CAVE CREEK DRAINAGE MASTER PLAN
FCDMC CONTRACT NUMBER 2004C072
FLOODPLAIN DELINEATION OF GALLOWAY WASH TRIBUTARIES, WILLOW SPRINGS WASH TRIBUTARIES, AND CAVE CREEK TRIBUTARIES WITHIN CAVE CREEK, ARIZONA

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

AUTHORITY FOR STUDY

THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC) HAS CONTRACTED HDR TO PREPARE THIS STUDY UNDER THE CONTRACT NUMBER 2004C072 AS PART OF THE CC DMP. PROJECT CONTROL NUMBER 690.02.20.

PROJECT LOCATION

THE PROJECT SITE IS LOCATED IN THE TOWN OF CAVE CREEK, ARIZONA WITHIN SECTION 13 OF TOWNSHIP 6 NORTH, RANGE 3 EAST, AND SECTIONS 8, 9, 16, 17, 18, 19, 22, 27 AND 28 OF TOWNSHIP 6 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN WITHIN THE COUNTY OF MARICOPA IN THE STATE OF ARIZONA.

BENCHMARKS (NAVD 88)

BM #7 – ELEVATION 2193.74
LOCATED AT THE INTERSECTION OF MORNING STAR ROAD AND 54TH STREET (NE CORNER).

BM #8 – ELEVATION 2215.21
LOCATED AT THE INTERSECTION OF SPUR CROSS ROAD AND HONDA BOW ROAD (NE CORNER).

BM #9 – ELEVATION 2224.10
LOCATED AT THE INTERSECTION OF MESQUITE ROAD AND RIDGEWAY ROAD (SW CORNER).

BM #14– ELEVATION 2288.26
LOCATED AT THE INTERSECTION OF GRAPEVINE ROAD AND GALLOWAY DRIVE (SE CORNER)

SHEET INDEX

GALLOWAY WASH TRIBUTARIES:
SHEET 1 – GALLOWAY WASH TRIBUTARY 2
SHEET 2 – GALLOWAY WASH TRIBUTARIES 2, 2A AND 2B
SHEET 3 – GALLOWAY WASH TRIBUTARIES 2, 2A AND 2B

CAVE CREEK TRIBUTARIES:
SHEET 4 – CAVE CREEK TRIBUTARY 1
SHEET 5 – CAVE CREEK TRIBUTARY 1
SHEET 6 – CAVE CREEK TRIBUTARIES 1, 1B AND 1C
SHEET 7 – CAVE CREEK TRIBUTARIES 1 AND 1A
SHEET 8 – CAVE CREEK TRIBUTARIES 1B, 1C AND 1D

WILLOW SPRINGS WASH TRIBUTARIES:
SHEET 9 – WILLOW SPRINGS WASH TRIBUTARIES 6, AND 6C
SHEET 10 – WILLOW SPRINGS WASH TRIBUTARIES 6, 6A, 6B AND 6C

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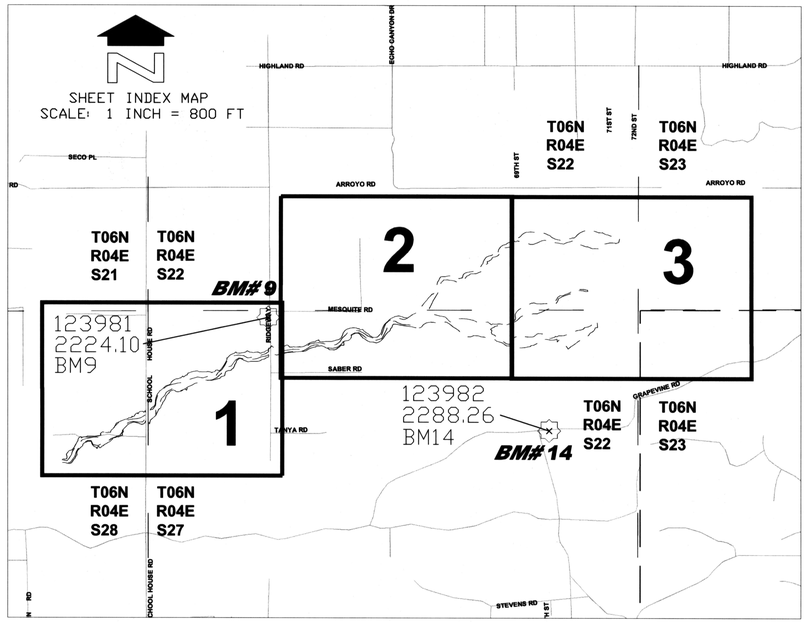
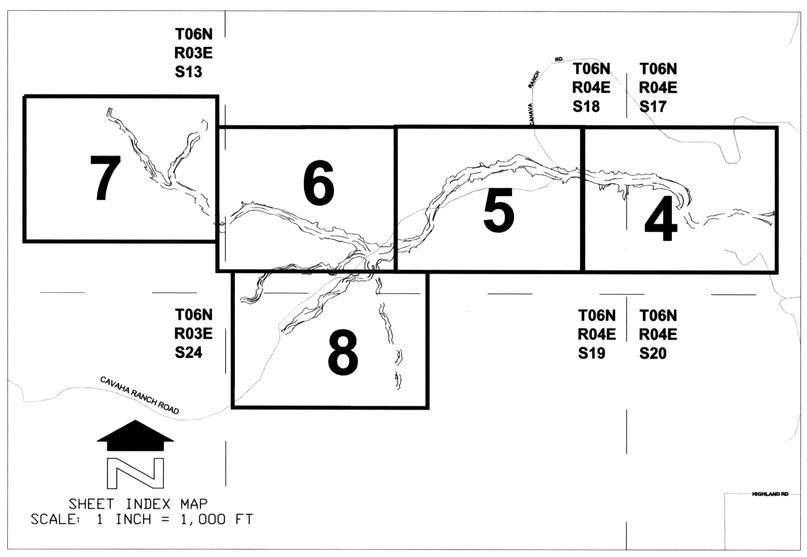
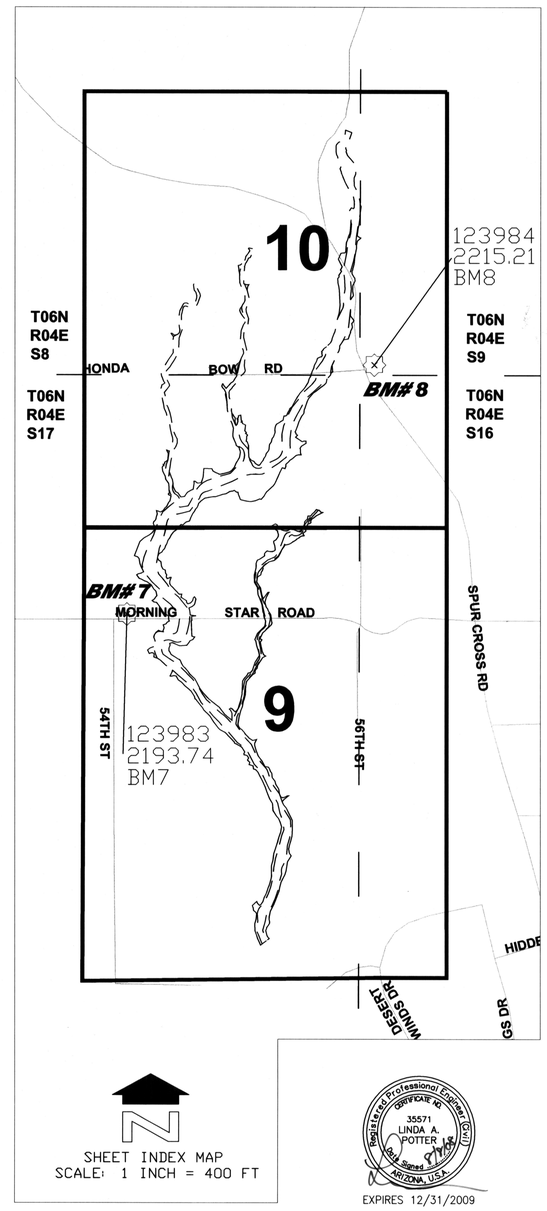
GALLOWAY WASH TRIBUTARIES



CAVE CREEK TRIBUTARIES



WILLOW SPRINGS WASH TRIBUTARIES



Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER Date Signed 12/31/08 ARIZONA, U.S.A.
EXPIRES 12/31/2009

SURVEY STATEMENT

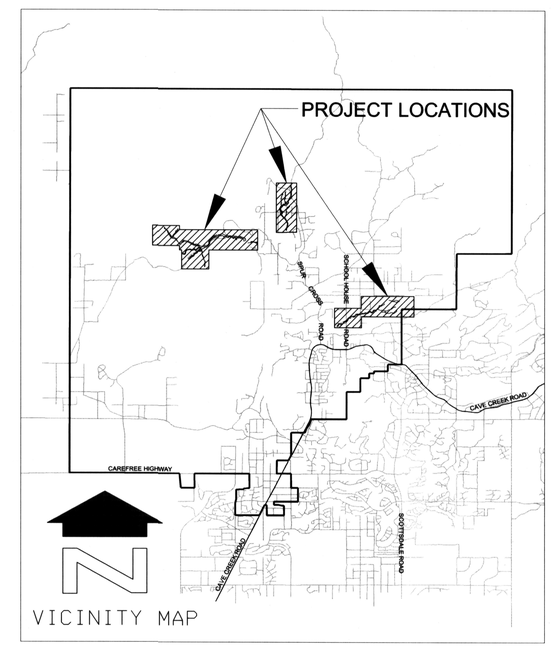
I, STONE E. WAHL, AN ARIZONA REGISTERED LAND SURVEYOR, CERTIFY THAT THE FIELD SURVEYS, DOCUMENTED HEREIN, ALONG WITH ALL FIELD, AND OFFICE PROCESS PROCEDURES, USED DURING THE COURSE OF THIS SURVEY, WERE PERFORMED UNDER MY DIRECT SUPERVISION, AND THAT THESE SURVEYS, ARE RETRACEABLE, AND REPEATABLE. FURTHER, I CERTIFY THAT THE SUREY REPORT WAS PREPARED UNDER MY DIRECT SUPERVISION.

STONE E. WAHL
AZ RLS #28237

Registered Professional Land Surveyor 28237 STONE E. WAHL Date Signed 9/9/08 ARIZONA, U.S.A. Expires 09/30/09

ABBREVIATIONS

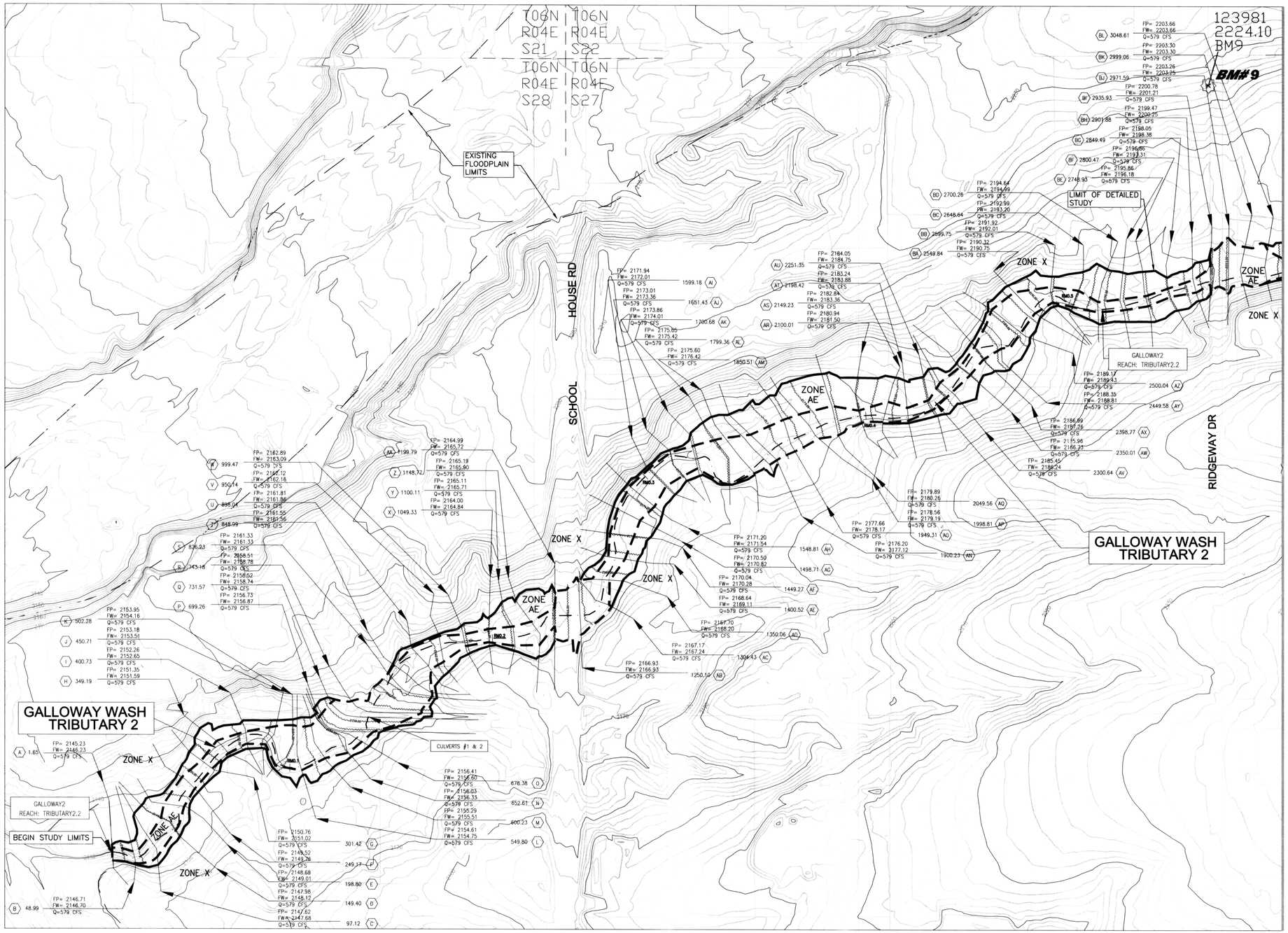
DMP	–	DRAINAGE MASTER PLAN
CC	–	CAVE CREEK
ROW	–	RIGHT OF WAY
EXIST	–	EXISTING
BCHH	–	BRASS CAP HAND HOLE
T.	–	TOWNSHIP
R.	–	RANGE
S.	–	SECTION
N.T.S.	–	NOT TO SCALE
BM	–	BENCHMARK



HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

Cave Creek DMP FDS of Galloway, Willow Springs & Cave Creek Tribs.
HDR for FCD
FCD 2004C072 Drawer 318

FNL.MAF0.08082008



LEGEND

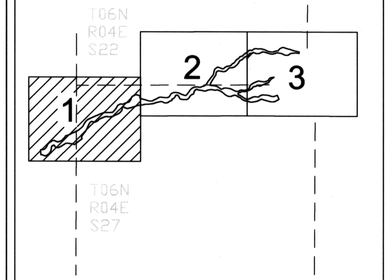
100-YR FLOODPLAIN BOUNDARY	
100-YR FLOODWAY BOUNDARY	
RIVER MILE	RM2.0 RM2.5 RM3.0
CROSS SECTION	(A) 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION
BASE FLOOD ELEVATION	2265.00
ELEVATION REFERENCE MARK	ERM 2400
ZONE DESIGNATION	ZONE AE
ZONE DESIGNATION	ZONE X
BENCHMARK DESIGNATION	BM#10

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS = -2.04 FOOT.

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
BM # 9	2224.10	THE INTERSECTION OF RIDGEWAY DRIVE AND MESQUITE ROAD (SW CORNER)

SHEET INDEX MAP



NOTES

1- THIS MODEL HAS BEEN PREPARED TO TIE INTO THE EXISTING GALLOWAY WASH FLOOD PROFILE AT RIVER MILE 5808, LOCATED BETWEEN THE EXISTING CROSS SECTIONS OF "Q" AND "T". REFER TO PROFILE PANEL 144P, AND REFER TO FIRM PANEL # 04013C0805H, DATED SEPTEMBER 30, 2005.

2- CROSS SECTION STATIONS DENOTED WITH "**" UTILIZE TOP WIDTHS THAT DIFFER FROM THE PROPOSED HEC-RAS MODEL. REFER TO SECTION 5.7 OF THE PHASE II TDN FOR FURTHER DISCUSSION RELATING TO THIS TOPIC.

3- CROSS SECTIONS IMMEDIATELY DOWNSTREAM OF THE STOCK PONDS HAVE BEEN PRESENTED GRAPHICALLY WITH INTERVALS OF FIVE FOOT FOR IMPROVED LEGIBILITY. A ONE FOOT ANALYSIS HAS BEEN CONDUCTED TO SUPPORT THE DELINEATION MODEL.

NO.	REVISION	BY	DATE
2			
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072
GALLOWAY WASH TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ
STOCK POND ALTERNATIVE

BENCHMARK INFORMATION

BENCHMARK 9 QUALITY: BRASS CAP IN CONCRETE
MONUMENT TYPE: 30 NGS
DIAMETER HOLE: 10"
HOLE DEPTH: 36"
ROD FOOTAGE: 5' 6"
ROD TYPE: 9/16" STEEL

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

100' 0' 100' 200'
SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

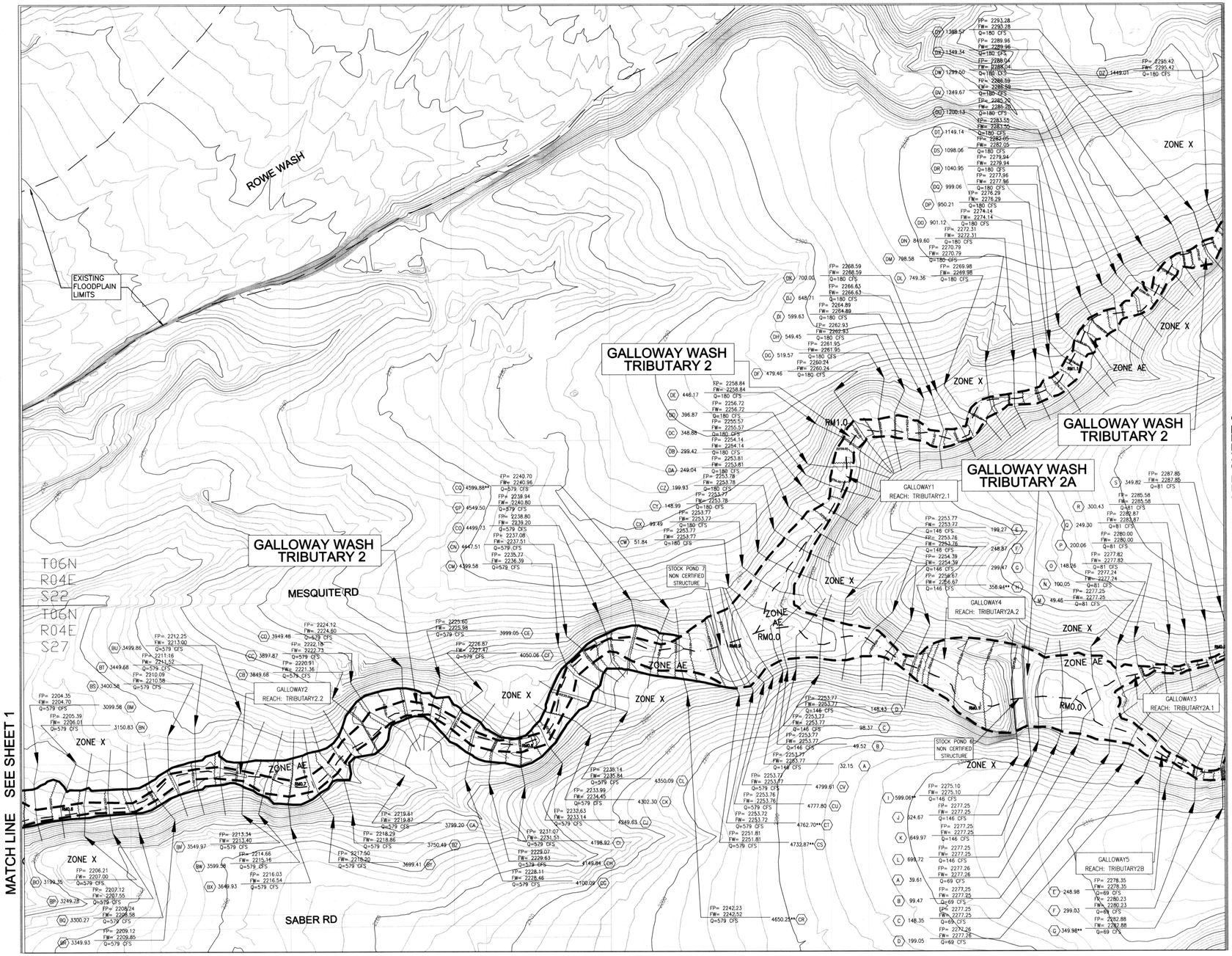
GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER Date Signed 5/1/08 ARIZONA, U.S.A.
EXPIRES 12/31/2009

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAF0.08082008



LEGEND

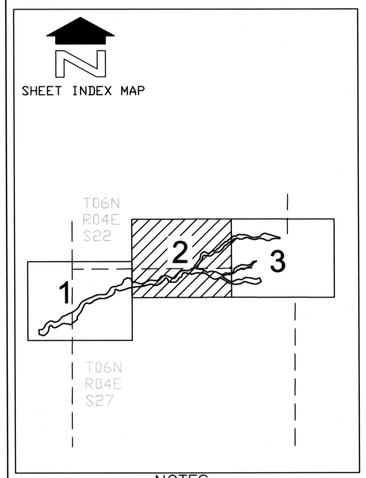
100-YR FLOODPLAIN BOUNDARY	
100-YR FLOODWAY BOUNDARY	
RIVER MILE	RM2.0 RM2.5 RM3.0
CROSS SECTION	(A) 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION
BASE FLOOD ELEVATION	2265.00
ELEVATION REFERENCE MARK	ERM 2400
ZONE DESIGNATION	ZONE AE
ZONE DESIGNATION	ZONE X
BENCHMARK DESIGNATION	BM#10

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS = -2.04 FOOT.

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
NO BENCHMARK INSTALLED WITHIN THIS WORK MAP		

SHEET INDEX MAP



NOTES

1- THIS MODEL HAS BEEN PREPARED TO TIE INTO THE EXISTING GALLOWAY WASH FLOOD PROFILE AT RIVER MILE 5808, LOCATED BETWEEN THE EXISTING CROSS SECTIONS OF "G" AND "I". REFER TO PROFILE PANEL 144P, AND REFER TO FIRM PANEL # 04013C0805H, DATED SEPTEMBER 30, 2005.

2- CROSS SECTION STATIONS DENOTED WITH "**" UTILIZE TOP WIDTHS THAT DIFFER FROM THE PROPOSED HEC-RAS MODEL. REFER TO SECTION 5.7 OF THE PHASE II TDN FOR FURTHER DISCUSSION RELATING TO THIS TOPIC.

3- CROSS SECTIONS IMMEDIATELY DOWNSTREAM OF THE STOCK PONDS HAVE BEEN PRESENTED GRAPHICALLY WITH INTERVALS OF FIVE FOOT FOR IMPROVED LEGIBILITY. A ONE FOOT ANALYSIS HAS BEEN CONDUCTED TO SUPPORT THE DELINEATION MODEL.

NO.	REVISION	BY	DATE
2			
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072
GALLOWAY WASH TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ
STOCK POND ALTERNATIVE

100' 0' 100' 200'

SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

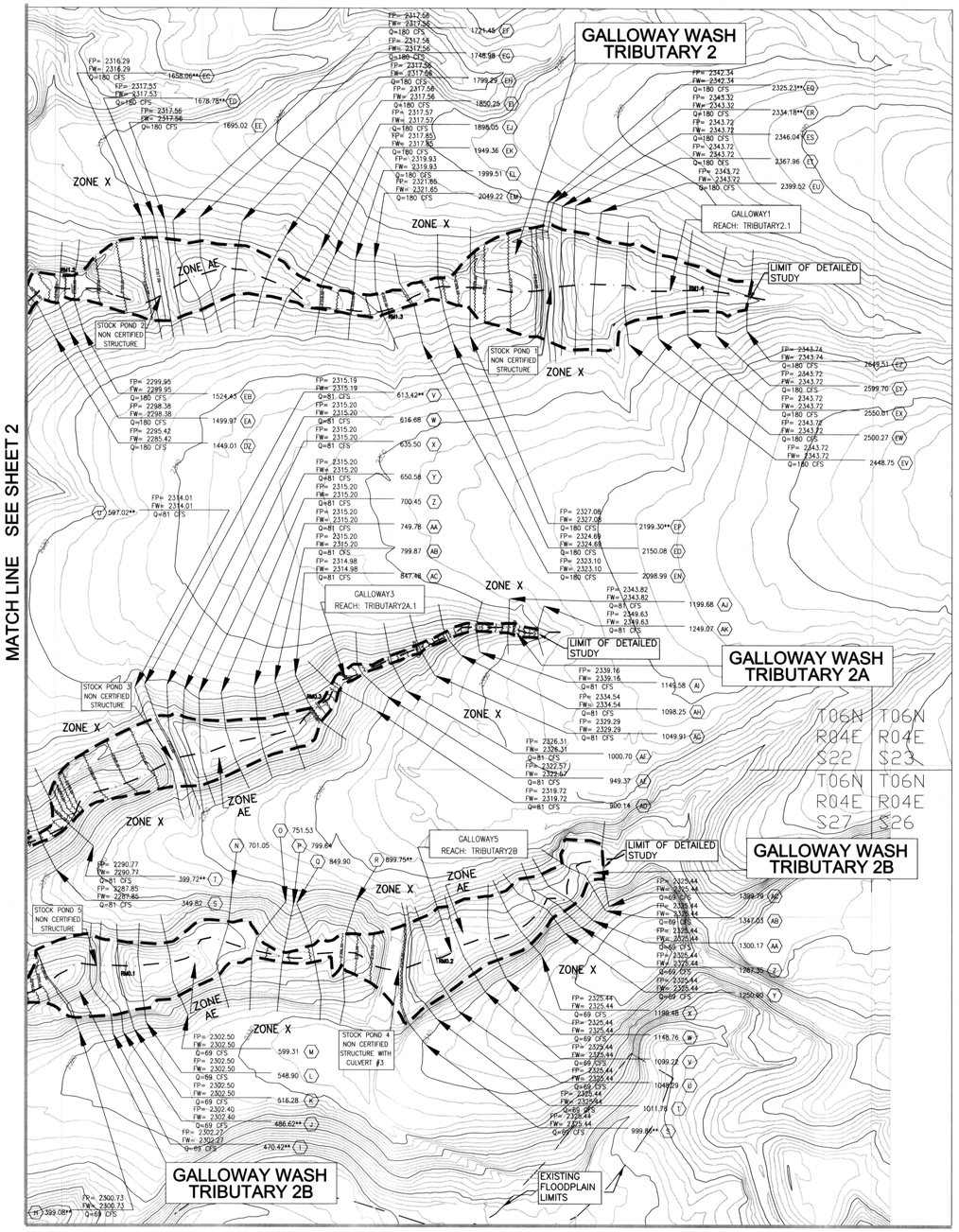
COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER Date Signed 8/8/08 ARIZONA, U.S.A. EXPIRES 12/31/2009

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

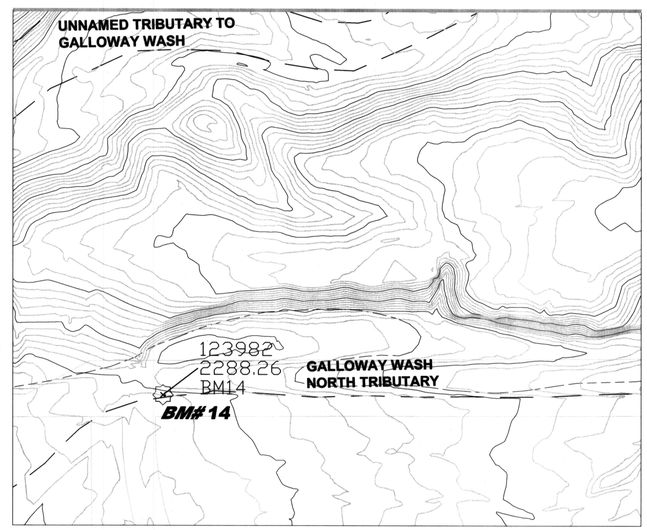
	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAF0.08082008



BENCHMARK LOCATION REFERENCE

MATCH LINE SEE LEFT



CROSS SECTION DATA KEY FOR GALLOWAY WASH TRIBUTARY 2B

N	701.05	FP= 2302.50 FW= 2302.50 Q=69 CFS
O	751.53	FP= 2302.47 FW= 2302.47 Q=69 CFS
P	799.84	FP= 2303.63 FW= 2303.63 Q=69 CFS
Q	849.90	FP= 2305.18 FW= 2305.18 Q=69 CFS
R	899.75**	FP= 2306.08 FW= 2306.08 Q=69 CFS

BENCHMARK INFORMATION

BENCHMARK 14 QUALITY: BRASS CAP IN CONCRETE
MONUMENT TYPE: 30 NGS
DIAMETER HOLE: 10"
HOLE DEPTH: 36"
ROD FOOTAGE: 12' 6"
ROD TYPE: 9/16" STEEL

** SEE NOTE NUMBER 2

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

100' 0' 100' 200'

SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR FLOODWAY BOUNDARY	
RIVER MILE	RM2.0 RM2.5 RM3.0
CROSS SECTION	A 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 FW= 2250.55 Q =4630 CFS — FLOODPLAIN WATER SURFACE ELEVATION; FLOODWAY WATER SURFACE ELEVATION; 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION
BASE FLOOD ELEVATION	2265.00
ELEVATION REFERENCE MARK	ERM 2400
ZONE DESIGNATION	ZONE AE
ZONE DESIGNATION	ZONE X
BENCHMARK DESIGNATION	BM#10

ELEVATION REFERENCE MARKS

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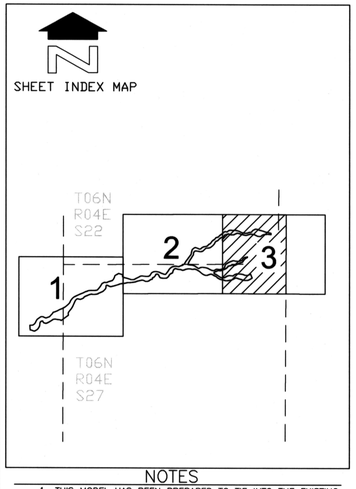
I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
BM # 14	2288.26	THE INTERSECTION OF GALLOWAY DRIVE AND GRAPEVINE ROAD (NE CORNER)

SHEET INDEX MAP



NOTES

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NO.	REVISION	BY	DATE
2			
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

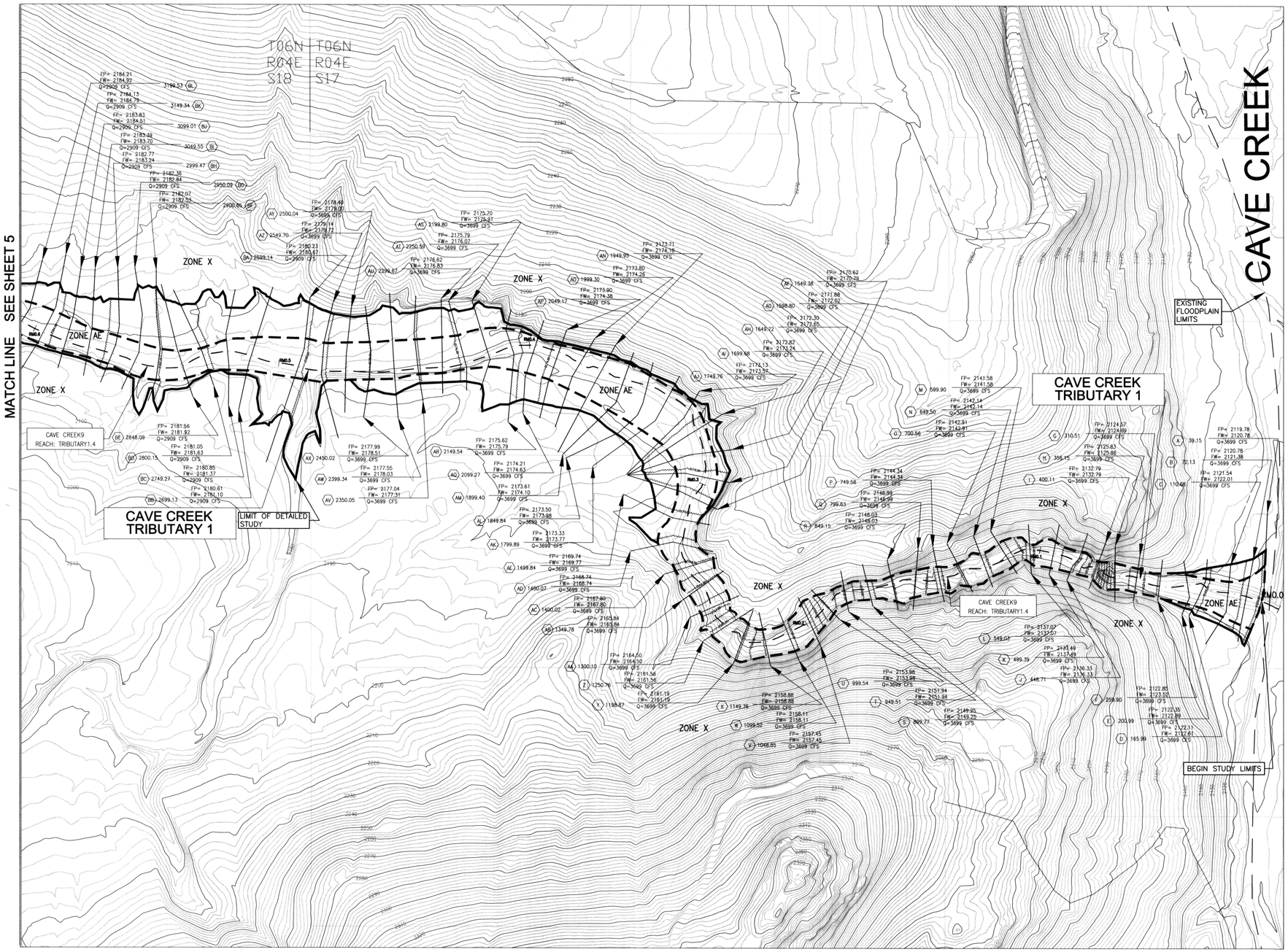
CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072
GALLOWAY WASH TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ
STOCK POND ALTERNATIVE

Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER Date Signed 6/9/08 ARIZONA, U.S.A.
EXPIRES 12/31/2009

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAF0.08082008



LEGEND

100-YR FLOODPLAIN BOUNDARY	
100-YR FLOODWAY BOUNDARY	
RIVER MILE	RM2.0 RM2.5 RM3.0
CROSS SECTION	A 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION
BASE FLOOD ELEVATION	2265.00
ELEVATION REFERENCE MARK	ERM 2400
ZONE DESIGNATION	ZONE AE
ZONE DESIGNATION	ZONE X

ELEVATION REFERENCE MARKS

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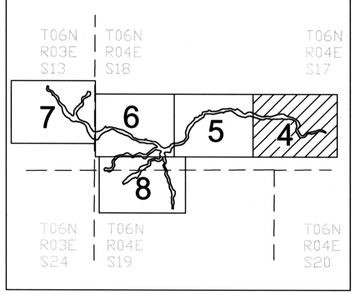
I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

SHEET INDEX MAP



NOTES

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NO.	REVISION	BY	DATE
2			
1	REVISION OF FP AND FW LINEWORK PER FINAL FPD MODELING	MAFO	MAY 21, 2008

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

CAVE CREEK TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ

100' 0' 100' 200'

SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

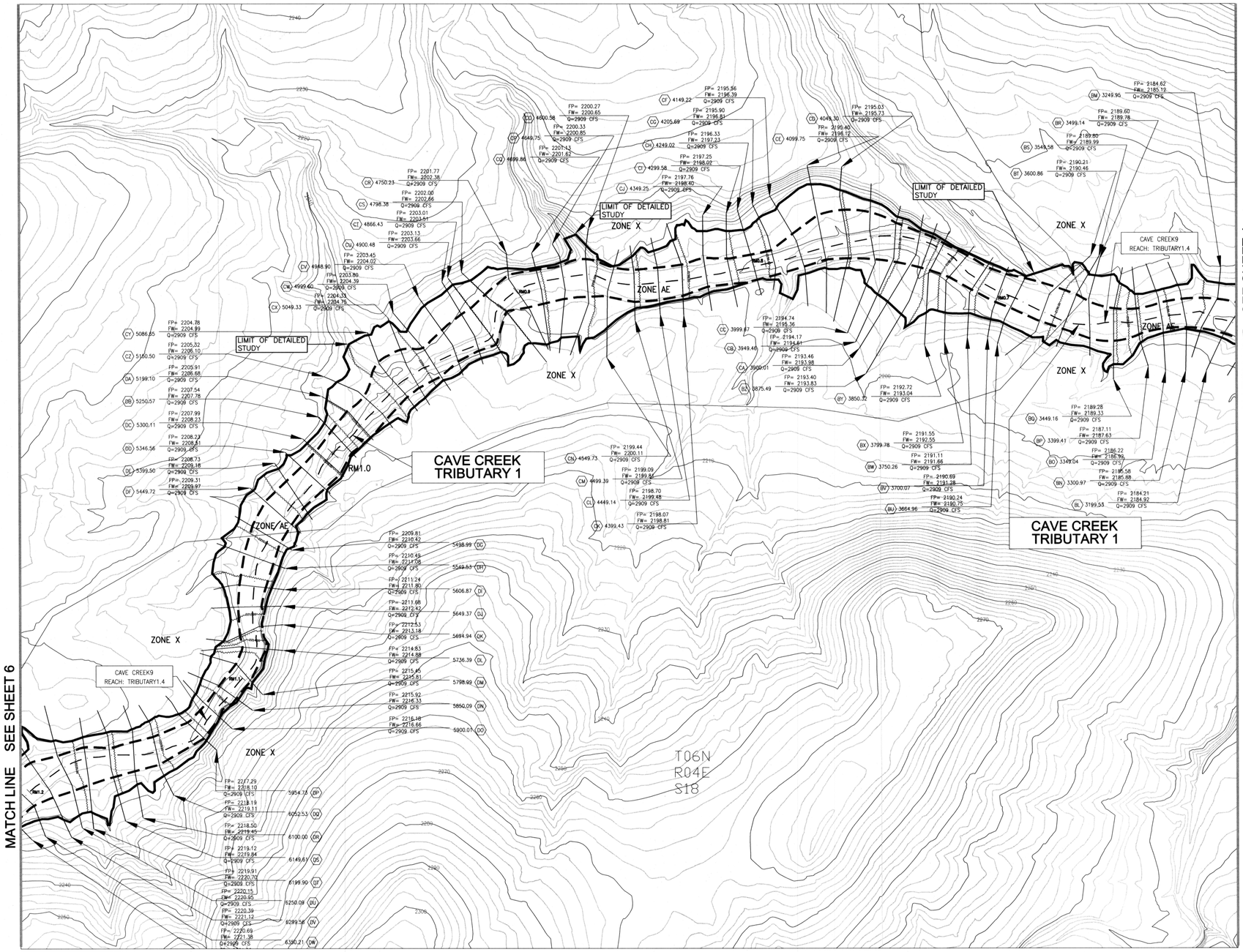
COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER Date Signed 8/18/08 ARIZONA, U.S.A.
EXPIRES 12/31/2009

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAFO.08082008



LEGEND

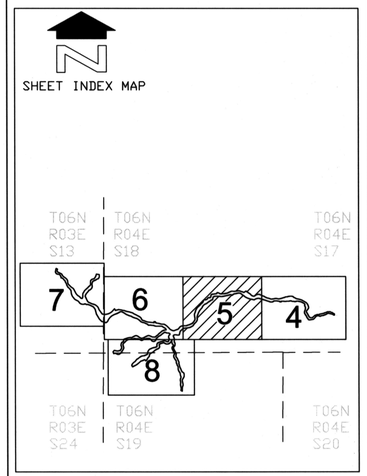
100-YR FLOODPLAIN BOUNDARY	
100-YR FLOODWAY BOUNDARY	
RIVER MILE	RM2.0 RM2.5 RM3.0
CROSS SECTION	(A) 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 — FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 — FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS — 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION
BASE FLOOD ELEVATION	2265.00
ELEVATION REFERENCE MARK	ERM 2400
ZONE DESIGNATION	ZONE AE
ZONE DESIGNATION	ZONE X

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS = -2.06 FOOT.

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

SHEET INDEX MAP



NOTES

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NO.	REVISION	BY	DATE
2			
1	REVISION OF FP AND FW LINEWORK PER FINAL FPD MODELING	MAFO	MAY 21, 2008

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

CAVE CREEK TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ

100' 0' 100' 200'

SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER Date Signed 5/19/08 ARIZONA, U.S.A.
EXPIRES 12/31/2009

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAFO.08082008

CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1.2

GB	2484.05	FP= 2254.58 FW= 2254.64 Q=1691 CFS
GC	2527.13	FP= 2255.07 FW= 2255.14 Q=1691 CFS
GD	2577.17	FP= 2256.57 FW= 2256.63 Q=1691 CFS
GE	2626.98	FP= 2256.88 FW= 2256.94 Q=1691 CFS

CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1B

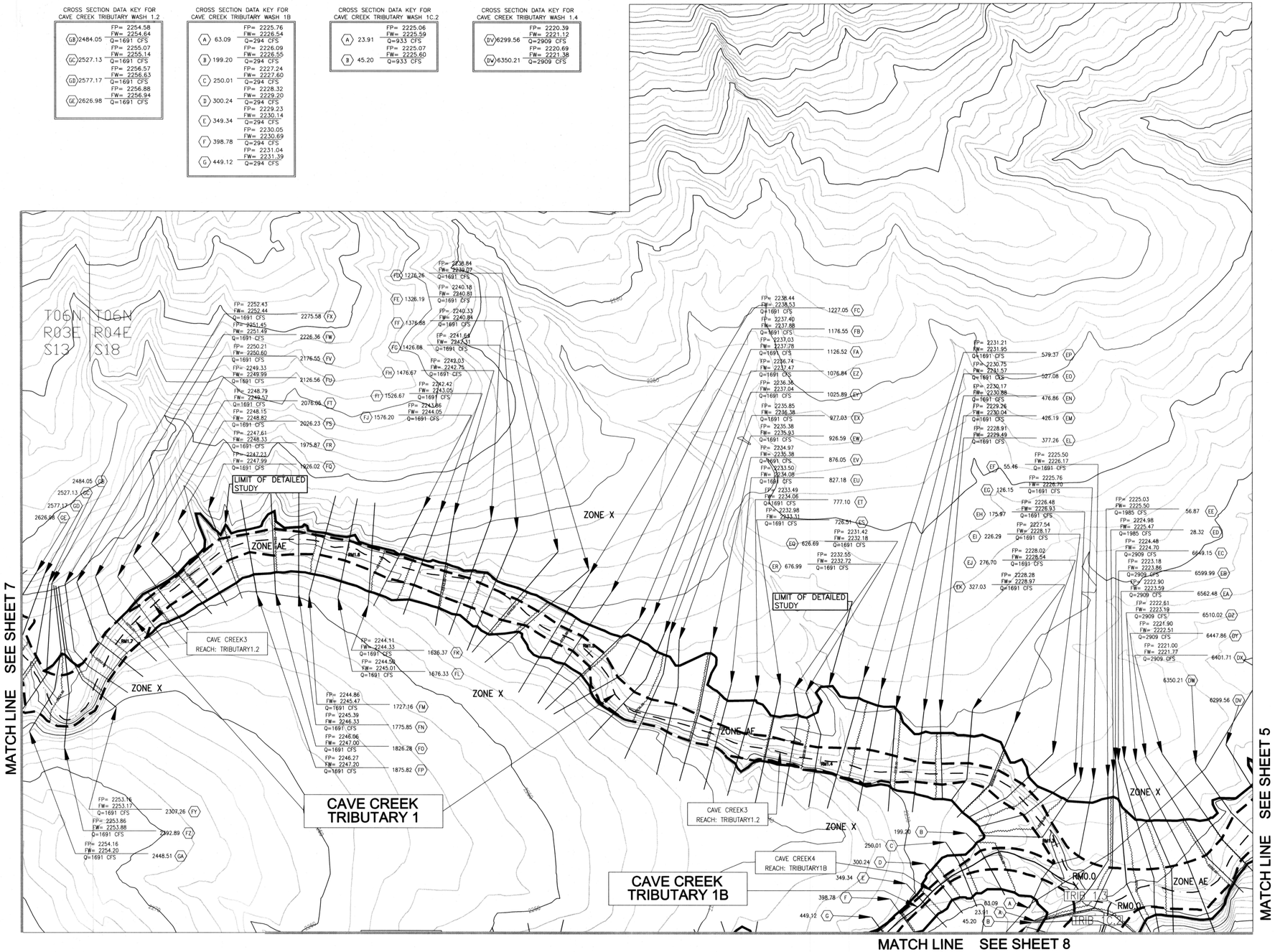
A	63.09	FP= 2225.76 FW= 2226.54 Q=294 CFS
B	199.20	FP= 2226.09 FW= 2226.55 Q=294 CFS
C	250.01	FP= 2227.24 FW= 2227.60 Q=294 CFS
D	300.24	FP= 2228.32 FW= 2229.20 Q=294 CFS
E	349.34	FP= 2229.23 FW= 2230.14 Q=294 CFS
F	398.78	FP= 2230.05 FW= 2230.69 Q=294 CFS
G	449.12	FP= 2231.04 FW= 2231.39 Q=294 CFS

CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1C.2

A	23.91	FP= 2225.06 FW= 2225.59 Q=933 CFS
B	45.20	FP= 2225.07 FW= 2225.60 Q=933 CFS

CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1.4

DV	6299.56	FP= 2220.39 FW= 2221.12 Q=2909 CFS
DW	6350.21	FP= 2220.69 FW= 2221.38 Q=2909 CFS



THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

100' 0' 100' 200'

SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

LEGEND

100-YR FLOODPLAIN BOUNDARY

100-YR FLOODWAY BOUNDARY

RIVER MILE — RM2.0 — RM2.5 — RM3.0

CROSS SECTION — (A) 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 — FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 — FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS — 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION

BASE FLOOD ELEVATION — 2265.00

ELEVATION REFERENCE MARK — ERM 2400

ZONE DESIGNATION — ZONE AE

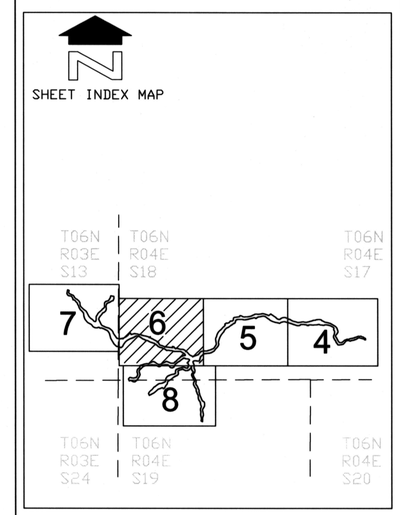
ZONE DESIGNATION — ZONE X

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS = -2.06 FOOT.

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

SHEET INDEX MAP



NOTES

1- THIS MODEL HAS BEEN PREPARED TO TIE INTO THE EXISTING CAVE CREEK WASH FLOOD PROFILE AT RIVER MILE 39.41, LOCATED BETWEEN THE EXISTING CROSS SECTIONS OF "FE" AND "FF". REFER TO PROFILE PANEL 1019P, AND REFER TO FIRM PANEL # 04013C0805H DATED SEPTEMBER 30, 2005.

NO.	REVISION	BY	DATE
2			
1	REVISION OF FP AND FW LINEWORK PER FINAL FPD MODELING	MAFO	MAY 21, 2008

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

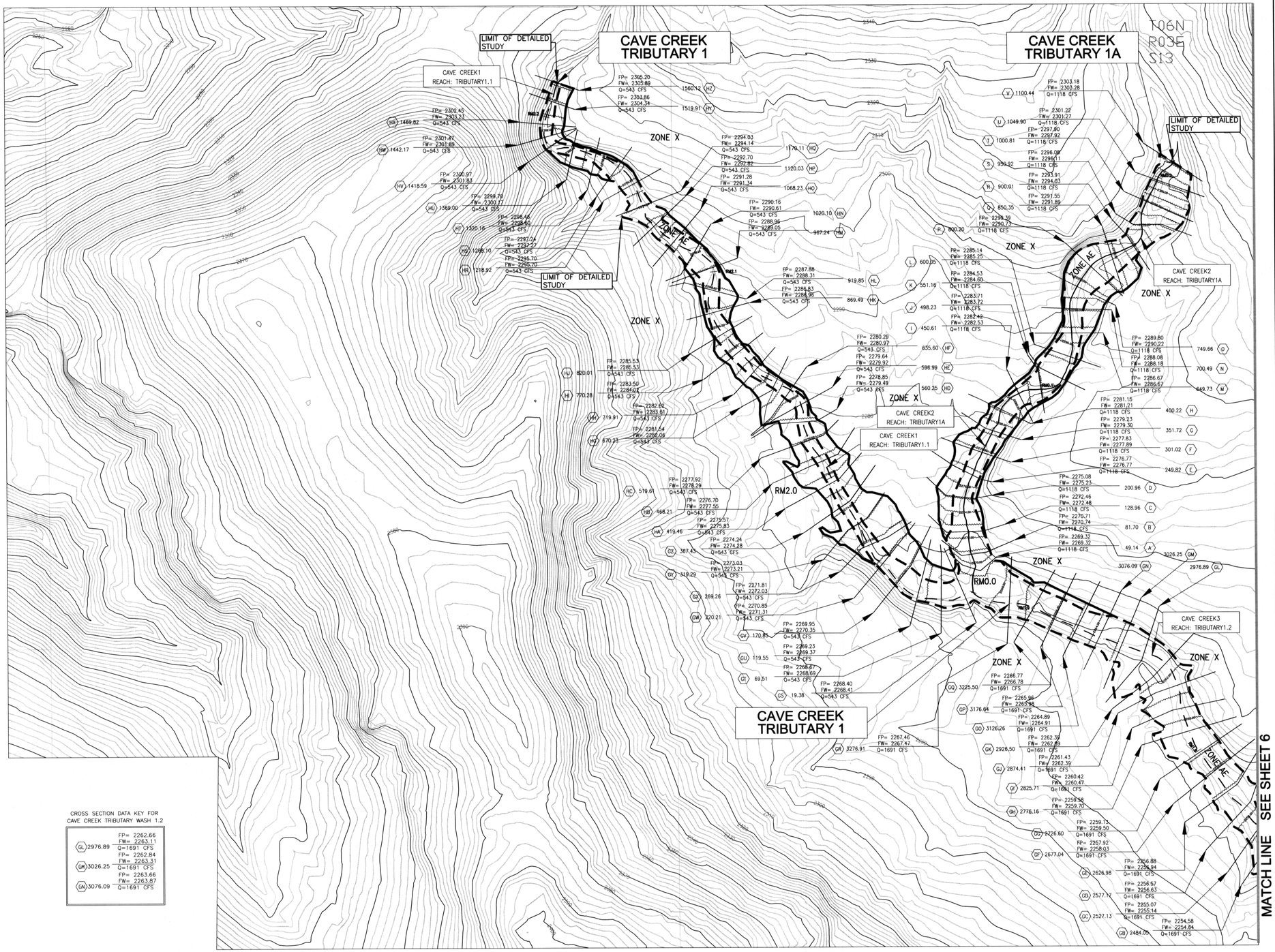
CAVE CREEK TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ

Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER Date Signed 7/7/08 ARIZONA, U.S.A.
EXPIRES 12/31/2009

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAFO.08082008



CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1.2

GL	2976.89	FP= 2262.66 FW= 2263.11 Q=1691 CFS
GM	3026.25	FP= 2262.84 FW= 2263.31 Q=1691 CFS
GN	3076.09	FP= 2263.66 FW= 2263.87 Q=1691 CFS

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD20003C048, Assignment #4
FCD2005C030

100' 0' 100' 200'

SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

LEGEND

100-YR FLOODPLAIN BOUNDARY

100-YR FLOODWAY BOUNDARY

RIVER MILE — RM2.0 — RM2.5 — RM3.0

CROSS SECTION — (A) 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION

BASE FLOOD ELEVATION — 2265.00

ELEVATION REFERENCE MARK — ERM 2400

ZONE DESIGNATION — ZONE AE

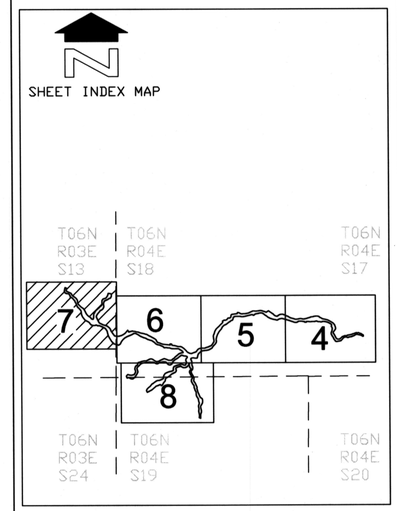
ZONE DESIGNATION — ZONE X

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS = -2.06 FOOT.

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

SHEET INDEX MAP



NOTES

1- THIS MODEL HAS BEEN PREPARED TO TIE INTO THE EXISTING CAVE CREEK WASH FLOOD PROFILE AT RIVER MILE 39.41, LOCATED BETWEEN THE EXISTING CROSS SECTIONS OF "FE" AND "FF". REFER TO PROFILE PANEL 1019P, AND REFER TO FIRM PANEL # 04013C0805H DATED SEPTEMBER 30, 2005.

NO.	REVISION	BY	DATE
2			
1	REVISION OF FP AND FW LINEWORK PER FINAL FPD MODELING	MAFO	MAY 21, 2008

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

CAVE CREEK TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ

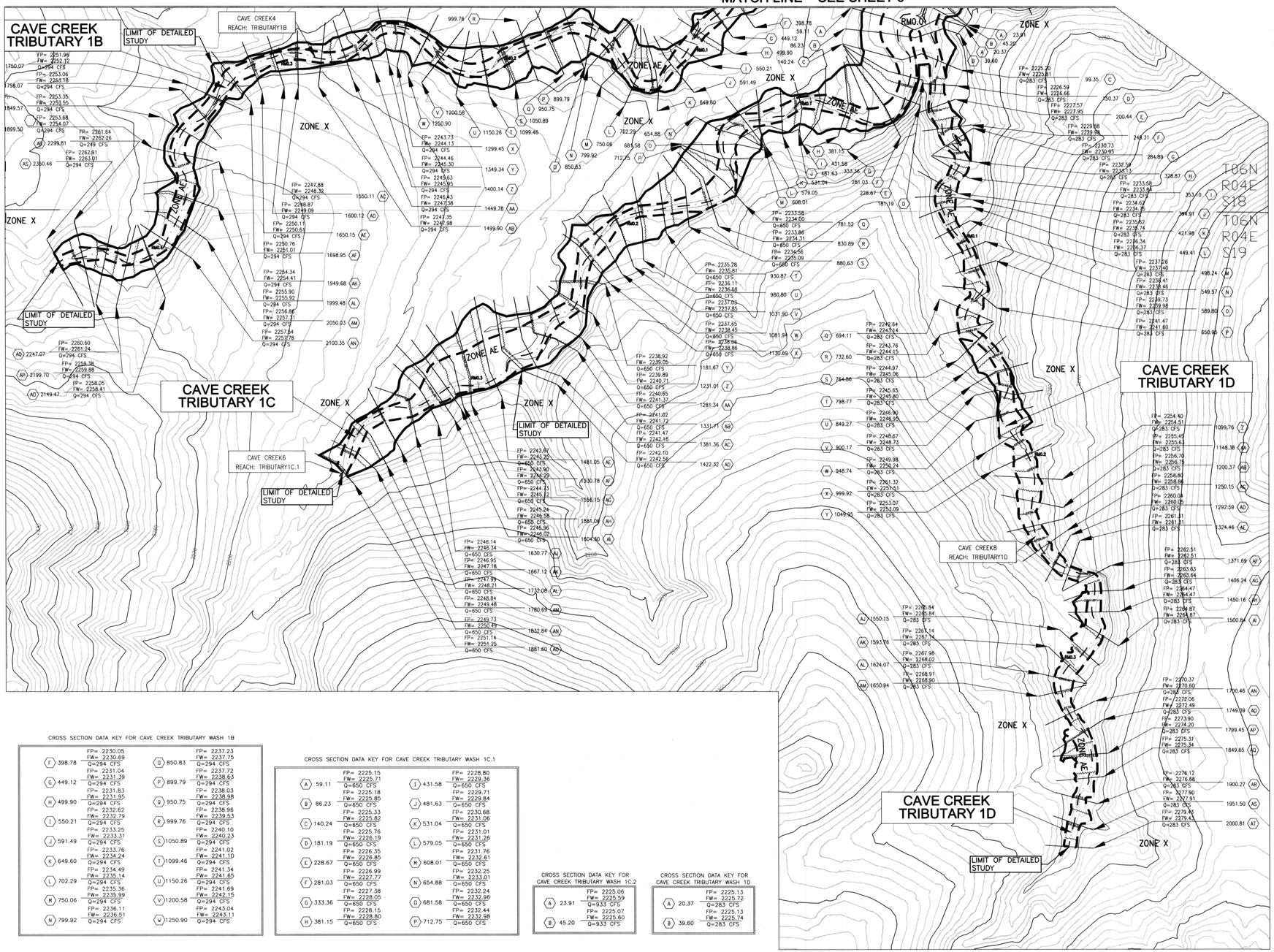
Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER Date Signed 12/17/08 ARIZONA, U.S.A.

EXPIRES 12/31/2009

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAF0.08082008



LEGEND

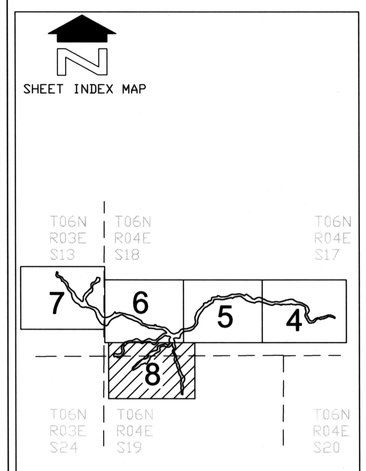
100-YR FLOODPLAIN BOUNDARY	
100-YR FLOODWAY BOUNDARY	
RIVER MILE	RM2.0 RM2.5 RM3.0
CROSS SECTION	(A) 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS; PROPOSED FEMA CROSS SECTION DESIGNATION; 100 YEAR DISCHARGE
BASE FLOOD ELEVATION	2265.00
ELEVATION REFERENCE MARK	ERM 2400
ZONE DESIGNATION	ZONE AE
ZONE DESIGNATION	ZONE X

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS = -2.06 FOOT.

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

SHEET INDEX MAP



NOTES

1- THIS MODEL HAS BEEN PREPARED TO TIE INTO THE EXISTING CAVE CREEK WASH FLOOD PROFILE AT RIVER MILE 39.41, LOCATED BETWEEN THE EXISTING CROSS SECTIONS OF "FE" AND "FF". REFER TO PROFILE PANEL 1019P, AND REFER TO FIRM PANEL # 04013C0805H DATED SEPTEMBER 30, 2005.

NO.	REVISION	BY	DATE
2			
1	REVISION OF FP AND FW LINEWORK PER FINAL FPD MODELING	MAFO	MAY 21, 2008

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

CAVE CREEK TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ

CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1B

(F) 398.78	FP= 2230.05 FW= 2230.69 Q=294 CFS	(D) 850.83	FP= 2237.23 FW= 2237.75 Q=294 CFS
(G) 449.12	FP= 2231.04 FW= 2231.39 Q=294 CFS	(P) 899.79	FP= 2237.72 FW= 2238.63 Q=294 CFS
(H) 499.90	FP= 2231.83 FW= 2231.95 Q=294 CFS	(Q) 950.75	FP= 2238.03 FW= 2238.98 Q=294 CFS
(I) 550.21	FP= 2232.62 FW= 2232.79 Q=294 CFS	(R) 999.76	FP= 2238.96 FW= 2239.53 Q=294 CFS
(J) 591.49	FP= 2233.25 FW= 2233.31 Q=294 CFS	(S) 1050.89	FP= 2240.10 FW= 2240.23 Q=294 CFS
(K) 649.60	FP= 2233.76 FW= 2234.24 Q=294 CFS	(T) 1099.46	FP= 2241.02 FW= 2241.10 Q=294 CFS
(L) 702.29	FP= 2234.49 FW= 2235.14 Q=294 CFS	(U) 1150.26	FP= 2241.34 FW= 2241.65 Q=294 CFS
(M) 750.06	FP= 2235.36 FW= 2235.99 Q=294 CFS	(V) 1200.58	FP= 2241.69 FW= 2242.15 Q=294 CFS
(N) 799.92	FP= 2236.11 FW= 2236.51 Q=294 CFS	(W) 1250.90	FP= 2243.04 FW= 2243.11 Q=294 CFS

CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1C.1

(A) 59.11	FP= 2225.15 FW= 2225.71 Q=650 CFS	(I) 431.58	FP= 2228.80 FW= 2229.36 Q=650 CFS
(B) 86.23	FP= 2225.18 FW= 2225.85 Q=650 CFS	(J) 481.63	FP= 2229.71 FW= 2229.84 Q=650 CFS
(C) 140.24	FP= 2225.33 FW= 2225.82 Q=650 CFS	(K) 531.04	FP= 2230.68 FW= 2231.06 Q=650 CFS
(D) 181.19	FP= 2225.76 FW= 2226.19 Q=650 CFS	(L) 579.05	FP= 2231.01 FW= 2231.26 Q=650 CFS
(E) 228.67	FP= 2226.35 FW= 2226.85 Q=650 CFS	(M) 608.01	FP= 2231.76 FW= 2232.61 Q=650 CFS
(F) 281.03	FP= 2226.99 FW= 2227.77 Q=650 CFS	(N) 654.88	FP= 2232.25 FW= 2233.01 Q=650 CFS
(G) 333.36	FP= 2227.38 FW= 2228.05 Q=650 CFS	(O) 681.58	FP= 2232.24 FW= 2232.96 Q=650 CFS
(H) 381.15	FP= 2228.15 FW= 2228.80 Q=650 CFS	(P) 712.75	FP= 2232.44 FW= 2232.98 Q=650 CFS

CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1C.2

(A) 23.91	FP= 2225.06 FW= 2225.59 Q=933 CFS
(B) 45.20	FP= 2225.07 FW= 2225.60 Q=933 CFS

CROSS SECTION DATA KEY FOR CAVE CREEK TRIBUTARY WASH 1D

(A) 20.37	FP= 2225.13 FW= 2225.72 Q=283 CFS
(B) 39.60	FP= 2225.13 FW= 2225.74 Q=283 CFS

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

100' 0' 100' 200'
SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

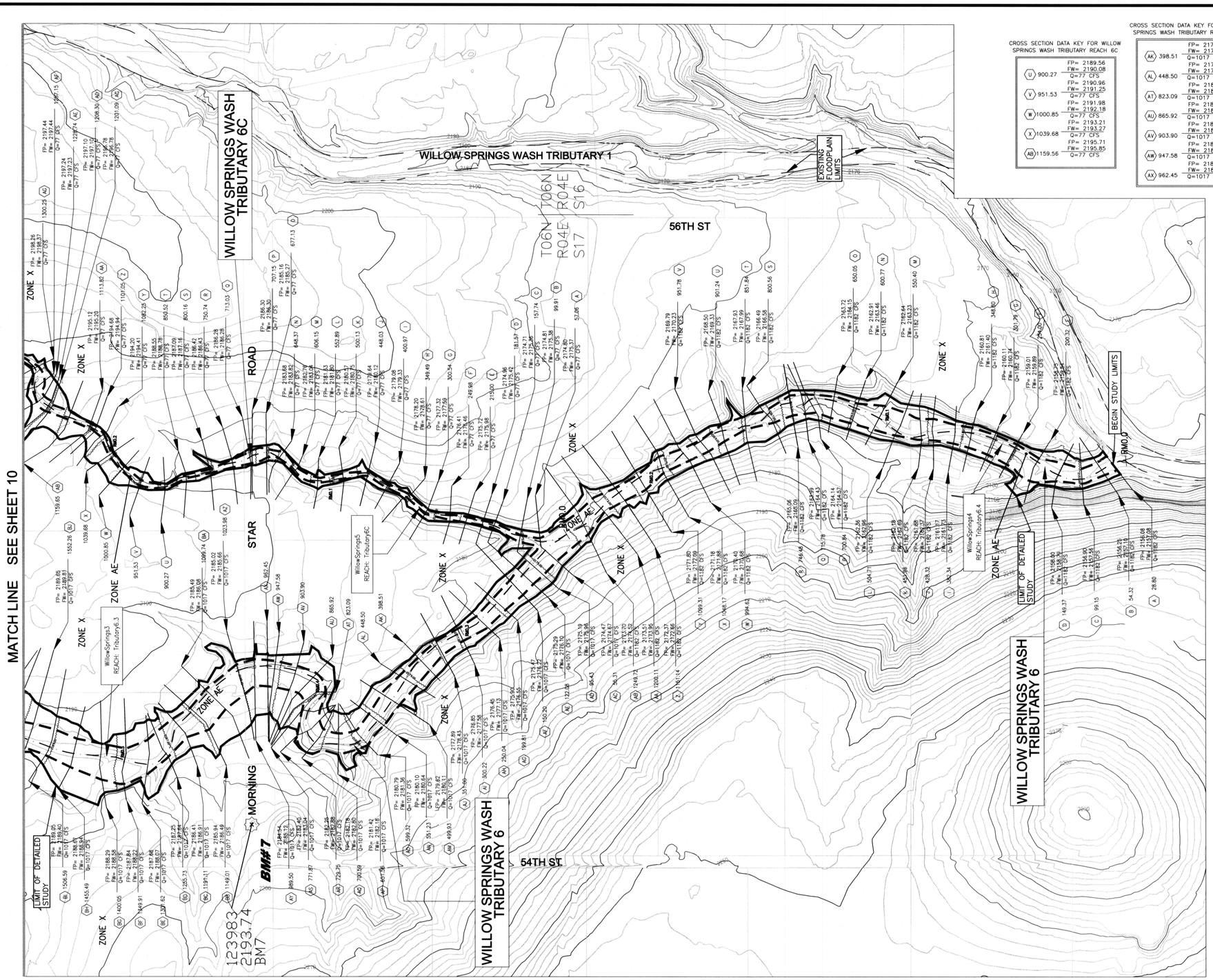
GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER DATE SIGNED 12/31/08 ARIZONA, U.S.A.
EXPIRES 12/31/2009

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAFO.08082008



CROSS SECTION DATA KEY FOR WILLOW SPRINGS WASH TRIBUTARY REACH 6C

U	900.27	FP= 2189.56 FW= 2190.08 Q=77 CFS
V	951.53	FP= 2190.96 FW= 2191.25 Q=77 CFS
W	1000.85	FP= 2191.98 FW= 2192.18 Q=77 CFS
X	1039.68	FP= 2193.21 FW= 2193.27 Q=77 CFS
AB	1159.56	FP= 2195.71 FW= 2195.85 Q=77 CFS

CROSS SECTION DATA KEY FOR WILLOW SPRINGS WASH TRIBUTARY REACH 6.3

AK	398.51	FP= 2178.69 FW= 2179.29 Q=1017 CFS
AL	448.50	FP= 2179.11 FW= 2179.72 Q=1017 CFS
AT	823.09	FP= 2183.11 FW= 2183.89 Q=1017 CFS
AU	865.92	FP= 2183.37 FW= 2184.16 Q=1017 CFS
AV	903.90	FP= 2183.53 FW= 2184.26 Q=1017 CFS
AW	947.58	FP= 2184.19 FW= 2184.87 Q=1017 CFS
AX	962.45	FP= 2184.45 FW= 2185.03 Q=1017 CFS

LEGEND

100-YR FLOODPLAIN BOUNDARY

100-YR FLOODWAY BOUNDARY

RIVER MILE — RM2.0 RM2.5 RM3.0

CROSS SECTION — A 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION

BASE FLOOD ELEVATION — 2265.00

ELEVATION REFERENCE MARK — ERM 2400

ZONE DESIGNATION — ZONE AE

ZONE DESIGNATION — ZONE X

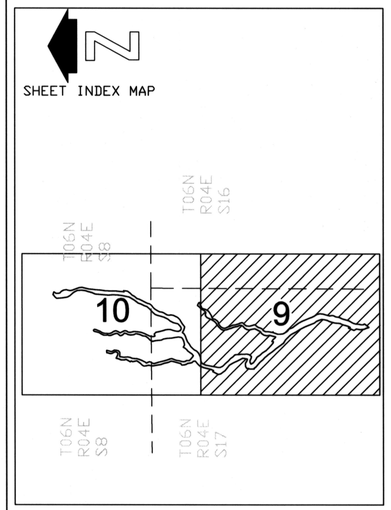
BENCHMARK DESIGNATION — BM#10

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS = -2.06 FOOT.

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
BM # 7	2193.74	THE INTERSECTION OF MORNING STAR ROAD AND 54TH STREET (NE CORNER)

SHEET INDEX MAP



NOTES

1- THIS MODEL HAS BEEN PREPARED TO TIE INTO THE EXISTING WILLOW SPRINGS TRIBUTARY-1 FLOOD PROFILE AT RIVER MILE 0.91, LOCATED BETWEEN THE EXISTING CROSS SECTIONS OF "D" AND "E". REFER TO PROFILE PANEL 561P, AND REFER TO FIRM PANEL # 04013C0802H, DATED SEPTEMBER 30, 2005.

NO.	REVISION	BY	DATE
2			
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

WILLOW SPRINGS WASH TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ

BENCHMARK INFORMATION

BENCHMARK 7 QUALITY: BRASS CAP IN CONCRETE
MONUMENT TYPE: 30 NGS
DIAMETER HOLE: 10"
HOLE DEPTH: 36"
ROD FOOTAGE: 4' 0"
ROD TYPE: 9/16" STEEL

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

100' 0' 100' 200'

SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

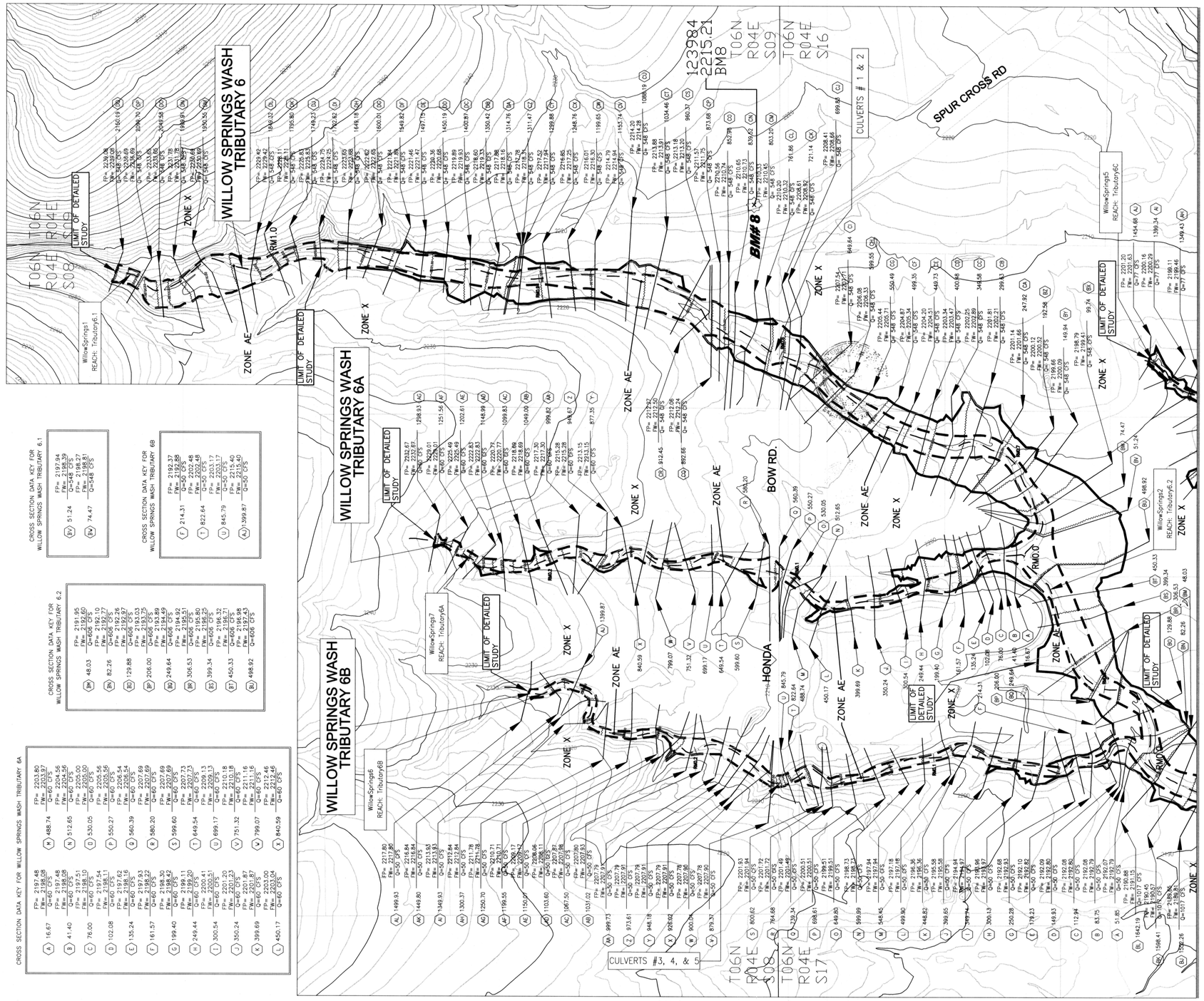
GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

Registered Professional Engineer (Civil) CERTIFICATE NO. 35571 LINDA A. POTTER ARIZONA U.S.A.
EXPIRES 12/31/2009

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAF0.08082008



CROSS SECTION DATA KEY FOR WILLOW SPRINGS WASH TRIBUTARY 6.1

(BY)	51.24	FP= 2197.84 FW= 2198.39 Q=548 CFS; FP= 2198.27 FW= 2198.48 Q=548 CFS
(BW)	74.47	

CROSS SECTION DATA KEY FOR WILLOW SPRINGS WASH TRIBUTARY 6B

(F)	214.31	FP= 2192.37 FW= 2192.89 Q=50 CFS
(T)	822.64	FP= 2202.48 FW= 2202.48 Q=50 CFS
(U)	845.79	FP= 2203.17 FW= 2203.17 Q=50 CFS
(AJ)	399.87	FP= 2215.40 FW= 2215.40 Q=50 CFS

CROSS SECTION DATA KEY FOR WILLOW SPRINGS WASH TRIBUTARY 6.2

(BN)	48.03	FP= 2191.98 FW= 2192.60 Q=605 CFS
(BN)	82.26	FP= 2192.10 FW= 2192.77 Q=605 CFS
(BE)	129.88	FP= 2192.36 FW= 2192.97 Q=605 CFS
(BP)	206.00	FP= 2193.13 FW= 2193.73 Q=605 CFS
(BQ)	249.64	FP= 2193.49 FW= 2194.49 Q=605 CFS
(BR)	306.53	FP= 2194.52 FW= 2195.23 Q=605 CFS
(BS)	399.34	FP= 2195.80 FW= 2196.65 Q=605 CFS
(BT)	450.33	FP= 2196.32 FW= 2196.77 Q=605 CFS
(BU)	498.92	FP= 2196.98 FW= 2197.45 Q=605 CFS

CROSS SECTION DATA KEY FOR WILLOW SPRINGS WASH TRIBUTARY 6A

(A)	16.67	FP= 2197.48 FW= 2198.09 Q=60 CFS
(B)	41.40	FP= 2197.84 FW= 2198.48 Q=60 CFS
(C)	76.00	FP= 2197.91 FW= 2198.51 Q=60 CFS
(D)	102.08	FP= 2197.54 FW= 2198.11 Q=60 CFS
(E)	135.24	FP= 2197.62 FW= 2198.24 Q=60 CFS
(F)	161.57	FP= 2197.93 FW= 2198.22 Q=60 CFS
(G)	199.40	FP= 2198.30 FW= 2198.42 Q=60 CFS
(H)	249.44	FP= 2199.11 FW= 2199.20 Q=60 CFS
(I)	300.54	FP= 2200.41 FW= 2200.51 Q=60 CFS
(J)	350.24	FP= 2201.20 FW= 2201.23 Q=60 CFS
(X)	399.69	FP= 2201.87 FW= 2201.87 Q=60 CFS
(L)	450.17	FP= 2202.00 FW= 2203.04 Q=60 CFS
(M)	488.74	FP= 2203.80 FW= 2203.97 Q=60 CFS
(N)	512.65	FP= 2204.56 FW= 2204.56 Q=60 CFS
(O)	530.05	FP= 2205.00 FW= 2205.00 Q=60 CFS
(P)	550.27	FP= 2205.56 FW= 2205.56 Q=60 CFS
(Q)	560.39	FP= 2206.54 FW= 2206.54 Q=60 CFS
(R)	580.20	FP= 2207.69 FW= 2207.69 Q=60 CFS
(S)	599.60	FP= 2207.69 FW= 2207.69 Q=60 CFS
(T)	649.54	FP= 2207.73 FW= 2207.73 Q=60 CFS
(U)	699.17	FP= 2209.13 FW= 2209.13 Q=60 CFS
(V)	751.32	FP= 2210.18 FW= 2210.18 Q=60 CFS
(W)	799.07	FP= 2211.16 FW= 2211.16 Q=60 CFS
(X)	840.59	FP= 2212.04 FW= 2212.46 Q=60 CFS
(AL)	1499.93	FP= 2217.80 FW= 2217.80 Q=50 CFS
(AK)	1449.80	FP= 2216.84 FW= 2216.84 Q=50 CFS
(A)	1349.93	FP= 2213.93 FW= 2213.93 Q=50 CFS
(AH)	1300.37	FP= 2212.84 FW= 2212.84 Q=50 CFS
(AG)	1250.70	FP= 2211.78 FW= 2211.78 Q=50 CFS
(AF)	1199.55	FP= 2210.71 FW= 2210.71 Q=50 CFS
(AE)	1150.07	FP= 2209.72 FW= 2209.72 Q=50 CFS
(AC)	1103.60	FP= 2208.06 FW= 2208.11 Q=50 CFS
(AD)	1067.50	FP= 2207.87 FW= 2207.98 Q=50 CFS
(AB)	1031.02	FP= 2207.80 FW= 2207.93 Q=50 CFS
(AA)	999.73	FP= 2207.79 FW= 2207.79 Q=50 CFS
(Z)	973.61	FP= 2207.79 FW= 2207.79 Q=50 CFS
(Y)	948.18	FP= 2207.79 FW= 2207.79 Q=50 CFS
(X)	926.02	FP= 2207.78 FW= 2207.80 Q=50 CFS
(W)	900.74	FP= 2207.78 FW= 2207.80 Q=50 CFS
(V)	879.37	FP= 2207.78 FW= 2207.80 Q=50 CFS
(S)	800.62	FP= 2201.93 FW= 2201.94 Q=50 CFS
(R)	764.68	FP= 2201.72 FW= 2201.72 Q=50 CFS
(Q)	739.34	FP= 2201.49 FW= 2201.49 Q=50 CFS
(P)	698.61	FP= 2200.51 FW= 2200.51 Q=50 CFS
(O)	649.80	FP= 2199.51 FW= 2199.51 Q=50 CFS
(N)	599.99	FP= 2198.73 FW= 2198.73 Q=50 CFS
(M)	548.45	FP= 2197.84 FW= 2197.84 Q=50 CFS
(L)	499.90	FP= 2197.18 FW= 2197.18 Q=50 CFS
(K)	448.82	FP= 2196.36 FW= 2196.36 Q=50 CFS
(J)	398.65	FP= 2195.58 FW= 2195.58 Q=50 CFS
(I)	349.74	FP= 2194.97 FW= 2194.97 Q=50 CFS
(H)	300.13	FP= 2194.95 FW= 2194.95 Q=50 CFS
(G)	250.28	FP= 2193.83 FW= 2193.83 Q=50 CFS
(E)	173.23	FP= 2192.10 FW= 2192.82 Q=50 CFS
(D)	149.93	FP= 2192.80 FW= 2192.80 Q=50 CFS
(C)	112.94	FP= 2192.28 FW= 2192.85 Q=50 CFS
(B)	83.75	FP= 2192.28 FW= 2192.79 Q=50 CFS
(A)	51.85	FP= 2192.27 FW= 2192.79 Q=50 CFS
(BL)	1842.19	FP= 2191.88 FW= 2191.88 Q=107 CFS
(BK)	1598.41	FP= 2190.45 FW= 2190.45 Q=107 CFS
(BJ)	1392.26	FP= 2189.26 FW= 2189.26 Q=107 CFS

CROSS SECTION DATA KEY FOR WILLOW SPRINGS WASH TRIBUTARY 6B

(AL)	1499.93	FP= 2217.80 FW= 2217.80 Q=50 CFS
(AK)	1449.80	FP= 2216.84 FW= 2216.84 Q=50 CFS
(A)	1349.93	FP= 2213.93 FW= 2213.93 Q=50 CFS
(AH)	1300.37	FP= 2212.84 FW= 2212.84 Q=50 CFS
(AG)	1250.70	FP= 2211.78 FW= 2211.78 Q=50 CFS
(AF)	1199.55	FP= 2210.71 FW= 2210.71 Q=50 CFS
(AE)	1150.07	FP= 2209.72 FW= 2209.72 Q=50 CFS
(AC)	1103.60	FP= 2208.06 FW= 2208.11 Q=50 CFS
(AD)	1067.50	FP= 2207.87 FW= 2207.98 Q=50 CFS
(AB)	1031.02	FP= 2207.80 FW= 2207.93 Q=50 CFS
(AA)	999.73	FP= 2207.79 FW= 2207.79 Q=50 CFS
(Z)	973.61	FP= 2207.79 FW= 2207.79 Q=50 CFS
(Y)	948.18	FP= 2207.79 FW= 2207.79 Q=50 CFS
(X)	926.02	FP= 2207.78 FW= 2207.80 Q=50 CFS
(W)	900.74	FP= 2207.78 FW= 2207.80 Q=50 CFS
(V)	879.37	FP= 2207.78 FW= 2207.80 Q=50 CFS
(S)	800.62	FP= 2201.93 FW= 2201.94 Q=50 CFS
(R)	764.68	FP= 2201.72 FW= 2201.72 Q=50 CFS
(Q)	739.34	FP= 2201.49 FW= 2201.49 Q=50 CFS
(P)	698.61	FP= 2200.51 FW= 2200.51 Q=50 CFS
(O)	649.80	FP= 2199.51 FW= 2199.51 Q=50 CFS
(N)	599.99	FP= 2198.73 FW= 2198.73 Q=50 CFS
(M)	548.45	FP= 2197.84 FW= 2197.84 Q=50 CFS
(L)	499.90	FP= 2197.18 FW= 2197.18 Q=50 CFS
(K)	448.82	FP= 2196.36 FW= 2196.36 Q=50 CFS
(J)	398.65	FP= 2195.58 FW= 2195.58 Q=50 CFS
(I)	349.74	FP= 2194.97 FW= 2194.97 Q=50 CFS
(H)	300.13	FP= 2194.95 FW= 2194.95 Q=50 CFS
(G)	250.28	FP= 2193.83 FW= 2193.83 Q=50 CFS
(E)	173.23	FP= 2192.10 FW= 2192.82 Q=50 CFS
(D)	149.93	FP= 2192.80 FW= 2192.80 Q=50 CFS
(C)	112.94	FP= 2192.28 FW= 2192.85 Q=50 CFS
(B)	83.75	FP= 2192.28 FW= 2192.79 Q=50 CFS
(A)	51.85	FP= 2192.27 FW= 2192.79 Q=50 CFS
(BL)	1842.19	FP= 2191.88 FW= 2191.88 Q=107 CFS
(BK)	1598.41	FP= 2190.45 FW= 2190.45 Q=107 CFS
(BJ)	1392.26	FP= 2189.26 FW= 2189.26 Q=107 CFS

BENCHMARK INFORMATION

BENCHMARK 8 QUALITY: BRASS CAP IN CONCRETE
MONUMENT TYPE: 30 NGS
DIAMETER HOLE: 10"
HOLE DEPTH: 36"
ROD FOOTAGE: 3' 6"
ROD TYPE: 9/16" STEEL

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1"= 100' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

COOPER AERIAL SURVEYS COMPANY
CONTRACT NUMBER: FCD2003C048, Assignment #4
FCD2005C030

100' 0' 100' 200'

SCALE: 1" = 100'
CONTOUR INTERVAL = 2'
FLIGHT DATES: November 2003 through December 2005

GROUND CONTROL SURVEY DATA PROVIDED BY COOPER AERIAL SURVEYS COMPANY

LEGEND

100-YR FLOODPLAIN BOUNDARY

100-YR FLOODWAY BOUNDARY

RIVER MILE — RM2.0 — RM2.5 — RM3.0

CROSS SECTION — (A) 144.44 — CROSS SECTION STATION (FEET); FP= 2250.55 FLOODPLAIN WATER SURFACE ELEVATION; FW= 2250.55 FLOODWAY WATER SURFACE ELEVATION; Q =4630 CFS 100 YEAR DISCHARGE; PROPOSED FEMA CROSS SECTION DESIGNATION

BASE FLOOD ELEVATION — 2265.00

ELEVATION REFERENCE MARK — ERM 2400

ZONE DESIGNATION — ZONE AE

ZONE DESIGNATION — ZONE X

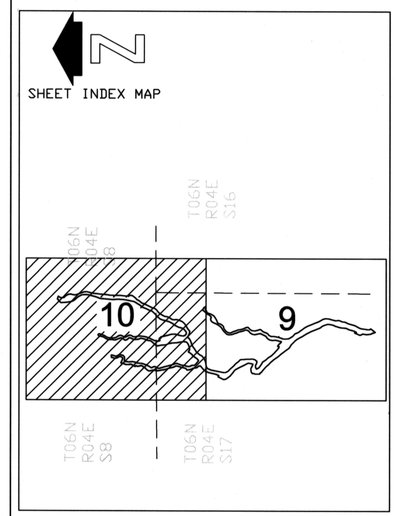
BENCHMARK DESIGNATION — BM#10

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS = -2.06 FOOT.

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
BM # 8	2215.21	THE INTERSECTION OF SPUR CROSS ROAD AND HONDA BOW ROAD (NE CORNER)

SHEET INDEX MAP



NOTES

1- THIS MODEL HAS BEEN PREPARED TO TIE INTO THE EXISTING WILLOW SPRINGS TRIBUTARY-1 FLOOD PROFILE AT RIVER MILE 0.91, LOCATED BETWEEN THE EXISTING CROSS SECTIONS OF "D" AND "E". REFER TO PROFILE PANEL 561P, AND REFER TO FIRM PANEL # 04013C0802H, DATED SEPTEMBER 30, 2005.

NO.	REVISION	BY	DATE
2			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

WILLOW SPRINGS WASH TRIBUTARY FLOODPLAIN DELINEATION, CAVE CREEK, AZ

Registered Professional Engineer (Civil) — CERTIFICATE NO. 35571 — LINDA A. POTTER — Date Signed 5/16/07 — ARIZONA, U.S.A.

EXPIRES 12/31/2009

HDR ENGINEERING, INC.
3200 East Camelback Road, Suite 350
PHOENIX, ARIZONA 85018-2311
(602) 522-7700

	BY	DATE
DESIGN	M. FOUNTAIN	08-08-08
DESIGN CHK.	L. POTTER	08-08-08
PLANS	MC/MF	08-08-08
PLANS CHK.	L. POTTER	08-08-08

FNL.MAF0.08082008