Tres Rios North Levee

Floodplain and Floodway Re-Delineation Study

Salt and Gila Rivers, Maricopa County, Arizona

Technical Data Notebook

Volume 2 of 2

Contract Number: FCD 2010C027 Assignment #6 with Amendment #6A, and Contract Number FCD 2012C005 Assignment #1

Prepared for:

Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Expires 3/31/2014

Prepared by:

WEST Consultants, Inc.

8950 S. 52nd Street, Suite 210
Tempe, AZ 85284

In Cooperation With:

City of Avondale

11465 W Civic Center Dr.
Avondale, AZ 85323

City of Phoenix

Phoenix City Hall
200 W. Washington St.
Phoenix, AZ 85003

U.S. Army Corps of Engineers
Los Angeles District

915 Wilshire Blvd, Suite 1101
Los Angeles, CA 90017

September 2012

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September 2012

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Expires 3/31/2014

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Expires 3/31/2014

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Volume 2 of 2

List of Exhibits

Exhibit A	Study Work Maps, 1" = 200' scale (folded full size set provided)
Exhibit B	Study Work Maps, 1" = 500' scale (folded full size set provided)
Exhibit C	Annotated Flood Insurance Rate Maps
Exhibit D	CD Containing Electronic Files

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Exhibit B	**Study Work Maps, 1" = 500' scale (folded full size set provided)**
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EXHIBIT A

Study Work Maps, 1" = 200' scale (folded full size set provided)

Flood Control District
of Maricopa County

INTEROFFICE MEMORANDUM

Date: July 12, 2012

To: Timothy S. Phillips, P.E., Chief Engineer and General Manager

From: Richard P. Harris, P.E., CFM

Subject: Tres Rios North Levee Floodplain and Floodway Re-delineations Study (FRDS), Including TDN and Maps, Contracts FCD 2010C027 and FCD 2012C005

The floodplain and floodway re-delineation study for the Tres Rios North Levee FRDS is ready for use as the best available technical information. The study documentation was transferred to Michael Baker Junior Engineering on July 3rd, 2012. This Contractor currently serves as the District's local Physical Map Revision (PMR) Contractor for technical review and finalization, before the technical data can be sent to FEMA for incorporation into the County's FIRM panels.

The background for the study includes the following:

> The study produced updated Hydrology and re-delineated approximately 5.2 linear miles of Zone AE floodplain with floodway. The topographic basis for the study was primarily 1-foot contour interval mapping with supplemental 2-foot and 4-foot contour interval mapping used in some floodway fringe areas. The study area was flown in October of 2001. The study Consultant was WEST Consultants. The project manager for the Consultant was Dr. Brian Wahlin, PhD., P.E., D.WRE. The project manager for the District was Richard P. Harris, P.E., CFM.

Please concur and authorize below the use of this new study.

R. P. Harris Project Manager Date: 7/12/12	Timothy S. Phillips, P.E., Chief Engineer and General Manager Date: 7/23/12
	Assistant Project Manager Date:
7/19/12 Hydrology/Hydraulics Branch Manager Date:	Assistant Project Manager Date:
Kelli A Serfich Floodplain Management & Services Division Manager Date: 7/23/12	Assistant Project Manager Date:
12/3/2012 Eng. Division Manager Date:	Assistant Project Manager Date:
File Copies: 1. _____ 2. _____	Yes/Pending ☑ GIS Posted (Pending Floodplain Only) Date: N/A

2801 West Durango Street Phoenix, Arizona 85009 Phone: 602-506-1501 Fax: 602-506-4601

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

IN COOPERATION WITH THE CITIES OF PHOENIX AND AVONDALE, AZ, AND THE USACE LOS ANGELES DISTRICT

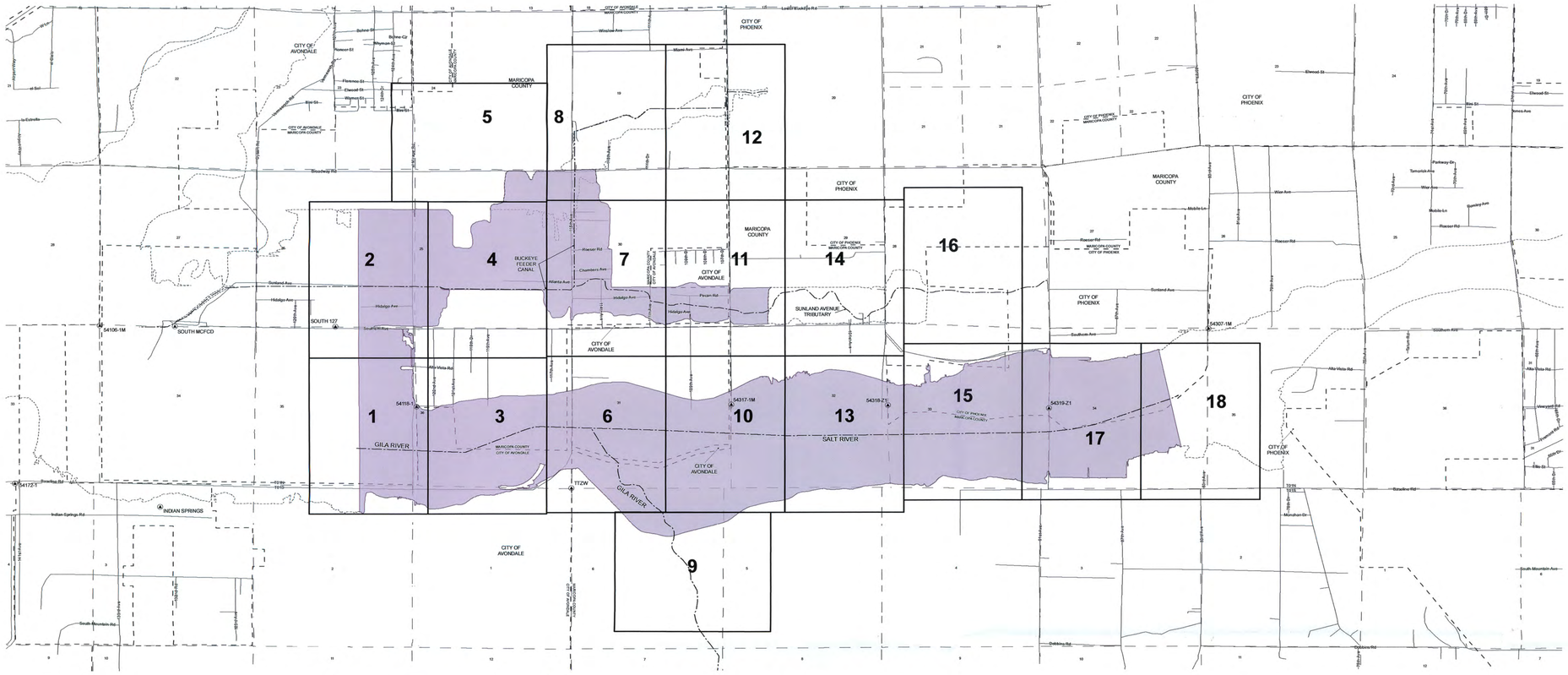
US Army Corps of Engineers®

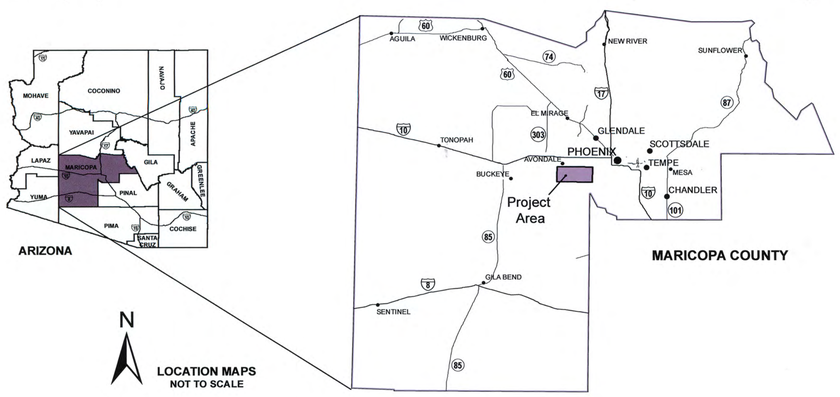
City of Phoenix

City of Avondale

TRES RIOS NORTH LEVEE
FLOODPLAIN AND FLOODWAY REDELINEATION STUDY

FCD CONTRACT NO. 2010C027, ASSIGNMENT NO. 6 AND AMMENDMENT NO. 6A,
FCD CONTRACT NO. 2012C005, ASSIGNMENT NO. 1
SEPTEMBER 2012





ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY (GDACS) CONTROL STATIONS

ID Number	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NGVD 29 Elevation (feet)
54106-1M	870,389.96	565,475.95	916.66
54108-1	870,424.67	560,092.59	915.04
54118-1	867,686.07	575,967.46	932.36
54172-1	865,170.27	562,652.61	962.27
54307-1M	870,233.11	602,226.03	979.93
54317-1M	867,743.89	586,401.65	948.32
54318-Z1	867,713.65	591,584.31	948.76
54319-Z1	867,609.06	596,944.83	956.92
Indian Springs	864,383.12	567,460.66	932.61
South 127	870,336.55	573,281.47	932.05
South MCFCD	870,357.91	567,953.26	921.88
TTZW	864,987.89	581,102.98	1,158.54

LEGEND

- PROPOSED 1% ANNUAL CHANCE FLOOD BOUNDARY
- EFFECTIVE 1% ANNUAL CHANCE FLOOD BOUNDARY
- HYDRAULIC BASELINE
- COUNTY/TOWN BOUNDARY
- SHEET WINDOW AND NUMBER (1)
- ELEV. REFERENCE MARK
- SECTION LINE AND ID (5)

NOTES

ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929. ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

N

4,000 2,000 0 4,000 Feet

SCALE: 1" = 2000 FEET

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 06/30/2012 ARIZONA, U.S.A.

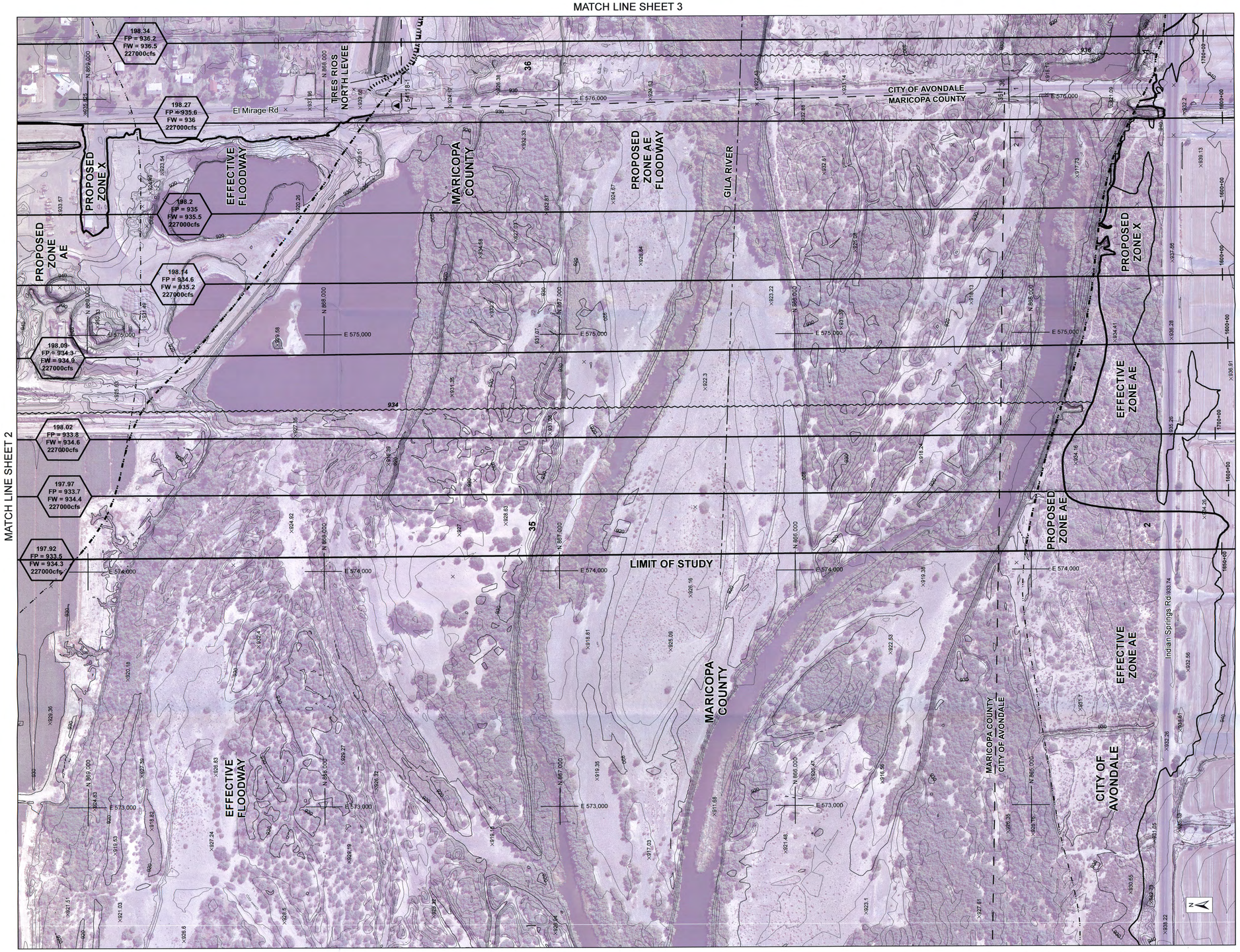
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

COVER SHEET

MATCH LINE SHEET 3



AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

SCALE: 1" = 200 FEET
CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

BASE FLOOD ELEVATION

Cross Section River Mile Designation — 1.009
Floodplain Water Surface Elevation — FP = 2222.33
Floodway Water Surface Elevation — FW = 2222.33
100-year Discharge — 3333 cfs

HYDRAULIC BASELINE

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

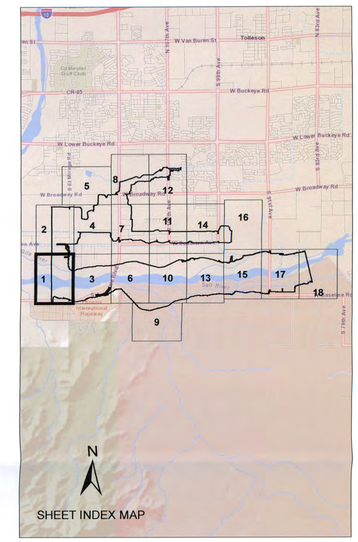
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION
54118-1	932.4	FD 3" MCHD BC IN HH 0.6' DN, STAMPED "1/4 S35 S36 T1NR1W LS1591- 1991"

NOTES

1) ALL AREAS DESIGNATED ZONE X ARE UNSHADED ZONE X, EXCEPT WHERE NOTED.

2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1W, SECTIONS 35-36, AND TOWNSHIP 1S, RANGE 1W, SECTIONS 1-2.



SHEET INDEX MAP

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 08-14-2012 ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

SHEET 1 OF 18

MATCH LINE SHEET 4

MATCH LINE SHEET 5

MATCH LINE SHEET 1

PROPOSED ZONE X

EFFECTIVE ZONE AE

PROPOSED ZONE AE

LIMIT OF BFC/SAT MODELING

MARICOPA COUNTY

BUCKEYE FEEDER CANAL

EFFECTIVE ZONE X

LIMIT OF STUDY

EFFECTIVE ZONE AE

EFFECTIVE FLOODWAY

PROPOSED ZONE X

Hidalgo Ave

El Mirage Rd

Southern Ave

SOUTH 127

25

26

35

36

2.626
FP = 935.6
1390cfs

2.62
FP = 935.6
1390cfs

2.648
FP = 935.6
1370cfs

2.622
FP = 935.6
1390cfs

198.27
FP = 935.6
FW = 936
227000cfs

198.2
FP = 935
FW = 935.5
227000cfs

198.14
FP = 934.6
FW = 935.2
227000cfs

198.09
FP = 934.3
FW = 934.9
227000cfs

198.02
FP = 933.8
FW = 934.6
227000cfs

197.97
FP = 933.7
FW = 934.4
227000cfs

197.92
FP = 933.5
FW = 934.3
227000cfs

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

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1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

BASE FLOOD ELEVATION

Cross Section River Mile Designation — 1.009
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100-year Discharge — 3333 cfs

HYDRAULIC BASELINE

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

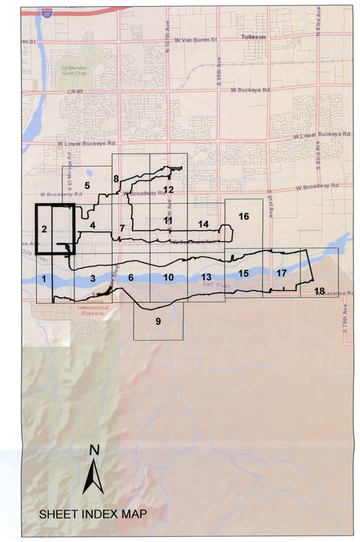
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION
SOUTH 127	932.1	STATION IS MARKED BY A MARICOPA HWY DEP. BRASS DISK, NO STAMPING, RECESSED 12CM IN A HOLE

NOTES

1) ALL AREAS DESIGNATED ZONE X ARE UNSHADED ZONE X, EXCEPT WHERE NOTED.

2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1W, SECTIONS 25-26 AND 35-36.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

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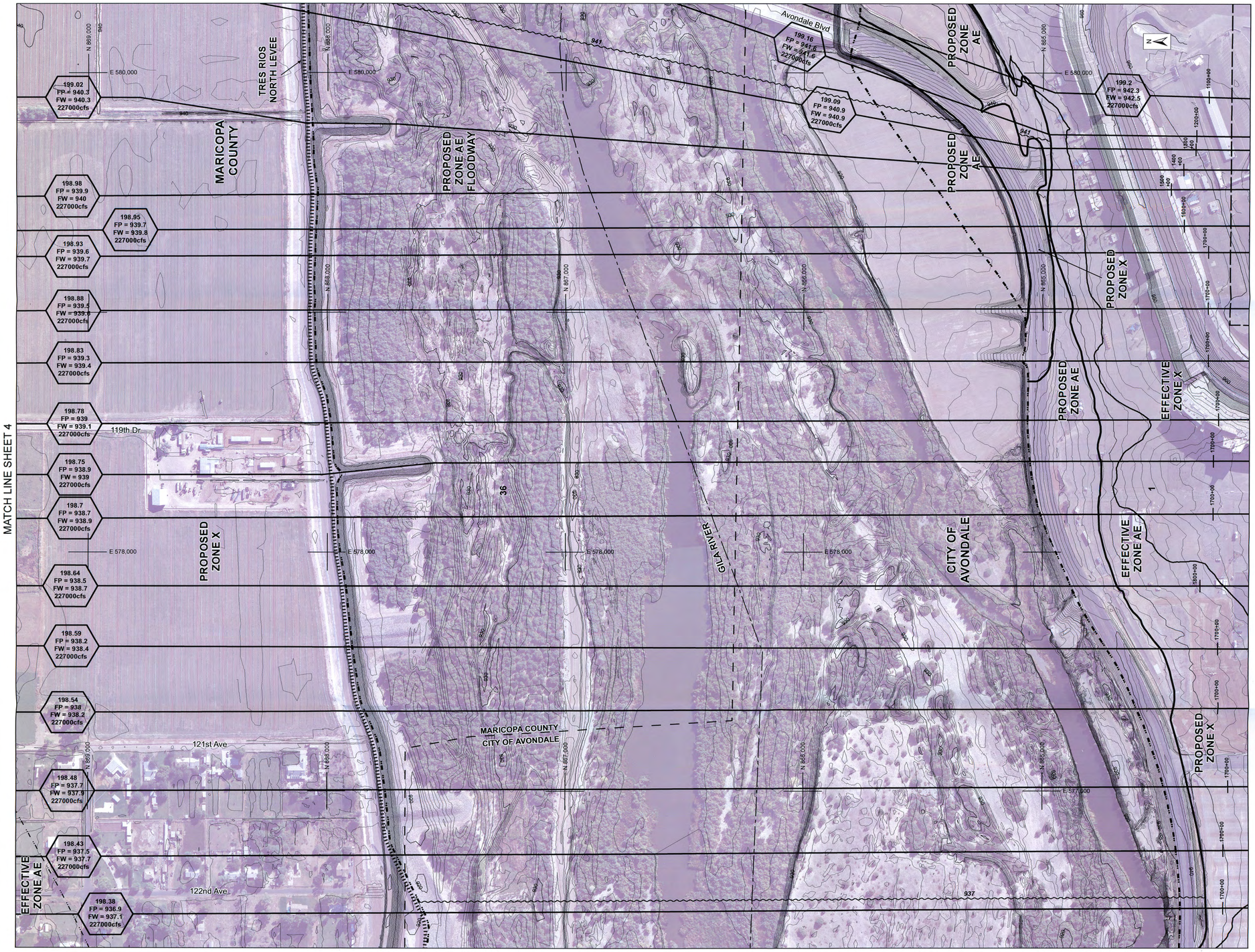
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

MATCH LINE SHEET 6

MATCH LINE SHEET 4

MATCH LINE SHEET 1



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FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

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LEGEND

- 1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective
- FLOODWAY BOUNDARIES — Revised / Effective
- ZONE D BOUNDARY
- BASE FLOOD ELEVATION
- Cross Section River Mile Designation — 1.009
- Floodplain Water Surface Elevation — FP = 2222.33
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- HYDRAULIC BASELINE
- ELEV. REFERENCE MARK
- SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

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

NOTES

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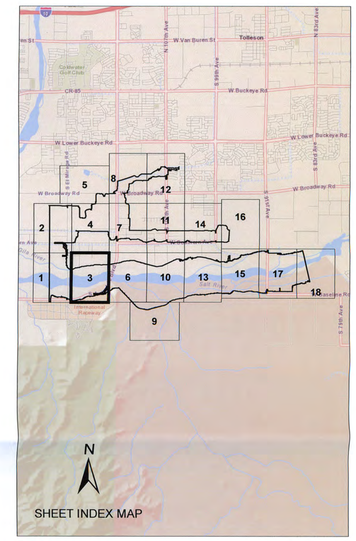
2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1W, SECTION 36, AND TOWNSHIP 1S, RANGE 1W, SECTION 1.

3) GROUND ELEVATION CONTOUR MAPPING MAY NOT REFLECT MORE RECENT CONSTRUCTION IN THE VICINITY OF THE LEVEE AND ATTENDANT PROJECT FEATURES. UPDATED AS-BUILT GEOMETRIC INFORMATION HAS BEEN ADDED TO THE MODEL FROM APPROXIMATELY THE LEVEE ALIGNMENT TO THE NORTH (OVERBANK WETLAND PROJECT FEATURES ARE LOCATED NORTH AND EAST OF THE LEVEE).



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE
FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil)
CERTIFICATE NO.
41980
BRIAN THOMAS WAHLIN
Date Signed 03-14-2014
ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

MATCH LINE SHEET 7

MATCH LINE SHEET 5

MATCH LINE SHEET 3

MATCH LINE SHEET 2

PROPOSED ZONE A
SEE FEMA CASE NO. 04-09-0933P

EFFECTIVE ZONE A

PROPOSED ZONE AE
SEE FEMA CASE NO. 04-09-0933P

EFFECTIVE ZONE AE

EFFECTIVE ZONE X

PROPOSED ZONE X

MARICOPA COUNTY

BUCKEYE FEEDER CANAL

EFFECTIVE FLOODWAY

Atlanta Ave

Southern Ave

119th Ave

119th Dr

121st Ave

122nd Ave

940 939 937 936

N 874,000 N 873,000 N 872,000 N 871,000

E 580,000 E 579,000 E 578,000 E 577,000

3.407
FP = 939.5
0+00

3.312
FP = 939.0
0+00

3.217
FP = 938.4
0+00

3.122
FP = 937.9
1350cfs
8800+00

3.028
FP = 937.5
1350cfs
8700+00

2.933
FP = 935.3
1350cfs
8700+00

2.838
FP = 935.8
1370cfs
8700+00

2.742
FP = 935.8
1370cfs
8600+00

LEGEND

1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

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HYDRAULIC BASELINE

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

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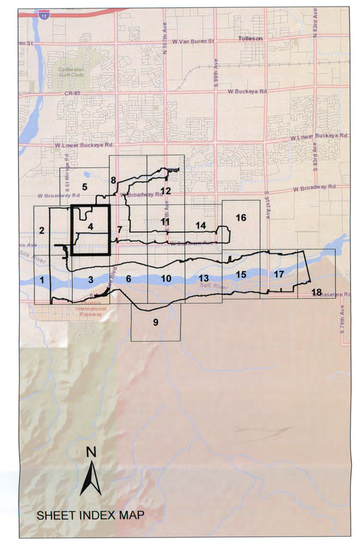

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200 100 0 200 400

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CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

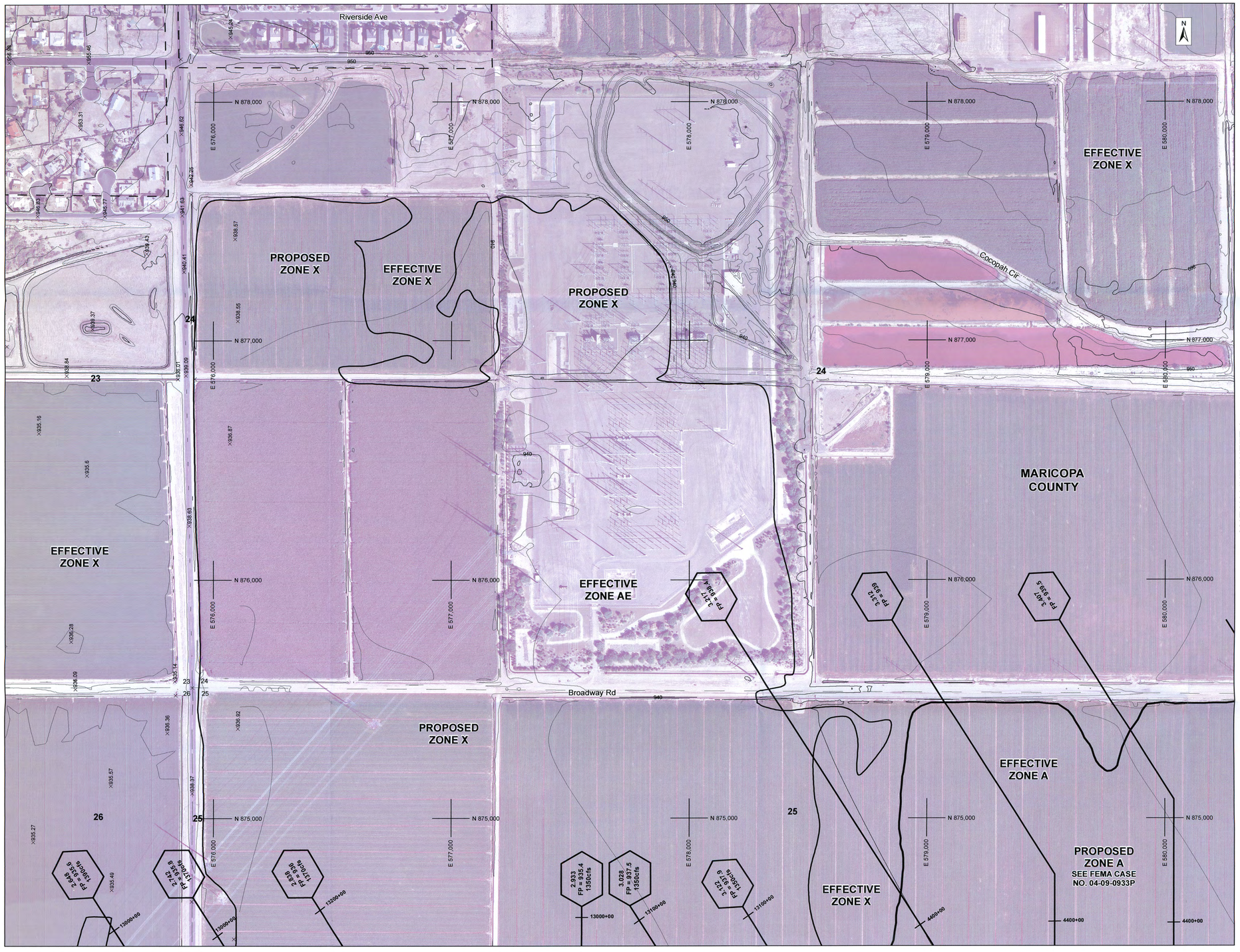
Professional Engineer — CERTIFICATE NO. 41980 — BRIAN THOMAS WAHLIN — ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

SHEET 4 OF 18

MATCH LINE SHEET 8



MATCH LINE SHEET 4

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

SCALE: 1" = 200 FEET
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CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

- 1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective
- FLOODWAY BOUNDARIES — Revised / Effective
- ZONE D BOUNDARY
- BASE FLOOD ELEVATION
- Cross Section River Mile Designation — 1.009
- Floodplain Water Surface Elevation — FP = 2222.33
- Floodway Water Surface Elevation — FW = 2222.33
- 100-year Discharge — 3333 cfs
- HYDRAULIC BASELINE
- ELEV. REFERENCE MARK
- SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

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

NOTES

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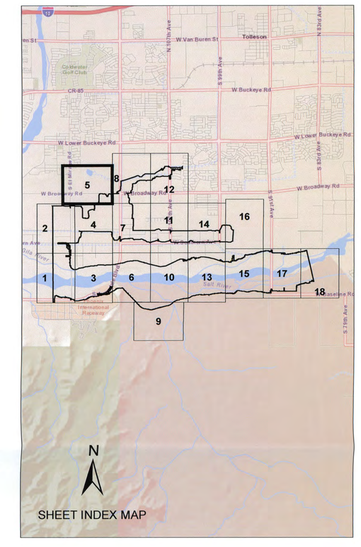


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Professional Engineer — CERTIFICATE NO. 41980 — BRIAN THOMAS WAHLIN — ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

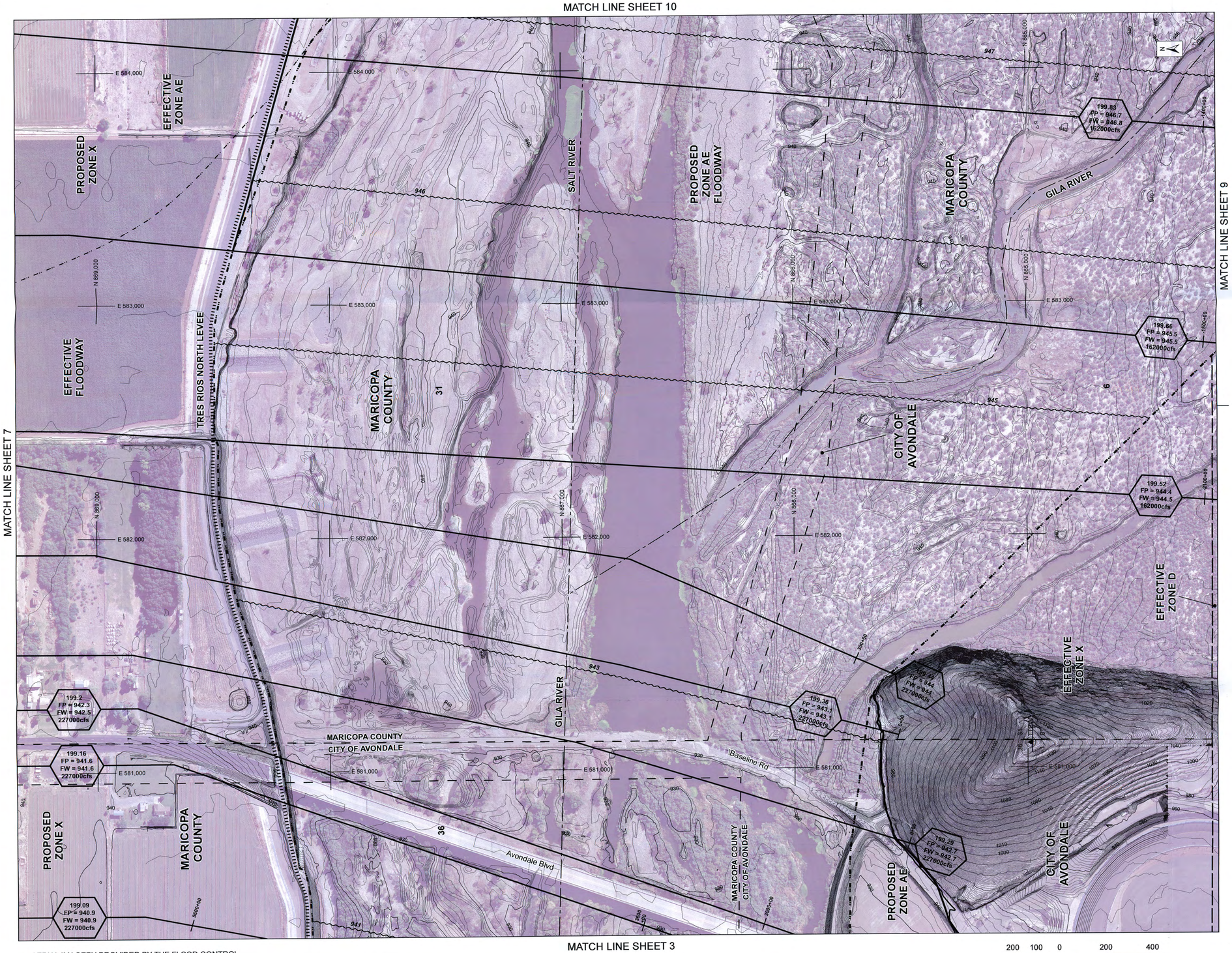
SHEET 5 OF 18

MATCH LINE SHEET 10

MATCH LINE SHEET 9

MATCH LINE SHEET 7

MATCH LINE SHEET 3



AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

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CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

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CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

BASE FLOOD ELEVATION

Cross Section River Mile Designation — 1.009
Floodplain Water Surface Elevation — FP = 2222.33
Floodway Water Surface Elevation — FW = 2222.33
100-year Discharge — 3333 cfs

HYDRAULIC BASELINE

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

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I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION
TTZW	1158.5	SURVEY DISK SET IN ROCK OUTCROP

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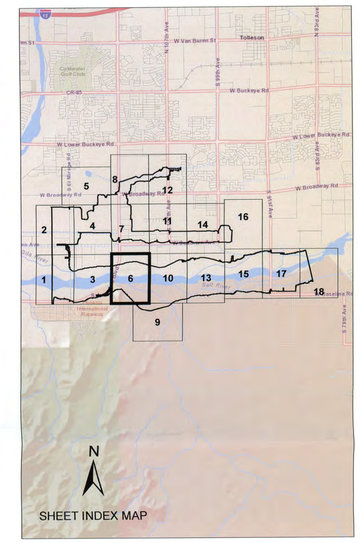


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

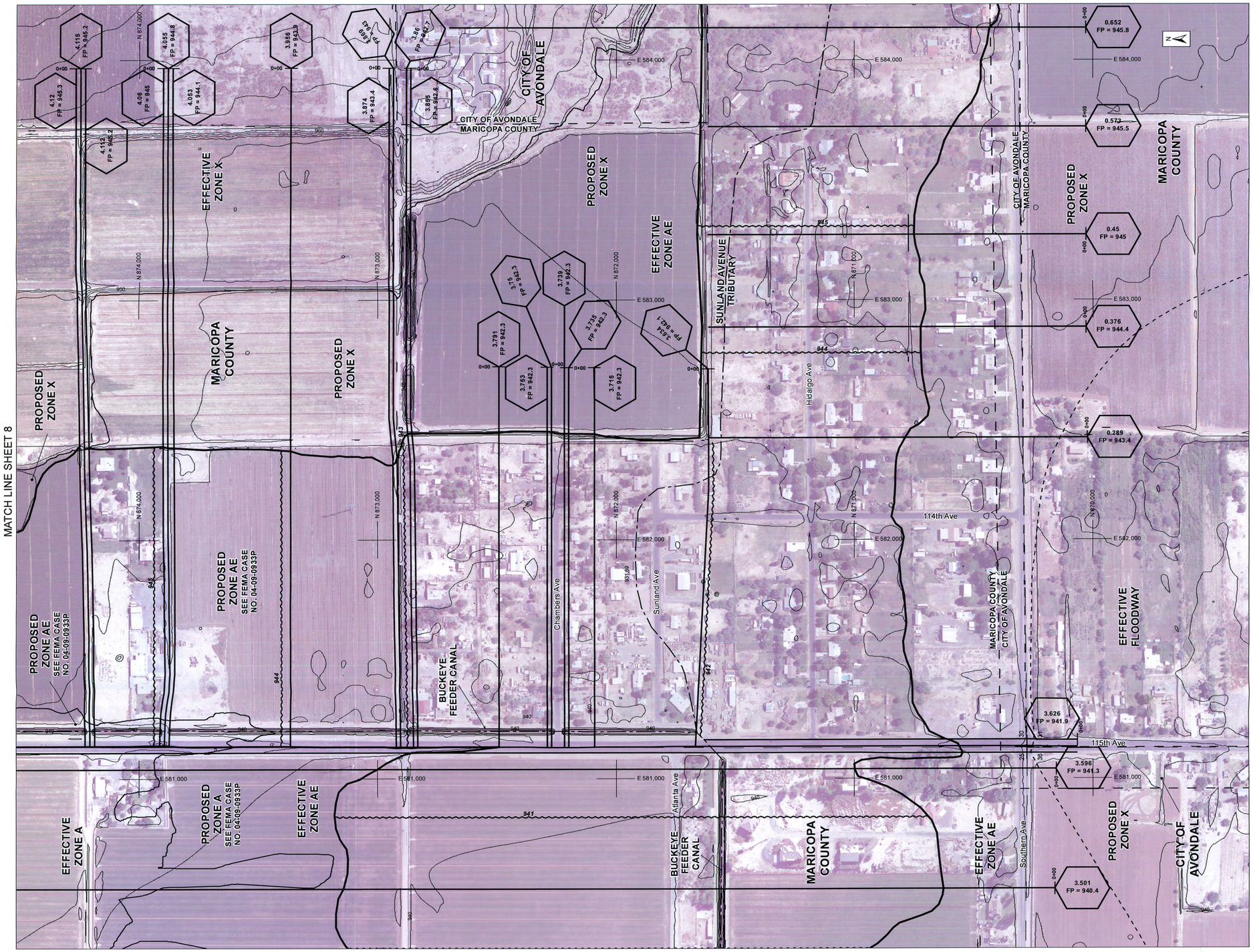
Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 3/31/2014 ARIZONA, U.S.A.

Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

MATCH LINE SHEET 11



MATCH LINE SHEET 4

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

SCALE: 1" = 200 FEET
CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

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CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

- 1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective
- FLOODWAY BOUNDARIES — Revised / Effective
- ZONE D BOUNDARY
- BASE FLOOD ELEVATION
- Cross Section River Mile Designation — 1.009
- Floodplain Water Surface Elevation — FP = 2222.33
- Floodway Water Surface Elevation — FW = 2222.33
- 100-year Discharge — 3333 cfs
- HYDRAULIC BASELINE
- ELEV. REFERENCE MARK
- SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
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I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION

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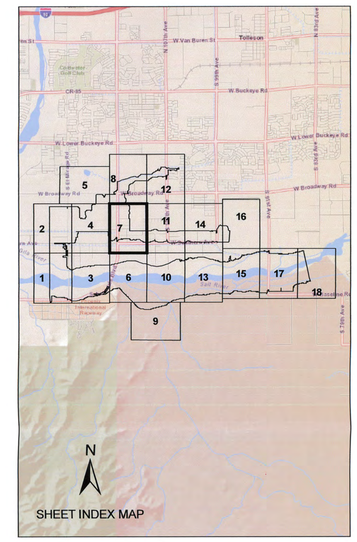


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

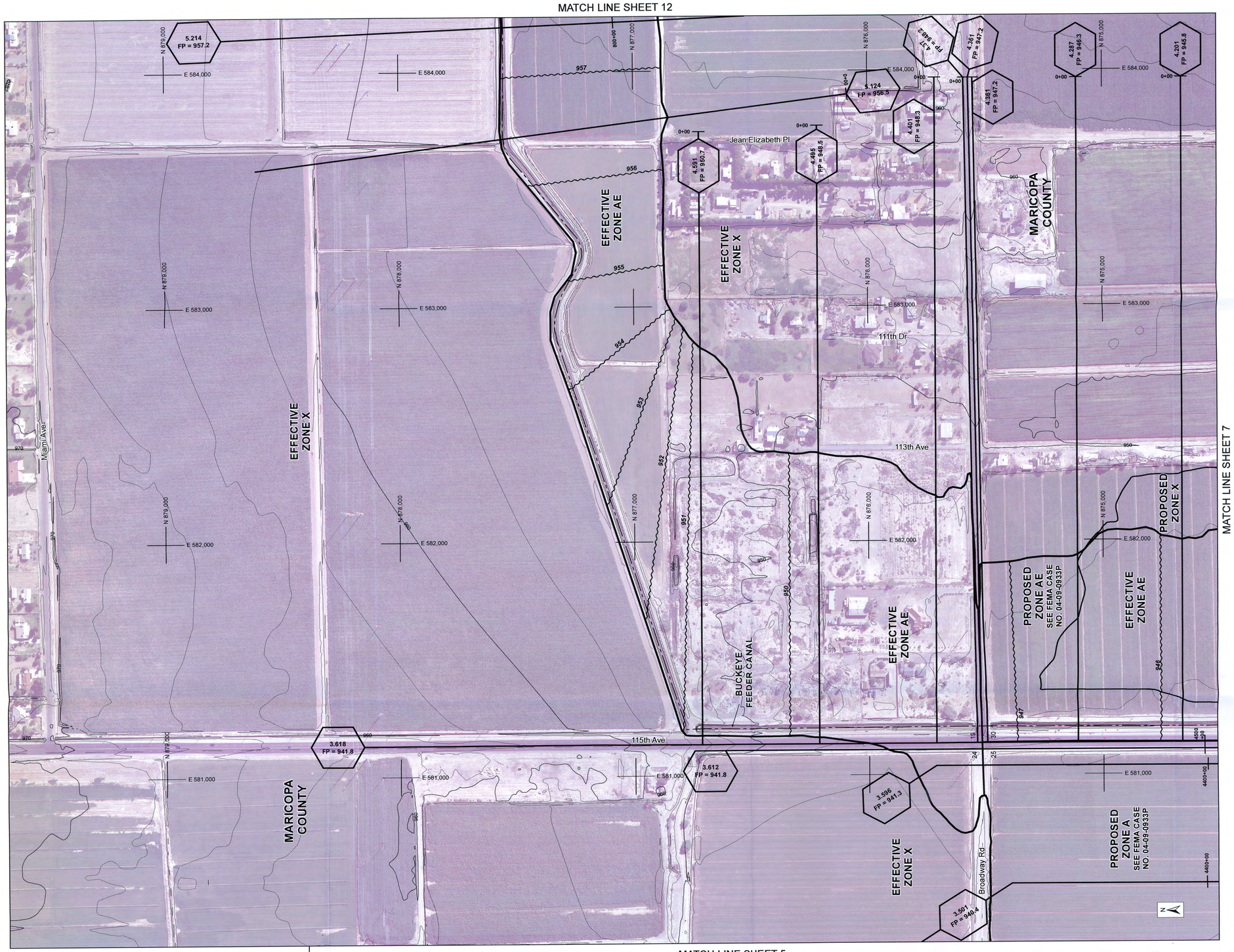
Registered Professional Engineer (State) — CERTIFICATE NO. 41980 — BRIAN THOMAS WAHLIN — ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	—	—
DESIGN CHECK	—	—
PLANS	SJV	2/13
PLANS CHECK	BTW	2/13

SHEET 7 OF 18

MATCH LINE SHEET 12



AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

MATCH LINE SHEET 5

200 100 0 200 400

SCALE: 1" = 200 FEET
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CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

BASE FLOOD ELEVATION

Cross Section River Mile Designation — 1.009
Floodplain Water Surface Elevation — FP = 2222.33
Floodway Water Surface Elevation — FW = 2222.33
100-year Discharge — 3333 cfs

HYDRAULIC BASELINE

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

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

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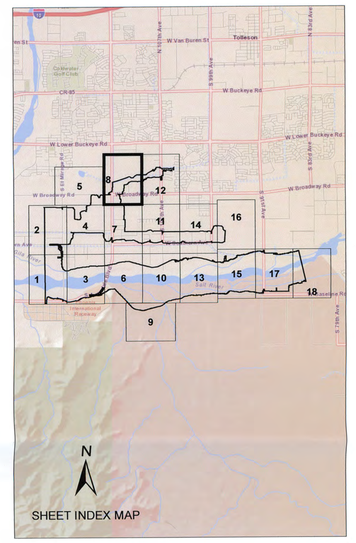

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE
FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil)
CERTIFICATE NO.
41980
BRIAN THOMAS WAHLIN
Date Signed 06-14-2012
ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

MATCH LINE SHEET 6

MATCH LINE SHEET 10

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

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LEGEND

- 1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective
- FLOODWAY BOUNDARIES — Revised / Effective
- ZONE D BOUNDARY
- BASE FLOOD ELEVATION
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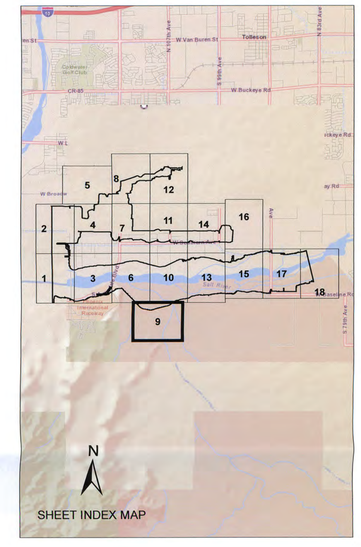
2) AREA LOCATED IN TOWNSHIP 1S, RANGE 1E, SECTIONS 5-6.



SHEET INDEX MAP

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer — CERTIFICATE NO. — 41980 — BRIAN THOMAS WAHLIN — Date Signed 10-16-2013 — ARIZONA, U.S.A.

Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

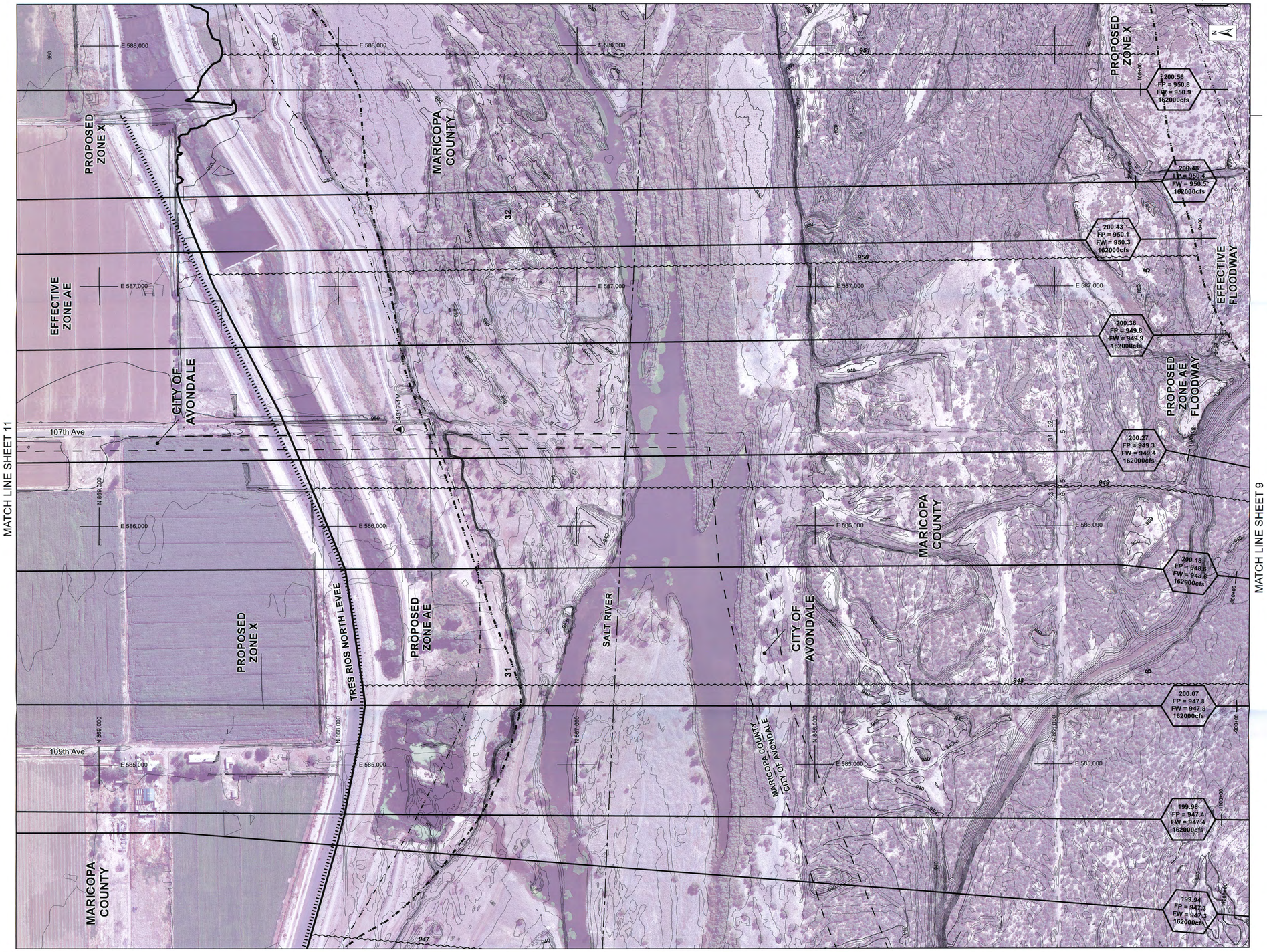
SHEET 9 OF 18

MATCH LINE SHEET 13

MATCH LINE SHEET 11

MATCH LINE SHEET 9

MATCH LINE SHEET 6



AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

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LEGEND

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I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION
54317-1M	948.3	FD 1/2" RB W/O ID 0.2" DN, AFFIXED 2" AL CAP 0.15' DN, STAMPED "T1NR1E 1/4 S31 S32 2003 37174"

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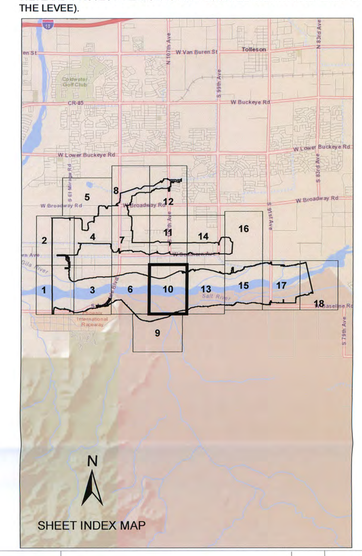


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) — CERTIFICATE NO. 41980 — BRIAN THOMAS WAHLIN — Date Signed 03/26/2013 — ARIZONA, U.S.A.

Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

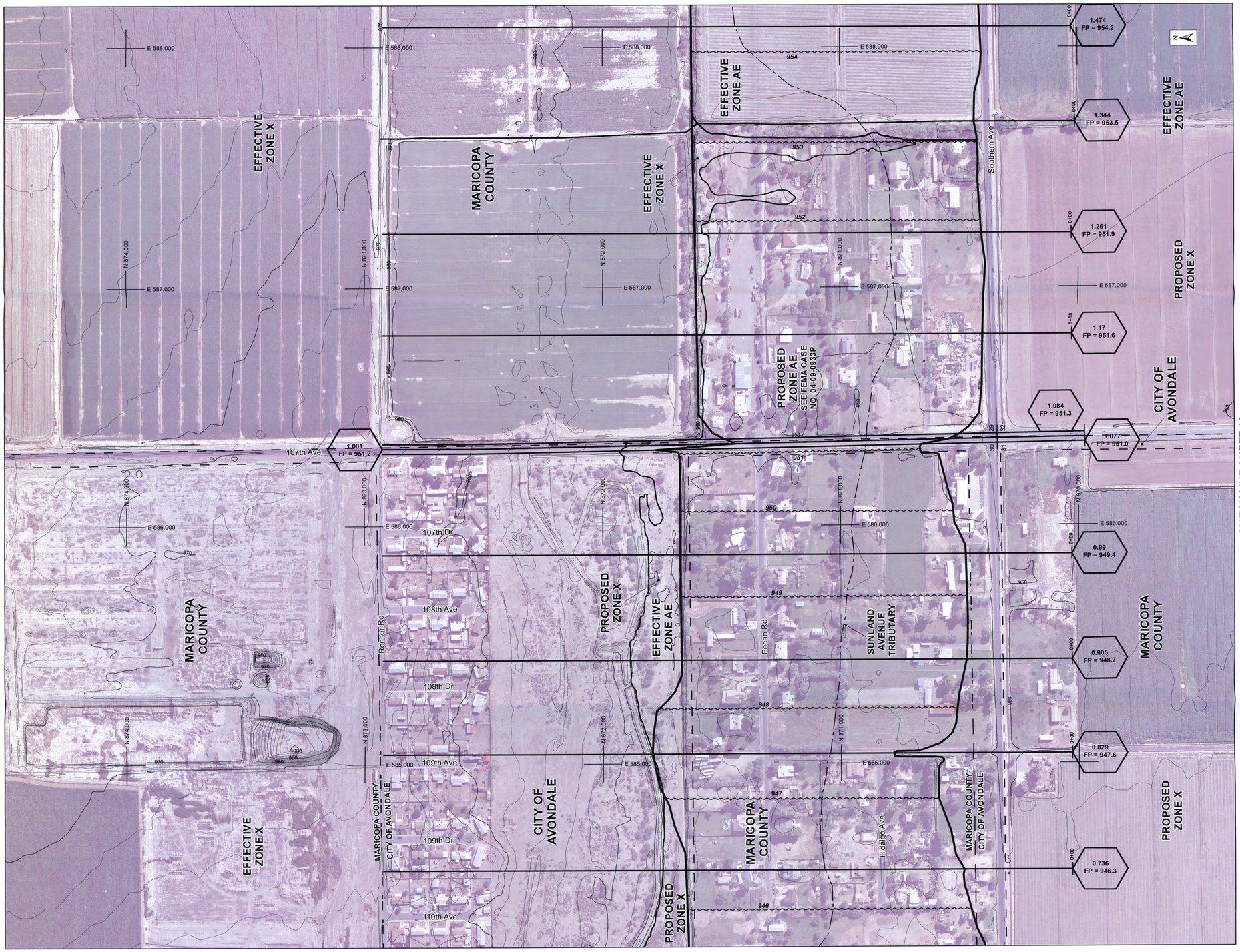
SHEET 10 OF 18

MATCH LINE SHEET 14

MATCH LINE SHEET 12

MATCH LINE SHEET 10

MATCH LINE SHEET 7



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FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

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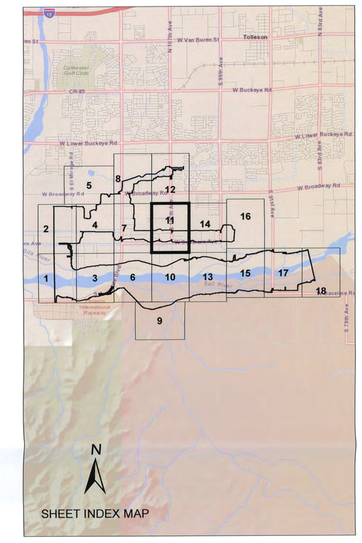

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 03-12-2014 ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
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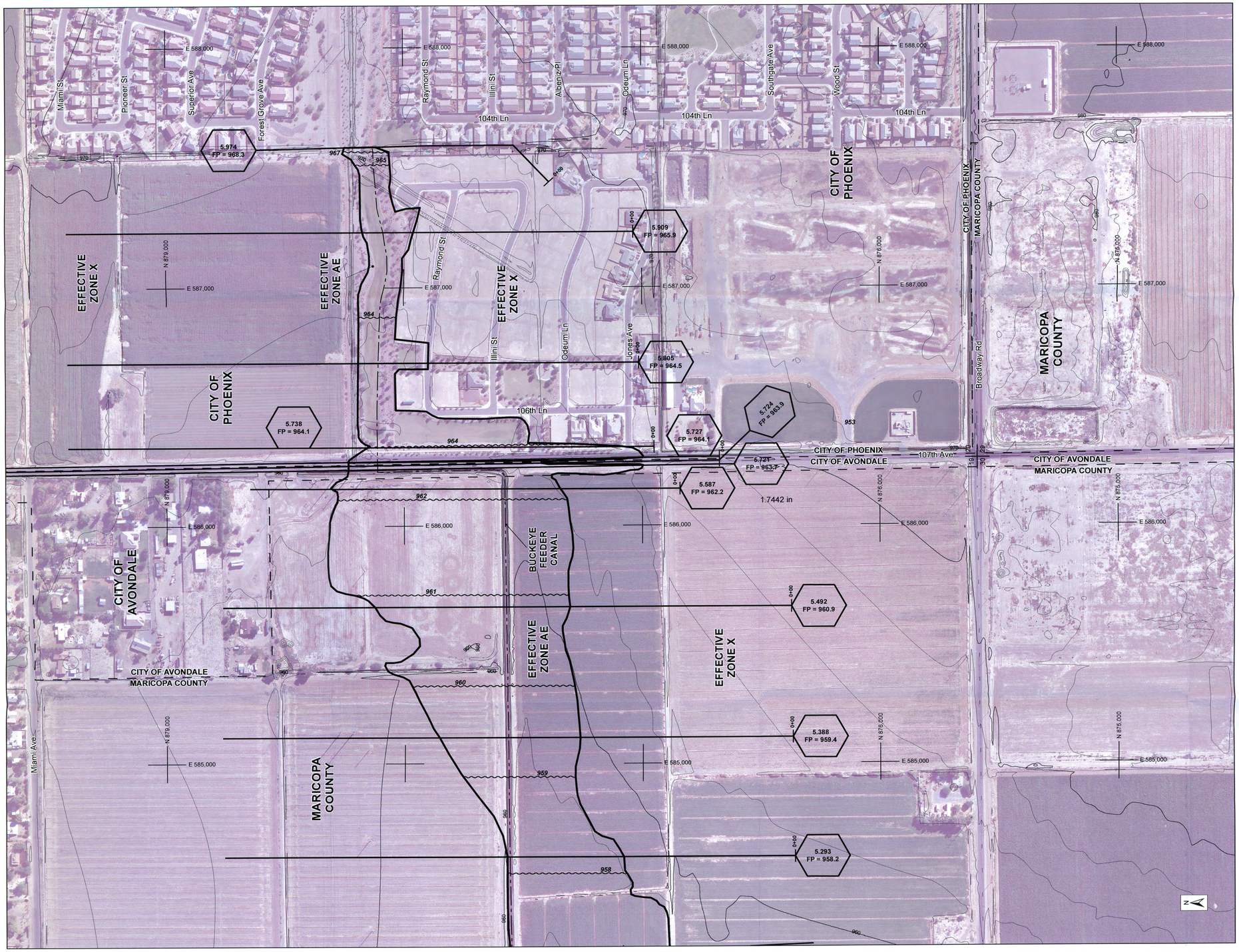

LEGEND

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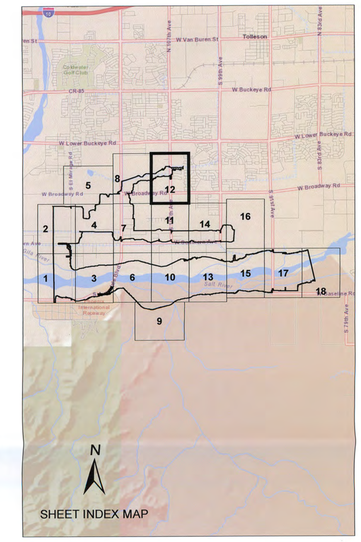

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

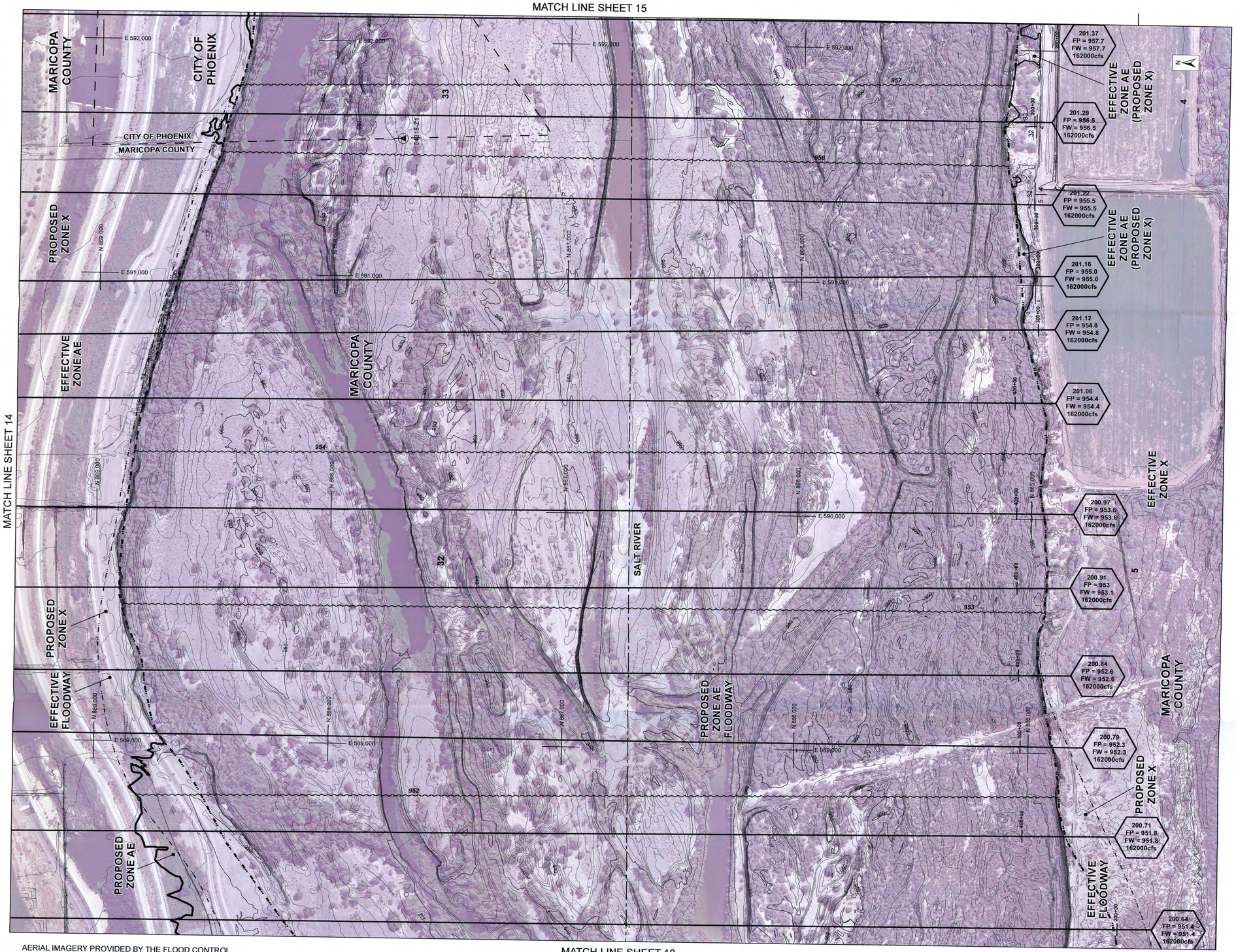
F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 06-14-2013 ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
	—	—
	—	—
	SJV	9/12
	BTW	9/12

SHEET 12 OF 18



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SCALE: 1" = 200 FEET
CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

BASE FLOOD ELEVATION

Cross Section River Mile Designation — 1.009
Floodplain Water Surface Elevation — FP = 2222.33
Floodway Water Surface Elevation — FW = 2222.33
100-year Discharge — 3333 cfs

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

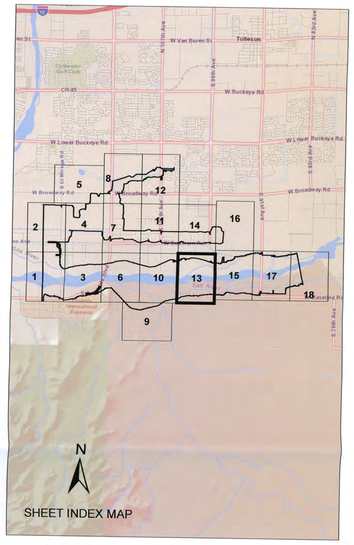
I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION
54318-Z1	948.8	SET 1/2" ROUND SSTL METAL ROD 0.15' UP W/3", STAMPED "T1NR1E 1/4 S32 S33 2004 37174"

NOTES

1) ALL AREAS DESIGNATED ZONE X ARE UNSHADED ZONE X, EXCEPT WHERE NOTED.

2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1W, SECTION 36, AND TOWNSHIP 1S, RANGE 1W, SECTION 1.

3) GROUND ELEVATION CONTOUR MAPPING MAY NOT REFLECT MORE RECENT CONSTRUCTION IN THE VICINITY OF THE LEVEE AND ATTENDANT PROJECT FEATURES. UPDATED AS-BUILT GEOMETRIC INFORMATION HAS BEEN ADDED TO THE MODEL FROM APPROXIMATELY THE LEVEE ALIGNMENT TO THE NORTH (OVERBANK WETLAND PROJECT FEATURES ARE LOCATED NORTH AND EAST OF THE LEVEE).



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

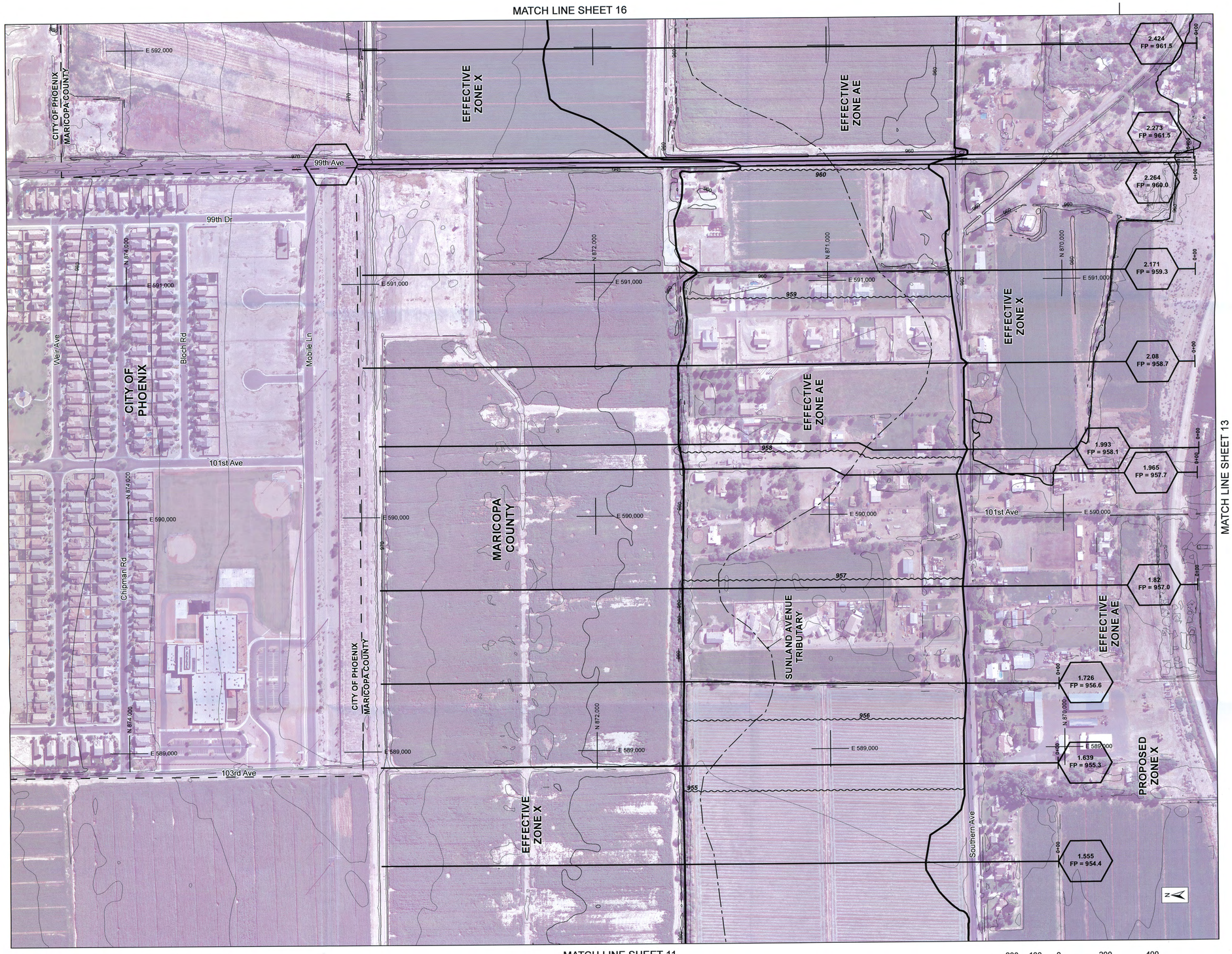
F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 06-16-2014 ARIZONA, U.S.A.

Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12



AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

SCALE: 1" = 200 FEET
CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

LEGEND

1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

BASE FLOOD ELEVATION

Cross Section River Mile Designation — 1.009
Floodplain Water Surface Elevation — FP = 2222.33
Floodway Water Surface Elevation — FW = 2222.33
100-year Discharge — 3333 cfs

HYDRAULIC BASELINE

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

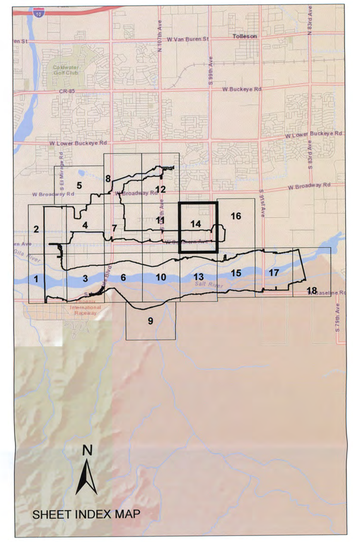
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

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

NOTES

1) ALL AREAS DESIGNATED ZONE X ARE UNSHADED ZONE X, EXCEPT WHERE NOTED.

2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1W, SECTION 36, AND TOWNSHIP 1S, RANGE 1W, SECTION 1.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 08-14-2012 ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	—	—
DESIGN CHECK	—	—
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

SHEET 14 OF 18

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

MATCH LINE SHEET 17

MATCH LINE SHEET 16

EFFECTIVE ZONE X

MARICOPA COUNTY

CITY OF PHOENIX

MARICOPA COUNTY

CITY OF PHOENIX

PROPOSED ZONE X

PROPOSED ZONE AE

EFFECTIVE ZONE AE

SALT RIVER

CITY OF PHOENIX

MARICOPA COUNTY

PROPOSED ZONE AE FLOODWAY

MARICOPA COUNTY

PROPOSED ZONE AE

EFFECTIVE ZONE AE (PROPOSED ZONE X)

EFFECTIVE ZONE X

EFFECTIVE ZONE AE (PROPOSED ZONE X)

EFFECTIVE ZONE X

202.06
FP = 963.1
FW = 963.1
162000cfs

202.01
FP = 962.8
FW = 962.8
162000cfs

201.96
FP = 962.2
FW = 962.2
162000cfs

201.91
FP = 961.6
FW = 961.6
162000cfs

201.84
FP = 961.4
FW = 961.4
162000cfs

201.77
FP = 961.1
FW = 961.1
162000cfs

201.66
FP = 960.2
FW = 960.2
162000cfs

201.58
FP = 959.8
FW = 959.8
162000cfs

201.5
FP = 959.1
FW = 959.1
162000cfs

201.44
FP = 958.4
FW = 958.4
162000cfs

MATCH LINE SHEET 14

MATCH LINE SHEET 13

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

SCALE: 1" = 200 FEET
CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

BASE FLOOD ELEVATION

Cross Section River Mile Designation — 1.009
Floodplain Water Surface Elevation — FP = 2222.33
Floodway Water Surface Elevation — FW = 2222.33
100-year Discharge — 3333 cfs

HYDRAULIC BASELINE

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

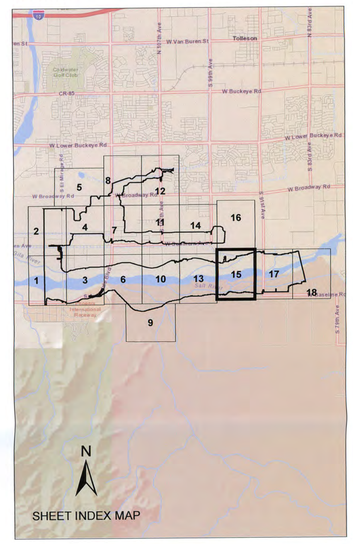
I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION

NOTES

1) ALL AREAS DESIGNATED ZONE X ARE UNSHADED ZONE X, EXCEPT WHERE NOTED.

2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1W, SECTION 36, AND TOWNSHIP 1S, RANGE 1W, SECTION 1.

3) GROUND ELEVATION CONTOUR MAPPING MAY NOT REFLECT MORE RECENT CONSTRUCTION IN THE VICINITY OF THE LEVEE AND ATTENDANT PROJECT FEATURES. UPDATED AS-BUILT GEOMETRIC INFORMATION HAS BEEN ADDED TO THE MODEL FROM APPROXIMATELY THE LEVEE ALIGNMENT TO THE NORTH (OVERBANK WETLAND PROJECT FEATURES ARE LOCATED NORTH AND EAST OF THE LEVEE).



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

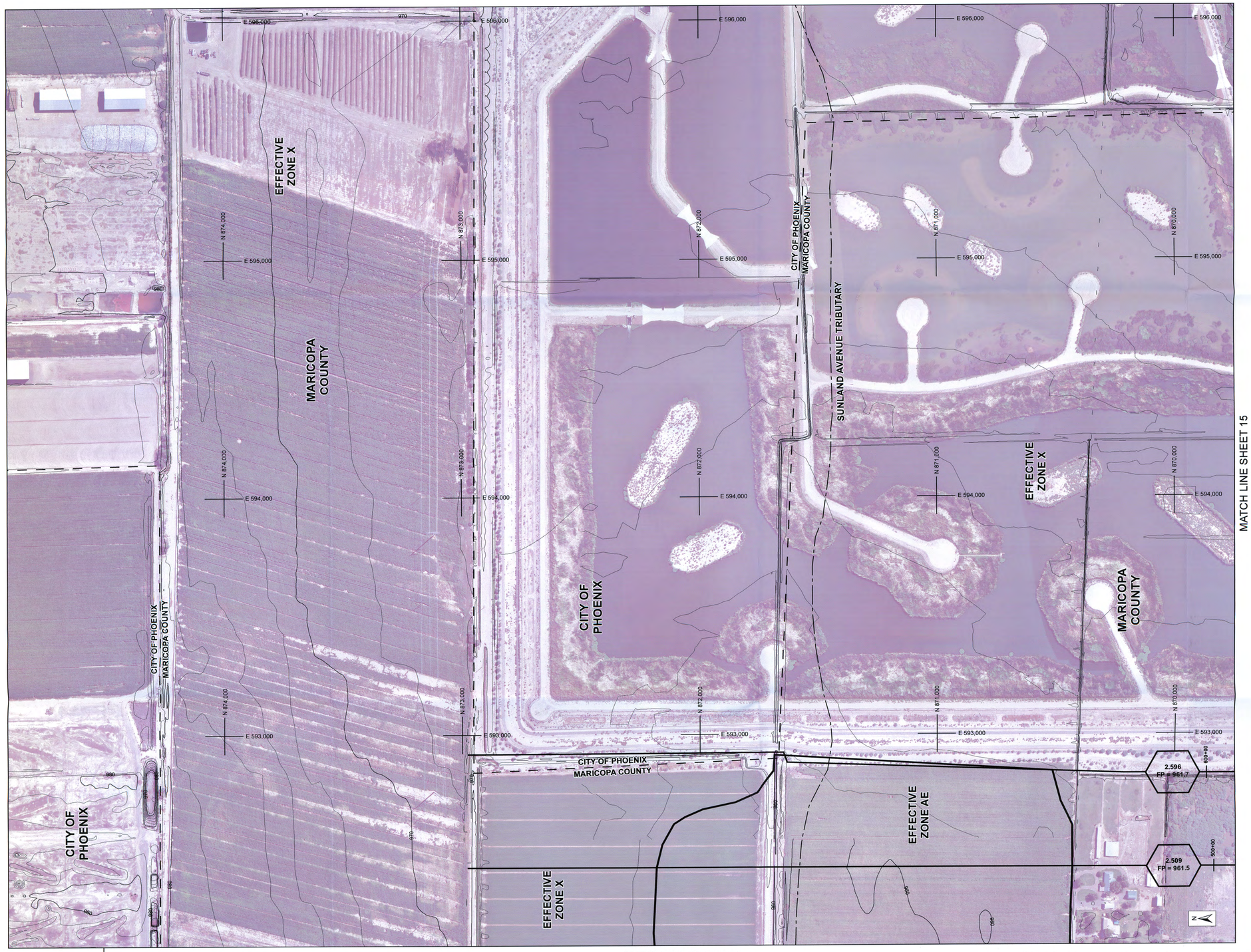
TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 06/26/2014 ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	—	—
DESIGN CHECK	—	—
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12



AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

SCALE: 1" = 200 FEET
CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

- 1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective
- FLOODWAY BOUNDARIES — Revised / Effective
- ZONE D BOUNDARY
- BASE FLOOD ELEVATION
- Cross Section River Mile Designation — 1.009
- Floodplain Water Surface Elevation — FP = 2222.33
- Floodway Water Surface Elevation — FW = 2222.33
- 100-year Discharge — 3333 cfs
- HYDRAULIC BASELINE
- ELEV. REFERENCE MARK
- SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

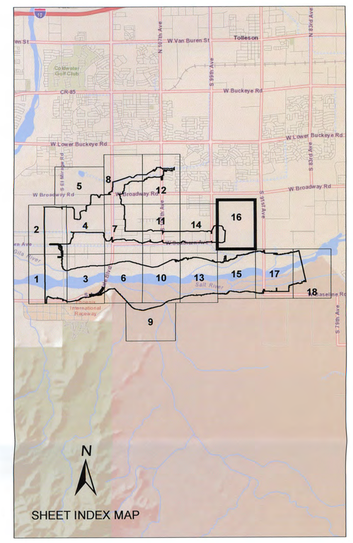
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

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

NOTES

1) ALL AREAS DESIGNATED ZONE X ARE UNSHADED ZONE X, EXCEPT WHERE NOTED.

2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1W, SECTION 36, AND TOWNSHIP 1S, RANGE 1W, SECTION 1.



SHEET INDEX MAP

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE
FLOODPLAIN DELINEATION STUDY

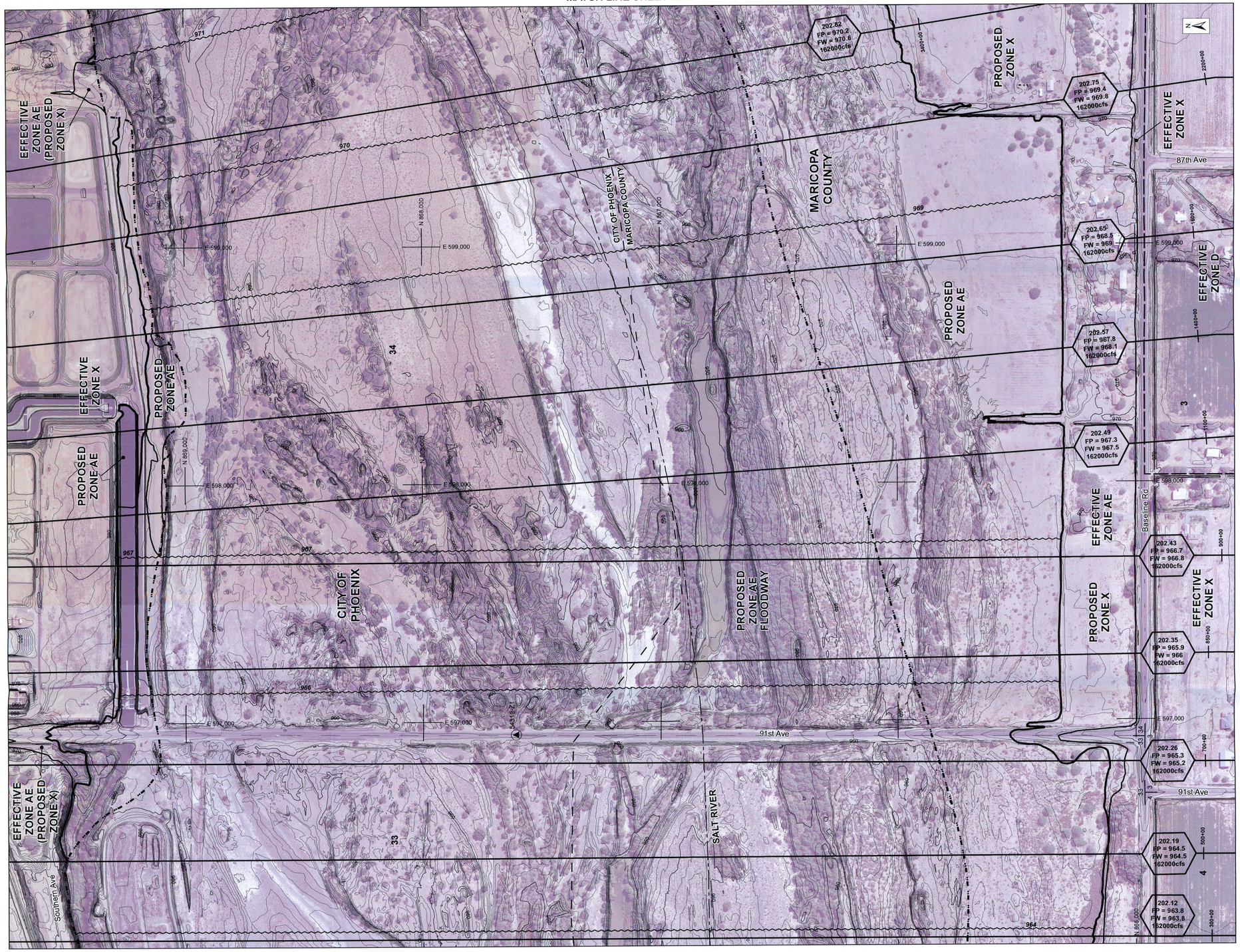
F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 06-30-2014 ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

MATCH LINE SHEET 18



MATCH LINE SHEET 15

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

SCALE: 1" = 200 FEET
CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective

FLOODWAY BOUNDARIES — Revised / Effective

ZONE D BOUNDARY

BASE FLOOD ELEVATION

Cross Section River Mile Designation — 1.009
Floodplain Water Surface Elevation — FP = 2222.33
Floodway Water Surface Elevation — FW = 2222.33
100-year Discharge — 3333 cfs

HYDRAULIC BASELINE

ELEV. REFERENCE MARK

SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

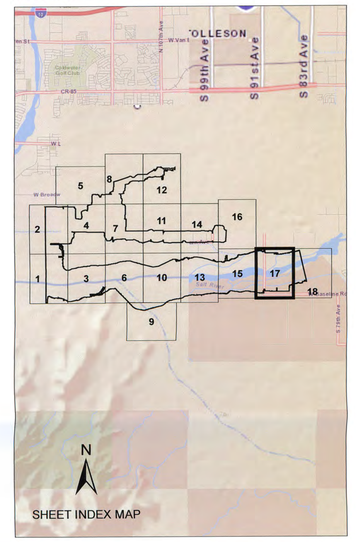
I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION
54319-Z1	956.9	SET 3" MCHD BC FL STAMPED "T1NR1E 1/4 S33 S34 2004 37174"

NOTES

1) ALL AREAS DESIGNATED ZONE X ARE UNSHADED ZONE X, EXCEPT WHERE NOTED.

2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1W, SECTION 36, AND TOWNSHIP 1S, RANGE 1W, SECTION 1.

3) GROUND ELEVATION CONTOUR MAPPING MAY NOT REFLECT MORE RECENT CONSTRUCTION IN THE VICINITY OF THE LEVEE AND ATTENDANT PROJECT FEATURES. UPDATED AS-BUILT GEOMETRIC INFORMATION HAS BEEN ADDED TO THE MODEL FROM APPROXIMATELY THE LEVEE ALIGNMENT TO THE NORTH (OVERBANK WETLAND PROJECT FEATURES ARE LOCATED NORTH AND EAST OF THE LEVEE).



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 03-28-2012 ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

MATCH LINE SHEET 17

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

200 100 0 200 400

SCALE: 1" = 200 FEET
CONTOUR INTERVAL = 1' IN CHANNEL, 2' AND 4' ELSEWHERE

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

CONTOUR MAPPING FOR THE FLOODPLAIN AND FLOODWAY IN THE CHANNEL BASED UPON 1-FOOT PHOTOGRAMMETRY PROVIDED BY TOWILL, 10/23/2001.

LEGEND

- 1% ANNUAL CHANCE FLOOD BOUNDARIES — Revised / Effective
- FLOODWAY BOUNDARIES — Revised / Effective
- ZONE D BOUNDARY
- BASE FLOOD ELEVATION
- Cross Section River Mile Designation — 1.009
- Floodplain Water Surface Elevation — FP = 2222.33
- Floodway Water Surface Elevation — FW = 2222.33
- 100-year Discharge — 3333 cfs
- HYDRAULIC BASELINE
- ELEV. REFERENCE MARK
- SECTION LINE AND ID — 5

ELEVATION REFERENCE MARKS

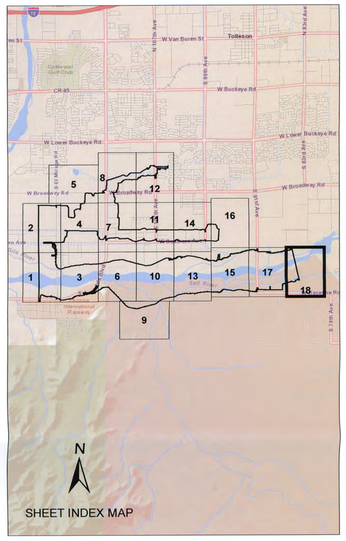
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
ELEVATION CONVERSION FACTOR:
NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

I.D. NUMBER	ELEV. (FT)	DESCRIPTION/LOCATION
54307-1M	979.9	FD 1/2" RB W/O ID 1.3' DN, AFFIXED 2" AL CAP, STAMPED "T1NR1E S26 S27 S34 S35 2003 37174"

NOTES

1) ALL AREAS DESIGNATED ZONE X ARE UNSHADED ZONE X, EXCEPT WHERE NOTED.

2) AREA LOCATED IN TOWNSHIP 1N, RANGE 1E, SECTIONS 26-27, 34-35.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer — CERTIFICATE NO. 41980 — BRIAN THOMAS WAHLIN — ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	—	—
DESIGN CHECK	—	—
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

SHEET 18 OF 18

EXHIBIT B

Study Work Maps, 1" = 500' scale (folded full size set provided)

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

IN COOPERATION WITH THE CITIES OF PHOENIX AND AVONDALE, AZ, AND THE USACE LOS ANGELES DISTRICT

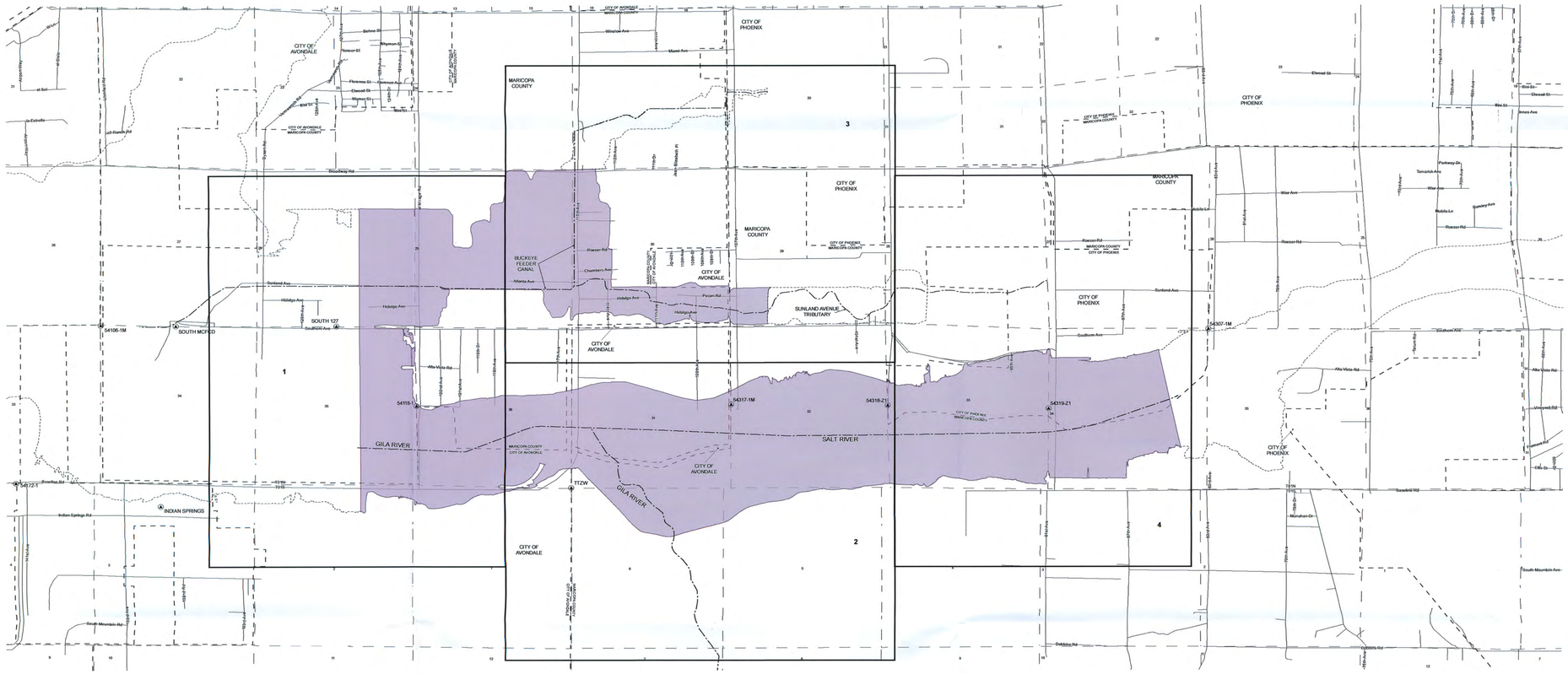
TRES RIOS NORTH LEVEE
FLOODPLAIN AND FLOODWAY REDELINEATION STUDY

FCD CONTRACT NO. 2010C027, ASSIGNMENT NO. 6 AND AMMENDMENT NO. 6A,
FCD CONTRACT NO. 2012C005, ASSIGNMENT NO. 1
SEPTEMBER 2012

US Army Corps of Engineers®

City of Phoenix

City of Avondale



LEGEND

PROPOSED 1% ANNUAL CHANCE FLOOD BOUNDARY	
EFFECTIVE 1% ANNUAL CHANCE FLOOD BOUNDARY	
HYDRAULIC BASELINE	
COUNTY/TOWN BOUNDARY	
SHEET WINDOW AND NUMBER	1
ELEV. REFERENCE MARK	
SECTION LINE AND ID	5

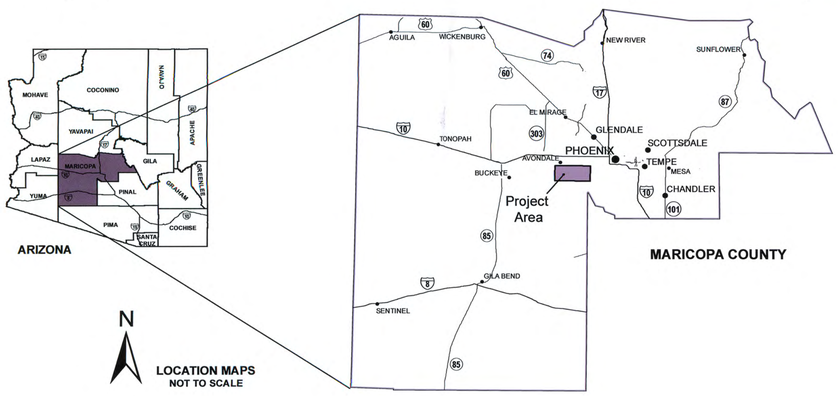
NOTES

ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929. ELEVATION CONVERSION FACTOR: NAVD88 ELEV. = NGVD29 ELEV. + 2.1 FT.

N

4,000 2,000 0 4,000 Feet

SCALE: 1" = 2000 FEET



N

LOCATION MAPS
NOT TO SCALE

ELEVATION REFERENCE MARKS

GEODETIC DENSIFICATION CADASTRAL SURVEY
(GDACS)
CONTROL STATIONS

ID Number	NAD 83 Northing (feet)	NAD 83 Easting (feet)	NGVD 29 Elevation (feet)
54106-1M	870,389.96	565,475.95	916.66
54108-1	870,424.67	560,092.59	915.04
54118-1	867,686.07	575,967.46	932.36
54172-1	865,170.27	562,652.61	962.27
54307-1M	870,233.11	602,226.03	979.93
54317-1M	867,743.89	586,401.65	948.32
54318-Z1	867,713.65	591,584.31	948.76
54319-Z1	867,609.06	596,944.83	956.92
Indian Springs	864,383.12	567,460.66	932.61
South 127	870,336.55	573,281.47	932.05
South MCFCD	870,357.91	567,953.26	921.88
TTZW	864,987.89	581,102.98	1,158.54

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE
FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil)
CERTIFICATE NO. 41980
BRIAN THOMAS WAHLIN
Date Signed 08-14-2012
ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

COVER SHEET

MATCH LINE SHEET 3

MATCH LINE SHEET 2

MARICOPA COUNTY

25

36

121st Ave

122nd Ave

El Mirage Rd

54118-1

CITY OF AVONDALE
MARICOPA COUNTY

1

LIMIT OF STUDY

GILA RIVER

Indian Springs Rd

26

35

2

BUCKEYE FEEDER CANAL

SOUTH 127

Southern Ave

Sunland Ave

129th Ave

Hidalgo Ave

MARICOPA COUNTY

CITY OF AVONDALE

Dysart Rd

27

34

3

198.83
198.78
198.75
198.7
198.64
198.59
198.54
198.48
198.43
198.38
198.34
198.27
198.2
198.14
198.09
198.02
197.97
197.92

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

500 250 0 500 1,000

SCALE: 1" = 500 FEET

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

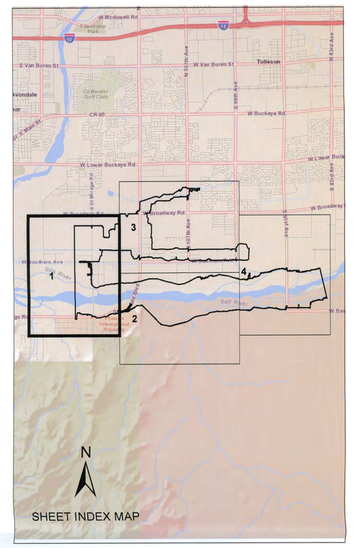
LEGEND

- 1% ANNUAL CHANCE FLOOD BOUNDARIES
- FLOODWAY BOUNDARIES
- EFFECTIVE 1% ANNUAL CHANCE FLOOD BOUNDARY
- HYDRAULIC BASELINE
- CROSS SECTION RIVER MILE DESIGNATION: 1.009
- TRES RIOS NORTH LEVEE
- ELEV. REFERENCE MARK
- SECTION LINE AND ID: 5

NOTES

1) THE PURPOSE OF THIS MAP IS TO DISPLAY THE EXTENTS OF HYDRAULIC CROSS SECTIONS FOR THE SALT-GILA RIVER ONLY.

2) FLOODPLAIN AND FLOODWAY DELINEATIONS FOR THE SALT-GILA RIVER, BUCKEYE FEEDER CANAL, AND SUNLAND AVENUE TRIBUTARY REFLECT UPDATED MAPPING. MORE DETAILED WORK MAPS HAVE BEEN PROVIDED TO THE DISTRICT SHOWING EFFECTIVE DATA IN ADDITION TO PROPOSED DELINEATIONS.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil)
CERTIFICATE NO.
41980
BRIAN THOMAS WAHLIN
Date Signed
STATE OF ARIZONA, U.S.A.

Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

SHEET 1 OF 4

MATCH LINE SHEET 3

MATCH LINE SHEET 1

MATCH LINE SHEET 4

GILA RIVER

36

Avondale Blvd

MARICOPA COUNTY

109th Ave

54317-1M

64318-Z1

33

31

SALT RIVER

32

TTZW

CITY OF AVONDALE
MARICOPA COUNTY

GILA RIVER

MARICOPA COUNTY

CITY OF AVONDALE

1

6

5

4

MARICOPA COUNTY

12

7

8

9

N

AERIAL IMAGERY PROVIDED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FLIGHT DATE VARIES FROM SEPTEMBER THROUGH DECEMBER, 2011

500 250 0 500 1,000

SCALE: 1" = 500 FEET

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS FOR 1" = 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS.

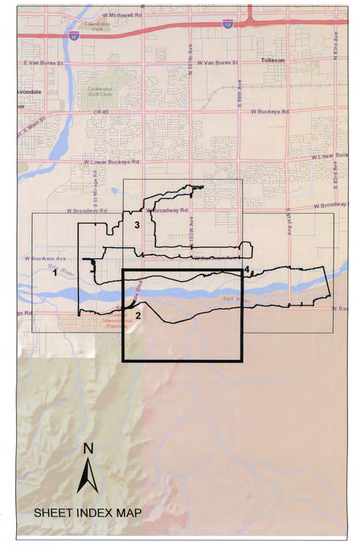
LEGEND

- 1% ANNUAL CHANCE FLOOD BOUNDARIES
- FLOODWAY BOUNDARIES
- EFFECTIVE 1% ANNUAL CHANCE FLOOD BOUNDARY
- HYDRAULIC BASELINE
- CROSS SECTION RIVER MILE DESIGNATION (1.009)
- TRES RIOS NORTH LEVEE
- ELEV. REFERENCE MARK
- SECTION LINE AND ID (5)

NOTES

1) THE PURPOSE OF THIS MAP IS TO DISPLAY THE EXTENTS OF HYDRAULIC CROSS SECTIONS FOR THE SALT-GILA RIVER ONLY.

2) FLOODPLAIN AND FLOODWAY DELINEATIONS FOR THE SALT-GILA RIVER, BUCKEYE FEEDER CANAL, AND SUNLAND AVENUE TRIBUTARY REFLECT UPDATED MAPPING. MORE DETAILED WORK MAPS HAVE BEEN *PROVIDED TO THE DISTRICT SHOWING EFFECTIVE DATA* IN ADDITION TO PROPOSED DELINEATIONS.



SHEET INDEX MAP

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

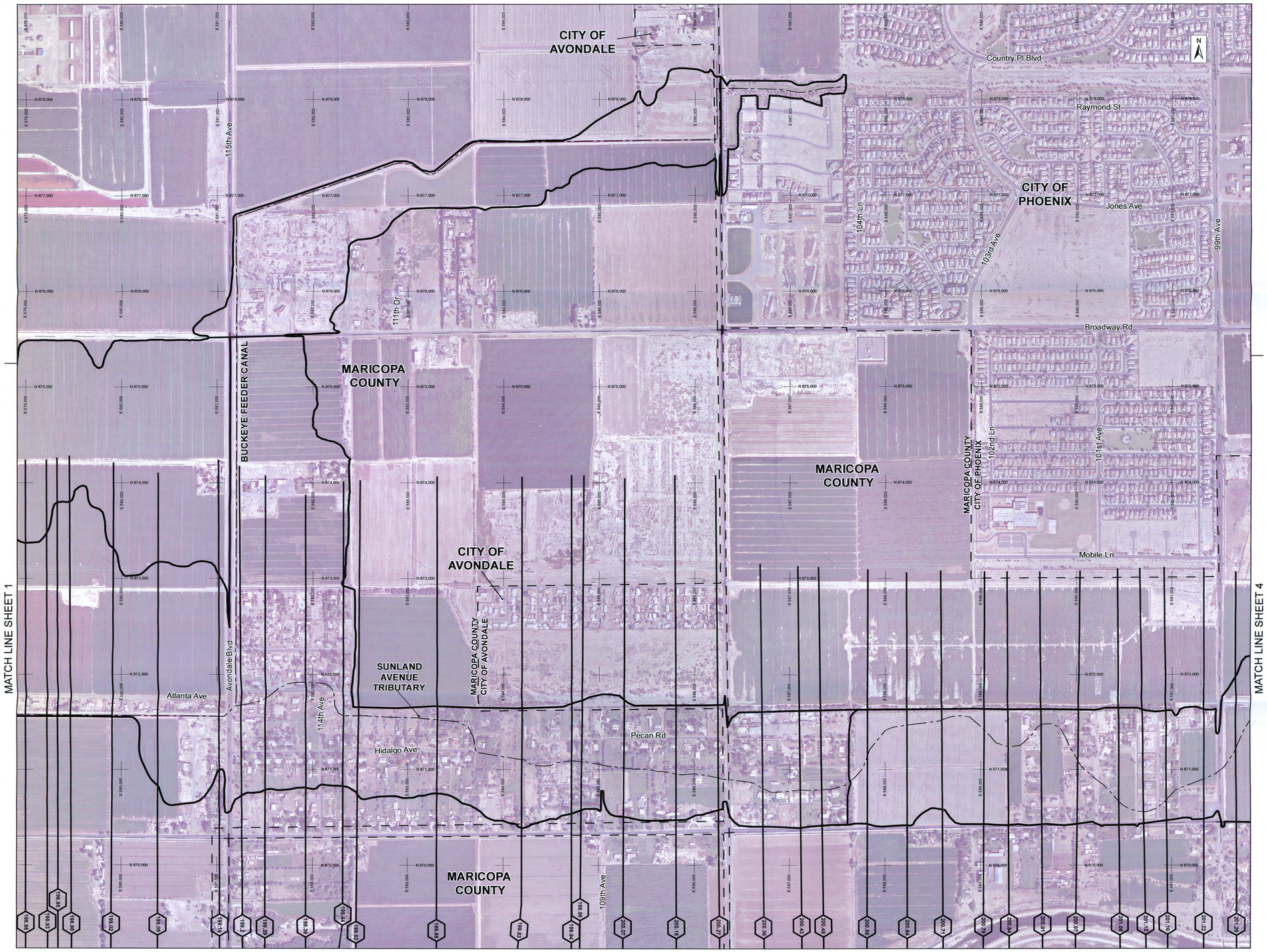
F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN STATE OF ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

SHEET 2 OF 4



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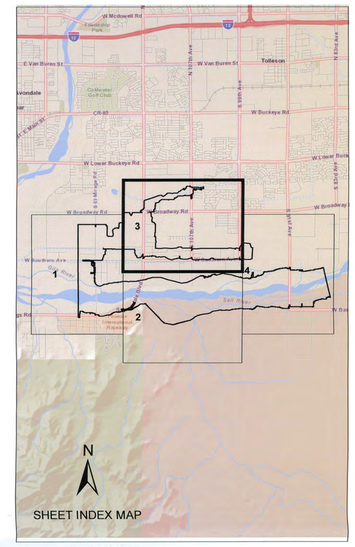


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

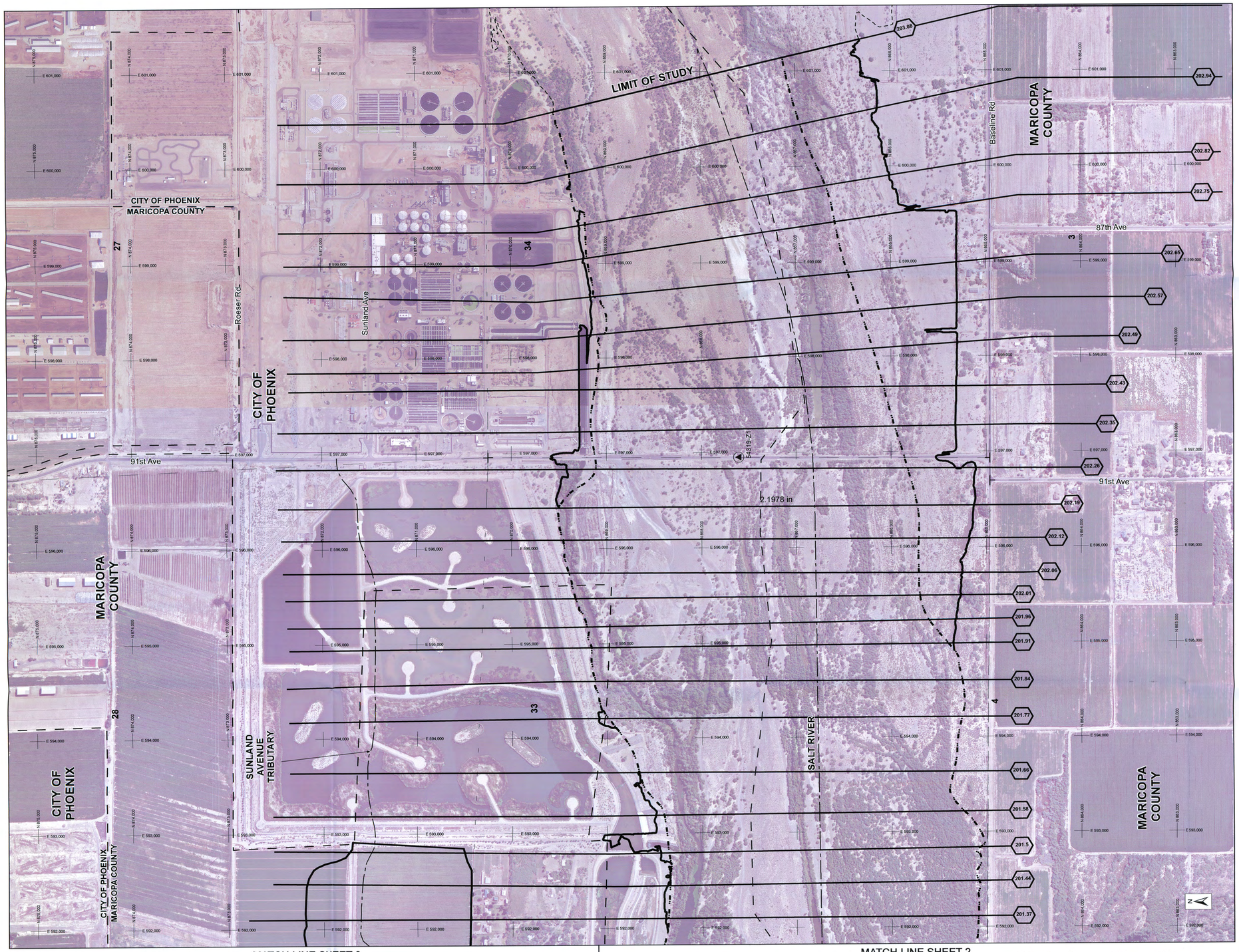
F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer
CERTIFICATE NO.
41980
BRIAN THOMAS WAHLIN
Date Signed 08-14-2013
ARIZONA, U.S.A.
Expires 3/31/2014

WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

SHEET 3 OF 4



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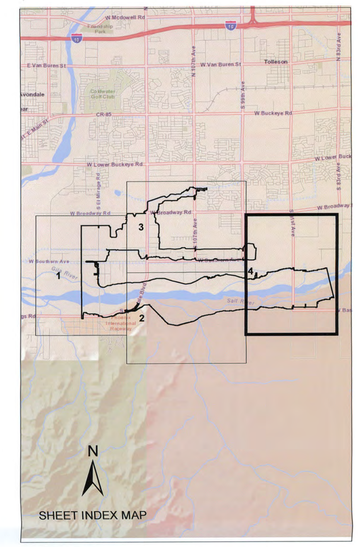


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

TRES RIOS NORTH LEVEE FLOODPLAIN DELINEATION STUDY

F.C.D. CONTRACT NUMBER 2010C027
ASSIGNMENT NUMBER 6

Registered Professional Engineer (Civil) CERTIFICATE NO. 41980 BRIAN THOMAS WAHLIN Date Signed 12-18-13 ARIZONA, U.S.A.

Expires 3/31/2014

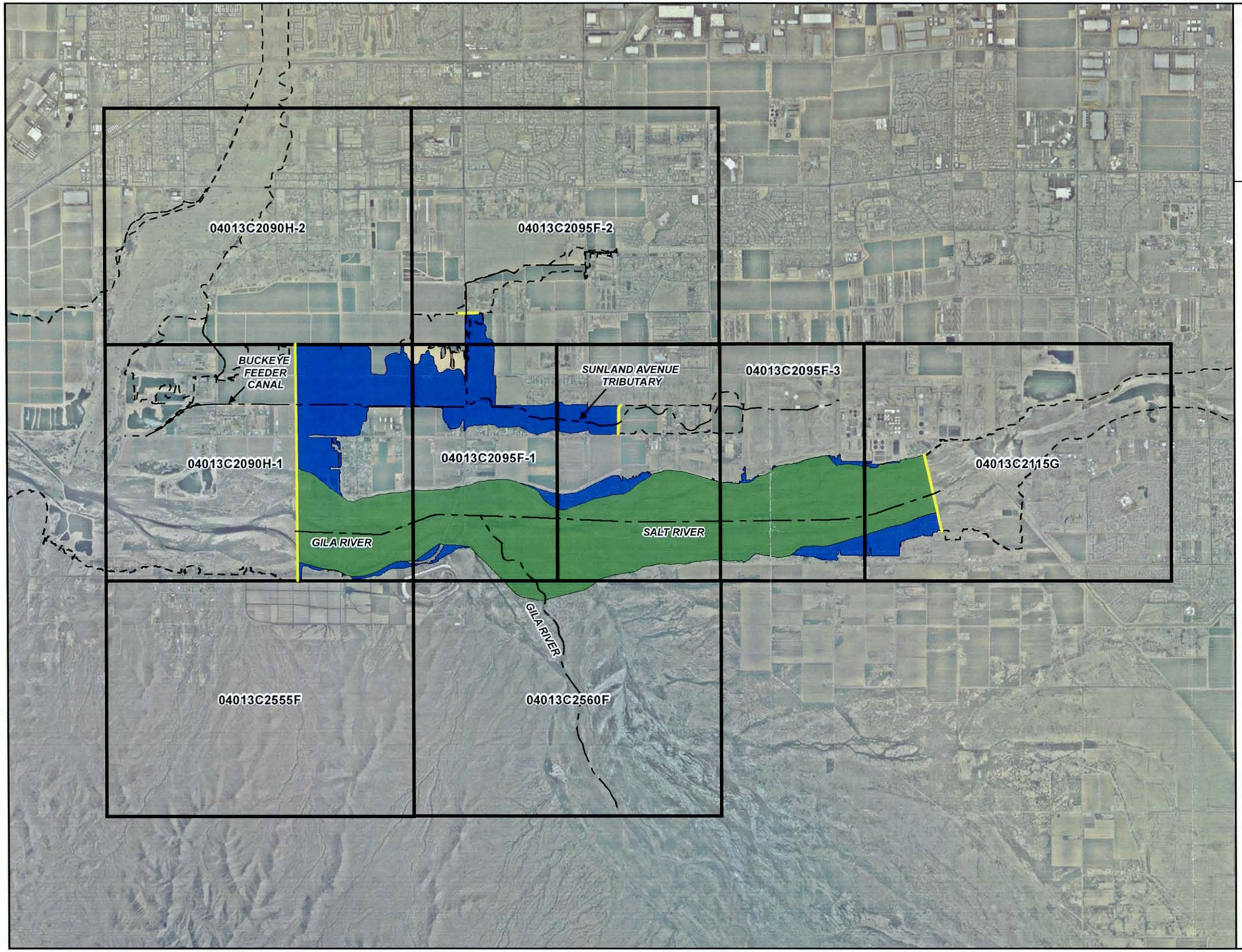
WEST Consultants, Inc.

	BY	DATE
DESIGN	---	---
DESIGN CHECK	---	---
PLANS	SJV	9/12
PLANS CHECK	BTW	9/12

SHEET 4 OF 4

EXHIBIT C

Annotated Flood Insurance Rate Maps



LEGEND

- PROFILE BASELINE
- EFFECTIVE FLOODPLAIN
- PROPOSED FLOODWAY
- PROPOSED ZONE AE
- PROPOSED ZONE A

N

APPROXIMATE SCALE

4,000 2,000 0 4,000 FEET

NFIP

PANEL INDEX

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

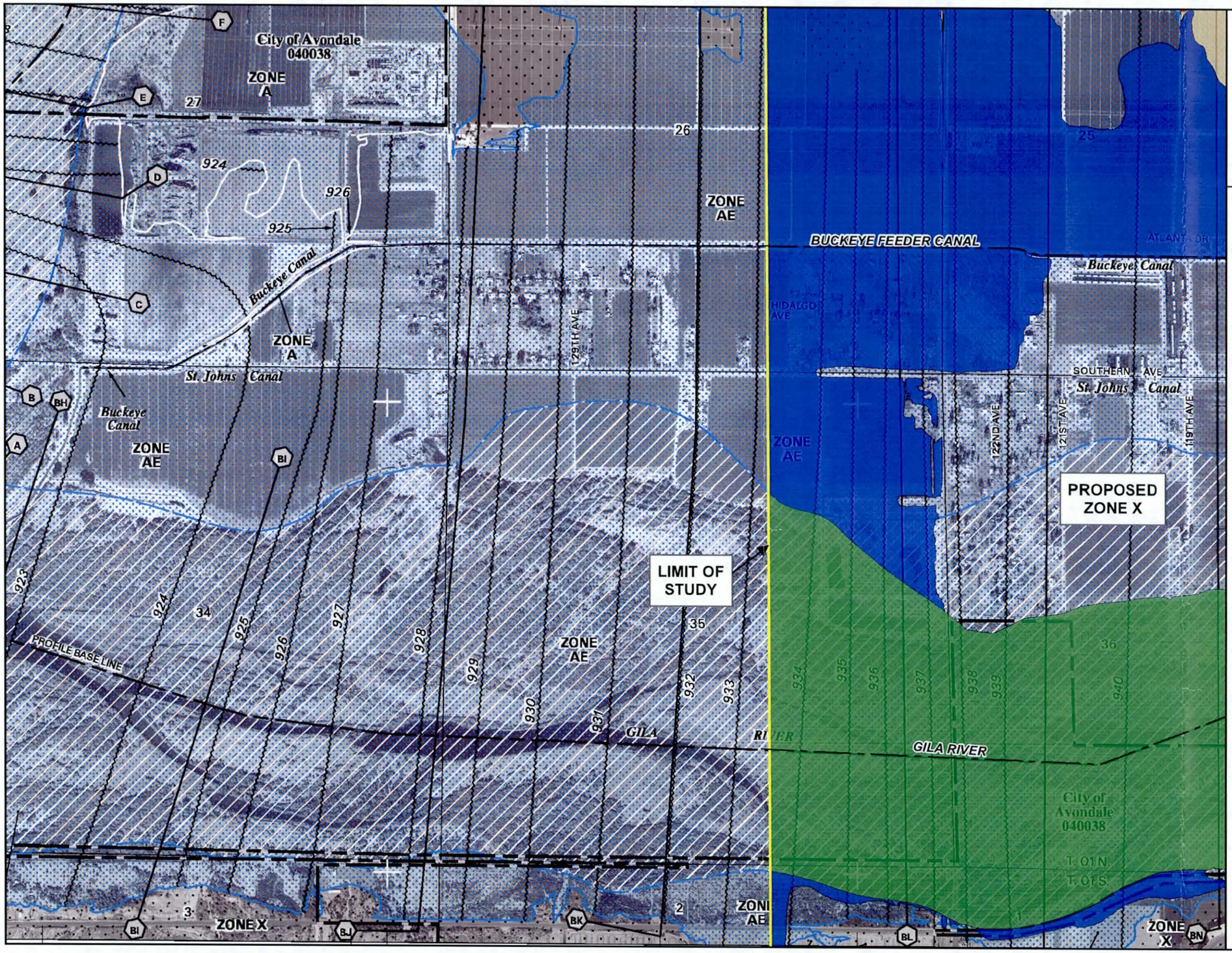
MARICOPA COUNTY, ARIZONA
(AND INCORPORATED AREAS)

ONLY PANEL PRINTED

COMMUNITY NUMBER
04013C

EFFECTIVE DATE
SEPTEMBER 30, 2005

Federal Emergency Management Agency



LEGEND

- PROFILE BASELINE
- EFFECTIVE FLOODPLAIN
- PROPOSED FLOODWAY
- PROPOSED ZONE AE
- PROPOSED ZONE A

N

APPROXIMATE SCALE

1,000 500 0 1,000 FEET

NFIP

PANEL 2090H

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

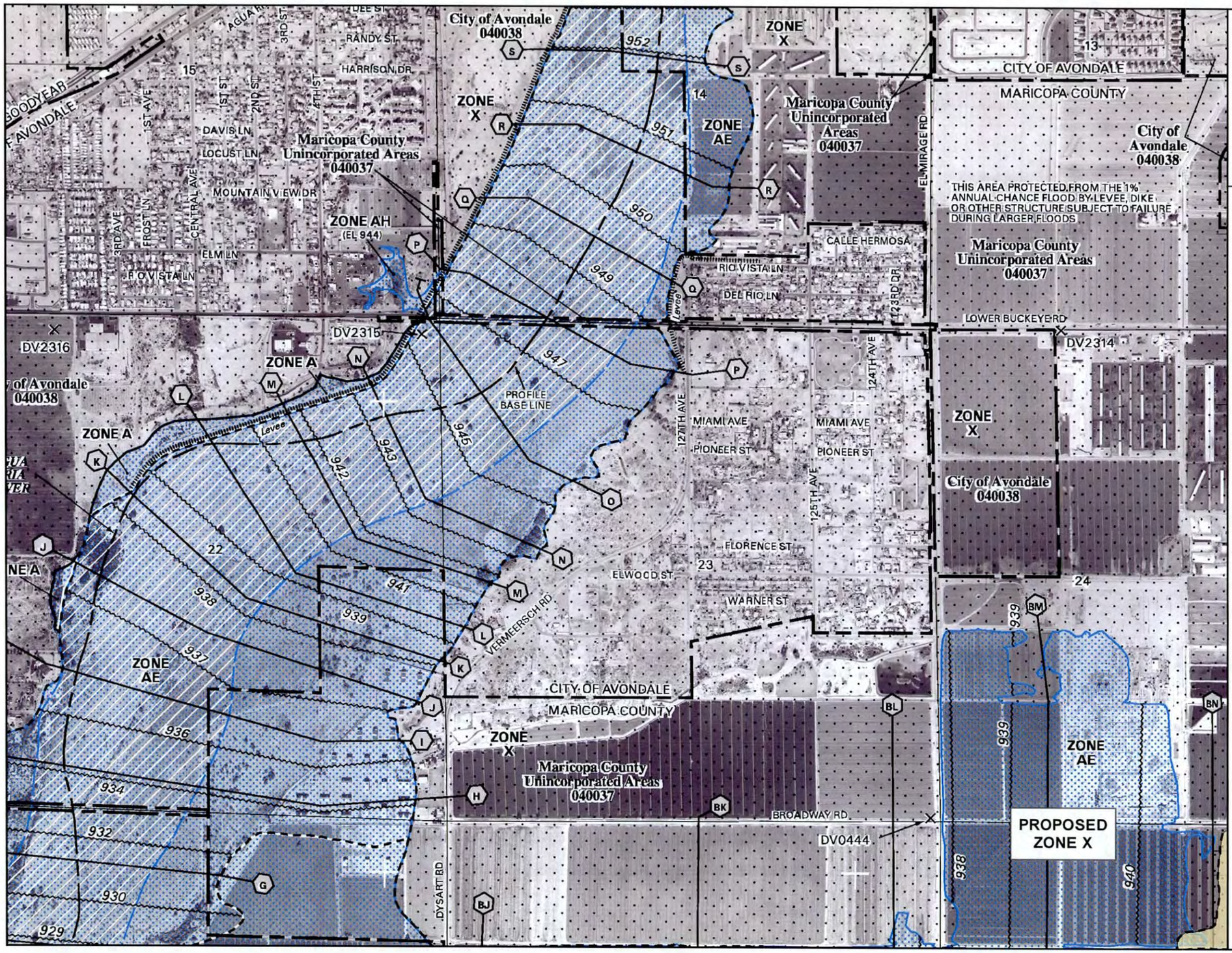
MARICOPA COUNTY, ARIZONA
(AND INCORPORATED AREAS)

ONLY PANEL PRINTED

COMMUNITY-PANEL NUMBER
04013C2090H

EFFECTIVE DATE
SEPTEMBER 30, 2005

Federal Emergency Management Agency



LEGEND

- PROFILE BASELINE
- EFFECTIVE FLOODPLAIN
- PROPOSED FLOODWAY
- PROPOSED ZONE AE
- PROPOSED ZONE A

N

APPROXIMATE SCALE

1,000 500 0 1,000 FEET

NFIP

PANEL 2090H

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA
(AND INCORPORATED AREAS)

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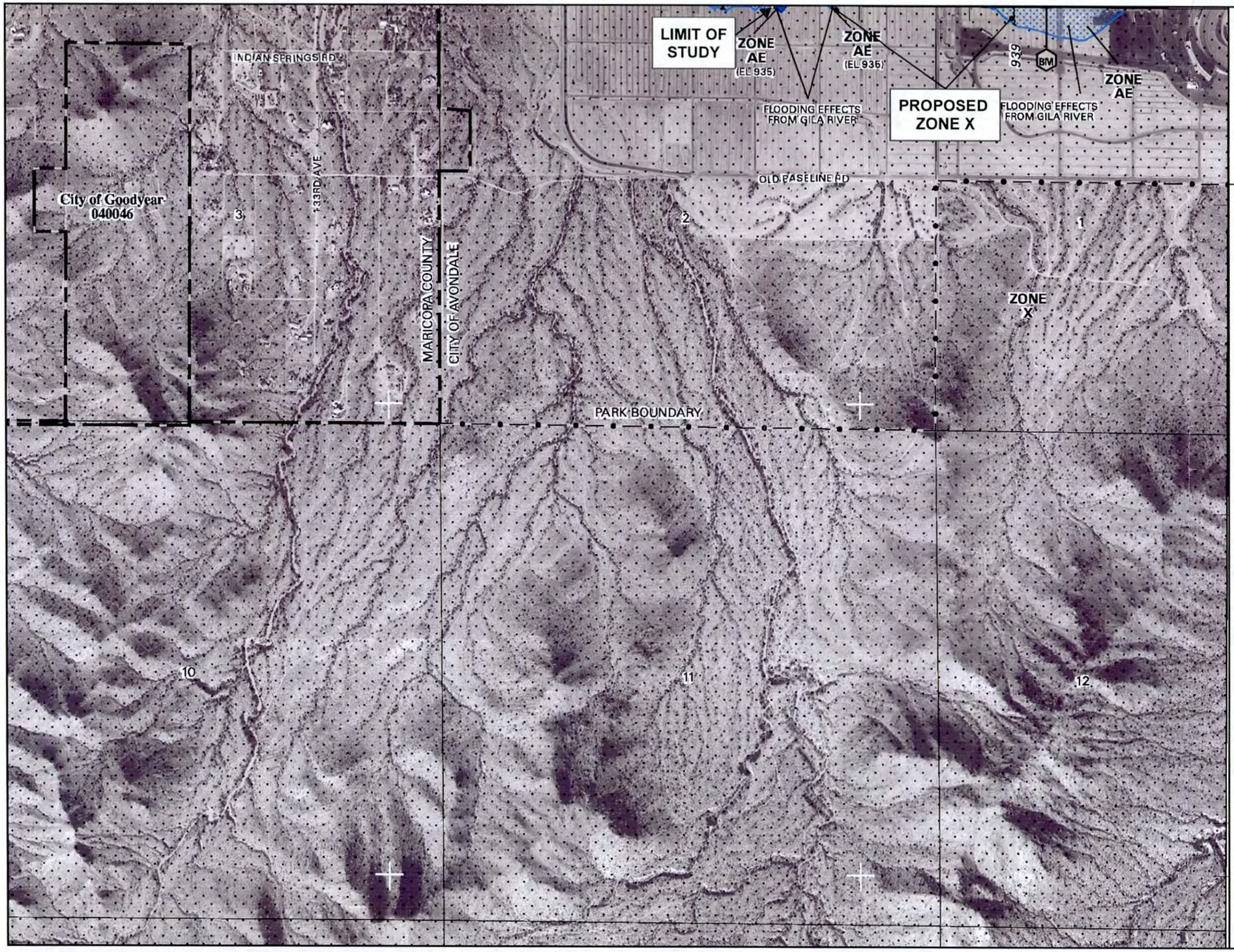

LEGEND

- PROFILE BASELINE
- EFFECTIVE FLOODPLAIN
- PROPOSED FLOODWAY
- PROPOSED ZONE AE
- PROPOSED ZONE A

N

APPROXIMATE SCALE

1,000 500 0 1,000 FEET

NFIP

PANEL 2555F

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA
(AND INCORPORATED AREAS)

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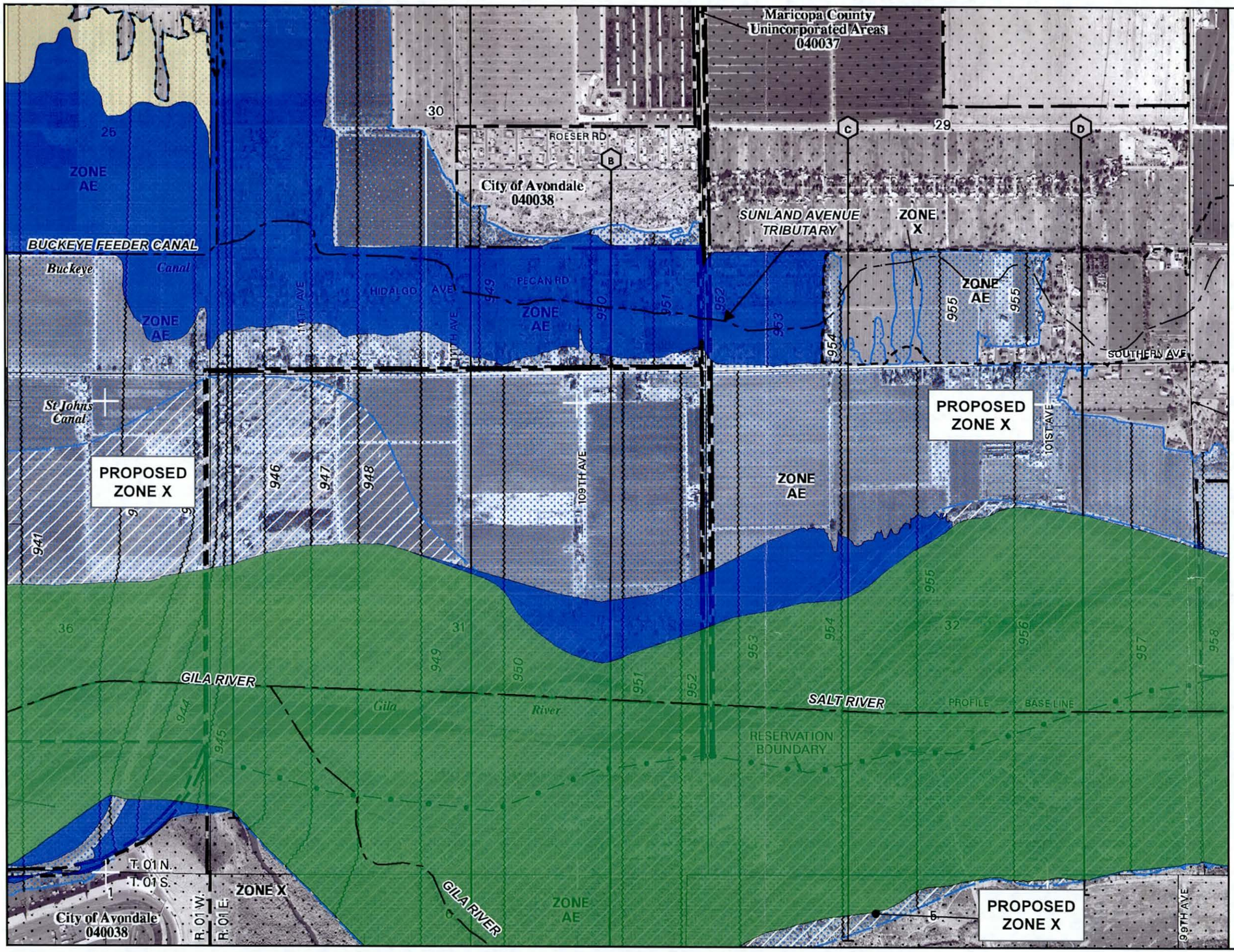
COMMUNITY-PANEL NUMBER
04013C2555F

EFFECTIVE DATE
SEPTEMBER 30, 2005

Federal Emergency Management Agency



LEGEND

- PROFILE BASELINE
- EFFECTIVE FLOODPLAIN
- PROPOSED FLOODWAY
- PROPOSED ZONE AE
- PROPOSED ZONE A

N

APPROXIMATE SCALE

1,000 500 0 1,000 FEET

NFIP

PANEL 2095F

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA
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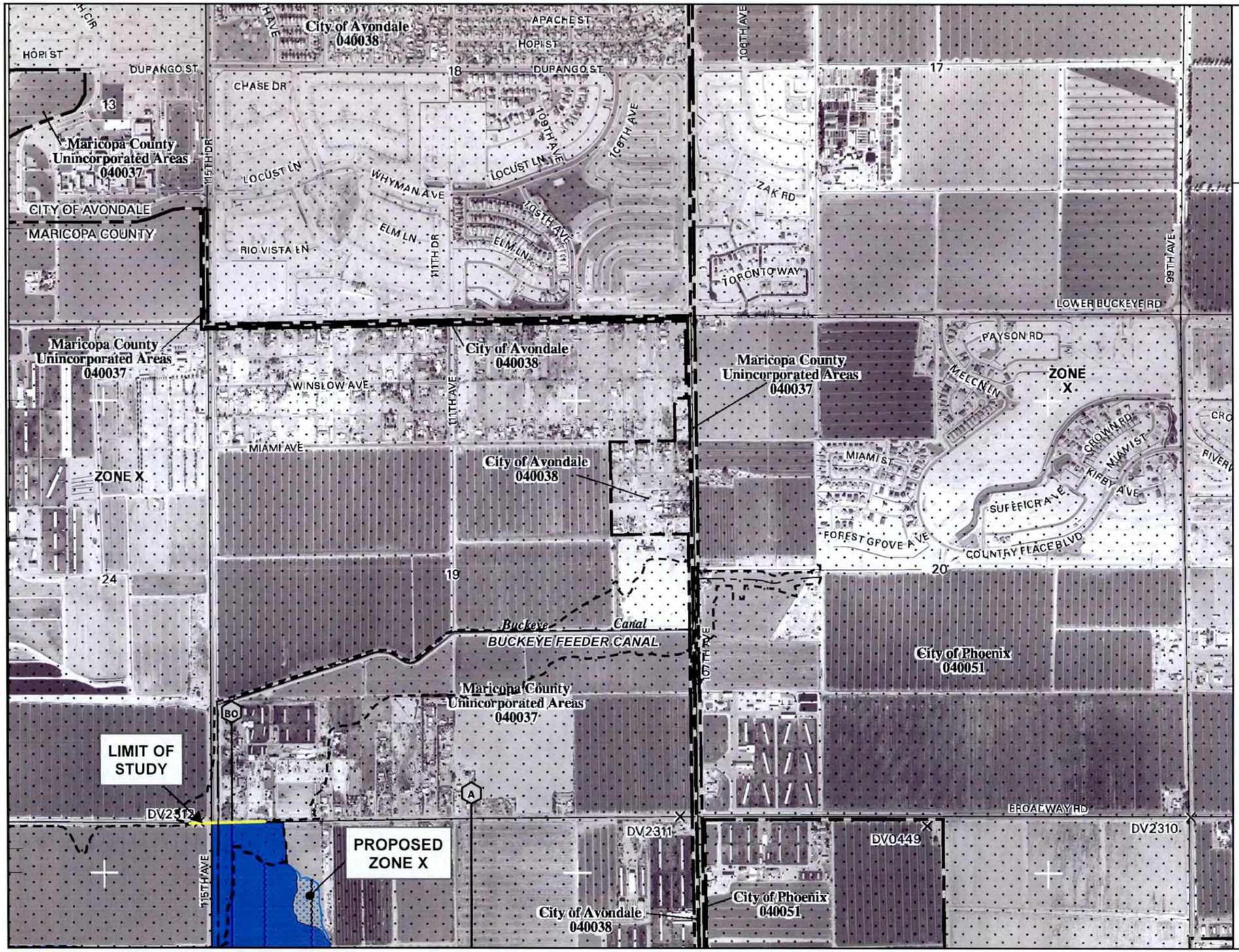

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2095F

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA
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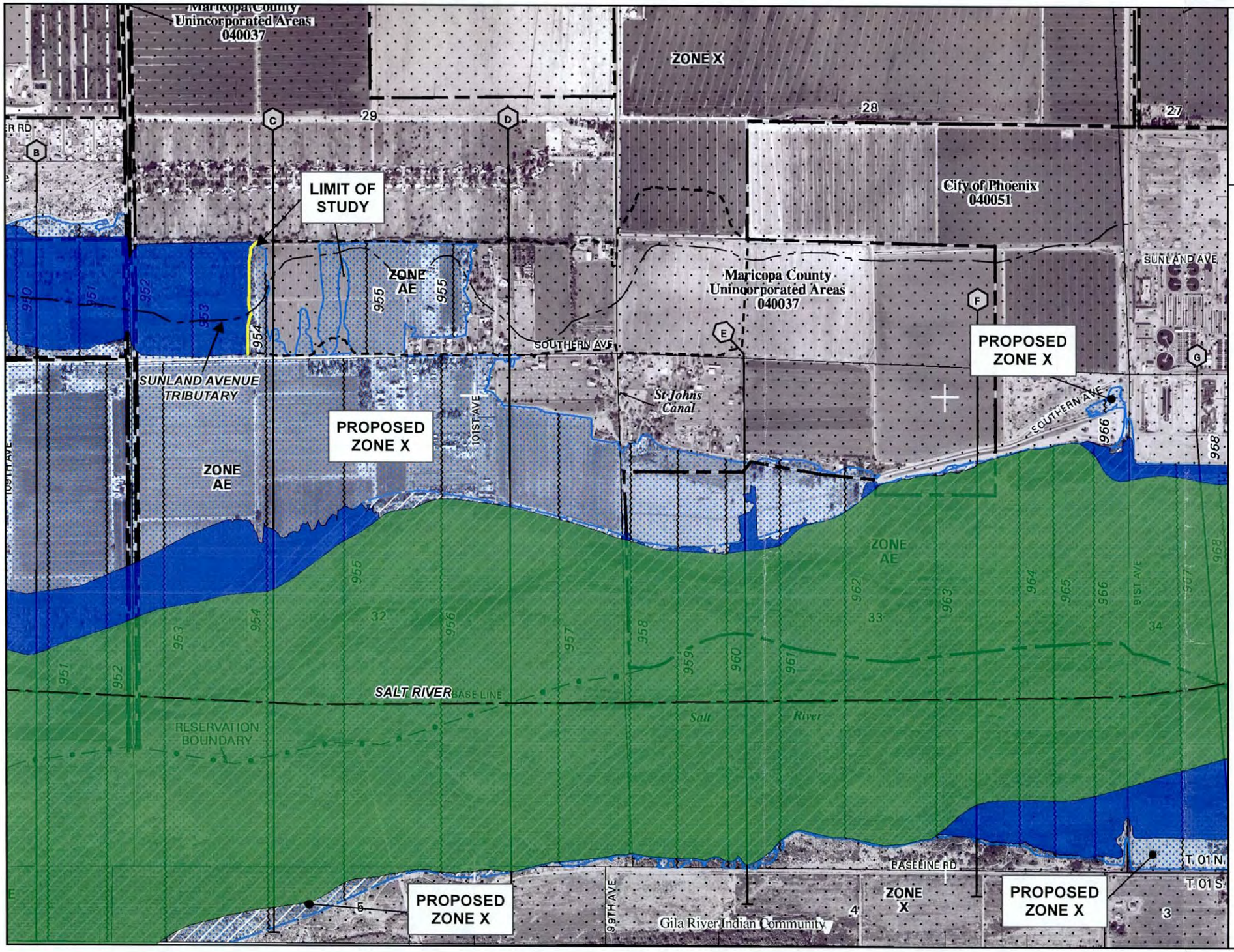

LEGEND

- PROFILE BASELINE
- EFFECTIVE FLOODPLAIN
- PROPOSED FLOODWAY
- PROPOSED ZONE AE
- PROPOSED ZONE A

N

APPROXIMATE SCALE

1,000 500 0 1,000 FEET

NFIP

PANEL 2095F

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA
(AND INCORPORATED AREAS)

ONLY PANEL PRINTED

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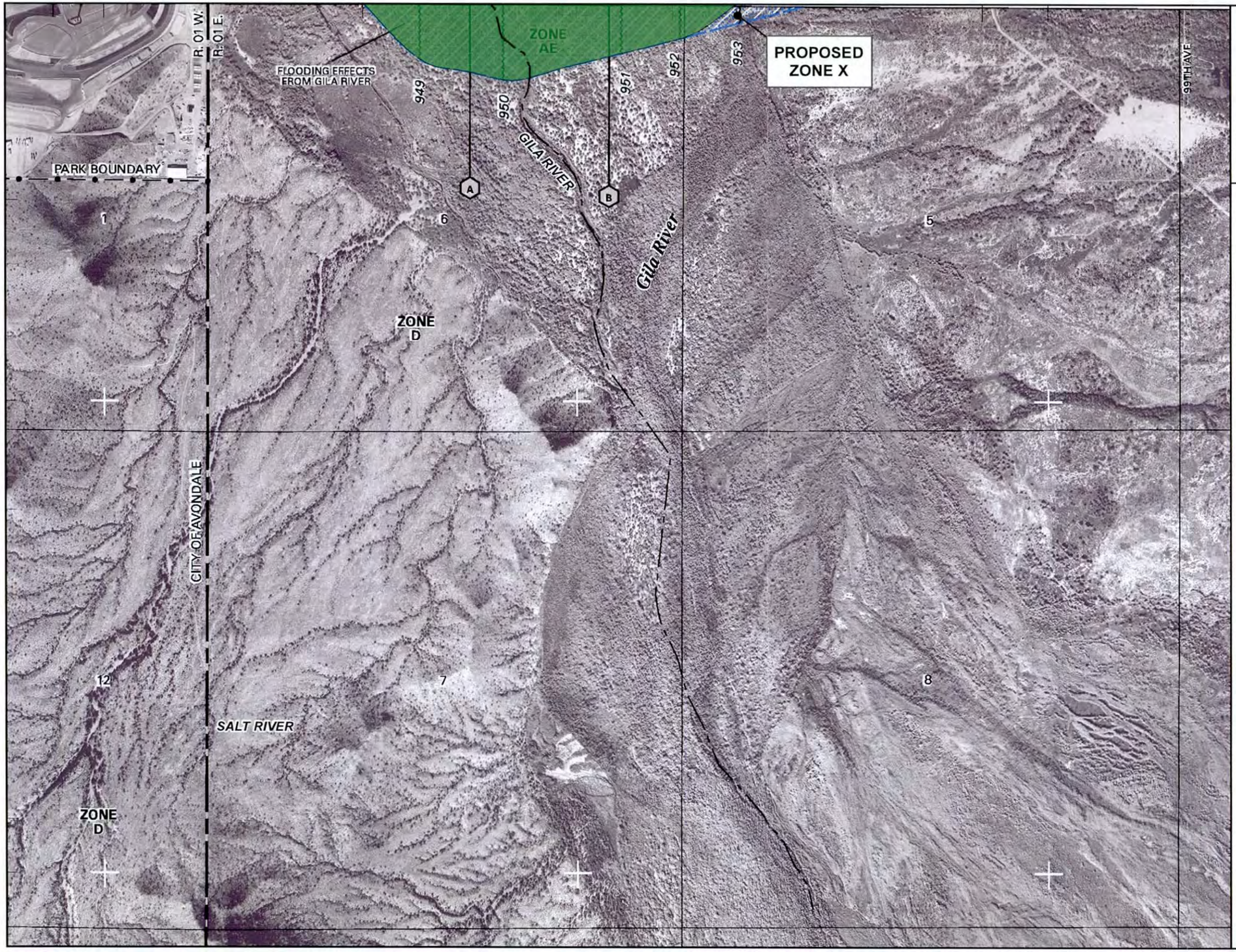
04013C2095F

EFFECTIVE DATE
SEPTEMBER 30, 2005

NATIONAL FLOOD INSURANCE PROGRAM

Federal Emergency Management Agency



LEGEND

- PROFILE BASELINE
- EFFECTIVE FLOODPLAIN
- PROPOSED FLOODWAY
- PROPOSED ZONE AE
- PROPOSED ZONE A

N

APPROXIMATE SCALE

1,000 500 0 1,000 FEET

NFIP

PANEL 2560F

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

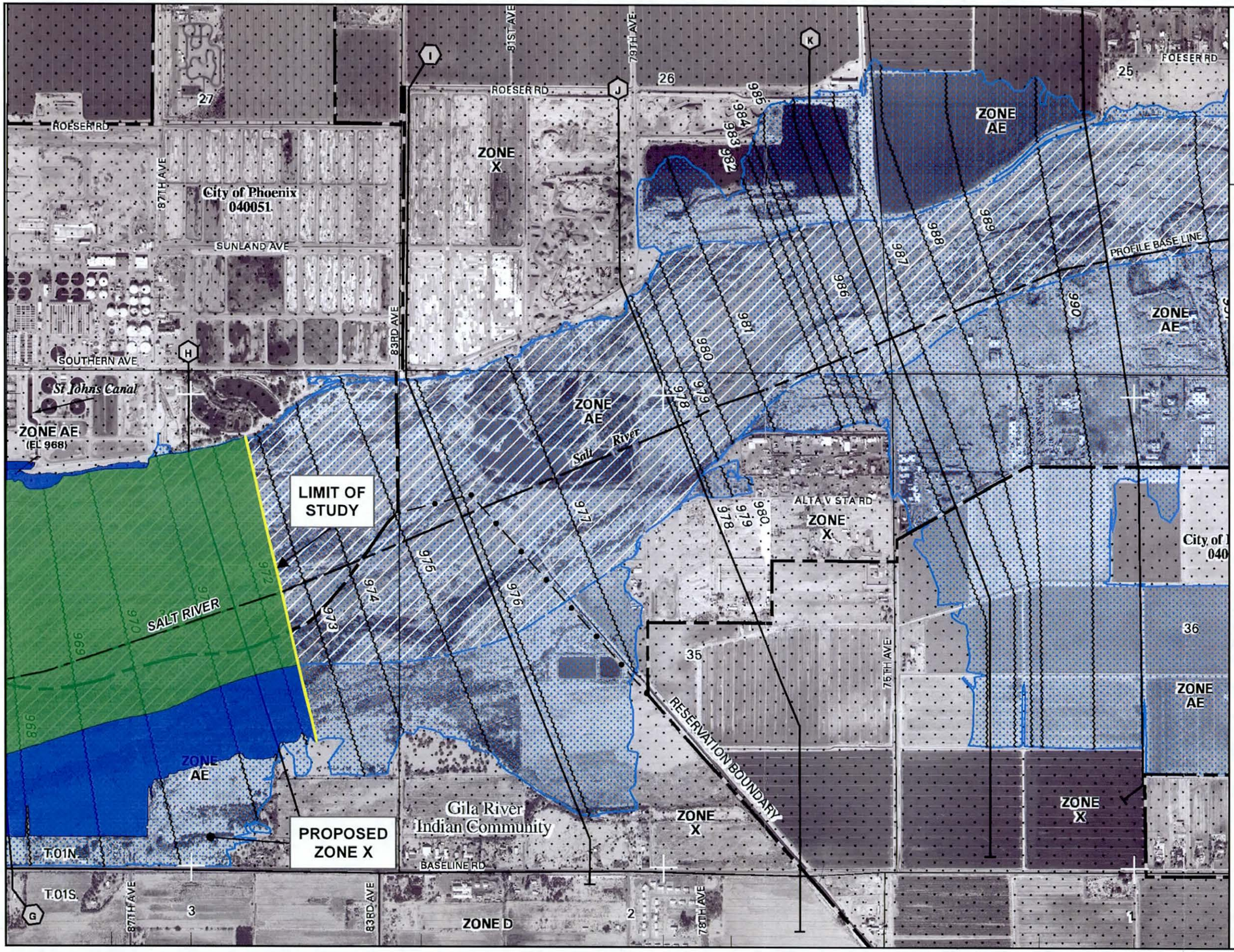
MARICOPA COUNTY, ARIZONA
(AND INCORPORATED AREAS)

ONLY PANEL PRINTED

COMMUNITY-PANEL NUMBER
04013C2560F

EFFECTIVE DATE
SEPTEMBER 30, 2005

Federal Emergency Management Agency



LEGEND

- PROFILE BASELINE
- EFFECTIVE FLOODPLAIN
- PROPOSED FLOODWAY
- PROPOSED ZONE AE
- PROPOSED ZONE A

N

APPROXIMATE SCALE

1,000 500 0 1,000 FEET

NFIP

PANEL 2115G

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA
(AND INCORPORATED AREAS)

ONLY PANEL PRINTED

COMMUNITY-PANEL NUMBER
04013C2115G

EFFECTIVE DATE
SEPTEMBER 30, 2005

Federal Emergency Management Agency