8	10067.0	1048.4	10085.8	1056.1	10107.0	1056.1	10109.0	1062	10170
ET11.847	9.1	7.1				8000	10173	7310	10173
X111.847	95	9914.3	10113.4	510	510	512.16			
GR1061.0	5959.4	1023.2	6001.3	1024.8	6150.7	1020.3	6166.8	1020.8	6222.1
GR1020.5	6241.4	1022.6	6391.4	1022.3	6441.4	1023.9	6541.4	1023.0	6666.3
GR1024.4	6841.4	1025.6	7020.0	1025.3	7091.4	1027.0	7172.7	1055.3	7215.7
GR 1056	7373.1	1056	7376.2	1056	7382.1	1056	7557.1	1056	7591.4
GR 1056	7626.5	1056	7656.1	1056	7691.4	1056	7741.4	1057.3	7778.0
GR1056.6	7819.6	1056	7856.7	1056	7874.0	1056	7885.8	1056	7916.5
GR 1056	7938.7	1056	7942.0	1056	7963.4	1056	7982.2	1058.9	7990.0
GR1059.3	7995.7	1056	8032.9	1056	8063.4	1058.2	8084.5	1060.8	8095.1
GR1058.8	8138.1	1058.8	8148.7	1060.5	8161.8	1059.4	8184.6	1057.4	8213.7
GR1057.6	8232.2	1056.1	8245.2	1057.5	8252.7	1057.9	8260.3	1057.6	8270.7
GR 1056	8284.7	1056	8301.9	1056	8333.1	1056	8356.2	1056	8408.0
GR 1056	8592.2	1056	8641.5	1056	8744.8	1056	8791.5	1056	8823.3
GR 1056	8852.4	1056	8880.5	1056	8892.9	1056	8902.5	1056	8917.3
GR 1056	8939.8	1056	8964.7	1056	8993.3	1056	9009.1	1055.5	9091.8
GR1057.3	9243.1	1058.7	9293.9	1059.9	9395.0	1057.4	9591.8	1058.5	9751.4
GR1056.6	9803.6	1056.2	9841.5	1057.1	9897.5	1063.4	9914.3	1055.7	9929.5
GR1048.3	9947.2	1047.8	9950.9	1048.1	9956.8	1047.6	9972.9	1045.0	9986.9
GR1044.6	9996.6	1045.0	10045.8	1046.9	10059.5	1047.3	10080.1	1050.8	10087.3
GR1050.4	10088.2	1050.5	10097.7	1052.1	10113.4	1056.2	10124.4	1066	10173
ET 11.90	9.1	7.1				7750	10198.5	6880	10198.5
X1 11.90	94	9890	10093.1	340	275	273			
GR1065.0	5822.0	1056.8	5835.3	1056.7	5856.5	1054.9	5866	1057.4	5894.9
GR1058.9	5946.1	1058	5955	1058	5996.4	1058.4	6002	1059.9	6003.8

GR1058.3	6113.9	1059	6147.2	1058.8	6256	1058	6365.8	1058	6442.1
GR 1058	6571.5	1058	6682.2	1058	6806.8	1058	6932.9	1058	7062.5
GR 1058	7198.2	1058	7304.4	1058	7343.6	1058	7364.2	1059.7	7375
GR1061.2	7381.3	1059.7	7387.6	1058	7406.7	1058	7511	1062.5	7524.6
GR1061.1	7529.8	1059.2	7581	1059.3	7629	1058	7685.9	1058	7831.8
GR 1058	7920.6	1063.8	7941.2	1064.5	7945.8	1063.7	7960.4	1064.4	7990.1
GR1063.2	8048.6	1058	8068.6	1062.8	8082.3	1061.5	8086.2	1059.8	8122.9
GR1065.1	8136.7	1065.6	8191.5	1064	8204.9	1064.1	8211	1065.7	8214.6
GR1067.8	8232.1	1062.6	8244.5	1058	8282.3	1058	8328.3	1058	8351.7
GR 1058	8385.9	1058	8401.5	1058	8426.2	1058	8538.4	1058	8653.7
GR 1058	8698.6	1058	8720.8	1058	8792	1058	8798.2	1058	8853.4
GR 1058	8972.8	1058.4	9027.2	1059.6	9126.8	1059.3	9178.1	1061.2	9242.5
GR1060.1	9288.5	1061.3	9411	1060.4	9485.6	1060.8	9534.5	1059.4	9541.4
GR1060.6	9596.9	1063.2	9609.9	1063.9	9638.7	1062.7	9677.2	1062.9	9750.9
GR1059.2	9861.6	1060.5	9874.7	1064.4	9890	1047	9922.7	1045.2	9943.3
GR1048.7	9962.9	1047	9975.4	1046.8	10010.4	1048.5	10036.8	1047.8	10038.6
GR1048.8	10072.3	1058.5	10093.1	1058.2	10137.1	1067.4	10198.5		
ET11.943	9.1	7.1				7650	10182	6800	10182
X111.943	96	9886	10084.8	150	235	235.61			
GR1068.2	6060.0	1060.2	6075.8	1051.8	6095.8	1044.8	6120.9	1039.8	6143.7
GR1036.9	6169.7	1036.4	6182.4	1029.5	6237.4	1029.4	6282.3	1038.0	6358.8
GR1043.2	6380.4	1047.1	6403.9	1052.8	6410.1	1038.6	6431.2	1036.4	6467.9
GR1038.1	6473.1	1040.0	6483.6	1039.8	6490.5	1041.2	6498.6	1041.1	6507.6
GR1051.3	6549.8	1049.3	6562.6	1050.0	6568.7	1055.8	6597.8	1054.4	6616.7
GR1051.8	6635.6	1054.6	6666.9	1055.8	6697.1	1058	6847.1	1058	6880.5
GR 1058	6900.6	1058	6924.3	1058	7034.9	1058	7058.3	1058	7066.9
GR 1058	7156.0	1058	7198.5	1058	7202.3	1058	7216.0	1058	7353.9
GR 1058	7397.1	1058.8	7497.1	1060.1	7603.1	1058	7641.5	1058	7677.5
GR 1058	7754.9	1058	7853.2	1058	7901.8	1058	7996.6	1058	8097.2
GR 1058	8195.4	1058	8232.1	1058	8297.2	1058	8347.0	1058	8364.3
GR 1058	8380.5	1058	8390.4	1058	8397.3	1058	8404.0	1058	8411.1
GR 1058	8595.1	1058	8647.2	1058	8676.1	1058	8690.9	1058	8711.2
GR 1058	8721.5	1058	8747.0	1058	8788.8	1058	8905.0	1058	9043.7
GR 1058	9079.0	1058	9081.2	1058.5	9136.1	1060.8	9243.1	1060.3	9347.3
GR1061.0	9413.8	1059.8	9496.5	1062.5	9544.9	1060.0	9588.2	1060.0	9670.5
GR1065.2	9720.9	1067.1	9770.5	1062.0	9867.0	1064.0	9875.8	1067.5	9886.0
GR1050.0	9923.3	1049.5	9938.4	1048.2	9953.1	1048.3	9983.1	1046.7	9991.1
GR1046.8	10011.1	1049.2	10028.4	1048.7	10056.8	1054.6	10084.8	1061.1	10106.2
GR 1070	10182								
ET12.042	9.1	7.1		.		7400	10165	6350	10165
X112.042	62	9903.4	10070	500	540	520			
GR 1066	5900	1058	5930	1058	6005	1059	6024.1	1059.2	6048.5
GR 1060	6057.8	1058.2	6082.7	1058.2	6096.6	1058.2	6138.2	1058.2	6154.2
GR1058.2	6173.8	1058.2	6190.9	1058.2	6201.8	1058.2	8555.6	1058.2	8631.6
GR1058.2	8641.8	1061.8	8660.4	1058.2	8806	1058.2	8910.3	1058.2	8998.8
GR1058.2	9007.9	1058.2	9078.3	1058.2	9101.9	1058.2	9111.5	1058.2	9145.2
GR1058.2	9148.5	1058.2	9164.4	1058.2	9181.1	1058.2	9201.8	1058.2	9211.2
GR1058.2	9267.4	1058.2	9290.8	1058.2	9298.9	1059.3	9367.2	1062.4	9377.5
GR1062.9	9390.5	1059.5	9402	1058.5	9412.2	1058.2	9418.8	1058.2	9447.6
GR1061.2	9485.4	1061	9536.3	1058.2	9574.9	1058.2	9588	1058.2	9609.8
GR1058.2	9615.8	1058.2	9622.9	1058.2	9667.5	1058.2	9802.1	1058.2	9840.1
GR1058.2	9853.8	1062.1	9867.5	1060.9	9871.4	1061.8	9900.2	1063	9903.4
GR1050.5	9940	1049.3	9955.3	1049.7	9979.1	1048.5	9992.6	1049.8	10044
GR 1062	10070	1068	10165						
ET12.141		7.1				7200	10080		
X112.141	60	9923.3	10075.5	510	535	526.38			
GR1066.5	6189.1	1058.4	6216.3	1058.4	6242.6	1058.4	6252.9	1058.4	6260.4
GR1058.4	8718.0	1058.4	8771.0	1058.4	8824.7	1058.4	8849.8	1058.4	8894.4
GR1063.9	8951.4	1066.2	8960.3	1067.7	8970.2	1065.5	8987.1	1065.5	9009.4
GR1060.3	9028.3	1059.2	9097.0	1059.9	9111.0	1058.4	9132.4	1058.4	9152.0
GR1058.4	9163.9	1058.4	9176.0	1058.4	9186.1	1058.4	9203.6	1058.4	9261.8
GR1058.4	9291.3	1062.2	9313.4	1058.4	9332.2	1058.4	9360.6	1058.4	9394.5
GR1058.4	9399.9	1058.4	9427.8	1058.4	9450.6	1058.4	9479.5	1058.4	9504.7
GR1058.4	9518.8	1058.4	9535.5	1058.4	9543.5	1058.4	9597.5	1058.4	9611.3
GR1058.4	9651.5	1058.4	9711.5	1059.4	9724.2	1061.3	9727.9	1058.4	9749.8
GR1058.6	9756.7	1058.6	9783.4	1064.4	9797.3	1058.4	9822.8	1058.4	9863.2
GR1058.4	9875.3	1061.0	9885.9	1061.1	9917.1	1062.9	9923.3	1052.2	9960.4
GR1049.3	10020.0	1050.0	10055.4	1051.9	10058.0	1066.0	10075.5	1068	10165
ET12.247		7.1				7300	10086		
X112.247	40	9898.6	10085.8	510	565	560.46			
GR1068.9	6348.1	1062.1	6370.1	1058.6	6375.9	1058.6	6395.6	1058.6	6398.0
GR1058.4	6411.5	1058.6	6441.6	1058.6	6488.5	1058.6	6587.2	1058.6	6727.5
GR1058.6	6777.5	1058.6	6873.5	1058.6	6881.5	1061.2	6933.5	1061.8	6941.9
GR1058.6	6966.0	1058.6	6980.6	1058.6	6989.1	1058.6	7017.6	1058.6	7027.6
GR1058.6	9627.7	1058.6	9671.6	1058.6	9687.4	1058.6	9741.8	1059.6	9770.6
GR1058.8	9796.4	1059.4	9802.5	1061.9	9813.4	1058.6	9826.4	1060.4	9850.5
GR1061.2	9894.5	1062.6	9898.6	1057.1	9919.5	1052.6	9946.6	1052.6	9977.4
GR1050.7	9988.8	1050.8	10013.0	1052.1	10024.6	1066.0	10085.8	1070	10180
ET12.359		7.1				7600	10100		
X112.359	73	9691.6	10061.0	500	580	586.15			
GR1072.1	6582.4	1071.7	6589.2	1068.7	6615.2	1063.8	6638.2	1062.9	6640.3
GR1058.8	6683.5	1058.8	6693.3	1058.8	6743.3	1058.8	6784.1	1058.8	6786.4
GR1058.8	6798.0	1058.8	6805.8	1058.8	6856.6	1058.8	6876.8	1058.8	6887.6
GR1058.8	6916.6	1058.8	7003.6	1058.8	7043.4	1058.8	7092.0	1061.7	7133.0
GR1060.7	7161.1	1058.8	7186.6	1058.8	7193.4	1058.8	7243.4	1058.8	7342.0
GR1058.8	8874.6	1058.8	8883.8	1063.7	8902.0	1063.6	8943.6	1062.3	9001.3
GR1060.3	9003.5	1062.7	9011.5	1063.0	9014.6	1058.8	9033.5	1058.8	9047.4
GR1058.8	9057.0	1058.8	9178.7	1058.8	9192.4	1058.8	9203.0	1058.8	9217.6
GR1058.8	9232.5	1058.8	9258.5	1058.8	9260.9	1058.8	9340.5	1058.8	9357.9
GR1058.8	9379.0	1058.8	9416.1	1058.8	9443.7	1058.8	9519.0	1058.8	9540.8
GR1058.8	9563.4	1058.8	9581.8	1058.8	9594.7	1059.0	9613.1	1060.0	9670.0
GR1065.3	9691.6	1062.3	9701.0	1057.6	9724.4	1054.6	9741.9	1052.8	9749.1
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GR 1066	10095	1068	10250	1070.1	10395.0				
ET 12.42	9.1	7.1				7850	10200	7000	10782.8
X1 12.42	90	9014.1	10111.3	380	270	302.47			
GR1066.5	6488.3	1067.3	6516.9	1066.9	6538.8	1065.6	6544.1	1065.2	6555.4
GR 1063	6566.1	1063	6635.3	1064	6639.2	1064.4	6677.3	1066.7	6684.3
GR1062.8	6700	1064.1	6824.3	1065.4	6940.9	1065.8	7074.3	1065.5	7208.6
GR1065.1	7246.4	1061.2	7255.4	1059.8	7299.4	1062.1	7306.5	1062	7326.9
GR 1060	7334.7	1060	7337.3	1060	7452.7	1060	7563.2	1060	7606.2
GR 1060	7611.8	1060	7724.4	1060	7751.7	1061.5	7790.8	1060	7802.3
GR 1060	7889.3	1060	7899	1062	7929.1	1062.3	7952.3	1063	7958.2
GR 1060	7993.2	1060	8021.8	1065.2	8037.7	1060	8056.6	1060	8147.7
GR1063.7	8165	1063.1	8180.5	1060	8205.4	1060	8219.3	1060	8236.9
GR 1060	8289.4	1060	8387.8	1060	8438.5	1062.8	8461.2	1064.7	8478.4
GR1065.5	8502.4	1065.2	8610.1	1065.1	8710.9	1064.7	8824.7	1066	8893.4

GR1066.8	8915.4	1065	8931.2	1065.3	8957.3	1063.9	9002.6	1065.1	9014.1
GR1063.6	9124.6	1062.8	9159.9	1061.9	9172.6	1061	9175.8	1059.8	9224.7
GR1060.6	9260	1054	9283.3	1056.1	9324.5	1055	9423.2	1055.9	9446.7
GR 1055	9553.3	1055.4	9600.5	1054.8	9624.7	1055.6	9731.3	1056.7	9834.5
GR1057.4	9930.4	1054.5	9953.6	1054.3	10052.7	1065.2	10111.3	1066.3	10121
GR1061.6	10137.4	1063	10155.7	1061.7	10166.7	1065.6	10224.7	1067.9	10342.7
GR1069.3	10405.9	1070	10524.7	1071	10651.2	1071.3	10747.9	1072.1	10782.8
NC .045	.040	.035	0.1	0.3					
ET 12.47	9.1	7.1				8000	10300	7298.5	11052.3
X1 12.47	89	9382.2	10296.2	230	240	255			
GR1054.5	4763.1	1062.7	4887.7	1063.3	5104.7	1063.3	5320.6	1063.5	5506.2
GR1053.6	5669	1063.7	5828.2	1064.1	5991.4	1064.1	6208.4	1064.2	6360.9
GR1064.7	6513.5	1065	6673.9	1065.1	6727.4	1065.1	7169.1	1064.7	7284.6
GR 1070	7298.5	1066.7	7309.6	1065	7420.7	1065.6	7496	1061	7510.2
GR 1061	7523.9	1061	7653	1061	7733.2	1064.2	7779.6	1064	7830.3
GR 1063	7841.4	1063.8	7920.8	1063.6	8025.7	1060.9	8058	1061	8135.2
GR1063.8	8147.9	1062.7	8155.3	1062.9	8177	1061	8187.9	1061.6	8220.1
GR 1061	8243.8	1061	8256	1061	8437.2	1061	8555.4	1061.5	8588.2
GR1065.1	8611.2	1065.9	8770.9	1066.2	8936.5	1066.3	9022.8	1068.5	9054
GR1066.9	9078	1066.2	9160.8	1067.7	9182.8	1066.7	9241	1065.2	9255
GR1067.1	9268.4	1064	9284.4	1063.2	9312.2	1062	9323.8	1062.3	9332.3
GR1064.2	9344.3	1064	9382.2	1054.9	9402.5	1055.7	9424.8	1056.6	9429.8
GR1062.3	9503.1	1057.5	9517.8	1055.6	9552.9	1063.1	9571.1	1057.9	9589.1
GR1057.7	9655.3	1059	9681.4	1062	9712.2	1062.6	9848.4	1058.3	9882.7
GR1054.9	9899.5	1056.2	9971.8	1055.1	10061.7	1059.4	10091.5	1059	10103.1
GR1062.3	10176.7	1056.2	10192	1057.4	10274.1	1064	10296.2	1065.6	10311.1
GR1065.2	10376.4	1069.1	10395.2	1069.1	10414.7	1068.1	10420.1	1069.3	10571.1
GR1071.1	10771.2	1072.9	10960.5	1074	11033.9	1073.3	11052.3		
ET12.529	9.1	7.1				8200	10393.3	7465.8	10393.3
X112.529	93	9552.2	10362.3	210	390	345			
GR1063.3	5058.0	1063.5	5224.9	1063.8	5374.8	1063.8	5484.7	1063.9	5627.9
GR1064.0	5769.7	1064.3	5927.6	1064.5	6074.9	1064.6	6227.2	1064.8	6379.7
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GR1066.4	7525.1	1065.0	7599.7	1065.3	7659.9	1061.5	7674.9	1061.5	7748.7
GR1061.5	7775.2	1061.5	7866.1	1061.5	7877.1	1063.0	7885.7	1064.4	7929.9
GR1064.2	7950.3	1065.1	8043.4	1064.2	8125.2	1063.8	8144.6	1064.5	8158.5
GR1064.0	8175.8	1062.7	8196.8	1064.4	8204.9	1064.1	8244.3	1062.9	8270.0
GR1062.0	8299.0	1062.1	8325.3	1061.5	8375.2	1061.5	8390.3	1061.5	8413.2
GR1061.5	8423.3	1061.5	8475.3	1061.5	8535.5	1061.5	8625.3	1061.5	8651.7
GR1061.9	8675.3	1063.4	8708.9	1065.1	8724.9	1064.7	8726.4	1066.0	8775.3
GR1066.5	8875.3	1066.2	8925.3	1067.0	8975.3	1067.2	9125.9	1067.2	9225.4
GR1068.1	9260.4	1067.1	9277.4	1067.7	9301.4	1069.8	9330.8	1067.4	9356.0
GR1066.3	9377.2	1066.4	9387.9	1065.5	9414.2	1066.0	9457.2	1067.2	9470.2
GR1066.1	9487.6	1063.9	9542.4	1062.1	9552.2	1058.8	9566.4	1057.9	9572.7
GR1058.0	9613.2	1059.1	9629.5	1058.3	9703.0	1057.0	9731.3	1057.2	9785.1
GR1056.1	9826.0	1056.8	9888.2	1057.7	9940.8	1057.5	10013.8	1058.5	10025.0
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GR1060.3	10341.8	1060.5	10362.3	1067.1	10393.3				
ET12.630	9.1	7.1				9080	10500	8085.7	10770.0
X112.630	95	9640.3	10396.9	520	550	532.95			
GR1064.3	5332.2	1064.6	5578.3	1064.7	5778.3	1065.1	5978.4	1065.3	6178.4
GR1065.9	6428.4	1066.7	6678.5	1066.8	6878.5	1067.3	7148.7	1067.5	7443.2
GR1067.5	7508.1	1069.0	7518.2	1069.3	7529.1	1066.8	7540.6	1067.6	7728.7
GR1068.1	7744.9	1070.2	7762.1	1071.3	7763.5	1072.1	7768.2	1071.8	7784.3
GR1070.7	7791.6	1067.7	7828.7	1066.8	7920.0	1066.0	7930.0	1066.2	7939.6
GR1069.6	7949.9	1068.2	7953.2	1068.2	7958.1	1070.8	7966.0	1065.0	7973.4
GR1058.2	7979.6	1058.9	7981.6	1058.6	7993.5	1057.3	8000.2	1055.9	8016.0
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GR1067.2	8045.1	1067.1	8071.7	1068.3	8080.6	1069.7	8085.7	1062.2	8102.2
GR1062.4	8128.7	1061.7	8189.5	1064.8	8208.2	1064.8	8229.1	1063.2	8258.3
GR1063.1	8299.7	1065.1	8328.8	1066.6	8428.8	1065.2	8478.4	1065.7	8481.6
GR1063.5	8495.8	1062.9	8583.4	1061.4	8591.6	1062.4	8629.3	1062.6	8684.1
GR1063.8	8705.0	1062.9	8725.5	1063.6	8800.4	1061.7	8829.0	1061.7	8850.0
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GR1056.2	9674.9	1057.7	9734.1	1057.2	9785.1	1058.2	9859.0	1060.3	9894.0
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X112.725	93	9682.0	10403.6	530	470	499.53			
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GR1071.1	7672.3	1068.6	7680.6	1069.2	7791.0	1052.4	7819.2	1051.7	7835.0
GR1052.1	7842.1	1053.6	7849.2	1051.0	7885.3	1051.7	7909.3	1052.8	7918.5
GR1052.3	7921.1	1059.3	7950.7	1056.0	7961.0	1055.8	8017.7	1052.1	8025.0
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GR1070.3	7187.9	1070.5	7204.1	1067.6	7294.7	1069.6	7366.1	1069.0	7425.9
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GR1042.5	7607.2	1043.7	7626.5	1046.7	7845.4	1048.3	7875.9	1047.7	7976.4
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GR1064.1 10376.3  1064.0 10426.4  1064.8 10464.1  1072.3 10488.4
ET12.913     9.1     7.1                           9704   10318    8680   10318
X112.913      95  9704.4 10285.7     510     535  513.23
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GR1071.0  6173.7  1071.1  6273.7  1071.2  6532.5  1071.3  6729.2  1071.3  6923.8
GR1071.5  7125.2  1071.5  7177.4  1072.7  7185.8  1071.1  7200.1  1071.5  7237.6
GR1074.3  7247.6  1071.1  7256.5  1071.4  7373.9  1070.7  7423.9  1068.8  7466.0
GR1069.8  7485.0  1070.0  7498.5  1065.4  7510.8  1063.6  7517.0  1064.4  7575.4
GR1071.0  7593.8  1073.4  7599.1  1067.8  7606.4  1045.7  7639.2  1045.8  7723.9
GR1046.7  7786.6  1047.1  7880.3  1046.2  7932.6  1046.9  8027.0  1045.6  8059.1
GR1043.4  8078.4  1043.3  8110.4  1045.0  8129.9  1045.6  8147.9  1046.3  8198.8
GR1048.7  8202.0  1050.6  8206.1  1050.7  8211.6  1045.9  8225.9  1039.9  8407.3
GR1039.7  8444.0  1064.0  8469.3  1079.1  8486.5  1075.2  8494.9  1075.1  8513.1
GR1073.1  8530.9  1072.2  8550.0  1073.6  8557.4  1069.6  8575.6  1068.7  8612.5
GR1069.6  8618.2  1070.1  8668.0  1071.2  8692.6  1069.3  8711.7  1069.8  8724.1
GR1070.1  8774.1  1071.2  8816.8  1071.8  8827.5  1070.6  8840.6  1071.0  8892.7
GR1067.9  8915.2  1068.7  8974.1  1068.3  9036.5  1069.0  9224.2  1069.2  9295.1
GR1068.6  9326.8  1071.1  9516.4  1071.3  9580.9  1070.7  9630.1  1071.2  9704.4
GR1066.3  9724.2  1064.8  9739.8  1062.3  9829.5  1060.1  9841.8  1062.0  9926.2
GR1063.6  9974.4  1063.3  9991.5  1062.2 10004.5  1061.7 10086.4  1058.6 10100.5
GR1058.8 10125.4  1061.1 10175.6  1062.0 10185.6  1063.7 10285.7  1075.0 10318.7
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 13.007 TO 13.296.
ET13.007     9.1     7.1                           9767   10239    8750   10239
X113.007      94  9767.1 10186.1     490     495  493.53
GR1074.1  6020.7  1073.2  6026.4  1073.0  6105.1  1073.0  6158.5  1073.0  6258.1
GR1073.0  6339.2  1073.1  6437.1  1073.1  6511.2  1073.1  6737.2  1073.2  6903.6
GR1073.2  6987.2  1073.2  7099.9  1073.2  7187.3  1072.9  7191.3  1074.4  7200.7
GR1074.2  7208.7  1073.2  7215.8  1073.3  7237.3  1073.3  7296.1  1073.3  7688.9
GR1073.3  7749.3  1073.4  7787.4  1073.2  7839.1  1073.1  7890.1  1072.8  7987.4
GR1072.8  8037.4  1072.8  8087.4  1073.1  8137.4  1073.1  8209.3  1071.8  8231.0
GR1070.5  8239.8  1070.1  8251.0  1071.6  8263.1  1073.4  8286.0  1075.8  8297.9
GR1076.9  8306.4  1077.1  8311.4  1074.6  8319.0  1074.8  8367.4  1072.2  8383.8
GR1072.3  8396.5  1070.5  8428.2  1071.5  8435.7  1072.6  8449.4  1072.5  8452.0
GR1070.7  8466.3  1071.6  8483.7  1072.0  8503.9  1071.7  8513.9  1072.3  8541.8
GR1072.5  8577.6  1072.4  8637.5  1073.3  8704.4  1073.5  8727.4  1074.8  8755.7
GR1074.2  8768.6  1073.1  8779.0  1072.6  8787.6  1071.3  8837.7  1070.1  8849.8
GR1071.8  8887.6  1073.2  8955.5  1073.6  8987.6  1073.2  9037.6  1071.8  9087.6
GR1072.2  9094.6  1073.3  9137.6  1072.9  9187.6  1073.3  9210.2  1070.3  9235.2
GR1070.4  9287.7  1070.6  9337.7  1070.6  9405.5  1070.9  9487.7  1071.4  9587.7
GR1071.1  9637.7  1070.9  9688.4  1072.3  9713.5  1072.3  9767.1  1066.3  9792.0
GR1064.8  9823.9  1064.1  9832.2  1063.4  9836.6  1063.0  9887.8  1062.6  9914.5
GR  1062  9937.8    1062  9987.8    1062 10043.2    1062 10087.8    1062 10137.9
GR  1062 10160.9    1062 10186.1  1076.9 10237.7  1076.7 10239.1
ET13.103     9.1     7.1                           9830   10342    8600   10342
X113.103      92  9830.4 10318.4     505     515  505.18
GR1075.1  6491.1  1074.8  6492.6  1074.8  6568.0  1074.7  6578.0  1074.8  6659.3
GR1074.7  6676.4  1074.8  6862.8  1074.8  6873.0  1074.8  7020.5  1075.0  7118.9
GR1075.0  7219.0  1075.0  7269.9  1075.0  7320.7  1075.0  7422.5  1075.0  7524.2
GR1075.0  7659.7  1075.0  7718.1  1075.0  7868.2  1075.0  8033.0  1074.8  8102.2
GR1075.0  8142.2  1076.0  8148.7  1075.3  8174.5  1074.4  8193.9  1076.4  8199.3
GR1077.4  8203.8  1076.7  8206.0  1074.5  8210.7  1073.0  8268.2  1073.2  8305.4
GR1073.0  8321.5  1073.6  8336.7  1074.5  8389.6  1076.3  8427.7  1076.6  8448.8
GR1074.2  8485.2  1074.3  8518.2  1074.1  8550.6  1074.2  8607.9  1074.0  8618.3
GR1074.5  8668.3  1074.3  8724.3  1074.3  8727.8  1072.6  8754.0    1072  8768.3
GR  1072  8793.4    1072  8801.7    1072  8812.7    1072  8830.8    1072  8888.9
GR  1072  8938.0    1072  8968.3    1072  9014.3    1072  9032.8    1072  9067.5
GR  1072  9118.5    1072  9186.2    1072  9263.5    1072  9318.4    1072  9368.4
GR  1072  9404.1    1072  9415.8    1072  9443.8    1072  9461.8    1072  9467.8
GR  1072  9502.8    1072  9521.9    1072  9588.9    1072  9630.9    1072  9634.4
GR  1072  9669.8    1072  9679.1    1072  9713.6  1070.1  9751.2  1070.4  9773.0
GR1071.8  9823.2  1071.6  9830.4  1067.0  9841.8  1067.8  9862.8  1067.1  9867.2
GR1062.5  9918.5  1062.5  9968.5  1062.5 10018.5  1062.5 10070.8  1062.5 10096.0
GR1062.5 10118.5  1062.5 10168.5  1062.5 10218.5  1062.5 10254.5  1062.5 10268.5
GR1070.8 10318.4  1078.3 10342.6
NC  .045    .045    .035
ET13.200     9.1     7.1                           9805   10419    9150   10419
X113.200      94  9805.5 10314.7     510     515  512.50
GR1080.4  6710.0  1081.1  6712.7  1079.7  6719.5  1079.3  6750.7  1080.4  6762.9
GR1077.5  6785.8  1077.3  6843.7  1077.2  6864.4  1077.7  6914.4  1077.4  6981.9
GR1077.6  7042.0  1077.5  7112.5  1077.5  7114.4  1077.5  7190.2  1077.5  7253.0
GR1077.3  7308.0  1077.5  7365.2  1077.3  7457.3  1077.4  7593.8  1077.7  7659.7
GR1077.3  7719.5  1077.3  7792.7  1077.4  7862.0  1077.1  7926.3  1077.0  8013.2
GR1076.8  8059.2  1076.2  8092.7  1076.5  8118.4  1076.1  8139.8  1078.3  8150.2
GR1075.6  8161.7  1074.6  8214.5  1074.6  8232.1  1075.0  8253.3  1075.8  8267.5
GR1073.5  8292.2  1075.2  8318.3  1076.0  8323.7  1076.4  8362.8  1076.0  8413.2
GR1076.0  8416.8  1077.8  8422.5  1075.2  8438.7  1075.0  8451.1  1075.6  8504.6
GR1075.7  8514.5  1075.1  8547.7  1076.7  8561.0  1076.4  8564.9  1076.5  8623.1
GR1075.5  8707.0  1074.6  8757.6  1074.0  8814.6  1075.0  8870.1  1076.1  8914.5
GR1076.3  8964.5  1075.9  9014.6  1075.4  9064.6  1076.1  9095.7  1075.1  9113.6
GR1076.5  9160.1  1076.5  9201.1  1076.9  9218.2  1073.3  9248.6  1072.4  9264.6
GR1072.2  9315.4  1070.9  9343.2  1071.7  9365.6  1072.7  9380.2  1072.4  9414.6
GR1073.2  9512.4  1074.1  9567.4  1074.6  9614.5  1073.3  9664.6  1073.1  9719.3
GR1073.1  9776.5  1073.1  9798.4  1071.7  9805.5  1067.4  9820.6  1063.4  9830.5
GR  1063  9846.7    1063  9883.2  1063.0  9921.7    1063  9986.9    1063 10035.5
GR  1063 10114.6    1063 10164.7    1063 10214.7    1063 10300.0    1063 10303.0
GR  1063 10314.7  1075.9 10364.6  1079.2 10377.8  1079.5 10419.2
ET13.296     9.1     7.1                           9590   10380    9000   10380
X113.296      93  9701.9 10320.7     500     500  509.87
GR1078.2  6985.7  1077.4  7027.1  1077.3  7117.2  1077.3  7186.5  1077.3  7277.1
GR1077.2  7327.1  1077.2  7385.2  1077.2  7683.1  1077.1  7782.4  1077.1  7881.7
GR1077.0  8077.1  1078.1  8112.2  1077.5  8117.2  1077.4  8141.2  1075.9  8177.1
GR1075.5  8201.3  1075.5  8231.6  1075.9  8243.8  1076.0  8278.3  1077.0  8327.5
GR1076.8  8398.4  1077.2  8410.1  1076.2  8415.1  1075.8  8428.4  1075.6  8462.6
GR1077.4  8476.9  1077.0  8480.8  1075.8  8517.4  1076.8  8530.5  1077.1  8577.2
GR1076.7  8583.4  1076.5  8628.6  1076.8  8666.6  1082.2  8676.9  1090.1  8695.0
GR1089.2  8719.8  1089.1  8777.1  1086.4  8869.2  1085.9  8877.0  1086.2  8882.5
GR1084.8  8896.0  1084.3  8923.8  1084.6  8974.1  1087.1  9007.1  1087.0  9010.6
GR1084.6  9015.9  1076.7  9029.7  1076.5  9036.5  1075.9  9095.5  1074.6  9126.6
GR1076.3  9171.5  1076.6  9173.0  1076.8  9177.1  1074.2  9229.8  1071.6  9256.5
GR1072.8  9318.3  1072.3  9326.5  1073.3  9380.1  1073.9  9470.6  1074.8  9527.2
GR1074.8  9577.1  1073.4  9646.0  1072.7  9686.5  1073.5  9701.9  1063.5  9721.6
GR1063.5  9728.3  1063.5  9757.8  1063.5  9782.8  1064.2  9793.2  1064.4  9867.9
GR1064.8  9927.2  1064.7  9950.7  1063.5  9961.7  1063.9 10016.8  1064.2 10027.2
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GR1064.2 10077.2  1063.7 10115.1  1063.5 10125.1  1063.5 10127.9  1063.5 10139.3
GR1063.5 10157.5  1063.5 10166.4  1063.5 10180.2  1063.5 10227.2  1063.5 10254.6
GR1063.5 10272.1  1063.5 10274.8  1063.5 10295.4  1065.6 10320.7  1067.7 10327.2
GR1072.1 10337.1  1080.7 10360.2  1081.0 10380.2
ET13.395             7.1                            9210   10352
X113.395      92  9303.0 10323.4     505     515  521.75
GR1078.7  6969.6  1078.4  7004.1  1078.4  7205.7  1078.3  7353.8  1078.9  7483.1
GR1079.5  7489.5  1079.4  7499.6  1078.7  7509.5  1078.5  7655.7  1078.7  7806.6
GR1078.2  7957.5  1077.9  8102.9  1078.7  8145.4  1076.5  8158.4  1076.5  8173.2
GR1078.7  8185.3  1078.3  8254.3  1078.7  8259.8  1080.0  8265.5  1078.7  8270.5
GR1079.0  8290.1  1078.3  8301.2  1078.6  8359.9  1077.6  8410.2  1077.8  8452.9
GR1077.1  8491.4  1077.8  8506.2  1077.2  8533.7  1078.7  8556.1  1078.9  8579.0
GR1079.7  8591.4  1078.8  8600.4  1077.9  8644.0  1078.1  8651.6  1079.6  8665.3
GR1079.3  8690.2  1077.6  8697.3  1076.4  8708.5  1076.4  8715.0  1083.6  8732.3
GR1084.3  8734.9  1084.3  8751.5  1081.5  8760.9  1080.2  8771.5  1075.7  8788.8
GR1076.4  8814.5  1076.9  8815.8  1077.5  8829.2  1076.9  8884.6  1077.0  8902.8
GR1076.4  8916.5  1075.6  9003.0  1076.2  9069.6  1074.9  9102.5  1075.7  9136.5
GR1075.6  9195.2  1076.0  9209.5  1075.6  9217.5  1074.4  9233.4  1073.6  9241.0
GR1076.6  9269.3  1075.6  9286.8  1075.2  9303.0  1070.6  9350.5  1069.6  9373.2
GR1065.7  9386.0  1065.5  9407.9  1065.8  9453.0  1065.6  9501.7  1064.9  9518.0
GR1071.6  9531.5  1070.2  9602.9  1071.0  9703.0  1070.4  9775.2  1067.2  9788.7
GR1064.6  9795.7  1066.0  9845.3  1066.2  9882.4  1064.0  9889.3  1064.2  9988.1
GR1065.8  9991.3  1073.1 10009.0  1072.8 10053.0  1070.1 10098.5  1071.1 10198.2
GR1074.9 10229.0  1075.3 10240.9  1073.7 10254.0  1074.0 10259.9  1073.6 10295.0
GR1073.8 10323.4  1084.7 10352.8
NC                          0.3     0.5
ET13.450             7.1                            8830   10253
X113.450      94  8990.3 10252.0     290.4   290.4   290.4
GR1088.4  6838.2  1088.5  6861.9  1087.5  6877.3  1086.9  6913.9  1085.7  6953.5
GR1084.6  7013.3  1083.5  7063.1  1083.1  7102.5  1082.7  7184.8    1082  7255.3
GR1081.8  7326.3  1081.9  7374.4    1083  7379.2  1083.1  7415.2  1082.3    7423
GR1082.2  7450.9  1081.7  7502.5    1082  7532.2  1082.2  7577.2  1081.8  7605.3
GR1081.7  7695.5  1081.9  7785.8  1082.3  7841.8  1082.5  7941.2  1082.7  8015.6
GR1082.9  8027.8  1082.8  8051.8  1083.4  8104.6  1083.9  8159.8  1084.1  8174.8
GR1085.2  8250.9  1085.4  8273.8    1086  8352.4  1086.1  8361.5  1087.4    8470
GR1087.4  8480.1  1088.2  8550.7    1089  8631.3  1089.3  8682.4  1090.5  8721.8
GR1090.8  8740.4  1086.5    8759  1076.5  8795.4  1075.3  8851.8  1074.9  8869.3
GR1074.4  8879.1  1073.6  8917.3  1071.4  8990.3  1066.3  9022.8  1066.2  9032.9
GR1066.6  9065.1  1068.5    9134    1068  9208.3    1068  9217.3  1067.8  9225.8
GR1069.5  9238.2  1070.5  9250.2  1070.7  9309.2  1070.8  9364.4    1071  9443.6
GR1071.1  9553.7  1071.1  9589.9  1070.5  9678.2  1071.1  9727.4  1070.6  9736.5
GR1070.6  9771.8    1070  9819.2  1070.1  9826.5  1069.2    9864  1069.2  9875.6
GR1066.1  9952.6  1066.2  9992.1  1064.3 10006.5  1064.3 10009.7  1063.9 10064.8
GR1063.8   10067  1065.2 10097.1  1065.4   10106  1071.5 10126.6  1071.7 10133.8
GR1071.5 10181.5  1071.6 10191.5  1070.9 10198.2  1070.4 10205.4  1084.5   10252
GR1084.5 10257.9  1088.7 10276.1  1089.5 10280.3  1089.5 10305.8  1089.1 10337.6
GR1089.2 10343.3    1089 10371.3  1088.3 10400.7  1088.2 10414.4
SB  1.05    1.56     2.7       0    1400   99.021608.27     3.0    1070    1070
X113.467      89  8693.6 10286.7      90      90      90
X2     0       0       1 1090.30 1092.80       0       0       1       0       0
BT    11  8710.0  1092.8  1092.8  8733.0  1093.0  1093.0  8733.1  1098.2  1086.4
BT9110.0  1101.1  1089.3  9360.0  1102.0  1090.2  9482.0  1102.1  1090.3  9603.8
BT1102.0  1090.2  9863.0  1101.1  1089.3 10240.5  1098.2  1086.4 10240.6  1093.0
BT1093.0 10266.0  1092.8  1092.8
GR1090.1  6814.7  1089.3  6829.6  1088.5  6862.5  1087.9  6880.3  1086.6  6944.5
GR1085.6  6980.7  1084.8  7020.5  1083.9    7051  1083.6  7107.9  1082.9  7170.4
GR1082.9  7221.9  1083.5  7345.9  1083.6  7461.7  1083.4  7619.7  1082.9  7695.5
GR1082.9  7781.8  1082.6  7838.7  1083.3  7953.6  1084.4  8056.2  1085.1  8153.8
GR1085.9  8175.2  1085.7  8190.4  1085.8  8226.6  1086.2  8237.2  1087.5    8382
GR  1088    8436  1089.3  8524.4    1090  8586.4  1090.6  8617.3  1090.9  8693.6
GR1090.7  8714.3  1089.7  8721.2    1089  8723.9  1083.7  8748.6  1075.9  8771.6
GR1074.3  8844.3  1072.6  8880.1  1072.1  8900.4  1068.8    8915  1067.8  8921.2
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GR1069.3  9080.3  1069.2  9095.9  1070.5  9122.1    1071  9176.2  1070.8  9207.1
GR1071.2  9212.7    1071  9260.5  1071.2  9335.2  1071.7  9473.8  1071.7  9501.1
GR1070.6  9664.3  1070.6  9679.2  1071.3  9719.1  1069.8  9747.5  1069.7  9757.2
GR1070.5  9801.5  1070.3  9808.3  1070.7  9843.8  1071.4    9884  1070.3  9924.4
GR1070.1  9949.1  1069.2    9970  1068.2  9979.4  1065.5  9992.8  1065.5  9999.6
GR1065.1 10002.4  1064.5 10012.7  1064.5 10041.8  1064.1 10056.8  1065.5 10089.1
GR1066.5 10127.4  1066.7 10153.5  1067.9 10157.6  1068.2 10166.2  1069.2 10180.4
GR1069.1 10183.6  1082.4 10223.7  1088.6 10246.1  1090.3   10253  1090.6 10286.7
GR1090.5   10313  1089.4 10369.3  1089.6 10370.6  1090.4 10389.2
ET13.518     9.1     7.1                            8740   10214    8560   10214
X113.518      93  8800.2 10189.6     260     260     270
GR1079.3  6842.0  1079.0  6867.8  1078.7  6871.8  1078.9  6921.8  1080.2  6939.9
GR1079.9  6974.7  1079.4  6995.2  1080.6  7071.4  1080.6  7122.3  1080.1  7221.0
GR1080.9  7237.1  1080.0  7244.9  1080.5  7249.5  1080.9  7321.4  1080.6  7373.9
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GR1072.2 10019.3  1072.2 10039.7  1064.3 10058.8  1064.2 10074.4  1065.2 10086.6
GR1067.3 10161.7  1067.2 10189.6  1087.8 10214.8
NC                          0.1     0.3
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X113.565      94  8886.9 10247.7     245     255  252.49
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GR1092.8	6127.2	1090.1	6144.1	1089.3	6169.4	1088.8	6234.5	1089.6	6389.3
GR1088.3	6396.6	1089.7	6405.2	1089.6	6415.6	1091.7	6423.1	1091.5	6435.7
GR1089.9	6442.3	1089.6	6478.8	1087.3	6494.9	1089.9	6513.1	1089.7	6653.1
GR1089.2	6675.8	1089.5	6693.5	1087.9	6775.7	1088.9	6841.5	1088.5	6855.9
GR1087.4	6863.1	1087.5	6870.8	1088.3	6871.4	1088.2	6916.6	1091.2	6967.8
GR1092.0	6972.7	1091.7	6981.8	1089.2	6997.6	1088.1	7022.7	1089.1	7042.8
GR1088.7	7119.7	1089.9	7219.7	1090.2	7328.8	1091.2	7429.8	1090.8	7478.8
GR1090.7	7719.8	1090.0	7894.3	1089.3	7907.0	1089.6	7919.9	1088.0	7938.7
GR1086.7	7947.9	1086.5	7978.8	1088.3	8021.6	1086.5	8035.5	1087.3	8069.9
GR1086.6	8124.1	1090.6	8319.9	1089.2	8419.9	1090.0	8470.0	1089.5	8546.1
GR1088.9	8670.0	1087.9	8810.7	1086.8	8856.0	1088.3	8877.5	1085.5	8913.3
GR1088.9	8936.4	1090.4	9101.6	1089.9	9130.0	1081.4	9155.4	1081.6	9201.5
GR1082.7	9221.9	1082.1	9267.4	1085.3	9278.1	1086.4	9483.4	1085.2	9526.6
GR1086.5	9548.2	1086.1	9626.2	1086.0	9727.2	1085.6	9754.8	1083.5	9767.6
GR1082.6	9836.8	1084.5	9851.1	1085.0	10018.6	1083.8	10049.3	1085.0	10082.2
GR1083.9	10181.6	1082.1	10217.5	1080.3	10243.1	1081.5	10310.9	1080.8	10369.5
GR1087.5	10391.2	1086.6	10417.7	1085.4	10430.8	1087.0	10446.3	1086.3	10475.0
GR1087.5	10498.8	1084.2	10515.0	1085.4	10535.1	1084.1	10627.2	1086.0	10636.9
GR1084.4	10652.8	1086.0	10688.2	1091.4	10710.5				
ET14.335	9.1	7.1				9110	10460	7700	10875
X114.335	92	9119.2	10358.0	400	530	498.73			
GR1096.5	6405.1	1096.6	6414.4	1093.8	6426.0	1091.0	6645.7	1090.6	6668.9
GR1090.8	6808.8	1089.7	6821.8	1090.9	6832.8	1091.3	7069.0	1091.7	7119.0
GR1091.4	7169.2	1090.4	7182.9	1091.9	7193.0	1090.6	7369.1	1091.6	7519.1
GR1092.4	7569.1	1091.9	7672.5	1092.8	7719.2	1092.0	7819.2	1092.2	7969.2
GR1091.5	7997.9	1089.7	8026.8	1091.4	8072.1	1091.4	8119.2	1090.4	8169.2
GR1088.8	8205.4	1087.1	8218.0	1087.4	8269.3	1086.5	8295.2	1088.3	8313.6
GR1088.1	8331.3	1087.4	8348.0	1090.0	8368.3	1091.2	8428.6	1091.0	8469.3
GR1091.4	8519.3	1091.3	8719.4	1091.2	8819.4	1090.6	8869.4	1090.8	8890.0
GR1090.5	8919.4	1088.3	8969.4	1087.7	9015.7	1091.2	9093.7	1089.5	9119.2
GR1084.7	9140.5	1083.8	9173.5	1083.6	9207.8	1083.0	9224.7	1083.1	9266.1
GR1086.4	9283.0	1087.4	9378.1	1087.1	9422.3	1085.1	9431.4	1087.3	9480.4
GR1086.8	9583.0	1088.0	9642.1	1088.2	9736.2	1087.1	9787.3	1087.8	9838.7
GR1087.3	9940.8	1085.9	9985.5	1086.0	10021.4	1083.0	10027.3	1083.3	10044.8
GR1085.3	10070.2	1084.8	10094.2	1086.1	10196.5	1085.0	10245.6	1080.4	10271.0
GR1079.8	10300.6	1082.2	10309.3	1081.8	10328.5	1086.9	10352.2	1088.4	10358.0
GR1088.5	10401.1	1089.0	10428.1	1088.2	10467.3	1089.0	10503.4	1088.8	10578.2
GR1085.4	10601.4	1085.7	10603.4	1085.5	10616.0	1085.9	10656.8	1087.1	10708.0
GR1087.0	10758.8	1088.4	10777.4	1089.2	10811.8	1090.4	10816.5	1087.3	10837.4
GR1087.4	10868.0	1089.9	10875.5						
ET14.430	9.1	7.1				9160	10520	7800	10984
X114.430	95	9171.4	10301.1	410	540	502.88			
GR1093.1	6835.1	1092.2	6860.3	1091.7	6910.4	1092.2	6957.4	1091.9	7059.0
GR1092.3	7116.1	1092.3	7152.4	1090.9	7160.9	1090.8	7169.2	1092.8	7174.9
GR1092.5	7260.4	1093.8	7374.4	1092.6	7386.9	1093.8	7410.4	1093.5	7460.4
GR1093.9	7560.4	1093.3	7610.4	1093.7	7668.1	1093.0	7731.7	1093.5	7769.7
GR1094.7	7824.0	1093.7	7871.2	1093.1	7953.2	1093.2	7972.8	1092.9	8030.2
GR1092.3	8062.0	1092.5	8076.9	1090.8	8088.0	1089.8	8098.1	1091.5	8116.9
GR1092.0	8194.9	1091.5	8233.1	1092.1	8266.0	1092.1	8279.7	1088.9	8296.7
GR1087.9	8349.4	1088.0	8356.7	1090.6	8393.8	1090.6	8428.0	1092.7	8449.0
GR1092.3	8510.5	1091.7	8551.5	1089.9	8570.9	1091.7	8660.6	1092.0	8710.6
GR1091.9	8760.6	1091.0	8810.6	1090.8	8860.6	1089.9	8937.3	1089.9	8990.6
GR1089.4	9009.0	1089.1	9040.5	1090.1	9061.5	1091.7	9112.8	1092.1	9171.4
GR1089.0	9184.9	1085.7	9213.3	1086.2	9236.5	1083.2	9251.1	1083.8	9327.2
GR1086.3	9348.5	1085.7	9383.3	1087.2	9425.3	1088.3	9477.5	1088.7	9561.3
GR1088.5	9633.6	1088.1	9691.5	1088.6	9737.7	1088.8	9773.2	1089.2	9789.8
GR1089.6	9843.8	1089.5	9884.1	1088.4	9985.5	1084.9	10126.0	1084.5	10166.4
GR1084.4	10207.6	1084.1	10261.8	1090.1	10301.1	1091.0	10347.0	1088.8	10352.7
GR1090.6	10361.5	1090.4	10414.8	1090.5	10466.9	1090.0	10556.3	1089.5	10568.8
GR1086.2	10593.2	1087.8	10622.9	1088.1	10675.2	1088.9	10720.5	1087.9	10808.1
GR1090.5	10831.2	1091.5	10847.9	1092.2	10912.7	1093.2	10940.6	1093.8	10984.2
ET14.525	9.1	7.1				9230	10600	7800	10815.3
X114.525	94	9232.1	10233.0	425	545	504.32			
GR1096.8	7234.2	1095.6	7243.6	1095.6	7245.7	1095.1	7248.3	1093.9	7250.5
GR1094.0	7255.8	1092.1	7338.6	1093.4	7385.4	1093.7	7436.4	1089.0	7503.6
GR1091.8	7558.0	1092.5	7562.7	1092.8	7577.9	1094.1	7597.1	1094.6	7831.0
GR1095.3	7931.0	1094.2	8034.5	1092.8	8078.6	1094.2	8119.5	1093.8	8153.9
GR1093.0	8164.2	1094.4	8185.6	1094.5	8196.9	1093.0	8288.2	1094.1	8300.2
GR1093.1	8327.7	1090.3	8342.9	1090.0	8381.8	1090.2	8418.4	1093.0	8465.0
GR1092.4	8480.5	1093.0	8517.4	1092.0	8531.3	1093.8	8555.6	1093.8	8702.0
GR1093.6	8736.6	1093.8	8766.7	1093.4	8777.2	1092.6	8786.4	1092.8	8838.3
GR1091.5	8854.5	1091.8	8881.4	1090.7	8891.3	1090.6	8924.5	1091.3	8949.3
GR1091.2	8981.0	1092.4	9081.0	1092.6	9131.5	1093.6	9183.1	1093.9	9232.1
GR1089.7	9255.4	1087.5	9333.2	1088.5	9346.7	1089.3	9349.3	1088.8	9404.6
GR1089.7	9431.4	1089.4	9505.9	1088.5	9590.1	1087.3	9596.1	1086.1	9621.0
GR1084.7	9662.0	1088.2	9685.2	1089.4	9846.8	1089.3	9885.5	1087.9	9984.5
GR1084.0	10000.7	1083.5	10040.7	1083.9	10046.2	1085.1	10076.8	1083.2	10093.8
GR1085.8	10120.9	1085.4	10150.6	1085.9	10158.0	1086.3	10177.4	1086.1	10196.1
GR1092.3	10233.0	1091.5	10254.5	1091.1	10301.0	1095.3	10340.0	1095.3	10352.5
GR1094.5	10376.0	1089.8	10399.1	1086.6	10465.1	1087.6	10468.2	1086.8	10490.2
GR1087.2	10583.4	1086.2	10636.8	1088.8	10661.4	1089.4	10670.2	1090.3	10717.7

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GR1093.7 10778.0  1096.5 10797.1  1097.2 10804.3  1097.2 10815.3
ET14.619     9.1     7.1                           9305   10785    8100 10802.2
X114.619      92  9305.5 10198.4     410     540  494.31
GR1096.1  7381.0  1090.4  7395.9  1089.5  7402.9  1087.9  7454.5  1093.6  7478.2
GR1095.7  7488.3  1096.8  7496.9  1095.3  7511.9  1093.7  7522.3  1092.9  7539.2
GR1092.9  7580.7  1092.3  7595.9  1092.8  7611.0  1092.5  7643.7  1095.2  7663.3
GR1095.3  7694.8  1095.6  7695.5  1094.1  7713.0  1094.5  7787.9  1093.8  7798.6
GR1095.3  7816.1  1095.6  7864.0  1092.5  7883.4  1095.6  7892.3  1094.9  7996.8
GR1095.4  8044.8  1095.1  8194.8  1095.7  8283.3  1094.7  8297.5  1094.3  8314.5
GR1095.4  8400.7  1094.3  8437.5  1093.2  8448.1  1094.2  8503.0  1091.7  8514.9
GR1093.5  8526.5  1092.6  8534.2  1092.7  8594.8  1092.4  8624.7  1094.9  8641.2
GR1095.1  8689.8  1094.3  8729.7  1095.9  8844.8  1095.9  8895.4  1095.3  8916.0
GR1091.4  8957.3  1091.5  8976.9  1093.0  9000.9  1091.4  9033.7  1092.5  9047.1
GR1091.7  9076.2  1091.5  9104.0  1093.1  9144.8  1095.2  9305.5  1091.3  9327.3
GR1090.7  9392.3  1090.1  9619.3  1090.3  9696.9  1089.2  9746.7  1087.4  9776.0
GR1087.8  9808.3  1087.3  9833.0  1089.8  9864.0  1089.8  9919.7  1088.8  9955.2
GR1086.8  9967.5  1086.3  9992.2  1087.0 10001.3  1088.1 10031.1  1088.9 10087.0
GR1088.3 10118.0  1087.7 10125.9  1087.5 10177.5  1092.1 10198.4  1092.6 10203.6
GR1091.1 10222.2  1093.3 10241.7  1092.3 10258.7  1093.9 10273.4  1093.3 10381.2
GR1092.1 10421.0  1092.4 10456.0  1091.8 10506.6  1092.5 10536.1  1093.9 10565.8
GR1094.3 10588.1  1092.7 10643.2  1090.0 10708.5  1088.4 10737.8  1088.1 10755.0
GR1092.3 10775.3  1096.3 10802.2
ET14.708     9.1     7.1                           9410   11140    8350 11257.9
X114.708      92  9428.4 10186.7     425     500  470.75
GR1103.9  8036.0  1096.2  8049.8  1095.6  8117.2  1096.3  8139.9  1095.7  8172.4
GR1096.7  8228.8  1094.7  8242.0  1095.0  8272.9  1096.5  8285.2  1097.0  8422.3
GR1096.3  8492.6  1095.4  8519.0  1096.1  8522.0  1094.3  8533.4  1092.7  8541.1
GR1092.7  8568.6  1093.4  8590.6  1094.0  8625.2  1093.2  8660.6  1093.1  8722.3
GR1092.8  8753.9  1091.2  8779.9  1092.9  8796.2  1095.6  8815.0  1095.4  8872.3
GR1094.3  8972.3  1094.0  9035.9  1094.3  9122.3  1093.8  9223.4  1093.4  9249.4
GR1096.2  9296.7  1097.1  9307.5  1096.2  9337.0  1095.8  9394.5  1095.1  9428.4
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GR1089.8  9861.5  1090.2  9919.6  1089.4 10002.7  1089.7 10034.5  1089.4 10057.4
GR1088.4 10082.1  1089.8 10101.4  1089.7 10149.5  1092.6 10186.7  1094.0 10222.8
GR1094.3 10261.0  1095.9 10287.2  1095.5 10325.7  1094.2 10343.9  1095.2 10365.6
GR1095.0 10378.4  1093.8 10393.4  1094.3 10400.2  1094.1 10441.0  1093.4 10459.3
GR1094.5 10503.2  1094.4 10643.5  1094.7 10693.4  1095.1 10705.5  1095.0 10715.9
GR1095.6 10752.5  1094.1 10779.6  1094.6 10795.2  1094.5 10841.3  1093.6 10860.1
GR1093.8 10869.7  1093.5 10887.4  1093.8 10902.7  1093.8 10928.2  1094.3 10946.4
GR1094.3 10975.6  1093.4 11005.3  1093.8 11020.8  1093.8 11068.6  1094.7 11094.9
GR1094.6 11106.3  1093.5 11120.3  1097.0 11166.8  1096.1 11177.0  1096.6 11213.0
GR1102.4 11242.2  1102.2 11257.9
*  CONFLUENCE WITH LOWER EL MIRAGE WASH TRIBUTARY
ET14.809     9.1     7.1                           9455   10235    8474 10252.8
X114.809      92  9536.7 10195.8     510     540  530.81
GR1107.8  8473.6  1099.5  8511.7  1098.9  8543.9  1097.1  8562.5  1095.9  8639.3
GR1097.9  8666.5  1097.8  8669.6  1094.7  8679.3  1094.5  8727.9  1094.7  8736.6
GR1095.5  8745.5  1096.0  8827.2  1097.1  8869.6  1096.1  8916.6  1096.8  8969.6
GR1097.1  9069.6  1097.1  9179.4  1097.0  9229.7  1096.4  9306.2  1096.7  9403.0
GR1096.2  9435.8  1095.0  9450.4  1096.3  9491.5  1095.9  9536.7  1093.9  9548.6
GR1093.6  9569.1  1091.6  9598.8  1093.0  9617.1  1091.8  9651.0  1091.1  9733.9
GR1091.4  9775.3  1092.6  9787.6  1092.2  9792.2  1091.4  9860.6  1087.1  9878.1
GR1087.3  9909.0  1089.5 10031.8  1091.1 10059.0  1090.8 10085.7  1091.1 10096.4
GR1087.3 10106.9  1087.7 10128.6  1088.1 10129.3  1089.1 10143.7  1095.2 10195.8
GR1096.8 10234.3  1097.4 10236.9  1097.3 10238.6  1099.0 10252.8  1098.0 10259.2
GR1098.4 10264.4  1098.2 10275.0  1097.7 10279.4  1098.3 10328.7  1098.1 10376.1
GR1097.3 10454.3  1098.0 10561.8  1096.5 10719.7  1096.4 10767.1  1097.6 10894.4
GR1095.7 10912.2  1094.0 10923.3  1093.2 10934.8  1092.4 10965.5  1092.9 11008.3
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GR1095.7 11315.3  1093.6 11361.3  1093.4 11377.5  1095.1 11421.8  1092.7 11430.2
GR1092.7 11500.9  1095.4 11524.6  1095.0 11539.4  1095.3 11607.8  1095.8 11612.3
GR1097.0 11633.9  1096.6 11645.6  1096.9 11662.1  1098.1 11673.3  1099.3 11678.3
GR1100.2 11702.2  1100.6 11723.2
ET14.905     9.1     7.1                           9330   10160  8974.3   10303
X114.905      95  9392.3 10079.9     500     510  508.67
GR1103.6  8974.3  1096.9  8989.1  1095.6  9018.0  1094.7  9068.2  1094.9  9118.0
GR1097.3  9149.3  1097.5  9218.0  1096.5  9268.0  1095.6  9354.9  1094.8  9379.8
GR1095.0  9392.3  1092.6  9417.6  1094.5  9446.4  1094.8  9482.2  1094.0  9505.7
GR1092.4  9532.5  1093.8  9589.4  1091.4  9646.8  1091.8  9669.3  1090.7  9697.2
GR1090.9  9721.2  1090.3  9751.7  1091.9  9785.7  1091.8  9820.9  1090.6  9850.7
GR1091.8  9862.5  1091.2  9887.2  1088.6  9903.9  1089.1  9954.5  1089.5  9992.3
GR1091.7 10006.8  1092.7 10054.0  1092.8 10079.9  1091.3 10149.4  1090.9 10196.9
GR1092.7 10249.2  1092.4 10252.7  1094.3 10282.4  1099.7 10302.9  1098.8 10373.3
GR1099.2 10396.5  1098.8 10469.6  1100.3 10478.2  1099.1 10652.5  1100.0 10755.7
GR1099.4 10807.2  1100.0 10858.6  1098.2 10960.5  1099.4 11037.9  1100.4 11048.3
GR1099.5 11058.9  1099.5 11118.8  1099.9 11167.3  1099.9 11218.8  1098.4 11286.9
GR1099.3 11313.8  1098.9 11315.6  1099.5 11318.6  1100.0 11325.2  1098.7 11372.2
GR1096.6 11384.4  1095.8 11443.0  1098.4 11534.6  1097.0 11578.2  1097.0 11620.7
GR1098.0 11641.1  1095.9 11725.4  1100.0 11752.2  1099.5 11763.6  1098.1 11772.1
GR1098.6 11783.8  1096.4 11815.3  1095.6 11835.9  1095.5 11866.5  1095.0 11887.6
GR1095.3 11924.7  1095.9 11939.0  1099.1 11969.7  1104.4 11994.5  1101.9 12016.1
GR1101.8 12037.2  1102.9 12079.5  1101.0 12093.6  1101.7 12129.0  1102.5 12140.8
GR1102.7 12247.4  1103.5 12279.8  1103.8 12313.9  1102.5 12327.5  1104.1 12448.9
GR1104.8 12474.6  1100.8 12519.9  1100.8 12554.0  1104.4 12608.8  1104.0 12655.5
ET15.000     9.1     7.1                           9290   10130  9175.6   10600
X115.000      93  9346.3 10081.6     500     495  500.84
GR1104.8  9175.6  1096.6  9188.0  1095.7  9234.8  1098.2  9245.7  1098.1  9269.8
GR1098.5  9309.1  1098.0  9346.3  1094.9  9360.3  1093.9  9370.2  1092.0  9405.3
GR1093.4  9484.6  1095.2  9558.7  1095.7  9601.6  1095.6  9621.8  1096.0  9660.1
GR1094.7  9835.6  1093.9  9875.1  1091.8  9911.5  1091.4  9946.6  1092.3  9974.0
GR1090.7  9998.3  1088.8 10005.6  1089.2 10038.0  1089.1 10059.8  1097.0 10081.6
GR1096.3 10186.6  1095.3 10240.5  1094.7 10362.1  1093.4 10456.6  1093.5 10476.4
GR1094.0 10495.3  1100.0 10526.1  1100.6 10561.4  1101.1 10679.6  1101.4 10895.6
GR1101.2 10958.4  1101.8 11017.3  1101.4 11192.8  1101.3 11274.2  1100.7 11355.6
GR1099.3 11392.9  1098.1 11400.2  1096.6 11405.2  1096.5 11410.1  1097.8 11419.6
GR1098.0 11427.6  1099.3 11434.3  1100.2 11446.3  1100.3 11453.6  1100.0 11457.0
GR1100.2 11466.1  1097.6 11479.7  1097.3 11498.8  1099.1 11540.6  1099.9 11574.4
GR1099.9 11593.7  1101.2 11685.2  1101.1 11736.6  1101.7 11756.7  1101.5 11782.1
GR1102.6 11787.3  1102.1 11802.9  1100.2 11815.5  1100.5 11836.4  1098.5 11890.8
GR1098.1 11942.1  1096.6 11993.5  1098.5 12029.4  1099.0 12044.9  1099.3 12096.3
GR1100.7 12125.7  1102.8 12147.6  1103.6 12163.7  1103.8 12179.4  1101.5 12212.6
GR1100.5 12250.4  1102.4 12357.6  1102.9 12367.0  1102.9 12400.4  1104.8 12422.9
GR1104.1 12475.6  1103.5 12492.4  1103.6 12504.2  1104.5 12515.0  1105.2 12558.7
GR1104.4 12624.8  1102.9 12637.3  1102.6 12663.8  1104.8 12712.9  1104.1 12745.6
GR1104.2 12758.9  1103.7 12782.7  1104.1 12821.1
ET15.094     9.1     7.1                           9330   10190  9293.4 11152.4
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X115.094       93  9336.0 10125.1     495     495  496.49
GR1102.3  9230.9  1100.7  9234.4  1099.6  9253.3  1099.4  9273.1  1101.4  9293.4
GR1098.7  9317.6  1099.1  9336.0  1093.7  9355.8  1092.1  9366.0  1093.0  9426.0
GR1097.1  9590.7  1099.4  9609.4  1099.0  9653.4  1096.8  9670.4  1096.3  9694.4
GR1096.0  9881.3  1095.6  9930.6  1093.7  9945.8  1094.7  9959.7  1091.2  9976.5
GR1091.8 10019.8  1091.3 10056.5  1090.0 10076.6  1089.9 10097.2  1093.0 10112.9
GR1094.7 10125.1  1095.1 10135.1  1094.8 10150.0  1096.1 10160.0  1096.9 10171.4
GR1096.6 10189.8  1097.4 10207.6  1096.2 10234.1  1097.3 10263.0  1097.4 10348.5
GR1097.8 10420.4  1096.0 10524.2  1096.2 10548.3  1099.1 10566.9  1098.0 10582.9
GR1096.7 10640.5  1096.6 10663.0  1099.1 10693.7  1098.7 10706.9  1099.1 10769.4
GR1100.1 10779.4  1100.1 10782.7  1098.1 10796.7  1097.2 10800.0  1096.8 10811.3
GR1095.5 10828.1  1099.2 10841.3  1099.7 10841.7  1098.3 10856.1  1097.2 10861.7
GR1096.4 10911.4  1097.7 10930.8  1100.9 10959.2  1100.7 10987.0  1102.5 11002.3
GR1102.3 11152.4  1101.1 11308.7  1100.6 11317.7  1099.8 11395.4  1100.0 11416.9
GR1098.4 11464.5  1099.1 11568.4  1102.2 11721.5  1103.2 11770.3  1102.9 11927.4
GR1102.6 12022.7  1102.6 12073.5  1099.0 12224.6  1098.4 12273.7  1099.4 12426.5
GR1100.1 12527.4  1100.9 12565.4  1103.1 12583.4  1103.4 12600.3  1102.8 12615.4
GR1104.7 12634.5  1103.3 12708.4  1104.2 12732.9  1104.9 12768.7  1103.0 12777.2
GR1102.2 12792.8  1103.9 12819.1  1100.5 12842.5  1100.6 12850.8  1098.7 12868.4
GR1098.7 13008.3  1100.2 13018.1  1102.3 13066.3
*  ENCROACHED DUE TO NON-EFFECTIVE FLOW 4:1 DOWNSTREAM OF LANDFILL,
*   SECTION 15.188 TO 15.719.
ET15.188      9.1      7.1                            9485   10280  9360.1   11050
X115.188       93  9504.7 10076.1     550     435  495.48
GR1106.4  9360.1  1103.4  9378.8  1102.5  9452.7  1101.6  9475.6  1102.2  9494.0
GR1097.3  9504.7  1094.3  9579.5  1094.8  9593.8  1095.3  9643.1  1094.3  9694.4
GR1097.4  9851.0  1096.8  9910.1  1097.2  9923.3  1094.9  9974.6  1089.0  9999.8
GR1089.0 10036.2  1089.7 10045.4  1100.4 10076.1  1100.9 10093.4  1100.8 10134.4
GR1098.4 10315.5  1097.5 10342.4  1098.4 10371.5  1097.5 10423.9  1099.1 10519.9
GR1099.8 10539.6  1100.5 10631.5  1101.5 10643.5  1102.1 10655.6  1102.2 10711.3
GR1102.8 10719.2  1101.8 10730.9  1100.3 10887.2  1098.9 10994.1  1099.1 11029.8
GR1100.0 11074.5  1097.5 11098.2  1097.1 11119.5  1100.9 11144.2  1100.7 11160.3
GR1099.5 11182.2  1098.9 11210.8  1103.4 11245.7  1103.4 11261.5  1103.0 11267.1
GR1103.6 11272.4  1102.8 11387.4  1102.1 11433.8  1100.4 11499.1  1102.0 11533.1
GR1099.8 11633.7  1099.5 11683.9  1099.1 11697.0  1101.2 11756.0  1101.8 11784.2
GR1101.8 11830.5  1102.2 11834.4  1101.8 11838.1  1101.8 11880.7  1102.9 11904.7
GR1104.4 12085.2  1104.1 12235.7  1104.6 12304.0  1104.3 12339.8  1103.1 12355.1
GR1101.7 12382.3  1103.0 12398.6  1103.2 12442.1  1103.9 12460.1  1103.4 12469.0
GR1103.5 12476.2  1105.2 12496.6  1100.0 12536.7  1099.1 12575.4  1097.3 12579.2
GR1097.3 12724.2  1107.4 12778.9  1107.3 12813.8  1105.1 12823.1  1104.6 12830.8
GR1105.2 12882.9  1104.0 12909.6  1105.1 12933.1  1105.5 12973.0  1103.8 12985.7
GR1103.7 12998.7  1104.7 13019.4  1098.7 13046.9  1098.7 13140.6  1100.6 13162.4
GR1100.8 13195.0  1101.7 13239.1  1104.6 13310.8
ET15.281      9.1      7.1                            9660   10370  9602.8   10950
X115.281       94  9742.9 10078.0     560     425  491.34
GR1110.2  9602.8  1107.8  9607.8  1108.8  9619.3  1108.1  9621.5  1108.6  9634.1
GR1109.2  9640.4  1099.4  9664.0  1098.3  9688.6  1098.1  9742.9  1095.4  9851.4
GR1095.2  9929.7  1095.6  9934.3  1094.9  9941.2  1093.9  9973.5  1092.6 10001.2
GR1094.5 10015.4  1094.4 10060.9  1101.4 10078.0  1101.3 10171.7  1100.1 10231.0
GR1099.4 10294.8  1100.0 10419.7  1098.8 10453.1  1099.9 10477.8  1100.4 10502.1
GR1100.3 10602.6  1102.9 10622.4  1101.5 10632.0  1102.1 10643.8  1100.2 10651.0
GR1099.8 10661.9  1099.4 10717.0  1100.7 10881.8  1101.1 10945.5  1102.6 10956.1
GR1101.5 10963.7  1100.2 11043.0  1101.4 11089.7  1100.2 11141.3  1100.0 11252.7
GR1098.7 11279.3  1100.2 11298.5  1097.7 11313.7  1100.5 11338.0  1100.8 11392.1
GR1100.5 11406.1  1101.1 11424.6  1100.1 11445.0  1103.6 11458.9  1104.3 11488.9
GR1104.7 11493.7  1101.8 11503.9  1101.8 11590.6  1103.1 11601.7  1102.4 11743.3
GR1103.3 11769.1  1103.1 11793.0  1103.9 11943.3  1104.6 12108.7  1105.4 12184.0
GR1105.9 12345.2  1105.8 12513.6  1106.4 12525.4  1106.5 12545.8  1107.2 12568.9
GR1108.9 12584.8  1108.1 12597.6  1108.9 12619.9  1110.2 12631.5  1105.2 12664.4
GR1102.9 12689.8  1103.3 12694.8  1103.4 12741.6  1100.7 12753.6  1097.3 12759.0
GR1096.9 12921.1  1098.7 12934.5  1101.0 12968.6  1102.7 13003.6  1104.6 13024.0
GR1107.5 13045.2  1105.7 13082.9  1105.3 13086.1  1105.4 13094.4  1105.8 13096.5
GR1107.1 13146.1  1106.8 13231.8  1105.8 13246.5  1106.9 13296.4  1107.1 13348.3
GR1105.7 13365.0  1105.7 13381.0  1106.6 13411.0  1105.3 13422.9
NC  .040    .045    .035
ET15.374      9.1      7.1                            9832   10390   9822   10770
X115.374       92  9832.4 10085.5     540     400  491.44
GR1109.9  9821.4  1108.7  9824.0  1101.3  9832.4  1101.3  9833.3  1099.8  9834.5
GR1095.1  9843.1  1095.6  9879.3  1094.8  9894.1  1094.0  9928.3  1093.8 10008.7
GR1096.2 10025.3  1098.6 10044.5  1101.9 10085.5  1103.7 10130.8  1100.9 10141.2
GR1101.2 10190.2  1101.1 10222.8  1100.0 10232.8  1100.4 10239.1  1100.6 10263.2
GR1101.1 10270.2  1102.0 10295.0  1101.4 10351.6  1103.1 10379.5  1103.6 10390.8
GR1103.1 10399.7  1102.6 10462.4  1100.8 10473.6  1100.6 10504.5  1101.1 10560.8
GR1101.0 10594.4  1104.7 10617.7  1101.7 10628.9  1101.6 10756.7  1102.1 10871.3
GR1101.8 10976.0  1102.9 11028.1  1102.6 11089.9  1100.6 11101.7  1100.7 11127.9
GR1101.0 11129.8  1100.9 11177.9  1102.1 11228.6  1101.8 11278.7  1102.1 11328.8
GR1102.9 11370.9  1100.3 11386.4  1103.0 11442.1  1102.9 11446.9  1099.0 11480.4
GR1099.7 11492.2  1101.4 11509.6  1104.0 11532.1  1101.0 11548.0  1101.0 11581.2
GR1103.5 11613.3  1104.1 11633.1  1104.6 11679.6  1104.4 11729.7  1104.3 11830.0
GR1104.7 11930.2  1105.1 12030.4  1105.1 12130.7  1105.8 12230.9  1106.4 12331.1
GR1106.7 12431.4  1107.1 12481.5  1107.2 12586.9  1107.4 12631.8  1106.9 12646.8
GR1107.6 12665.1  1105.3 12712.8  1104.0 12730.7  1104.7 12791.0  1104.2 12832.3
GR1104.6 12916.3  1106.3 12931.1  1107.6 12952.5  1107.7 12961.5  1107.2 12982.6
GR1106.1 13004.6  1106.2 13024.9  1105.7 13035.9  1105.2 13041.7  1105.2 13082.9
GR1104.4 13133.0  1104.2 13183.1  1104.8 13233.2  1105.2 13333.5  1107.1 13385.1
GR1107.3 13394.5  1111.0 13422.7
ET15.469      9.1      7.1                            9701   10330    9701   10500
X115.469       93  9848.4 10077.4     515     440  502.35
GR1115.8  9700.0  1106.3  9710.4  1107.1  9724.4  1100.7  9730.4  1098.6  9732.7
GR1098.6  9778.2  1098.3  9804.2  1097.6  9829.9  1097.5  9848.4  1095.9  9859.7
GR1095.4  9878.0  1095.7  9907.8  1097.3  9931.3  1097.4  9962.3  1095.3  9970.1
GR1095.2  9993.4  1099.5 10024.6  1099.7 10035.6  1099.2 10050.8  1099.2 10064.7
GR1100.4 10077.4  1100.4 10090.4  1099.4 10097.9  1099.7 10101.4  1100.9 10128.5
GR1101.9 10143.3  1102.5 10170.9  1102.9 10199.4  1102.7 10212.7  1101.7 10226.0
GR1102.6 10245.2  1103.1 10298.1  1102.8 10339.1  1101.6 10355.5  1101.4 10388.6
GR1102.2 10399.3  1101.8 10446.1  1101.4 10450.1  1101.0 10475.2  1101.1 10484.9
GR1102.7 10496.4  1103.0 10500.3  1102.8 10514.1  1103.9 10517.8  1103.8 10525.2
GR1105.3 10534.5  1104.2 10540.8  1104.5 10553.6  1104.3 10605.3  1104.6 10715.0
GR1104.4 10786.9  1104.2 10827.8  1104.1 10914.7  1104.4 10964.8  1105.0 11014.9
GR1104.5 11065.0  1104.2 11172.3  1102.7 11186.3  1101.5 11215.4  1100.8 11254.1
GR1103.7 11302.5  1103.4 11337.3  1104.5 11365.3  1105.5 11411.7  1104.3 11472.0
GR1102.2 11519.7  1100.5 11572.6  1100.9 11578.1  1102.2 11611.8  1101.9 11616.7
GR1102.3 11617.9  1103.9 11640.4  1104.0 11695.2  1104.8 11711.9  1105.3 11714.1
GR1104.9 11738.9  1105.2 11805.6  1105.1 11852.6  1105.5 11967.0  1106.0 12040.6
GR1105.9 12181.7  1106.2 12312.2  1106.6 12419.5  1107.2 12526.8  1107.5 12651.7
GR1108.1 12740.6  1108.6 12768.7  1107.5 12869.0  1106.8 12919.1  1107.6 12969.2
GR1107.8 13025.5  1107.5 13121.7  1107.6 13245.7
ET15.564      9.1      7.1                            9539   10220    9539   10300
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X115.564      95  9935.8 10047.2     520     435  502.28
GR1122.2  9538.2  1106.6  9561.9  1102.2  9577.1  1100.7  9582.8  1099.2  9613.0
GR1099.9  9664.1  1098.8  9765.0  1098.5  9773.9  1097.8  9784.1  1098.7  9794.8
GR1098.7  9801.0  1099.7  9810.3  1100.2  9816.3  1099.6  9819.3  1100.1  9825.9
GR1099.9  9861.8  1100.5  9868.6  1100.6  9878.5  1100.3  9892.9  1100.9  9919.7
GR1101.8  9935.8  1100.8  9946.1  1098.1  9963.2  1096.2  9992.4  1096.7 10018.2
GR1097.6 10025.9  1103.6 10047.2  1103.3 10059.0  1103.3 10070.9  1105.2 10124.2
GR1105.2 10165.4  1105.0 10175.3  1103.1 10217.8  1103.5 10229.1  1103.7 10257.2
GR1104.7 10307.0  1104.2 10342.6  1101.9 10362.8  1101.1 10373.6  1104.0 10384.2
GR1104.5 10386.9  1104.0 10412.6  1103.5 10459.2  1108.9 10489.2  1106.1 10500.0
GR1105.3 10533.2  1106.0 10645.3  1106.8 10686.5  1106.8 10737.2  1107.6 10837.4
GR1107.8 10887.5  1107.8 10937.6  1107.3 10979.8  1107.1 11037.9  1107.3 11188.2
GR1107.1 11218.8  1102.1 11238.3  1101.0 11279.5  1103.8 11304.2  1103.8 11322.3
GR1104.2 11338.6  1104.7 11370.0  1104.7 11388.7  1103.5 11425.1  1105.5 11448.5
GR1104.1 11487.6  1103.2 11496.6  1103.7 11539.0  1103.1 11560.7  1103.3 11566.2
GR1103.8 11571.7  1105.6 11602.4  1106.1 11618.7  1106.5 11625.4  1105.8 11639.6
GR1105.4 11672.0  1106.0 11688.6  1106.8 11730.5  1107.1 11739.5  1107.4 11906.2
GR1107.7 12144.2  1107.6 12158.4  1107.7 12160.1  1107.9 12194.2  1107.8 12227.6
GR1108.3 12284.2  1109.4 12428.6  1109.4 12474.1  1109.6 12486.5  1109.6 12563.6
GR1109.8 12597.3  1109.7 12609.3  1108.3 12628.3  1108.9 12691.7  1109.1 12764.2
NC  .040    .040    .035
ET15.658     9.1     7.1                          9446.5   10120    9447   10150
X115.658      94  9920.1 10083.7     520     450  496.88
GR1112.0  9446.5  1102.9  9461.8  1100.4  9465.5  1099.9  9483.7  1099.2  9525.8
GR1099.0  9567.9  1099.2  9593.1  1099.1  9623.6  1098.3  9661.4  1099.0  9692.6
GR1099.6  9731.7  1105.5  9771.5  1104.8  9821.5  1106.7  9842.5  1108.3  9871.1
GR1107.7  9920.1  1105.9  9948.6  1104.8  9955.5  1100.0  9980.4  1097.1 10019.8
GR1098.5 10032.1  1099.1 10035.6  1099.1 10047.6  1102.0 10063.9  1103.1 10083.7
GR1105.1 10102.2  1105.6 10123.1  1105.3 10172.7  1105.7 10224.6  1104.9 10285.3
GR1108.5 10297.1  1102.3 10314.8  1103.6 10344.9  1104.6 10376.8  1104.1 10404.4
GR1108.7 10421.4  1109.0 10424.8  1109.1 10479.6  1108.9 10529.0  1109.2 10579.4
GR1109.3 10629.5  1109.3 10659.2  1109.7 10706.2  1109.4 10729.7  1109.8 10756.5
GR1109.9 10810.1  1109.9 10847.3  1109.7 10894.4  1110.3 10980.2  1109.8 11030.4
GR1109.8 11078.1  1109.9 11130.6  1109.1 11168.2  1108.6 11181.1  1108.3 11181.6
GR1107.5 11220.8  1104.3 11235.1  1102.8 11283.3  1103.7 11301.1  1104.5 11331.3
GR1106.5 11371.9  1107.8 11386.7  1106.8 11396.5  1106.2 11416.0  1104.7 11430.3
GR1104.6 11481.3  1103.0 11511.9  1112.2 11553.9  1110.1 11576.5  1107.0 11618.7
GR1107.8 11631.6  1108.1 11663.4  1108.7 11681.8  1108.9 11731.8  1108.8 11788.1
GR1108.7 11832.1  1108.8 11882.2  1108.9 11932.3  1108.9 11982.4  1108.9 12070.3
GR1109.2 12164.3  1109.4 12232.9  1109.4 12283.0  1109.3 12305.5  1109.4 12333.1
GR1109.1 12352.5  1108.5 12418.3  1108.4 12483.5  1108.6 12587.7  1108.6 12683.9
GR1108.6 12734.0  1108.5 12784.1  1109.0 12815.2  1109.8 12846.4
ET15.719     9.1     9.1                                          9385.2   10150
X115.719      95  9885.3 10059.7     350     310  322.50
GR1111.0  9385.2  1102.4  9398.9  1098.3  9405.4  1099.7  9508.2  1099.8  9558.7
GR1100.2  9593.1  1101.5  9631.5  1101.6  9640.0  1106.0  9674.1  1106.8  9713.1
GR1106.8  9755.4  1106.4  9770.7  1105.6  9781.8  1107.9  9798.9  1108.1  9802.8
GR1108.2  9818.3  1107.6  9843.6  1108.7  9852.4  1109.4  9885.3  1106.4  9899.1
GR1105.4  9942.2  1094.1  9965.8  1093.7 10015.7  1098.6 10029.2  1098.8 10039.4
GR1114.5 10059.7  1117.7 10065.0  1119.6 10075.2  1118.7 10102.4  1123.6 10109.0
GR1128.1 10116.8  1128.5 10122.8  1132.0 10150.4  1132.9 10155.3  1133.7 10161.2
GR1126.3 10172.4  1105.8 10205.0  1106.5 10225.8  1106.5 10232.4  1106.7 10237.1
GR1106.7 10249.4  1106.5 10256.5  1105.8 10268.0  1106.1 10274.7  1105.4 10291.1
GR1105.4 10315.9  1104.6 10354.3  1104.2 10382.4  1104.6 10419.6  1104.4 10422.2
GR1109.6 10439.6  1110.1 10467.3  1110.1 10568.3  1110.6 10669.0  1111.3 10769.1
GR1110.6 10858.6  1110.6 10878.9  1111.2 10919.4  1110.7 10964.7  1111.5 11019.5
GR1111.8 11069.6  1110.7 11128.0  1111.0 11170.1  1109.5 11178.2  1104.8 11207.6
GR1105.4 11219.8  1105.5 11230.8  1104.0 11261.0  1103.7 11271.4  1105.0 11297.5
GR1105.2 11318.8  1103.9 11330.4  1104.5 11370.1  1104.3 11412.5  1106.1 11429.7
GR1108.0 11445.6  1108.6 11487.5  1109.3 11520.3  1109.4 11670.6  1109.4 11779.9
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GR1124.5 12306.8  1124.8 12337.8  1124.4 12368.0  1124.5 12379.8  1124.1 12402.2
ET16.506    9.11    9.11                                          9730   10265
SB  1.05    1.56    2.70       0     400      27  8080.2     3.5    1109    1109
X116.506      72  9768.0 10245.4     125     125  126.72
X2     0       0       1  1129.7  1130.6       0       0    1.33       0       0
BT     6    9265  1142.5  1142.5    9745  1136.7  1136.7  9745.1  1136.7  1129.7
BT 10250  1130.6  1123.6 10250.1  1130.6  1130.6 10384.0  1129.2  1129.2
GR1143.1  9053.0  1142.5  9098.2  1142.5  9101.6  1141.4  9219.0  1139.9  9328.3
GR1140.0  9334.9  1139.6  9379.4  1139.0  9386.3  1138.3  9448.3  1138.4  9482.6
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BT       10092.5  1139.1         10092.6  1139.1         10100.9    1139
BT10101.    1139          10103.7    1139         10104.1    1139         10116.9
BT1138.9          10117  1138.8          10119.4  1138.8         10119.5  1138.8
BT       10132.3  1138.7         10132.4  1138.7         10134.9  1138.7
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BT1138.6          10150  1138.6          10162.8  1138.4         10162.9  1138.4
BT       10165.3  1138.4         10165.4  1138.4         10177.9  1138.3
BT10178.  1138.3          10180.7  1138.3         10180.8  1138.3         10193.9
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BT       10209.3    1138         10209.4    1138         10211.9    1138
BT 10212    1138          10225.2  1137.9         10225.3  1137.9         10227.9
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BT         10330    1132
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GR1127.6 11586.4  1126.8 11609.9  1126.7 11843.9  1126.8 11988.7  1129.0 12041.8
GR1125.8 12048.3  1128.5 12056.1  1127.1 12097.2  1127.8 12170.8  1124.8 12180.6
GR1119.2 12188.4  1116.2 12191.6  1111.2 12195.4  1090.6 12206.1  1092.1 12285.4
GR1093.9 12332.8  1101.0 12334.5  1112.0 12337.1  1125.2 12341.0  1125.1 12367.4
```

GR1125.8	12393.1	1124.4	12431.4	1123.9	12507.9	1123.2	12529.8	1123.6	12585.8
GR1127.2	12630.0	1136.9	12660.9	1128.6	12676.3	1127.0	12692.1	1125.9	12746.2
GR1127.9	12795.1	1130.4	12813.6	1130.5	12826.3	1128.3	12904.8	1129.2	12916.6
GR1127.6	12934.8	1125.7	12966.4	1126.6	12979.5	1125.4	13179.1	1126.4	13287.4
GR1124.9	13341.6	1125.6	13503.0	1125.2	13561.0	1120.4	13574.0	1121.1	13632.4
GR1128.6	13654.8	1128.6	13664.2	1130.6	13675.3	1130.2	13709.1		
ET17.085	9.1	9.1						9678.3	10150
X117.085	94	9735.7	10112.8	570	430	500.75			
GR1154.5	9678.3	1153.4	9687.0	1152.5	9687.8	1153.4	9692.1	1121.8	9735.7
GR1119.1	9786.4	1116.9	9880.2	1112.2	9896.4	1111.5	9936.4	1111.9	9973.1
GR1114.8	9994.6	1114.6	10009.2	1113.6	10018.0	1115.9	10099.0	1122.4	10112.8
GR1120.8	10117.6	1120.9	10126.5	1133.5	10150.6	1132.7	10261.5	1131.2	10286.5
GR1131.9	10293.3	1131.9	10303.3	1129.6	10333.1	1129.4	10341.4	1127.1	10353.4
GR1128.6	10362.6	1128.0	10381.3	1129.5	10398.7	1126.9	10412.9	1127.1	10430.8
GR1130.9	10472.3	1130.2	10489.1	1129.0	10605.7	1129.8	10636.5	1130.6	10819.2
GR1131.5	10856.6	1129.9	10902.4	1130.4	10936.6	1132.7	10973.6	1129.2	11106.7
GR1131.6	11122.5	1129.9	11129.6	1130.2	11233.1	1128.1	11394.9	1130.3	11456.2
GR1128.6	11513.4	1129.7	11668.0	1128.7	11725.6	1129.3	11741.5	1127.1	11748.6
GR1126.6	11772.7	1129.9	11783.4	1129.8	11795.7	1127.5	11800.8	1122.8	11814.8
GR1121.8	11820.9	1120.9	11839.5	1113.8	11873.1	1104.9	11883.9	1097.2	11913.5
GR1094.5	11946.1	1093.3	12056.3	1093.2	12174.4	1091.0	12298.3	1090.4	12412.9
GR1088.9	12445.5	1091.5	12520.3	1092.5	12579.5	1103.1	12601.4	1118.0	12621.3
GR1125.1	12629.8	1126.8	12675.5	1127.8	12689.0	1139.4	12733.1	1128.4	12757.2
GR1127.7	12828.0	1128.2	12867.1	1127.4	12902.6	1128.3	12936.4	1127.4	12988.1
GR1125.9	12994.4	1124.8	13043.2	1127.7	13053.4	1126.9	13103.6	1127.1	13335.6
GR1126.0	13555.0	1127.2	13654.8	1125.9	13875.3	1125.9	13910.8	1122.1	13926.4
GR1124.4	13982.2	1129.1	14001.2	1130.6	14004.5	1130.5	14037.8		
ET17.180	9.1	7.1				9630	10150	9468.1	10150
X117.180	93	9711.4	10113.3	645	350	501.73			
GR1157.1	9468.1	1153.8	9481.2	1151.2	9505.3	1145.1	9539.1	1125.4	9573.9
GR1126.9	9615.3	1124.6	9655.2	1125.6	9668.2	1124.8	9711.4	1115.4	9813.1
GR1112.2	9825.6	1114.3	9881.2	1123.1	9900.8	1120.0	9914.3	1115.0	9927.8
GR1113.5	9941.2	1115.6	10035.3	1121.0	10080.9	1124.8	10096.6	1130.9	10113.3
GR1132.8	10150.1	1139.9	10170.3	1146.4	10181.3	1144.4	10193.2	1142.6	10196.2
GR1150.8	10223.9	1144.5	10238.5	1142.2	10250.9	1140.8	10252.2	1140.0	10265.1
GR1141.0	10270.7	1139.5	10288.1	1142.5	10297.4	1154.3	10327.3	1159.6	10347.7
GR1155.0	10356.6	1156.6	10364.6	1156.1	10369.2	1149.7	10383.0	1136.3	10403.2
GR1135.8	10410.5	1133.4	10419.5	1133.3	10428.8	1130.3	10443.1	1131.7	10568.3
GR1139.4	10588.4	1136.6	10592.6	1137.7	10612.5	1137.5	10646.2	1134.2	10651.8
GR1133.3	10693.3	1132.0	10701.0	1130.7	10992.1	1131.1	11183.3	1129.8	11278.8
GR1130.7	11327.6	1127.9	11430.2	1127.6	11466.3	1123.7	11542.6	1128.5	11554.2
GR1127.1	11779.9	1096.6	11809.7	1093.7	11928.0	1093.7	12096.5	1092.0	12208.9
GR1093.0	12235.6	1089.7	12341.7	1091.4	12349.6	1090.3	12374.0	1087.7	12388.3
GR1088.0	12397.0	1089.5	12400.7	1122.6	12434.9	1127.4	12438.7	1127.9	12591.4
GR1137.0	12652.0	1143.7	12680.5	1132.5	12701.2	1128.7	12750.2	1128.4	12822.4
GR1129.6	12835.7	1128.0	12917.8	1129.2	12933.9	1127.3	13191.5	1127.5	13501.1
GR1127.1	13782.0	1127.4	14055.4	1127.7	14065.6	1124.3	14076.4	1125.3	14141.8
GR1126.6	14148.2	1131.2	14157.8	1131.0	14190.4				
ET17.277	9.1	7.1				9525	10230	9081.6	10370
X117.277	92	9799.9	10208.3	700	305	512.16			
GR1151.0	9081.6	1151.7	9103.7	1141.6	9165.0	1129.9	9180.0	1129.9	9227.7
GR1128.7	9236.5	1128.5	9251.0	1130.3	9270.6	1127.7	9290.2	1129.8	9306.4
GR1125.5	9320.9	1122.1	9339.3	1121.9	9397.5	1116.9	9556.3	1117.6	9624.0
GR1120.8	9638.5	1120.8	9799.9	1122.4	9833.3	1115.1	9848.2	1119.0	9886.4
GR1118.3	9987.5	1119.0	10008.3	1115.8	10026.1	1113.7	10074.8	1115.3	10091.2
GR1119.2	10102.5	1116.7	10126.2	1119.7	10131.9	1119.9	10173.1	1121.5	10193.8
GR1126.2	10208.3	1125.8	10223.3	1121.6	10232.5	1121.3	10260.0	1123.5	10311.7
GR1127.2	10334.1	1127.7	10361.7	1128.6	10367.6	1125.2	10387.4	1123.6	10412.9
GR1128.8	10448.5	1128.8	10527.3	1129.8	10538.0	1129.2	10567.7	1132.7	10820.8
GR1130.8	11078.5	1130.4	11245.8	1129.3	11270.5	1133.8	11280.3	1129.6	11297.1
GR1106.3	11342.5	1107.9	11478.6	1126.0	11555.1	1128.1	11599.8	1131.0	11614.1
GR1129.0	11628.8	1128.9	11703.5	1115.6	11717.2	1090.0	11749.9	1091.9	11775.6
GR1094.4	12031.7	1088.7	12294.0	1087.6	12320.9	1109.3	12339.8	1133.0	12358.3
GR1130.8	12364.6	1133.9	12399.5	1138.4	12425.8	1141.3	12434.2	1131.9	12455.6
GR1130.0	12490.0	1129.3	12646.1	1131.5	12666.9	1129.1	12740.9	1130.0	12754.4
GR1128.5	13010.6	1128.2	13270.8	1128.0	13530.9	1128.4	13829.0	1128.0	13932.6
GR1125.4	13941.2	1125.4	13966.4	1128.7	13976.8	1128.2	13987.5	1124.8	14006.3
GR1123.3	14124.7	1128.6	14156.4	1128.5	14163.0	1130.1	14168.9	1127.9	14179.7
GR1132.0	14191.6	1131.9	14233.7						
ET17.370	9.1	7.1				9350	10208.5	8536.2	10208.5
X117.370	92	9740.4	10160.5	635	270	487.12			
GR1166.2	8536.2	1167.8	8566.8	1166.4	8583.8	1147.3	8683.5	1143.3	8720.1
GR1140.3	8730.7	1138.9	8820.3	1136.7	8830.6	1142.4	8851.2	1139.9	8861.9
GR1136.4	8925.1	1132.0	8939.1	1132.0	8948.3	1133.2	8952.8	1133.8	8979.9
GR1123.9	8996.6	1121.6	9052.0	1120.9	9169.4	1122.9	9185.3	1124.0	9256.2
GR1125.2	9430.6	1117.9	9464.5	1119.1	9554.7	1122.9	9574.2	1121.9	9579.1
GR1124.2	9724.4	1120.5	9740.4	1117.4	9856.0	1118.3	9871.9	1116.0	9894.1
GR1115.2	9924.2	1116.2	9948.2	1115.6	9969.7	1118.0	9996.7	1120.1	10009.8
GR1121.3	10033.3	1118.8	10037.0	1118.4	10063.5	1124.4	10160.5	1131.3	10177.8
GR1130.7	10179.7	1132.8	10196.0	1138.0	10208.5	1133.5	10277.0	1133.2	10463.3
GR1130.2	10479.0	1130.3	10514.9	1133.0	10566.8	1131.5	10838.7	1130.5	10910.4
GR1133.9	10918.2	1126.0	10949.4	1107.1	10994.7	1106.6	11234.0	1110.7	11310.0
GR1111.9	11501.0	1101.2	11521.3	1102.3	11612.0	1111.6	11637.0	1091.3	11668.4
GR1090.3	11681.8	1090.7	11738.0	1086.7	11884.0	1089.2	11893.0	1086.6	11897.7
GR1092.8	11962.9	1091.8	11981.2	1092.8	11985.0	1129.3	12013.9	1129.3	12034.1
GR1140.8	12093.5	1147.4	12123.9	1147.8	12136.9	1131.0	12187.9	1129.9	12468.7
GR1129.9	12552.3	1131.0	12574.3	1129.4	12866.8	1129.0	13199.4	1128.5	13311.6
GR1126.6	13341.2	1126.3	13408.0	1128.4	13429.9	1128.4	13462.6	1124.0	13538.8
GR1124.3	13795.3	1125.0	14054.1	1126.5	14076.9	1130.4	14106.8	1128.6	14115.6
GR1132.6	14129.9	1132.4	14168.9						
ET17.458	9.1	7.1				9280	10250	8689.6	10450
X117.458	92	9370.6	10225.3	485	350	466.91			
GR1137.5	8689.6	1134.6	8719.5	1138.8	8738.2	1138.3	8746.5	1132.8	8765.0
GR1132.5	8786.3	1136.5	8797.0	1135.7	8812.4	1132.6	8846.8	1146.8	8948.8
GR1137.6	8976.0	1137.4	9003.3	1130.1	9014.1	1126.1	9023.7	1121.7	9049.0
GR1121.4	9062.9	1123.1	9069.1	1123.0	9091.0	1121.4	9095.5	1125.3	9174.2
GR1123.9	9242.4	1126.0	9291.7	1125.2	9300.9	1126.4	9370.6	1119.7	9388.4
GR1118.6	9489.5	1122.0	9525.5	1119.9	9829.2	1120.4	9840.3	1116.5	9847.2
GR1118.6	9925.1	1121.7	9935.7	1119.6	9939.4	1120.4	9962.7	1124.5	9978.6
GR1128.1	10094.0	1125.2	10109.8	1128.1	10171.2	1127.7	10217.9	1129.3	10225.3
GR1125.1	10246.2	1125.2	10254.6	1130.8	10271.4	1128.7	10284.2	1129.0	10345.0
GR1131.8	10357.4	1134.6	10442.8	1133.4	10459.5	1136.5	10467.5	1132.9	10480.5
GR1123.2	10589.7	1119.1	10603.6	1117.6	10659.7	1118.4	10675.0	1113.7	10691.1
GR1113.3	10706.4	1117.4	10722.8	1113.5	10786.6	1110.8	10803.4	1107.4	10929.4
GR1112.4	11229.4	1111.8	11307.7	1095.5	11325.7	1094.8	11383.2	1096.6	11445.3
GR1091.5	11460.7	1091.2	11474.0	1092.6	11478.9	1091.4	11483.8	1092.6	11484.8
GR1095.0	11527.9	1092.8	11590.0	1134.9	11640.7	1147.3	11704.2	1131.9	11737.5
GR1130.9	12038.7	1131.0	12346.0	1131.0	12565.0	1130.1	12892.2	1130.7	13055.7

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GR1127.3 13066.0  1127.5 13084.7  1131.6 13098.9  1128.5 13100.4  1126.8 13108.6
GR1129.6 13120.3  1131.2 13453.4  1131.0 13777.2  1130.4 14088.7  1129.6 14116.9
GR1133.3 14132.7  1133.3 14165.7
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 17.548 TO 18.653.
ET17.548     9.1     7.1                            9246.6   10310  8808.5 10334.4
X117.548      92  9246.7 10256.0     465     445  472.50
GR1137.7  8808.5  1138.3  8854.7  1137.7  8864.7  1133.7  8890.2  1133.5  8982.2
GR1126.6  9001.3  1124.3  9032.9  1127.1  9050.5  1125.2  9062.5  1127.1  9094.0
GR1125.3  9119.1  1124.6  9147.3  1120.4  9154.7  1121.9  9182.8  1129.0  9203.0
GR1125.2  9217.0  1126.8  9246.7  1127.7  9251.1  1122.0  9277.8  1122.0  9284.7
GR1122.0  9321.0  1122.0  9326.5  1122.0  9361.3  1122.0  9373.9  1122.0  9393.2
GR1122.0  9430.1  1122.0  9444.3  1122.0  9460.8  1122.0  9528.5  1122.0  9637.3
GR1122.0  9775.7  1122.0  9798.4  1122.0  9818.3  1128.0  9831.6  1130.8  9843.9
GR1126.2  9866.7  1127.0  9929.9  1126.6  9940.0  1132.4  9960.0  1129.9  9970.3
GR1128.8 10120.9  1127.2 10152.8  1128.0 10204.1  1130.3 10232.8  1136.2 10256.0
GR1135.4 10267.4  1136.2 10271.2  1136.1 10316.0  1134.7 10323.7  1137.9 10334.4
GR1134.7 10346.3  1110.9 10406.9  1110.6 10467.5  1112.4 10553.7  1111.3 10565.7
GR1109.2 10715.0  1109.7 10736.4  1107.4 10807.1  1105.0 10849.8  1105.4 10873.1
GR1106.6 10889.1  1105.9 10925.1  1108.5 11020.0  1108.6 11047.4  1107.4 11133.5
GR1108.9 11204.5  1111.2 11269.0  1113.3 11349.1  1128.8 11391.7  1130.1 11454.0
GR1131.4 11488.8  1132.7 11560.6  1132.2 11814.2  1132.1 12081.6  1132.9 12368.9
GR1132.9 12640.5  1133.3 12792.3  1132.6 12824.7  1133.0 13005.5  1132.2 13041.9
GR1132.7 13067.5  1128.7 13077.8  1128.4 13098.0  1131.5 13108.3  1129.9 13112.6
GR1132.1 13373.9  1133.6 13629.5  1132.4 13969.5  1131.3 14112.7  1130.2 14121.2
GR1134.6 14137.9  1134.6 14168.6
QT     2   37500   37500
ET17.638     9.1     7.1                             9285   10360  8744.2 10386.4
X117.638      95  9774.7 10288.4     490     450  476.45
GR1139.1  8744.2  1138.7  8811.6  1135.9  8827.7  1135.6  8945.5  1136.7  8959.6
GR1137.0  9056.9  1139.6  9082.2  1137.1  9098.5  1132.9  9176.5  1132.9  9197.8
GR1130.0  9207.3  1130.0  9242.4  1130.0  9258.8  1130.3  9270.5  1130.0  9293.0
GR1130.0  9313.8  1130.0  9348.6  1130.0  9445.5  1130.0  9464.8  1133.5  9483.8
GR1130.0  9498.2  1130.0  9545.3  1130.0  9556.0  1130.0  9566.8  1130.0  9589.7
GR1130.0  9610.2  1130.0  9612.2  1130.0  9695.5  1130.0  9750.6  1130.0  9768.6
GR1130.8  9774.7  1130.0  9798.8  1130.0  9831.0  1130.0  9911.6  1131.0  9927.0
GR1130.0  9938.1  1130.0  9966.8  1131.7  9977.6  1130.0 10002.0  1130.0 10049.6
GR1130.0 10100.5  1132.1 10124.7  1130.1 10136.8  1132.3 10166.7  1133.3 10195.3
GR1133.7 10274.7  1134.6 10288.4  1133.2 10316.0  1134.7 10324.9  1136.3 10359.3
GR1135.6 10373.5  1139.6 10386.4  1134.4 10413.9  1126.8 10420.6  1111.3 10442.5
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GR1123.6 11024.4  1136.5 11040.6  1134.4 11063.6  1138.3 11074.3  1132.3 11096.7
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GR1133.7 11962.3  1134.9 12189.4  1135.0 12393.4  1135.0 12643.3  1134.4 12877.2
GR1134.2 13094.3  1134.1 13099.2  1129.9 13109.2  1130.4 13128.3  1133.2 13138.4
GR1131.3 13142.8  1132.2 13161.0  1134.1 13405.8  1135.7 13615.4  1137.5 13723.0
GR1134.9 13943.6  1132.8 14141.9  1131.9 14149.9  1136.0 14166.5  1136.1 14187.2
ET17.730     9.1     7.1                             9330   10360    8355 10373.1
X117.730      94  9727.0 10246.8     475     490  486.34
GR1140.1  8354.5  1137.5  8392.6  1136.5  8588.9  1133.1  8598.6  1133.5  8619.0
GR1137.2  8631.3  1138.0  8762.1  1139.8  8834.8  1137.9  8871.8    1136  8888.3
GR  1136  8944.8    1136  8965.8    1136  8987.4    1136  9015.0    1136  9067.5
GR  1136  9082.1    1136  9138.1    1136  9150.3    1136  9174.6    1136  9186.5
GR  1136  9198.1    1136  9208.6    1136  9228.6    1136  9241.9    1136  9279.0
GR  1136  9324.9    1136  9375.0    1136  9468.9    1136  9542.5    1136  9566.8
GR  1136  9586.6    1136  9611.2    1136  9617.5    1136  9640.2    1136  9660.6
GR  1136  9699.5  1136.7  9719.3  1136.4  9727.0  1130.0  9748.6  1130.0  9794.8
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NC  .045    .050    .035
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GR1146.2 14445.9  1146.2 14449.6
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GR1134.1 11439.7  1135.3 11441.9  1136.4 11451.8  1134.7 11456.0  1137.4 11473.2
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X118.093       94   9691.9 10231.6     430      525    491
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ET18.182      9.1      7.1                          9600   10620    8640   10730
X118.182       92   9738.9 10175.8     410      500  466.97
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GR  1141  8892.4    1141  8977.7    1141  8987.4    1141  9044.3    1141  9052.1
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X118.464	93	9755.6	10168.0	435	555	499.78			
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GR1143.5	8437.5	1149.7	8454.6	1144	8468.9	1144	8483.2	1144	8486.7
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GR 1144	8853.3	1144	8906.4	1144	8914.0	1144	8915.9	1144	8953.7
GR 1144	8974.5	1144	9028.1	1144	9094.7	1144	9160.8	1144	9188.9
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GR 1144	9433.3	1144	9491.5	1144	9506.9	1144	9530.6	1144	9552.7
GR 1144	9577.5	1144	9596.5	1145.1	9638.3	1146.1	9671.2	1146.4	9742.0
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GR1154.5	10572.8	1154.5	10582.9	1155.1	10590.4				
ET18.558	9.1	7.1				9520	10465	9000	10466.5
X118.558	76	9750.3	10300.8	450	525	500.28			
GR1150.8	7814.7	1150	7823.8	1146.4	7831.8	1140	7861	1137.1	7878
GR1137.5	7956.9	1136.5	7990	1137.2	8067.2	1137.8	8076.5	1137.6	8103.3
GR1138.2	8137.5	1137.6	8201.5	1137.9	8209.8	1147.4	8242.7	1147.4	8257.2
GR1148.2	8268	1148	8289.9	1146.3	8302.9	1146	8312.1	1146	8321.4
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GR 1146	8407.9	1146	8418.3	1146	8430.4	1146	8431.6	1146	8439.9
GR 1146	8473	1146	8489.5	1146	8495.2	1146	8508.2	1146	8518.8
GR 1146	8620.3	1146	8677.5	1146	8777.8	1146	8806.1	1146	8820.2
GR 1146	8830.4	1146	8935.5	1146	8988	1146	9040.5	1146	9093
GR 1146	9145.6	1146	9264.5	1146	9302.4	1146	9361.1	1146	9408.2
GR 1146	9472.1	1146	9513.3	1146	9540.6	1146	9553.5	1146	9571
GR 1146	9595.1	1146	9622.4	1146.1	9637.5	1146.2	9671	1147.1	9723.4
GR1146.9	9750.3	1145.9	9790	1145	9909.2	1143.6	9986	1143.3	10038.5
GR1144.2	10110.3	1142.5	10124	1142.1	10143.6	1142.7	10248.7	1144.1	10300.8
GR1143.8	10322.4	1142.1	10332.4	1141.4	10353.7	1141.3	10406.3	1140.6	10441.1
GR1157.8	10466.5								
ET18.653	9.1	7.1				9470	10440	9090	10468.3
X118.653	92	9754.6	10362.3	445	535	502.17			
GR1152.7	7788.1	1142.5	7821.1	1136.7	7843.2	1138.1	7925.6	1139.4	7934
GR1139.3	7940.8	1138.2	7949.5	1138.6	7953.2	1137.4	8018.4	1139.5	8110.1
GR1152.7	8131.9	1150.9	8141.6	1150	8205.8	1165.8	8224.5	1156.7	8239.6
GR1157.4	8240.1	1145.8	8248	1134.5	8257.3	1119.3	8268.7	1119.1	8298.1
GR1124.4	8316.1	1124.6	8349.2	1120.2	8358	1118.1	8363.8	1117.5	8377.4
GR 1118	8474.7	1117.6	8517.7	1120.6	8560.2	1121.8	8569.2	1123.6	8612.5
GR1123.7	8630.8	1121	8646.2	1121.4	8665.3	1121.1	8677.7	1119.3	8683.2
GR1116.8	8687.6	1113.6	8723.9	1114	8741.6	1109.8	8749.7	1106.3	8754.7
GR1108.2	8788.6	1111.2	8799	1114.1	8845.5	1114.6	8871.4	1120.9	8920.8
GR1121.4	8938.3	1123.7	8982	1148	9003.7	1148	9032.6	1148	9085.3
GR 1148	9097.6	1148	9104.7	1148	9134.9	1148	9138.8	1150.2	9239.2
GR1152.7	9263.3	1154.1	9284.4	1155.8	9297	1148	9344.9	1148	9350.6
GR 1148	9368	1148	9424	1148	9440.5	1148	9483.1	1148	9490.4
GR 1148	9502.1	1148	9509.5	1148	9515.6	1148	9520.7	1148	9526.5
GR 1148	9531.1	1148	9535.5	1148	9551.6	1148	9556.7	1148	9566.2
GR 1148	9569.8	1148.7	9576.4	1152.5	9586.6	1145.2	9602.8	1144.9	9626.6
GR 1147	9652.5	1147.5	9754.6	1146.6	9857.6	1146.4	9960.7	1145.9	10063.8
GR 1143	10142.8	1143.5	10166.9	1143.1	10270	1144	10362.3	1142.7	10379.1
GR1142.8	10422.7	1164.2	10468.3						
ET18.748	9.1	7.1				9400	10350	9150	10362.5
X118.748	93	9818.6	10349.3	440	530	501.11			
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GR1091.7	8629.5	1091.9	8649.0	1092.1	8652.4	1092.6	8698.3	1092.8	8702.5
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GR1146.3	10072.2	1146.0	10106.2	1145.4	10125.3	1145.9	10129.2	1144.0	10150.8
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X119.256      94  9786.3 10081.6     470     480  496.96
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GR1168.4	8581.6	1168.5	8586.6	1169.3	8589.5	1168.6	8590.8	1166.3	8597.0
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GR1162.1	10202.8	1162.4	10218.4	1162.0	10234.4	1161.0	10247.2	1161.0	10250.6
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GR1166.0	11320.5								
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X119.446	91	9592.8	10078.6	525	450	496.07			
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ET20.015             7.1                          9700   11518
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GR1181.6  8304.5  1180.1  8325.6  1180.2  8333.6  1181.1  8375.6  1180.9  8475.6
GR1180.8  8525.6  1180.8  8533.2  1180.7  8575.6  1180.6  8616.2  1180.7  8639.9
GR1179.3  8655.2  1180.4  8665.9  1180.7  8676.6  1180.9  8725.6  1181.0  8732.8
GR1181.0  8775.6  1180.9  8782.8  1180.8  8825.6  1181.2  8868.7  1181.2  8882.5
GR1180.2  8925.6  1179.0  8975.6  1178.6  8985.4  1180.8  9024.9  1181.1  9067.4
GR1181.2  9082.0  1182.2  9125.3  1182.1  9132.1  1180.2  9175.6  1179.4  9207.4
GR1179.4  9223.9  1179.0  9275.6  1178.1  9306.4  1177.8  9314.2  1178.8  9325.0
GR1179.0  9331.8  1178.4  9366.8  1178.6  9375.6  1178.1  9387.0  1178.3  9409.4
GR1178.2  9419.5  1178.3  9425.2  1177.9  9429.4  1176.8  9470.7  1177.2  9504.7
GR1179.5  9516.6  1180.9  9522.3  1181.2  9526.6  1181.0  9570.8  1181.3  9593.3
GR1181.6  9605.0  1181.1  9633.2  1180.5  9675.1  1180.8  9698.9  1180.9  9705.1
GR1179.3  9722.0  1179.4  9728.3  1178.3  9740.1  1177.1  9774.3  1178.1  9796.9
GR1178.8  9823.3  1179.0  9825.6  1177.7  9860.0  1176.0  9920.5  1175.8  9925.6
GR1175.8  9930.5  1176.0  9975.6  1174.7 10003.0  1174.8 10030.3  1175.0 10078.6
GR1174.6 10130.3  1174.1 10161.8  1172.7 10174.0  1172.6 10202.0  1172.4 10229.9
GR1171.9 10275.6  1172.4 10309.2  1176.7 10322.2  1177.8 10324.2  1194.8 10345.6
ET20.675     9.1     7.1                            9630 10226.6  8290.2 10226.6
X120.675      86  9893.4 10206.8     500     505  502.63
GR1187.2  8102.8  1180.9  8117.2  1178.1  8123.8  1179.2  8150.2  1180.2  8195.0
GR1180.6  8207.9  1181.4  8222.1  1182.5  8243.0  1182.9  8257.2  1183.4  8272.8
GR1183.8  8281.0  1185.6  8290.2  1182.9  8303.1  1183.0  8309.7  1183.5  8319.5
GR1183.5  8355.9  1183.3  8403.0  1183.4  8406.4  1182.9  8451.4  1182.4  8455.1
GR1183.3  8498.6  1183.3  8502.9  1182.5  8553.0  1182.6  8567.0  1183.2  8589.7
GR1182.8  8607.9  1182.8  8615.6  1183.6  8634.3  1183.5  8655.9  1183.1  8703.0
GR1183.2  8705.9  1183.8  8753.0  1183.8  8755.9  1183.3  8802.9  1183.3  8805.9
GR1182.6  8853.0  1181.8  8903.0  1181.1  8952.9  1180.7  8988.8  1180.6  9003.4
GR1180.4  9019.7  1180.5  9036.3  1180.0  9045.7  1180.1  9046.3  1178.6  9064.4
GR1178.3  9104.2  1178.1  9119.3  1179.5  9127.2  1179.9  9148.8  1180.6  9158.4
GR1181.2  9164.0  1181.5  9203.3  1180.1  9218.5  1181.3  9253.0  1180.8  9306.0
GR1180.4  9353.0  1180.7  9403.0  1180.7  9406.0  1179.8  9453.0  1180.0  9471.2
GR1180.4  9476.2  1181.4  9503.2  1180.5  9549.9  1180.4  9582.1  1180.7  9604.9
GR1180.6  9653.8  1180.6  9701.5  1180.6  9706.0  1178.3  9756.0  1177.6  9803.0
GR1176.5  9840.8  1177.8  9852.9  1177.7  9853.9  1177.4  9893.4  1175.9  9901.2
GR1174.1  9914.2  1174.7  9956.1  1174.9 10006.1  1174.4 10056.1  1174.1 10103.0
GR1173.4 10134.7  1171.7 10147.6  1171.3 10152.8  1172.3 10193.6  1172.7 10206.8
GR1185.4 10226.6
ET20.769     9.1     7.1                            9500   10280  8349.4   10280
X120.769      95  9822.3 10243.0     465     500  497.97
GR1187.2  7959.7  1185.7  7966.3  1184.0  8001.8  1183.2  8030.1  1182.9  8031.8
GR1182.4  8053.4  1182.2  8081.3  1182.5  8103.4  1181.3  8129.6  1179.9  8153.5
GR1179.2  8171.1  1179.6  8207.2  1179.7  8232.9  1181.7  8253.6  1182.8  8274.4
GR1184.3  8313.3  1184.8  8336.1  1187.0  8346.4  1187.4  8349.4  1185.0  8359.0
GR1185.1  8403.6  1185.4  8453.6  1185.3  8503.7  1185.3  8542.6  1185.3  8553.7
GR1185.2  8594.5  1185.1  8612.4  1184.6  8653.8  1184.4  8698.3  1184.4  8703.8
GR1184.3  8750.2  1183.8  8802.2  1183.7  8805.5  1183.1  8854.7  1182.7  8870.4
GR1179.6  8891.8  1180.4  8911.9  1181.0  8942.2  1181.9  8953.4  1179.5  8973.2
GR1182.0  8987.4  1182.5  9004.0  1183.3  9046.9  1183.2  9061.7  1183.0  9104.1
GR1182.6  9143.5  1182.6  9156.5  1182.2  9204.6  1182.2  9208.4  1183.6  9221.6
GR1182.0  9254.2  1181.3  9293.0  1181.0  9311.6  1181.7  9331.7  1182.4  9343.6
GR1179.6  9391.7  1179.2  9398.0  1179.3  9399.9  1178.3  9413.5  1178.4  9453.7
GR1178.5  9471.2  1180.1  9489.8  1181.2  9554.4  1181.3  9604.4  1181.2  9642.1
GR1179.5  9656.0  1179.4  9698.0  1179.6  9707.7  1179.3  9715.9  1179.3  9754.5
GR1179.3  9771.1  1178.5  9804.5  1177.9  9822.3  1175.5  9838.8  1173.2  9852.6
GR1173.1  9865.1  1174.5  9886.2  1175.4  9907.6  1176.5  9946.4  1177.2  9992.3
GR1177.1 10007.2  1178.3 10020.8  1178.5 10045.0  1178.5 10059.6  1177.2 10104.8
GR1177.1 10109.1  1176.7 10154.8  1175.7 10170.6  1173.2 10185.2  1174.0 10193.7
GR1174.5 10204.4  1175.0 10209.3  1176.1 10243.0  1178.0 10265.1  1186.5 10280.8
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 20.864 TO 8.875.
QT     2   35000   35000
ET20.864     9.1     7.1                            9340   10310  8413.1 10533.4
X120.864      78  9780.3 10262.5     460     505  502.57
GR1192.1  8048.2  1193.3  8058.7  1184.3  8078.9  1184.4  8117.8  1182.1  8154.4
GR1179.9  8175.6  1179.8  8182.8  1179.2  8225.7  1179.8  8277.1  1180.6  8309.6
GR1183.4  8325.9  1184.2  8376.1  1183.6  8407.5  1186.8  8413.1  1185.0  8422.0
GR1185.0  8464.0  1185.1  8466.4  1184.1  8491.3  1184.3  8500.7  1184.0  8518.0
GR1184.0  8750.2  1185.2  8777.2  1185.0  8789.4  1185.4  8839.5  1185.4  8879.7
GR1184.7  8928.4  1184.4  8977.8  1183.9  9033.9  1183.4  9078.0  1182.9  9142.2
GR1182.7  9178.3  1181.9  9223.5  1181.4  9243.9  1179.9  9280.7  1179.8  9302.2
GR1180.0  9334.7  1179.6  9378.9  1180.1  9408.1  1182.7  9436.8  1183.9  9480.7
GR1184.6  9494.7  1186.1  9509.8  1185.7  9525.0  1185.6  9540.4  1184.2  9550.0
GR1184.3  9582.7  1184.5  9629.6  1184.1  9679.7  1183.3  9724.5  1180.8  9739.2
GR1181.6  9780.3  1177.9  9794.7  1176.4  9839.2  1176.0  9855.0  1177.7  9872.2
GR1179.0  9922.1  1179.2  9933.9  1178.2  9948.4  1178.4  9980.5  1178.1 10009.1
GR1177.9 10074.3  1177.1 10131.0  1176.7 10181.1  1176.9 10231.2  1177.6 10239.2
GR1182.0 10262.5  1182.9 10281.4  1182.9 10329.3  1182.9 10331.5  1181.4 10376.0
GR1181.2 10381.7  1180.5 10422.6  1180.4 10431.8  1180.6 10471.3  1179.5 10486.7
GR1186.6 10504.1  1197.0 10532.3  1198.1 10533.4
ET20.958     9.1     7.1                            9250 10383.9    8780   10760
X120.958      95  9787.3 10383.8     390     530  496.89
GR1188.2  8125.7  1182.5  8139.8  1182.5  8144.8  1181.8  8169.4  1178.3  8186.1
GR1176.6  8194.6  1171.4  8234.1  1170.3  8245.5  1169.9  8289.9  1170.3  8302.9
GR1178.6  8350.6  1178.9  8364.3  1180.0  8398.1  1180.3  8401.0  1181.7  8450.2
GR1182.2  8482.2  1186.0  8500.0  1185.8  8522.0  1185.9  8550.7  1187.0  8601.5
GR1187.1  8619.9  1186.5  8666.9  1186.0  8727.2  1185.5  8758.0  1188.4  8768.6
GR1190.7  8779.0  1190.0  8792.4  1188.7  8797.4  1187.1  8806.2  1185.4  8840.8
GR1184.5  8854.0  1183.3  8880.1  1182.2  8898.2  1181.9  8914.9  1181.9  8958.1
GR1182.8  9008.4  1182.7  9012.1  1182.5  9059.2  1182.5  9073.3  1182.2  9129.6
GR1182.4  9137.1  1184.0  9146.5  1185.8  9160.2  1185.7  9165.1  1185.9  9206.8
GR1186.6  9262.7  1186.0  9306.7  1186.3  9348.8  1186.5  9364.4  1186.5  9413.0
GR1185.2  9429.8  1185.6  9446.7  1187.5  9458.7  1187.4  9462.9  1187.8  9482.2
GR1187.8  9489.3  1185.8  9500.6  1186.7  9505.2  1187.2  9516.8  1186.7  9567.8
GR1186.5  9606.1  1186.4  9649.0  1186.1  9693.3  1186.0  9707.0  1186.1  9716.3
GR1186.0  9754.4  1182.9  9766.6  1183.3  9775.2  1183.3  9787.3  1182.8  9819.2
GR1182.8  9830.2  1178.3  9844.3  1179.2  9873.0  1178.5  9923.9  1178.9  9977.2
GR1180.5  9987.5  1180.5 10018.6  1180.3 10034.9  1180.5 10076.4  1180.9 10127.3
GR1180.9 10135.8  1180.7 10177.0  1179.8 10229.0  1178.5 10262.0  1177.5 10292.1
GR1176.6 10363.7  1181.5 10383.8  1183.9 10392.4  1183.9 10432.5  1184.6 10483.3
GR1184.6 10534.2  1184.4 10605.2  1182.1 10732.8  1182.1 10742.4  1194.0 10760.0
ET21.061     9.1     7.1                            9250   10350  9030.0 11069.0
X121.061      91  9850.0 10325.4     340     655  542.53
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GR1192.3  8187.5  1193.6  8199.8  1189.5  8209.0  1183.9  8222.8  1181.3  8275.7
GR1180.7  8281.3  1176.2  8309.6  1172.9  8328.7  1170.6  8354.0  1169.6  8374.3
GR1170.2  8419.5  1173.2  8441.0  1178.8  8476.8  1179.2  8546.0  1181.2  8600.3
GR1182.7  8641.1  1183.9  8654.5  1184.0  8682.4  1183.3  8698.6  1186.2  8709.3
GR1184.9  8751.7  1184.6  8793.6  1184.6  8825.8  1183.8  8864.9  1181.9  8896.9
GR1181.2  8905.0  1182.6  8920.7  1181.9  8936.5  1184.6  8966.0  1186.2  9012.8
GR1186.5  9066.3  1186.8  9089.3  1186.6  9135.6  1187.9  9174.9  1187.5  9248.1
GR1187.1  9253.5  1186.3  9257.6  1188.6  9298.0  1188.2  9312.4  1188.6  9375.9
GR1188.2  9464.9  1188.1  9524.0  1187.6  9578.3  1187.4  9633.7  1187.6  9687.0
GR1187.0  9708.5  1187.3  9759.1  1188.0  9819.5  1186.6  9833.7  1184.5  9850.0
GR1180.3  9895.6  1178.2  9905.8  1176.5  9918.9  1177.1  9938.7  1178.4  9958.7
GR1177.4 10008.7  1177.7 10013.0  1177.6 10034.7  1179.6 10051.0  1180.8 10057.9
GR1180.9 10075.4  1180.8 10114.7  1180.4 10128.6  1177.3 10169.8  1179.1 10230.4
GR1179.5 10284.2  1179.6 10293.5  1183.4 10312.3  1186.3 10325.4  1185.8 10390.7
GR1185.5 10447.7  1184.9 10502.0  1183.2 10563.5  1184.4 10574.9  1186.2 10597.2
GR1185.0 10613.0  1186.9 10632.0  1186.2 10655.8  1186.2 10687.3  1184.2 10703.6
GR1186.2 10721.5  1187.1 10781.1  1186.9 10862.9  1186.7 10908.8  1186.4 10926.9
GR1186.7 10936.8  1187.1 10987.6  1186.1 11012.0  1185.1 11025.4  1187.9 11045.4
GR1201.2 11069.0
NC  .055    .055    .050
ET21.157     9.1     7.1                          9266.8   10400  9266.8   11150
X121.157      94  9377.3 10376.3     340     630  509.07
GR1196.0  8182.2  1196.1  8184.4  1192.4  8197.1  1193.5  8208.0  1190.1  8223.3
GR1192.3  8246.0  1191.3  8258.3  1191.4  8264.6  1185.1  8308.7  1183.7  8336.5
GR1178.7  8387.1  1178.6  8397.0  1176.3  8432.1  1178.3  8441.8  1178.4  8451.5
GR1174.2  8500.1  1177.8  8540.9  1176.3  8561.5  1178.2  8580.0  1178.9  8639.9
GR1178.2  8716.7  1179.2  8747.3  1183.6  8782.5  1186.2  8836.0  1186.5  8874.3
GR1190.0  8897.8  1188.6  8906.8  1183.1  8932.9  1180.4  8972.1  1185.7  8984.7
GR1186.8  9024.0  1187.7  9034.5  1188.7  9146.7  1188.2  9196.4  1192.8  9211.2
GR1190.5  9217.8  1188.1  9230.5  1188.8  9257.6  1192.1  9266.8  1189.1  9277.5
GR1189.4  9367.8  1185.9  9377.3  1182.5  9384.7  1181.9  9399.5  1182.3  9456.5
GR1182.5  9511.2  1184.9  9522.6  1180.2  9540.1  1180.6  9541.0  1177.1  9550.4
GR1176.6  9577.6  1178.1  9602.3  1183.1  9638.6  1183.9  9649.3  1183.1  9683.8
GR1184.0  9765.7  1183.5  9878.7  1182.8  9910.1  1182.8  9964.5  1184.0 10008.6
GR1182.8 10105.5  1181.2 10118.2  1179.8 10219.2  1180.3 10232.0  1181.5 10240.1
GR1180.0 10253.7  1178.3 10263.7  1179.9 10279.0  1181.6 10309.5  1181.9 10376.3
GR1182.8 10398.0  1180.6 10404.6  1181.2 10411.2  1189.3 10440.4  1192.8 10455.2
GR1190.9 10477.1  1189.6 10532.3  1189.2 10587.0  1187.0 10615.5  1188.7 10633.4
GR1187.8 10655.0  1189.5 10676.2  1189.4 10771.4  1187.0 10831.3  1189.3 10874.0
GR1189.6 10891.0  1189.2 10950.8  1189.8 10981.9  1189.6 11039.8  1190.2 11134.4
GR1189.9 11240.1  1188.9 11348.5  1189.6 11427.1  1197.9 11459.8
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 21.245 TO 21.621.
ET21.245     9.1     7.1                           9250   10320    9250   10700
X121.245      83  9830.3 10274.8     365     530  464.18
GR1189.8  8059.3  1182.0  8098.8  1180.6  8259.4  1179.6  8277.2  1181.8  8354.9
GR1179.6  8508.9  1180.1  8520.4  1180.4  8594.3  1181.9  8612.9  1184.4  8674.1
GR1186.3  8695.9  1188.1  8708.5  1188.0  8778.1  1191.5  8792.1  1187.5  8814.0
GR1180.6  8827.9  1166.1  8849.4  1162.8  8855.2  1155.2  8874.7  1153.4  8881.1
GR1156.5  8986.8  1155.0  9016.0  1153.3  9033.0  1152.1  9074.9  1152.6  9084.2
GR1155.6  9101.6  1156.7  9127.2  1165.9  9143.3  1166.5  9172.0  1170.4  9186.5
GR1171.5  9205.4  1174.3  9224.6  1185.3  9251.8  1185.4  9277.5  1178.0  9296.4
GR1178.0  9417.8  1182.2  9424.6  1186.7  9464.7  1185.4  9495.4  1186.2  9538.0
GR1190.3  9559.9  1186.7  9576.3  1187.4  9655.7  1186.9  9762.4  1185.8  9815.0
GR1189.6  9830.3  1188.4  9868.8  1188.2  9917.2  1187.3  9946.4  1184.0  9957.5
GR1184.0 10259.1  1187.3 10274.8  1191.3 10280.2  1192.0 10343.4  1194.8 10353.8
GR1193.2 10361.0  1190.5 10380.9  1191.6 10445.1  1191.0 10586.7  1187.8 10629.2
GR1187.5 10645.3  1192.0 10690.1  1191.2 10765.9  1191.7 10829.0  1190.1 10882.1
GR1191.2 10907.9  1191.3 10988.3  1188.8 11005.8  1190.8 11025.9  1190.8 11052.0
GR1190.2 11059.2  1191.3 11115.0  1191.5 11256.0  1190.8 11433.8  1191.5 11600.1
GR1191.5 11664.2  1193.4 11728.3  1194.9 11740.7  1193.0 11749.4  1197.7 11800.2
GR1199.0 11807.0  1202.1 11817.5  1204.7 11830.9
ET21.337     9.1     7.1                           9294   10260    9230   11100
X121.337      53  9295.0 10151.3     375     530  483.32
GR1194.0  7780.0  1188.1  7798.0  1186.3  7798.5  1186.9  7850.9  1194.2    7877
GR1188.5  7898.8  1188.5  8011.8  1191.9  8028.8  1191.2  8030.2  1191.8  8048.6
GR1188.8    8083  1190.4  8214.8  1191.4  8241.5  1186.3  8289.9  1184.4  8373.3
GR1185.7    8418    1190  8453.9  1191.2  8486.4  1190.5    8547  1194.6    8563
GR1192.0    8572  1192.0  9178.0  1189.5  9220.3  1186.2  9225.8  1185.8    9237
GR  1190  9242.9  1181.3  9263.3  1180.0  9295.0  1180.0 10151.3  1188.5 10161.6
GR1182.8 10181.8  1185.1 10219.6  1186.5 10229.9  1185.3 10335.4  1194.1 10351.5
GR1190.7 10410.9    1193 10592.7    1192 10714.5  1190.2 10759.9  1190.6 10824.7
GR1194.3 10834.7  1190.2 10849.7  1192.5 10865.6  1193.2 11035.2  1193.6 11182.8
GR1192.7   11374  1192.4 11530.2  1192.7 11698.9  1192.8 11850.1    1194 12038.7
GR1195.2 12051.6  1195.2 12071.1    1198 12092.1
ET21.431     9.1     7.1                           9400 10343.6    9350 10343.6
X121.431      75  9467.9 10343.5     465     430  495.67
GR1195.9  7596.7  1191.5  7612.7  1191.4  7644.6  1196.1  7665.8  1189.9  7681.7
GR1191.3  7876.2  1193.0  7887.7  1192.5  8007.9  1185.7  8031.5  1185.9  8041.4
GR1192.9  8065.9  1190.8  8089.6  1191.6  8356.5  1193.7  8627.3  1195.3  8703.6
GR1196.7  8717.0  1195.1  8733.0  1205.5  8755.9  1205.1  8780.9  1199.7  8795.6
GR1196.6  8800.4  1196.9  8892.0  1202.5  8926.6  1201.4  8930.6  1203.4  8949.5
GR1199.5  8989.0  1195.1  9005.1  1191.3  9141.2  1193.3  9161.8  1194.7  9167.9
GR1193.7  9177.6  1190.6  9190.7  1190.4  9217.3  1191.3  9222.0  1189.3  9238.6
GR1190.4  9361.8  1187.8  9437.8  1191.1  9467.9  1181.0  9503.2  1181.0  9799.0
GR1189.0  9800.0  1189.0  9908.9  1189.0 10297.8  1193.9 10343.5  1192.1 10360.2
GR1187.6 10374.6  1186.6 10495.9  1187.6 10526.0  1191.0 10541.7  1193.0 10600.4
GR1189.2 10648.7  1190.5 10725.7  1189.2 10747.4  1192.0 10769.6  1193.8 10884.0
GR1191.3 10913.5  1192.6 10942.3  1193.3 10978.9  1191.6 11001.4  1193.8 11018.7
GR1194.8 11074.7  1193.2 11110.2  1193.9 11147.9  1192.9 11175.9  1194.9 11305.7
GR1193.2 11532.5  1194.0 11644.1  1192.2 11705.1  1194.0 12017.4  1193.5 12215.3
GR1194.4 12220.4  1195.6 12414.0  1197.2 12438.2  1206.9 12475.0  1211.6 12485.0
ET21.524     9.1     7.1                          9603.9    10541  9603.9 10572.6
X121.524      69  9604.0 10540.4     485     425  491.44
GR1194.5  8096.9  1197.9  8136.1    1196  8210.6  1196.7  8238.8  1199.2  8260.9
GR1199.3  8280.5  1195.9  8294.2  1196.9  8382.3  1200.4  8392.6  1205.2  8422.5
GR1198.2  8542.8  1194.6  8581.5  1193.7  8640.5  1196.6  8647.3  1190.7    8665
GR1190.6  8702.8  1194.8  8715.7  1194.5  8741.5  1196.3  8754.3  1196.1    8855
GR1191.5  8876.7  1191.5  8929.1  1197.6  8948.6    1197  8990.2  1193.8  9012.5
GR1195.3  9021.3  1194.1  9027.6  1194.1  9058.8  1197.3  9064.9  1195.8  9185.3
GR1198.5  9215.4  1196.8    9254  1195.4  9259.8  1194.9  9275.9  1190.0  9280.0
GR1190.0  9545.8  1194.1  9561.9  1190.6  9573.8    1190  9594.8  1193.6    9604
GR  1182  9632.4    1182   10061    1189 10062.2    1189 10486.8  1191.2 10540.4
GR1192.9 10559.8  1196.7 10572.6  1192.4 10584.3  1193.8 10677.5  1187.2 10691.3
GR1187.5 10744.6  1194.8 10763.8  1194.7 10840.4    1193 10861.3  1194.8 10882.8
GR1194.9 11070.1  1192.5 11095.7  1190.8 11198.3  1193.8   11243  1195.2 11594.2
GR1193.9 11639.9  1195.3 11794.6    1195 12097.6  1195.5 12409.6  1196.4 12718.2
GR1198.3 12802.6  1222.7 12877.5  1223.1 12907.4  1228.1 12917.1
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ET21.621      9.1      7.1                                9670    10530   9607.6 10760.1
X121.621       67   9833.1 10412.0      545      370  511.28
GR1202.3   8823.8   1199.1   8874.1   1199.1   9025.5  1198.1   9043.9   1197.8   9224.8
GR1197.4   9324.9   1200.0   9338.7   1201.0   9353.8    1196   9395.4     1196   9596.4
GR1200.9   9607.6   1189.7   9627.5   1186.7   9662.5  1185.7   9667.8   1187.1   9695.0
GR1182.5   9709.3   1182.5   9815.9   1184.6   9828.7  1186.4   9833.1   1182.5   9862.0
GR1182.5  10403.7   1182.7  10412.0   1182.6  10431.5    1189    10440     1189  10509.0
GR1196.8  10560.1   1198.3  10579.3   1194.0  10589.6  1193.9  10605.8   1193.4  10607.1
GR1195.0  10643.6   1196.2  10652.5   1196.3  10703.4  1188.1  10723.3   1186.8  10761.1
GR1192.4  10769.9   1194.9  10778.5   1194.5  10787.3  1195.9  10962.8   1195.7  11082.7
GR1194.7  11117.1   1196.6  11288.4   1196.5  11330.7  1195.6  11365.3   1192.6  11384.3
GR1192.7  11403.5   1194.9  11434.2   1194.1  11474.7  1195.3  11509.5   1194.5  11541.6
GR1196.1  11611.9   1196.5  11779.1   1196.3  11953.2  1195.7  12125.2   1195.8  12301.4
GR1195.9  12470.1   1196.6  12672.7   1196.8  12847.5  1196.5  12957.5   1197.0  12997.9
GR1199.3  13041.7   1197.6  13052.0   1198.7  13089.7  1201.7  13113.4   1207.9  13147.4
GR1208.1  13168.6   1214.1  13198.1
ET21.716      9.1      7.1                                9670    10500   9316.5    10900
X121.716       93   9918.5 10440.7      560      350  502.06
GR1203.5   9316.5   1202.4   9351.4   1200.0   9370.0  1199.6   9375.6   1198.5   9384.2
GR1199.2   9393.9   1199.1   9411.5   1200.3   9464.2  1199.6   9509.8   1200.0   9520.8
GR1196.2   9541.3   1196.8   9572.5   1194.2   9626.9  1193.6   9660.0   1192.3   9667.7
GR1192.2   9677.1   1192.5   9692.1   1191.8   9714.8  1191.6   9761.0   1191.0   9799.0
GR1191.9   9873.4   1193.1   9886.0   1192.9   9918.5  1185.5   9936.2   1186.7   9983.1
GR1188.1  10058.0   1187.7  10083.2   1187.0  10102.2  1186.4  10110.5   1183.3  10122.4
GR1184.9  10146.5   1185.1  10165.1   1188.1  10178.4  1188.0  10233.0   1183.1  10265.3
GR1184.3  10307.1   1184.8  10311.7   1184.5  10364.1  1186.8  10379.6   1187.7  10427.6
GR1188.1  10432.3   1191.0  10440.7   1190.8  10476.4  1188.7  10488.6   1189.9  10524.4
GR1187.9  10561.8   1186.1  10568.8   1185.7  10592.5  1187.8  10611.9   1188.1  10617.1
GR1197.9  10646.3   1197.6  10710.5   1196.2  10796.0  1197.0  10881.6   1197.4  11013.1
GR1196.8  11105.5   1196.5  11240.2   1197.4  11344.5  1197.9  11404.7   1197.8  11451.8
GR1196.8  11471.4   1196.9  11488.5   1195.2  11502.2  1194.7  11515.8   1194.4  11548.9
GR1195.5  11571.3   1196.2  11606.1   1196.4  11636.9  1195.3  11732.2   1197.8  11748.1
GR1198.1  11776.7   1197.5  11791.1   1197.8  11860.0  1197.5  11908.2   1197.7  12022.3
GR1196.7  12136.4   1196.3  12250.4   1196.7  12396.7  1197.1  12509.7   1196.9  12649.7
GR1197.5  12763.7   1197.7  12820.8   1197.5  12934.8  1197.8  13048.9   1198.0  13148.9
GR1199.0  13225.8   1198.8  13231.9   1198.0  13236.7  1198.7  13250.9   1204.3  13267.7
GR1206.7  13276.4   1213.4  13296.9   1214.4  13320.7
NC  .045    .055     .035
ET21.798      9.1      7.1                                9640    10600   9632.5 10775.5
X121.798       95   9649.8 10299.7      450      410  436.18
GR1198.9   9632.5   1196.2   9649.8   1194.3   9660.7  1194.3   9664.9   1193.4   9685.3
GR1193.1   9727.9   1193.2   9748.2   1192.6   9778.0  1191.9   9797.0   1191.9   9806.7
GR1192.7   9824.1   1192.2   9854.7   1190.9   9882.6  1190.9   9890.3   1188.7   9956.7
GR1188.0  10020.5   1188.3  10051.9   1189.3  10073.8  1189.5  10085.4   1189.8  10091.5
GR1189.9  10102.3   1190.6  10118.1   1190.0  10136.8  1193.5  10148.8   1193.4  10157.2
GR1192.6  10175.8   1192.9  10187.3   1195.5  10254.7  1195.8  10281.9   1195.4  10299.7
GR1195.9  10322.5   1194.7  10331.7   1192.9  10340.7  1193.1  10347.9   1193.4  10398.8
GR1193.3  10401.1   1192.5  10404.9   1190.2  10422.2  1190.2  10437.9   1189.0  10506.9
GR1188.8  10510.4   1185.9  10540.4   1186.5  10568.3  1186.4  10598.8   1192.4  10618.3
GR1193.4  10681.2   1192.6  10693.8   1192.0  10697.7  1196.5  10737.7   1199.2  10775.5
GR1199.1  10841.7   1198.7  10913.9   1198.8  10997.8  1199.2  11076.4   1199.9  11132.9
GR1198.9  11151.6   1199.8  11189.3   1199.7  11249.1  1199.2  11323.2   1198.6  11358.7
GR1199.4  11415.2   1199.0  11439.7   1195.6  11452.4  1195.1  11482.6   1196.6  11503.9
GR1196.4  11535.1   1198.4  11553.1   1198.8  11584.6  1198.7  11641.0   1197.7  11702.6
GR1197.0  11734.0   1198.1  11768.0   1198.7  11801.3  1198.9  11979.8   1198.6  12116.6
GR1198.7  12249.0   1198.6  12360.2   1198.8  12487.9  1199.1  12600.9   1199.2  12657.3
GR1199.0  12693.5   1199.2  12826.7   1199.4  12915.7  1199.2  13016.3   1199.5  13137.9
GR1199.9  13249.0   1199.7  13281.6   1200.2  13300.7  1201.3  13328.2   1201.0  13335.3
GR1200.8  13374.7   1212.8  13397.7   1215.3  13403.0  1216.0  13407.6   1216.6  13409.1
ET21.893      9.1      7.1                                9558.7    10680   9546.7    11050
X121.893       93   9558.8 10146.5      485      515  501.19
GR1200.4   9546.7   1199.5   9548.9   1201.2   9558.8  1194.2   9576.0   1195.0   9660.8
GR1193.5   9708.0   1193.3   9788.3   1192.3   9798.3  1193.8   9857.6   1193.6   9914.6
GR1189.8  10013.5   1187.4  10023.1   1187.6  10040.6  1191.5  10070.2   1191.0  10096.6
GR1195.0  10112.4   1196.7  10146.5   1197.2  10313.7  1197.6  10374.9   1194.0  10402.2
GR1196.6  10443.8   1195.8  10529.3   1192.0  10545.6  1192.0  10653.2   1193.6  10674.7
GR1194.4  10681.1   1193.8  10686.8   1195.3  10710.7  1195.3  10729.1   1201.1  10751.6
GR1200.1  10758.1   1202.1  10912.2   1202.4  11070.0  1202.6  11098.0   1197.7  11126.5
GR1198.0  11174.4   1197.1  11182.9   1199.7  11204.9  1201.2  11232.0   1201.0  11256.9
GR1198.2  11281.1   1199.3  11293.4   1198.7  11313.6  1200.8  11397.0   1200.5  11454.0
GR1198.7  11486.0   1200.7  11625.1   1200.4  11796.9  1200.9  11913.0   1199.9  12012.6
GR1200.7  12055.2   1205.4  12105.2   1207.4  12120.2  1208.8  12124.9   1207.4  12130.3
GR1203.7  12134.7   1180.2  12172.8   1176.8  12177.0  1173.5  12223.1   1173.5  12236.4
GR1169.3  12248.6   1167.7  12263.0   1171.1  12283.8  1169.8  12295.3   1165.9  12311.2
GR1161.5  12326.4   1161.2  12423.3   1163.6  12524.8  1194.5  12550.3   1195.6  12574.7
GR1203.6  12589.8   1201.3  12595.1   1201.5  12701.2  1199.1  12771.4   1201.4  12782.6
GR1206.6  12820.3   1201.8  12861.9   1202.0  12938.0  1202.9  12958.4   1205.5  12964.5
GR1205.6  12967.9   1203.2  12974.5   1203.6  12980.5  1209.1  12994.1   1209.3  13024.5
GR1205.0  13043.5   1206.6  13126.4   1203.6  13135.0  1204.0  13306.5   1205.1  13378.9
GR1204.2  13388.4   1202.5  13397.1   1219.7  13455.6
ET21.986      9.1      7.1                                9250.4    10665   9250.4    10915
X121.986       92   9806.9 10149.8      450      505  490.74
GR1204.8   9250.4   1205.6   9253.3   1194.7   9286.4  1195.5   9448.9   1197.0   9471.1
GR1197.9   9643.8   1195.0   9659.0   1197.7   9806.9  1196.5   9904.0   1194.2   9917.8
GR1193.2  10090.7   1191.8  10117.0   1199.2  10149.8  1199.7  10243.4   1198.4  10265.9
GR1197.4  10380.0   1192.9  10394.0   1191.9  10467.0  1196.8  10492.0   1196.5  10527.0
GR1194.6  10544.0   1199.8  10749.0   1201.4  10915.6  1199.2  10960.2   1200.0  11042.0
GR1199.0  11130.3   1201.7  11147.5   1203.4  11248.7  1202.1  11290.5   1202.8  11396.2
GR1209.8  11411.3   1201.8  11417.7   1173.5  11433.4  1171.8  11465.6   1169.4  11489.0
GR1167.2  11498.5   1166.5  11511.3   1164.3  11522.7  1164.5  11725.5   1164.7  11775.8
GR1169.1  11790.5   1172.7  11813.8   1168.6  11829.1  1165.4  11833.4   1168.1  11884.2
GR1179.5  11900.4   1188.2  11911.3   1187.8  11917.9  1183.1  11941.7   1184.0  11943.0
GR1179.9  11966.9   1169.2  12000.2   1168.0  12054.8  1184.6  12115.2   1185.1  12124.2
GR1187.2  12131.9   1186.7  12133.7   1182.8  12135.7  1177.9  12150.1   1176.1  12187.8
GR1177.6  12208.2   1177.4  12226.9   1173.0  12237.9  1167.2  12266.6   1166.1  12268.3
GR1163.0  12308.0   1161.3  12525.1   1161.9  12620.0  1174.2  12641.1   1172.8  12649.6
GR1160.1  12680.3   1176.7  12704.8   1192.9  12726.0  1187.6  12736.2   1190.5  12761.7
GR1194.7  12767.8   1198.2  12770.6   1202.8  12776.8  1207.0  12780.9   1208.4  12784.7
GR1206.2  12789.3   1204.4  12790.7   1205.2  12948.3  1213.9  12974.4   1214.4  13001.7
GR1206.1  13027.1   1207.1  13240.4   1208.3  13253.1  1206.9  13268.5   1213.0  13283.6
GR1221.6  13325.1   1221.7  13331.6
ET22.082      9.1      7.1                                9010.7    10605   9010.7    11059
X122.082       93   9931.7 10230.6      465      525  503.20
GR1201.9   9010.7   1199.9   9052.0   1195.8   9063.9  1197.9   9156.3   1197.6   9320.5
GR1202.1   9382.2   1202.7   9399.4   1201.7   9429.3  1199.1   9442.8   1199.6   9676.3
GR1198.7   9833.5   1198.2   9931.7   1194.9   9973.5  1196.1  10099.0   1195.5  10107.4
GR1197.9  10127.6   1199.9  10230.6   1198.4  10290.4  1197.6  10292.8   1193.5  10342.8
GR1196.2  10409.7   1196.0  10435.2   1194.6  10459.7  1187.4  10483.8   1188.8  10625.2
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GR1188.2 10686.2  1193.3 10702.8  1197.8 10725.7  1196.8 10727.2  1196.8 10729.6
GR1195.1 10735.0  1193.3 10736.6  1190.3 10753.5  1193.7 10870.8  1193.0 10899.1
GR1198.8 10922.0  1199.9 10947.3  1199.6 11047.4  1204.6 11059.2  1200.9 11066.2
GR1202.2 11104.6  1204.0 11112.2  1204.7 11119.1  1204.5 11323.7  1205.2 11478.9
GR1206.0 11555.5  1211.7 11574.8  1212.4 11585.4  1210.8 11592.3  1208.2 11618.5
GR1206.1 11629.3  1206.8 11783.4  1207.1 11801.2  1209.4 11815.5  1208.7 11820.9
GR1205.8 11827.8  1201.1 11844.6  1202.9 11923.6  1205.2 11962.4  1206.8 11971.3
GR1207.3 11993.4  1221.3 12023.6  1221.4 12027.4  1210.6 12057.9  1213.3 12082.1
GR1206.7 12096.6  1206.4 12111.8  1207.6 12119.8  1201.8 12147.3  1198.5 12210.2
GR1197.7 12305.9  1207.3 12326.9  1202.9 12334.9  1204.7 12387.6  1204.4 12559.9
GR1205.0 12577.9  1209.5 12597.9  1211.0 12634.5  1210.6 12652.5  1212.6 12673.6
GR1216.5 12682.2  1216.9 12688.5  1214.6 12713.5  1212.6 12721.8  1204.2 12743.4
GR1206.0 12800.1  1205.3 12859.6  1209.5 12885.4  1206.9 12945.5  1208.5 12961.5
GR1208.0 13005.6  1219.1 13038.7  1221.7 13051.8
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 22.177 TO 22.462.
ET22.177     9.1     7.1                          8765.7 10533.7  8765.7   10650
X122.177      89  9909.7 10533.6     510     490  506.29
GR1207.0  8765.7  1207.1  8786.8  1204.9  8844.5  1203.0  8855.1  1199.5  8865.5
GR1199.8  8878.3  1197.7  9076.9  1201.5  9111.1  1201.8  9131.3  1203.9  9160.3
GR1204.1  9366.4  1203.1  9432.5  1200.7  9451.7  1202.2  9529.3  1201.7  9586.2
GR1202.1  9705.0  1200.6  9773.2  1199.6  9909.7  1197.1 10001.3  1196.9 10057.0
GR1196.2 10078.7  1201.5 10089.5  1196.9 10231.7  1196.0 10350.6  1196.0 10510.5
GR1200.7 10533.6  1197.5 10557.0  1194.4 10565.7  1197.7 10653.0  1196.0 10668.4
GR1193.8 10790.9  1194.5 10950.2  1197.8 10965.9  1202.7 10979.9  1202.4 11012.5
GR1201.0 11024.0  1201.8 11036.9  1212.9 11068.5  1203.3 11092.5  1202.5 11126.9
GR1202.8 11163.1  1207.3 11173.2  1206.9 11197.3  1205.9 11206.1  1207.0 11344.6
GR1210.4 11352.1  1213.2 11360.4  1207.1 11376.6  1207.1 11600.9  1208.7 11813.7
GR1213.6 11826.7  1214.6 11832.4  1212.5 11856.3  1214.4 11897.1  1212.8 11966.7
GR1214.0 12077.6  1211.0 12191.7  1212.2 12252.6  1211.1 12304.1  1211.6 12311.6
GR1210.8 12326.4  1213.5 12334.0  1206.8 12349.9  1206.8 12409.5  1212.7 12439.6
GR1212.4 12476.5  1206.8 12489.2  1206.8 12564.8  1211.1 12576.8  1209.7 12583.4
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NC  .045    .045    .035
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GR1258.0 11995.4  1258.6 12145.0  1258.4 12170.6  1257.3 12205.8  1257.3 12277.3
GR1256.4 12316.5  1258.0 12352.3  1260.8 12365.4
ET25.382             7.1                          9740   11690
X125.382      94  9742.2 10312.4     440     495  497.55
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ET25.572	9.1	7.1				9840	11210	9671.0	11498.9
X125.572	75	9849.9	10115.3	255	240	245.34			
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GR1260.7	10664.8	1261.9	10687.0	1261.1	10705.0	1261.2	10710.8	1262.1	10744.9
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X125.666	66	9842.4	10115.1	525	480	496.68			
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GR1278.3	11195.3								
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X125.691	49	9521.3	10196.0	470	460	460			
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ET 25.72		7.1				9370	10300		
X1 25.72	19	9925	10075	355	355	375			
GR 1300	8680	1280	8775	1272	8800	1268	8870	1264	9275

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GR  1264   10630    1264   10665    1280   10715    1282   10770
ET 25.79            7.1                             9300   10250
X1 25.79      18    9930   10060     350     350     350
GR  1300    8320    1280    8370    1272    8390    1268    8690    1264    9405
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ET 25.86            7.1                             9150   10201
X1 25.86      25    9940   10200     400     400     400
GR  1300    7650    1280    7740    1276    7750    1272    8220    1268    8300
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NC 0.060   0.065    .035
ET 25.94            7.1                             9080   10280
X1 25.94    21.0    9945   10117     450     420     430
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X1 26.03    22.0    9605   10107     310     500     460
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GR1284.0 11870.0  1300.0 11940.0
ET 26.12            7.1                             9180   11020
X1 26.12    28.0    9730   10061     410     505     450
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X1 26.20    26.0    9682   10073     460     460     460
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X1 26.29    26.0    9696   10120     460     410     440
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X1 26.37    28.0    9764   10060     490     460     460
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GR1292.3 13193.0  1308.9 13246.0  1327.1 13564.0
NC 0.060   0.070   0.035
QT    2   27000   27000
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X1 26.47    28.0    9639   10087     510     480     490
GR1320.7  8320.0  1318.5  8426.0  1293.6  8594.0  1293.6  8634.0  1285.0  8688.0
GR1283.1  8975.0  1280.1  9010.0  1279.7  9341.0  1280.1  9639.0  1275.8 10000.0
GR1275.3 10038.0  1280.3 10087.0  1281.9 10375.0  1278.4 10594.0  1276.5 10860.0
GR1278.1 11007.0  1282.7 11032.0  1282.6 11262.0  1283.4 11594.0  1281.7 12356.0
GR1284.0 13073.0  1288.7 13168.0  1285.7 13183.0  1288.5 13347.0  1317.8 13452.0
GR1321.3 13514.0  1321.3 13579.0  1331.5 13676.0
ET 26.55            7.1                             9600   10730
X1 26.55    31.0    9728   10117     420     430     430
GR1322.8  8495.0  1310.2  8630.0  1303.3  8745.0  1287.3  8834.0  1288.9  8876.0
GR1285.1  8930.0  1285.1  8942.0  1289.1  8956.0  1285.3  9217.0  1279.5  9245.0
GR1282.0  9507.0  1283.3  9728.0  1278.7  9978.0  1276.9 10000.0  1276.6 10080.0
GR1280.0 10117.0  1282.0 10254.0  1278.2 10786.0  1281.2 10897.0  1280.9 10931.0
GR1284.3 10981.0  1284.1 11205.0  1283.5 11788.0  1283.8 13009.0  1286.5 13411.0
GR1289.8 13440.0  1287.7 13464.0  1295.1 13616.0  1305.6 13865.0  1304.1 14055.0
GR1333.3 14131.0
ET 26.63            7.1                             9780   10770
X1 26.63    22.0    9792   10187     440     470     460
GR1310.9  9050.0  1310.0  9116.0  1288.0  9208.0  1286.8  9488.0  1282.7  9510.0
GR1282.7  9641.0  1284.1  9792.0  1279.5 10000.0  1281.8 10187.0  1280.9 10467.0
GR1279.4 10741.0  1282.9 10861.0  1283.0 11016.0  1285.4 11057.0  1285.6 11351.0
GR1283.8 12475.0  1286.4 13757.0  1288.6 13810.0  1348.8 13939.0  1348.8 13956.0
GR1345.6 13961.0  1345.6 13967.0
ET 26.73     9.1     7.1                             9870   10850    9355   13648
X1 26.73    31.0    9898   10125     460     470     490
GR1312.2  9355.0  1313.9  9457.0  1289.8  9540.0  1287.5  9720.0  1282.4  9755.0
GR1285.6  9834.0  1280.7  9898.0  1279.8 10000.0  1279.9 10125.0  1279.9 10364.0
GR1283.4 10385.0  1283.4 10521.0  1280.9 10543.0  1283.2 10628.0  1285.7 11057.0
GR1287.2 11263.0  1286.8 11621.0  1286.8 13292.0  1287.3 13590.0  1290.5 13648.0
GR1286.3 13673.0  1302.5 13759.0  1293.3 13811.0  1295.0 13870.0  1317.7 13944.0
GR1310.7 13981.0  1332.7 14126.0  1350.7 14161.0  1350.7 14176.0  1346.0 14188.0
GR1346.0 14190.0
ET 26.83            7.1                             9874   10870
X1 26.83    25.0    9898   10125     550     330     540
GR1303.7  9740.0  1304.8  9785.0  1291.2  9827.0  1289.4  9869.0  1282.6  9898.0
GR1282.5 10000.0  1282.3   10125  1282.0 10343.0  1286.0 10362.0  1286.3 10962.0
GR1284.8 11136.0  1288.0 11195.0  1288.0 11584.0  1287.5 12676.0  1288.5 13514.0
GR1323.9 13589.0  1321.5 13669.0  1323.6 13742.0  1318.5 13788.0  1323.7 13842.0
GR1323.6 13996.0  1336.4 14099.0  1350.0 14129.0  1350.0 14147.0  1344.2 14188.0
ET 26.94            7.1                             9806   10710
X1 26.94    24.0    9944   10174     620     350     590
GR1311.5  9330.0  1313.5  9568.0  1301.3  9733.0  1304.3  9766.0  1285.5  9819.0
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GR1282.1  9944.0  1282.1 10000.0  1282.1 10174.0  1286.5 10203.0  1286.1 10597.0
GR1288.8 10687.0  1285.8 10979.0  1288.7 11028.0  1289.1 12153.0  1289.7 13042.0
GR1289.8 13168.0  1307.7 13292.0  1311.9 13387.0  1325.6 13469.0  1332.0 13579.0
GR1347.6 13613.0  1348.7 13642.0  1344.2 13687.0  1371.6 13825.0
ET 27.03             7.1                           9704   10500
X1 27.03    23.0    9922   10079     490     340     460
GR1307.8  9627.0  1301.5  9679.0  1283.2  9723.0  1281.2  9814.0  1282.6  9900.0
GR1287.2  9922.0  1283.5  9949.0  1283.4 10000.0  1283.4 10054.0  1286.2 10079.0
GR1288.9 10450.0  1290.7 10553.0  1288.0 10732.0  1291.0 10749.0  1291.0 11081.0
GR1291.4 12573.0  1293.7 12649.0  1291.4 12657.0  1301.2 12783.0  1303.3 12821.0
GR1300.5 12889.0  1319.6 12961.0  1330.8 13050.0
ET 27.11             7.1                           9130   10140
X1 27.11    38.0    9895   10136     280     360     420
GR1300.0  8820.0  1292.0  8828.0  1286.3  9000.0  1283.7  9045.0  1286.4  9071.0
GR1284.7  9124.0  1285.5  9203.0  1289.9  9227.0  1290.1  9376.0  1286.3  9396.0
GR1288.5  9435.0  1284.8  9548.0  1288.1  9601.0  1288.2  9629.0  1285.7  9650.0
GR1285.2  9709.0  1288.0  9764.0  1288.0  9895.0  1288.0 10000.0  1288.1 10114.0
GR1291.3 10136.0  1291.1 10368.0  1292.4 11244.0  1293.8 12097.0  1294.7 12157.0
GR1293.2 12174.0  1314.2 12293.0  1316.9 12330.0  1326.2 12399.0  1325.4 12486.0
GR1316.7 12527.0  1324.8 12566.0  1331.8 12640.0  1351.1 12676.0  1350.7 12742.0
GR1342.9 12788.0  1368.7 12817.0  1368.7 12873.0
ET 27.19             7.1                           8700   10050
X1 27.19    38.0    9765   10049     600     360     420
GR1352.1  7565.0  1350.8  7685.0  1325.6  7870.0  1319.7  7989.0  1294.4  8051.0
GR1295.5  8120.0  1290.6  8230.0  1292.8  8297.0  1292.6  8382.0  1288.0  8411.0
GR1286.9  8531.0  1289.0  8627.0  1286.0  8712.0  1291.6  8771.0  1292.2  8973.0
GR1291.5  9084.0  1287.0  9120.0  1287.0  9165.0  1290.5  9189.0  1290.2  9274.0
GR1288.5  9304.0  1291.6  9357.0  1292.2  9437.0  1290.9  9518.0  1290.4  9734.0
GR1288.2  9765.0  1287.8 10000.0  1287.8 10025.0  1293.6 10049.0  1294.4 10841.0
GR1296.0 11799.0  1298.2 11824.0  1295.2 11842.0  1295.3 11869.0  1318.7 11996.0
GR1320.8 12128.0  1329.5 12218.0  1329.5 12360.0
ET 27.30             7.1                           8490   10082
X1 27.30    34.0    9803   10081     670     470     580
GR1354.2  7318.0  1354.8  7407.0  1323.7  7651.0  1323.6  7686.0  1295.1  7741.0
GR1295.1  7793.0  1291.2  7828.0  1293.2  7872.0  1290.3  7925.0  1290.4  7979.0
GR1292.9  8050.0  1292.9  8120.0  1290.5  8135.0  1291.0  8258.0  1294.1  8278.0
GR1290.2  8477.0  1291.8  8614.0  1295.0  8873.0  1289.8  8893.0  1289.7  8939.0
GR1293.2  8962.0  1294.0  9195.0  1292.7  9395.0  1294.4  9632.0  1291.5  9686.0
GR1292.2  9803.0  1289.2  9827.0  1289.7 10000.0  1290.4 10060.0  1296.1 10081.0
GR1296.6 10888.0  1298.0 11438.0  1300.3 11493.0  1300.7 11600.0
NC  .055    .055    .035
ET 27.39             7.1                           8400   10070
X1 27.39    39.0    9900   10069     690     470     470
GR1356.5  6880.0  1356.5  7063.0  1344.9  7226.0  1298.2  7344.0  1296.5  7423.0
GR1292.3  7438.0  1292.4  7479.0  1295.1  7510.0  1296.1  7777.0  1291.7  7833.0
GR1291.7  7946.0  1295.8  8028.0  1295.9  8089.0  1292.9  8111.0  1293.0  8208.0
GR1296.5  8276.0  1293.2  8320.0  1293.6  8404.0  1296.1  8441.0  1296.0  8592.0
GR1292.4  8612.0  1293.1  8656.0  1295.5  8732.0  1293.8  8865.0  1291.2  8903.0
GR1295.9  8947.0  1296.2  9262.0  1296.6  9573.0  1294.0  9607.0  1293.4  9808.0
GR1290.5  9822.0  1290.3  9900.0  1290.3 10000.0  1290.8 10069.0  1297.6 10103.0
GR1298.6 10729.0  1299.8 11263.0  1322.4 11369.0  1325.3 11518.0
ET 27.48             7.1                           8500   10130
X1 27.48    36.0    9894   10087     620     500     500
GR1357.7  6865.0  1350.6  6903.0  1350.2  6923.0  1301.6  7048.0  1299.7  7138.0
GR1300.5  7579.0  1295.1  7603.0  1296.8  7764.0  1298.1  7834.0  1294.2  7891.0
GR1294.1  7961.0  1296.5  8010.0  1293.8  8054.0  1296.9  8084.0  1295.1  8126.0
GR1297.8  8226.0  1296.0  8427.0  1297.8  8611.0  1297.0  8717.0  1295.9  8742.0
GR1294.5  8960.0  1297.5  9033.0  1298.6  9348.0  1295.3  9547.0  1296.3  9669.0
GR1297.6  9742.0  1295.2  9753.0  1294.9  9894.0  1291.5 10000.0  1292.8 10087.0
GR1292.8 10157.0  1301.9 10203.0  1301.3 10736.0  1301.9 11132.0  1323.3 11258.0
GR1324.8 11319.0
ET 27.58             7.1                           8700   10114
X1 27.58    38.0    9905   10113     690     520     520
GR1353.0  6695.0  1351.7  6709.0  1355.5  6753.0  1352.5  6830.0  1307.1  6934.0
GR1303.2  7048.0  1303.2  7532.0  1301.0  7858.0  1295.7  7879.0  1296.1  7994.0
GR1297.2  8103.0  1298.0  8324.0  1299.0  8567.0  1298.1  8657.0  1295.0  8679.0
GR1298.0  8824.0  1295.1  8839.0  1295.1  8881.0  1297.2  8902.0  1299.2  9126.0
GR1300.3  9377.0  1297.6  9396.0  1298.7  9612.0  1295.8  9776.0  1293.1  9809.0
GR1294.0  9872.0  1297.8  9905.0  1294.2 10000.0  1294.5 10113.0  1301.9 10154.0
GR1304.2 10404.0  1310.2 10539.0  1308.2 10857.0  1304.8 10874.0  1307.7 10893.0
GR1307.1 11057.0  1327.4 11204.0  1326.7 11245.0
ET 27.68             7.1                           8930   10101
X1 27.68    35.0    9853   10078     570     520     520
GR1310.1  7060.0  1305.9  7509.0  1301.3  7550.0  1302.2  7781.0  1301.9  8224.0
GR1297.0  8243.0  1298.6  8317.0  1299.3  8587.0  1302.4  8679.0  1298.7  8774.0
GR1301.1  8870.0  1300.8  8938.0  1297.9  8961.0  1301.1  8999.0  1301.3  9184.0
GR1297.6  9230.0  1300.8  9293.0  1298.8  9379.0  1300.1  9459.0  1299.0  9624.0
GR1295.3  9640.0  1295.4  9695.0  1301.1  9738.0  1301.6  9853.0  1295.7 10000.0
GR1294.7 10078.0  1310.2 10125.0  1310.7 10428.0  1311.8 10663.0  1305.9 10703.0
GR1312.1 10728.0  1309.4 10746.0  1311.0 10884.0  1330.0 10991.0  1330.2 11145.0
ET 27.77             7.1                           8980   10105
X1 27.77    32.0    9836   10090     480     500     490
GR1354.1  7145.0  1353.6  7245.0  1308.2  7354.0  1303.4  7576.0  1305.1  7674.0
GR1305.2  7887.0  1302.7  7981.0  1304.6  8233.0  1304.6  8426.0  1301.1  8601.0
GR1299.0  8671.0  1300.8  8733.0  1300.7  8890.0  1301.0  9025.0  1304.2  9107.0
GR1304.1  9179.0  1300.1  9261.0  1300.3  9378.0  1303.0  9481.0  1303.2  9610.0
GR1300.2  9692.0  1301.8  9810.0  1303.2  9836.0  1297.4 10000.0  1297.4 10090.0
GR1312.9 10122.0  1314.0 10322.0  1307.5 10354.0  1309.7 10373.0  1311.1 10537.0
GR1326.6 10594.0  1330.1 10689.0
QT     2   25000   25000
ET 27.86             7.1                           9060   10100
X1 27.86    26.0    9774   10057     475     475     475
GR1358.6  7370.0  1357.4  7490.0  1305.9  7590.0  1305.1  7679.0  1306.9  7724.0
GR1304.3  7955.0  1306.2  8085.0  1306.5  8344.0  1304.6  8368.0  1302.2  8643.0
GR1305.5  8831.0  1304.8  8916.0  1301.0  8947.0  1302.8  8992.0  1300.8  9044.0
GR1303.5  9253.0  1303.9  9557.0  1302.6  9774.0  1297.5 10000.0  1297.5 10057.0
GR1303.4 10079.0  1307.2 10153.0  1309.6 10215.0  1317.9 10297.0  1326.0 10458.0
GR1326.0 10470.0
ET 27.94             7.1                           9320   10203
X1 27.94    24.0    9944   10187     415     440     440
GR1360.4  7500.0  1356.7  7704.0  1305.1  7886.0  1307.7  8084.0  1306.0  8202.0
GR1307.3  8314.0  1308.0  8514.0  1308.2  8676.0  1304.3  8729.0  1304.4  8806.0
GR1308.0  9057.0  1304.2  9174.0  1306.7  9260.0  1302.0  9309.0  1301.5  9374.0
GR1303.4  9391.0  1304.1  9657.0  1304.1  9944.0  1299.1 10000.0  1303.6 10035.0
GR1303.5 10187.0  1309.6 10212.0  1323.7 10246.0  1327.4 10339.0
ET 28.04             7.1                           9480   10440
X1 28.04    21.0    9809   10061     550     500     500
GR1345.0  8125.0  1309.0  8286.0  1309.0  8455.0  1307.5  8565.0  1310.2  8688.0
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GR1309.6  8882.0  1306.3  8896.0  1305.6  9028.0  1308.7  9235.0  1309.4  9371.0
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GR1304.5 10352.0  1305.9 10537.0  1303.6 10605.0  1306.0 10675.0  1308.0 10825.0
GR1310.1 10866.0
ET 28.12            7.1                             9600   10570
X1 28.12    27.0    9906   10076     440     460     450
GR1357.3  8340.0  1355.3  8384.0  1323.5  8506.0  1320.1  8630.0  1313.6  8697.0
GR1309.5  8719.0  1311.3  8878.0  1311.1  9108.0  1307.8  9129.0  1307.5  9182.0
GR1310.6  9258.0  1308.2  9300.0  1310.5  9411.0  1308.6  9524.0  1306.6  9675.0
GR1304.9  9906.0  1304.6 10000.0  1304.6 10076.0  1310.3 10107.0  1310.7 10411.0
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GR1312.7 11051.0  1314.2 11435.0
ET 28.21     9.1     7.1                             9700   10650    9180   12000
X1 28.21    21.0    9798   10069     480     480     480
GR1360.5  8595.0  1318.3  8761.0  1314.8  9008.0  1311.1  9043.0  1313.3  9180.0
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GR1304.4 10000.0  1304.4 10069.0  1313.2 10109.0  1311.2 10430.0  1307.7 10565.0
GR1308.3 10866.0  1313.9 10897.0  1314.6 11140.0  1313.1 11286.0  1315.4 11570.0
GR1316.0 12000.0
ET 28.31            7.1                             9710   10720
X1 28.31    21.0    9935   10124     465     490     490
GR1363.0  8875.0  1361.0  8938.0  1323.3  9094.0  1319.8  9226.0  1315.1  9248.0
GR1315.1  9282.0  1317.9  9301.0  1315.9  9334.0  1313.8  9558.0  1311.7  9598.0
GR1307.7  9798.0  1307.7  9935.0  1305.9 10000.0  1307.3 10124.0  1312.9 10196.0
GR1312.3 10523.0  1309.2 10862.0  1311.1 10975.0  1315.6 11037.0  1315.6 11427.0
GR1320.0 12570.0
ET 28.39     9.1     7.1                             9870   10730    9750   13160
X1 28.39    23.0    9880   10074     400     435     435
GR1325.9  9562.0  1321.1  9645.0  1315.0  9685.0  1317.1  9750.0  1312.5  9816.0
GR1308.6  9880.0  1306.7 10000.0  1308.8 10074.0  1308.8 10197.0  1307.2 10211.0
GR1314.8 10356.0  1314.4 10568.0  1310.9 10728.0  1311.8 10810.0  1310.9 10996.0
GR1312.4 11018.0  1313.8 11151.0  1314.3 11372.0  1311.9 11409.0  1314.4 11493.0
GR1317.0 11548.0  1319.4 12117.0  1328.1 13160.0
ET 28.45     9.1     7.1                             9936   10440    9475   11299
X1 28.45    34.0    9936   10186     270     460     320
GR1363.2  9475.0  1324.8  9653.0  1340.3  9752.0  1348.3  9874.0  1346.7  9911.0
GR1315.6     9936  1308.3  9942.0  1306.7 10000.0  1309.7 10062.0  1311.0 10186.0
GR1309.0 10238.0  1315.6 10365.0  1314.4 10688.0  1311.5 10736.0  1312.8 10936.0
GR1315.4 10998.0  1317.3 11299.0  1313.4 11405.0  1313.3 11473.0  1316.1 11509.0
GR1315.8 11756.0  1319.7 11971.0  1323.1 12432.0  1332.8 13315.0  1336.2 13540.0
GR1354.6 13695.0  1355.0 13721.0  1346.2 13742.0  1346.3 13765.0  1370.4 13822.0
GR1361.3 13854.0  1367.9 13873.0  1372.5 13951.0  1364.0 14007.0
ET 28.52     9.1     7.1                             9956   10350    9720   11012
X1 28.52    41.0    9967   10204     360     360     360
GR1362.7  9720.0  1330.1  9901.0  1330.5  9940.0  1316.5     9957 1307.7  9967.0
GR1307.1 10000.0  1310.2 10055.0  1311.0 10204.0  1309.6 10300.0  1316.5 10377.0
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GR1351.1 13573.0  1351.1 13587.0  1345.3 13602.0  1345.3 13627.0  1352.4 13643.0
GR1340.1 13684.0  1337.0 13765.0  1340.5 13795.0  1342.1 14131.0  1347.7 14355.0
GR1348.8 14381.0
ET 28.58     9.1     7.1                             9954   10340    9850   11141
X1 28.58    36.0    9959   10284     340     340     340
GR1364.0  9850.0  1358.8  9884.0  1317.7  9955.0  1309.1  9959.0  1309.0 10000.0
GR1311.5 10097.0  1310.9 10284.0  1317.7 10393.0  1318.3 10497.0  1313.8 10806.0
GR1316.6 10850.0  1316.2 11038.0  1319.8 11141.0  1318.1 11270.0  1320.0 11326.0
GR1318.5 11581.0  1319.5 11767.0  1317.2 11833.0  1318.3 12037.0  1322.5 12105.0
GR1323.9 12672.0  1327.4 13046.0  1331.4 13073.0  1326.9 13128.0  1338.2 13235.0
GR1352.5 13297.0  1356.9 13418.0  1361.0 13430.0  1360.6 13462.0  1347.2 13487.0
GR1347.2 13510.0  1368.5 13544.0  1368.2 13561.0  1361.9 13579.0  1362.7 13754.0
GR1374.3 13895.0
ET 28.67     9.1     7.1                             9950   10300    9450   11203
X1 28.67    37.0    9964   10192     470     360     460
GR1372.7  9450.0  1371.0  9866.0  1319.8  9950.0  1311.5  9964.0  1312.2 10000.0
GR1312.2 10192.0  1319.8 10514.0  1316.1 10819.0  1318.6 10989.0  1315.2 11044.0
GR1320.5 11203.0  1321.6 11445.0  1322.3 11634.0  1319.8 11968.0  1318.7 12107.0
GR1322.5 12170.0  1321.3 12228.0  1325.2 12397.0  1326.4 12792.0  1328.9 12823.0
GR1324.8 12860.0  1327.4 12972.0  1345.8 13057.0  1345.8 13259.0  1339.7 13321.0
GR1341.1 13419.0  1352.8 13484.0  1356.1 13572.0  1358.7 13589.0  1358.8 13606.0
GR1348.0 13629.0  1348.2 13655.0  1363.9 13681.0  1363.8 13698.0  1355.7 13713.0
GR1356.7 13851.0  1373.9 13912.0
ET 28.76            7.1                             9910   10260
X1 28.76    40.0    9920   10203     500     320     475
GR1375.0  9510.0  1373.4  9666.0  1367.5  9804.0  1321.2  9920.0  1312.5  9924.0
GR1312.6 10000.0  1312.9 10109.0  1317.4 10203.0  1321.2 10547.0  1318.1 10699.0
GR1322.5 11169.0  1317.4 11220.0  1317.7 11274.0  1321.6 11330.0  1323.8 11632.0
GR1321.5 11931.0  1323.1 11979.0  1321.8 12102.0  1326.0 12160.0  1326.5 12548.0
GR1325.0 12562.0  1326.6 12626.0  1330.7 13064.0  1340.8 13120.0  1347.4 13338.0
GR1343.7 13473.0  1341.4 13577.0  1353.0 13637.0  1353.2 13660.0  1357.3 13674.0
GR1356.5 13694.0  1347.1 13715.0  1347.1 13746.0  1358.4 13761.0  1358.4 13776.0
GR1353.4 13790.0  1356.3 13886.0  1362.3 13913.0  1362.3 13925.0  1377.2 13966.0
ET 28.86     9.1     7.1                             9912   10400    9575   12130
X1 28.86    39.0    9912   10169     550     310     515
GR1377.3  9575.0  1375.4  9834.0  1322.7  9912.0  1313.6  9925.0  1313.1 10000.0
GR1321.3 10169.0  1318.7 10243.0  1319.8 10485.0  1322.7 10549.0  1321.8 10805.0
GR1324.8 11074.0  1322.6 11285.0  1321.2 11472.0  1322.3 11649.0  1323.8 11963.0
GR1323.5 12075.0  1327.9 12130.0  1327.9 12182.0  1322.4 12215.0  1325.8 12261.0
GR1327.7 12491.0  1330.6 12911.0  1335.3 13273.0  1339.5 13314.0  1339.8 13413.0
GR1343.8 13536.0  1347.4 13697.0  1348.2 13733.0  1352.8 13749.0  1352.8 13773.0
GR1345.3 13792.0  1345.3 13807.0  1355.5 13827.0  1355.7 13843.0  1354.0 13855.0
GR1356.5 13951.0  1361.9 13975.0  1361.0 13989.0  1373.7 14035.0
ET 28.95            7.1                             9946   10600
X1 28.95    34.0    9946   10353     500     310     475
GR1376.3  9615.0  1376.6  9784.0  1371.6  9871.0  1325.0  9946.0  1314.8  9962.0
GR1312.3 10000.0  1317.7 10112.0  1321.6 10138.0  1324.5 10353.0  1322.2 10383.0
GR1322.5 10551.0  1318.3 10659.0  1325.0 10702.0  1324.6 11069.0  1325.8 11366.0
GR1324.5 11583.0  1322.1 11633.0  1324.9 11727.0  1323.6 12024.0  1329.7 12138.0
GR1326.2 12496.0  1330.1 12888.0  1335.9 13349.0  1348.0 13760.0  1355.7 13815.0
GR1355.7 13835.0  1345.5 13852.0  1345.5 13879.0  1354.8 13895.0  1352.9 13945.0
GR1360.9 14104.0  1364.9 14118.0  1364.9 14138.0  1376.2 14210.0
ET 29.04            7.1                             9827   10630
X1 29.04    34.0    9828   10239     550     330     510
GR1360.0     9770  1326.7  9808.0  1320.3  9815.0  1317.3  9828.0  1317.2  9859.0
GR1319.6  9940.0  1317.2 10000.0  1317.2 10048.0  1322.9 10073.0  1324.3 10239.0
GR1324.4 10414.0  1321.2 10499.0  1319.4 10584.0  1326.7 10638.0  1326.0 10868.0
GR1326.7 11104.0  1325.3 11444.0  1322.9 11472.0  1324.3 11521.0  1323.1 11750.0
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GR1330.4 11802.0  1330.3 12323.0  1331.2 12554.0  1336.4 12706.0  1332.2 12882.0
GR1335.8 13217.0  1343.9 13578.0  1351.5 13599.0  1352.4 13621.0  1344.3 13633.0
GR1344.4 13654.0  1357.1 13668.0  1357.5 13697.0  1379.5 13780.0
QT     2   23000   23000
ET 29.14            7.1                            9760   10520
X1 29.14    34.0    9873   10299     560     340     500
GR1376.2  9370.0  1379.7  9507.0  1327.6  9591.0  1321.0  9602.0  1321.0  9646.0
GR1325.7  9701.0  1325.3  9873.0  1320.7  9899.0  1319.4 10000.0  1319.4 10039.0
GR1324.1 10116.0  1325.6 10299.0  1321.8 10448.0  1321.0 10467.0  1327.6 10494.0
GR1327.8 10728.0  1326.8 10991.0  1325.8 11232.0  1324.3 11515.0  1332.2 11545.0
GR1333.8 11964.0  1338.2 12106.0  1336.1 12544.0  1336.0 12967.0  1336.4 13189.0
GR1333.3 13210.0  1333.4 13236.0  1349.6 13292.0  1350.1 13310.0  1345.2 13320.0
GR1345.3 13342.0  1357.9 13361.0  1358.2 13380.0  1381.3 13441.0
ET 29.23            7.1                            9720   10455
X1 29.23    31.0    9898   10352     515     360     475
GR1354.2  9400.0  1353.8  9413.0  1330.1  9512.0  1324.6  9535.0  1322.5  9679.0
GR1328.3  9898.0  1323.3  9936.0  1321.4 10000.0  1327.0 10352.0  1326.0 10401.0
GR1330.1 10458.0  1329.6 10683.0  1328.0 10865.0  1325.6 10966.0  1328.9 11130.0
GR1325.0 11194.0  1323.8 11253.0  1334.6 11285.0  1335.7 11520.0  1338.6 11716.0
GR1338.1 12080.0  1340.5 12424.0  1339.8 12782.0  1340.0 13051.0  1353.2 13073.0
GR1353.2 13090.0  1347.8 13098.0  1347.8 13122.0  1360.6 13147.0  1360.7 13166.0
GR1377.4 13215.0
ET 29.30            7.1                            9720   10410
X1 29.30    30.0    9919   10440     410     360     400
GR1359.7  9400.0  1357.5  9491.0  1357.5  9540.0  1326.1  9549.0  1330.2  9683.0
GR1327.3  9786.0  1326.5  9919.0  1322.3 10000.0  1326.3 10133.0  1330.9 10440.0
GR1328.1 10578.0  1332.1 10760.0  1329.0 10885.0  1326.0 10907.0  1327.2 10987.0
GR1338.9 11012.0  1339.1 11172.0  1341.3 11408.0  1339.7 11641.0  1342.9 12019.0
GR1340.5 12362.0  1341.1 12795.0  1344.0 12823.0  1351.9 12840.0  1351.9 12856.0
GR1345.7 12873.0  1345.8 12892.0  1357.7 12909.0  1358.4 12928.0  1379.4 12997.0
ET 29.39            7.1                            9693   10300
X1 29.39    32.0    9694   10254     440     410     440
GR1380.0  9270.0  1365.5  9355.0  1363.3  9429.0  1331.1  9492.0  1327.7  9499.0
GR1327.5  9552.0  1330.8  9578.0  1331.4  9694.0  1328.9  9821.0  1325.1  9838.0
GR1324.6 10000.0  1329.3 10254.0  1331.1 10457.0  1329.9 10569.0  1326.1 10585.0
GR1326.3 10620.0  1338.6 10654.0  1336.2 10716.0  1342.8 10892.0  1343.0 11076.0
GR1343.4 11383.0  1343.2 11756.0  1342.9 12089.0  1344.3 12512.0  1345.0 12555.0
GR1351.9 12570.0  1352.2 12593.0  1345.9 12600.0  1345.9 12626.0  1355.0 12644.0
GR1356.0 12662.0  1377.4 12739.0
ET 29.47            7.1                            9660   10211
X1 29.47    28.0    9798   10210     445     385     445
GR1378.6  9155.0  1362.0  9235.0  1336.0  9300.0  1331.0  9314.0  1329.0  9387.0
GR1330.8  9438.0  1332.2  9618.0  1331.0  9798.0  1325.7  9833.0  1324.1 10000.0
GR1333.0 10210.0  1332.5 10263.0  1329.4 10289.0  1328.3 10342.0  1336.8 10366.0
GR1344.3 10505.0  1344.0 10747.0  1345.0 11040.0  1344.9 11416.0  1345.1 11734.0
GR1346.9 12114.0  1351.5 12127.0  1351.7 12153.0  1345.2 12164.0  1344.9 12188.0
GR1354.6 12205.0  1354.8 12235.0  1378.9 12335.0
ET 29.54            7.1                            9620   10151
X1 29.54    30.0    9846   10150     380     380     380
GR1378.7  9025.0  1375.5  9068.0  1350.7  9135.0  1348.6  9179.0  1340.7  9198.0
GR1332.4  9217.0  1333.5  9321.0  1333.9  9460.0  1331.2  9697.0  1328.7  9726.0
GR1328.4  9758.0  1332.9  9782.0  1332.2  9846.0  1327.0  9882.0  1326.7 10000.0
GR1326.7 10116.0  1340.7 10150.0  1343.0 10343.0  1346.5 10482.0  1348.3 10927.0
GR1347.8 11457.0  1349.2 11687.0  1354.2 11697.0  1354.2 11723.0  1345.8 11737.0
GR1345.8 11763.0  1355.3 11783.0  1355.4 11812.0  1352.6 11829.0  1378.3 11981.0
ET29.611            7.1                            9620   10110
X129.611    31.0    9791   10094     315     315     375
X3    10
GR1377.8  8825.0  1353.2  9052.0  1337.2  9136.0  1336.3  9285.0  1332.4  9541.0
GR1332.9  9713.0  1334.0  9791.0  1328.9  9812.0  1328.9  9849.0  1331.6 10000.0
GR1331.6 10094.0  1342.3 10133.0  1351.2 10244.0  1345.5 10331.0  1349.1 10528.0
GR1349.1 10688.0  1349.9 10923.0  1353.4 10966.0  1353.4 11037.0  1345.1 11072.0
GR1345.1 11124.0  1352.5 11156.0  1352.5 11163.0  1345.4 11178.0  1345.5 11204.0
GR1353.7 11221.0  1353.4 11251.0  1351.1 11259.0  1353.1 11405.0  1358.4 11533.0
GR1378.5 11635.0
SB  1.35     1.6     2.6       0     960      47   14933     5.5    1332    1332
ET29.624           7.11                            9620   10128
X129.624    29.0    9767   10127      70      70      70
X2     0       0       1    1347  1353.6       0       0       2       0       0
X3    10
BT     2    9000  1355.7          10160  1353.6
GR1371.6  8815.0  1370.5  8845.0  1374.4  8858.0  1348.8  8902.0  1348.6  8912.0
GR1358.8  8923.0  1351.3  9007.0  1337.7  9083.0  1335.6  9178.0  1335.4  9369.0
GR1333.5  9493.0  1332.8  9649.0  1335.3  9767.0  1328.6  9785.0  1328.5  9823.0
GR1331.8 10000.0  1331.8 10091.0  1348.1 10127.0  1352.1 10242.0  1352.5 10401.0
GR1353.2 10635.0  1349.9 10778.0  1352.7 10855.0  1352.7 10941.0  1350.2 10965.0
GR1353.0 11161.0  1353.2 11309.0  1359.0 11392.0  1380.4 11515.0
NC  .055    .055     .04
ET 29.72            7.1                            9560   10225
X1 29.72    17.0    9817   10224     450     495     495
X3    10
GR1367.4  8825.0  1369.8  8892.0  1339.9  8939.0  1336.9  9010.0  1338.5  9203.0
GR1336.5  9313.0  1336.3  9454.0  1335.9  9615.0  1333.8  9657.0  1336.5  9817.0
GR1331.3  9836.0  1331.8  9939.0  1330.5  9949.0  1330.7 10000.0  1335.7 10224.0
GR1353.0 10253.0  1353.0 10404.0
ET 29.80            7.1                            9820   10460
X1 29.80    16.0    9882   10205     460     460     460
GR1378.4  9270.0  1373.4  9347.0  1338.8  9419.0  1335.4  9475.0  1340.8  9512.0
GR1342.7  9656.0  1338.9  9882.0  1331.2  9924.0  1331.4 10000.0  1332.7 10180.0
GR1337.6 10205.0  1337.6 10215.0  1327.7 10335.0  1336.3 10521.0  1344.4 10610.0
GR1349.2 10676.0
ET 29.89            7.1                            9870   10500
X1 29.89    17.0    9900   10052     450     440     445
GR1371.9  9480.0  1374.2  9576.0  1339.3  9671.0  1341.6  9776.0  1341.1  9900.0
GR1331.7  9963.0  1331.6 10000.0  1341.0 10052.0  1340.6 10085.0  1332.0 10148.0
GR1336.2 10205.0  1336.1 10240.0  1330.0 10300.0  1329.6 10438.0  1332.9 10579.0
GR1342.3 10699.0  1353.3 10755.0
ET 29.99            7.1                            9850   10400
X1 29.99    17.0    9874   10115     550     500     525
GR1367.1  9430.0  1367.3  9523.0  1342.1  9667.0  1340.9  9749.0  1342.2  9809.0
GR1341.2  9849.0  1346.6  9874.0  1332.9  9962.0  1332.9 10000.0  1334.8 10041.0
GR1344.1 10115.0  1338.5 10140.0  1335.6 10414.0  1333.7 10430.0  1333.7 10470.0
GR1346.2 10518.0  1346.4 10533.0
ET 30.07            7.1                            9780   10280
X1 30.07    17.0    9925   10098     425     500     450
GR1369.4  9325.0  1363.9  9463.0  1360.9  9604.0  1341.5  9665.0  1343.1  9728.0
GR1340.8  9781.0  1340.4  9910.0  1344.6  9925.0  1334.4  9986.0  1334.4 10000.0
GR1335.0 10060.0  1344.5 10098.0  1343.6 10114.0  1336.6 10132.0  1334.0 10261.0
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GR1365.9 10306.0  1365.0 10356.0
ET 30.17             7.1                                 9740   10160
X1 30.17    15.0    9868   10092     440     570     520
GR1351.4  9624.0  1340.1  9663.0  1340.6  9756.0  1339.8  9868.0  1335.7  9986.0
GR1335.6 10000.0  1335.6 10053.0  1339.3 10092.0  1336.6 10194.0  1370.4 10266.0
GR1370.5 10414.0  1375.2 10543.0  1373.4 10597.0  1376.5 10654.0  1386.8 10733.0
ET 30.26             7.1                                 9748   10260
X1 30.26    12.0    9749   10135     430     520     485
GR1357.2  9625.0  1361.9  9711.0  1342.1  9749.0  1338.9 10000.0  1339.3 10135.0
GR1341.7 10314.0  1347.9 10338.0  1348.7 10444.0  1341.6 10545.0  1341.7 10604.0
GR1363.6 10643.0  1389.4 10743.0
ET 30.36             7.1                                 9820   10280
X1 30.36    16.0    9858   10195     500     535     515
GR1376.7  9395.0  1374.8  9555.0  1364.0  9638.0  1364.5  9756.0  1343.5  9796.0
GR1341.2  9858.0  1341.2 10000.0  1342.8 10195.0  1346.2 10341.0  1351.5 10368.0
GR1345.2 10764.0  1341.6 10776.0  1345.3 10854.0  1348.9 10876.0  1349.9 11015.0
GR1408.9 11158.0
ET 30.46             7.1                                 9814   10230
X1 30.46    15.0    9815   10180     475     540     495
GR1377.3  9280.0  1380.8  9426.0  1370.4  9483.0  1366.8  9661.0  1368.2  9767.0
GR1341.2  9815.0  1344.7  9988.0  1343.0 10000.0  1343.1 10180.0  1349.5 10253.0
GR1352.9 10394.0  1350.2 10653.0  1345.2 10782.0  1351.2 10903.0  1405.7 11016.0
QT     2   21000   21000
ET 30.55             7.1                                 9714   10139
X1 30.55    14.0    9715   10138     500     525     500
GR1380.2  9365.0  1377.9  9502.0  1369.1  9590.0  1363.2  9715.0  1343.8  9751.0
GR1343.7 10000.0  1343.4 10093.0  1353.7 10138.0  1352.6 10356.0  1354.4 10450.0
GR1350.2 10620.0  1350.8 10718.0  1348.7 10810.0  1393.9 10939.0
ET 30.65             7.1                                 9781   10116
X1 30.65    17.0    9916   10115     535     500     530
GR1375.1  9605.0  1374.2  9708.0  1365.7  9756.0  1345.6  9796.0  1346.2  9916.0
GR1343.7 10000.0  1344.5 10057.0  1354.6 10115.0  1355.0 10394.0  1353.3 10488.0
GR1356.1 10605.0  1354.2 10776.0  1349.7 10843.0  1353.7 10925.0  1365.9 10956.0
GR1390.6 11001.0  1388.9 11014.0
ET 30.73             7.1                                 9864   10180
X1 30.73    14.0    9881   10075     445     370     420
GR1369.9  9710.0  1369.1  9839.0  1345.2  9881.0  1345.6 10000.0  1345.6 10075.0
GR1352.6 10148.0  1349.9 10202.0  1355.7 10242.0  1355.7 10397.0  1354.4 10481.0
GR1357.6 10623.0  1356.4 10951.0  1351.7 11023.0  1394.0 11123.0
ET 30.82             7.1                                 9901   10280
X1 30.82    12.0    9924   10201     500     370     500
GR1378.3  9630.0  1379.5  9833.0  1375.4  9865.0  1345.2  9924.0  1346.7 10000.0
GR1352.0 10201.0  1347.0 10358.0  1353.5 10398.0  1358.1 10582.0  1357.9 10879.0
GR1354.5 11132.0  1399.1 11244.0
ET 30.92             7.1                                 9854   10330
X1 30.92    11.0    9871   10123     510     530     510
GR1383.3  9590.0  1382.2  9806.0  1348.6  9871.0  1346.0 10000.0  1353.7 10123.0
GR1354.0 10241.0  1349.9 10555.0  1352.5 10616.0  1359.1 10642.0  1360.7 10852.0
GR1359.8 10997.0
ET 31.01             7.1                                 9727   10400
X1 31.01    12.0    9738   10024     485     620     490
GR1387.5  9345.0  1380.0  9680.0  1353.3  9738.0  1349.5  9869.0  1349.5 10000.0
GR1356.6 10024.0  1358.3 10156.0  1354.4 10429.0  1352.2 10653.0  1359.4 10668.0
GR1364.2 10863.0  1386.4 10923.0
ET 31.11             7.1                                 9872   10570
X1 31.11    12.0    9881   10124     480     500     490
GR1388.5  9585.0  1386.9  9814.0  1355.2  9881.0  1349.9  9929.0  1349.4 10000.0
GR1357.9 10124.0  1358.7 10313.0  1352.8 10739.0  1362.3 10762.0  1361.3 10865.0
GR1367.6 10948.0  1413.4 11050.0
ET 31.20             7.1                                 9710   10390
X1 31.20      19    9897   10062     460     525     510
GR1376.0  9500.0  1361.5  9580.0  1354.8  9635.0  1355.7  9713.0  1352.2  9746.0
GR1356.3  9776.0  1356.3  9804.0  1352.6  9828.0  1357.0  9877.0  1354.9  9897.0
GR1356.4  9953.0  1349.9 10000.0  1356.6 10062.0  1358.2 10331.0  1355.9 10511.0
GR1364.1 10544.0  1365.2 10659.0  1410.3 10801.0  1406.2 10811.0
ET 31.29             7.1                                 9570   10300
X1 31.29    14.0    9867   10121     425     490     460
GR1362.3  9450.0  1356.9  9562.0  1356.3  9670.0  1363.5  9704.0  1362.8  9867.0
GR1358.2  9931.0  1355.5  9959.0  1355.5 10000.0  1355.7 10057.0  1359.9 10121.0
GR1359.7 10244.0  1357.8 10425.0  1367.6 10481.0  1385.4 10512.0
ET 31.39             7.1                                 9550   10320
X1 31.39    17.0    9792   10080     540     500     510
GR1397.8  9290.0  1386.7  9342.0  1392.7  9386.0  1393.4  9470.0  1356.5  9526.0
GR1354.7  9561.0  1361.2  9643.0  1363.1  9792.0  1359.4  9942.0  1356.8  9978.0
GR1356.9 10000.0  1357.4 10080.0  1361.5 10242.0  1360.1 10387.0  1368.0 10456.0
GR1368.6 10528.0  1407.9 10633.0
ET 31.49             7.1                                 9600   10300
X1 31.49    13.0    9935   10295     575     520     545
GR1401.4  9275.0  1401.4  9364.0  1386.4  9443.0  1359.9  9480.0  1361.8  9524.0
GR1361.5  9653.0  1363.0  9779.0  1359.5  9935.0  1359.5 10000.0  1363.8 10295.0
GR1369.3 10330.0  1370.2 10402.0  1410.5 10504.0
ET 31.59             7.1                                 9580   10176
X1 31.59    11.0    9876   10165     505     520     510
GR1403.7  9175.0  1399.5  9323.0  1379.7  9425.0  1358.7  9482.0  1359.8  9608.0
GR1364.2  9782.0  1364.2  9876.0  1360.1 10000.0  1363.2 10165.0  1389.5 10227.0
GR1408.6 10379.0
ET 31.67             7.1                                 9570   10197
X1 31.67    12.0    9820   10185     455     445     450
GR1403.0  9165.0  1400.8  9363.0  1357.2  9499.0  1361.3  9631.0  1364.2  9664.0
GR1366.0  9820.0  1361.1 10000.0  1362.8 10185.0  1388.1 10235.0  1390.8 10299.0
GR1402.4 10478.0  1410.7 10522.0
ET 31.77             7.1                                 9550   10120
X1 31.77    12.0    9862   10101     495     510     500
GR1404.1  9155.0  1404.2  9371.0  1356.2  9508.0  1362.5  9560.0  1365.3  9748.0
GR1365.3  9862.0  1363.9 10000.0  1363.0 10101.0  1389.7 10175.0  1403.9 10358.0
GR1403.6 10416.0  1414.2 10466.0
ET 31.86             7.1                                 9680   10262
X1 31.86    10.0    9894   10261     520     490     500
GR1411.1  8955.0  1408.4  9155.0  1407.3  9490.0  1362.0  9604.0  1364.9  9727.0
GR1366.7  9894.0  1366.7 10000.0  1365.3 10261.0  1394.3 10321.0  1420.6 10419.0
QT     2   19000   19000
ET 31.96             7.1                                 9730   10247
X1 31.96    13.0    9907   10236     495     515     505
GR1412.2  8900.0  1412.0  9153.0  1401.6  9500.0  1367.6  9598.0  1368.9  9693.0
GR1366.5  9758.0  1369.2  9812.0  1369.1  9907.0  1366.5  9947.0  1365.6 10000.0
GR1364.3 10236.0  1403.4 10288.0  1421.5 10361.0
ET 32.05             7.1                                 9670   10098
X1 32.05    14.0    9843   10097     495     520     505
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GR1414.6  8970.0  1414.1  9304.0  1400.8  9383.0  1367.6  9479.0  1372.5  9564.0
GR1371.5  9634.0  1369.6  9736.0  1364.1  9843.0  1367.3  9954.0  1362.2  9971.0
GR1363.3 10000.0  1370.0 10097.0  1424.6 10238.0  1423.4 10242.0
ET 32.15             7.1                          9560   10101
X1 32.15    10.0    9792   10091     460     495     495
GR1417.0  9050.0  1415.5  9264.0  1373.2  9343.0  1369.6  9553.0  1373.8  9792.0
GR1368.6  9963.0  1366.2 10000.0  1366.2 10091.0  1426.4 10163.0  1436.2 10175.0
ET 32.24             7.1                          9500   10070
X1 32.24    11.0    9738   10069     400     490     475
GR1418.4  9090.0  1416.8  9277.0  1371.8  9355.0  1371.9  9564.0  1374.0  9738.0
GR1372.5  9900.0  1366.9 10000.0  1366.9 10052.0  1387.5 10069.0  1424.1 10243.0
GR1433.7 10255.0
NC  .045    .050    .045
ET 32.34             7.1                          9530   10060
X1 32.34    11.0    9774   10059     490     550     540
GR1416.7  9225.0  1414.7  9280.0  1382.5  9377.0  1373.1  9450.0  1371.6  9614.0
GR1375.9  9774.0  1375.4  9892.0  1368.2 10000.0  1380.6 10059.0  1382.3 10144.0
GR1433.4 10261.0
ET 32.43             7.1                          9600   10113
X1 32.43    14.0    9852   10112     545     400     460
GR1424.1  9340.0  1415.1  9438.0  1371.3  9508.0  1372.3  9554.0  1363.8  9607.0
GR1372.6  9692.0  1375.5  9852.0  1373.4  9965.0  1370.7 10000.0  1372.7 10073.0
GR1383.1 10112.0  1388.9 10373.0  1403.2 10437.0  1436.0 10487.0
ET 32.52     9.1     7.1                          9760   10273    9530   10288
X1 32.52    17.0    9785   10054     550     440     480
GR1424.4  9530.0  1419.8  9543.0  1431.9  9657.0  1372.0  9724.0  1372.4  9785.0
GR1373.1 10000.0  1383.6 10054.0  1373.0 10123.0  1376.4 10253.0  1383.3 10288.0
GR1383.9 10426.0  1376.8 10505.0  1377.1 10545.0  1383.8 10568.0  1388.7 10667.0
GR1387.9 10752.0  1431.2 10840.0
ET 32.58     9.1     7.1                          9841   10412    9675   10467
X1 32.58    19.0    9858   10111     360     295     325
GR1432.3  9675.0  1427.7  9750.0  1372.3  9858.0  1370.5 10000.0  1381.3 10111.0
GR1382.2 10223.0  1401.5 10277.0  1370.6 10331.0  1372.0 10386.0  1400.7 10467.0
GR1390.9 10528.0  1386.0 10567.0  1378.3 10610.0  1377.3 10650.0  1385.0 10685.0
GR1385.1 10733.0  1440.1 10800.0  1429.1 10838.0  1445.9 10962.0
ET 32.64     9.1     7.1                          9873   10501    9799   10591
X1 32.64    22.0    9874   10185     335     220     310
GR1403.4  9760.0  1411.9  9799.0  1389.2  9874.0  1366.2  9905.0  1371.9 10000.0
GR1382.2 10185.0  1388.5 10220.0  1389.6 10245.0  1414.2 10265.0  1413.5 10304.0
GR1385.4 10402.0  1372.1 10418.0  1371.6 10483.0  1396.7 10527.0  1410.1 10591.0
GR1410.8 10626.0  1403.7 10675.0  1380.0 10728.0  1379.6 10770.0  1388.0 10819.0
GR1387.4 10870.0  1403.0 10883.0
ET 32.72     9.1     7.1                          9617   10453    9435   10524
X1 32.72    28.0    9879   10150     480     190     420
GR1434.8  9435.0  1432.6  9475.0  1394.5  9555.0  1393.9  9576.0  1380.1  9626.0
GR1383.9  9726.0  1399.6  9817.0  1396.5  9879.0  1372.0  9942.0  1369.9  9977.0
GR1365.7 10000.0  1364.0 10009.0  1363.8 10024.0  1383.9 10045.0  1406.8 10150.0
GR1409.3 10188.0  1395.8 10272.0  1401.6 10321.0  1372.1 10380.0  1373.6 10439.0
GR1397.0 10476.0  1408.2 10524.0  1404.1 10567.0  1380.2 10630.0  1379.6 10680.0
GR1389.5 10710.0  1390.0 10780.0  1442.6 10849.0
ET 32.79             7.1                          9700   10320
X1 32.79      19    9846   10070     400     410     380
GR1396.1  9575.0  1395.5  9589.0  1385.6  9639.0  1385.2  9684.0  1381.5  9725.0
GR1386.5  9788.0  1387.9  9846.0  1372.1  9956.0  1367.2 10000.0  1367.2 10046.0
GR1392.6 10070.0  1419.4 10140.0  1427.7 10180.0  1379.0 10254.0  1382.6 10313.0
GR1398.6 10406.0  1404.1 10492.0  1421.2 10559.0  1430.8 10623.0
ET 32.86             7.1                          9807   10332
X1 32.86    12.0    9928   10155     280     580     380
GR1423.4  9670.0  1424.3  9719.0  1386.4  9797.0  1381.2  9855.0  1380.4  9928.0
GR1374.9 10000.0  1380.6 10079.0  1386.5 10155.0  1382.6 10239.0  1386.6 10279.0
GR1385.4 10331.0  1421.4 10564.0
ET 32.92     9.1     7.1                          9876   10180    9680   10180
X1 32.92     9.0    9891   10143     290     370     310
GR1433.1  9680.0  1429.0  9769.0  1382.7  9891.0  1381.0 10000.0  1383.1 10143.0
GR1390.8 10230.0  1387.5 10331.0  1411.9 10412.0  1427.5 10507.0
ET32.979             7.1                          9857   10099
X132.979     9.0    9933   10098     310     330     315
GR1432.3  9535.0  1430.2  9748.0  1384.4  9876.0  1384.7  9933.0  1379.7 10000.0
GR1394.4 10098.0  1422.7 10157.0  1424.6 10252.0  1424.1 10335.0
ET32.984            7.11                          9824   10082
X132.984      33    9962   10011      28      28      28
BT    18    9750  1432.8  1427.7    9823  1432.6  1427.6  9823.1  1432.6  1391.6
BT9833.0  1432.6  1389.7  9833.1  1432.6  1427.6    9909  1432.5  1427.4  9909.1
BT1432.5  1385.8  9919.0  1432.5  1386.6  9919.1  1432.5  1427.4    9985  1432.3
BT1427.3  9985.1  1432.3  1380.0  9995.0  1432.3  1380.0  9995.1  1432.3  1427.3
BT 10065  1432.2  1427.1 10065.1  1432.2  1387.9 10075.0 1432.2  1390.7 10075.1
BT1432.2  1427.1 10150.1  1432.0    1427
GR1427.7  9750.0  1425.2  9750.1  1391.6    9820  1391.6    9823  1391.6  9823.1
GR1389.7    9833  1389.7  9833.1  1389.7    9837  1385.5    9851    1384    9900
GR1385.8    9904  1385.8    9909  1385.8  9909.1  1386.6    9919  1386.6  9919.1
GR1386.6    9962  1380.0    9985  1380.0  9985.1  1380.0    9995    1380  9995.1
GR1378.4    9997  1380.2   10011  1382.2   10018  1384.2   10050  1386.8   10053
GR1387.9   10065  1387.9 10065.1  1390.7   10075  1390.7 10075.1  1392.3   10091
GR1423.8 10149.9  1426.0 10150.0  1427.0 10150.1
ET32.993             7.1                          9816   10093
X132.993                              45      45      45
X2     0       0       0       0       0       0       1       0       0       0
ET32.998             7.1                          9842   10109
X132.998     9.0    9851   10108      27      27      27
GR1434.1  9610.0  1433.1  9762.0  1389.0  9851.0  1386.3  9920.0  1381.4 10000.0
GR1393.1 10108.0  1413.1 10164.0  1417.9 10358.0  1440.7 10405.0
NC  .045    .045    .050
ET 33.06             7.1                          9729   10090
X1 33.06    10.0    9885   10083     275     330     320
GR1433.2  9430.0  1434.4  9648.0  1383.1  9755.0  1386.0  9885.0  1384.0  9965.0
GR1385.8 10000.0  1394.7 10083.0  1412.4 10166.0  1412.2 10236.0  1461.2 10364.0
ET 33.12             7.1                          9600   10090
X1 33.12    12.0    9817   10089     260     330     320
GR1436.1  9300.0  1435.4  9426.0  1426.7  9493.0  1384.4  9559.0  1384.2  9612.0
GR1386.6  9690.0  1386.9  9817.0  1385.4  9947.0  1384.4 10000.0  1388.0 10089.0
GR1422.1 10150.0  1448.5 10215.0
ET 33.19             7.1                          9440   10029
X1 33.19    10.0    9805 10028.0     290     350     350
GR1437.2  9055.0  1435.6  9224.0  1387.3  9371.0  1386.4  9418.0  1389.9  9502.0
GR1390.3  9651.0  1389.5  9805.0  1385.8 10000.0  1400.0 10028.0  1455.1 10136.0
ET 33.25     9.1     7.1                          9600   10099    9700   10200
X1 33.25    14.0    9870   10098     310     320     315
GR1437.7  9075.0  1418.5  9151.0  1417.4  9211.0  1434.6  9275.0  1425.7  9365.0
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GR1385.6  9455.0  1390.4  9589.0  1392.2  9739.0  1391.2  9870.0  1385.2 10000.0
GR1398.0 10098.0  1407.1 10225.0  1412.2 10344.0  1438.7 10448.0
ET 33.29     9.1     7.1                            9740   10059    9750   10100
X1 33.29    14.0    9872   10058     215     250     235
GR1440.1  9130.0  1437.9  9172.0  1419.1  9296.0  1402.4  9445.0  1389.6  9530.0
GR1389.7  9723.0  1393.2  9872.0  1390.5  9975.0  1380.3 10000.0  1398.2 10058.0
GR1405.1 10189.0  1407.5 10322.0  1402.8 10386.0  1435.3 10459.0
ET 33.30             7.1                            9786   10091
X1 33.30    13.0    9818   10090      50      50      50
GR1441.0  9115.0  1435.0  9249.0  1417.5  9395.0  1406.4  9506.0  1399.7  9641.0
GR1396.2  9818.0  1387.9  9858.0  1380.4 10000.0  1399.7 10090.0  1407.2 10248.0
GR1415.4 10343.0  1413.0 10361.0  1420.0 10450.0
ET 33.36             7.1                            9848   10327
X1 33.36    16.0    9849   10087     230     305     305
GR1446.5  9535.0  1437.7  9580.0  1436.0  9678.0  1437.9  9714.0  1418.4  9849.0
GR1381.9  9963.0  1381.9 10000.0  1381.9 10036.0  1402.2 10087.0  1396.9 10167.0
GR1389.3 10260.0  1400.9 10353.0  1406.8 10493.0  1427.4 10566.0  1424.9 10609.0
GR1439.9 10650.0
ET 33.41             7.1                            9943   10367
X1 33.41    12.0    9944   10366     250     335     275
GR1448.1  9750.0  1426.7  9864.0  1408.3  9944.0  1386.9 10000.0  1389.1 10157.0
GR1406.8 10366.0  1404.5 10483.0  1409.5 10576.0  1422.7 10626.0  1423.4 10668.0
GR1433.5 10685.0  1437.7 10687.0
QT     2    9000    9000
ET 33.46     9.1     7.1                            9880   10230    9670   10368
X1 33.46    15.0    9881   10186     250     355     275
GR1448.8  9670.0  1446.4  9707.0  1409.3  9812.0  1405.4  9881.0  1381.9  9969.0
GR1381.9 10000.0  1381.9 10036.0  1392.5 10078.0  1397.0 10186.0  1409.6 10368.0
GR1409.0 10422.0  1396.9 10499.0  1408.2 10645.0  1420.2 10700.0  1420.3 10726.0
ET 33.54             7.1                            9851   10230
X1 33.54    15.0    9852   10229     390     410     400
GR1447.6  9735.0  1406.1  9852.0  1384.4  9974.0  1384.4 10000.0  1384.4 10025.0
GR1393.5 10087.0  1398.7 10160.0  1410.4 10229.0  1408.0 10299.0  1411.9 10394.0
GR1409.1 10472.0  1410.8 10564.0  1427.2 10627.0  1436.0 10700.0  1439.4 10747.0
ET 33.63             7.1                            9856   10141
X1 33.63     9.0    9857   10140     525     475     510
GR1461.1  9715.0  1406.1  9857.0  1390.8  9961.0  1384.0  9979.0  1384.0 10000.0
GR1404.5 10140.0  1410.0 10280.0  1417.6 10394.0  1450.8 10580.0
ET 33.73             7.1                            9803   10110
X1 33.73    12.0    9922   10103     500     480     490
GR1442.7  9700.0  1397.2  9814.0  1397.6  9855.0  1409.0  9922.0  1391.0  9990.0
GR1390.5 10000.0  1397.0 10103.0  1411.9 10246.0  1422.7 10303.0  1410.5 10352.0
GR1426.9 10398.0  1446.2 10468.0
ET 33.82             7.1                            9708   10069
X1 33.82    20.0    9861   10068     500     500     500
GR1454.2  9465.0  1454.2  9506.0  1434.5  9527.0  1434.5  9538.0  1450.5  9565.0
GR1408.8  9662.0  1402.1  9714.0  1409.2  9795.0  1417.1  9861.0  1387.4  9966.0
GR1387.4 10000.0  1387.4 10023.0  1405.9 10068.0  1408.6 10117.0  1426.7 10204.0
GR1425.4 10292.0  1433.9 10347.0  1428.1 10416.0  1427.2 10466.0  1450.9 10600.0
EJ
T1 AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY
T1 PREPARED FOR THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC #95-05)
T1 PREPARED BY COE & VAN LOO CONSULTANTS, INC. (CVL #95-0067-01)
T2 AGUA FRIA RIVER, GILA RIVER TO THE NEW WADDELL DAM
T3 100-YEAR EVENT     FLOODWAY CONDITION              FILE NAME - H2REACH1
J1     0       3       0       0   0.003       0       0       0  917.21       0
J2     2       0      -1       0       0       0      -1       0       0       0


ER
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EXHIBIT 7

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C
C     25
C   6.43 AGUA FRIA DETAILED FDR PREPARED FOR THE FLOOD CONTROL DISTRICT OF
C   6.43 MARICOPA COUNTY BY COE & VAN LOO CONSULTANTS, INC., 1996.
C   6.43 THE CONTROL LINE ON THE MAIN CHANNEL OF THE AGUA FRIA RIVER IS
C   6.43 STATION 10,000. ALL SECTIONS ARE STATIONED IN RIVER MILES FROM THE
C   6.43 CONFLUENCE WITH THE GILA RIVER. ENCROACHMENT CARDS (ET) WERE USED
C   6.43 IN SOME CASES TO BETTER MODEL DEAD OR NON-EFFECTIVE FLOW AREAS.
C   6.43 CONSEQUENTLY, "SSTA" AND "ENDST" DO NOT REPRESENT THE ACTUAL FLOODING
C   6.43 LIMITS, AND THE DELINEATION WAS ESTABLISHED BASED ON THE CROSS SECTION
C   6.43 POINT ELEVATIONS AND THE TOPOGRAPHY. IN SOME CASES "TOPWID" DOES NOT
C   6.43 REPRESENT THE FULL WIDTH OF THE FLOODPLAIN DUE TO NON-EFFECTIVE FLOW
C   6.43 AREAS OR LOW ISLANDS WITHIN THE FLOODPLAIN. THE RUN WAS STARTED BASED
C   6.43 SLOPE-AREA METHOD. THE HIGH WATER IN THE GILA RIVER WAS NOT USED TO
C   6.43 START THE RUN, DUE TO THE DIFFERENCE IN THE TIME TO PEAK.
C   6.43 ENCROACHMENTS ARE PLACED ON THE UPSTREAM SECTION OF THE BRIDGES TO
C   6.43 REPRESENT THE 1:1 CONTRACTION OF FLOW. IN ADDITION, ENCROACHMENTS ARE
C   6.43 PLACED ON THE DOWNSTREAM SECTION OF THE BRIDGES TO REPRESENT THE 4:1
C   6.43 EXPANSION OF FLOW.
C  8.000     ******************************
C  8.000     ***** INDIAN SCHOOL ROAD ****
C  8.000     ***** LOW CHORD = 1013.3 ****
C  8.000     ******************************
C  9.177     ******************************
C  9.177     ***** CAMELBACK ROAD ********
C  9.177     ***** LOW CHORD = 1027.5 ****
C  9.177     ******************************
T1 AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY
T1 PREPARED FOR THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC #95-05)
T1 PREPARED BY COE & VAN LOO CONSULTANTS, INC. (CVL #95-0067-01)
T1 *
T1 ***************************************************************************
T1 MODIFIED BY SIMONS, LI & ASSOCIATES FOR THE FLOOD CONTROL DISTRICT OF
T1 MARICOPA COUNTY, SEPTEMBER 23, 1997.
T1 ***************************************************************************
T1 *
T2 AGUA FRIA RIVER, GILA RIVER TO THE NEW WADDELL DAM
T3 100-YEAR EVENT    CAMELBACK LEVEE PHASE I              FILE NAME - CBLP1.DAT
J1     0       2       0       0       0       0       0       0  989.00       0
J2     1       0      -1       0       0       0      -1       0       0      15
J3    38      43       1       8       3       2      26       5      39      53
J3     4      54      37             200
*
* START OF REVISED HYDRAULIC MODEL, 9/23/97.
*
NC   .04     .04     .03     0.1     0.3
QT     2   54400   54400
X1 6.430    20.0  9452.0 10537.0     510     380     445
GR 996.1  9390.0   991.8  9409.0   991.6  9433.0   996.5  9443.0   996.5  9452.0
GR 984.1  9467.0   984.0  9528.0   984.3  9631.0   984.3  9768.0   984.1  9894.0
GR 983.2  9980.0   981.0 10000.0   981.0 10057.0   981.3 10156.0   981.9 10213.0
GR 983.2 10232.0   983.2 10359.0   982.5 10519.0   996.1 10537.0   996.1 10550.0
X1 6.520    18.0  9459.0 10571.0     510     370     440
GR 997.6  9431.0   997.6  9459.0   984.0  9479.0   983.6  9542.0   983.6  9640.0
GR 983.6  9770.0   983.6  9903.0   983.4 10000.0   983.4 10058.0   981.6 10077.0
GR 981.5 10167.0   981.6 10283.0   982.4 10298.0   982.4 10393.0   982.2 10512.0
GR 982.3 10558.0   997.6 10571.0   997.6 10589.0
X1 6.540    25.0  9462.0 10583.0     100      75      90
GR 997.9  9436.0   997.9  9462.0   984.9  9481.0   984.9  9553.0   992.8  9564.0
GR 992.8  9574.0   990.9  9580.0   990.9  9631.0   993.7  9641.0   993.8  9653.0
GR 984.3  9670.0   984.3  9746.0   984.1  9830.0   984.1  9939.0   984.1 10000.0
GR 983.9 10063.0   982.4 10082.0   982.4 10163.0   982.4 10292.0   983.4 10306.0
GR 983.1 10364.0   983.1 10506.0   983.1 10563.0   997.5 10583.0   997.5 10595.0
X1 6.560    17.0  9462.0 10591.0     115      85     100
GR 998.1  9440.0   998.1  9462.0   985.1  9482.0   985.0  9547.0   985.0  9657.0
GR 984.5  9764.0   983.6  9848.0   983.6  9941.0   983.6 10000.0   983.6 10073.0
GR 982.6 10089.0   982.6 10171.0   982.1 10300.0   983.0 10319.0   983.0 10433.0
GR 983.0 10570.0   997.7 10591.0
X1 6.590    18.0  9454.0 10584.0     165     155     150
GR 998.5  9441.0   998.5  9454.0   984.0  9471.0   983.7  9532.0   983.8  9661.0
GR 984.2  9769.0   983.9  9852.0   983.6  9964.0   983.6 10000.0   983.6 10058.0
GR 981.8 10078.0   981.8 10175.0   981.8 10288.0   983.0 10304.0   983.0 10405.0
GR 983.2 10564.0   998.0 10584.0   998.0 10596.0
X1 6.610    24.0  9439.0 10570.0     115      85     100
GR 998.8  9428.0   998.8  9439.0   985.3  9456.0   985.3  9540.0   985.3  9654.0
GR 985.1  9784.0   984.0  9858.0   994.7  9870.0   994.7  9883.0   990.1  9890.0
GR 990.1  9939.0   995.4  9950.0   995.4  9959.0   984.3  9976.0   984.3 10000.0
GR 984.0 10049.0   981.9 10063.0   981.8 10154.0   981.8 10279.0   983.7 10291.0
GR 983.8 10364.0   983.8 10555.0   998.2 10570.0   998.2 10584.0
X1 6.640    16.0  9445.0 10575.0     165     135     150
GR 999.3  9435.0   999.3  9445.0   985.5  9462.0   985.5  9574.0   984.5  9697.0
GR 984.3  9837.0   984.3 10000.0   984.2 10036.0   982.4 10053.0   982.4 10128.0
GR 982.4 10266.0   984.2 10280.0   984.2 10397.0   984.2 10558.0   998.4 10575.0
GR 998.4 10591.0
X1 6.660    21.0  9466.0 10599.0     150     120     135
GR 999.6  9455.0   999.6  9466.0   985.7  9484.0   985.7  9553.0   985.7  9682.0
GR 985.7  9830.0   985.3  9951.0   985.0 10000.0   985.0 10041.0   982.2 10057.0
GR 982.2 10126.0   982.2 10238.0   982.2 10265.0   984.6 10282.0   984.7 10388.0
GR 988.7 10400.0   989.9 10445.0   984.7 10459.0   984.7 10579.0   999.0 10599.0
GR 999.0 10608.0
X1 6.690    17.0  9451.0 10585.0     145     100     125
GR1000.0  9442.0  1000.0  9451.0   985.4  9472.0   985.4  9554.0   985.4  9692.0
GR 985.3  9832.0   985.3  9934.0   984.9 10000.0   982.6 10017.0   982.6 10102.0
GR 982.2 10235.0   983.9 10255.0   984.0 10345.0   984.0 10490.0   984.3 10564.0
GR 998.8 10585.0   998.8 10598.0
X1 6.710    24.0  9452.0 10585.0     130     115     125
GR1000.3  9441.0  1000.3  9452.0   984.3  9474.0   984.3  9574.0   984.5  9690.0
GR 984.5  9833.0   993.8  9846.0   994.6  9862.0   992.7  9868.0   992.9  9918.0
GR 995.5  9928.0   995.5  9936.0   985.7  9951.0   985.2  9979.0   981.5  9997.0
GR 981.5 10000.0   981.5 10111.0   981.5 10201.0   983.6 10225.0   983.7 10320.0
GR 984.2 10462.0   984.3 10562.0   999.1 10585.0   999.1 10594.0
X1 6.730    18.0  9452.0 10584.0     110     110     110
GR1000.5  9442.0  1000.5  9452.0   985.1  9470.0   985.0  9536.0   985.0  9650.0
GR 985.0  9792.0   984.8  9898.0   984.8  9943.0   982.4  9962.0   982.4 10000.0
GR 982.4 10073.0   982.4 10180.0   984.0 10202.0   984.3 10322.0   984.7 10491.0
GR 984.7 10563.0   999.3 10584.0   999.3 10596.0
X1 6.770    18.0  9443.0 10574.0     215     245     230
GR1002.1  9430.0  1002.1  9443.0   987.9  9463.0   988.1  9523.0   988.6  9649.0
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GR 988.6  9757.0   985.6  9777.0   985.5  9916.0   985.2  9978.0   985.1 10000.0
GR 985.1 10034.0   987.4 10086.0   987.6 10180.0   987.8 10289.0   988.0 10428.0
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X1 6.790    23.0  9444.0 10573.0     110     110     110
GR1002.9  9429.0  1002.9  9444.0   988.8  9462.0   988.8  9545.0   987.7  9672.0
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GR 987.5 10091.0   998.1 10103.0   998.1 10117.0   996.1 10126.0   996.2 10178.0
GR 998.5 10184.0   998.5 10191.0   987.8 10209.0   987.8 10320.0   987.8 10455.0
GR 988.1 10555.0  1002.2 10573.0  1002.2 10585.0
X1 6.820    17.0  9444.0 10573.0     115     115     115
GR1002.7  9434.0  1002.7  9444.0   989.2  9465.0   987.3  9582.0   985.9  9607.0
GR 985.7  9745.0   985.9  9860.0   984.8  9990.0   984.8 10000.0   985.9 10065.0
GR 988.4 10076.0   988.4 10157.0   988.0 10268.0   988.0 10400.0   988.0 10557.0
GR1001.0 10573.0  1001.0 10591.0
X1 6.890    16.0  9439.0 10577.0     365     365     365
GR1004.2  9428.0  1004.2  9439.0   989.9  9461.0   989.9  9574.0   989.9  9700.0
GR 989.8  9818.0   989.4  9954.0   989.4  9973.0   989.4 10000.0   989.4 10039.0
GR 989.4 10132.0   989.4 10266.0   989.4 10427.0   989.4 10558.0  1002.7 10577.0
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X1 6.910    17.0  9430.0 10579.0     105     115     110
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GR1002.7 10579.0  1002.7 10589.0
X1 6.930    17.0  9413.0 10573.0     105     105     105
GR1004.8  9405.0  1004.8  9413.0   999.9  9417.0   999.9  9426.0   989.9  9442.0
GR 989.9  9572.0   989.9  9706.0   990.0  9833.0   990.1  9955.0   989.9 10000.0
GR 989.9 10053.0   989.9 10201.0   989.9 10359.0   990.1 10545.0   990.9 10558.0
GR1003.9 10573.0  1003.9 10582.0
X1 6.970    15.0  9405.0 10570.0     220     240     230
GR1004.1  9395.0  1004.2  9405.0   991.7  9423.0   991.3  9444.0   990.4  9703.0
GR 990.4  9859.0   990.4 10000.0   990.4 10050.0   990.4 10156.0   990.4 10291.0
GR 990.4 10417.0   990.4 10542.0   991.7 10552.0  1004.6 10570.0  1004.6 10583.0
X1 6.990    19.0  9400.0 10559.0      95     115     105
GR1003.3  9393.0  1003.4  9400.0   997.4  9411.0   997.3  9418.0   991.4  9429.0
GR 991.4  9534.0   991.1  9695.0   991.1  9871.0   991.1 10000.0   991.1 10072.0
GR 991.2 10186.0   991.3 10300.0   998.4 10313.0   998.4 10323.0   998.4 10404.0
GR 990.2 10418.0   990.2 10540.0  1003.5 10559.0  1004.0 10574.0
X1 7.020    16.0  9433.0 10570.0     120     130     125
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GR 991.1  9854.0   989.1  9913.0   990.1  9991.0   990.1 10000.0   990.1 10068.0
GR 990.7 10175.0   991.3 10301.0   990.6 10427.0   990.5 10549.0  1004.0 10570.0
GR1004.0 10583.0
X1 7.060    15.0  9442.0 10559.0     210     235     225
GR1005.0  9419.0  1006.0  9442.0   993.3  9467.0   992.3  9545.0   992.1  9691.0
GR 990.7  9877.0   989.6  9894.0   990.1 10000.0   990.1 10124.0   991.5 10151.0
GR 991.9 10259.0   991.8 10389.0   991.8 10543.0  1004.8 10559.0  1004.8 10571.0
X1 7.080    18.0  9440.0 10563.0     110     110     110
GR1006.6  9440.0  1006.5  9456.0   991.7  9475.0   991.7  9583.0   991.7  9730.0
GR 991.7  9878.0   990.5  9895.0   990.5  9985.0   990.5 10000.0   990.5 10133.0
GR 992.2 10156.0   992.1 10278.0  1000.4 10293.0  1000.4 10375.0   991.7 10388.0
GR 991.7 10548.0  1005.6 10563.0  1005.6 10578.0
X1 7.100    15.0  9440.0 10543.0     125     125     125
GR1006.2  9427.0  1006.3  9440.0   993.4  9459.0   993.4  9562.0   993.2  9687.0
GR 992.4  9860.0   990.9  9879.0   990.9 10000.0   991.0 10115.0   993.1 10133.0
GR 993.4 10239.0   993.0 10375.0   992.2 10527.0  1006.1 10543.0  1006.1 10555.0
X1 7.200    16.0  9474.0 10558.0     515     490     500
GR1006.9  9461.0  1006.9  9474.0   991.9  9491.0   991.9  9591.0   992.5  9703.0
GR 992.5  9866.0   990.7  9888.0   991.7  9994.0   991.7 10000.0   991.7 10121.0
GR 993.0 10133.0   993.2 10236.0   993.2 10374.0   993.2 10534.0  1007.2 10558.0
GR1007.5 10578.0
X1 7.290    15.0  9456.0 10529.0     490     510     500
GR1008.9  9456.0  1008.9  9473.0   994.9  9490.0   994.7  9578.0   994.6  9691.0
GR 994.5  9806.0   993.4  9889.0   993.2 10000.0   993.2 10077.0   993.9 10117.0
GR 994.0 10230.0   994.0 10371.0   994.0 10488.0  1009.1 10529.0  1009.1 10546.0
X1 7.390    16.0  9499.0 10536.0     500     495     495
GR1008.8  9484.0  1008.8  9499.0   994.4  9516.0   993.9  9614.0   993.8  9735.0
GR 994.2  9841.0   994.8  9894.0   994.4  9985.0   994.2 10000.0   994.2 10064.0
GR 994.8 10155.0   994.8 10289.0   995.3 10433.0   995.4 10489.0  1009.9 10536.0
GR1009.9 10556.0
X1 7.490    13.0  9509.0 10525.0     575     515     515
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GR 995.5  9871.0   995.3 10000.0   995.3 10064.0   995.4 10173.0   995.7 10289.0
GR 995.7 10474.0  1010.9 10525.0  1010.9 10541.0
X1 7.580    14.0  9499.0 10529.0     540     405     480
GR1010.3  9499.0   996.5  9536.0   995.9  9644.0   995.4  9797.0   995.4  9949.0
GR 995.4 10000.0   995.4 10048.0   995.4 10190.0   995.4 10311.0   995.4 10387.0
GR 996.7 10447.0  1006.7 10499.0  1010.9 10529.0  1011.0 10544.0
X1 7.670    10.0  9515.0 10552.0     480     530     510
X3    10
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GR 994.7 10000.0   995.0 10281.0   994.6 10496.0  1010.1 10552.0  1010.1 10575.0
X1 7.770    10.0  9490.0 10556.0     510     500     500
X3    10
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GR 996.4 10000.0   996.4 10242.0   996.1 10496.0  1010.9 10556.0  1010.9 10577.0
X1 7.870    32.0  9450.0 10589.0     650     410     500
X3    10
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X1 7.960    30.0  9337.0 10669.0     460     470     470
X3    10
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GR1000.3 10640.0  1000.3 10655.0  1012.4 10669.0  1011.8 10711.0  1014.8 10765.0
X1 7.990    37.0  9293.0 10732.0     175     175     175
X3    10
GR1012.2  8010.0  1013.2  8065.0  1014.0  8150.0  1012.5  8436.0  1010.7  8709.0
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GR 999.1 10000.0   999.1 10303.0   999.3 10681.0  1014.8 10732.0  1017.3 10907.0
GR1010.5 10932.0  1010.0 11152.0  1015.2 11167.0  1015.2 11213.0  1007.3 11242.0
GR1007.1 11529.0  1007.2 11773.0  1006.9 11957.0  1007.1 12138.0  1007.1 12341.0
GR1006.9 12504.0  1009.2 12604.0  1009.9 12677.0  1014.2 12703.0  1015.0 12810.0
GR1016.3 12943.0  1016.3 12959.0
NC                          .3      .5
X1 8.000      85  9235.5  10725.     50      50      50
BT    68  9235.4  1021.3  1021.3  9235.5  1021.3  1013.3  9271.2  1021.3  1013.3
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BT1013.3  9902.9  1021.3  1013.3  9903.0  1021.3   999.2  9917.0  1021.3   999.2
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BT 999.2 10097.0  1021.3   999.2 10097.1  1021.3  1013.3 10172.9  1021.3  1013.3
BT10173.  1021.3   999.2 10187.0  1021.3   999.2 10187.1  1021.3  1013.3 10262.9
BT1021.3  1013.3 10263.0  1021.3   999.2 10277.0  1021.3   999.2 10277.1  1021.3
BT1013.3 10352.8  1021.3  1013.3 10352.9  1021.3   999.2 10366.9  1021.3   999.2
BT10367.  1021.3  1013.3 10442.9  1021.3  1013.3 10443.0  1021.3   999.2 10457.0
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BT 999.2 10547.0  1021.3   999.2 10547.1  1021.3  1013.3 10622.9  1021.3  1013.3
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GR 999.2  9285.3   999.2  9285.4   999.2  9362.9   999.2  9363.0   999.2  9377.0
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GR 999.2  9542.9   999.2  9543.0   999.2  9557.0   999.2  9557.1   999.2  9632.9
GR 999.2  9633.0   999.2  9647.0   999.2  9647.1   999.2  9722.9   999.2  9723.0
GR 999.2  9737.0   999.2  9737.1   999.2  9812.9   999.2  9813.0   999.2  9827.0
GR 999.2  9827.1   999.2  9902.9   999.2  9903.0   999.2  9917.0   999.2  9917.1
GR 999.2  9992.9   999.2  9993.0   999.2 10007.0   999.2 10007.1   999.2 10082.9
GR 999.2 10083.0   999.2 10097.0   999.2 10097.1   999.2 10172.9   999.2 10173.0
GR 999.2 10187.0   999.2 10187.1   999.2 10262.9   999.2 10263.0   999.2 10277.0
GR 999.2 10277.1   999.2 10352.8   999.2 10352.9   999.2 10366.9   999.2 10367.0
GR 999.2 10442.9   999.2 10443.0   999.2 10457.0   999.2 10457.1   999.2 10532.9
GR 999.2 10533.0   999.2 10547.0   999.2 10547.1   999.2 10622.9   999.2 10623.0
GR 999.2 10637.0   999.2 10637.1   999.2 10697.5  1013.3 10725.0  1021.3 10725.1
GR1018.6 10725.2  1016.4 10735.0  1017.3 10914.0  1016.9 11234.0  1012.8 11759.0
GR1013.2 12195.0  1013.8 12510.0  1014.9 12742.0  1016.1 13028.0  1018.6 13458.0
X1 8.010       0                     75      75      75
X2                                                  1
NC  .040    .040    .030      .1      .3
ET 8.030     9.1     9.1                                                9440   10904
X1 8.030      94  9441.4 10903.2     50      50      50
GR1011.7  8710.5  1012.8  8718.2  1013.7  8732.5  1013.6  8744.9  1016.9  8752.5
GR1016.5  8856.3  1014.7  8904.7  1011.3  8954.7  1010.4  9004.7  1009.5  9099.6
GR1009.4  9154.7  1011.8  9200.0  1011.6  9204.3  1018.9  9237.5  1014.1  9397.9
GR1015.3  9413.3  1012.7  9430.3  1009.8  9441.4  1004.9  9455.1  1001.6  9461.7
GR1000.9  9490.5  1000.4  9495.2  1000.5  9505.4  1001.2  9512.6  1001.1  9554.9
GR1002.2  9591.9  1004.8  9620.1  1001.7  9628.2   999.2  9638.0  1000.1  9699.2
GR1005.0  9715.3  1003.6  9733.5  1003.6  9744.0  1002.6  9751.5  1001.4  9804.9
GR1001.7  9853.5  1002.3  9862.5  1001.8  9871.1  1002.3  9882.1  1001.3  9889.3
GR 999.6 10018.0  1000.4 10058.4  1001.9 10071.8  1002.1 10133.7  1001.2 10162.3
GR1002.5 10182.5  1000.9 10355.1  1001.5 10362.3  1000.8 10682.3  1000.3 10855.3
GR 999.9 10860.2  1000.6 10875.4  1013.0 10903.2  1013.1 10905.8  1015.5 10910.0
GR1014.9 10917.6  1015.0 10957.1  1015.6 10985.7  1021.7 10997.8  1019.0 11007.8
GR1016.2 11028.0  1019.4 11045.0  1018.5 11058.5  1020.0 11111.7  1021.3 11134.3
GR1021.4 11247.1  1020.8 11271.9  1021.0 11291.7  1020.1 11305.4  1020.8 11315.4
GR1021.2 11342.9  1020.1 11357.0  1019.9 11405.4  1020.3 11416.6  1018.2 11423.7
GR1018.0 11445.1  1018.8 11456.4  1012.3 11470.5  1008.8 11479.6  1007.7 11555.5
GR1008.3 11805.6  1008.9 11810.7  1008.1 11905.6  1008.5 12103.4  1009.9 12109.8
GR1009.1 12115.7  1008.1 12368.4  1008.7 12390.2  1011.4 12395.9  1012.5 12409.6
GR1013.7 12413.9  1014.6 12465.5  1013.6 12563.0  1014.3 12651.6
*  END LEFT LEVEE SECTION 8.105
ET 8.105     9.1     7.1                                 9470   10980    9381   10980
X1 8.105      91  9493.9 10978.6    280     620  397.59
GR1015.2  8211.4  1015.3  8277.1  1010.8  8330.6  1009.3  8341.9  1009.3  8372.5
GR1011.2  8392.0  1011.2  8467.9  1009.9  8559.8  1009.8  8618.0  1009.3  8629.1
GR1008.8  8657.4  1008.1  8664.5  1006.7  8671.1  1005.9  8676.7  1005.3  8685.7
GR1008.0  8694.0  1007.4  8712.9  1007.2  8759.6  1007.6  8767.4  1007.3  8945.8
GR1007.7  8986.4  1007.0  9027.6  1006.6  9098.5  1006.1  9130.7  1007.5  9189.4
GR1011.7  9241.0  1013.1  9281.5  1014.3  9352.7  1015.1  9381.7  1004.4  9401.0
GR1002.0  9404.5  1002.1  9413.6  1000.7  9416.1  1000.8  9423.2  1002.3  9432.7
GR1001.8  9493.9  1001.9  9540.9  1001.0  9545.5  1000.9  9563.5  1001.1  9565.1
GR1001.5  9581.8  1002.2  9583.6  1002.9  9587.6  1002.8  9594.1  1003.1  9599.5
GR1004.8  9613.8  1002.9  9623.8  1001.5  9649.6  1002.2  9701.5  1001.6  9791.9
GR1002.5  9801.8  1002.6  9835.3  1001.6  9840.4  1001.1  9856.5  1003.0  9863.7
GR1001.8  9909.1  1002.1  9961.6  1002.0  9995.6  1001.0 10012.9  1000.7 10057.2
GR1000.8 10168.4  1000.5 10169.9  1002.7 10181.4  1003.2 10220.5  1002.5 10428.1
GR1001.9 10536.6  1002.1 10732.3  1001.6 10813.5  1001.7 10895.2  1000.8 10949.7
GR1001.5 10964.0  1014.4 10978.6  1014.9 10997.9  1001.1 11037.6  1000.5 11077.1
GR1001.9 11081.4  1003.0 11094.1  1002.0 11108.9  1001.7 11110.1  1005.8 11120.6
GR1010.4 11129.8  1008.8 11140.0  1008.9 11273.0  1008.4 11417.4  1009.5 11426.7
GR1008.8 11471.3  1010.6 11534.8  1011.0 11604.6  1010.7 11613.6  1009.8 11618.7
GR1009.6 11624.4
ET 8.198     9.1     9.1                                                9458.6 10971.1
X1 8.198      92  9458.7 10971.0    420     620  490.43
GR1013.7  7538.8  1013.7  7659.7  1013.0  7679.9  1012.1  7681.9  1012.2  7702.4
GR1009.4  7704.2  1009.4  7707.5  1011.7  7718.2  1011.0  7757.7  1010.6  7818.7
GR1009.9  7842.6  1009.7  7956.3  1010.5  8028.5  1010.8  8229.1  1011.2  8250.2
GR1011.0  8283.7  1011.2  8445.3  1011.6  8447.8  1011.8  8453.3  1011.5  8465.8
GR1010.7  8469.4  1010.2  8484.3  1010.7  8495.1  1011.0  8542.9  1009.4  8558.4
GR1007.8  8568.0  1007.4  8575.1  1007.6  8611.0  1006.2  8674.1  1006.4  8788.0
GR1005.6  8837.3  1005.5  8883.8  1004.3  8938.3  1004.6  9047.4  1003.7  9102.0
GR1003.1  9193.7  1003.0  9320.6  1003.2  9389.6  1016.4  9413.0  1016.7  9455.0
GR1014.9  9458.7  1006.2  9474.2  1003.0  9479.0  1002.7  9484.7  1003.3  9489.8
GR1002.2  9512.1  1002.6  9529.9  1004.0  9536.6  1003.7  9541.4  1003.4  9592.1
GR1004.0  9620.4  1004.1  9647.5  1003.4  9715.0  1002.5  9730.9  1002.0  9756.6
GR1003.0  9851.4  1002.2  9972.1  1002.5  9983.7  1002.0 10053.3  1001.5 10071.8
GR1002.5 10093.2  1003.1 10143.0  1002.7 10193.2  1003.7 10230.0  1002.2 10240.8
GR1001.9 10266.0  1003.7 10292.6  1003.3 10497.1  1002.8 10629.5  1003.2 10847.7
GR1003.0 10958.7  1015.8 10971.0  1015.7 10984.6  1015.3 10990.1  1011.0 11007.3
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GR1010.7 11051.4  1010.2 11065.9  1010.6 11074.9  1010.2 11120.5  1010.3 11154.3
GR1009.3 11167.8  1009.5 11177.5  1007.9 11194.6  1007.4 11229.6  1007.8 11253.3
GR1011.7 11279.9  1012.3 11327.5  1011.2 11391.5  1012.2 11447.8  1012.1 11502.4
GR1012.9 11568.6  1013.0 11705.6
*  END RIGHT LEVEE SECTION 8.325
*
*  Start of levee incorporation. No change at this cross section.
*
NC  .040    .040    .035
ET 8.325     9.1     7.1                            9480   10990  9479.9 11053.1
X1 8.325      92  9480.0 10949.9     645     705  668.82
GR1015.3  6600.1  1014.6  6655.8  1015.0  6663.3  1014.8  6675.4  1013.7  6675.8
GR1009.9  6684.3  1010.0  6694.9  1011.6  6701.8  1014.5  6711.0  1012.5  6725.0
GR1012.8  6732.9  1009.6  6773.6  1009.5  6837.0  1012.4  6859.8  1012.3  6903.7
GR1014.8  6917.9  1011.7  6948.6  1011.9  6977.1  1010.9  7004.1  1011.1  7222.0
GR1011.2  7261.3  1012.3  7279.9  1011.6  7284.0  1012.0  7300.9  1012.9  7308.7
GR1011.7  7393.0  1014.3  7409.1  1012.7  7419.8  1011.4  7424.2  1011.0  7555.9
GR1011.5  7664.8  1011.0  7705.5  1010.4  7715.3  1010.7  7825.2  1011.6  7831.9
GR1010.8  7850.5  1011.2  7898.1  1012.1  7902.3  1011.7  7910.0  1010.1  7919.9
GR1012.2  8164.7  1012.3  8353.8  1011.4  8392.6  1011.1  8615.5  1006.9  8835.6
GR1006.2  8914.6  1006.2  8962.5  1004.6  9026.8  1004.1  9113.8  1004.7  9148.5
GR1004.0  9225.0  1005.3  9336.3  1005.6  9423.4  1020.7  9444.8  1020.9  9468.5
GR1017.9  9472.2  1013.1  9480.0  1010.0  9483.5  1006.6  9491.1  1005.7  9507.2
GR1006.8  9513.0  1005.9  9517.6  1005.3  9553.1  1007.0  9558.9  1005.5  9572.4
GR1004.8  9589.2  1002.1  9603.3  1002.6  9761.4  1003.7  9776.2  1004.9  9804.7
GR1004.2  9892.7  1004.9  9969.2  1005.8 10170.9  1005.7 10393.5  1005.5 10562.5
GR1005.0 10746.6  1005.6 10896.0  1005.3 10922.7  1004.4 10932.4  1005.1 10947.0
GR1004.7 10949.9  1005.2 11032.4  1018.0 11053.0  1016.5 11129.1  1017.1 11139.7
GR1016.3 11344.8  1015.9 11561.9  1015.1 11611.0  1015.6 11784.5  1015.1 12056.0
GR1015.4 12203.0  1015.0 12332.0
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 8.433     9.1     7.1                            9009.5   10975  9009.5   11000
X1 8.433      87  9583.1 10597.5     510     660  572.54
GR1016.6  5737.3  1015.2  5913.0  1011.2  5923.1  1011.2  5929.8  1015.2  5938.3
GR1013.0  6101.5  1013.1  6236.2  1012.0  6437.5  1011.5  6682.9  1010.8  6885.4
GR1011.3  6918.9  1013.3  6929.4  1014.0  6941.7  1012.7  6944.3  1011.1  6952.1
GR1011.1  6957.5  1012.4  6964.4  1010.1  6973.7  1011.4  7022.6  1011.2  7053.6
GR1010.3  7053.9  1010.3  7111.1  1011.8  7151.3  1011.0  7155.6  1012.0  7391.8
GR1011.6  7613.9  1012.1  7874.2  1013.4  8117.3  1013.0  8158.4  1014.3  8163.4
GR1014.4  8173.5  1012.8  8179.0  1013.0  8214.2  1014.4  8284.9  1013.6  8286.3
GR1012.9  8294.9  1014.2  8304.5  1012.9  8390.4  1013.0  8565.3  1008.1  8767.6
GR1006.0  8952.1  1020.6  8973.4  1020.7  9009.5  1006.2  9025.2  1006.9  9130.7
GR1005.9  9153.1  1007.9  9194.9  1009.0  9401.2  1008.8  9516.9  1009.7  9523.9
GR1008.5  9529.4  1008.8  9564.7  1010.0  9583.1  1005.0  9600.1  1005.0  9755.8
GR1006.4  9786.9  1006.6  9828.4  1005.7  9854.9  1007.7  9870.6  1008.1 10010.8
GR1008.3 10123.7  1006.4 10265.7  1006.8 10307.4  1006.3 10480.7  1009.6 10507.5
GR1012.5 10519.8  1013.8 10597.5  1013.5 10766.3  1012.5 10795.4  1013.5 10816.7
GR1011.6 10827.2  1010.6 10883.1  1011.5 10884.0  1011.7 10991.4  1013.3 10999.4
GR1011.9 11154.1  1013.8 11176.2  1014.1 11233.5  1013.1 11268.3  1013.7 11274.5
GR1013.2 11293.3  1012.3 11294.1  1017.5 11322.2  1018.2 11337.1  1017.0 11359.4
GR1015.0 11376.3  1014.8 11586.0
*  GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
*  EFFECTIVE FLOW AREA BETWEEN SECTIONS 8.534 TO 8.875.
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 8.534     9.1     7.1                             8509   10965    8509   11252
X1 8.534      73  9067.4 10611.9     540     525  531.32
GR1016.7  5726.8  1016.6  5763.5  1015.5  5775.8  1014.8  5877.7  1017.3  5885.8
GR1014.2  5891.2  1016.4    5898  1014.5  5927.2  1013.0    6247  1012.6  6548.9
GR1012.5  6732.2  1011.3  6733.8  1011.3  6901.4  1012.5  6958.1  1010.0  6988.5
GR1012.0  6999.2  1012.0  7004.3  1013.9  7010.6  1012.0  7019.3  1011.8  7027.3
GR1013.3  7032.5  1011.6  7034.8  1011.6  7197.8  1014.5  7209.2  1013.3    7225
GR1011.1  7233.8  1011.1  7239.7  1014.1  7245.5  1012.0  7302.1  1012.5  7610.4
GR1013.1    7931  1014.4  8236.4  1014.9  8390.2  1016.3    8399  1015.2  8406.3
GR1014.2    8464  1016.0    8470  1017.7    8509  1013.9  8513.3  1009.9  8638.3
GR1009.6  8679.7  1007.8  8697.3  1008.1  8905.8  1010.6  8914.7  1011.7  8983.8
GR1010.4  9053.5  1013.0  9067.4  1011.8  9146.7    1010  9160.5    1010  9490.1
GR  1010  9495.3    1010  9500.2    1010  9618.6    1010  9636.3    1010  9685.9
GR  1010 10072.1  1011.2 10082.5  1012.0   10395  1012.2 10611.9  1010.2 10765.5
GR1010.9 10786.3  1010.0 10789.7  1008.5 11095.7  1014.8   11122  1016.1 11251.5
GR1015.0 11309.6  1014.9 11425.9  1013.8 11604.2  1020.3   11624  1020.1   11649
GR1011.6 11672.2  1014.1   11684  1013.2 11761.9
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 8.646     9.1     7.1                             8773   10990    8773   11500
X1 8.646      70  9268.7 10600.8     575     600  591.78
GR1020.3  6340.6  1011.7  6380.5  1011.0  6388.0  1011.7  6396.1  1015.7  6417.6
GR1015.9  6445.0  1015.3  6449.8  1017.2  6457.9  1015.1  6463.3  1016.2  6469.7
GR1014.9  6474.9  1014.3  6777.0  1013.6  7077.1  1013.7  7402.3  1013.4  7653.5
GR1015.4  7683.2  1012.5  7688.5  1013.1  7694.1  1015.0  7700.3  1014.1  7761.6
GR1015.5  8095.2  1016.1  8423.2  1016.6  8671.3  1016.0  8681.1  1017.4  8692.3
GR1015.9  8700.1  1015.8  8713.0  1016.3  8715.4  1016.8  8736.5  1014.3  8822.4
GR1010.8  8836.4  1007.8  8844.4  1008.8  8896.3  1009.9  9024.4  1011.0  9071.9
GR1011.0  9123.5  1011.9  9132.4  1012.2  9190.9  1013.4  9215.9  1013.6  9250.3
GR1013.0  9268.7  1010.6  9280.0  1010.6  9560.7  1010.6 10458.1  1012.2 10460.3
GR1013.3 10476.8  1014.6 10600.8  1013.3 10889.3  1011.1 11061.5  1010.4 11076.0
GR1011.0 11142.3  1010.2 11288.1  1017.1 11330.1  1017.1 11397.0  1017.8 11413.4
GR1017.0 11472.0  1017.2 11500.8  1016.4 11515.0  1016.6 11562.3  1017.5 11591.2
GR1015.8 11630.0  1015.2 11660.5  1015.4 11680.8  1020.0 11722.9  1015.9 11831.0
GR1016.0 11907.6  1017.1 11944.5  1015.6 12002.5  1022.8 12022.2  1022.7 12031.8
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 8.768     9.1     7.1                             9065   11105    9065   11500
X1 8.768      73  9584.7 10102.8     620     640  641.67
GR1021.5  6820.4  1020.9  6871.9  1018.3  6891.7  1019.6  6913.5  1019.1  6923.6
GR1016.2  6931.0  1019.3  6940.2  1017.2  7099.1  1014.8  7135.2  1015.0  7168.0
GR1016.7  7199.0  1014.7  7325.5  1015.5  7354.6  1015.1  7667.5  1015.3  8018.9
GR1016.3  8177.8  1017.4  8182.6  1016.2  8185.7  1014.8  8221.7  1016.6  8233.2
GR1016.4  8609.8  1017.3  8912.1  1018.3  8921.6  1017.4  8929.1  1016.3  9053.3
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GR1018.5  9082.6  1017.0  9103.2  1016.2  9147.4  1014.6  9168.7  1011.9  9186.9
GR1010.1  9230.0  1010.6  9376.9  1014.4  9399.6  1015.0  9575.4  1014.3  9584.7
GR1011.7  9596.2  1011.9  9616.7  1014.9  9627.9  1014.2  9882.6  1008.4  9901.1
GR1008.4 10075.9  1015.8 10102.8  1015.6 10460.9  1014.6 10627.3  1013.9 10650.0
GR1013.9 11250.5  1017.1 11275.3  1018.8 11523.5  1017.7 11656.2  1018.3 11826.0
GR1017.7 11888.7  1019.3 11923.5  1018.0 11936.7  1017.8 12001.1  1017.8 12505.3
GR1018.9 12523.0  1018.1 12551.7  1017.8 12561.4  1017.8 12885.4  1027.8 12901.0
GR1028.2 12921.5  1023.3 12934.8  1022.6 12954.5  1017.8 12997.1  1017.8 13068.9
GR1021.4 13136.0  1022.6 13179.3  1028.0 13212.5  1028.2 13251.1  1022.8 13271.3
GR1022.5 13295.0  1026.9 13348.6  1027.0 13388.5
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 8.875     9.1     7.1                                 9404   11295    9404   11500
X1 8.875      79  9641.5 10398.6     570     530  565.21
GR1020.4  6492.6  1019.2  6725.0  1018.5  6925.4  1018.1  7145.0  1017.6  7326.2
GR1017.0  7408.2  1016.1  7412.1  1016.7  7419.3  1016.1  7477.7  1016.4  7711.3
GR1016.7  7927.3  1017.6  8127.7  1017.2  8328.0  1017.8  8528.4  1017.3  8617.9
GR1017.5  8633.8  1018.4  8637.8  1017.7  8642.2  1017.0  8705.4  1017.6  8778.9
GR1017.5  8979.3  1018.2  9179.7  1018.7  9231.7  1020.4  9250.6  1018.9  9256.7
GR1018.6  9277.2  1019.1  9283.7  1018.6  9287.1  1016.6  9336.7  1015.8  9416.6
GR1017.8  9446.4  1017.2  9470.6  1018.1  9540.1  1013.8  9559.1  1012.8  9585.9
GR1013.8  9616.3  1016.3  9641.5  1014.5  9679.2  1014.5  9718.3  1012.6  9729.1
GR1012.2  9760.2  1013.1  9769.7  1013.1  9792.9  1009.1  9811.5  1009.5  9856.2
GR1009.1 10014.4  1015.2 10033.8  1016.0 10148.6  1016.8 10177.4  1017.3 10398.6
GR1017.2 10606.5  1017.2 11316.1  1018.6 11371.3  1020.2 11508.6  1017.3 11625.4
GR1017.9 11724.1  1019.3 11820.7  1019.4 11859.1  1019.0 11881.1  1019.3 11975.9
GR1018.8 12034.4  1018.3 12056.7  1019.3 12092.8  1019.6 12151.2  1020.8 12281.6
GR1019.8 12354.5  1020.0 12384.9  1018.3 12409.3  1018.7 12439.9  1023.9 12473.2
GR1020.6 12496.3  1020.3 12529.8  1022.5 12562.1  1021.8 12579.5  1022.7 12601.1
GR1025.6 12635.2  1026.8 12660.7  1027.8 12709.1  1027.6 12721.7
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 8.992     9.1     7.1                                 9727   11465    9727   11545
X1 8.992      95  9819.1 11458.9     660     470  619.79
GR1019.7  6650.5  1019.9  6869.8  1019.3  7088.8  1018.3  7308.1  1018.1  7357.4
GR1018.4  7405.7  1018.1  7504.7  1018.5  7653.7  1018.2  7853.7  1018.0  8053.8
GR1018.1  8264.5  1018.4  8468.0  1018.5  8703.9  1018.7  8903.9  1019.0  9027.4
GR1019.5  9087.0  1021.0  9090.7  1020.7  9100.0  1019.3  9109.2  1020.1  9296.8
GR1021.5  9328.8  1020.5  9349.7  1020.0  9438.9  1020.1  9504.0  1019.5  9556.4
GR1017.3  9599.3  1018.2  9666.3  1018.3  9706.1  1019.2  9732.7  1017.7  9759.7
GR1018.5  9768.4  1017.8  9819.1  1009.1  9833.6  1009.0  9846.9  1008.1  9861.1
GR1010.3  9909.7  1010.7  9990.4  1008.9 10005.9  1008.8 10022.3  1016.4 10042.0
GR1016.9 10052.9  1015.9 10160.6  1016.0 10270.5  1016.5 10316.7  1016.2 10350.3
GR1018.0 10379.5  1019.3 10546.0  1017.0 10601.9  1014.8 10621.9  1014.4 10655.5
GR1015.3 10874.6  1016.7 10991.6  1015.2 11039.4  1015.3 11125.6  1017.1 11151.2
GR1016.3 11204.2  1016.4 11261.7  1018.9 11299.8  1017.9 11310.6  1018.5 11319.2
GR1018.0 11328.3  1016.3 11336.4  1017.5 11339.8  1018.8 11349.2  1016.2 11362.2
GR1017.6 11368.0  1017.7 11375.3  1016.4 11385.1  1021.2 11407.1  1019.8 11426.3
GR1019.0 11458.9  1017.6 11474.7  1016.3 11480.5  1015.1 11493.3  1021.9 11515.7
GR1023.5 11522.7  1024.3 11529.3  1026.1 11539.3  1026.6 11545.6  1025.5 11561.6
GR1016.2 11587.4  1016.1 11604.1  1022.6 11633.5  1023.3 11713.8  1021.5 11863.3
GR1022.4 11891.7  1022.0 11904.7  1020.8 11918.2  1020.0 11940.3  1020.6 12044.9
GR1022.2 12097.0  1025.2 12129.3  1025.1 12132.3  1028.6 12182.4  1028.4 12234.4
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 9.098     9.1     7.1                                 9863   11560    9863 11720.1
X1 9.098      94    9821 11545.5     630     235  561.62
GR1021.9  6807.8  1021.3  6864.6  1021.4  7066.3  1021.4  7114.7  1020.6  7164.9
GR1020.8  7264.7  1020.2  7464.7  1019.6  7614.7  1020.3  7814.7  1020.2  8014.7
GR1020.4  8114.8  1019.8  8314.8  1020.0  8514.8  1020.1  8714.8  1020.1  8964.8
GR1020.3  9171.9  1020.6  9291.9  1021.1  9325.4  1022.0  9334.4  1022.1  9363.7
GR1020.5  9369.4  1020.2  9374.6  1019.9  9455.5  1020.7  9471.3  1021.3  9498.9
GR1021.8    9509  1021.8  9528.1  1021.3  9549.4  1021.3  9566.9  1021.6  9575.1
GR1020.3  9619.8  1020.8  9653.5  1021.4  9666.6  1022.8  9720.5  1022.7  9727.9
GR1021.7  9738.3  1021.4  9749.5  1020.6  9760.4  1020.5  9773.2  1019.1  9795.7
GR1018.2  9816.6  1015.8    9821  1011.5  9833.6  1012.2  9869.4  1012.1  9886.2
GR1011.4  9898.2  1011.2  9921.7  1009.9  9955.1  1011.1  9974.7  1011.9 10000.4
GR1014.3 10024.5  1015.0 10112.5  1016.2   10171  1016.4 10207.6  1016.8 10229.8
GR1017.1 10301.4  1016.7   10331  1016.6 10494.3  1017.2 10533.4  1017.0   10584
GR1016.4 10616.2  1015.6 10633.7  1015.6 10685.2  1016.6 10716.6  1016.1 10739.1
GR1016.0 10826.7  1017.0 10878.7  1016.9 10887.6  1018.2 10938.2  1019.4 10994.9
GR1018.9 11045.5  1019.7 11129.1  1019.6 11141.2  1016.5 11168.1  1016.2 11174.1
GR1017.3   11246  1016.2 11292.5  1016.6 11337.4  1017.7 11350.3  1017.6 11362.9
GR1016.6 11393.7  1017.4 11477.6  1016.6 11483.7  1016.3 11494.9  1016.3 11509.2
GR1015.2 11534.2  1017.9 11545.5  1028.0 11575.1  1026.8 11593.1  1026.1 11598.7
GR1025.4 11622.1  1024.2 11652.9  1023.9 11699.1  1024.3 11740.1
NC                          0.3     0.5
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 9.177    9.11    9.11                                                 9886   11608
X1 9.177      96  9881.1 11585.5     460     220  415.85
GR1022.2  7340.9  1021.8  7440.5  1022.0  7483.4  1022.5  7500.0  1022.4  7527.2
GR1023.6  7799.5  1023.7  7951.3  1023.2  8104.6  1023.6  8218.2  1023.9  8224.3
GR1023.5  8230.9  1024.6  8558.6  1024.6  8768.3  1025.3  8924.8  1025.1  9007.6
GR1026.3  9168.4  1026.9  9387.9  1027.9  9417.0  1027.0  9426.1  1027.2  9431.5
GR1027.8  9434.5  1027.9  9438.0  1028.5  9440.8  1027.8  9455.7  1027.4  9499.0
GR1027.8  9565.0  1027.6  9567.1  1027.5  9582.7  1028.7  9601.7  1029.1  9632.8
GR1030.5  9694.1  1030.2  9695.0  1030.6  9704.7  1031.0  9759.9  1030.9  9784.3
GR1032.0  9813.0  1032.7  9816.8  1032.9  9820.1  1031.9  9823.4  1032.8  9827.4
GR1033.1  9836.8  1032.8  9851.7  1032.5  9856.2  1027.5  9866.6  1023.7  9881.1
GR1018.1  9912.0  1017.7  9923.7  1015.8  9930.3  1015.5  9935.3  1012.4  9944.5
GR1010.5  9950.9  1010.4  9968.7  1012.5  9981.2  1012.8  9985.0  1012.4 10002.2
GR1014.8 10040.1  1015.2 10051.5  1013.9 10066.8  1011.9 10101.8  1013.2 10123.1
GR1013.8 10151.5  1016.3 10183.9  1017.3 10200.8  1017.8 10326.0  1017.2 10584.0
GR1017.4 10636.5  1017.2 10750.2  1017.5 10835.2  1018.2 10935.4  1018.3 11133.6
GR1018.0 11144.4  1018.2 11184.1  1018.2 11284.1  1017.2 11392.1  1017.6 11450.5
GR1017.9 11525.0  1017.4 11536.8  1017.0 11539.9  1017.1 11558.3  1024.7 11585.5
GR1027.6 11598.0  1030.9 11605.7  1031.1 11608.1  1030.4 11612.9  1030.0 11620.3
GR1031.2 11638.6  1030.4 11642.8  1030.7 11651.3  1030.2 11682.9  1030.0 11717.2
GR1030.2 11723.4  1030.0 11724.9  1029.4 11807.5  1029.5 11836.6  1028.6 11873.6
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GR1028.8 11888.0
*
* Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
* R/W requirements.
*
ET 9.191     9.11     9.11                                                 9850    11610
SB  1.05     1.56     2.70        0     1650   84.0018351.47        3     1016     1016
X1 9.191       90   9854.5 11606.9       60       60       60
X2     0        0        1 1031.80 1034.20        0        0     1.33        0        0
BT     9   9870.4   1034.2   1034.2   9870.5   1037.0   1027.5 10215.2   1039.8   1030.3
BT 10445   1040.8   1031.3 10733.0   1041.3   1031.8 11020.0   1040.8   1031.3 11250.0
BT1039.8   1030.3 11593.0   1037.0   1027.5 11593.1   1034.2   1034.2
GR1033.3   6999.8   1033.2   7319.4   1032.8   7624.1   1032.7   8051.3   1031.8   8358.6
GR1031.6   8501.5   1031.6   8665.0   1031.2   8725.8   1031.1   8856.7   1030.1   9059.7
GR1030.2   9127.5   1029.9   9182.0   1030.3   9186.0   1030.0   9239.0   1030.4   9249.4
GR1029.2   9395.3   1029.6   9413.7   1029.4   9419.5   1030.1   9480.1   1029.9   9565.1
GR1029.1   9623.4   1030.2   9653.0   1032.0   9822.5   1032.4   9823.8   1032.5   9854.5
GR1029.0   9868.0   1027.8   9870.5   1018.1   9905.4   1017.7   9915.3   1015.9   9927.8
GR1015.7   9938.6   1013.6   9945.9   1010.7   9970.2   1012.8   9998.2   1015.7 10071.3
GR1014.0 10099.2   1013.1 10139.0   1012.8 10170.8   1013.3 10213.5   1013.2 10228.3
GR1018.0 10288.2   1017.3 10530.4   1017.5 10835.0   1018.0 11007.0   1018.7 11075.1
GR1018.8 11128.3   1017.5 11181.0   1017.4 11230.5   1018.1 11279.2   1017.6 11430.5
GR1018.2 11472.8   1020.1 11493.0   1020.2 11499.3   1018.0 11518.6   1017.8 11554.5
GR1024.7 11581.1   1024.9 11583.0   1028.8 11594.1   1032.3 11606.9   1032.2 11634.1
GR1032.5 11637.5   1031.8 11641.8   1031.9 11649.6   1031.6 11652.4   1030.4 11765.3
GR1030.0 11851.2   1030.4 11885.7   1028.4 12200.0   1027.7 12508.0   1026.9 12840.4
GR1025.9 13086.5   1026.2 13099.1   1025.6 13298.1   1025.9 13302.6   1026.1 13610.1
GR1025.4 13729.3   1025.6 13962.8   1025.2 14019.7   1024.9 14324.8   1025.3 14457.7
GR1025.7 14481.6   1025.6 14555.3   1024.8 14666.7   1025.3 15020.4   1025.3 15336.7
GR1025.2 15450.6   1025.4 15458.1   1025.1 15575.6   1025.2 15660.3   1024.8 15703.7
*
* End of levee in corporation, 9/23/97.
*
NC   .05      .05     .035
ET 9.198      9.1      9.1                                                 9862.4 11582.2
X1 9.198       93   9885.6 11582.1       34       34    34.15
GR1026.6   7836.5   1025.5   8138.3   1025.2   8448.0   1024.0   8777.4   1024.5   8879.8
GR1023.9   8901.2   1024.0   9145.3   1023.6   9224.5   1025.0   9257.4   1024.6   9318.5
GR1025.3   9373.2   1025.1   9389.6   1025.7   9394.3   1024.4   9400.5   1023.1   9414.1
GR1023.4   9420.3   1025.1   9433.7   1026.0   9437.9   1026.1   9478.8   1024.3   9510.9
GR1024.4   9534.6   1025.5   9572.6   1024.1   9584.3   1023.6   9595.7   1023.5   9636.3
GR1022.9   9645.1   1031.1   9691.6   1031.0   9710.9   1030.2   9729.1   1029.9   9777.9
GR1031.0   9862.4   1022.5   9885.6   1017.9   9902.0   1016.2   9922.4   1016.0   9934.4
GR1013.6   9944.1   1011.1   9964.8   1011.4   9979.3   1012.9 10000.4   1016.0 10088.6
GR1014.2 10118.3   1014.6 10129.7   1013.2 10281.2   1017.9 10328.8   1017.3 10528.1
GR1017.5 10789.5   1019.2 10836.2   1019.6 11137.8   1019.4 11277.6   1017.7 11294.1
GR1017.2 11428.1   1017.9 11468.2   1021.3 11496.3   1017.7 11518.9   1018.4 11557.4
GR1024.1 11582.1   1027.7 11594.3   1026.6 11607.2   1024.1 11621.9   1023.4 11631.1
GR1021.6 11836.6   1022.0 11878.1   1023.5 11902.4   1021.6 11968.3   1021.1 12187.7
GR1021.6 12430.8   1020.8 12483.9   1021.2 12515.9   1020.4 12530.4   1021.2 12548.8
GR1021.4 12628.9   1020.9 12659.6   1020.3 12668.0   1021.9 12677.0   1020.7 12693.6
GR1019.1 12706.7   1019.4 12775.6   1020.4 12798.3   1020.7 12909.0   1018.4 12988.9
GR1017.9 13095.3   1018.6 13128.6   1018.3 13204.2   1018.6 13231.1   1023.2 13240.2
GR1023.6 13246.0   1023.0 13269.5   1024.5 13273.6   1018.9 13290.3   1018.3 13348.5
GR1016.6 13365.6   1017.7 13419.1   1017.6 13538.1
ET 9.266      9.1      7.1                                   9725    11620   9439.6    11700
X1 9.266       93   9725.9 11607.3      355      340      359
GR1024.3   7822.4   1024.5   8138.1   1024.7   8447.1   1024.9   8756.0   1024.2   9091.8
GR1023.4   9402.0   1023.3   9418.1   1024.2   9423.6   1021.6   9432.7   1024.2   9439.6
GR1022.9   9444.9   1022.4   9529.5   1020.2   9575.9   1022.3   9661.6   1022.1   9725.9
GR1013.9   9852.8   1017.2 10006.0   1013.9 10058.2   1013.7 10086.7   1017.3 10103.7
GR1016.8 10209.4   1015.7 10230.4   1016.6 10257.2   1014.7 10308.2   1014.3 10344.1
GR1018.0 10369.8   1017.8 10486.5   1019.5 10508.4   1021.4 10604.4   1021.3 10654.4
GR1019.6 10685.0   1019.7 10704.5   1016.3 10751.4   1017.9 10770.7   1021.4 10905.8
GR1020.8 11021.8   1021.6 11204.6   1020.8 11252.1   1017.1 11283.4   1018.2 11404.6
GR1017.7 11468.4   1021.5 11607.3   1018.7 11635.1   1017.1 11660.6   1023.1 11704.5
GR1022.8 11728.9   1017.3 11752.5   1017.5 11789.2   1023.8 11815.8   1024.4 11854.6
GR1022.1 11954.6   1023.1 12278.8   1021.6 12459.7   1020.1 12472.3   1021.7 12489.4
GR1020.8 12507.6   1022.4 12660.6   1019.8 12672.3   1019.0 12686.2   1021.1 12714.1
GR1020.8 12727.1   1022.4 12754.6   1021.7 13004.7   1020.1 13039.2   1022.2 13104.7
GR1021.4 13173.2   1018.6 13185.1   1018.2 13192.5   1022.7 13202.6   1018.5 13212.1
GR1019.0 13244.7   1023.0 13254.3   1018.1 13265.2   1019.3 13347.4   1020.2 13359.6
GR1020.5 13394.8   1018.9 13405.5   1020.6 13454.7   1020.8 13490.7   1022.7 13501.3
GR1023.2 13532.9   1022.0 13542.7   1022.7 13554.9   1023.2 13887.5   1023.1 14188.9
GR1023.3 14504.7   1023.0 14515.6   1024.2 14522.5   1023.3 14526.3   1023.2 14854.7
GR1023.8 15204.7   1024.1 15254.7   1024.1 15454.2
EJ
T1 AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY
T1 PREPARED FOR THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC #95-05)
T1 PREPARED BY COE & VAN LOO CONSULTANTS, INC. (CVL #95-0067-01)
T1 *
T1 ***************************************************************************
T1 MODIFIED BY SIMONS, LI & ASSOCIATES, FOR THE FLOOD CONTROL DISTRICT OF
T1 MARICOPA COUNTY, SEPTEMBER 23, 1997.
T1 ***************************************************************************
T1 *
T2 AGUA FRIA RIVER, GILA RIVER TO THE NEW WADDELL DAM
T3 FLOODWAY CONDITION, CAMELBACK LEVEE, PHASE I FILE NAME - CBLP1.DAT
J1     0        3        0        0        0        0        0        0    989.0        0
J2    15        0       -1        0        0        0       -1        0        0        0

ER
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1*****************************************                    ************************************
 *  HEC-2 WATER SURFACE PROFILES           *                    *  U.S. ARMY CORPS OF ENGINEERS      *
 *                                         *                    *  HYDROLOGIC ENGINEERING CENTER     *
 *  Version   4.6.2;  May 1991             *                    *  609 SECOND STREET, SUITE D        *
 *                                         *                    *  DAVIS, CALIFORNIA 95616-4687      *
 *  RUN DATE    24SEP97    TIME   08:52:35 *                    *          (916) 756-1104            *
 *****************************************                    ************************************

                                    X     X  XXXXXXX   XXXXX            XXXXX
                                    X     X  X        X    X           X     X
                                    X     X  X        X                      X
                                    XXXXXXX  XXXX     X         XXXXX   XXXXX
                                    X     X  X        X                X
                                    X     X  X        X    X           X
                                    X     X  XXXXXXX   XXXXX           XXXXXXX
1
   24SEP97      08:52:35                                                                    PAGE    1


                                                                   THIS RUN EXECUTED 24SEP97    08:52:35
 ************************************
  HEC-2 WATER SURFACE PROFILES

  Version   4.6.2;  May 1991
 ************************************


 T1 AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY
 T1 PREPARED FOR THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC #95-05)
 T1 PREPARED BY COE & VAN LOO CONSULTANTS, INC. (CVL #95-0067-01)
 T1 *
 T1 ***************************************************************************
 T1 MODIFIED BY SIMONS, LI & ASSOCIATES FOR THE FLOOD CONTROL DISTRICT OF
 T1 MARICOPA COUNTY, SEPTEMBER 23, 1997.
 T1 ***************************************************************************
 T1 *
 T2 AGUA FRIA RIVER, GILA RIVER TO THE NEW WADDELL DAM
 T3 100-YEAR EVENT    CAMELBACK LEVEE PHASE I             FILE NAME - CBLP1.DAT

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0        2         0         0         0         0         0         0    989.00         0

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       1        0        -1         0         0         0        -1         0         0        15


 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38       43         1         8         3         2        26         5        39        53
       4       54        37                 200

   START OF REVISED HYDRAULIC MODEL, 9/23/97.


 NC      .04       .04       .03       0.1       0.3
 QT        2     54400     54400
          AGUA FRIA DETAILED FDR PREPARED FOR THE FLOOD CONTROL DISTRICT OF
          MARICOPA COUNTY BY COE & VAN LOO CONSULTANTS, INC., 1996.
          THE CONTROL LINE ON THE MAIN CHANNEL OF THE AGUA FRIA RIVER IS
          STATION 10,000. ALL SECTIONS ARE STATIONED IN RIVER MILES FROM THE
          CONFLUENCE WITH THE GILA RIVER. ENCROACHMENT CARDS (ET) WERE USED
          IN SOME CASES TO BETTER MODEL DEAD OR NON-EFFECTIVE FLOW AREAS.
          CONSEQUENTLY, "SSTA" AND "ENDST" DO NOT REPRESENT THE ACTUAL FLOODING
          LIMITS, AND THE DELINEATION WAS ESTABLISHED BASED ON THE CROSS SECTION
          POINT ELEVATIONS AND THE TOPOGRAPHY. IN SOME CASES "TOPWID" DOES NOT
1
   24SEP97      08:52:35                                                                    PAGE    2

          REPRESENT THE FULL WIDTH OF THE FLOODPLAIN DUE TO NON-EFFECTIVE FLOW
          AREAS OR LOW ISLANDS WITHIN THE FLOODPLAIN. THE RUN WAS STARTED BASED
          SLOPE-AREA METHOD. THE HIGH WATER IN THE GILA RIVER WAS NOT USED TO
          START THE RUN, DUE TO THE DIFFERENCE IN THE TIME TO PEAK.
          ENCROACHMENTS ARE PLACED ON THE UPSTREAM SECTION OF THE BRIDGES TO
          REPRESENT THE 1:1 CONTRACTION OF FLOW. IN ADDITION, ENCROACHMENTS ARE
          PLACED ON THE DOWNSTREAM SECTION OF THE BRIDGES TO REPRESENT THE 4:1
          EXPANSION OF FLOW.
 X1    6.430      20.0    9452.0   10537.0       510       380       445
 GR    996.1    9390.0     991.8    9409.0     991.6    9433.0     996.5    9443.0     996.5    9452.0
 GR    984.1    9467.0     984.0    9528.0     984.3    9631.0     984.3    9768.0     984.1    9894.0
 GR    983.2    9980.0     981.0   10000.0     981.0   10057.0     981.3   10156.0     981.9   10213.0
 GR    983.2   10232.0     983.2   10359.0     982.5   10519.0     996.1   10537.0     996.1   10550.0

 X1    6.520      18.0    9459.0   10571.0       510       370       440
 GR    997.6    9431.0     997.6    9459.0     984.0    9479.0     983.6    9542.0     983.6    9640.0
 GR    983.6    9770.0     983.6    9903.0     983.4   10000.0     983.4   10058.0     981.6   10077.0
 GR    981.5   10167.0     981.6   10283.0     982.4   10298.0     982.4   10393.0     982.2   10512.0
 GR    982.3   10558.0     997.6   10571.0     997.6   10589.0

 X1    6.540      25.0    9462.0   10583.0       100        75        90
 GR    997.9    9436.0     997.9    9462.0     984.9    9481.0     984.9    9553.0     992.8    9564.0
 GR    992.8    9574.0     990.9    9580.0     990.9    9631.0     993.7    9641.0     993.8    9653.0
 GR    984.3    9670.0     984.3    9746.0     984.1    9830.0     984.1    9939.0     984.1   10000.0
 GR    983.9   10063.0     982.4   10082.0     982.4   10163.0     982.4   10292.0     983.4   10306.0
 GR    983.1   10364.0     983.1   10506.0     983.1   10563.0     997.5   10583.0     997.5   10595.0

 X1    6.560      17.0    9462.0   10591.0       115        85       100
 GR    998.1    9440.0     998.1    9462.0     985.1    9482.0     985.0    9547.0     985.0    9657.0
```

GR	984.5	9764.0	983.6	9848.0	983.6	9941.0	983.6	10000.0	983.6	10073.0
GR	982.6	10089.0	982.6	10171.0	982.1	10300.0	983.0	10319.0	983.0	10433.0
GR	983.0	10570.0	997.7	10591.0						
X1	6.590	18.0	9454.0	10584.0	165	155	150			
GR	998.5	9441.0	998.5	9454.0	984.0	9471.0	983.7	9532.0	983.8	9661.0
GR	984.2	9769.0	983.9	9852.0	983.6	9964.0	983.6	10000.0	983.6	10058.0
GR	981.8	10078.0	981.8	10175.0	981.8	10288.0	983.0	10304.0	983.0	10405.0
GR	983.2	10564.0	998.0	10584.0	998.0	10596.0				
X1	6.610	24.0	9439.0	10570.0	115	85	100			
GR	998.8	9428.0	998.8	9439.0	985.3	9456.0	985.3	9540.0	985.3	9654.0
GR	985.1	9784.0	984.0	9858.0	994.7	9870.0	994.7	9883.0	990.1	9890.0
GR	990.1	9939.0	995.4	9950.0	995.4	9959.0	984.3	9976.0	984.3	10000.0
GR	984.0	10049.0	981.9	10063.0	981.8	10154.0	981.8	10279.0	983.7	10291.0
GR	983.8	10364.0	983.8	10555.0	998.2	10570.0	998.2	10584.0		
X1	6.640	16.0	9445.0	10575.0	165	135	150			
GR	999.3	9435.0	999.3	9445.0	985.5	9462.0	985.5	9574.0	984.5	9697.0
GR	984.3	9837.0	984.3	10000.0	984.2	10036.0	982.4	10053.0	982.4	10128.0
GR	982.4	10266.0	984.2	10280.0	984.2	10397.0	984.2	10558.0	998.4	10575.0
GR	998.4	10591.0								

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X1	6.660	21.0	9466.0	10599.0	150	120	135			
GR	999.6	9455.0	999.6	9466.0	985.7	9484.0	985.7	9553.0	985.7	9682.0
GR	985.7	9830.0	985.3	9951.0	985.0	10000.0	985.0	10041.0	982.2	10057.0
GR	982.2	10126.0	982.2	10238.0	982.2	10265.0	984.6	10282.0	984.7	10388.0
GR	988.7	10400.0	989.9	10445.0	984.7	10459.0	984.7	10579.0	999.0	10599.0
GR	999.0	10608.0								
X1	6.690	17.0	9451.0	10585.0	145	100	125			
GR	1000.0	9442.0	1000.0	9451.0	985.4	9472.0	985.4	9554.0	985.4	9692.0
GR	985.3	9832.0	985.3	9934.0	984.9	10000.0	982.6	10017.0	982.6	10102.0
GR	982.2	10235.0	983.9	10255.0	984.0	10345.0	984.0	10490.0	984.3	10564.0
GR	998.8	10585.0	998.8	10598.0						
X1	6.710	24.0	9452.0	10585.0	130	115	125			
GR	1000.3	9441.0	1000.3	9452.0	984.3	9474.0	984.3	9574.0	984.5	9690.0
GR	984.5	9833.0	993.8	9846.0	994.6	9862.0	992.7	9868.0	992.9	9918.0
GR	995.5	9928.0	995.5	9936.0	985.7	9951.0	985.2	9979.0	981.5	9997.0
GR	981.5	10000.0	981.5	10111.0	981.5	10201.0	983.6	10225.0	983.7	10320.0
GR	984.2	10462.0	984.3	10562.0	999.1	10585.0	999.1	10594.0		
X1	6.730	18.0	9452.0	10584.0	110	110	110			
GR	1000.5	9442.0	1000.5	9452.0	985.1	9470.0	985.0	9536.0	985.0	9650.0
GR	985.0	9792.0	984.8	9898.0	984.8	9943.0	982.4	9962.0	982.4	10000.0
GR	982.4	10073.0	982.4	10180.0	984.0	10202.0	984.3	10322.0	984.7	10491.0
GR	984.7	10563.0	999.3	10584.0	999.3	10596.0				
X1	6.770	18.0	9443.0	10574.0	215	245	230			
GR	1002.1	9430.0	1002.1	9443.0	987.9	9463.0	988.1	9523.0	988.6	9649.0
GR	988.6	9757.0	985.6	9777.0	985.5	9916.0	985.2	9978.0	985.1	10000.0
GR	985.1	10034.0	987.4	10086.0	987.6	10180.0	987.8	10289.0	988.0	10428.0
GR	988.2	10555.0	1001.4	10574.0	1001.7	10590.0				
X1	6.790	23.0	9444.0	10573.0	110	110	110			
GR	1002.9	9429.0	1002.9	9444.0	988.8	9462.0	988.8	9545.0	987.7	9672.0
GR	985.3	9696.0	985.5	9796.0	984.7	9969.0	984.3	10000.0	987.2	10061.0
GR	987.5	10091.0	998.1	10103.0	998.1	10117.0	996.1	10126.0	996.2	10178.0
GR	998.5	10184.0	998.5	10191.0	987.8	10209.0	987.8	10320.0	987.8	10455.0
GR	988.1	10555.0	1002.2	10573.0	1002.2	10585.0				
X1	6.820	17.0	9444.0	10573.0	115	115	115			
GR	1002.7	9434.0	1002.7	9444.0	989.2	9465.0	987.3	9582.0	985.9	9607.0
GR	985.7	9745.0	985.9	9860.0	984.8	9990.0	984.8	10000.0	985.9	10065.0
GR	988.4	10076.0	988.4	10157.0	988.0	10268.0	988.0	10400.0	988.0	10557.0
GR	1001.0	10573.0	1001.0	10591.0						
X1	6.890	16.0	9439.0	10577.0	365	365	365			
GR	1004.2	9428.0	1004.2	9439.0	989.9	9461.0	989.9	9574.0	989.9	9700.0
GR	989.8	9818.0	989.4	9954.0	989.4	9973.0	989.4	10000.0	989.4	10039.0
GR	989.4	10132.0	989.4	10266.0	989.4	10427.0	989.4	10558.0	1002.7	10577.0
GR	1002.7	10588.0								

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X1	6.910	17.0	9430.0	10579.0	105	115	110			
GR	1002.8	9417.0	1002.8	9430.0	989.5	9452.0	989.9	9524.0	989.9	9677.0
GR	989.9	9807.0	989.5	9970.0	989.5	10000.0	989.5	10018.0	1000.2	10037.0
GR	1000.2	10125.0	989.8	10142.0	989.8	10236.0	989.8	10390.0	989.8	10561.0
GR	1002.7	10579.0	1002.7	10589.0						
X1	6.930	17.0	9413.0	10573.0	105	105	105			
GR	1004.8	9405.0	1004.8	9413.0	999.9	9417.0	999.9	9426.0	989.9	9442.0
GR	989.9	9572.0	989.9	9706.0	990.0	9833.0	990.1	9955.0	989.9	10000.0
GR	989.9	10053.0	989.9	10201.0	989.9	10359.0	990.1	10545.0	990.9	10558.0
GR	1003.9	10573.0	1003.9	10582.0						
X1	6.970	15.0	9405.0	10570.0	220	240	230			
GR	1004.1	9395.0	1004.2	9405.0	991.7	9423.0	991.3	9444.0	990.4	9703.0
GR	990.4	9859.0	990.4	10000.0	990.4	10050.0	990.4	10156.0	990.4	10291.0
GR	990.4	10417.0	990.4	10542.0	991.7	10552.0	1004.6	10570.0	1004.6	10583.0
X1	6.990	19.0	9400.0	10559.0	95	115	105			
GR	1003.3	9393.0	1003.4	9400.0	997.4	9411.0	997.3	9418.0	991.4	9429.0
GR	991.4	9534.0	991.1	9695.0	991.1	9871.0	991.1	10000.0	991.1	10072.0
GR	991.2	10186.0	991.3	10300.0	998.4	10313.0	998.4	10323.0	998.4	10404.0
GR	990.2	10418.0	990.2	10540.0	1003.5	10559.0	1004.0	10574.0		
X1	7.020	16.0	9433.0	10570.0	120	130	125			
GR	1004.3	9421.0	1004.5	9433.0	991.5	9455.0	991.5	9560.0	991.5	9711.0
GR	991.1	9854.0	989.1	9913.0	990.1	9991.0	990.1	10000.0	990.1	10068.0

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GR    990.7   10175.0     991.3   10301.0     990.6   10427.0     990.5   10549.0    1004.0   10570.0
GR   1004.0   10583.0

X1    7.060      15.0    9442.0   10559.0       210       235       225
GR   1005.0    9419.0    1006.0    9442.0     993.3    9467.0     992.3    9545.0     992.1    9691.0
GR    990.7    9877.0     989.6    9894.0     990.1   10000.0     990.1   10124.0     991.5   10151.0
GR    991.9   10259.0     991.8   10389.0     991.8   10543.0    1004.8   10559.0    1004.8   10571.0

X1    7.080      18.0    9440.0   10563.0       110       110       110
GR   1006.6    9440.0    1006.5    9456.0     991.7    9475.0     991.7    9583.0     991.7    9730.0
GR    991.7    9878.0     990.5    9895.0     990.5    9985.0     990.5   10000.0     990.5   10133.0
GR    992.2   10156.0     992.1   10278.0    1000.4   10293.0    1000.4   10375.0     991.7   10388.0
GR    991.7   10548.0    1005.6   10563.0    1005.6   10578.0

X1    7.100      15.0    9440.0   10543.0       125       125       125
GR   1006.2    9427.0    1006.3    9440.0     993.4    9459.0     993.4    9562.0     993.2    9687.0
GR    992.4    9860.0     990.9    9879.0     990.9   10000.0     991.0   10115.0     993.1   10133.0
GR    993.4   10239.0     993.0   10375.0     992.2   10527.0    1006.1   10543.0    1006.1   10555.0

X1    7.200      16.0    9474.0   10558.0       515       490       500
GR   1006.9    9461.0    1006.9    9474.0     991.9    9491.0     991.9    9591.0     992.5    9703.0
GR    992.5    9866.0     990.7    9888.0     991.7    9994.0     991.7   10000.0     991.7   10121.0
GR    993.0   10133.0     993.2   10236.0     993.2   10374.0     993.2   10534.0    1007.2   10558.0
GR   1007.5   10578.0
1
   24SEP97      08:52:35                                                                          PAGE    5


X1    7.290      15.0    9456.0   10529.0       490       510       500
GR   1008.9    9456.0    1008.9    9473.0     994.9    9490.0     994.7    9578.0     994.6    9691.0
GR    994.5    9806.0     993.4    9889.0     993.2   10000.0     993.2   10077.0     993.9   10117.0
GR    994.0   10230.0     994.0   10371.0     994.0   10488.0    1009.1   10529.0    1009.1   10546.0

X1    7.390      16.0    9499.0   10536.0       500       495       495
GR   1008.8    9484.0    1008.8    9499.0     994.4    9516.0     993.9    9614.0     993.8    9735.0
GR    994.2    9841.0     994.8    9894.0     994.4    9985.0     994.2   10000.0     994.2   10064.0
GR    994.8   10155.0     994.8   10289.0     995.3   10433.0     995.4   10489.0    1009.9   10536.0
GR   1009.9   10556.0

X1    7.490      13.0    9509.0   10525.0       575       515       515
GR   1009.5    9493.0    1009.5    9509.0     995.2    9526.0     995.4    9612.0     995.6    9736.0
GR    995.5    9871.0     995.3   10000.0     995.3   10064.0     995.4   10173.0     995.7   10289.0
GR    995.7   10474.0    1010.9   10525.0    1010.9   10541.0

X1    7.580      14.0    9499.0   10529.0       540       405       480
GR   1010.3    9499.0     996.5    9536.0     995.9    9644.0     995.4    9797.0     995.4    9949.0
GR    995.4   10000.0     995.4   10048.0     995.4   10190.0     995.4   10311.0     995.4   10387.0
GR    996.7   10447.0    1006.7   10499.0    1010.9   10529.0    1011.0   10544.0

X1    7.670      10.0    9515.0   10552.0       480       530       510
X3       10
GR   1009.9    9462.0    1009.9    9515.0     994.3    9533.0     994.4    9708.0     994.7    9960.0
GR    994.7   10000.0     995.0   10281.0     994.6   10496.0    1010.1   10552.0    1010.1   10575.0

X1    7.770      10.0    9490.0   10556.0       510       500       500
X3       10
GR   1010.5    9478.0    1010.5    9490.0     997.6    9510.0     996.8    9677.0     996.5    9878.0
GR    996.4   10000.0     996.4   10242.0     996.1   10496.0    1010.9   10556.0    1010.9   10577.0

X1    7.870      32.0    9450.0   10589.0       650       410       500
X3       10
GR   1015.4    8030.0    1016.3    8034.0    1016.3    8046.0    1008.8    8067.0    1009.2    8153.0
GR   1015.2    8187.0    1015.8    8254.0    1017.4    8372.0    1016.5    8511.0    1011.9    8561.0
GR   1009.6    8688.0    1010.7    8717.0    1008.3    8736.0    1007.3    8930.0    1004.2    9048.0
GR   1001.2    9145.0     997.2    9215.0     994.3    9277.0    1006.5    9342.0    1010.8    9374.0
GR   1010.5    9450.0     997.4    9476.0     997.5    9620.0     997.7    9849.0     997.8    9992.0
GR    997.8   10000.0     997.8   10178.0     998.1   10433.0     998.1   10560.0    1013.1   10589.0
GR   1013.1   10609.0    1011.2   10614.0

X1    7.960      30.0    9337.0   10669.0       460       470       470
X3       10
GR   1018.5    8029.0    1009.6    8067.0    1009.8    8223.0    1009.8    8419.0    1009.8    8501.0
GR   1011.1    8512.0    1011.4    8546.0    1007.8    8561.0    1007.8    8722.0    1010.5    8735.0
GR   1009.9    8878.0    1008.2    9077.0    1006.3    9178.0    1002.1    9195.0    1013.4    9249.0
GR   1013.0    9337.0    1003.4    9350.0    1003.2    9364.0     999.3    9372.0     998.8    9604.0
GR    998.8    9927.0     998.7   10000.0     998.7   10211.0     998.6   10526.0     998.6   10636.0
GR   1000.3   10640.0    1000.3   10655.0    1012.4   10669.0    1011.8   10711.0    1014.8   10765.0
1
   24SEP97      08:52:35                                                                          PAGE    6


X1    7.990      37.0    9293.0   10732.0       175       175       175
X3       10
GR   1012.2    8010.0    1013.2    8065.0    1014.0    8150.0    1012.5    8436.0    1010.7    8709.0
GR   1010.4    8948.0    1017.0    9058.0    1017.0    9110.0    1009.4    9176.0    1015.2    9236.0
GR   1014.9    9293.0     999.2    9338.0     999.2    9550.0     999.1    9925.0     999.1    9990.0
GR    999.1   10000.0     999.1   10303.0     999.3   10681.0    1014.8   10732.0    1017.3   10907.0
GR   1010.5   10932.0    1010.0   11152.0    1015.2   11167.0    1015.2   11213.0    1007.3   11242.0
GR   1007.1   11529.0    1007.2   11773.0    1006.9   11957.0    1007.1   12138.0    1007.1   12341.0
GR   1006.9   12504.0    1009.2   12604.0    1009.9   12677.0    1014.2   12703.0    1015.0   12810.0
GR   1016.3   12943.0    1016.3   12959.0

NC                                     .3        .5
            ****************************
            ***** INDIAN SCHOOL ROAD ****
            ***** LOW CHORD = 1013.3 ****
            ****************************
X1    8.000         85    9235.5   10725.        50        50        50
BT       68    9235.4    1021.3    1021.3    9235.5    1021.3    1013.3    9271.2    1021.3    1013.3
BT   9271.3    1021.3    1013.3    9285.3    1021.3    1013.3    9285.4    1021.3    1013.3    9362.9
BT   1021.3    1013.3    9363.0    1021.3     999.2    9377.0    1021.3     999.2    9377.1    1021.3
BT   1013.3    9452.9    1021.3    1013.3    9453.0    1021.3     999.2    9467.0    1021.3     999.2
BT   9467.1    1021.3    1013.3    9542.9    1021.3    1013.3    9543.0    1021.3     999.2    9557.0
BT   1021.3     999.2    9557.1    1021.3    1013.3    9632.9    1021.3    1013.3    9633.0    1021.3
BT    999.2    9647.0    1021.3     999.2    9647.1    1021.3    1013.3    9722.9    1021.3    1013.3
BT   9723.0    1021.3     999.2    9737.0    1021.3     999.2    9737.1    1021.3    1013.3    9812.9
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BT   1021.3    1013.3    9813.0    1021.3     999.2    9827.0    1021.3     999.2    9827.1    1021.3
BT   1013.3    9902.9    1021.3    1013.3    9903.0    1021.3     999.2    9917.0    1021.3     999.2
BT   9917.1    1021.3    1013.3    9992.9    1021.3    1013.3    9993.0    1021.3     999.2   10007.0
BT   1021.3     999.2   10007.1    1021.3    1013.3   10082.9    1021.3    1013.3   10083.0    1021.3
BT    999.2   10097.0    1021.3     999.2   10097.1    1021.3    1013.3   10172.9    1021.3    1013.3
BT   10173.    1021.3     999.2   10187.0    1021.3     999.2   10187.1    1021.3    1013.3   10262.9
BT   1021.3    1013.3   10263.0    1021.3     999.2   10277.0    1021.3     999.2   10277.1    1021.3
BT   1013.3   10352.8    1021.3    1013.3   10352.9    1021.3     999.2   10366.9    1021.3     999.2
BT   10367.    1021.3    1013.3   10442.9    1021.3    1013.3   10443.0    1021.3     999.2   10457.0
BT   1021.3     999.2   10457.1    1021.3    1013.3   10532.9    1021.3    1013.3   10533.0    1021.3
BT    999.2   10547.0    1021.3     999.2   10547.1    1021.3    1013.3   10622.9    1021.3    1013.3
BT   10623.    1021.3     999.2   10637.0    1021.3     999.2   10637.1    1021.3    1013.3   10725.0
BT   1021.3    1013.3   10725.1    1021.3    1021.3
GR   1014.4    7828.0    1015.5    8173.0    1016.3    8411.0    1017.9    8735.0    1018.7    9144.0
GR   1018.6    9235.4    1013.3    9235.5     999.2    9263.1     999.2    9271.2     999.2    9271.3
GR    999.2    9285.3     999.2    9285.4     999.2    9362.9     999.2    9363.0     999.2    9377.0
GR    999.2    9377.1     999.2    9452.9     999.2    9453.0     999.2    9467.0     999.2    9467.1
GR    999.2    9542.9     999.2    9543.0     999.2    9557.0     999.2    9557.1     999.2    9632.9
GR    999.2    9633.0     999.2    9647.0     999.2    9647.1     999.2    9722.9     999.2    9723.0
GR    999.2    9737.0     999.2    9737.1     999.2    9812.9     999.2    9813.0     999.2    9827.0
GR    999.2    9827.1     999.2    9902.9     999.2    9903.0     999.2    9917.0     999.2    9917.1
GR    999.2    9992.9     999.2    9993.0     999.2   10007.0     999.2   10007.1     999.2   10082.9
GR    999.2   10083.0     999.2   10097.0     999.2   10097.1     999.2   10172.9     999.2   10173.0
GR    999.2   10187.0     999.2   10187.1     999.2   10262.9     999.2   10263.0     999.2   10277.0
GR    999.2   10277.1     999.2   10352.8     999.2   10352.9     999.2   10366.9     999.2   10367.0
GR    999.2   10442.9     999.2   10443.0     999.2   10457.0     999.2   10457.1     999.2   10532.9
GR    999.2   10533.0     999.2   10547.0     999.2   10547.1     999.2   10622.9     999.2   10623.0
GR    999.2   10637.0     999.2   10637.1     999.2   10697.5    1013.3   10725.0    1021.3   10725.1
1
   24SEP97      08:52:35                                                                          PAGE    7

GR   1018.6   10725.2    1016.4   10735.0    1017.3   10914.0    1016.9   11234.0    1012.8   11759.0
GR   1013.2   12195.0    1013.8   12510.0    1014.9   12742.0    1016.1   13028.0    1018.6   13458.0

X1    8.010       0                              75       75        75
X2                                                                   1

NC     .040     .040      .030      .1        .3
ET    8.030      9.1       9.1                                                          9440     10904
X1    8.030       94    9441.4   10903.2       50       50        50
GR   1011.7    8710.5    1012.8    8718.2    1013.7    8732.5    1013.6    8744.9    1016.9    8752.5
GR   1016.5    8856.3    1014.7    8904.7    1011.3    8954.7    1010.4    9004.7    1009.5    9099.6
GR   1009.4    9154.7    1011.8    9200.0    1011.6    9204.3    1018.9    9237.5    1014.1    9397.9
GR   1015.3    9413.3    1012.7    9430.3    1009.8    9441.4    1004.9    9455.1    1001.6    9461.7
GR   1000.9    9490.5    1000.4    9495.2    1000.5    9505.4    1001.2    9512.6    1001.1    9554.9
GR   1002.2    9591.9    1004.8    9620.1    1001.7    9628.2     999.2    9638.0    1000.1    9699.2
GR   1005.0    9715.3    1003.6    9733.5    1003.6    9744.0    1002.6    9761.5    1001.4    9804.9
GR   1001.7    9853.5    1002.3    9862.5    1001.8    9871.1    1002.3    9882.1    1001.3    9889.3
GR    999.6   10018.0    1000.4   10058.4    1001.9   10071.8    1002.1   10133.7    1001.2   10162.3
GR   1002.5   10182.5    1000.9   10355.1    1001.5   10362.3    1000.8   10682.3    1000.3   10855.3
GR    999.9   10860.2    1000.6   10875.4    1013.0   10903.2    1013.1   10905.8    1015.5   10910.0
GR   1014.9   10917.6    1015.0   10957.1    1015.6   10985.7    1021.7   10997.8    1019.0   11007.8
GR   1016.2   11028.0    1019.4   11045.0    1018.5   11058.5    1020.0   11111.7    1021.3   11134.3
GR   1021.4   11247.1    1020.8   11271.9    1021.0   11291.7    1020.1   11305.4    1020.8   11315.4
GR   1021.2   11342.9    1020.1   11357.0    1019.9   11405.4    1020.3   11416.6    1018.2   11423.7
GR   1018.0   11445.1    1018.8   11456.4    1012.3   11470.5    1008.8   11479.6    1007.7   11555.5
GR   1008.3   11805.6    1008.9   11810.7    1008.1   11905.6    1008.5   12103.4    1009.9   12109.8
GR   1009.1   12115.7    1008.1   12368.4    1008.7   12390.2    1011.4   12395.9    1012.5   12409.6
GR   1013.7   12413.9    1014.6   12465.5    1013.6   12563.0    1014.3   12651.6
   END LEFT LEVEE SECTION 8.105

ET    8.105      9.1       7.1                                     9470     10980     9381     10980
X1    8.105       91    9493.9   10978.6      280      620    397.59
GR   1015.2    8211.4    1015.3    8277.1    1010.8    8330.6    1009.3    8341.9    1009.3    8372.5
GR   1011.2    8392.0    1011.2    8467.9    1009.9    8559.8    1009.8    8618.0    1009.3    8629.1
GR   1008.8    8657.4    1008.1    8664.5    1006.7    8671.1    1005.9    8676.7    1005.3    8685.7
GR   1008.0    8694.0    1007.4    8712.9    1007.2    8759.6    1007.6    8767.4    1007.3    8945.8
GR   1007.7    8986.4    1007.0    9027.6    1006.6    9098.5    1006.1    9130.7    1007.5    9189.4
GR   1011.7    9241.0    1013.1    9281.5    1014.3    9352.7    1015.1    9381.7    1004.4    9401.0
GR   1002.0    9404.5    1002.1    9413.6    1000.7    9416.1    1000.8    9423.2    1002.3    9432.7
GR   1001.8    9493.9    1001.9    9540.9    1001.0    9545.5    1000.9    9563.5    1001.1    9565.1
GR   1001.5    9581.8    1002.2    9583.6    1002.9    9587.6    1002.8    9594.1    1003.1    9599.5
GR   1004.8    9613.8    1002.9    9623.8    1001.5    9649.6    1002.2    9701.5    1001.6    9791.9
GR   1002.5    9801.8    1002.6    9835.3    1001.6    9840.4    1001.1    9856.5    1003.0    9863.7
GR   1001.8    9909.1    1002.1    9961.6    1002.0    9995.6    1001.0   10012.9    1000.7   10057.2
GR   1000.8   10168.4    1000.5   10169.9    1002.7   10181.4    1003.2   10220.5    1002.5   10428.1
GR   1001.9   10536.6    1002.1   10732.3    1001.6   10813.5    1001.7   10895.2    1000.8   10949.7
GR   1001.5   10964.0    1014.4   10978.6    1014.9   10997.9    1001.1   11037.6    1000.5   11077.1
GR   1001.9   11081.4    1003.0   11094.1    1002.0   11108.9    1001.7   11110.1    1005.8   11120.6
GR   1010.4   11129.8    1008.8   11140.0    1008.9   11273.0    1008.4   11417.4    1009.5   11426.7
GR   1008.8   11471.3    1010.6   11534.8    1011.0   11604.6    1010.7   11613.6    1009.8   11618.7
GR   1009.6   11624.4
1
   24SEP97      08:52:35                                                                          PAGE    8

ET    8.198      9.1       9.1                                                          9458.6   10971.1
X1    8.198       92    9458.7   10971.0      420      620    490.43
GR   1013.7    7538.8    1013.7    7659.7    1013.0    7679.9    1012.1    7681.9    1012.2    7702.4
GR   1009.4    7704.2    1009.4    7707.5    1011.7    7718.2    1011.0    7757.7    1010.6    7818.7
GR   1009.9    7842.6    1009.7    7956.3    1010.5    8028.5    1010.8    8229.1    1011.2    8250.2
GR   1011.0    8283.7    1011.2    8445.3    1011.6    8447.8    1011.8    8453.3    1011.5    8465.8
GR   1010.7    8469.4    1010.2    8484.3    1010.7    8495.1    1011.0    8542.9    1009.4    8558.4
GR   1007.8    8568.0    1007.4    8575.1    1007.6    8611.0    1006.2    8674.1    1006.4    8788.0
GR   1005.6    8837.3    1005.5    8883.8    1004.3    8938.3    1004.6    9047.4    1003.7    9102.0
GR   1003.1    9193.7    1003.0    9320.6    1003.2    9389.6    1016.4    9413.0    1016.7    9455.0
GR   1014.9    9458.7    1006.2    9474.2    1003.0    9479.0    1002.7    9484.7    1003.3    9489.8
GR   1002.2    9512.1    1002.6    9529.9    1004.0    9536.6    1003.7    9541.4    1003.4    9592.1
GR   1004.0    9620.4    1004.1    9647.5    1003.4    9715.0    1002.5    9730.9    1002.0    9756.6
GR   1003.0    9851.4    1002.2    9972.1    1002.5    9983.7    1002.0   10053.3    1001.5   10071.8
GR   1002.5   10093.2    1003.1   10143.0    1002.7   10193.2    1003.7   10230.0    1002.2   10240.8
GR   1001.9   10266.0    1003.7   10292.6    1003.3   10497.1    1002.8   10629.5    1003.2   10847.7
GR   1003.0   10958.7    1015.8   10971.0    1015.7   10984.6    1015.3   10990.1    1011.0   11007.3
GR   1010.7   11051.4    1010.2   11065.9    1010.6   11074.9    1010.2   11120.5    1010.3   11154.3
GR   1009.3   11167.8    1009.5   11177.5    1007.9   11194.6    1007.4   11229.6    1007.8   11253.3
GR   1011.7   11279.9    1012.3   11327.5    1011.2   11391.5    1012.2   11447.8    1012.1   11502.4
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GR   1012.9    11568.6     1013.0    11705.6
   END RIGHT LEVEE SECTION 8.325

   Start of levee incorporation. No change at this cross section.

NC     .040       .040       .035
ET    8.325        9.1        7.1                                        9480       10990      9479.9     11053.1
X1    8.325         92     9480.0    10949.9        645        705     668.82
GR   1015.3     6600.1     1014.6     6655.8     1015.0     6663.3     1014.8     6675.4     1013.7     6675.8
GR   1009.9     6684.3     1010.0     6694.9     1011.6     6701.8     1014.5     6711.0     1012.5     6725.0
GR   1012.8     6732.9     1009.6     6773.6     1009.5     6837.0     1012.4     6859.8     1012.3     6903.7
GR   1014.8     6917.9     1011.7     6948.6     1011.9     6977.1     1010.9     7004.1     1011.1     7222.0
GR   1011.2     7261.3     1012.3     7279.9     1011.6     7284.0     1012.0     7300.9     1012.9     7308.7
GR   1011.7     7393.0     1014.3     7409.1     1012.7     7419.8     1011.4     7424.2     1011.0     7555.9
GR   1011.5     7664.8     1011.0     7705.5     1010.4     7715.3     1010.7     7825.2     1011.6     7831.9
GR   1010.8     7850.5     1011.2     7898.1     1012.1     7902.3     1011.7     7910.0     1010.1     7919.9
GR   1012.2     8164.7     1012.3     8353.8     1011.4     8392.6     1011.1     8615.5     1006.9     8835.6
GR   1006.2     8914.6     1006.2     8962.5     1004.6     9026.8     1004.1     9113.8     1004.7     9148.5
GR   1004.0     9225.0     1005.3     9336.3     1005.6     9423.4     1020.7     9444.8     1020.9     9468.5
GR   1017.9     9472.2     1013.1     9480.0     1010.0     9483.5     1006.6     9491.1     1005.7     9507.2
GR   1006.8     9513.0     1005.9     9517.6     1005.3     9553.1     1007.0     9558.9     1005.5     9572.4
GR   1004.8     9589.2     1002.1     9603.3     1002.6     9761.4     1003.7     9776.2     1004.9     9804.7
GR   1004.2     9892.7     1004.9     9969.2     1005.8    10170.9     1005.7    10393.5     1005.5    10562.5
GR   1005.0    10746.6     1005.6    10896.0     1005.3    10922.7     1004.4    10932.4     1005.1    10947.0
GR   1004.7    10949.9     1005.2    11032.4     1018.0    11053.0     1016.5    11129.1     1017.1    11139.7
GR   1016.3    11344.8     1015.9    11561.9     1015.1    11611.0     1015.6    11784.5     1015.1    12056.0
GR   1015.4    12203.0     1015.0    12332.0

  Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
  R/W requirements.

1
   24SEP97      08:52:35                                                                                    PAGE    9


ET    8.433        9.1        7.1                                        9009.5       10975      9009.5      11000
X1    8.433         87     9583.1    10597.5        510        660     572.54
GR   1016.6     5737.3     1015.2     5913.0     1011.2     5923.1     1011.2     5929.8     1015.2     5938.3
GR   1013.0     6101.5     1013.1     6236.2     1012.0     6437.5     1011.5     6682.9     1010.8     6885.4
GR   1011.3     6918.9     1013.3     6929.4     1014.0     6941.7     1012.7     6944.3     1011.1     6952.1
GR   1011.1     6957.5     1012.4     6964.4     1010.1     6973.7     1011.4     7022.6     1011.2     7053.6
GR   1010.3     7053.9     1010.3     7111.1     1011.8     7151.3     1011.0     7155.6     1012.0     7391.8
GR   1011.6     7613.9     1012.1     7874.2     1013.4     8117.3     1013.0     8158.4     1014.3     8163.4
GR   1014.4     8173.5     1012.8     8179.0     1013.0     8214.2     1014.4     8284.9     1013.6     8286.3
GR   1012.9     8294.9     1014.2     8304.5     1012.9     8390.4     1013.0     8565.3     1008.1     8767.6
GR   1006.0     8952.1     1020.6     8973.4     1020.7     9009.5     1006.2     9025.2     1006.9     9130.7
GR   1005.9     9153.1     1007.9     9194.9     1009.0     9401.2     1008.8     9516.9     1009.7     9523.9
GR   1008.5     9529.4     1008.8     9564.7     1010.0     9583.1     1005.0     9600.1     1005.0     9755.8
GR   1006.4     9786.9     1006.6     9828.4     1005.7     9854.9     1007.7     9870.6     1008.1    10010.8
GR   1008.3    10123.7     1006.4    10265.7     1006.8    10307.4     1006.3    10480.7     1009.6    10507.5
GR   1012.5    10519.8     1013.8    10597.5     1013.5    10766.3     1012.5    10795.4     1013.5    10816.7
GR   1011.6    10827.2     1010.6    10883.1     1011.5    10884.0     1011.7    10991.4     1013.3    10999.4
GR   1011.9    11154.1     1013.8    11176.2     1014.1    11233.5     1013.1    11268.3     1013.7    11274.5
GR   1013.2    11293.3     1012.3    11294.1     1017.5    11322.2     1018.2    11337.1     1017.0    11359.4
GR   1015.0    11376.3     1014.8    11586.0
   GR POINTS MODIFIED - BOTTOM OF GRAVEL MINE RAISED TO ELIMINATE NON-
   EFFECTIVE FLOW AREA BETWEEN SECTIONS 8.534 TO 8.875.

  Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
  R/W requirements.

ET    8.534        9.1        7.1                                        8509       10965       8509      11252
X1    8.534         73     9067.4    10611.9        540        525     531.32
GR   1016.7     5726.8     1016.6     5763.5     1015.5     5775.8     1014.8     5877.7     1017.3     5885.8
GR   1014.2     5891.2     1016.4       5898     1014.5     5927.2     1013.0       6247     1012.6     6548.9
GR   1012.5     6732.2     1011.3     6733.8     1011.3     6901.4     1012.5     6958.1     1010.0     6988.5
GR   1012.0     6999.2     1012.0     7004.3     1013.9     7010.6     1012.0     7019.3     1011.8     7027.3
GR   1013.3     7032.5     1011.6     7034.8     1011.6     7197.8     1014.5     7209.2     1013.3       7225
GR   1011.1     7233.8     1011.1     7239.7     1014.1     7245.5     1012.0     7302.1     1012.5     7610.4
GR   1013.1       7931     1014.4     8236.4     1014.9     8390.2     1016.3       8399     1015.2     8406.3
GR   1014.2       8464     1016.0       8470     1017.7       8509     1013.9     8513.3     1009.9     8638.3
GR   1009.6     8679.7     1007.8     8697.3     1008.1     8905.8     1010.6     8914.7     1011.7     8983.8
GR   1010.4     9053.5     1013.0     9067.4     1011.8     9146.7       1010     9160.5       1010     9490.1
GR     1010     9495.3       1010     9500.2       1010     9618.6       1010     9636.3       1010     9685.9
GR     1010    10072.1     1011.2    10082.5     1012.0      10395     1012.2    10611.9     1010.2    10765.5
GR   1010.9    10786.3     1010.0    10789.7     1008.5    11095.7     1014.8      11122     1016.1    11251.5
GR   1015.0    11309.6     1014.9    11425.9     1013.8    11604.2     1020.3      11624     1020.1      11649
GR   1011.6    11672.2     1014.1      11684     1013.2    11761.9

  Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
  R/W requirements.

1
   24SEP97      08:52:35                                                                                    PAGE   10


ET    8.646        9.1        7.1                                        8773       10990       8773      11500
X1    8.646         70     9268.7    10600.8        575        600     591.78
GR   1020.3     6340.6     1011.7     6380.5     1011.0     6388.0     1011.7     6396.1     1015.7     6417.6
GR   1015.9     6445.0     1015.3     6449.8     1017.2     6457.9     1015.1     6463.3     1016.2     6469.7
GR   1014.9     6474.9     1014.3     6777.0     1013.6     7077.1     1013.7     7402.3     1013.4     7653.5
GR   1015.4     7683.2     1012.5     7688.5     1013.1     7694.1     1015.0     7700.3     1014.1     7761.6
GR   1015.5     8095.2     1016.1     8423.2     1016.6     8671.3     1016.0     8681.1     1017.4     8692.3
GR   1015.9     8700.1     1015.8     8713.0     1016.3     8715.4     1016.8     8736.5     1014.3     8822.4
GR   1010.8     8836.4     1007.8     8844.4     1008.8     8896.3     1009.9     9024.4     1011.0     9071.9
GR   1011.0     9123.5     1011.9     9132.4     1012.2     9190.9     1013.4     9215.9     1013.6     9250.3
GR   1013.0     9268.7     1010.6     9280.0     1010.6     9560.7     1010.6    10458.1     1012.2    10460.3
GR   1013.3    10476.8     1014.6    10600.8     1013.3    10889.3     1011.1    11061.5     1010.4    11076.0
GR   1011.0    11142.3     1010.2    11288.1     1017.1    11330.1     1017.1    11397.0     1017.8    11413.4
GR   1017.0    11472.0     1017.2    11500.8     1016.4    11515.0     1016.6    11562.3     1017.5    11591.2
GR   1015.8    11630.0     1015.2    11660.5     1015.4    11680.8     1020.0    11722.9     1015.9    11831.0
GR   1016.0    11907.6     1017.1    11944.5     1015.6    12002.5     1022.8    12022.2     1022.7    12031.8

  Modified ET record, 9/23/97. FP & FW  limits set at centerline plus 50' for
```

R/W requirements.

ET	8.768	9.1	7.1				9065	11105	9065	11500
X1	8.768	73	9584.7	10102.8	620	640	641.67			
GR	1021.5	6820.4	1020.9	6871.9	1018.3	6891.7	1019.6	6913.5	1019.1	6923.6
GR	1016.2	6931.0	1019.3	6940.2	1017.2	7099.1	1014.8	7135.2	1015.0	7168.0
GR	1016.7	7199.0	1014.7	7325.5	1015.5	7354.6	1015.1	7667.5	1015.3	8018.9
GR	1016.3	8177.8	1017.4	8182.6	1016.2	8185.7	1014.8	8221.7	1016.6	8233.2
GR	1016.4	8609.8	1017.3	8912.1	1018.3	8921.6	1017.4	8929.1	1016.3	9053.3
GR	1018.5	9082.6	1017.0	9103.2	1016.2	9147.4	1014.6	9168.7	1011.9	9186.9
GR	1010.1	9230.0	1010.6	9376.9	1014.4	9399.6	1015.0	9575.4	1014.3	9584.7
GR	1011.7	9596.2	1011.9	9616.7	1014.9	9627.9	1014.2	9882.6	1008.4	9901.1
GR	1008.4	10075.9	1015.8	10102.8	1015.6	10460.9	1014.6	10627.3	1013.9	10650.0
GR	1013.9	11250.5	1017.1	11275.3	1018.8	11523.5	1017.7	11656.2	1018.3	11826.0
GR	1017.7	11888.7	1019.3	11923.5	1018.0	11936.7	1017.8	12001.1	1017.8	12505.3
GR	1018.9	12523.0	1018.1	12551.7	1017.8	12561.4	1017.8	12885.4	1027.8	12901.0
GR	1028.2	12921.5	1023.3	12934.8	1022.6	12954.5	1017.8	12997.1	1017.8	13068.9
GR	1021.4	13136.0	1022.6	13179.3	1028.0	13212.5	1028.2	13251.1	1022.8	13271.3
GR	1022.5	13295.0	1026.9	13348.6	1027.0	13388.5				

Modified ET record, 9/23/97. FP & FW limits set at centerline plus 50' for R/W requirements.

ET	8.875	9.1	7.1				9404	11295	9404	11500
X1	8.875	79	9641.5	10398.6	570	530	565.21			
GR	1020.4	6492.6	1019.2	6725.0	1018.5	6925.4	1018.1	7145.0	1017.6	7326.2
GR	1017.0	7408.2	1016.1	7412.1	1016.7	7419.3	1016.1	7477.7	1016.4	7711.3
GR	1016.7	7927.3	1017.6	8127.7	1017.2	8328.0	1017.8	8528.4	1017.3	8617.9
GR	1017.5	8633.8	1018.4	8637.8	1017.7	8642.2	1017.0	8705.4	1017.6	8778.9
GR	1017.5	8979.3	1018.2	9179.7	1018.7	9231.7	1020.4	9250.6	1018.9	9256.7
GR	1018.6	9277.2	1019.1	9283.7	1018.6	9287.1	1016.6	9336.7	1015.8	9416.6
GR	1017.8	9446.4	1017.2	9470.6	1018.1	9540.1	1013.8	9559.1	1012.8	9585.9
GR	1013.8	9616.3	1016.3	9641.5	1014.5	9679.2	1014.5	9718.3	1012.6	9729.1

GR	1012.2	9760.2	1013.1	9769.7	1013.1	9792.9	1009.1	9811.5	1009.5	9856.2
GR	1009.1	10014.4	1015.2	10033.8	1016.0	10148.6	1016.8	10177.4	1017.3	10398.6
GR	1017.2	10606.5	1017.2	11316.1	1018.6	11371.3	1020.2	11508.6	1017.3	11625.4
GR	1017.9	11724.1	1019.3	11820.7	1019.4	11859.1	1019.0	11881.1	1019.3	11975.9
GR	1018.8	12034.4	1018.3	12056.7	1019.3	12092.8	1019.6	12151.2	1020.8	12281.6
GR	1019.8	12354.5	1020.0	12384.9	1018.3	12409.3	1018.7	12439.9	1023.9	12473.2
GR	1020.6	12496.3	1020.3	12529.8	1022.5	12562.1	1021.8	12579.5	1022.7	12601.1
GR	1025.6	12635.2	1026.8	12660.7	1027.8	12709.1	1027.6	12721.7		

Modified ET record, 9/23/97. FP & FW limits set at centerline plus 50' for R/W requirements.

ET	8.992	9.1	7.1				9727	11465	9727	11545
X1	8.992	95	9819.1	11458.9	660	470	619.79			
GR	1019.7	6650.5	1019.9	6869.8	1019.3	7088.8	1018.3	7308.1	1018.1	7357.4
GR	1018.4	7405.7	1018.1	7504.7	1018.5	7653.7	1018.2	7853.7	1018.0	8053.8
GR	1018.1	8264.5	1018.4	8468.0	1018.5	8703.9	1018.7	8903.9	1019.0	9027.4
GR	1019.5	9087.0	1021.0	9090.7	1020.7	9100.0	1019.3	9109.2	1020.1	9296.8
GR	1021.5	9328.8	1020.5	9349.7	1020.0	9438.9	1020.1	9504.0	1019.5	9556.4
GR	1017.3	9599.3	1018.2	9666.3	1018.3	9706.1	1019.2	9732.7	1017.7	9759.7
GR	1018.5	9768.4	1017.8	9819.1	1009.1	9833.6	1009.0	9846.9	1008.1	9861.1
GR	1010.3	9909.7	1010.7	9990.4	1008.9	10005.9	1008.8	10022.3	1016.4	10042.0
GR	1016.9	10052.9	1015.9	10160.6	1016.0	10270.5	1016.5	10316.7	1016.2	10350.3
GR	1018.0	10379.5	1019.3	10546.0	1017.0	10601.9	1014.8	10621.9	1014.4	10655.5
GR	1015.3	10874.6	1016.7	10991.6	1015.2	11039.4	1015.3	11125.6	1017.1	11151.2
GR	1016.3	11204.2	1016.4	11261.7	1018.9	11299.8	1017.9	11310.6	1018.5	11319.2
GR	1018.0	11328.3	1016.3	11336.4	1017.5	11339.8	1018.8	11349.2	1016.2	11362.2
GR	1017.6	11368.0	1017.7	11375.3	1016.4	11385.1	1021.2	11407.1	1019.8	11426.3
GR	1019.0	11458.9	1017.6	11474.7	1016.3	11480.5	1015.1	11493.3	1021.9	11515.7
GR	1023.5	11522.7	1024.3	11529.3	1026.1	11539.3	1026.6	11545.6	1025.5	11561.6
GR	1016.2	11587.4	1016.1	11604.1	1022.6	11633.5	1023.3	11713.8	1021.5	11863.3
GR	1022.4	11891.7	1022.0	11904.7	1020.8	11918.2	1020.0	11940.3	1020.6	12044.9
GR	1022.2	12097.0	1025.2	12129.3	1025.1	12132.3	1028.6	12182.4	1028.4	12234.4

Modified ET record, 9/23/97. FP & FW limits set at centerline plus 50' for R/W requirements.

ET	9.098	9.1	7.1				9863	11560	9863	11720.1
X1	9.098	94	9821	11545.5	630	235	561.62			
GR	1021.9	6807.8	1021.3	6864.6	1021.4	7066.3	1021.4	7114.7	1020.6	7164.9
GR	1020.8	7264.7	1020.2	7464.7	1019.6	7614.7	1020.3	7814.7	1020.2	8014.7
GR	1020.4	8114.8	1019.8	8314.8	1020.0	8514.8	1020.1	8714.8	1020.1	8964.8
GR	1020.3	9171.9	1020.6	9291.9	1021.1	9325.4	1022.0	9334.4	1022.1	9363.7
GR	1020.5	9369.4	1020.2	9374.6	1019.9	9455.5	1020.7	9471.3	1021.3	9498.9
GR	1021.8	9509	1021.8	9528.1	1021.3	9549.4	1021.3	9566.9	1021.6	9575.1
GR	1020.3	9619.8	1020.8	9653.5	1021.4	9666.6	1022.8	9720.5	1022.7	9727.9
GR	1021.7	9738.3	1021.4	9749.5	1020.6	9760.4	1020.5	9773.2	1019.1	9795.7
GR	1018.2	9816.6	1015.8	9821	1011.5	9833.6	1012.2	9869.4	1012.1	9886.2
GR	1011.4	9898.2	1011.2	9921.7	1009.9	9955.1	1011.1	9974.7	1011.9	10000.4
GR	1014.3	10024.5	1015.0	10112.5	1016.2	10171	1016.4	10207.6	1016.8	10229.8
GR	1017.1	10301.4	1016.7	10331	1016.6	10494.3	1017.2	10533.4	1017.0	10584
GR	1016.4	10616.2	1015.6	10633.7	1015.6	10685.2	1016.6	10716.6	1016.1	10739.1

GR	1016.0	10826.7	1017.0	10878.7	1016.9	10887.6	1018.2	10938.2	1019.4	10994.9
GR	1018.9	11045.5	1019.7	11129.1	1019.6	11141.2	1016.5	11168.1	1016.2	11174.1
GR	1017.3	11246	1016.2	11292.5	1016.6	11337.4	1017.7	11350.3	1017.6	11362.9
GR	1016.6	11393.7	1017.4	11477.6	1016.6	11483.7	1016.3	11494.9	1016.3	11509.2
GR	1015.2	11534.2	1017.9	11545.5	1028.0	11575.1	1026.8	11593.1	1026.1	11598.7
GR	1025.4	11622.1	1024.2	11652.9	1023.9	11699.1	1024.3	11740.1		
NC				0.3	0.5					

Modified ET record, 9/23/97. FP & FW limits set at centerline plus 50' for R/W requirements.

```
ET    9.177       9.11       9.11                                                                  9886       11608
            ****************************
            ***** CAMELBACK ROAD ********
            ***** LOW CHORD = 1027.5 ****
            ****************************
X1    9.177        96     9881.1    11585.5        460        220      415.85
GR   1022.2    7340.9     1021.8     7440.5     1022.0     7483.4     1022.5     7500.0     1022.4     7527.2
GR   1023.6    7799.5     1023.7     7951.3     1023.2     8104.6     1023.6     8218.2     1023.9     8224.3
GR   1023.5    8230.9     1024.6     8558.6     1024.6     8768.3     1025.3     8924.8     1025.1     9007.6
GR   1026.3    9168.4     1026.9     9387.9     1027.9     9417.0     1027.0     9426.1     1027.2     9431.5
GR   1027.8    9434.5     1027.9     9438.0     1028.5     9440.8     1027.8     9455.7     1027.4     9499.0
GR   1027.8    9565.0     1027.6     9567.1     1027.5     9582.7     1028.7     9601.7     1029.1     9632.8
GR   1030.5    9694.1     1030.2     9695.0     1030.6     9704.7     1031.0     9759.9     1030.9     9784.3
GR   1032.0    9813.0     1032.7     9816.8     1032.9     9820.1     1031.9     9823.4     1032.8     9827.4
GR   1033.1    9836.8     1032.8     9851.7     1032.5     9856.2     1027.5     9866.6     1023.7     9881.1
GR   1018.1    9912.0     1017.7     9923.7     1015.8     9930.3     1015.5     9935.3     1012.4     9944.5
GR   1010.5    9950.9     1010.4     9968.7     1012.5     9981.2     1012.8     9985.0     1012.4    10002.2
GR   1014.8   10040.1     1015.2    10051.5     1013.9    10066.8     1011.9    10101.8     1013.2    10123.1
GR   1013.8   10151.5     1016.3    10183.9     1017.3    10200.8     1017.8    10326.0     1017.2    10584.0
GR   1017.4   10636.5     1017.2    10750.2     1017.5    10835.2     1018.2    10935.4     1018.3    11133.6
GR   1018.0   11144.4     1018.2    11184.1     1018.2    11284.1     1017.2    11392.1     1017.6    11450.5
GR   1017.9   11525.0     1017.4    11536.8     1017.0    11539.9     1017.1    11558.3     1024.7    11585.5
GR   1027.6   11598.0     1030.9    11605.7     1031.1    11608.1     1030.4    11612.9     1030.0    11620.3
GR   1031.2   11638.6     1030.4    11642.8     1030.7    11651.3     1030.2    11682.9     1030.0    11717.2
GR   1030.2   11723.4     1030.0    11724.9     1029.4    11807.5     1029.5    11836.6     1028.6    11873.6
GR   1028.8   11888.0
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Modified ET record, 9/23/97. FP & FW limits set at centerline plus 50' for R/W requirements.

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ET    9.191       9.11       9.11                                                                  9850       11610
SB     1.05       1.56       2.70          0       1650      84.00   18351.47          3       1016        1016
X1    9.191         90     9854.5    11606.9         60         60         60
X2        0          0          1    1031.80    1034.20          0          0       1.33          0           0
BT        9     9870.4     1034.2     1034.2     9870.5     1037.0     1027.5    10215.2     1039.8     1030.3
BT    10445     1040.8     1031.3    10733.0     1041.3     1031.8    11020.0     1040.8     1031.3    11250.0
BT   1039.8     1030.3    11593.0     1037.0     1027.5    11593.1     1034.2     1034.2
GR   1033.3     6999.8     1033.2     7319.4     1032.8     7624.1     1032.7     8051.3     1031.8     8358.6
GR   1031.6     8501.5     1031.6     8665.0     1031.2     8725.8     1031.1     8856.7     1030.1     9059.7
GR   1030.2     9127.5     1029.9     9182.0     1030.3     9186.0     1030.0     9239.0     1030.4     9249.4
GR   1029.2     9395.3     1029.6     9413.7     1029.4     9419.5     1030.1     9480.1     1029.9     9565.1
1
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GR   1029.1     9623.4     1030.2     9653.0     1032.0     9822.5     1032.4     9823.8     1032.5     9854.5
GR   1029.0     9868.0     1027.8     9870.5     1018.1     9905.4     1017.7     9915.3     1015.9     9927.8
GR   1015.7     9938.6     1013.6     9945.9     1010.7     9970.2     1012.8     9998.2     1015.7    10071.3
GR   1014.0    10099.2     1013.1    10139.0     1012.8    10170.8     1013.3    10213.5     1013.2    10228.3
GR   1018.0    10288.2     1017.3    10530.4     1017.5    10835.0     1018.0    11007.0     1018.7    11075.1
GR   1018.8    11128.3     1017.5    11181.0     1017.4    11230.5     1018.1    11279.2     1017.6    11430.5
GR   1018.2    11472.8     1020.1    11493.0     1020.2    11499.3     1018.0    11518.6     1017.8    11554.5
GR   1024.7    11581.1     1024.9    11583.0     1028.8    11594.1     1032.3    11606.9     1032.2    11634.1
GR   1032.5    11637.5     1031.8    11641.8     1031.9    11649.6     1031.6    11652.4     1030.4    11765.3
GR   1030.0    11851.2     1030.4    11885.7     1028.4    12200.0     1027.7    12508.0     1026.9    12840.4
GR   1025.9    13086.5     1026.2    13099.1     1025.6    13298.1     1025.9    13302.6     1026.1    13610.1
GR   1025.4    13729.3     1025.6    13962.8     1025.2    14019.7     1024.9    14324.8     1025.3    14457.7
GR   1025.7    14481.6     1025.6    14555.3     1024.8    14666.7     1025.3    15020.4     1025.3    15336.7
GR   1025.2    15450.6     1025.4    15458.1     1025.1    15575.6     1025.2    15660.3     1024.8    15703.7
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End of levee in corporation, 9/23/97.

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NC      .05        .05       .035
ET    9.198        9.1        9.1                                                                  9862.4     11582.2
X1    9.198         93     9885.6    11582.1         34         34      34.15
GR   1026.6     7836.5     1025.5     8138.3     1025.2     8448.0     1024.0     8777.4     1024.5     8879.8
GR   1023.9     8901.2     1024.0     9145.3     1023.6     9224.5     1025.0     9257.4     1024.6     9318.5
GR   1025.3     9373.2     1025.1     9389.6     1025.7     9394.3     1024.4     9400.5     1023.1     9414.1
GR   1023.4     9420.3     1025.1     9433.7     1026.0     9437.9     1026.1     9478.8     1024.3     9510.9
GR   1024.4     9534.6     1025.5     9572.6     1024.1     9584.3     1023.6     9595.7     1023.5     9636.3
GR   1022.9     9645.1     1031.1     9691.6     1031.0     9710.9     1030.2     9729.1     1029.9     9777.9
GR   1031.0     9862.4     1022.5     9885.6     1017.9     9902.0     1016.2     9922.4     1016.0     9934.4
GR   1013.6     9944.1     1011.1     9964.8     1011.4     9979.3     1012.9    10000.4     1016.0    10088.6
GR   1014.2    10118.3     1014.6    10129.7     1013.2    10281.2     1017.9    10328.8     1017.3    10528.1
GR   1017.5    10789.5     1019.2    10836.2     1019.6    11137.8     1019.4    11277.6     1017.7    11294.1
GR   1017.2    11428.1     1017.9    11468.2     1021.3    11496.3     1017.7    11518.9     1018.4    11557.4
GR   1024.1    11582.1     1027.7    11594.3     1026.6    11607.2     1024.1    11621.9     1023.4    11631.1
GR   1021.6    11836.6     1022.0    11878.1     1023.5    11902.4     1021.6    11968.3     1021.1    12187.7
GR   1021.6    12430.8     1020.8    12483.9     1021.2    12515.9     1020.4    12530.4     1021.2    12548.8
GR   1021.4    12628.9     1020.9    12659.6     1020.3    12668.0     1021.9    12677.0     1020.7    12693.6
GR   1019.1    12706.7     1019.4    12775.6     1020.4    12798.3     1020.7    12909.0     1018.4    12988.9
GR   1017.9    13095.3     1018.6    13128.6     1018.3    13204.2     1018.6    13231.1     1023.2    13240.2
GR   1023.6    13246.0     1023.0    13269.5     1024.5    13273.6     1018.9    13290.3     1018.3    13348.5
GR   1016.6    13365.6     1017.7    13419.1     1017.6    13538.1

ET    9.266        9.1        7.1                                       9725       11620      9439.6      11700
X1    9.266         93     9725.9    11607.3        355        340        359
GR   1024.3     7822.4     1024.5     8138.1     1024.7     8447.1     1024.9     8756.0     1024.2     9091.8
GR   1023.4     9402.0     1023.3     9418.1     1024.2     9423.6     1021.6     9432.7     1024.2     9439.6
GR   1022.9     9444.9     1022.4     9529.5     1020.2     9575.9     1022.3     9661.6     1022.1     9725.9
GR   1013.9     9852.8     1017.2    10006.0     1013.9    10058.2     1013.7    10086.7     1017.3    10103.7
GR   1016.8    10209.4     1015.7    10230.4     1016.6    10257.2     1014.7    10308.2     1014.3    10344.1
GR   1018.0    10369.8     1017.8    10486.5     1019.5    10508.4     1021.4    10604.4     1021.3    10654.4
GR   1019.6    10685.0     1019.7    10704.5     1016.3    10751.4     1017.9    10770.7     1021.4    10905.8
GR   1020.8    11021.8     1021.6    11204.6     1020.8    11252.1     1017.1    11283.4     1018.2    11404.6
GR   1017.7    11468.4     1021.5    11607.3     1018.7    11635.1     1017.1    11660.6     1023.1    11704.5
GR   1022.8    11728.9     1017.3    11752.5     1017.5    11789.2     1023.8    11815.8     1024.4    11854.6
GR   1022.1    11954.6     1023.1    12278.8     1021.6    12459.7     1020.1    12472.3     1021.7    12489.4
1
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GR   1020.8    12507.6     1022.4    12660.6     1019.8    12672.3     1019.0    12686.2     1021.1    12714.1
GR   1020.8    12727.1     1022.4    12754.6     1021.7    13004.7     1020.1    13039.2     1022.2    13104.7
GR   1021.4    13173.2     1018.6    13185.1     1018.2    13192.5     1022.7    13202.6     1018.5    13212.1
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GR   1019.0    13244.7    1023.0    13254.3    1018.1    13265.2    1019.3    13347.4    1020.2    13359.6
GR   1020.5    13394.8    1018.9    13405.5    1020.6    13454.7    1020.8    13490.7    1022.7    13501.3
GR   1023.2    13532.9    1022.0    13542.7    1022.7    13554.9    1023.2    13887.5    1023.1    14188.9
GR   1023.3    14504.7    1023.0    14515.6    1024.2    14522.5    1023.3    14526.3    1023.2    14854.7
GR   1023.8    15204.7    1024.1    15254.7    1024.1    15454.2
1
   24SEP97      08:52:35                                                                                PAGE   15

    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


 *PROF 1

 CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS
0

 CCHV=     .100 CEHV=     .300
 *SECNO 6.430
          AGUA FRIA DETAILED FDR PREPARED FOR THE FLOOD CONTROL DISTRICT OF
          MARICOPA COUNTY BY COE & VAN LOO CONSULTANTS, INC., 1996.
          THE CONTROL LINE ON THE MAIN CHANNEL OF THE AGUA FRIA RIVER IS
          STATION 10,000. ALL SECTIONS ARE STATIONED IN RIVER MILES FROM THE
          CONFLUENCE WITH THE GILA RIVER. ENCROACHMENT CARDS (ET) WERE USED
          IN SOME CASES TO BETTER MODEL DEAD OR NON-EFFECTIVE FLOW AREAS.
          CONSEQUENTLY, "SSTA" AND "ENDST" DO NOT REPRESENT THE ACTUAL FLOODING
          LIMITS, AND THE DELINEATION WAS ESTABLISHED BASED ON THE CROSS SECTION
          POINT ELEVATIONS AND THE TOPOGRAPHY. IN SOME CASES "TOPWID" DOES NOT
          REPRESENT THE FULL WIDTH OF THE FLOODPLAIN DUE TO NON-EFFECTIVE FLOW
          AREAS OR LOW ISLANDS WITHIN THE FLOODPLAIN. THE RUN WAS STARTED BASED
          SLOPE-AREA METHOD. THE HIGH WATER IN THE GILA RIVER WAS NOT USED TO
          START THE RUN, DUE TO THE DIFFERENCE IN THE TIME TO PEAK.
          ENCROACHMENTS ARE PLACED ON THE UPSTREAM SECTION OF THE BRIDGES TO
          REPRESENT THE 1:1 CONTRACTION OF FLOW. IN ADDITION, ENCROACHMENTS ARE
          PLACED ON THE DOWNSTREAM SECTION OF THE BRIDGES TO REPRESENT THE 4:1
          EXPANSION OF FLOW.
     6.430      8.00    989.00    987.47    989.00    990.20      1.20       .00       .00    996.50
   54400.0        .0   54400.0        .0        .0    6188.9        .0        .0        .0    996.10
       .00       .00      8.79       .00      .000      .030      .000      .000    981.00   9461.07
   .003035      510.      445.      380.         0        14         0       .00   1066.53  10527.60


 FLOW DISTRIBUTION FOR SECNO=      6.43          CWSEL=    989.00

 STA=    9461.   10537.
   PER Q=    100.0
    AREA=   6188.9
     VEL=      8.8
   DEPTH=      5.8

 *SECNO 6.520

 3301 HV CHANGED MORE THAN HVINS

1
   24SEP97      08:52:35                                                                                PAGE   16

    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.56

     6.520      8.88    990.38    987.11       .00    991.07       .69       .81       .05    997.60
   54400.0        .0   54400.0        .0        .0    8177.7        .0      72.6      10.9    997.60
       .02       .00      6.65       .00      .000      .030      .000      .000    981.50   9469.62
   .001244      510.      440.      370.         2        19         0       .00   1095.24  10564.86


 FLOW DISTRIBUTION FOR SECNO=      6.52          CWSEL=    990.38

 STA=    9470.   10571.
   PER Q=    100.0
    AREA=   8177.7
     VEL=      6.7
   DEPTH=      7.5

 *SECNO 6.540

 3265 DIVIDED FLOW

     6.540      7.87    990.27    988.10       .00    991.32      1.04       .15       .11    997.90
   54400.0        .0   54400.0        .0        .0    6634.9        .0      87.9      13.1    997.50
       .02       .00      8.20       .00      .000      .030      .000      .000    982.40   9473.14
   .002222      100.       90.       75.         2        14         0       .00   1001.01  10572.97


 FLOW DISTRIBUTION FOR SECNO=      6.54          CWSEL=    990.27

 STA=    9473.   10583.
   PER Q=    100.0
    AREA=   6634.9
     VEL=      8.2
   DEPTH=      6.6

 *SECNO 6.560
     6.560      8.69    990.79    987.82       .00    991.52       .74       .17       .03    998.10
   54400.0        .0   54400.0        .0        .0    7906.5        .0     104.6      15.5    997.70
       .03       .00      6.88       .00      .000      .030      .000      .000    982.10   9473.24
   .001411      115.      100.       85.         2        19         0       .00   1107.89  10581.13
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

FLOW DISTRIBUTION FOR SECNO=      6.56          CWSEL=    990.79

STA=    9473.   10591.
  PER Q=    100.0
   AREA=   7906.5
    VEL=      6.9
  DEPTH=      7.1

*SECNO 6.590
     6.590      9.31    991.11    987.44       .00    991.72       .61       .18       .01    998.50
   54400.0        .0   54400.0       .0        .0    8704.2        .0     133.2      19.3    998.00
       .03       .00      6.25       .00      .000      .030      .000      .000    981.80   9462.66
   .001031      165.      150.      155.         2        14         0       .00   1112.03  10574.69

FLOW DISTRIBUTION FOR SECNO=      6.59          CWSEL=    991.11

STA=    9463.   10584.
  PER Q=    100.0
   AREA=   8704.2
    VEL=      6.2
  DEPTH=      7.8

*SECNO 6.610

3265 DIVIDED FLOW

     6.610      9.24    991.04    988.47       .00    991.94       .90       .14       .09    998.80
   54400.0        .0   54400.0       .0        .0    7156.9        .0     151.4      21.8    998.20
       .04       .00      7.60       .00      .000      .030      .000      .000    981.80   9448.77
   .001884      115.      100.       85.         2        16         0       .00   1066.40  10562.55

FLOW DISTRIBUTION FOR SECNO=      6.61          CWSEL=    991.04

STA=    9449.   10570.
  PER Q=    100.0
   AREA=   7156.9
    VEL=      7.6
  DEPTH=      6.7
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 6.640
     6.640      9.10    991.50    988.31       .00    992.19       .69       .23       .02    999.30
   54400.0        .0   54400.0       .0        .0    8182.7        .0     177.8      25.6    998.40
       .04       .00      6.65       .00      .000      .030      .000      .000    982.40   9454.60
   .001266      165.      150.      135.         2        14         0       .00   1112.14  10566.75

FLOW DISTRIBUTION FOR SECNO=      6.64          CWSEL=    991.50

STA=    9455.   10575.
  PER Q=    100.0
   AREA=   8182.7
    VEL=      6.6
  DEPTH=      7.4

*SECNO 6.660
     6.660      9.40    991.60    989.01       .00    992.43       .83       .20       .04    999.60
   54400.0        .0   54400.0       .0        .0    7434.8        .0     202.0      29.0    999.00
       .05       .00      7.32       .00      .000      .030      .000      .000    982.20   9476.36
   .001746      150.      135.      120.         2        19         0       .00   1112.30  10588.65

FLOW DISTRIBUTION FOR SECNO=      6.66          CWSEL=    991.60

STA=    9476.   10599.
  PER Q=    100.0
   AREA=   7434.8
    VEL=      7.3
  DEPTH=      6.7

*SECNO 6.690
     6.690      9.78    991.98    988.54       .00    992.63       .65       .17       .02   1000.00
   54400.0        .0   54400.0       .0        .0    8436.7        .0     224.7      32.2    998.80
       .05       .00      6.45       .00      .000      .030      .000      .000    982.20   9462.53
   .001144      145.      125.      100.         2        19         0       .00   1112.59  10575.13

FLOW DISTRIBUTION FOR SECNO=      6.69          CWSEL=    991.98

STA=    9463.   10585.
  PER Q=    100.0
   AREA=   8436.7
    VEL=      6.4
  DEPTH=      7.6
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 6.710

3265 DIVIDED FLOW

     6.710      10.61    992.11    988.17       .00    992.76       .65       .14       .00   1000.30
   54400.0         .0   54400.0        .0        .0    8414.4        .0     248.9      35.3    999.10
       .06        .00      6.47       .00      .000      .030      .000      .000    981.50   9463.26
   .001026       130.      125.      115.         2        19         0       .00   1013.34  10574.14

FLOW DISTRIBUTION FOR SECNO=      6.71          CWSEL=    992.11

STA=    9463.   10585.
  PER Q=    100.0
   AREA=   8414.4
    VEL=      6.5
  DEPTH=      8.3

*SECNO 6.730
     6.730       9.90    992.30    988.46       .00    992.88       .58       .11       .01   1000.50
   54400.0         .0   54400.0        .0        .0    8908.6        .0     270.8      38.0    999.30
       .06        .00      6.11       .00      .000      .030      .000      .000    982.40   9461.58
   .000954       110.      110.      110.         2        11         0       .00   1112.35  10573.93

FLOW DISTRIBUTION FOR SECNO=      6.73          CWSEL=    992.30

STA=    9462.   10584.
  PER Q=    100.0
   AREA=   8908.6
    VEL=      6.1
  DEPTH=      8.0

*SECNO 6.770

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .39

     6.770       6.78    991.88    991.55       .00    993.71      1.83       .46       .38   1002.10
   54400.0         .0   54400.0        .0        .0    5009.9        .0     307.5      43.8   1001.40
       .07        .00     10.86       .00      .000      .030      .000      .000    985.10   9457.39
   .006408       215.      230.      245.         3        14         0       .00   1102.92  10560.30
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1


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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=      6.77          CWSEL=    991.88

STA=    9457.   10574.
  PER Q=    100.0
   AREA=   5009.9
    VEL=     10.9
  DEPTH=      4.5

*SECNO 6.790

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

     6.790       8.63    992.93    991.50       .00    994.26      1.33       .49       .05   1002.90
   54400.0         .0   54400.0        .0        .0    5885.8        .0     321.3      46.5   1002.20
       .07        .00      9.24       .00      .000      .030      .000      .000    984.30   9456.73
   .003311       110.      110.      110.         3         8         0       .00   1001.19  10561.16

FLOW DISTRIBUTION FOR SECNO=      6.79          CWSEL=    992.93

STA=    9457.   10573.
  PER Q=    100.0
   AREA=   5885.8
    VEL=      9.2
  DEPTH=      5.9

*SECNO 6.820
     6.820       8.93    993.73    991.24       .00    994.58       .85       .27       .05   1002.70
   54400.0         .0   54400.0        .0        .0    7359.1        .0     338.8      49.2   1001.00
       .08        .00      7.39       .00      .000      .030      .000      .000    984.80   9457.95
   .001788       115.      115.      115.         2        19         0       .00   1106.10  10564.05

FLOW DISTRIBUTION FOR SECNO=      6.82          CWSEL=    993.73

STA=    9458.   10573.
  PER Q=    100.0
   AREA=   7359.1
    VEL=      7.4
  DEPTH=      6.7
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 6.890

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .54

6.890	4.78	994.18	993.79	.00	995.96	1.79	1.11	.28	1004.20
54400.0	.0	54400.0	.0	.0	5071.2	.0	390.9	58.5	1002.70
.09	.00	10.73	.00	.000	.030	.000	.000	989.40	9454.42
.006210	365.	365.	365.	3	8	0	.00	1110.40	10564.82

FLOW DISTRIBUTION FOR SECNO= 6.89 CWSEL= 994.18

STA= 9454. 10577.
PER Q= 100.0
AREA= 5071.2
VEL= 10.7
DEPTH= 4.6

*SECNO 6.910

3265 DIVIDED FLOW

6.910	5.31	994.81	994.32	.00	996.62	1.81	.65	.01	1002.80
54400.0	.0	54400.0	.0	.0	5036.9	.0	403.6	61.2	1002.70
.09	.00	10.80	.00	.000	.030	.000	.000	989.50	9443.21
.005685	105.	110.	115.	2	5	0	.00	1018.43	10568.00

FLOW DISTRIBUTION FOR SECNO= 6.91 CWSEL= 994.81

STA= 9443. 10579.
PER Q= 100.0
AREA= 5036.9
VEL= 10.8
DEPTH= 4.9

*SECNO 6.930

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.58

6.930	6.21	996.11	994.12	.00	997.07	.96	.36	.09	1004.80
54400.0	.0	54400.0	.0	.0	6915.7	.0	418.0	63.8	1003.90
.09	.00	7.87	.00	.000	.030	.000	.000	989.90	9432.07
.002268	105.	105.	105.	3	15	0	.00	1131.93	10564.01

FLOW DISTRIBUTION FOR SECNO= 6.93 CWSEL= 996.11

STA= 9432. 10573.
PER Q= 100.0
AREA= 6915.7
VEL= 7.9
DEPTH= 6.1

*SECNO 6.970

6.970	6.23	996.63	994.68	.00	997.59	.96	.52	.00	1004.20
54400.0	.0	54400.0	.0	.0	6931.4	.0	454.6	69.8	1004.60
.10	.00	7.85	.00	.000	.030	.000	.000	990.40	9415.89
.002278	220.	230.	240.	2	14	0	.00	1143.00	10558.89

FLOW DISTRIBUTION FOR SECNO= 6.97 CWSEL= 996.63

STA= 9416. 10570.
PER Q= 100.0
AREA= 6931.4
VEL= 7.8
DEPTH= 6.1

*SECNO 6.990

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3301 HV CHANGED MORE THAN HVINS

6.990	6.39	996.59	995.55	.00	998.05	1.46	.31	.15	1003.40
54400.0	.0	54400.0	.0	.0	5603.4	.0	469.7	72.4	1003.50
.10	.00	9.71	.00	.000	.030	.000	.000	990.20	9419.31
.004061	95.	105.	115.	2	15	0	.00	1032.44	10549.14

FLOW DISTRIBUTION FOR SECNO= 6.99 CWSEL= 996.59

STA= 9419. 10559.
PER Q= 100.0
AREA= 5603.4
VEL= 9.7
DEPTH= 5.4

*SECNO 7.020

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

7.020	8.51	997.61	995.04	.00	998.43	.82	.31	.06	1004.50
54400.0	.0	54400.0	.0	.0	7493.2	.0	488.5	75.5	1004.00
.11	.00	7.26	.00	.000	.030	.000	.000	989.10	9444.65
.001702	120.	125.	130.	3	11	0	.00	1115.41	10560.07

FLOW DISTRIBUTION FOR SECNO= 7.02 CWSEL= 997.61

STA= 9445. 10570.
PER Q= 100.0
AREA= 7493.2
VEL= 7.3
DEPTH= 6.7

*SECNO 7.060

7.060	8.36	997.96	995.68	.00	998.88	.91	.41	.03	1006.00
54400.0	.0	54400.0	.0	.0	7090.4	.0	526.1	81.2	1004.80
.12	.00	7.67	.00	.000	.030	.000	.000	989.60	9457.82
.001990	210.	225.	235.	2	19	0	.00	1092.76	10550.58

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 7.06 CWSEL= 997.96

STA= 9458. 10559.
PER Q= 100.0
AREA= 7090.4
VEL= 7.7
DEPTH= 6.5

*SECNO 7.080

3265 DIVIDED FLOW

7.080	7.58	998.08	996.04	.00	999.17	1.09	.24	.05	1006.60
54400.0	.0	54400.0	.0	.0	6502.9	.0	543.3	83.9	1005.60
.12	.00	8.37	.00	.000	.030	.000	.000	990.50	9466.81
.002371	110.	110.	110.	2	14	0	.00	998.41	10554.88

FLOW DISTRIBUTION FOR SECNO= 7.08 CWSEL= 998.08

STA= 9467. 10563.
PER Q= 100.0
AREA= 6502.9
VEL= 8.4
DEPTH= 6.5

*SECNO 7.100

7.100	7.45	998.35	996.82	.00	999.52	1.18	.33	.03	1006.30
54400.0	.0	54400.0	.0	.0	6250.8	.0	561.6	86.8	1006.10
.12	.00	8.70	.00	.000	.030	.000	.000	990.90	9451.71
.002994	125.	125.	125.	0	15	0	.00	1082.37	10534.08

FLOW DISTRIBUTION FOR SECNO= 7.10 CWSEL= 998.35

STA= 9452. 10543.
PER Q= 100.0
AREA= 6250.8
VEL= 8.7
DEPTH= 5.8

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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*SECNO 7.200

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.45

     7.200      9.10    999.80    996.77       .00   1000.56       .76       .99       .04   1006.90
   54400.0        .0   54400.0       .0        .0    7770.1        .0     642.1      99.2   1007.20
       .14       .00      7.00       .00      .000      .030      .000      .000    990.70   9482.05
   .001417      515.      500.      490.         2        15         0       .00   1063.27  10545.31


FLOW DISTRIBUTION FOR SECNO=      7.20          CWSEL=    999.80

STA=    9482.   10558.
  PER Q=    100.0
   AREA=   7770.1
    VEL=      7.0
  DEPTH=      7.3

*SECNO 7.290
     7.290      7.28   1000.48    998.55       .00   1001.57      1.08       .91       .10   1008.90
   54400.0        .0   54400.0       .0        .0    6508.4        .0     724.0     111.1   1009.10
       .16       .00      8.36       .00      .000      .030      .000      .000    993.20   9483.22
   .002423      490.      500.      510.         2        11         0       .00   1022.39  10505.61


FLOW DISTRIBUTION FOR SECNO=      7.29          CWSEL=   1000.48

STA=    9483.   10529.
  PER Q=    100.0
   AREA=   6508.4
    VEL=      8.4
  DEPTH=      6.4

*SECNO 7.390
     7.390      7.89   1001.69    999.05       .00   1002.60       .91      1.02       .02   1008.80
   54400.0        .0   54400.0       .0        .0    7105.8        .0     801.4     122.6   1009.90
       .18       .00      7.66       .00      .000      .030      .000      .000    993.80   9507.39
   .001762      500.      495.      495.         2        19         0       .00   1002.00  10509.40
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      7.39          CWSEL=   1001.69

STA=    9507.   10536.
  PER Q=    100.0
   AREA=   7105.8
    VEL=      7.7
  DEPTH=      7.1

*SECNO 7.490
     7.490      7.39   1002.59   1000.13       .00   1003.57       .98       .95       .02   1009.50
   54400.0        .0   54400.0       .0        .0    6846.1        .0     883.9     134.3   1010.90
       .20       .00      7.95       .00      .000      .030      .000      .000    995.20   9517.21
   .001936      575.      515.      515.         2        14         0       .00    979.92  10497.13


FLOW DISTRIBUTION FOR SECNO=      7.49          CWSEL=   1002.59

STA=    9517.   10525.
  PER Q=    100.0
   AREA=   6846.1
    VEL=      7.9
  DEPTH=      7.0

*SECNO 7.580
     7.580      8.15   1003.55   1000.36       .00   1004.38       .83       .79       .02   1010.30
   54400.0        .0   54400.0       .0        .0    7454.1        .0     962.6     145.1   1010.90
       .21       .00      7.30       .00      .000      .030      .000      .000    995.40   9517.08
   .001426      540.      480.      405.         2        14         0       .00    965.56  10482.64


FLOW DISTRIBUTION FOR SECNO=      7.58          CWSEL=   1003.55

STA=    9517.   10529.
  PER Q=    100.0
   AREA=   7454.1
    VEL=      7.3
  DEPTH=      7.7

*SECNO 7.670
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.48


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1009.90 ELREA=      1010.10

     7.670      10.09   1004.39    999.25       .00   1004.89       .50       .47       .03   1009.90
   54400.0        .0   54400.0       .0        .0    9607.4        .0    1062.5     156.6   1010.10
       .24       .00      5.66       .00      .000      .030      .000      .000    994.30   9521.35
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   .000653      480.      510.      530.         1        14         0       .00   1010.05  10531.40

FLOW DISTRIBUTION FOR SECNO=      7.67          CWSEL=   1004.39

STA=    9521.   10552.
  PER Q=    100.0
   AREA=   9607.4
    VEL=      5.7
  DEPTH=      9.5

*SECNO 7.770

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1010.50 ELREA=      1010.90

     7.770      8.58   1004.68   1001.05       .00   1005.37       .68       .42       .06   1010.50
   54400.0        .0   54400.0        .0        .0    8203.9        .0    1164.7     168.3   1010.90
       .26       .00      6.63       .00      .000      .030      .000      .000    996.10   9499.02
   .001134      510.      500.      500.         2         8         0       .00   1031.78  10530.80

FLOW DISTRIBUTION FOR SECNO=      7.77          CWSEL=   1004.68

STA=    9499.   10556.
  PER Q=    100.0
   AREA=   8203.9
    VEL=      6.6
  DEPTH=      8.0

*SECNO 7.870
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1010.50 ELREA=      1013.10

     7.870      7.88   1005.28   1002.02       .00   1005.96       .68       .59       .00   1010.50
   54400.0        .0   54400.0        .0        .0    8245.7        .0    1259.1     180.7   1013.10
       .28       .00      6.60       .00      .000      .030      .000      .000    997.40   9460.36
   .001234      650.      500.      410.         2        11         0       .00   1113.52  10573.88

FLOW DISTRIBUTION FOR SECNO=      7.87          CWSEL=   1005.28

STA=    9460.   10589.
  PER Q=    100.0
   AREA=   8245.7
    VEL=      6.6
  DEPTH=      7.4

*SECNO 7.960

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1013.00 ELREA=      1012.40

     7.960      7.37   1005.97   1002.61       .00   1006.50       .53       .53       .01   1013.00
   54400.0        .0   54400.0        .0        .0    9308.8        .0    1353.9     193.8   1012.40
       .30       .00      5.84       .00      .000      .030      .000      .000    998.60   9346.52
   .001028      460.      470.      470.         2         8         0       .00   1315.04  10661.56

FLOW DISTRIBUTION FOR SECNO=      7.96          CWSEL=   1005.97

STA=    9347.   10669.
  PER Q=    100.0
   AREA=   9308.8
    VEL=      5.8
  DEPTH=      7.1

*SECNO 7.990

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1014.90 ELREA=      1014.80

     7.990      7.08   1006.18   1002.86       .00   1006.68       .50       .18       .00   1014.90
   54400.0        .0   54400.0        .0        .0    9569.4        .0    1391.8     199.2   1014.80
       .31       .00      5.68       .00      .000      .030      .000      .000    999.10   9318.01
   .001003      175.      175.      175.         1         8         0       .00   1385.60  10703.62

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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=      7.99          CWSEL=   1006.18

STA=    9318.   10732.
  PER Q=    100.0
   AREA=   9569.4
    VEL=      5.7
  DEPTH=      6.9

CCHV=      .300 CEHV=      .500
*SECNO 8.000

3370 NORMAL BRIDGE, NRD=  68 MIN ELTRD=  1021.30 MAX ELLC=  1013.30
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            ****************************
            ***** INDIAN SCHOOL ROAD ****
            ***** LOW CHORD = 1013.3 ****
            ****************************
     8.000      6.98   1006.18   1003.12       .00   1006.80       .62       .06       .06   1013.30
   54400.0        .0   54400.0        .0        .0    8640.8        .0    1402.2     200.8   1013.30
       .31       .00      6.30       .00      .000      .030      .000      .000    999.20   9249.43
   .001515       50.       50.       50.         2        18         0  -1471.77   1461.69  10711.12


FLOW DISTRIBUTION FOR SECNO=      8.00          CWSEL=   1006.18

STA=    9249.   10725.
  PER Q=    100.0
   AREA=   8640.8
    VEL=      6.3
  DEPTH=      5.9

*SECNO 8.010

3370 NORMAL BRIDGE, NRD=  68 MIN ELTRD=  1021.30 MAX ELLC=  1013.30

     8.010      7.13   1006.33   1003.12       .00   1006.92       .59       .11       .01   1013.30
   54400.0        .0   54400.0        .0        .0    8818.5        .0    1417.3     203.3   1013.30
       .32       .00      6.17       .00      .000      .030      .000      .000    999.20   9249.15
   .001422       75.       75.       75.         2        18         0  -1501.83   1462.25  10711.40


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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      8.01          CWSEL=   1006.33

STA=    9249.   10725.
  PER Q=    100.0
   AREA=   8818.5
    VEL=      6.2
  DEPTH=      6.0

CCHV=     .100 CEHV=     .300
*SECNO 8.030

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .70


3470 ENCROACHMENT STATIONS=     9440.0   10904.0  TYPE=      1  TARGET=     1464.000
     8.030      6.99   1006.19   1004.79       .00   1007.12       .93       .10       .10   1009.80
   54400.0        .0   54400.0        .0        .0    7047.5        .0    1426.4     205.0   1013.00
       .32       .00      7.72       .00      .000      .030      .000      .000    999.20   9451.49
   .002925       50.       50.       50.         2        15         0       .00   1436.45  10887.94


FLOW DISTRIBUTION FOR SECNO=      8.03          CWSEL=   1006.19

STA=    9451.   10903.
  PER Q=    100.0
   AREA=   7047.5
    VEL=      7.7
  DEPTH=      4.9

*SECNO 8.105

3470 ENCROACHMENT STATIONS=     9381.0   10980.0  TYPE=      1  TARGET=     1599.000
     8.105      6.90   1007.40   1005.31       .00   1008.04       .64       .90       .03   1001.80
   54400.0    2509.1   51890.9        .0     516.7    7989.9        .0    1496.6     218.6   1014.40
       .34      4.86      6.49       .00      .040      .030      .000      .000   1000.50   9395.59
   .001816      280.      398.      620.         2        19         0       .00   1575.09  10970.68


FLOW DISTRIBUTION FOR SECNO=      8.10          CWSEL=   1007.40

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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


STA=    9396.    9401.    9405.    9414.    9416.    9423.    9433.    9494.   10979.
  PER Q=      .0       .1       .4       .1       .5       .5      2.9     95.4
   AREA=      8.1     14.7     48.7     15.0     47.2     55.6    327.4   7989.9
    VEL=      1.9      3.6      4.8      4.8      5.6      5.1      4.8      6.5
  DEPTH=      1.5      4.2      5.4      6.0      6.7      5.9      5.4      5.4

*SECNO 8.198

3470 ENCROACHMENT STATIONS=     9458.6   10971.1  TYPE=      1  TARGET=     1512.500
     8.198      6.79   1008.29   1006.43       .00   1009.03       .74       .96       .03   1014.90
   54400.0        .0   54400.0        .0        .0    7882.2        .0    1588.5     235.8   1015.80
       .36       .00      6.90       .00      .000      .030      .000      .000   1001.50   9470.48
   .002120      420.      490.      620.         2        19         0       .00   1493.30  10963.78


FLOW DISTRIBUTION FOR SECNO=      8.20          CWSEL=   1008.29

STA=    9470.   10971.
  PER Q=    100.0
   AREA=   7882.2
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    VEL=      6.9
  DEPTH=      5.3

*SECNO 8.325

3470 ENCROACHMENT STATIONS=     9479.9   11053.1  TYPE=      1  TARGET=     1573.199
     8.325      7.90   1010.00   1008.31       .00   1010.76       .76      1.73       .01   1013.10
   54400.0        .0   51757.3    2642.7        .0    7354.9     435.3    1709.0     259.3   1004.70
       .38       .00      7.04      6.07      .000      .035      .040      .000   1002.10   9483.50
   .003204      645.      669.      705.         2        15         0       .00   1556.63  11040.13


FLOW DISTRIBUTION FOR SECNO=      8.32          CWSEL=   1010.00

STA=    9483.   10950.   11032.   11040.
  PER Q=     95.1      4.7       .1
   AREA=   7354.9    416.7     18.5
    VEL=      7.0      6.2      3.4
  DEPTH=      5.0      5.1      2.4
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 8.433

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9009.5   11000.0  TYPE=      1  TARGET=     1990.500
     8.433      6.98   1011.98   1010.79       .00   1012.96       .97      2.13       .06   1010.00
   54400.0   14139.5   40091.7    168.7    2214.4    4767.2      91.9    1805.6     280.3   1013.80
       .40      6.39      8.41      1.84      .040      .035      .040      .000   1005.00   9018.94
   .004476      510.      573.      660.         2        19         0       .00   1666.40  10992.81


FLOW DISTRIBUTION FOR SECNO=      8.43          CWSEL=   1011.98

STA=    9019.    9131.    9195.    9401.    9517.    9583.   10598.   10993.
  PER Q=      8.2      4.7      7.7      3.5      1.9     73.7       .3
   AREA=    591.2    337.5    728.8    356.7    200.1   4767.2     91.9
    VEL=      7.6      7.5      5.8      5.3      5.2      8.4      1.8
  DEPTH=      5.3      5.3      3.5      3.1      3.0      5.1       .2

*SECNO 8.534
3280 CROSS SECTION      8.53 EXTENDED      1.18 FEET


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     8509.0   11252.0  TYPE=      1  TARGET=     2743.000
     8.534      6.58   1014.38   1012.87       .00   1014.82       .43      1.80       .05   1013.00
   54400.0   13874.2   28868.7   11657.2    2478.5    5597.1    2222.3    1911.8     306.4   1012.20
       .43      5.60      5.16      5.25      .040      .035      .040      .000   1007.80   8512.76
   .002652      540.      531.      525.         2        16         0       .00   2607.48  11120.24


FLOW DISTRIBUTION FOR SECNO=      8.53          CWSEL=   1014.38

STA=    8513.    8680.    8906.    9054.    9067.   10612.   10766.   11096.   11120.
  PER Q=      3.9     17.4      4.0       .2     53.1      3.7     17.2       .5
   AREA=    501.4   1440.1    499.7     37.2   5597.1    488.1   1662.1     72.1
    VEL=      4.2      6.6      4.3      3.6      5.2      4.1      5.6      3.9
  DEPTH=      3.0      6.4      3.4      2.7      3.6      3.2      5.0      2.9
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 8.646

3470 ENCROACHMENT STATIONS=     8773.0   11500.0  TYPE=      1  TARGET=     2727.000
     8.646      7.95   1015.75   1013.59       .00   1016.14       .39      1.32       .00   1013.00
   54400.0   11389.8   33620.7    9389.4    2281.5    6380.0    2374.9    2056.3     341.4   1014.60
       .46      4.99      5.27      3.95      .040      .035      .040      .000   1007.80   8773.00
   .001910      575.      592.      600.         2        15         0       .00   2548.82  11321.82


FLOW DISTRIBUTION FOR SECNO=      8.65          CWSEL=   1015.75

STA=    8773.    8896.    9024.    9124.    9269.   10601.   11062.   11142.   11288.   11322.
  PER Q=      5.3      8.4      4.3      2.9     61.8      6.5      3.6      6.7       .5
   AREA=    517.9    818.5    495.8    449.4   6380.0   1125.7    406.5    749.3     93.4
    VEL=      5.5      5.6      4.8      3.5      5.3      3.1      4.8      4.8      3.2
  DEPTH=      4.2      6.4      5.0      3.1      4.8      2.4      5.0      5.1      2.8

*SECNO 8.768

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .63
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3470 ENCROACHMENT STATIONS=     9065.0   11500.0  TYPE=      1  TARGET=     2435.000
     8.768      8.82   1017.22   1016.47       .00   1018.13       .90      1.83       .15   1014.30
   54400.0   15476.8   23525.9   15397.4    1991.7    2673.1    3005.7    2192.9     376.0   1015.80
       .49      7.77      8.80      5.12      .040      .035      .040      .000   1008.40   9065.00
   .004851      620.      642.      640.         2         8         0       .00   2193.75  11293.29

FLOW DISTRIBUTION FOR SECNO=      8.77          CWSEL=   1017.22

STA=    9065.    9230.    9377.    9575.    9585.   10103.   10461.   10650.   11251.   11293.
  PER Q=      5.5     17.4      5.3       .2     43.2      3.4      3.4     21.1       .3
   AREA=    407.3   1009.7    550.8     23.9   2673.1    545.5    420.8   1995.6     43.8
    VEL=      7.4      9.4      5.3      4.8      8.8      3.4      4.4      5.8      3.6
  DEPTH=      2.5      6.9      2.8      2.6      5.2      1.5      2.2      3.3      1.0

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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 8.875

3470 ENCROACHMENT STATIONS=     9404.0   11500.0  TYPE=      1  TARGET=     2096.000
     8.875     10.56   1019.66   1018.90       .00   1020.63       .97      2.48       .02   1016.30
   54400.0    5496.1   38809.0   10094.9     874.8    4415.0    2388.9    2290.5     402.7   1017.30
       .51      6.28      8.79      4.23      .040      .035      .040      .000   1009.10   9404.00
   .004095      570.      565.      530.         2         8         0       .00   2058.01  11462.01

FLOW DISTRIBUTION FOR SECNO=      8.88          CWSEL=   1019.66

STA=    9404.    9559.    9616.    9642.   10399.   10607.   11316.   11462.
  PER Q=      3.3      5.5      1.4     71.3      3.9     13.9       .8
   AREA=    395.1    363.6    116.1   4415.0    500.4   1743.6    144.9
    VEL=      4.5      8.2      6.6      8.8      4.3      4.3      2.8
  DEPTH=      2.5      6.4      4.6      5.8      2.4      2.5      1.0

*SECNO 8.992

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.65

3470 ENCROACHMENT STATIONS=     9727.0   11545.0  TYPE=      1  TARGET=     1818.000
     8.992     13.56   1021.66   1018.81       .00   1022.10       .44      1.42       .05   1017.80
   54400.0     995.5   52546.1     858.3     309.2    9731.9     227.0    2414.2     428.3   1019.00
       .54      3.22      5.40      3.78      .040      .035      .040      .000   1008.10   9727.00
   .001512      660.      620.      470.         2         5         0       .00   1787.88  11514.88

FLOW DISTRIBUTION FOR SECNO=      8.99          CWSEL=   1021.66

STA=    9727.    9733.    9760.    9768.    9819.   11459.   11475.   11481.   11493.   11515.
  PER Q=       .1       .5       .2      1.1     96.6       .3       .2       .7       .4
   AREA=     14.5     86.4     30.9    177.4   9731.9     52.9     27.3     76.2     70.7
    VEL=      2.1      3.1      3.4      3.3      5.4      3.2      4.0      4.7      3.1
  DEPTH=      2.5      3.2      3.5      3.5      5.9      3.3      4.7      5.9      3.3

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   24SEP97      08:52:35                                                                                    PAGE   35

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 9.098

3470 ENCROACHMENT STATIONS=     9863.0   11720.1  TYPE=      1  TARGET=     1857.100
     9.098     12.58   1022.48   1019.57       .00   1022.91       .43       .80       .00 100000.00
   54400.0        .0   54329.3      70.7        .0   10352.9      30.7    2546.6     450.6   1017.90
       .57       .00      5.25      2.30      .000      .035      .040      .000   1009.90   9863.00
   .001367      630.      562.      235.         2        14         0       .00   1695.92  11558.92

FLOW DISTRIBUTION FOR SECNO=      9.10          CWSEL=   1022.48

STA=    9863.   11546.   11559.
  PER Q=     99.9       .1
   AREA=  10352.9     30.7
    VEL=      5.2      2.3
  DEPTH=      6.2      2.3

CCHV=      .300 CEHV=      .500
*SECNO 9.177

3470 ENCROACHMENT STATIONS=     9886.0   11608.0  TYPE=      1  TARGET=     1722.000
            ****************************
            ***** CAMELBACK ROAD ********
            ***** LOW CHORD = 1027.5 ****
            ****************************
     9.177     12.66   1023.06   1020.28       .00   1023.51       .45       .59       .01 100000.00
   54400.0        .0   54400.0        .0        .0   10092.9        .0    2644.3     466.7   1024.70
       .59       .00      5.39       .00      .000      .035      .000      .000   1010.40   9886.00
   .001495      460.      416.      220.         2        14         0       .00   1693.64  11579.64
```

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FLOW DISTRIBUTION FOR SECNO=      9.18          CWSEL=   1023.06

STA=    9886.   11586.
  PER Q=    100.0
   AREA=  10092.9
    VEL=      5.4
  DEPTH=      6.0
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
    1.05      1.56      2.70       .00   1650.00     84.00  18351.47      3.00   1016.00   1016.00

*SECNO 9.191
BTCARD, BRIDGE STENCL=    9850.00   STENCR=   11610.00
CLASS A LOW FLOW

3420 BRIDGE W.S.=    1023.02 BRIDGE VELOCITY=       4.88     CALCULATED CHANNEL AREA=     11143.

 EGPRS      EGLWC       H3       QWEIR      QLOW      BAREA   TRAPEZOID      ELLC     ELTRD     WEIRLN
                                                               AREA
       .00   1023.55      .05        0.    54400.    18351.    25492.     1031.80   1034.20        0.


3470 ENCROACHMENT STATIONS=     9850.0   11610.0  TYPE=      1  TARGET=     1760.000
     9.191     12.41   1023.11       .00       .00   1023.55       .43       .03       .00   1032.50
   54400.0        .0   54400.0        .0        .0   10289.6        .0    2658.3     469.1   1032.30
       .59       .00      5.29       .00      .000      .035      .000      .000   1010.70   9887.36
   .001395       60.       60.       60.         0         0         0       .00   1687.62  11574.98


FLOW DISTRIBUTION FOR SECNO=      9.19          CWSEL=   1023.11

STA=    9887.   11607.
  PER Q=    100.0
   AREA=  10289.6
    VEL=      5.3
  DEPTH=      6.1

*SECNO 9.198
3280 CROSS SECTION      9.20 EXTENDED      5.54 FEET


3470 ENCROACHMENT STATIONS=     9862.4   11582.2  TYPE=      1  TARGET=     1719.800
     9.198     12.04   1023.14   1020.53       .00   1023.62       .48       .05       .02   1022.50
   54400.0        .3   54399.7        .0        .6    9789.3        .0    2666.2     470.4   1024.10
       .60       .54      5.56       .00      .050      .035      .000      .000   1011.10   9883.85
   .001653       34.       34.       34.         2        14         0       .00   1694.10  11577.95
```



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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=      9.20          CWSEL=   1023.14

STA=    9884.    9886.   11582.
  PER Q=       .0     100.0
   AREA=       .6    9789.3
    VEL=       .5       5.6
  DEPTH=       .3       5.8

*SECNO 9.266

3470 ENCROACHMENT STATIONS=     9439.6   11700.0  TYPE=      1  TARGET=     2260.400
     9.266     10.12   1023.82   1021.32       .00   1024.22       .40       .58       .02   1022.10
   54400.0    1047.1   52015.7    1337.1     543.4   10082.9     413.5    2751.9     486.6   1021.50
       .62      1.93      5.16      3.23      .050      .035      .050      .000   1013.70   9441.13
   .001576       355.      359.      340.         2        14         0       .00   2258.87  11700.00


FLOW DISTRIBUTION FOR SECNO=      9.27          CWSEL=   1023.82

STA=    9441.    9530.    9576.    9662.    9726.   11607.   11635.   11661.   11700.
  PER Q=       .2       .5       .9       .3     95.6       .5      1.1       .8
   AREA=    101.1    117.1    220.7    104.5  10082.9    103.5    151.1    158.9
    VEL=      1.3      2.2      2.2      1.6      5.2      2.8      3.9      2.9
  DEPTH=      1.1      2.5      2.6      1.6      5.4      3.7      5.9      4.0
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T1 AGUA FRIA RIVER FLOODPLAIN DELINEATION RE-STUDY
T1 PREPARED FOR THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC #95-05)
T1 PREPARED BY COE & VAN LOO CONSULTANTS, INC. (CVL #95-0067-01)
T1 *
T1 ************************************************************************
T1 MODIFIED BY SIMONS, LI & ASSOCIATES, FOR THE FLOOD CONTROL DISTRICT OF
T1 MARICOPA COUNTY, SEPTEMBER 23, 1997.
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T1 ************************************************************************
T1 *
T2 AGUA FRIA RIVER, GILA RIVER TO THE NEW WADDELL DAM
T3 FLOODWAY CONDITION, CAMELBACK LEVEE, PHASE I FILE NAME - CBLP1.DAT

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0        3         0         0         0         0         0         0     989.0         0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      15        0        -1         0         0         0        -1         0         0         0


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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*PROF 2

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS
0

CCHV=     .100 CEHV=     .300
*SECNO 6.430
         AGUA FRIA DETAILED FDR PREPARED FOR THE FLOOD CONTROL DISTRICT OF
         MARICOPA COUNTY BY COE & VAN LOO CONSULTANTS, INC., 1996.
         THE CONTROL LINE ON THE MAIN CHANNEL OF THE AGUA FRIA RIVER IS
         STATION 10,000. ALL SECTIONS ARE STATIONED IN RIVER MILES FROM THE
         CONFLUENCE WITH THE GILA RIVER. ENCROACHMENT CARDS (ET) WERE USED
         IN SOME CASES TO BETTER MODEL DEAD OR NON-EFFECTIVE FLOW AREAS.
         CONSEQUENTLY, "SSTA" AND "ENDST" DO NOT REPRESENT THE ACTUAL FLOODING
         LIMITS, AND THE DELINEATION WAS ESTABLISHED BASED ON THE CROSS SECTION
         POINT ELEVATIONS AND THE TOPOGRAPHY. IN SOME CASES "TOPWID" DOES NOT
         REPRESENT THE FULL WIDTH OF THE FLOODPLAIN DUE TO NON-EFFECTIVE FLOW
         AREAS OR LOW ISLANDS WITHIN THE FLOODPLAIN. THE RUN WAS STARTED BASED
         SLOPE-AREA METHOD. THE HIGH WATER IN THE GILA RIVER WAS NOT USED TO
         START THE RUN, DUE TO THE DIFFERENCE IN THE TIME TO PEAK.
         ENCROACHMENTS ARE PLACED ON THE UPSTREAM SECTION OF THE BRIDGES TO
         REPRESENT THE 1:1 CONTRACTION OF FLOW. IN ADDITION, ENCROACHMENTS ARE
         PLACED ON THE DOWNSTREAM SECTION OF THE BRIDGES TO REPRESENT THE 4:1
         EXPANSION OF FLOW.
     6.430      8.00    989.00    987.47    989.00    990.20      1.20       .00       .00    996.50
   54400.0        .0   54400.0        .0        .0    6188.9        .0        .0        .0    996.10
       .00       .00      8.79       .00      .000      .030      .000      .000    981.00   9461.07
   .003035      510.      445.      380.         0        14         0       .00   1066.53  10527.60


*SECNO 6.520

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.56

     6.520      8.88    990.38    987.11       .00    991.07       .69       .81       .05    997.60
   54400.0        .0   54400.0        .0        .0    8177.7        .0      72.6      10.9    997.60
       .02       .00      6.65       .00      .000      .030      .000      .000    981.50   9469.62
   .001244      510.      440.      370.         2        19         0       .00   1095.24  10564.86


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   24SEP97      08:52:35                                                                                    PAGE   40

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 6.540

3265 DIVIDED FLOW

     6.540      7.87    990.27    988.10       .00    991.32      1.04       .15       .11    997.90
   54400.0        .0   54400.0        .0        .0    6634.9        .0      87.9      13.1    997.50
       .02       .00      8.20       .00      .000      .030      .000      .000    982.40   9473.14
   .002222      100.       90.       75.         2        14         0       .00   1001.01  10572.97


*SECNO 6.560
     6.560      8.69    990.79    987.82       .00    991.52       .74       .17       .03    998.10
   54400.0        .0   54400.0        .0        .0    7906.5        .0     104.6      15.5    997.70
       .03       .00      6.88       .00      .000      .030      .000      .000    982.10   9473.24
   .001411      115.      100.       85.         2        19         0       .00   1107.89  10581.13


*SECNO 6.590
     6.590      9.31    991.11    987.44       .00    991.72       .61       .18       .01    998.50
   54400.0        .0   54400.0        .0        .0    8704.2        .0     133.2      19.3    998.00
       .03       .00      6.25       .00      .000      .030      .000      .000    981.80   9462.66
   .001031      165.      150.      155.         2        14         0       .00   1112.03  10574.69


*SECNO 6.610

3265 DIVIDED FLOW

     6.610      9.24    991.04    988.47       .00    991.94       .90       .14       .09    998.80
   54400.0        .0   54400.0        .0        .0    7156.9        .0     151.4      21.8    998.20
       .04       .00      7.60       .00      .000      .030      .000      .000    981.80   9448.77
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   .001884      115.      100.       85.         2        16         0       .00   1066.40  10562.55


*SECNO 6.640
     6.640      9.10    991.50    988.31       .00    992.19       .69       .23       .02    999.30
   54400.0        .0   54400.0        .0        .0    8182.7        .0     177.8      25.6    998.40
       .04       .00      6.65       .00      .000      .030      .000      .000    982.40   9454.60
   .001266      165.      150.      135.         2        14         0       .00   1112.14  10566.75


*SECNO 6.660
     6.660      9.40    991.60    989.01       .00    992.43       .83       .20       .04    999.60
   54400.0        .0   54400.0        .0        .0    7434.8        .0     202.0      29.0    999.00
       .05       .00      7.32       .00      .000      .030      .000      .000    982.20   9476.36
   .001746      150.      135.      120.         2        19         0       .00   1112.30  10588.65


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   24SEP97      08:52:35                                                                                PAGE   41

    SECNO      DEPTH     CWSEL     CRIWS     WSELK        EG        HV        HL     OLOSS    L-BANK ELEV
    Q          QLOB      QCH       QROB      ALOB       ACH      AROB       VOL       TWA    R-BANK ELEV
    TIME       VLOB      VCH       VROB       XNL      XNCH       XNR       WTN      ELMIN      SSTA
    SLOPE      XLOBL     XLCH      XLOBR    ITRIAL       IDC     ICONT     CORAR     TOPWID     ENDST


*SECNO 6.690
     6.690      9.78    991.98    988.54       .00    992.63       .65       .17       .02   1000.00
   54400.0        .0   54400.0        .0        .0    8436.7        .0     224.7      32.2    998.80
       .05       .00      6.45       .00      .000      .030      .000      .000    982.20   9462.53
   .001144      145.      125.      100.         2        19         0       .00   1112.59  10575.13


*SECNO 6.710

3265 DIVIDED FLOW

     6.710     10.61    992.11    988.17       .00    992.76       .65       .14       .00   1000.30
   54400.0        .0   54400.0        .0        .0    8414.4        .0     248.9      35.3    999.10
       .06       .00      6.47       .00      .000      .030      .000      .000    981.50   9463.26
   .001026      130.      125.      115.         2        19         0       .00   1013.34  10574.14


*SECNO 6.730
     6.730      9.90    992.30    988.46       .00    992.88       .58       .11       .01   1000.50
   54400.0        .0   54400.0        .0        .0    8908.6        .0     270.8      38.0    999.30
       .06       .00      6.11       .00      .000      .030      .000      .000    982.40   9461.58
   .000954      110.      110.      110.         2        11         0       .00   1112.35  10573.93


*SECNO 6.770

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .39

     6.770      6.78    991.88    991.55       .00    993.71      1.83       .46       .38   1002.10
   54400.0        .0   54400.0        .0        .0    5009.9        .0     307.5      43.8   1001.40
       .07       .00     10.86       .00      .000      .030      .000      .000    985.10   9457.39
   .006408      215.      230.      245.         3        14         0       .00   1102.92  10560.30


*SECNO 6.790

3265 DIVIDED FLOW

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   24SEP97      08:52:35                                                                                PAGE   42

    SECNO      DEPTH     CWSEL     CRIWS     WSELK        EG        HV        HL     OLOSS    L-BANK ELEV
    Q          QLOB      QCH       QROB      ALOB       ACH      AROB       VOL       TWA    R-BANK ELEV
    TIME       VLOB      VCH       VROB       XNL      XNCH       XNR       WTN      ELMIN      SSTA
    SLOPE      XLOBL     XLCH      XLOBR    ITRIAL       IDC     ICONT     CORAR     TOPWID     ENDST


3301 HV CHANGED MORE THAN HVINS

     6.790      8.63    992.93    991.50       .00    994.26      1.33       .49       .05   1002.90
   54400.0        .0   54400.0        .0        .0    5885.8        .0     321.3      46.5   1002.20
       .07       .00      9.24       .00      .000      .030      .000      .000    984.30   9456.73
   .003311      110.      110.      110.         3         8         0       .00   1001.19  10561.16


*SECNO 6.820
     6.820      8.93    993.73    991.24       .00    994.58       .85       .27       .05   1002.70
   54400.0        .0   54400.0        .0        .0    7359.1        .0     338.8      49.2   1001.00
       .08       .00      7.39       .00      .000      .030      .000      .000    984.80   9457.95
   .001788      115.      115.      115.         2        19         0       .00   1106.10  10564.05


*SECNO 6.890

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .54

     6.890      4.78    994.18    993.79       .00    995.96      1.79      1.11       .28   1004.20
   54400.0        .0   54400.0        .0        .0    5071.2        .0     390.9      58.5   1002.70
       .09       .00     10.73       .00      .000      .030      .000      .000    989.40   9454.42
   .006210      365.      365.      365.         3         8         0       .00   1110.40  10564.82


*SECNO 6.910
```

3265 DIVIDED FLOW

6.910	5.31	994.81	994.32	.00	996.62	1.81	.65	.01	1002.80
54400.0	.0	54400.0	.0	.0	5036.9	.0	403.6	61.2	1002.70
.09	.00	10.80	.00	.000	.030	.000	.000	989.50	9443.21
.005685	105.	110.	115.	2	5	0	.00	1018.43	10568.00

*SECNO 6.930

3301 HV CHANGED MORE THAN HVINS

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.58

6.930	6.21	996.11	994.12	.00	997.07	.96	.36	.09	1004.80
54400.0	.0	54400.0	.0	.0	6915.7	.0	418.0	63.8	1003.90
.09	.00	7.87	.00	.000	.030	.000	.000	989.90	9432.07
.002268	105.	105.	105.	3	15	0	.00	1131.93	10564.01

*SECNO 6.970

6.970	6.23	996.63	994.68	.00	997.59	.96	.52	.00	1004.20
54400.0	.0	54400.0	.0	.0	6931.4	.0	454.6	69.8	1004.60
.10	.00	7.85	.00	.000	.030	.000	.000	990.40	9415.89
.002278	220.	230.	240.	2	14	0	.00	1143.00	10558.89

*SECNO 6.990

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

6.990	6.39	996.59	995.55	.00	998.05	1.46	.31	.15	1003.40
54400.0	.0	54400.0	.0	.0	5603.4	.0	469.7	72.4	1003.50
.10	.00	9.71	.00	.000	.030	.000	.000	990.20	9419.31
.004061	95.	105.	115.	2	15	0	.00	1032.44	10549.14

*SECNO 7.020

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

7.020	8.51	997.61	995.04	.00	998.43	.82	.31	.06	1004.50
54400.0	.0	54400.0	.0	.0	7493.2	.0	488.5	75.5	1004.00
.11	.00	7.26	.00	.000	.030	.000	.000	989.10	9444.65
.001702	120.	125.	130.	3	11	0	.00	1115.41	10560.07

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 7.060

7.060	8.36	997.96	995.68	.00	998.88	.91	.41	.03	1006.00
54400.0	.0	54400.0	.0	.0	7090.4	.0	526.1	81.2	1004.80
.12	.00	7.67	.00	.000	.030	.000	.000	989.60	9457.82
.001990	210.	225.	235.	2	19	0	.00	1092.76	10550.58

*SECNO 7.080

3265 DIVIDED FLOW

7.080	7.58	998.08	996.04	.00	999.17	1.09	.24	.05	1006.60
54400.0	.0	54400.0	.0	.0	6502.9	.0	543.3	83.9	1005.60
.12	.00	8.37	.00	.000	.030	.000	.000	990.50	9466.81
.002371	110.	110.	110.	2	14	0	.00	998.41	10554.88

*SECNO 7.100

7.100	7.45	998.35	996.82	.00	999.52	1.18	.33	.03	1006.30
54400.0	.0	54400.0	.0	.0	6250.8	.0	561.6	86.8	1006.10
.12	.00	8.70	.00	.000	.030	.000	.000	990.90	9451.71
.002994	125.	125.	125.	0	15	0	.00	1082.37	10534.08

*SECNO 7.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.45

7.200	9.10	999.80	996.77	.00	1000.56	.76	.99	.04	1006.90
54400.0	.0	54400.0	.0	.0	7770.1	.0	642.1	99.2	1007.20
.14	.00	7.00	.00	.000	.030	.000	.000	990.70	9482.05
.001417	515.	500.	490.	2	15	0	.00	1063.27	10545.31

```
*SECNO 7.290
    7.290      7.28   1000.48    998.55       .00   1001.57      1.08       .91       .10   1008.90
  54400.0        .0   54400.0       .0        .0    6508.4        .0     724.0     111.1   1009.10
      .16       .00      8.36       .00      .000      .030      .000      .000    993.20   9483.22
 .002423      490.      500.      510.         2        11         0       .00   1022.39  10505.61


*SECNO 7.390
    7.390      7.89   1001.69    999.05       .00   1002.60       .91      1.02       .02   1008.80
  54400.0        .0   54400.0       .0        .0    7105.8        .0     801.4     122.6   1009.90
      .18       .00      7.66       .00      .000      .030      .000      .000    993.80   9507.39
 .001762      500.      495.      495.         2        19         0       .00   1002.00  10509.40


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  24SEP97      08:52:35                                                                                PAGE   45

   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


*SECNO 7.490
    7.490      7.39   1002.59   1000.13       .00   1003.57       .98       .95       .02   1009.50
  54400.0        .0   54400.0       .0        .0    6846.1        .0     883.9     134.3   1010.90
      .20       .00      7.95       .00      .000      .030      .000      .000    995.20   9517.21
 .001936      575.      515.      515.         2        14         0       .00    979.92  10497.13


*SECNO 7.580
    7.580      8.15   1003.55   1000.36       .00   1004.38       .83       .79       .02   1010.30
  54400.0        .0   54400.0       .0        .0    7454.1        .0     962.6     145.1   1010.90
      .21       .00      7.30       .00      .000      .030      .000      .000    995.40   9517.08
 .001426      540.      480.      405.         2        14         0       .00    965.56  10482.64


*SECNO 7.670

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.48


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1009.90 ELREA=      1010.10

    7.670     10.09   1004.39    999.25       .00   1004.89       .50       .47       .03   1009.90
  54400.0        .0   54400.0       .0        .0    9607.4        .0    1062.5     156.6   1010.10
      .24       .00      5.66       .00      .000      .030      .000      .000    994.30   9521.35
 .000653      480.      510.      530.         1        14         0       .00   1010.05  10531.40


*SECNO 7.770

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1010.50 ELREA=      1010.90

    7.770      8.58   1004.68   1001.05       .00   1005.37       .68       .42       .06   1010.50
  54400.0        .0   54400.0       .0        .0    8203.9        .0    1164.7     168.3   1010.90
      .26       .00      6.63       .00      .000      .030      .000      .000    996.10   9499.02
 .001134      510.      500.      500.         2         8         0       .00   1031.78  10530.80


*SECNO 7.870

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1010.50 ELREA=      1013.10

    7.870      7.88   1005.28   1002.02       .00   1005.96       .68       .59       .00   1010.50
  54400.0        .0   54400.0       .0        .0    8245.7        .0    1259.1     180.7   1013.10
      .28       .00      6.60       .00      .000      .030      .000      .000    997.40   9460.36
 .001234      650.      500.      410.         2        11         0       .00   1113.52  10573.88


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  24SEP97      08:52:35                                                                                PAGE   46

   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


*SECNO 7.960

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1013.00 ELREA=      1012.40

    7.960      7.37   1005.97   1002.61       .00   1006.50       .53       .53       .01   1013.00
  54400.0        .0   54400.0       .0        .0    9308.8        .0    1353.9     193.8   1012.40
      .30       .00      5.84       .00      .000      .030      .000      .000    998.60   9346.52
 .001028      460.      470.      470.         2         8         0       .00   1315.04  10661.56


*SECNO 7.990

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      1014.90 ELREA=      1014.80

    7.990      7.08   1006.18   1002.86       .00   1006.68       .50       .18       .00   1014.90
  54400.0        .0   54400.0       .0        .0    9569.4        .0    1391.8     199.2   1014.80
      .31       .00      5.68       .00      .000      .030      .000      .000    999.10   9318.01
 .001003      175.      175.      175.         1         8         0       .00   1385.60  10703.62


CCHV=     .300 CEHV=     .500
*SECNO 8.000

3370 NORMAL BRIDGE, NRD=  68 MIN ELTRD=  1021.30 MAX ELLC=  1013.30

            ****************************
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            ***** INDIAN SCHOOL ROAD ****
            ***** LOW CHORD = 1013.3 ****
            ****************************
     8.000      6.98   1006.18   1003.12       .00   1006.80       .62       .06       .06   1013.30
   54400.0        .0   54400.0        .0        .0    8640.8        .0    1402.2     200.8   1013.30
       .31       .00      6.30       .00      .000      .030      .000      .000    999.20    9249.43
   .001515       50.       50.       50.         2        18         0  -1471.77   1461.69  10711.12

*SECNO 8.010

3370 NORMAL BRIDGE, NRD=  68 MIN ELTRD=  1021.30 MAX ELLC=  1013.30

     8.010      7.13   1006.33   1003.12       .00   1006.92       .59       .11       .01   1013.30
   54400.0        .0   54400.0        .0        .0    8818.5        .0    1417.3     203.3   1013.30
       .32       .00      6.17       .00      .000      .030      .000      .000    999.20    9249.15
   .001422       75.       75.       75.         2        18         0  -1501.83   1462.25  10711.40

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   24SEP97      08:52:35                                                                                    PAGE   47

    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

CCHV=     .100 CEHV=     .300
*SECNO 8.030

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .70

3470 ENCROACHMENT STATIONS=     9440.0   10904.0  TYPE=      1  TARGET=     1464.000
     8.030      6.99   1006.19   1004.79   1006.19   1007.12       .93       .10       .10   1009.80
   54400.0        .0   54400.0        .0        .0    7047.5        .0    1426.4     205.0   1013.00
       .32       .00      7.72       .00      .000      .030      .000      .000    999.20    9451.49
   .002925       50.       50.       50.         2        15         0       .00   1436.45  10887.94

*SECNO 8.105

3470 ENCROACHMENT STATIONS=     9470.0   10980.0  TYPE=      1  TARGET=     1510.000
     8.105      6.88   1007.38   1005.40   1007.40   1008.08       .71       .95       .02   1001.80
   54400.0     587.7   53812.3        .0     131.0    7957.7        .0    1495.3     218.4   1014.40
       .34      4.49      6.76       .00      .040      .030      .000      .000   1000.50   9470.00
   .001979      280.      398.      620.         2        19         0       .00   1500.65  10970.65

*SECNO 8.198

3470 ENCROACHMENT STATIONS=     9458.6   10971.1  TYPE=      1  TARGET=     1512.500
     8.198      6.85   1008.35   1006.43   1008.29   1009.08       .72       .99       .01   1014.90
   54400.0        .0   54400.0        .0        .0    7966.1        .0    1585.5     235.2   1015.80
       .36       .00      6.83       .00      .000      .030      .000      .000   1001.50   9470.38
   .002047      420.      490.      620.         2        19         0       .00   1493.46  10963.84

*SECNO 8.325

3470 ENCROACHMENT STATIONS=     9480.0   10990.0  TYPE=      1  TARGET=     1510.000
     8.325      7.92   1010.02   1008.37   1010.00   1010.82       .80      1.72       .02   1013.10
   54400.0        .0   53159.9    1240.1        .0    7384.9     208.5    1705.1     258.3   1004.70
       .38       .00      7.20      5.95      .000      .035      .040      .000   1002.10   9483.48
   .003335      645.      669.      705.         2        15         0       .00   1506.52  10990.00

*SECNO 8.433
1
   24SEP97      08:52:35                                                                                    PAGE   48

    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=     9009.5   10975.0  TYPE=      1  TARGET=     1965.500
     8.433      7.05   1012.05   1010.79   1011.98   1012.99       .95      2.13       .04   1010.00
   54400.0   14189.7   40023.4     186.9    2250.2    4826.6      96.3    1800.8     278.8   1013.80
       .40      6.31      8.29      1.94      .040      .035      .040      .000   1005.00   9018.87
   .004282      510.      573.      660.         2        19         0       .00   1649.27  10975.00

*SECNO 8.534
3280 CROSS SECTION      8.53 EXTENDED      1.24 FEET

3470 ENCROACHMENT STATIONS=     8509.0   10965.0  TYPE=      1  TARGET=     2456.000
     8.534      6.64   1014.44   1013.01   1014.38   1014.94       .50      1.90       .05   1013.00
   54400.0   15112.4   31681.6    7606.1    2513.7    5695.1    1446.2    1903.8     303.9   1012.20
       .43      6.01      5.56      5.26      .040      .035      .040      .000   1007.80   8512.69
   .003014      540.      531.      525.         2        19         0       .00   2452.31  10965.00

*SECNO 8.646

3470 ENCROACHMENT STATIONS=     8773.0   10990.0  TYPE=      1  TARGET=     2217.000
     8.646      8.15   1015.95   1013.90   1015.75   1016.44       .49      1.50       .00   1013.00
   54400.0   12991.4   38583.3    2825.3    2384.1    6655.5     907.1    2036.2     335.5   1014.60
       .46      5.45      5.80      3.11      .040      .035      .040      .000   1007.80   8773.00
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   .002184      575.      592.      600.         2        11         0       .00   2217.00  10990.00

*SECNO 8.768

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=     9065.0   11105.0  TYPE=      1  TARGET=     2040.000
     8.768      9.16   1017.56   1016.64   1017.22   1018.42       .86      1.87       .11   1014.30
   54400.0   16036.4   24278.9   14084.7    2158.7    2849.8    2820.2    2165.9     366.4   1015.80
       .48      7.43      8.52      4.99      .040      .035      .040      .000   1008.40   9065.00
   .004174      620.      642.      640.         2         5         0       .00   2014.69  11105.00


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   24SEP97      08:52:35                                                                                    PAGE   49

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 8.875

3470 ENCROACHMENT STATIONS=     9404.0   11295.0  TYPE=      1  TARGET=     1891.000
     8.875     10.65   1019.75   1018.82   1019.66   1020.71       .95      2.26       .03   1016.30
   54400.0    5576.7   38984.6    9838.7     897.4    4487.0    2277.4    2264.6     391.0   1017.30
       .50      6.21      8.69      4.32      .040      .035      .040      .000   1009.10   9404.00
   .003915      570.      565.      530.         2         8         0       .00   1891.00  11295.00

*SECNO 8.992

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.61

3470 ENCROACHMENT STATIONS=     9727.0   11465.0  TYPE=      1  TARGET=     1738.000
     8.992     13.61   1021.71   1018.81   1021.66   1022.16       .45      1.40       .05   1017.80
   54400.0    1021.5   53337.8      40.7     314.0    9817.4      18.1    2387.9     415.4   1019.00
       .53      3.25      5.43      2.24      .040      .035      .040      .000   1008.10   9727.00
   .001514      660.      620.      470.         2         5         0       .00   1738.00  11465.00

*SECNO 9.098

3470 ENCROACHMENT STATIONS=     9863.0   11560.0  TYPE=      1  TARGET=     1697.000
     9.098     12.64   1022.54   1019.58   1022.48   1022.96       .42       .80       .00 100000.00
   54400.0        .0   54328.1      71.9        .0   10449.1      31.5    2520.9     437.5   1017.90
       .56       .00      5.20      2.28      .000      .035      .040      .000   1009.90   9863.00
   .001325      630.      562.      235.         2        14         0       .00   1696.09  11559.09

CCHV=     .300 CEHV=     .500
*SECNO 9.177

3470 ENCROACHMENT STATIONS=     9886.0   11608.0  TYPE=      1  TARGET=     1722.000
            ****************************
            ***** CAMELBACK ROAD ********
            ***** LOW CHORD = 1027.5 ****
            ****************************
     9.177     12.70   1023.10   1020.28   1023.06   1023.55       .45       .58       .01 100000.00
   54400.0        .0   54400.0        .0        .0   10161.7        .0    2619.4     453.7   1024.70
       .59       .00      5.35       .00      .000      .035      .000      .000   1010.40   9886.00
   .001462      460.      416.      220.         2        14         0       .00   1693.78  11579.78


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   24SEP97      08:52:35                                                                                    PAGE   50

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.05      1.56      2.70       .00   1650.00     84.00  18351.47      3.00   1016.00   1016.00

*SECNO 9.191
BTCARD, BRIDGE STENCL=    9850.00   STENCR=   11610.00
CLASS A LOW FLOW

3420 BRIDGE W.S.=    1023.06 BRIDGE VELOCITY=       4.85     CALCULATED CHANNEL AREA=     11209.

 EGPRS     EGLWC     H3        QWEIR     QLOW      BAREA     TRAPEZOID     ELLC      ELTRD     WEIRLN
                                                              AREA
       .00   1023.58       .05        0.   54400.    18351.    25492.    1031.80   1034.20        0.


3470 ENCROACHMENT STATIONS=     9850.0   11610.0  TYPE=      1  TARGET=     1760.000
     9.191     12.45   1023.15       .00   1023.11   1023.58       .43       .03       .00   1032.50
   54400.0        .0   54400.0        .0        .0   10355.9        .0    2633.5     456.0   1032.30
       .59       .00      5.25       .00      .000      .035      .000      .000   1010.70   9887.22
   .001366       60.       60.       60.         0         0         0       .00   1687.91  11575.13

*SECNO 9.198
```

3280 CROSS SECTION 9.20 EXTENDED 5.59 FEET

3470 ENCROACHMENT STATIONS= 9862.4 11582.2 TYPE= 1 TARGET= 1719.800

9.198	12.08	1023.18	1020.53	1023.14	1023.65	.47	.05	.02	1022.50	
54400.0	.4	54399.6	.0	.7	9872.8	.0	2641.5	457.3	1024.10	
.59	.56	5.51	.00	.050	.035	.000	.000	1011.10	9883.71	
.001607	34.	34.	34.	1	14	0	.00	1694.45	11578.16	

*SECNO 9.266

3470 ENCROACHMENT STATIONS= 9725.0 11620.0 TYPE= 1 TARGET= 1895.000

9.266	10.11	1023.81	1021.36	1023.82	1024.26	.45	.60	.01	1022.10	
54400.0	1.3	54318.2	80.5	1.5	10047.0	37.4	2723.7	472.1	1021.50	
.61	.87	5.41	2.15	.050	.035	.050	.000	1013.70	9725.00	
.001739	355.	359.	340.	2	14	0	.00	1895.00	11620.00	

THIS RUN EXECUTED 24SEP97 08:52:39

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

EAR EVENT CAMELBACK L

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	DEPTH	EG	CRIWS	VCH	10*KS	XLCH	SSTA	TOPWID	ENDST	TWA
	6.430	54400.00	989.00	8.00	990.20	987.47	8.79	30.35	.00	9461.07	1066.53	10527.60	.00
	6.430	54400.00	989.00	8.00	990.20	987.47	8.79	30.35	.00	9461.07	1066.53	10527.60	.00
*	6.520	54400.00	990.38	8.88	991.07	987.11	6.65	12.44	440.00	9469.62	1095.24	10564.86	10.92
*	6.520	54400.00	990.38	8.88	991.07	987.11	6.65	12.44	440.00	9469.62	1095.24	10564.86	10.92
	6.540	54400.00	990.27	7.87	991.32	988.10	8.20	22.22	90.00	9473.14	1001.01	10572.97	13.08
	6.540	54400.00	990.27	7.87	991.32	988.10	8.20	22.22	90.00	9473.14	1001.01	10572.97	13.08
	6.560	54400.00	990.79	8.69	991.52	987.82	6.88	14.11	100.00	9473.24	1107.89	10581.13	15.50
	6.560	54400.00	990.79	8.69	991.52	987.82	6.88	14.11	100.00	9473.24	1107.89	10581.13	15.50
	6.590	54400.00	991.11	9.31	991.72	987.44	6.25	10.31	150.00	9462.66	1112.03	10574.69	19.33
	6.590	54400.00	991.11	9.31	991.72	987.44	6.25	10.31	150.00	9462.66	1112.03	10574.69	19.33
	6.610	54400.00	991.04	9.24	991.94	988.47	7.60	18.84	100.00	9448.77	1066.40	10562.55	21.83
	6.610	54400.00	991.04	9.24	991.94	988.47	7.60	18.84	100.00	9448.77	1066.40	10562.55	21.83
	6.640	54400.00	991.50	9.10	992.19	988.31	6.65	12.66	150.00	9454.60	1112.14	10566.75	25.58
	6.640	54400.00	991.50	9.10	992.19	988.31	6.65	12.66	150.00	9454.60	1112.14	10566.75	25.58
	6.660	54400.00	991.60	9.40	992.43	989.01	7.32	17.46	135.00	9476.36	1112.30	10588.65	29.02
	6.660	54400.00	991.60	9.40	992.43	989.01	7.32	17.46	135.00	9476.36	1112.30	10588.65	29.02
	6.690	54400.00	991.98	9.78	992.63	988.54	6.45	11.44	125.00	9462.53	1112.59	10575.13	32.22
	6.690	54400.00	991.98	9.78	992.63	988.54	6.45	11.44	125.00	9462.53	1112.59	10575.13	32.22
	6.710	54400.00	992.11	10.61	992.76	988.17	6.47	10.26	125.00	9463.26	1013.34	10574.14	35.27
	6.710	54400.00	992.11	10.61	992.76	988.17	6.47	10.26	125.00	9463.26	1013.34	10574.14	35.27
	6.730	54400.00	992.30	9.90	992.88	988.46	6.11	9.54	110.00	9461.58	1112.35	10573.93	37.95
	6.730	54400.00	992.30	9.90	992.88	988.46	6.11	9.54	110.00	9461.58	1112.35	10573.93	37.95

	SECNO	Q	CWSEL	DEPTH	EG	CRIWS	VCH	10*KS	XLCH	SSTA	TOPWID	ENDST	TWA
*	6.770	54400.00	991.88	6.78	993.71	991.55	10.86	64.08	230.00	9457.39	1102.92	10560.30	43.80
*	6.770	54400.00	991.88	6.78	993.71	991.55	10.86	64.08	230.00	9457.39	1102.92	10560.30	43.80
	6.790	54400.00	992.93	8.63	994.26	991.50	9.24	33.11	110.00	9456.73	1001.19	10561.16	46.46
	6.790	54400.00	992.93	8.63	994.26	991.50	9.24	33.11	110.00	9456.73	1001.19	10561.16	46.46
	6.820	54400.00	993.73	8.93	994.58	991.24	7.39	17.88	115.00	9457.95	1106.10	10564.05	49.24
	6.820	54400.00	993.73	8.93	994.58	991.24	7.39	17.88	115.00	9457.95	1106.10	10564.05	49.24
*	6.890	54400.00	994.18	4.78	995.96	993.79	10.73	62.10	365.00	9454.42	1110.40	10564.82	58.52
*	6.890	54400.00	994.18	4.78	995.96	993.79	10.73	62.10	365.00	9454.42	1110.40	10564.82	58.52
	6.910	54400.00	994.81	5.31	996.62	994.32	10.80	56.85	110.00	9443.21	1018.43	10568.00	61.21
	6.910	54400.00	994.81	5.31	996.62	994.32	10.80	56.85	110.00	9443.21	1018.43	10568.00	61.21
*	6.930	54400.00	996.11	6.21	997.07	994.12	7.87	22.68	105.00	9432.07	1131.93	10564.01	63.80
*	6.930	54400.00	996.11	6.21	997.07	994.12	7.87	22.68	105.00	9432.07	1131.93	10564.01	63.80
	6.970	54400.00	996.63	6.23	997.59	994.68	7.85	22.78	230.00	9415.89	1143.00	10558.89	69.81
	6.970	54400.00	996.63	6.23	997.59	994.68	7.85	22.78	230.00	9415.89	1143.00	10558.89	69.81
	6.990	54400.00	996.59	6.39	998.05	995.55	9.71	40.61	105.00	9419.31	1032.44	10549.14	72.43
	6.990	54400.00	996.59	6.39	998.05	995.55	9.71	40.61	105.00	9419.31	1032.44	10549.14	72.43
*	7.020	54400.00	997.61	8.51	998.43	995.04	7.26	17.02	125.00	9444.65	1115.41	10560.07	75.51
*	7.020	54400.00	997.61	8.51	998.43	995.04	7.26	17.02	125.00	9444.65	1115.41	10560.07	75.51

	7.060	54400.00	997.96	8.36	998.88	995.68	7.67	19.90	225.00	9457.82	1092.76	10550.58	81.22
	7.060	54400.00	997.96	8.36	998.88	995.68	7.67	19.90	225.00	9457.82	1092.76	10550.58	81.22
	7.080	54400.00	998.08	7.58	999.17	996.04	8.37	23.71	110.00	9466.81	998.41	10554.88	83.86
	7.080	54400.00	998.08	7.58	999.17	996.04	8.37	23.71	110.00	9466.81	998.41	10554.88	83.86
	7.100	54400.00	998.35	7.45	999.52	996.82	8.70	29.94	125.00	9451.71	1082.37	10534.08	86.84
	7.100	54400.00	998.35	7.45	999.52	996.82	8.70	29.94	125.00	9451.71	1082.37	10534.08	86.84
*	7.200	54400.00	999.80	9.10	1000.56	996.77	7.00	14.17	500.00	9482.05	1063.27	10545.31	99.16
*	7.200	54400.00	999.80	9.10	1000.56	996.77	7.00	14.17	500.00	9482.05	1063.27	10545.31	99.16
	7.290	54400.00	1000.48	7.28	1001.57	998.55	8.36	24.23	500.00	9483.22	1022.39	10505.61	111.13
	7.290	54400.00	1000.48	7.28	1001.57	998.55	8.36	24.23	500.00	9483.22	1022.39	10505.61	111.13
	7.390	54400.00	1001.69	7.89	1002.60	999.05	7.66	17.62	495.00	9507.39	1002.00	10509.40	122.63
	7.390	54400.00	1001.69	7.89	1002.60	999.05	7.66	17.62	495.00	9507.39	1002.00	10509.40	122.63
	7.490	54400.00	1002.59	7.39	1003.57	1000.13	7.95	19.36	515.00	9517.21	979.92	10497.13	134.34
	7.490	54400.00	1002.59	7.39	1003.57	1000.13	7.95	19.36	515.00	9517.21	979.92	10497.13	134.34
	7.580	54400.00	1003.55	8.15	1004.38	1000.36	7.30	14.26	480.00	9517.08	965.56	10482.64	145.06
	7.580	54400.00	1003.55	8.15	1004.38	1000.36	7.30	14.26	480.00	9517.08	965.56	10482.64	145.06

	SECNO	Q	CWSEL	DEPTH	EG	CRIWS	VCH	10*KS	XLCH	SSTA	TOPWID	ENDST	TWA
*	7.670	54400.00	1004.39	10.09	1004.89	999.25	5.66	6.53	510.00	9521.35	1010.05	10531.40	156.63
*	7.670	54400.00	1004.39	10.09	1004.89	999.25	5.66	6.53	510.00	9521.35	1010.05	10531.40	156.63
	7.770	54400.00	1004.68	8.58	1005.37	1001.05	6.63	11.34	500.00	9499.02	1031.78	10530.80	168.35
	7.770	54400.00	1004.68	8.58	1005.37	1001.05	6.63	11.34	500.00	9499.02	1031.78	10530.80	168.35
	7.870	54400.00	1005.28	7.88	1005.96	1002.02	6.60	12.34	500.00	9460.36	1113.52	10573.88	180.66
	7.870	54400.00	1005.28	7.88	1005.96	1002.02	6.60	12.34	500.00	9460.36	1113.52	10573.88	180.66
	7.960	54400.00	1005.97	7.37	1006.50	1002.61	5.84	10.28	470.00	9346.52	1315.04	10661.56	193.76
	7.960	54400.00	1005.97	7.37	1006.50	1002.61	5.84	10.28	470.00	9346.52	1315.04	10661.56	193.76
	7.990	54400.00	1006.18	7.08	1006.68	1002.86	5.68	10.03	175.00	9318.01	1385.60	10703.62	199.19
	7.990	54400.00	1006.18	7.08	1006.68	1002.86	5.68	10.03	175.00	9318.01	1385.60	10703.62	199.19
	8.000	54400.00	1006.18	6.98	1006.80	1003.12	6.30	15.15	50.00	9249.43	1461.69	10711.12	200.82
	8.000	54400.00	1006.18	6.98	1006.80	1003.12	6.30	15.15	50.00	9249.43	1461.69	10711.12	200.82
	8.010	54400.00	1006.33	7.13	1006.92	1003.12	6.17	14.22	75.00	9249.15	1462.25	10711.40	203.34
	8.010	54400.00	1006.33	7.13	1006.92	1003.12	6.17	14.22	75.00	9249.15	1462.25	10711.40	203.34
*	8.030	54400.00	1006.19	6.99	1007.12	1004.79	7.72	29.25	50.00	9451.49	1436.45	10887.94	205.00
*	8.030	54400.00	1006.19	6.99	1007.12	1004.79	7.72	29.25	50.00	9451.49	1436.45	10887.94	205.00
	8.105	54400.00	1007.40	6.90	1008.04	1005.31	6.49	18.16	397.59	9395.59	1575.09	10970.68	218.61
	8.105	54400.00	1007.38	6.88	1008.08	1005.40	6.76	19.79	397.59	9470.00	1500.65	10970.65	218.37
	8.198	54400.00	1008.29	6.79	1009.03	1006.43	6.90	21.20	490.43	9470.48	1493.30	10963.78	235.81
	8.198	54400.00	1008.35	6.85	1009.08	1006.43	6.83	20.47	490.43	9470.38	1493.46	10963.84	235.21
	8.325	54400.00	1010.00	7.90	1010.76	1008.31	7.04	32.04	668.82	9483.50	1556.63	11040.13	259.26
	8.325	54400.00	1010.02	7.92	1010.82	1008.37	7.20	33.35	668.82	9483.48	1506.52	10990.00	258.26
	8.433	54400.00	1011.98	6.98	1012.96	1010.79	8.41	44.76	572.54	9018.94	1666.40	10992.81	280.29
	8.433	54400.00	1012.05	7.05	1012.99	1010.79	8.29	42.82	572.54	9018.87	1649.27	10975.00	278.78
	8.534	54400.00	1014.38	6.58	1014.82	1012.87	5.16	26.52	531.32	8512.76	2607.48	11120.24	306.42
	8.534	54400.00	1014.44	6.64	1014.94	1013.01	5.56	30.14	531.32	8512.69	2452.31	10965.00	303.87
	8.646	54400.00	1015.75	7.95	1016.14	1013.59	5.27	19.10	591.78	8773.00	2548.82	11321.82	341.36
	8.646	54400.00	1015.95	8.15	1016.44	1013.90	5.80	21.84	591.78	8773.00	2217.00	10990.00	335.46
*	8.768	54400.00	1017.22	8.82	1018.13	1016.47	8.80	48.51	641.67	9065.00	2193.75	11293.29	376.01
	8.768	54400.00	1017.56	9.16	1018.42	1016.64	8.52	41.74	641.67	9065.00	2014.69	11105.00	366.35
	8.875	54400.00	1019.66	10.56	1020.63	1018.90	8.79	40.95	565.21	9404.00	2058.01	11462.01	402.72
	8.875	54400.00	1019.75	10.65	1020.71	1018.82	8.69	39.15	565.21	9404.00	1891.00	11295.00	390.96
*	8.992	54400.00	1021.66	13.56	1022.10	1018.81	5.40	15.12	619.79	9727.00	1787.88	11514.88	428.31
*	8.992	54400.00	1021.71	13.61	1022.16	1018.81	5.43	15.14	619.79	9727.00	1738.00	11465.00	415.38

SECNO	Q	CWSEL	DEPTH	EG	CRIWS	VCH	10*KS	XLCH	SSTA	TOPWID	ENDST	TWA
9.098	54400.00	1022.48	12.58	1022.91	1019.57	5.25	13.67	561.62	9863.00	1695.92	11558.92	450.58
9.098	54400.00	1022.54	12.64	1022.96	1019.58	5.20	13.25	561.62	9863.00	1696.09	11559.09	437.52
9.177	54400.00	1023.06	12.66	1023.51	1020.28	5.39	14.95	415.85	9886.00	1693.64	11579.64	466.73
9.177	54400.00	1023.10	12.70	1023.55	1020.28	5.35	14.62	415.85	9886.00	1693.78	11579.78	453.67
9.191	54400.00	1023.11	12.41	1023.55	.00	5.29	13.95	60.00	9887.36	1687.62	11574.98	469.06
9.191	54400.00	1023.15	12.45	1023.58	.00	5.25	13.66	60.00	9887.22	1687.91	11575.13	456.00
9.198	54400.00	1023.14	12.04	1023.62	1020.53	5.56	16.53	34.15	9883.85	1694.10	11577.95	470.38
9.198	54400.00	1023.18	12.08	1023.65	1020.53	5.51	16.07	34.15	9883.71	1694.45	11578.16	457.32
9.266	54400.00	1023.82	10.12	1024.22	1021.32	5.16	15.76	359.00	9441.13	2258.87	11700.00	486.64
9.266	54400.00	1023.81	10.11	1024.26	1021.36	5.41	17.39	359.00	9725.00	1895.00	11620.00	472.11

SUMMARY OF ERRORS AND SPECIAL NOTES

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WARNING SECNO=      6.520  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      6.520  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.770  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      6.770  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.890  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      6.890  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.930  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      6.930  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      7.020  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      7.020  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      7.200  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      7.200  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      7.670  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      7.670  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.030  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      8.030  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.768  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.992  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      8.992  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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FLOODWAY DATA, EAR EVENT CAMELBACK L
PROFILE NO. 2

STATION	WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
6.430	1067.	6189.	8.8	989.0	989.0	.0
6.520	1095.	8178.	6.7	990.4	990.4	.0
6.540	1100.	6635.	8.2	990.3	990.3	.0
6.560	1108.	7906.	6.9	990.8	990.8	.0
6.590	1112.	8704.	6.2	991.1	991.1	.0
6.610	1114.	7157.	7.6	991.0	991.0	.0
6.640	1112.	8183.	6.6	991.5	991.5	.0
6.660	1112.	7435.	7.3	991.6	991.6	.0
6.690	1113.	8437.	6.4	992.0	992.0	.0
6.710	1111.	8414.	6.5	992.1	992.1	.0
6.730	1112.	8909.	6.1	992.3	992.3	.0
6.770	1103.	5010.	10.9	991.9	991.9	.0
6.790	1104.	5886.	9.2	992.9	992.9	.0
6.820	1106.	7359.	7.4	993.7	993.7	.0
6.890	1110.	5071.	10.7	994.2	994.2	.0
6.910	1125.	5037.	10.8	994.8	994.8	.0
6.930	1132.	6916.	7.9	996.1	996.1	.0
6.970	1143.	6931.	7.8	996.6	996.6	.0
6.990	1130.	5603.	9.7	996.6	996.6	.0
7.020	1115.	7493.	7.3	997.6	997.6	.0
7.060	1093.	7090.	7.7	998.0	998.0	.0
7.080	1088.	6503.	8.4	998.1	998.1	.0
7.100	1082.	6251.	8.7	998.3	998.3	.0
7.200	1063.	7770.	7.0	999.8	999.8	.0
7.290	1022.	6508.	8.4	1000.5	1000.5	.0
7.390	1002.	7106.	7.7	1001.7	1001.7	.0
7.490	980.	6846.	7.9	1002.6	1002.6	.0
7.580	966.	7454.	7.3	1003.6	1003.6	.0
7.670	1010.	9607.	5.7	1004.4	1004.4	.0
7.770	1032.	8204.	6.6	1004.7	1004.7	.0
7.870	1114.	8246.	6.6	1005.3	1005.3	.0
7.960	1315.	9309.	5.8	1006.0	1006.0	.0
7.990	1386.	9569.	5.7	1006.2	1006.2	.0
8.000	1462.	8641.	6.3	1006.2	1006.2	.0
8.010	1462.	8819.	6.2	1006.3	1006.3	.0
8.030	1436.	7048.	7.7	1006.2	1006.2	.0
8.105	1501.	8089.	6.7	1007.4	1007.4	.0
8.198	1493.	7966.	6.8	1008.4	1008.3	.1
8.325	1507.	7593.	7.2	1010.0	1010.0	.0
8.433	1956.	7173.	7.6	1012.1	1012.0	.1
8.534	2452.	9655.	5.6	1014.5	1014.4	.1
8.646	2217.	9947.	5.5	1015.9	1015.7	.2

FLOODWAY DATA, EAR EVENT CAMELBACK L
PROFILE NO. 2

STATION	WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
8.768	2040.	7829.	6.9	1017.5	1017.2	.3
8.875	1891.	7662.	7.1	1019.8	1019.7	.1
8.992	1738.	10150.	5.4	1021.7	1021.7	.0
9.098	1696.	10481.	5.2	1022.6	1022.5	.1
9.177	1694.	10162.	5.4	1023.1	1023.1	.0

9.191	1688.	10356.	5.3	1023.1	1023.1	.0
9.198	1694.	9873.	5.5	1023.1	1023.1	.0
9.266	1895.	10086.	5.4	1023.8	1023.8	.0

EXHIBIT 8