

MARTIN ACRES CONCEPTUAL DRAINAGE DESIGN AND DATA COLLECTION MEMO FOR A PORTION OF THE WASH 3 EAST FLOWS

CONTRACT FCD 2009C036
ASSIGNMENT NO. 3
MAY 30, 2012

APPENDIX A—CITRUS ROAD CHANNEL EXISTING CONDITIONS
APPENDIX B—CITRUS ROAD CHANNEL SPLIT FLOW ANALYSIS
APPENDIX C—CONCEPTUAL DESIGN AND COST ESTIMATE
APPENDIX D—DATA COLLECTION TECHNICAL MEMORANDUM

- ◆ 1—MASTER PHOTO RECONNAISSANCE
- ◆ 2—MARTIN ACRES - M.C. ASSESSORS DATA
- ◆ 3—OFFSITE PROPERTY - M.C. ASSESSORS DATA
- ◆ 4—EXISTING UTILITY MAPS
 - ◇ APS
 - ◇ QWEST
 - ◇ SOUTHWEST GAS
 - ◇ BEARDSLEY WATER
- ◆ 5—CITY OF SURPRISE CIP REQUEST
- ◆ 6—CITY OF SURPRISE - J2 ALTERNATIVE
- ◆ 7—ENTELLUS ADMP RECOMMENDED ALTERNATIVE
- ◆ 8—2005 FEMA MAPS WITH LOMRS
- ◆ 9—EFFECTIVE WADMSU HYDROLOGY
- ◆ 10—EFFECTIVE WADMSU HEC-RAS / FLOOD PLAIN
- ◆ 11—WADMSU SEDIMENT TRANSPORT - CAP IMPACTS
- ◆ 12—ASANTE FUTURE CONDITIONS HYDROLOGY
- ◆ 13—HAPPY VALLEY ROAD HYDROLOGY
- ◆ 14—AUSTIN RANCH EAST DRAINAGE AREA MAP
- ◆ 15—BURKE PROPERTY DRAINAGE AREA MAP
- ◆ 16—2011 FIELD SURVEY DATA
- ◆ 17—2011 RETURNED QUESTIONNAIRE
- ◆ 18—2011 PROPERTY OWNER INTERVIEWS



Prepared for:

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

And:

The City of Surprise
16000 N. Civic Center Plaza
Surprise, Arizona 85374



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GOODWIN
AND
MARSHALL
INC.

CIVIL ENGINEERS ~ PLANNERS ~ SURVEYORS

6909 W. Ray Road #15
Chandler, Arizona 85226
(602) 218-7285

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Exp-9-30-12



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May 30, 2012
Tony Beuché, P.E.
Project Manager
Flood Control District Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009

RE: Martin Acres – Conceptual Drainage Design for a portion of the Wash 3 East Flows
FCD2009C036 Work Assignment No. 4

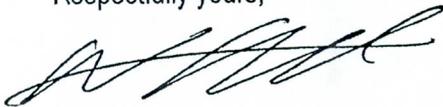
Dear Beuché:

Goodwin and Marshall, Inc. (G&M) is pleased to provide you with the FINAL submittal of the Conceptual Design for the Martin Acres DCR. The analysis has been prepared in conformance with the requirements outlined in Flood Control Districts Contract No. 2009C036 Work Assignment No. 4 and specific concerns identified in the project team meetings. As previously discussed, the culvert at Norwich controls the allowable storm water conveyance due to the downstream outfall/spreader channel grade constraint. This "controlling design flow" is 180 cfs, however you will notice that the upstream facilities show to have greater capacity. This is simply due to the available slope and channel section along Citrus Road. There will be opportunities to optimize the design cost during final design process but I believe this concept design reflects the City of Surprise's project intention.

Please find attached the following documentation for your records:

Appendix A : Existing Citrus Road Channel Capacities
Appendix B : Existing Conditions Split Flow Analysis at Citrus Road Channel / Wash 3 East
Appendix C : Conceptual Design and Cost Estimate

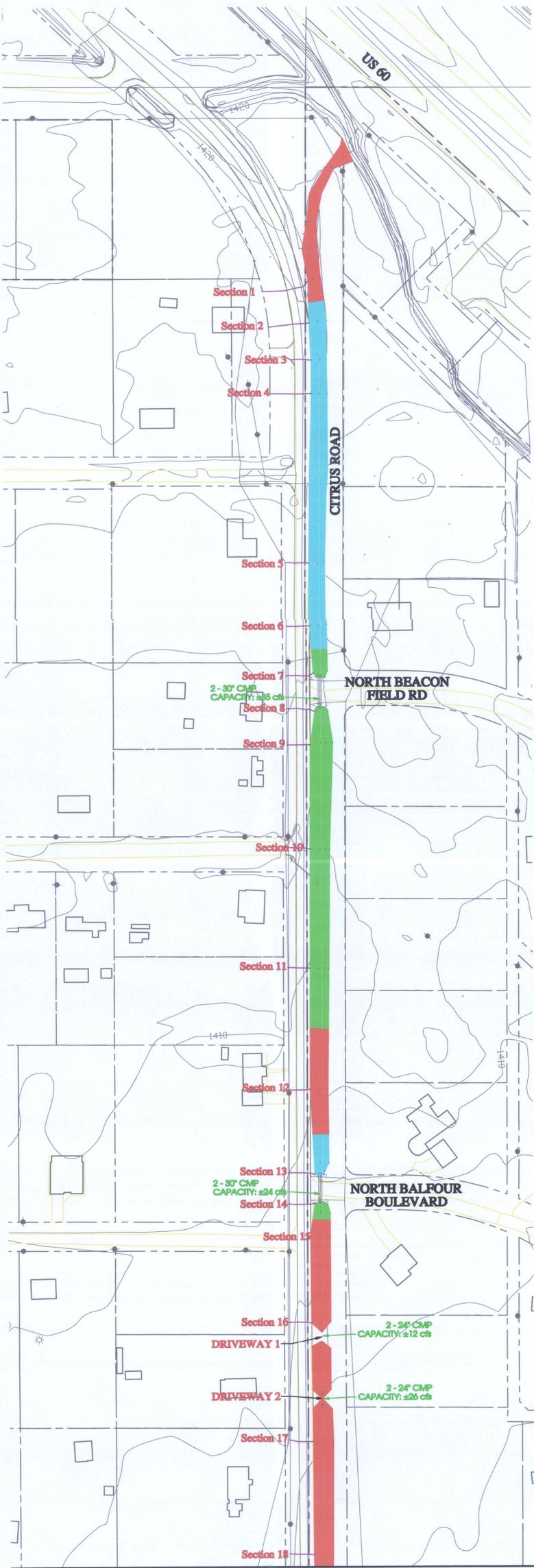
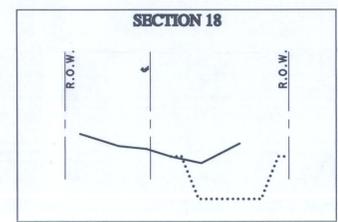
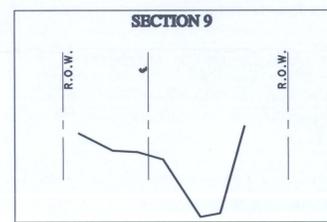
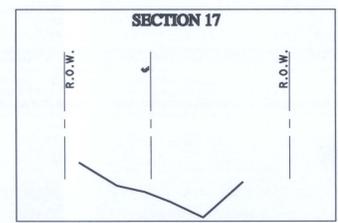
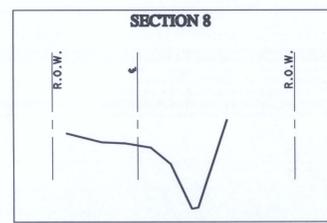
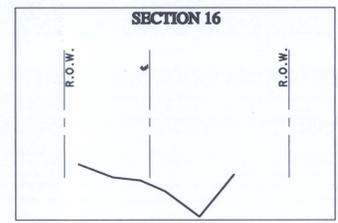
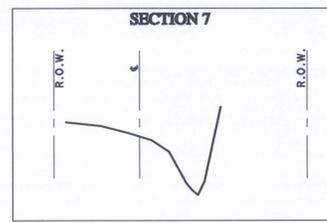
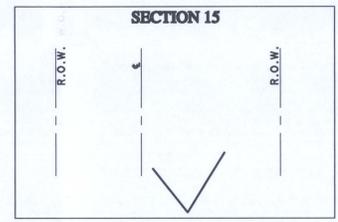
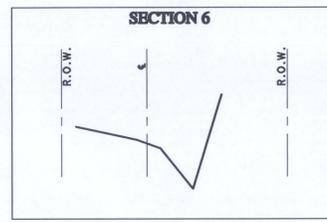
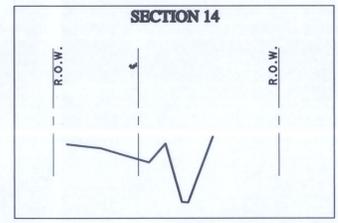
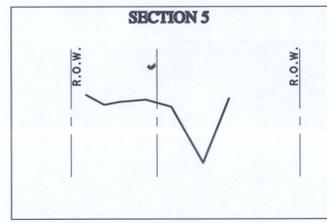
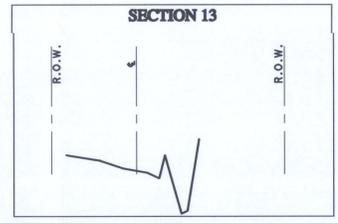
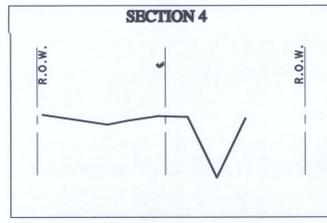
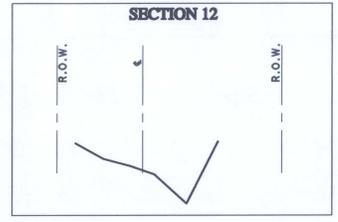
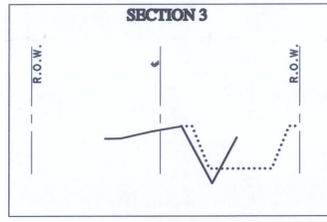
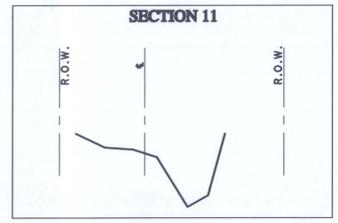
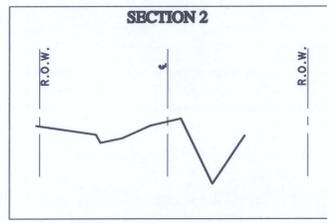
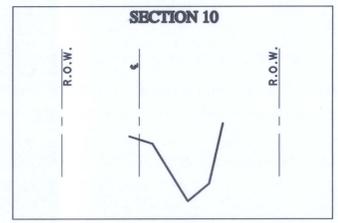
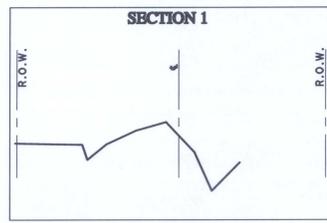
Respectfully yours,



Warren C. Russell, PE

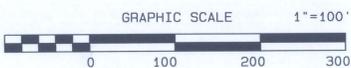


EXISTING CONDITIONS CROSS SECTIONS
1" = 40'



MATCHLINE - SEE PLATE 2

LEGEND	
█ Section 1	CROSS SECTION EX. CHANNEL CAPACITY: 0 - 60 CFS
█	EX. CHANNEL CAPACITY: 60 - 125 CFS
█	EX. CHANNEL CAPACITY: 125 - 260 CFS

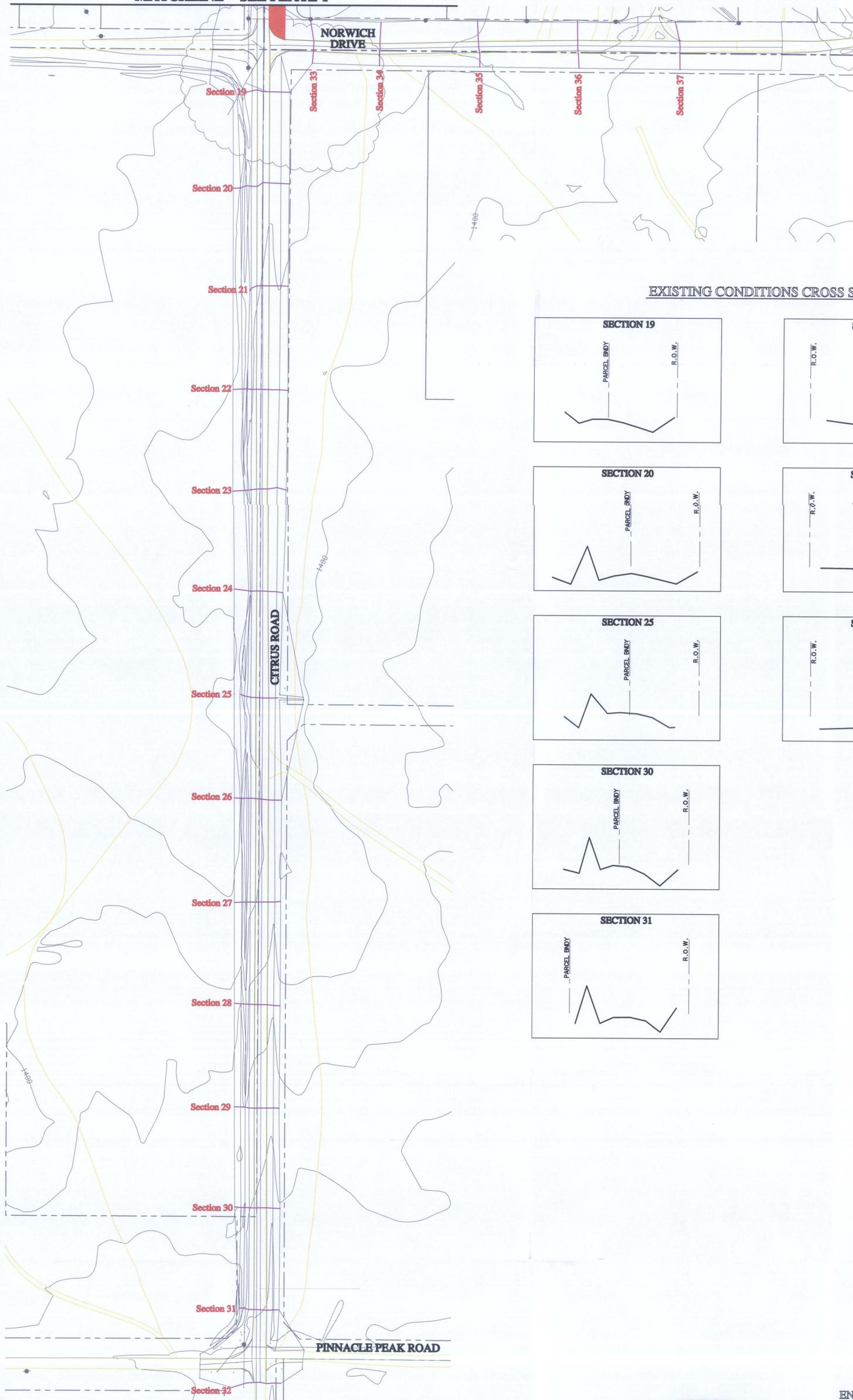


ENGINEER/PLANNER:

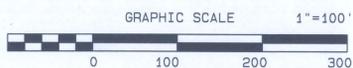
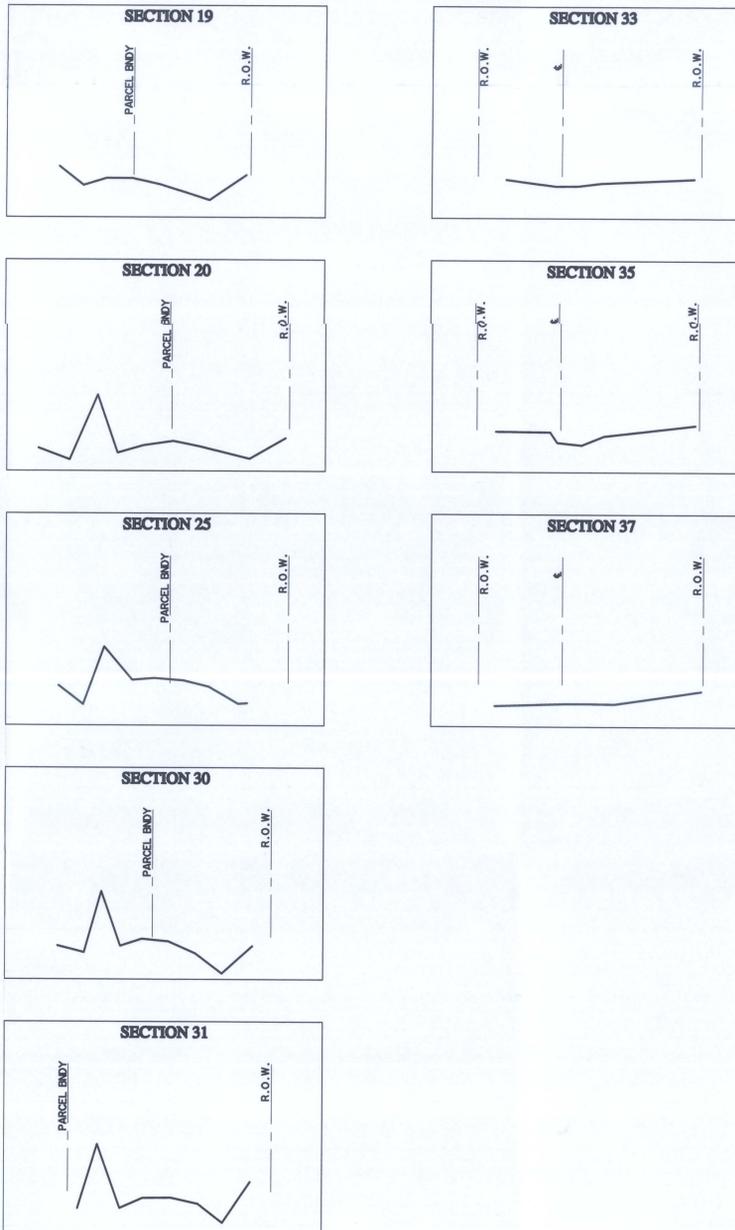
GOODWIN & MARSHALL
CIVIL ENGINEERS ~ PLANNERS ~ SURVEYORS
6909 W. Ray Rd. #15, Chandler, AZ 85226
Metro (602) 218-7285

**CITRUS ROAD
CROSS SECTION EXHIBIT
FOR
MARTIN ACRES
CONTRACT: FCD 2009C036 #3
CITY OF SURPRISE
MARICOPA COUNTY, ARIZONA
MAY, 2012**

MATCHLINE - SEE PLATE 1



EXISTING CONDITIONS CROSS SECTIONS
1" = 40'



ENGINEER/PLANNER:
GOODWIN & MARSHALL
 CIVIL ENGINEERS ~ PLANNERS ~ SURVEYORS
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**CITRUS ROAD
 CROSS SECTION EXHIBIT
 FOR
 MARTIN ACRES
 CONTRACT: FCD 2009C036 #3
 CITY OF SURPRISE
 MARICOPA COUNTY, ARIZONA
 MAY, 2012**

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Balfour Boulevard

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Culvert 2 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1405.13	0.00	0.00	0.00	0.00	0
1405.79	2.60	1.57	1.04	0.00	5
1406.05	5.20	2.94	2.25	0.00	5
1406.25	7.80	4.32	3.47	0.00	5
1406.43	10.40	5.65	4.74	0.00	5
1406.53	12.00	6.47	5.51	0.00	5
1406.73	15.60	8.29	7.29	0.00	6
1406.87	18.20	9.60	8.58	0.00	8
1407.00	20.80	10.86	9.83	0.09	8
1407.11	23.40	11.94	10.92	0.48	7
1407.21	26.00	12.90	11.90	1.18	7
1406.89	18.47	9.75	8.73	0.00	Overtopping

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Beacon Field Road

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Culvert 2 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1411.20	0.00	0.00	0.00	0.00	0
1412.02	3.80	1.35	2.45	0.00	5
1412.33	7.60	3.07	4.52	0.00	5
1412.59	11.40	4.83	6.56	0.00	4
1412.81	15.20	6.64	8.55	0.00	4
1413.01	19.00	8.50	10.50	0.00	4
1413.06	20.00	8.99	11.00	0.00	4
1413.38	26.60	12.30	14.28	0.00	5
1413.55	30.40	14.26	16.12	0.00	8
1413.72	34.20	16.09	17.81	0.26	8
1413.85	38.00	17.58	19.21	1.19	6
1413.56	30.51	14.33	16.18	0.00	Overtopping

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Driveway #1

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Culvert 2 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1403.95	0.00	0.00	0.00	0.00	0
1404.70	2.80	1.54	1.26	0.00	5
1404.99	5.60	2.99	2.60	0.00	4
1405.23	8.40	4.42	3.98	0.00	4
1405.44	11.20	5.82	5.38	0.00	3
1405.63	14.00	7.27	6.73	0.00	2
1405.82	16.80	8.63	8.19	0.00	5
1406.01	19.60	10.04	9.54	0.00	11
1406.03	20.00	10.27	9.72	0.00	7
1406.40	25.20	12.79	12.34	0.00	21
1406.53	28.00	13.50	13.09	1.33	8
1406.47	25.99	13.20	12.79	0.00	Overtopping

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Driveway #2

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Culvert 2 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1403.06	0.00	0.00	0.00	0.00	0
1403.80	2.90	1.16	1.74	0.00	5
1404.09	5.80	2.51	3.28	0.00	5
1404.33	8.70	3.89	4.81	0.00	4
1404.55	11.60	5.29	6.30	0.00	4
1404.74	14.50	6.73	7.78	0.00	4
1404.77	15.00	6.95	8.02	0.00	5
1405.11	20.30	9.57	10.69	0.00	10
1405.29	23.20	11.02	12.13	0.00	15
1405.48	26.10	12.46	13.57	0.00	18
1405.57	29.00	13.19	14.20	1.53	7
1405.52	26.69	12.80	13.89	0.00	Overtopping

Hydraulic Analysis Report

Project Data

Project Title: Existing Citrus Road Channel Capacities
Designer: Luke Johnstone
Project Date: Monday, April 30, 2012
Project Units: U.S. Customary Units
Notes: Based on field survey data from ASAM on 4-26-2012.

Channel Analysis: Section 1

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0077 (ft/ft)

Depth: 1.3350 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1418.61	0.0400
13.19	1417.19	0.0400
21.23	1415.36	0.0400
34.41	1416.70	-----

Result Parameters

Flow: 31.4194 (cfs)

Area of Flow: 12.7148 (ft²)

Wetted Perimeter: 19.2658 (ft)

Hydraulic Radius: 0.6600 (ft)

Average Velocity: 2.4711 (ft/s)

Top Width: 19.0485 (ft)

Froude Number: 0.5330

Critical Depth: 1.0379 (ft)

Critical Velocity: 4.0879 (ft/s)

Critical Slope: 0.0295 (ft/ft)

Critical Top Width: 14.8099 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 2

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0059 (ft/ft)

Depth: 2.2630 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1417.72	0.0400
14.74	1414.65	0.0400
29.78	1416.91	-----

Result Parameters

Flow: 89.8572 (cfs)

Area of Flow: 29.2999 (ft²)

Wetted Perimeter: 26.2974 (ft)

Hydraulic Radius: 1.1142 (ft)

Average Velocity: 3.0668 (ft/s)

Top Width: 25.8947 (ft)

Froude Number: 0.5081

Critical Depth: 1.7261 (ft)

Critical Velocity: 5.2716 (ft/s)

Critical Slope: 0.0250 (ft/ft)

Critical Top Width: 19.7508 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 3

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0063 (ft/ft)

Depth: 2.1570 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1417.23	0.0400
14.30	1414.54	0.0400
25.83	1416.70	-----

Result Parameters

Flow: 75.9582 (cfs)

Area of Flow: 24.7789 (ft²)

Wetted Perimeter: 23.3768 (ft)

Hydraulic Radius: 1.0600 (ft)

Average Velocity: 3.0654 (ft/s)

Top Width: 22.9753 (ft)

Froude Number: 0.5202

Critical Depth: 1.6608 (ft)

Critical Velocity: 5.1709 (ft/s)

Critical Slope: 0.0254 (ft/ft)

Critical Top Width: 17.6898 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 4

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0054 (ft/ft)

Depth: 2.7790 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1416.73	0.0400
13.63	1413.87	0.0400
26.97	1416.64	-----

Result Parameters

Flow: 123.6115 (cfs)

Area of Flow: 36.8871 (ft²)

Wetted Perimeter: 27.1226 (ft)

Hydraulic Radius: 1.3600 (ft)

Average Velocity: 3.3511 (ft/s)

Top Width: 26.5470 (ft)

Froude Number: 0.5010

Critical Depth: 2.1078 (ft)

Critical Velocity: 5.8254 (ft/s)

Critical Slope: 0.0236 (ft/ft)

Critical Top Width: 20.1348 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 5

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0036 (ft/ft)

Depth: 2.6380 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1415.28	0.0400
14.75	1412.65	0.0400
26.92	1415.67	-----

Result Parameters

Flow: 88.3828 (cfs)

Area of Flow: 33.4492 (ft²)

Wetted Perimeter: 25.9166 (ft)

Hydraulic Radius: 1.2906 (ft)

Average Velocity: 2.6423 (ft/s)

Top Width: 25.3595 (ft)

Froude Number: 0.4054

Critical Depth: 1.8384 (ft)

Critical Velocity: 5.4405 (ft/s)

Critical Slope: 0.0247 (ft/ft)

Critical Top Width: 17.6731 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 6

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0075 (ft/ft)

Depth: 1.9090 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1414.33	0.0400
15.23	1412.42	0.0400
28.56	1416.86	-----

Result Parameters

Flow: 61.5577 (cfs)

Area of Flow: 20.0051 (ft²)

Wetted Perimeter: 21.3876 (ft)

Hydraulic Radius: 0.9354 (ft)

Average Velocity: 3.0771 (ft/s)

Top Width: 20.9587 (ft)

Froude Number: 0.5550

Critical Depth: 1.5085 (ft)

Critical Velocity: 4.9281 (ft/s)

Critical Slope: 0.0263 (ft/ft)

Critical Top Width: 16.5613 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 7

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0128 (ft/ft)

Depth: 2.5900 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1413.79	0.0400
8.24	1413.24	0.0400
16.32	1411.76	0.0400
19.09	1411.42	0.0400
21.70	1411.20	0.0400
24.67	1411.83	0.0400
32.32	1415.35	-----

Result Parameters

Flow: 174.0712 (cfs)

Area of Flow: 36.2140 (ft²)

Wetted Perimeter: 29.6105 (ft)

Hydraulic Radius: 1.2230 (ft)

Average Velocity: 4.8067 (ft/s)

Top Width: 28.9321 (ft)

Froude Number: 0.7571

Critical Depth: 2.2824 (ft)

Critical Velocity: 6.1888 (ft/s)

Critical Slope: 0.0228 (ft/ft)

Critical Top Width: 23.6458 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 8

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0083 (ft/ft)

Depth: 2.8850 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1413.51	0.0400
9.34	1412.72	0.0400
19.13	1410.62	0.0400
22.12	1410.68	0.0400
35.64	1414.79	-----

Result Parameters

Flow: 178.6607 (cfs)

Area of Flow: 43.2570 (ft²)

Wetted Perimeter: 32.0882 (ft)

Hydraulic Radius: 1.3481 (ft)

Average Velocity: 4.1302 (ft/s)

Top Width: 31.4119 (ft)

Froude Number: 0.6202

Critical Depth: 2.3400 (ft)

Critical Velocity: 6.2906 (ft/s)

Critical Slope: 0.0225 (ft/ft)

Critical Top Width: 23.1100 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 9

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0076 (ft/ft)

Depth: 2.7130 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1412.96	0.0400
17.46	1410.25	0.0400
26.70	1410.42	0.0400
38.22	1414.51	-----

Result Parameters

Flow: 258.3504 (cfs)

Area of Flow: 57.0510 (ft²)

Wetted Perimeter: 34.5059 (ft)

Hydraulic Radius: 1.6534 (ft)

Average Velocity: 4.5284 (ft/s)

Top Width: 33.8570 (ft)

Froude Number: 0.6148

Critical Depth: 2.1319 (ft)

Critical Velocity: 6.6350 (ft/s)

Critical Slope: 0.0215 (ft/ft)

Critical Top Width: 28.4801 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 10

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0071 (ft/ft)

Depth: 2.7080 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1411.54	0.0400
16.58	1408.83	0.0400
26.63	1409.67	0.0400
33.05	1412.50	-----

Result Parameters

Flow: 208.8828 (cfs)

Area of Flow: 49.4345 (ft²)

Wetted Perimeter: 31.5213 (ft)

Hydraulic Radius: 1.5683 (ft)

Average Velocity: 4.2254 (ft/s)

Top Width: 30.8722 (ft)

Froude Number: 0.5885

Critical Depth: 2.1211 (ft)

Critical Velocity: 6.3760 (ft/s)

Critical Slope: 0.0221 (ft/ft)

Critical Top Width: 25.9491 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 11

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0055 (ft/ft)

Depth: 2.3510 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1409.86	0.0400
14.41	1407.51	0.0400
23.93	1408.06	0.0400
31.85	1410.95	-----

Result Parameters

Flow: 141.8623 (cfs)

Area of Flow: 41.1424 (ft²)

Wetted Perimeter: 29.3855 (ft)

Hydraulic Radius: 1.4001 (ft)

Average Velocity: 3.4481 (ft/s)

Top Width: 28.8605 (ft)

Froude Number: 0.5089

Critical Depth: 1.7056 (ft)

Critical Velocity: 5.8228 (ft/s)

Critical Slope: 0.0234 (ft/ft)

Critical Top Width: 23.1380 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 12

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0059 (ft/ft)

Depth: 1.3780 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1407.93	0.0400
15.18	1406.55	0.0400
29.73	1409.47	-----

Result Parameters

Flow: 33.6037 (cfs)

Area of Flow: 15.1867 (ft²)

Wetted Perimeter: 22.2411 (ft)

Hydraulic Radius: 0.6828 (ft)

Average Velocity: 2.2127 (ft/s)

Top Width: 22.0417 (ft)

Froude Number: 0.4698

Critical Depth: 1.0186 (ft)

Critical Velocity: 4.0496 (ft/s)

Critical Slope: 0.0296 (ft/ft)

Critical Top Width: 16.2929 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 13

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0115 (ft/ft)

Depth: 2.7510 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1407.88	0.0400
7.70	1405.13	0.0400
10.53	1405.27	0.0400
15.95	1408.63	-----

Result Parameters

Flow: 122.7246 (cfs)

Area of Flow: 23.6825 (ft²)

Wetted Perimeter: 15.9637 (ft)

Hydraulic Radius: 1.4835 (ft)

Average Velocity: 5.1821 (ft/s)

Top Width: 14.7379 (ft)

Froude Number: 0.7204

Critical Depth: 2.3602 (ft)

Critical Velocity: 6.7213 (ft/s)

Critical Slope: 0.0231 (ft/ft)

Critical Top Width: 13.0148 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 14

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0141 (ft/ft)

Depth: 2.7780 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1406.64	0.0400
7.80	1407.51	0.0400
15.33	1404.76	0.0400
18.26	1404.74	0.0400
29.83	1407.84	-----

Result Parameters

Flow: 191.2525 (cfs)

Area of Flow: 32.8589 (ft²)

Wetted Perimeter: 21.6808 (ft)

Hydraulic Radius: 1.5156 (ft)

Average Velocity: 5.8204 (ft/s)

Top Width: 20.8282 (ft)

Froude Number: 0.8166

Critical Depth: 1.8990 (ft)

Critical Velocity: 11.2170 (ft/s)

Critical Slope: 0.0818 (ft/ft)

Critical Top Width: 15.1416 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 15

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0001 (ft/ft)

Depth: 2.0570 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1406.33	0.0400
16.18	1404.27	0.0400
33.46	1407.08	-----

Result Parameters

Flow: 11.1421 (cfs)

Area of Flow: 29.6372 (ft²)

Wetted Perimeter: 29.1125 (ft)

Hydraulic Radius: 1.0180 (ft)

Average Velocity: 0.3760 (ft/s)

Top Width: 28.8160 (ft)

Froude Number: 0.0653

Critical Depth: 0.6907 (ft)

Critical Velocity: 3.3346 (ft/s)

Critical Slope: 0.0337 (ft/ft)

Critical Top Width: 9.6755 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 16

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0020 (ft/ft)

Depth: 1.2010 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1405.36	0.0400
16.20	1404.16	0.0400
32.25	1406.13	-----

Result Parameters

Flow: 18.3895 (cfs)

Area of Flow: 15.5979 (ft²)

Wetted Perimeter: 26.0928 (ft)

Hydraulic Radius: 0.5978 (ft)

Average Velocity: 1.1790 (ft/s)

Top Width: 25.9749 (ft)

Froude Number: 0.2681

Critical Depth: 0.7094 (ft)

Critical Velocity: 3.3795 (ft/s)

Critical Slope: 0.0332 (ft/ft)

Critical Top Width: 15.3420 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400

Channel Analysis: Section 17

Notes:

Input Parameters

Channel Type: Custom Cross Section

Cross Section Data

Longitudinal Slope: 0.0003 (ft/ft)

Depth: 0.7390 (ft)

Station (ft)	Elevation (ft)	Manning's n
0.00	1403.91	0.0400
15.23	1403.18	0.0400
33.81	1404.84	-----

Result Parameters

Flow: 2.8706 (cfs)

Area of Flow: 8.6764 (ft²)

Wetted Perimeter: 23.5325 (ft)

Hydraulic Radius: 0.3687 (ft)

Average Velocity: 0.3309 (ft/s)

Top Width: 23.4816 (ft)

Froude Number: 0.0959

Critical Depth: 0.2893 (ft)

Critical Velocity: 2.1583 (ft/s)

Critical Slope: 0.0446 (ft/ft)

Critical Top Width: 9.1936 (ft)

Calculated Max Shear Stress: 0.0000 (lb/ft²)

Calculated Avg Shear Stress: 0.0000 (lb/ft²)

Composite Manning's n Equation: Lotter method

Manning's n: 0.0400





GRAPHIC SCALE 1" = 100'



ENGINEER/PLANNER:

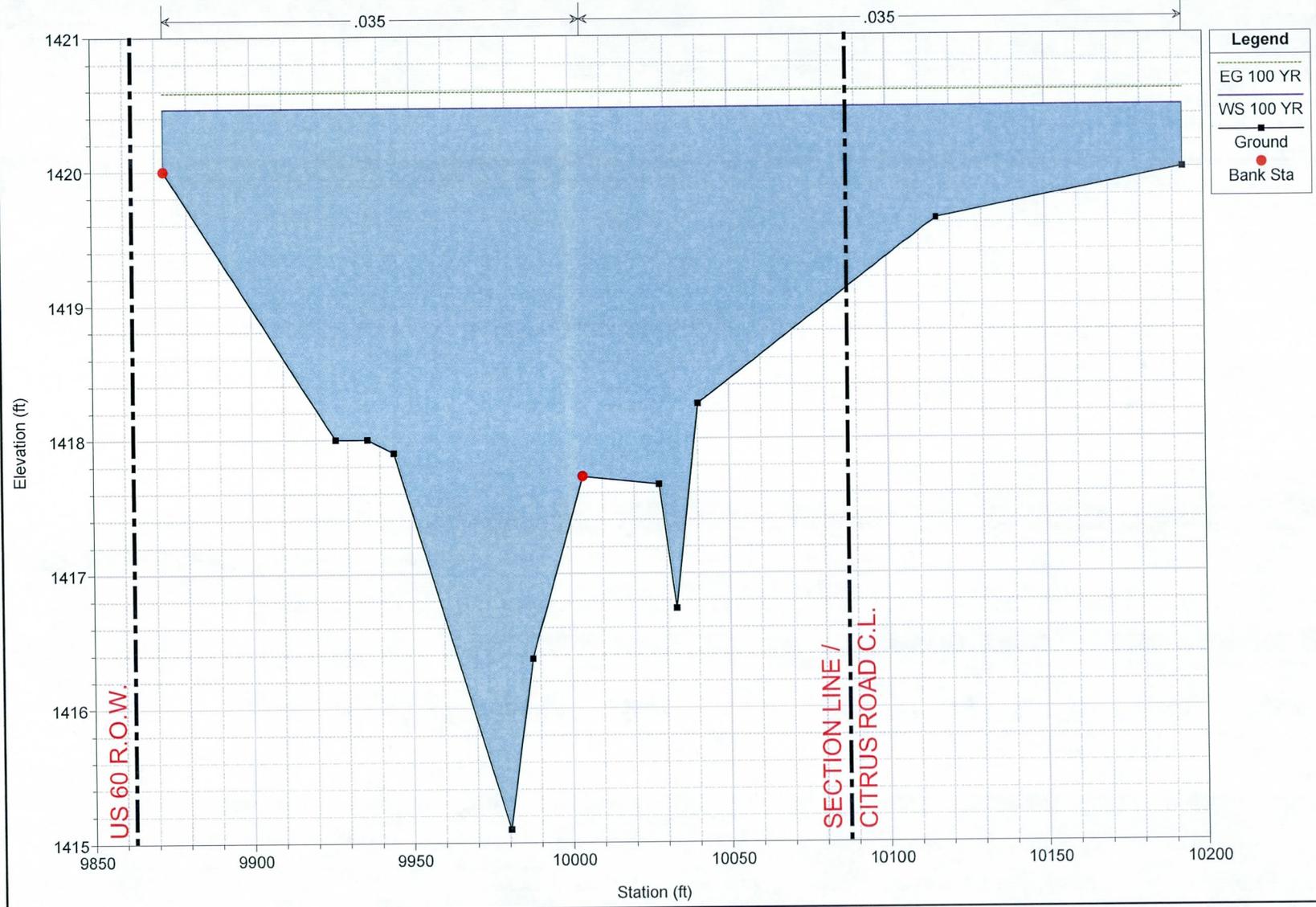
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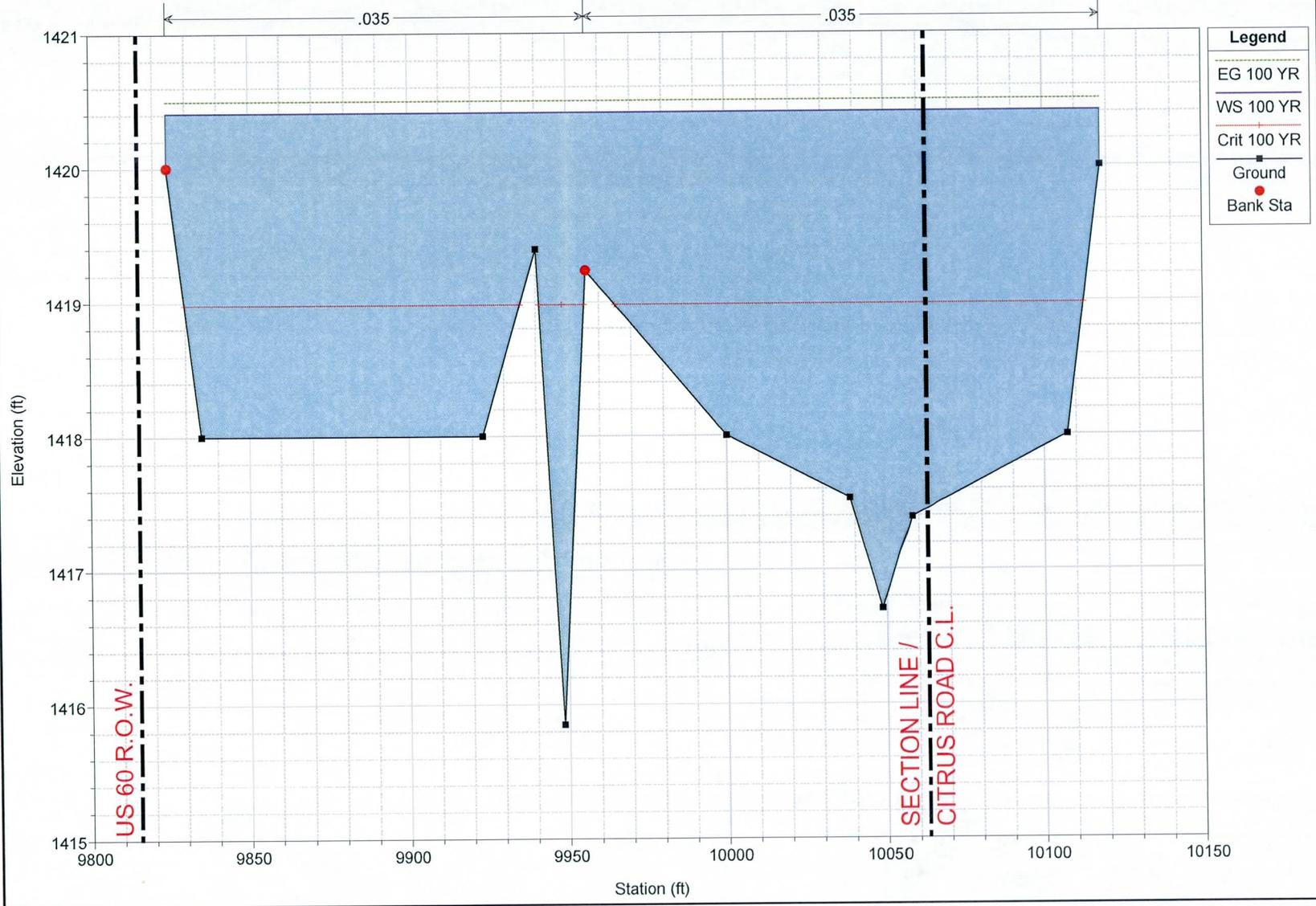
**SPLIT FLOW
ANALYSIS EXHIBIT
FOR
MARTIN ACRES
CITY OF SURPRISE,
MARICOPA COUNTY, ARIZONA
MAY, 2012**

Citrus Split Flow Plan: Citrus Split Flow 5/7/2012
RS = 0.012



Legend	
--- (dashed green line)	EG 100 YR
— (solid black line)	WS 100 YR
■ (black square)	Ground
● (red circle)	Bank Sta

Citrus Split Flow Plan: Citrus Split Flow 5/7/2012
RS = 0.000



- Legend**
- EG 100 YR
 - WS 100 YR
 - Crit 100 YR
 - Ground
 - Bank Sta

HEC-RAS Plan: Split Flow River: Wash 3 East Reach: Citrus Road Profile: 100 YR

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)
Citrus Road	0.012	100 YR	1650.00	1415.10	1420.46		1420.58	0.001428	3.11	625.04	320.67	0.33		1104.89	545.11
Citrus Road	0.000	100 YR	1650.00	1415.85	1420.41	1418.98	1420.50	0.001001	2.31	695.34	293.75	0.27		694.62	955.38



ENGINEER'S OPINION OF PROBABLE COST-DRAFT

Project **Martin Acres DCR**
Date: May 17, 2012
Location: Surprise, Arizona
Job No. 10447A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
<u>Citrus Road - Trapezoidal Channel</u>					
1	Clearing and Grubbing	Ac.	4.1	\$600.00	\$2,460.00
2	Cut/Export	C.Y.	12,500	\$5.50	\$68,750.00
3	Dust/Storm Water Management	Ac.	4.1	\$1,200.00	\$4,920.00
4	4-36" RCP	L.F.	160	\$340.00	\$54,400.00
5	4-36" Headwalls	Ea.	8	\$7,500.00	\$60,000.00
6	5-36" RCP	L.F.	108	\$425.00	\$45,900.00
7	5-36" Headwalls	Ea.	2	\$8,500.00	\$17,000.00
8	Rip Rap, D50 = 6", Depth = 1.0'	C.Y.	215	\$55.00	\$11,825.00
9	Vehicular Impact Barrier	L.F.	220	\$60.00	\$13,200.00
10	Remove & Dispose Asphalt Pavement	S.Y.	1,065	\$12.00	\$12,780.00
11	Remove & Dispose Gravel Pavement	S.Y.	500	\$5.50	\$2,750.00
12	2" AC over Stabilized Subgrade (R&R)	S.Y.	1,160	\$25.00	\$29,000.00
13	3" Stabilized Gravel Pavement (R&R)	S.Y.	500	\$9.50	\$4,750.00
14	Traffic Control	Month	1	\$8,000.00	\$8,000.00
15	6" Water Line Relocation	L.F.	340	\$45.00	\$15,300.00
16	Rip Rap Diversion Structure	C.Y.	370	\$65.00	\$24,050.00
	Subtotal				\$375,085.00
	Contingency (20%)				\$75,017.00
	Gross Total				\$450,102.00

Miscellaneous

Engineering Design	10% of Construction Total	\$45,010.20
Construction Administration	8% of Construction Total	\$36,008.16
Testing	4% of Construction Total	\$18,004.08

Total

\$549,124.44

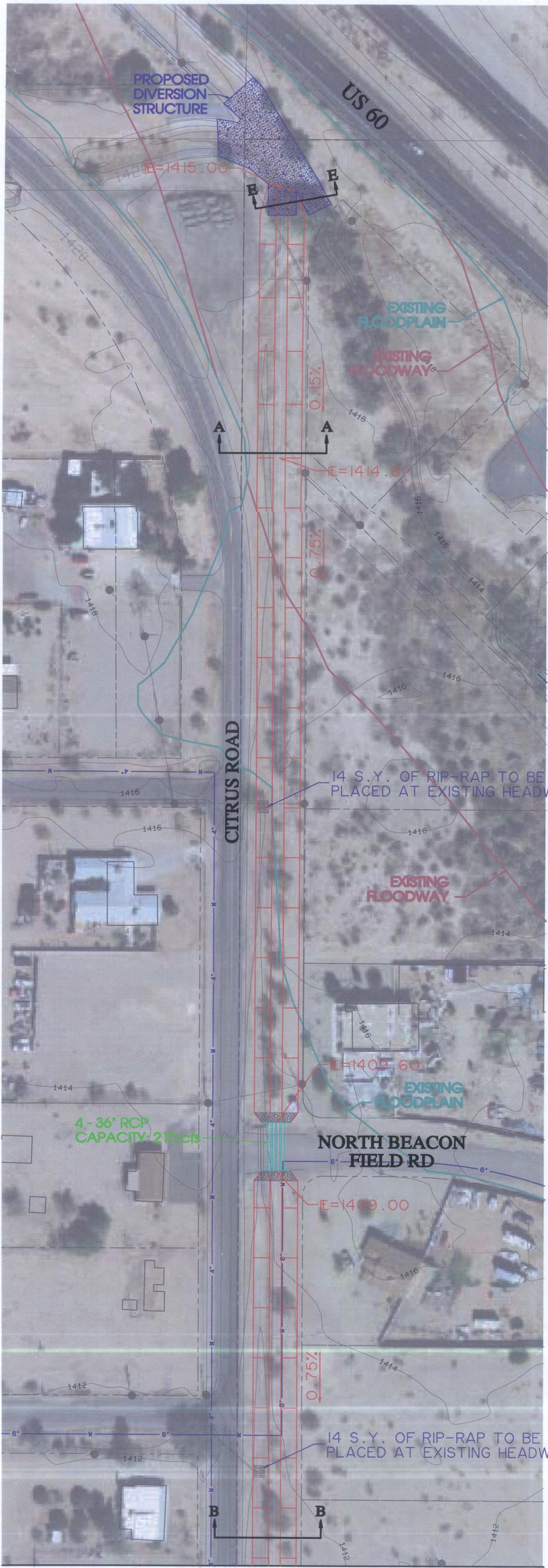
Assumptions:

1. Removal & disposal of existing storm drain facilities is included in the cut/export cost.
2. The channel cross sections are to fit within the existing Citrus Rd. and Norwich Dr. ROW.
3. Citrus Rd. and Norwich Dr. may be used as the O&M roads.
4. Total culvert length assumes 50 L.F. at road crossings and 30 L.F. at drive crossings. *
5. The Cut/Export unit price assumes that it is necessary to haul the dirt off. It may be less if the dirt can be stock piled on a nearby property.
6. The Rip Rap was sized utilizing DDMSW.
7. Diversion structure to consist of D50 = 12" rip rap at a depth of 2'.

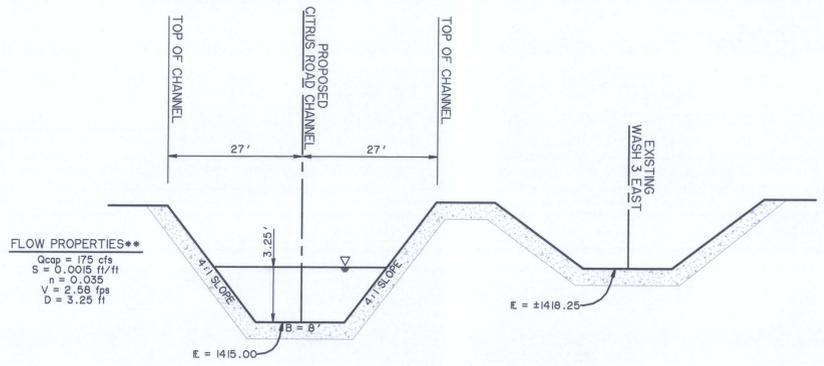
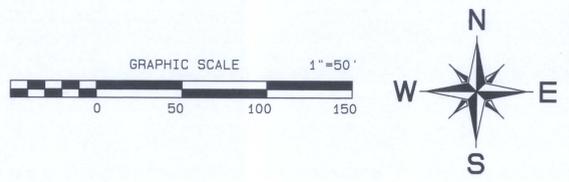
* Culvert crossing at Norwich Drive has a length of 108 L.F.

This Engineer's opinion of probable construction cost is made on the basis of the Engineer's experience and best judgment as a design professional. It must be recognized that any evaluation of work to be performed to construct this project must by necessity be speculative in nature until completion of its actual detailed design. In addition the engineer has no control over the cost of labor, material, or services to be furnished by others or over market conditions. Accordingly Goodwin & Marshall, Inc. can not guarantee that actual costs will not vary from the opinions expressed here in.

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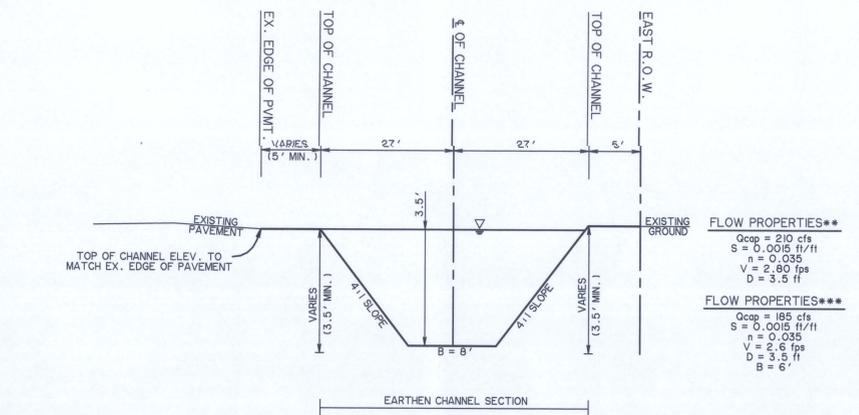


MATCHLINE - SEE PLATE 2



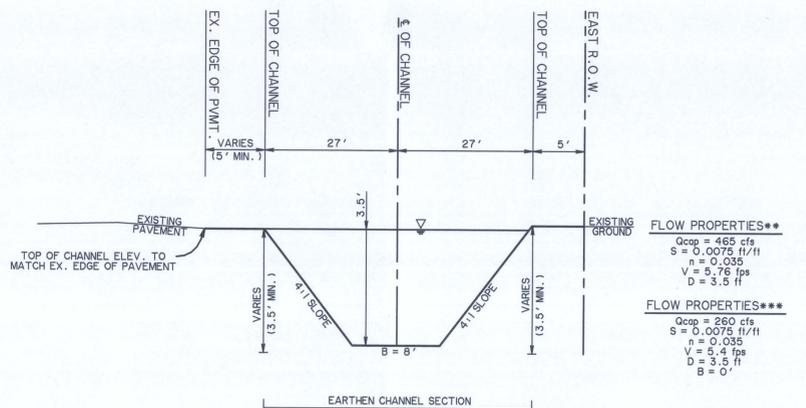
TYPICAL CHANNEL SECTION B-B (DIVERSION STRUCTURE)

• LOOKING NORTH N.T.S.
 •• Flow calculations using Maricopa County Flood Control District's minimum channel bottom width of 8 ft.



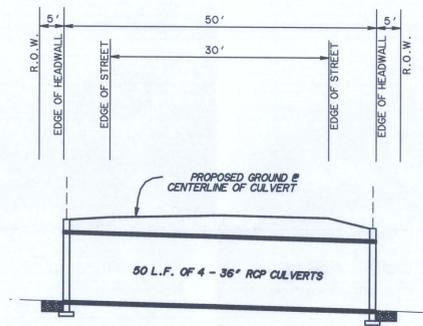
TYPICAL CHANNEL SECTION A-A

• LOOKING NORTH N.T.S.
 •• Flow calculations using Maricopa County Flood Control District's minimum channel bottom width of 8 ft.
 ••• Flow calculations using smallest channel bottom width that achieves required flow capacity.



TYPICAL CHANNEL SECTION B-B

• LOOKING NORTH N.T.S.
 •• Flow calculations using Maricopa County Flood Control District's minimum channel bottom width of 8 ft.
 ••• Flow calculations using smallest channel bottom width that achieves required flow capacity.



TYPICAL CULVERT SECTION AT STREET CROSSING

• LOOKING EAST N.T.S.



ENGINEER/PLANNER:

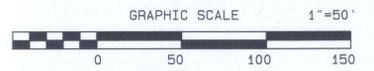
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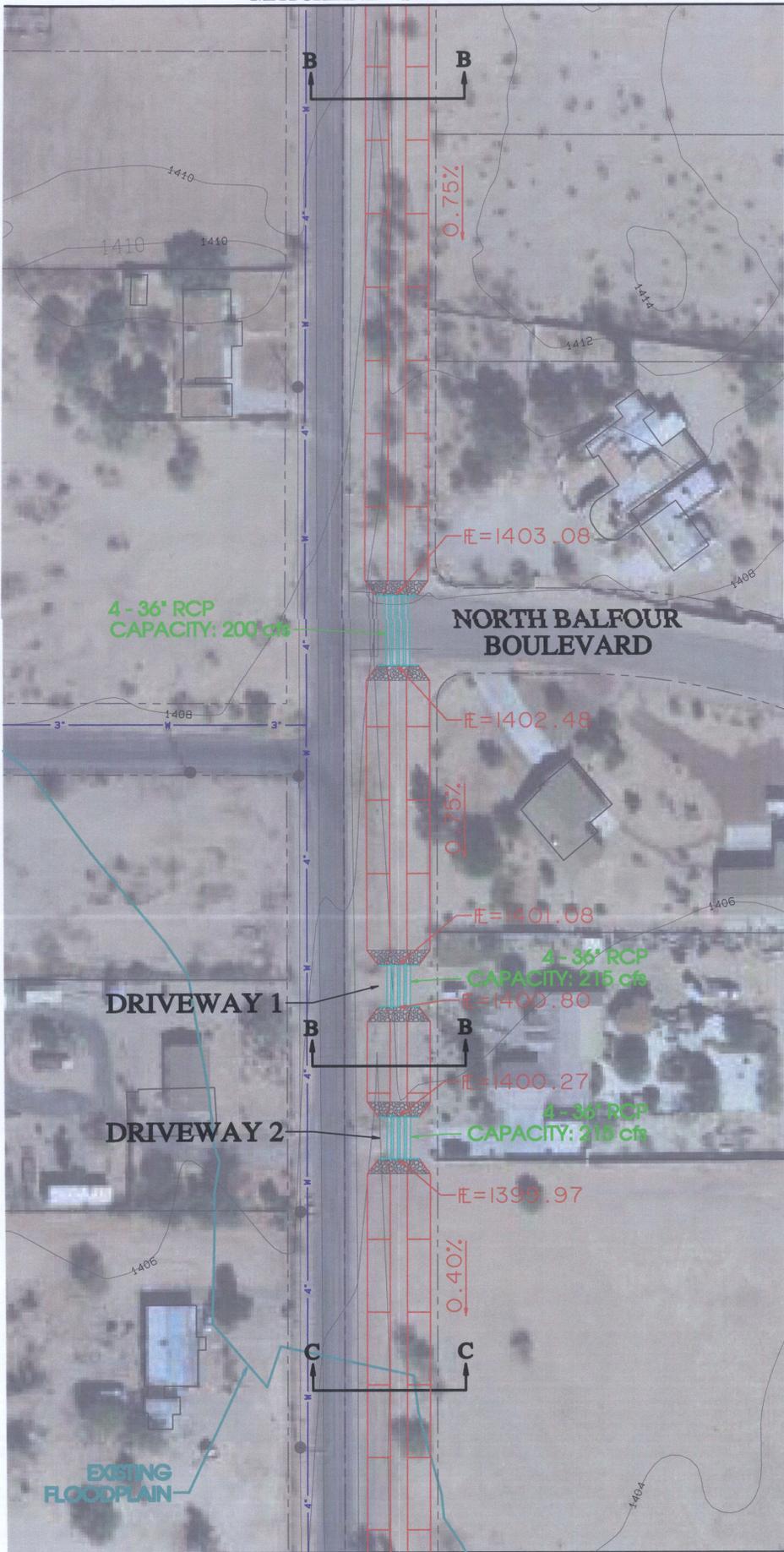
6909 W. Ray Rd. #15, Chandler, AZ 85226
 Metro (602) 218-7285

CITRUS ROAD CHANNEL IMPROVEMENTS

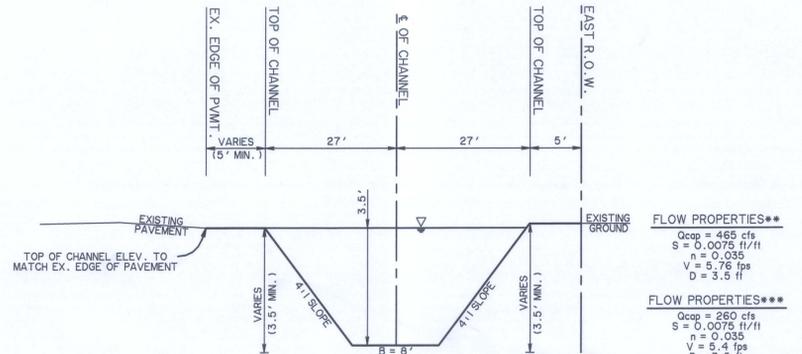
FOR
MARTIN ACRES
 CONTRACT: FCD 2009C036 #3
 CITY OF SURPRISE
 MARICOPA COUNTY, ARIZONA
 MAY, 2012



MATCHLINE - SEE PLATE 1



MATCHLINE - SEE PLATE 3



TYPICAL CHANNEL SECTION B-B

• LOOKING NORTH N.T.S.

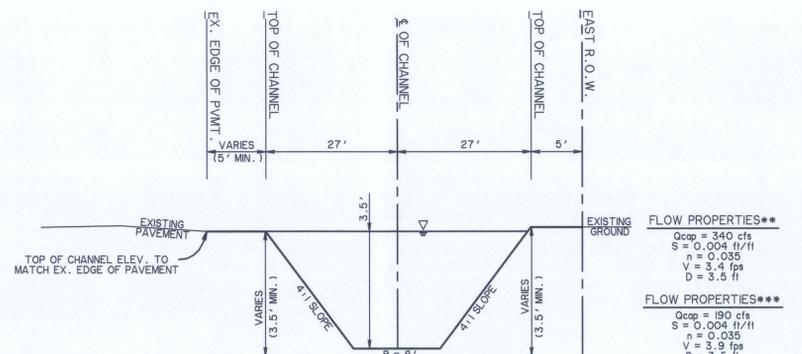
- Flow calculations using Maricopa County Flood Control District's minimum channel bottom width of 8 ft.
- Flow calculations using smallest channel bottom width that achieves required flow capacity.

FLOW PROPERTIES***

Q _{cap}	= 465 cfs
S	= 0.0075 ft/ft
n	= 0.035
V	= 5.76 fps
D	= 3.5 ft

FLOW PROPERTIES***

Q _{cap}	= 260 cfs
S	= 0.0075 ft/ft
n	= 0.035
V	= 5.4 fps
D	= 3.5 ft
B	= 0'



TYPICAL CHANNEL SECTION C-C

• LOOKING NORTH N.T.S.

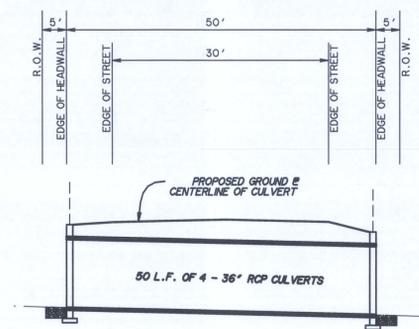
- Flow calculations using Maricopa County Flood Control District's minimum channel bottom width of 8 ft.
- Flow calculations using smallest channel bottom width that achieves required flow capacity.

FLOW PROPERTIES***

Q _{cap}	= 340 cfs
S	= 0.004 ft/ft
n	= 0.035
V	= 4.4 fps
D	= 3.5 ft

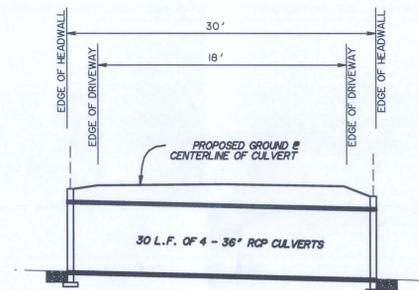
FLOW PROPERTIES***

Q _{cap}	= 190 cfs
S	= 0.004 ft/ft
n	= 0.035
V	= 3.9 fps
D	= 3.5 ft
B	= 0'



TYPICAL CULVERT SECTION AT STREET CROSSING

• LOOKING EAST N.T.S.



TYPICAL CULVERT SECTION AT DRIVEWAY CROSSING

• LOOKING EAST N.T.S.



ENGINEER/PLANNER:

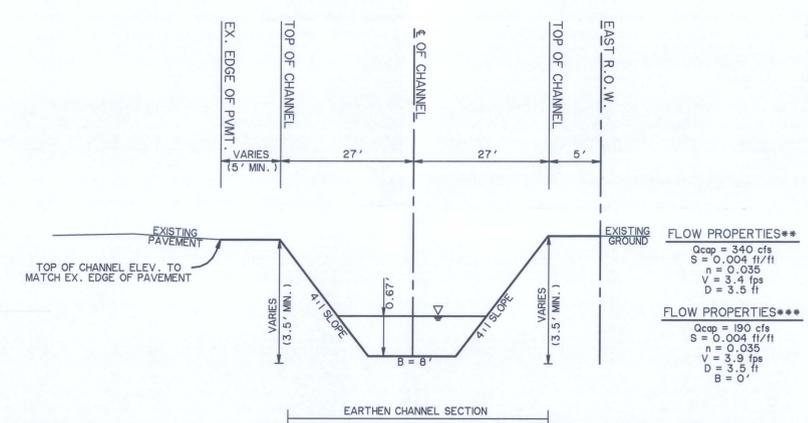
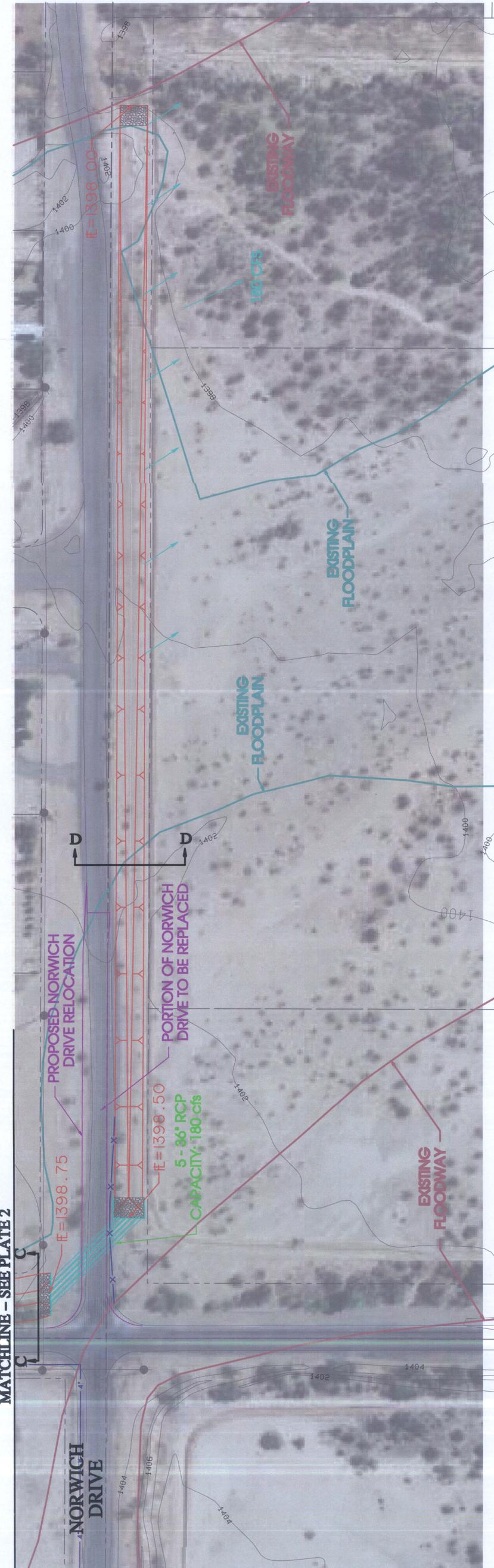
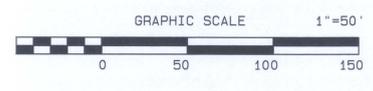
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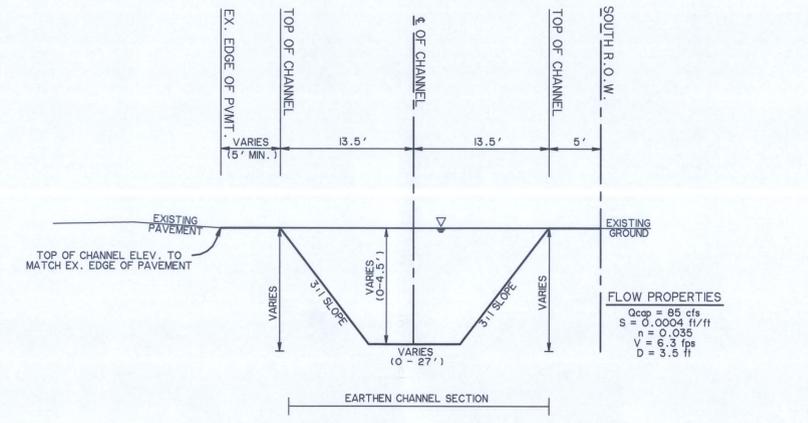
CITRUS ROAD CHANNEL IMPROVEMENTS

FOR
MARTIN ACRES
CONTRACT: FCD 2009C036 #3
CITY OF SURPRISE
MARICOPA COUNTY, ARIZONA
MAY, 2012



TYPICAL CHANNEL SECTION C-C
 * LOOKING NORTH N.T.S.

- ** Flow calculations using Maricopa County Flood Control District's minimum channel bottom width of 8 ft.
- *** Flow calculations using smallest channel bottom width that achieves required flow capacity.



TYPICAL CHANNEL SECTION D-D
 * LOOKING EAST N.T.S.

FLOW PROPERTIES**	
Q_{cap}	= 340 cfs
S	= 0.004 ft/ft
n	= 0.035
V	= 3.4 fps
D	= 3.5 ft

FLOW PROPERTIES***	
Q_{cap}	= 180 cfs
S	= 0.004 ft/ft
n	= 0.035
V	= 4.5 fps
D	= 0.67 ft

FLOW PROPERTIES	
Q_{cap}	= 85 cfs
S	= 0.0004 ft/ft
n	= 0.035
V	= 6.3 fps
D	= 3.5 ft



ENGINEER/PLANNER:
GOODWIN MARSHALL
 CIVIL ENGINEERS ~ PLANNERS ~ SURVEYORS
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 Metro (602) 218-7285

CITRUS ROAD CHANNEL IMPROVEMENTS FOR MARTIN ACRES CONTRACT: FCD 2009C036 #3 CITY OF SURPRISE MARICOPA COUNTY, ARIZONA MAY, 2012

W:\0447A - Martin Acres\Drawings\Fig. pro Wed May 30 13:39:33 2012

Hydraulic Analysis Report

Project Data

Project Title: Citrus Channel Proposed

Designer: CRH

Project Date: Thursday, May 10, 2012

Project Units: U.S. Customary Units

Notes:

Channel Analysis: Citrus Section A-A

Notes:

Input Parameters

Channel Type: Trapezoidal
Side Slope 1 (Z1): 4.0000 (ft/ft)
Side Slope 2 (Z2): 4.0000 (ft/ft)
Channel Width: 8.0000 (ft)
Longitudinal Slope: 0.0015 (ft/ft)
Manning's n: 0.0350
Depth: 3.5000 (ft)

Result Parameters

Flow: 206.9015 (cfs)
Area of Flow: 77.0000 (ft²)
Wetted Perimeter: 36.8617 (ft)
Hydraulic Radius: 2.0889 (ft)
Average Velocity: 2.6870 (ft/s)
Top Width: 36.0000 (ft)
Froude Number: 0.3238
Critical Depth: 1.9872 (ft)
Critical Velocity: 6.5283 (ft/s)
Critical Slope: 0.0167 (ft/ft)
Critical Top Width: 23.8974 (ft)
Calculated Max Shear Stress: 0.3276 (lb/ft²)
Calculated Avg Shear Stress: 0.1955 (lb/ft²)

Channel Analysis: Citrus Section B-B

Notes:

Input Parameters

Channel Type: Trapezoidal

Side Slope 1 (Z1): 4.0000 (ft/ft)

Side Slope 2 (Z2): 4.0000 (ft/ft)

Channel Width: 8.0000 (ft)

Longitudinal Slope: 0.0075 (ft/ft)

Manning's n: 0.0350

Depth: 3.5000 (ft)

Result Parameters

Flow: 462.6459 (cfs)

Area of Flow: 77.0000 (ft²)

Wetted Perimeter: 36.8617 (ft)

Hydraulic Radius: 2.0889 (ft)

Average Velocity: 6.0084 (ft/s)

Top Width: 36.0000 (ft)

Froude Number: 0.7240

Critical Depth: 2.9886 (ft)

Critical Velocity: 7.7579 (ft/s)

Critical Slope: 0.0150 (ft/ft)

Critical Top Width: 31.9088 (ft)

Calculated Max Shear Stress: 1.6380 (lb/ft²)

Calculated Avg Shear Stress: 0.9776 (lb/ft²)

Channel Analysis: Citrus Section C-C

Notes:

Input Parameters

Channel Type: Trapezoidal

Side Slope 1 (Z1): 4.0000 (ft/ft)

Side Slope 2 (Z2): 4.0000 (ft/ft)

Channel Width: 8.0000 (ft)

Longitudinal Slope: 0.0040 (ft/ft)

Manning's n: 0.0350

Depth: 3.5000 (ft)

Result Parameters

Flow: 337.8688 (cfs)

Area of Flow: 77.0000 (ft²)

Wetted Perimeter: 36.8617 (ft)

Hydraulic Radius: 2.0889 (ft)

Average Velocity: 4.3879 (ft/s)

Top Width: 36.0000 (ft)

Froude Number: 0.5287

Critical Depth: 2.5548 (ft)

Critical Velocity: 7.2589 (ft/s)

Critical Slope: 0.0156 (ft/ft)

Critical Top Width: 28.4380 (ft)

Calculated Max Shear Stress: 0.8736 (lb/ft²)

Calculated Avg Shear Stress: 0.5214 (lb/ft²)

Channel Analysis: Norwich Section

Notes:

Input Parameters

Channel Type: Triangular
Side Slope 1 (Z1): 3.0000 (ft/ft)
Side Slope 2 (Z2): 3.0000 (ft/ft)
Longitudinal Slope: 0.0004 (ft/ft)
Manning's n: 0.0350
Depth: 4.5000 (ft)

Result Parameters

Flow: 85.5191 (cfs)
Area of Flow: 60.7500 (ft²)
Wetted Perimeter: 28.4605 (ft)
Hydraulic Radius: 2.1345 (ft)
Average Velocity: 6.2704 (ft/s)
Top Width: 40.0000 (ft)
Froude Number: 0.8967
Critical Depth: 2.1908 (ft)
Critical Velocity: 5.9391 (ft/s)
Critical Slope: 0.0186 (ft/ft)
Critical Top Width: 13.1451 (ft)
Calculated Max Shear Stress: 0.1123 (lb/ft²)
Calculated Avg Shear Stress: 0.0533 (lb/ft²)

Channel Analysis: Citrus Section A-A Minimum

Notes:

Input Parameters

Channel Type: Trapezoidal

Side Slope 1 (Z1): 4.0000 (ft/ft)

Side Slope 2 (Z2): 4.0000 (ft/ft)

Channel Width: 6.0000 (ft)

Longitudinal Slope: 0.0015 (ft/ft)

Manning's n: 0.0350

Depth: 3.5000 (ft)

Result Parameters

Flow: 183.2007 (cfs)

Area of Flow: 70.0000 (ft²)

Wetted Perimeter: 34.8617 (ft)

Hydraulic Radius: 2.0079 (ft)

Average Velocity: 2.6172 (ft/s)

Top Width: 34.0000 (ft)

Froude Number: 0.3214

Critical Depth: 2.0220 (ft)

Critical Velocity: 6.4310 (ft/s)

Critical Slope: 0.0169 (ft/ft)

Critical Top Width: 22.1764 (ft)

Calculated Max Shear Stress: 0.3276 (lb/ft²)

Calculated Avg Shear Stress: 0.1879 (lb/ft²)

Channel Analysis: Citrus Section B-B Minimum

Notes:

Input Parameters

Channel Type: Triangular
Side Slope 1 (Z1): 4.0000 (ft/ft)
Side Slope 2 (Z2): 4.0000 (ft/ft)
Longitudinal Slope: 0.0075 (ft/ft)
Manning's n: 0.0350
Depth: 3.5000 (ft)

Result Parameters

Flow: 256.4050 (cfs)
Area of Flow: 49.0000 (ft²)
Wetted Perimeter: 28.8617 (ft)
Hydraulic Radius: 1.6977 (ft)
Average Velocity: 5.3560 (ft/s)
Top Width: 29.0000 (ft)
Froude Number: 0.7261
Critical Depth: 3.0296 (ft)
Critical Velocity: 6.9840 (ft/s)
Critical Slope: 0.0162 (ft/ft)
Critical Top Width: 24.2366 (ft)
Calculated Max Shear Stress: 1.6380 (lb/ft²)
Calculated Avg Shear Stress: 0.7945 (lb/ft²)

Channel Analysis: Citrus Section C-C Minimum

Notes:

Input Parameters

Channel Type: Triangular
Side Slope 1 (Z1): 4.0000 (ft/ft)
Side Slope 2 (Z2): 4.0000 (ft/ft)
Longitudinal Slope: 0.0040 (ft/ft)
Manning's n: 0.0350
Depth: 3.5000 (ft)

Result Parameters

Flow: 187.2518 (cfs)
Area of Flow: 49.0000 (ft²)
Wetted Perimeter: 28.8617 (ft)
Hydraulic Radius: 1.6977 (ft)
Average Velocity: 3.9115 (ft/s)
Top Width: 29.0000 (ft)
Froude Number: 0.5303
Critical Depth: 2.6717 (ft)
Critical Velocity: 6.5585 (ft/s)
Critical Slope: 0.0169 (ft/ft)
Critical Top Width: 21.3733 (ft)
Calculated Max Shear Stress: 0.8736 (lb/ft²)
Calculated Avg Shear Stress: 0.4238 (lb/ft²)

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Balfour Boulevard

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1406.88	190.00	190.00	0.00	1
1406.92	192.00	192.00	0.00	1
1406.96	194.00	194.00	0.00	1
1406.99	196.00	196.00	0.00	1
1407.03	198.00	198.00	0.00	1
1407.07	200.00	200.00	0.00	1
1407.10	202.00	201.62	0.02	12
1407.12	204.00	202.61	1.10	7
1407.13	206.00	203.29	2.35	5
1407.15	208.00	203.94	3.78	5
1407.16	210.00	204.47	5.14	4
1407.10	201.56	201.56	0.00	Overtopping

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Beacon Field Road

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1413.59	200.00	200.00	0.00	1
1413.63	202.00	202.00	0.00	1
1413.67	204.00	204.00	0.00	1
1413.71	206.00	206.00	0.00	1
1413.75	208.00	208.00	0.00	1
1413.79	210.00	210.00	0.00	1
1413.81	212.00	211.22	0.48	9
1413.83	214.00	211.99	1.71	6
1413.84	216.00	212.61	3.06	5
1413.85	218.00	213.20	4.54	5
1413.86	220.00	213.69	5.93	4
1413.80	210.63	210.63	0.00	Overtopping

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Driveway #1

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1405.07	200.00	200.00	0.00	1
1405.11	202.00	202.00	0.00	1
1405.15	204.00	204.00	0.00	1
1405.19	206.00	206.00	0.00	1
1405.23	208.00	208.00	0.00	1
1405.27	210.00	210.00	0.00	1
1405.31	212.00	212.00	0.00	1
1405.35	214.00	214.00	0.00	1
1405.39	216.00	216.00	0.00	1
1405.41	218.00	217.07	0.59	8
1405.43	220.00	217.82	1.88	6
1405.40	216.43	216.43	0.00	Overtopping

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Driveway #2

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1404.26	200.00	200.00	0.00	1
1404.30	202.00	202.00	0.00	1
1404.34	204.00	204.00	0.00	1
1404.38	206.00	206.00	0.00	1
1404.42	208.00	208.00	0.00	1
1404.46	210.00	210.00	0.00	1
1404.50	212.00	212.00	0.00	1
1404.54	214.00	214.00	0.00	1
1404.58	216.00	216.00	0.00	1
1404.61	218.00	217.35	0.30	10
1404.63	220.00	218.14	1.51	6
1404.60	216.94	216.94	0.00	Overtopping

HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: Norwich Drive

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1403.06	170.00	170.00	0.00	1
1403.08	171.00	171.00	0.00	1
1403.09	172.00	172.00	0.00	1
1403.11	173.00	173.00	0.00	1
1403.13	174.00	174.00	0.00	1
1403.15	175.00	175.00	0.00	1
1403.16	176.00	176.00	0.00	1
1403.18	177.00	177.00	0.00	1
1403.20	178.00	178.00	0.00	1
1403.21	179.00	178.32	0.40	6
1403.22	180.00	178.51	1.16	5
1403.20	178.10	178.10	0.00	Overtopping





TECHNICAL MEMORANDUM

Martin Acres Design Concept Report Data Collection

Interim scope

The interim scope per Flood Control District of Maricopa County (FCD) contract FCD 2009C036.3 is as follows:

- 21.3.1 The Consultant shall collect and review pertinent data from the District, the City, MCDOT, ADOT and others.
- 21.3.2 The Consultant shall research and obtain data regarding public and private utilities in the project area. Utility data to be collected include, but are not limited to, the location of below-ground and above-ground utilities and high pressure gas pipelines. The Consultant shall research and obtain data regarding proposed and/or future public utilities within the project area.
- 21.3.3 Locate and map on-site wastewater treatment and disposal facilities located within those lots within Martin Acres that would be affected by potential channel alignments shall be identified. On-site wastewater treatment and disposal facilities locations to be identified include septic tanks, leachfields and leachfield reserve (replacement) areas. For the purpose of this Scope of Work, up to 20 lots will be mapped.
- 21.3.4 The Consultant shall research and obtain historic flooding and flood hazard data for the Project area and shall provide a description of the nature and extent of each problem that is identified. The Consultant shall identify the number and locations of residential and non-residential structures that are located within the floodway and the floodplain. The Consultant shall collect data obtained from questionnaires returned to the District by project area residents and property owners.
- 21.3.5 The Consultant shall obtain from the District relevant GIS and topographic data for the project area and a project-level Landscape Inventory Analysis.
- 21.3.6 The Consultant shall determine the hydraulic capacity of applicable culverts and bridges.
- 21.3.7 The Consultant shall determine the approximate hydraulic capacity of the existing wash located within Martin Acres with respect to a non-damaging rate of flow to existing structures.



21.3.8 The Consultant shall prepare a Project Base Map in CAD that identifies the following data and other data as necessary to sufficiently represent existing conditions within the project area:

- a. Topography and relevant GIS data obtained from the District;
- b. Locations of known flooding and flood hazards;
- c. Rights-of-way, property boundaries and land ownership based upon Maricopa County Assessor's Maps;
- d. Field topography collected by the Consultant;
- e. Relevant on-site wastewater and treatment facilities.

21.3.9 The Consultant shall compile the collected data and summarize the existing conditions evaluation in a Data Collection Memorandum to be included as an appendix to the DCR.

Data Collection

A. Flood Control District of Maricopa County

- Aerial topography (Project ID/Name: 1209/Wittmann Mapping)
- 2010 Aerial photography provided
- *Wittmann Area Drainage Master Study Update* (Entellus, 2005)
- *Wittmann Area Drainage Master Plan* (Entellus, 2009)
- *Happy Valley Design Concept Report* (RBF Consulting, 2010)

B. City of Surprise

- Asante Construction Plans
- *Technical Memorandum – Martin Acres Drainage Improvements* (J2 Engineering, 2005)
- *Plans for the Construction of Martin Acres Drainage Improvements* (J2 Engineering, 2005)
- *Preliminary Master Drainage Report for Burke Property, Units A-H* (DEI, 2006)
- *Master Drainage Report for Asante Including Phases I & II* (DEI, 2005)
- *Master Drainage Report for Asante Including Phases III & IV* (DEI, 2007)
- *Master Drainage Report for Asante North Phase I* (DEI, 2007)
- *Preliminary Master Drainage Report for “Austin Ranch East”* (Sage Engineering, 2007)
- *Preliminary Master Drainage Report for Austin Ranch West* (Sage Engineering, 2005)

C. Maricopa County Assessor's Office

- GIS Data: section lines, city annexations, parcels, and subdivision boundaries



D. Miscellaneous Data

- Master Photo Reconnaissance (G&M, 2011)
- Property Data for Martin Acres and surrounding properties (Maricopa County Assessor's Website)
- 2005 FEMA Maps with LOMRs
 - Map Number 04013C1130G dated September 30, 2005
 - LOMR Case No. 08-09-0814P
 - LOMR Case No. 09-09-2388P
 - Map Number 04013C1135G dated September 30, 2005
 - LOMR Case No. 07-09-0388P
 - LOMR-F Case No. 08-09-1738A
 - LOMR Case No. 09-09-2388P
- Existing Utility Maps
 - APS
 - Qwest
 - Southwest Gas
 - Beardsley Water
- Field Survey Data (Arizona Survey and Mapping, 2011)
- Returned Martin Acres Flooding Issues Questionnaire
- Notes from Property Owner Interviews (G&M, 2011)

E. Outstanding Data

- Maricopa County Department of Environmental Services Records for Locations of Septic Tanks and Leachfields

Data Utilized

To date, the following data has been utilized for the Existing Conditions Hydrology & Hydraulic Analyses, as well as throughout the Alternative Analysis process. This list is subject to change as new data is collected or existing data is determined to be relevant through the Alternative Analysis process. Pertinent data has been extracted from its sources and organized in the attached Data Collection Binder. Additionally, the attached Base Map and Property Ownership Map for Martin Acres have been created with the data utilized.

A. Flood Control District of Maricopa County

- Aerial topography (Project ID/Name: 1209/Wittmann Mapping)



- 2010 Aerial photography provided
- *Wittmann Area Drainage Master Study Update, Volume HY* (Entellus, 2005)
- *Wittmann Area Drainage Master Study Update, Volume HD* (Entellus, 2005)
- *Wittmann Area Drainage Master Study Update, Volume GR* (West, 2005)
- *Happy Valley Design Concept Report* (RBF Consulting, 2010)

B. City of Surprise

- *Technical Memorandum – Martin Acres Drainage Improvements* (J2 Engineering, 2005)
- *Plans for the Construction of Martin Acres Drainage Improvements* (J2 Engineering, 2005)
- *Preliminary Master Drainage Report for Burke Property, Units A-H* (DEI, 2006)
- *Master Drainage Report for Asante Including Phases I & II* (DEI, 2005)
- *Preliminary Master Drainage Report for “Austin Ranch East”* (Sage Engineering, 2007)

C. Maricopa County Assessor’s Office

- GIS Data: section lines, city annexations, parcels, and subdivision boundaries

D. Miscellaneous Data

- Master Photo Reconnaissance (G&M, 2011)
- Property Data for Martin Acres and surrounding properties (Maricopa County Assessor’s Website)
- Existing Utility Maps
 - APS
 - Qwest
 - Southwest Gas
 - Beardsley Water
- Field Survey Notes (Arizona Survey and Mapping, 2011)
- Returned Martin Acres Flooding Issues Questionnaire
- Notes from Property Owner Interviews (G&M, 2011)



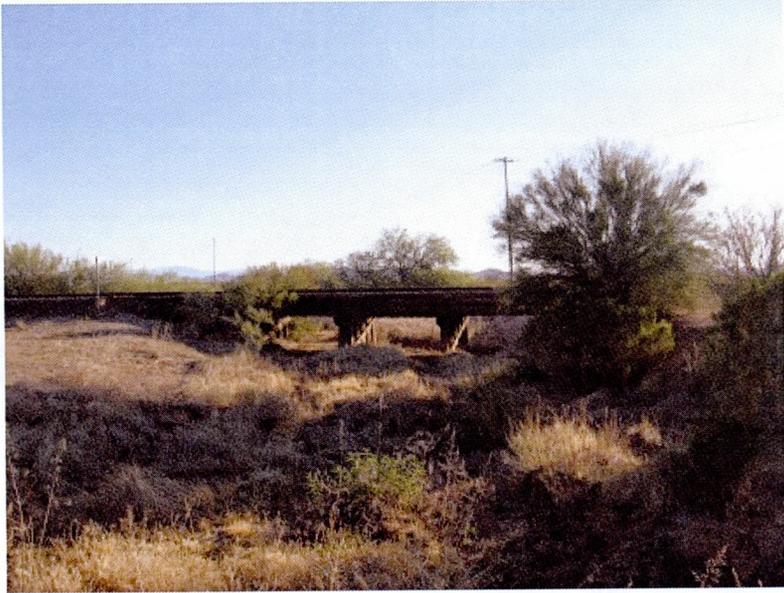


Photo 232 - Looking Northwest to Railroad trestle on the north side of US 60.



Photo 234 - Looking Southeast to 4 barrel 4'x10' box culvert under highway.



Photo 235 - Looking westerly up the drainage ditch on south side of highway from centerline of Happy Valley Road.



Photo 236 - From bottom of drainage in #235 looking east to 2 36" pipes under Happy Valley Road.



Photo 237 - Looking easterly down the drainage ditch south side of highway from Happy Valley Road.



Photo 238 - From south bank of ditch #237 looking at the 2 36" pipes under Happy Valley Road.

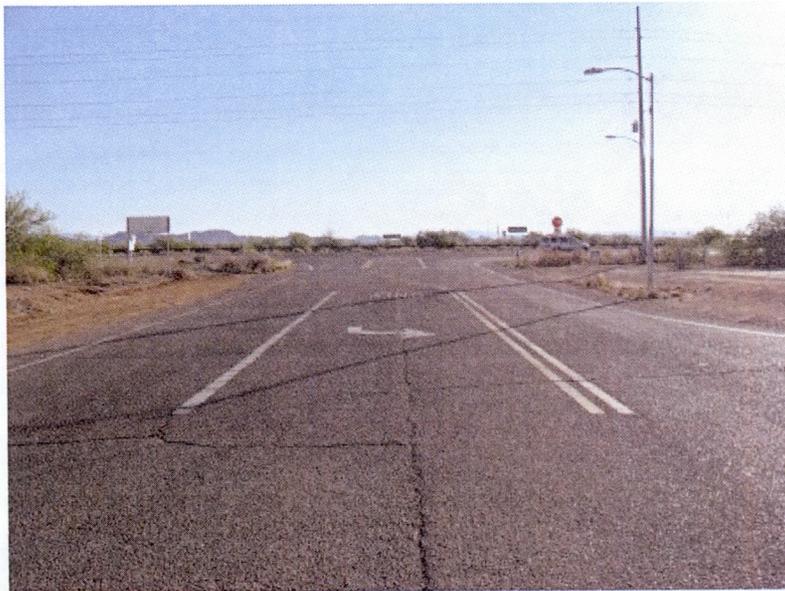


Photo 239 - From Intersection of Happy Valley Road and Citrus Road looking NE to Highway.

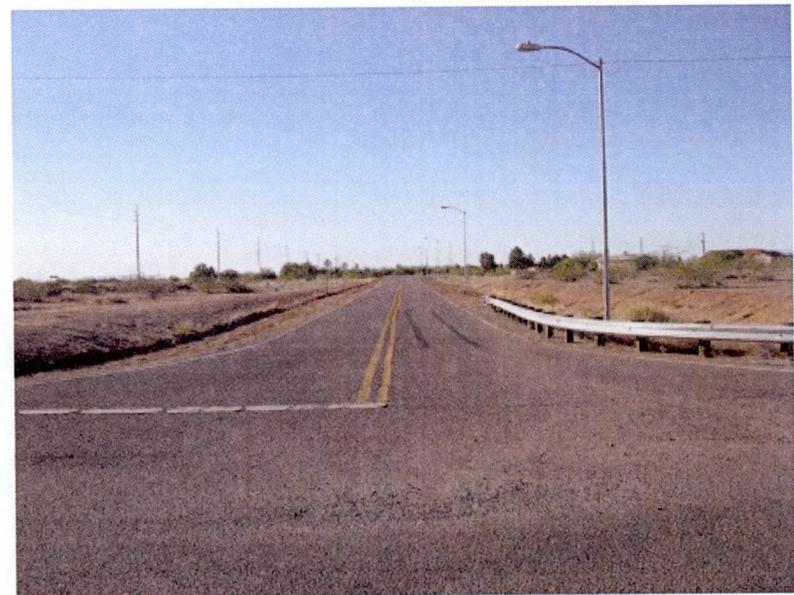


Photo 240 - Same location as 239 looking SE down Citrus Road.

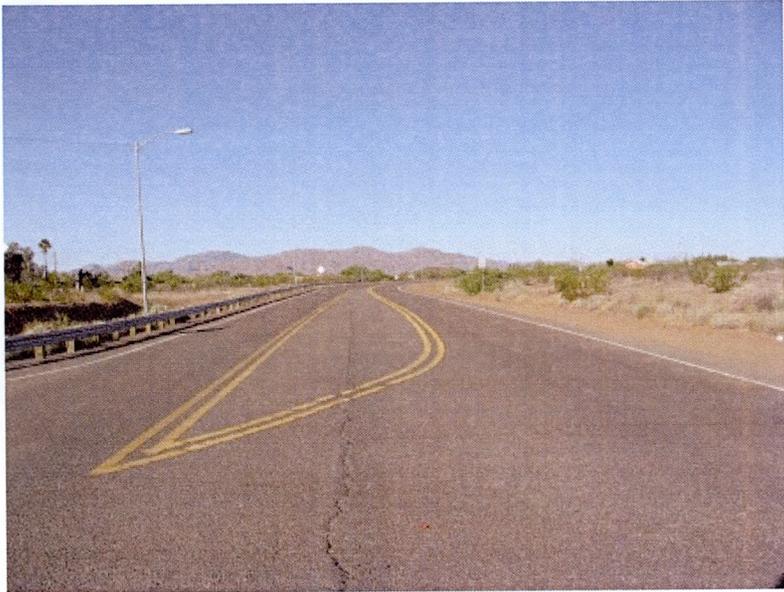


Photo 241 - Same location as 239 looking SW down Happy Valley Road.

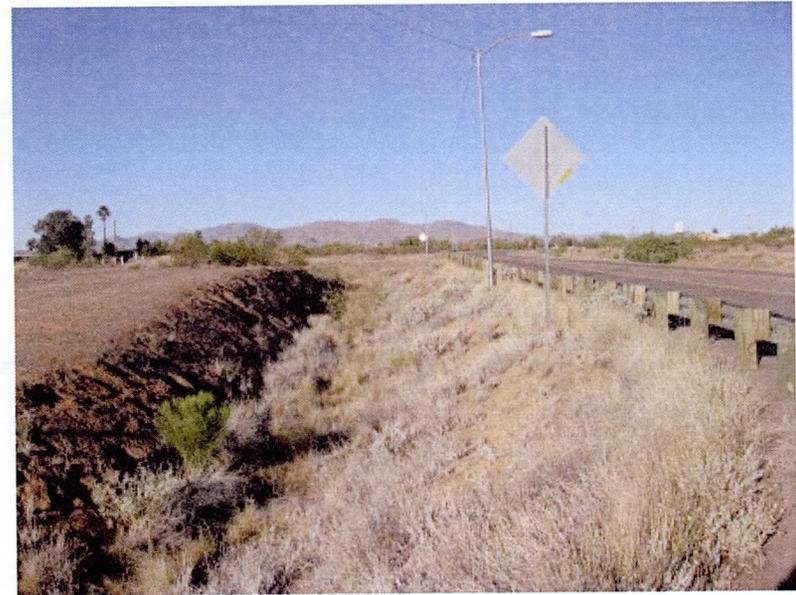


Photo 242 - Looking SW down drainage ditch on the southeastern side of Happy Valley Road.



Photo 243 - Looking SW down drainage ditch on the southeastern side of Happy Valley Road.



Photo 244 - Looking SW down drainage ditch on the southeastern side of Happy Valley Road.

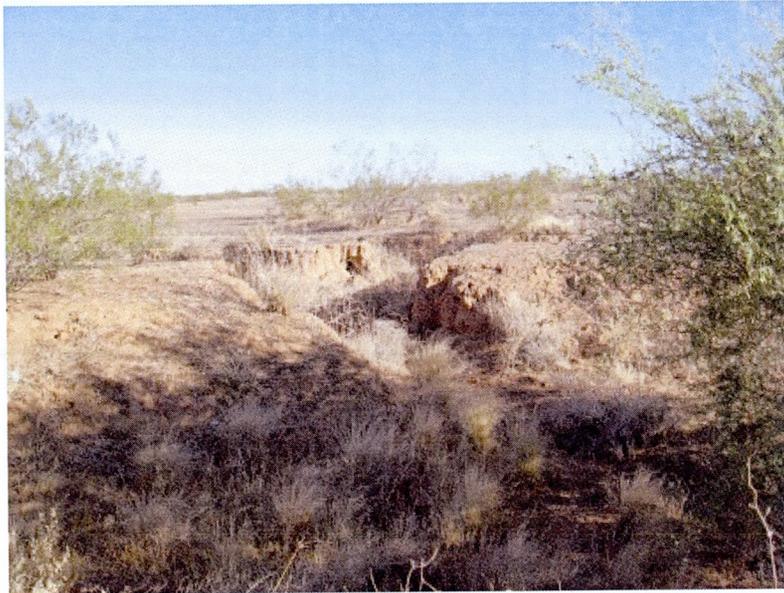


Photo 246 - From shoulder of North side of Happy Valley Road looking NE up drainage into culvert in 244 above.



Photo 247 - From above the culvert in 244 above looking NE up the bladder ditch north side of Happy Valley Road.



Photo 248 - Same location as 247 above looking SW up drainage ditch north side of Happy Valley Road.



Photo 249 - South side of Happy Valley Road at exit headwall of culvert in 244 above looking NE at the drainage ditch on the southeastern side of Happy Valley Road.



Photo 250 - Looking north at the 3'x6' outlet of the culvert in 244 above.

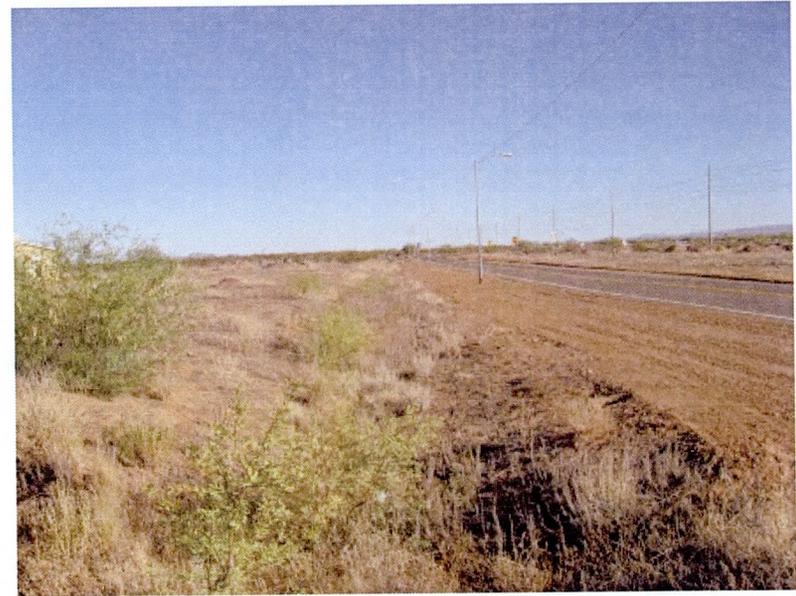


Photo 251 - Looking NW at drainage ditch 20' bank-bank & 2' bottom at intersection of Old Happy Valley Road and Citrus Roads.

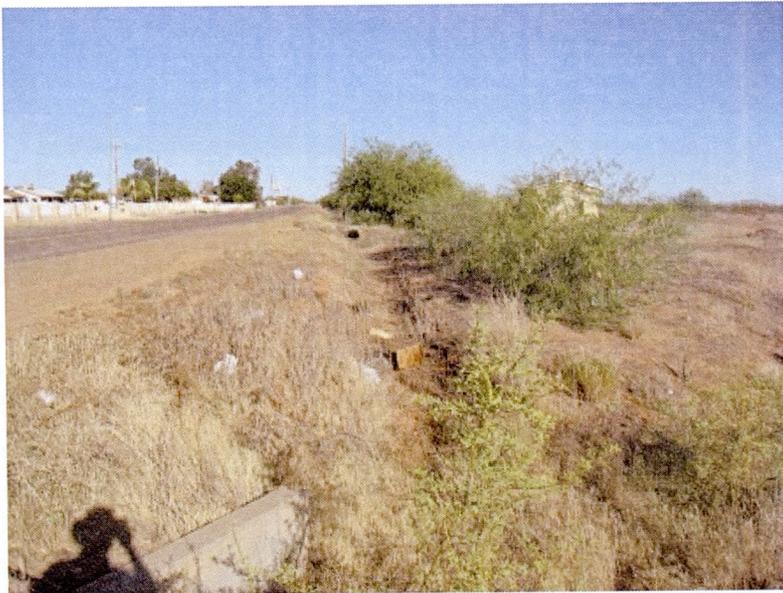


Photo 252 - Looking west at drainage ditch 10' bk-bk & 2' bottom north side of old Happy Valley Road from Citrus Road intersection.

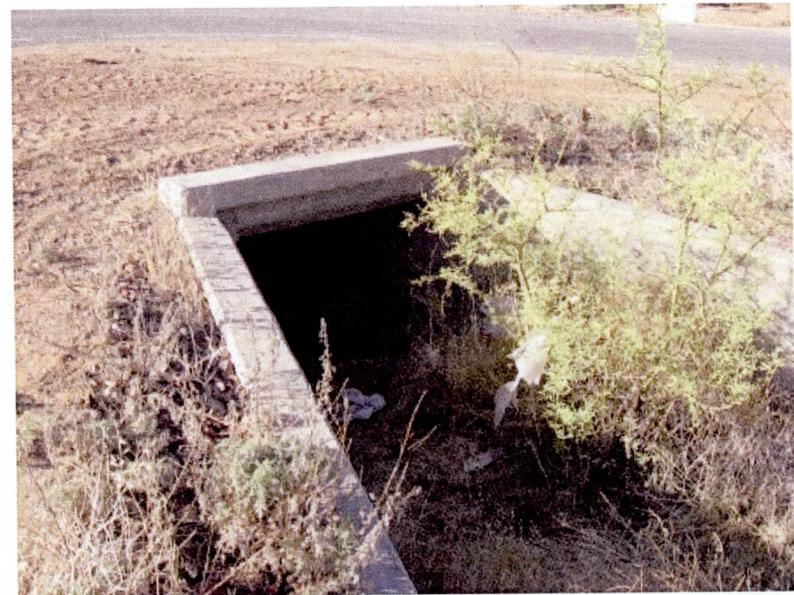


Photo 253 - Looking SE at 4'x6' culvert in the NW quadrant of the intersection of Old Happy Valley Road and Citrus Roads crossing SE across Old Happy Valley Road.

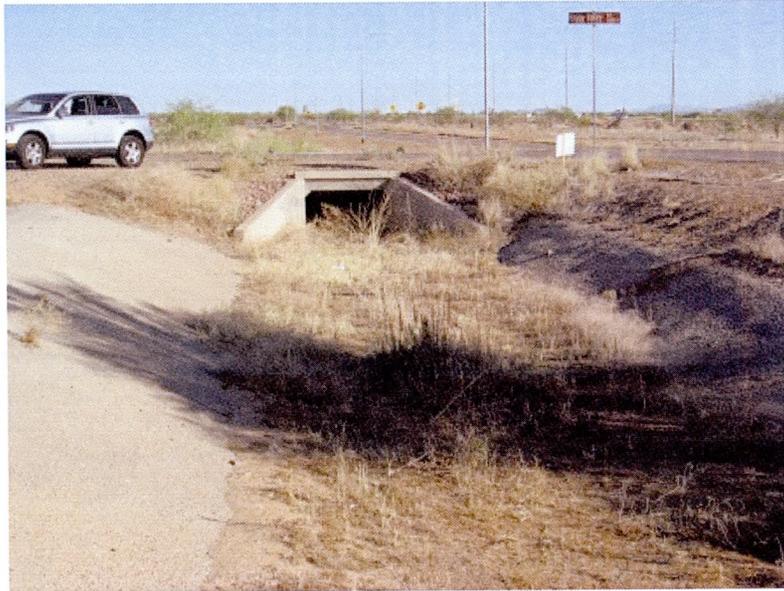


Photo 254 - Looking NW at the outlet end of culvert listed in #253 on south side of Old Happy Valley Road.



Photo 255 - Looking NE at 4'x6' culvert at south side of Citrus Road. Culvert under Citrus Road.

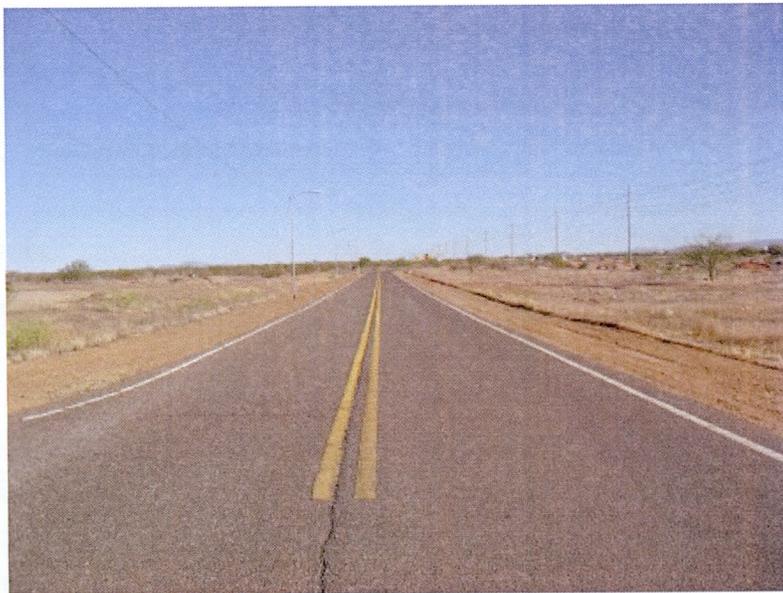


Photo 256 - Looking NW at Citrus Road at intersection of Citrus Road and Old Happy Valley Road.



Photo 257 - Looking SW at Old Happy Valley Road at intersection of Citrus Road and Old Happy Valley Road.



Photo 258 - Looking West at Old Happy Valley Road at intersection of Citrus Road and Old Happy Valley Road.

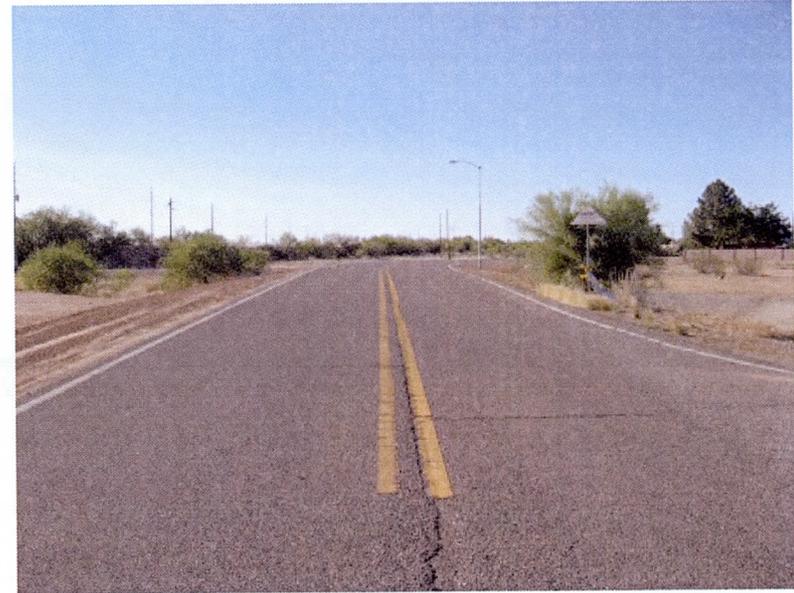


Photo 259 - Looking SE at Citrus Road at intersection of Citrus Road and Old Happy Valley Road.



Photo 260 - Looking NE up drainage ditch from end of culvert in #255 above.



Photo 261 - Looking SW at the end of the culvert mentioned in #255 above.



Photo 262 - Looking NW up drainage ditch on the south side of US 60 at the N/S culvert under US 60.

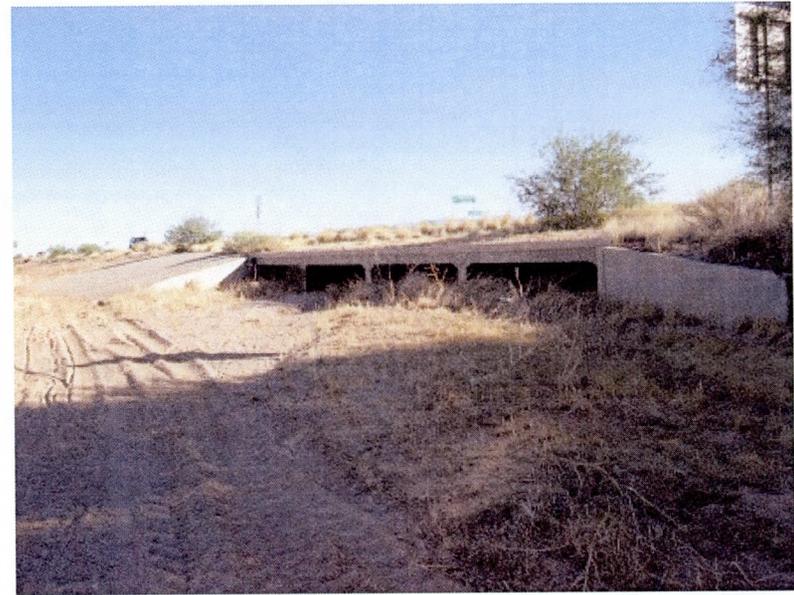


Photo 263 - Looking NNW at the south end of the culvert listed in picture 234.



Photo 264 - At location of #263 above looking downstream of drainage ditch south side US 60.

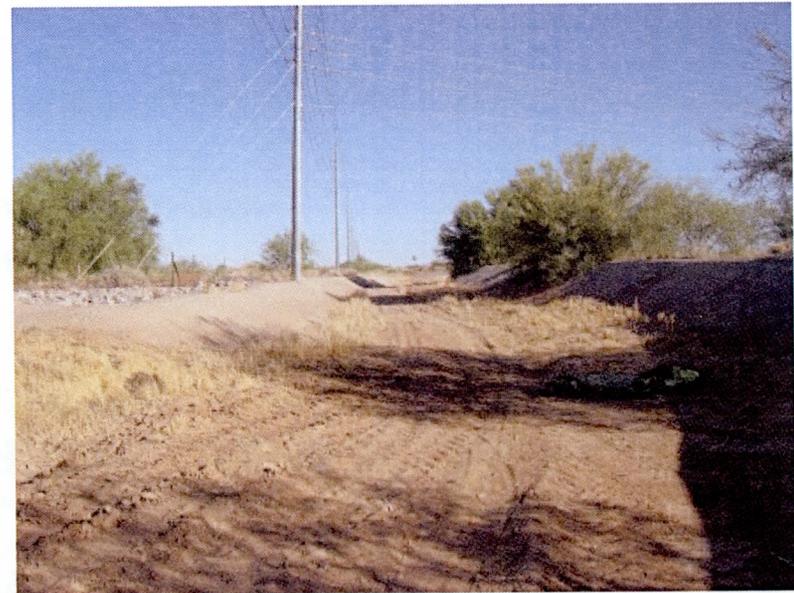


Photo 265 - Looking NW at the intersection of ditch in picture #261 & #263.



Photo 266 - At location of picture #265 looking SE into wash past ditch intersection.



Photo 267 - Another picture of wash mentioned in #266 above slightly farther down wash area showing the drastic change in size.



Photo 276 - Another picture about 20' +/- downstream from picture #267.



Photo 277 - From above the ditch in picture 276 above looking into the ditch from SW bank.



Photo 278 - Small ditch from drainage on the east side of Citrus Road at angle point towards ditch in #267 above.



Photo 279 - Looking south at picture #278 location to the graded "V" ditch east side of Citrus Road.



Photo 280 - At the East edge of Citrus Road in center of curve looking NW up roadway.

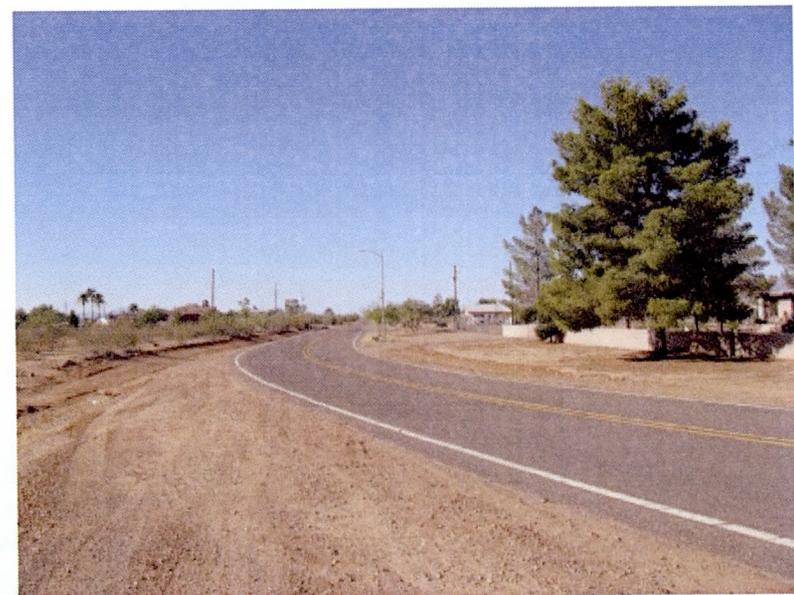


Photo 281 - Same location as #280 looking SE down Citrus Road.

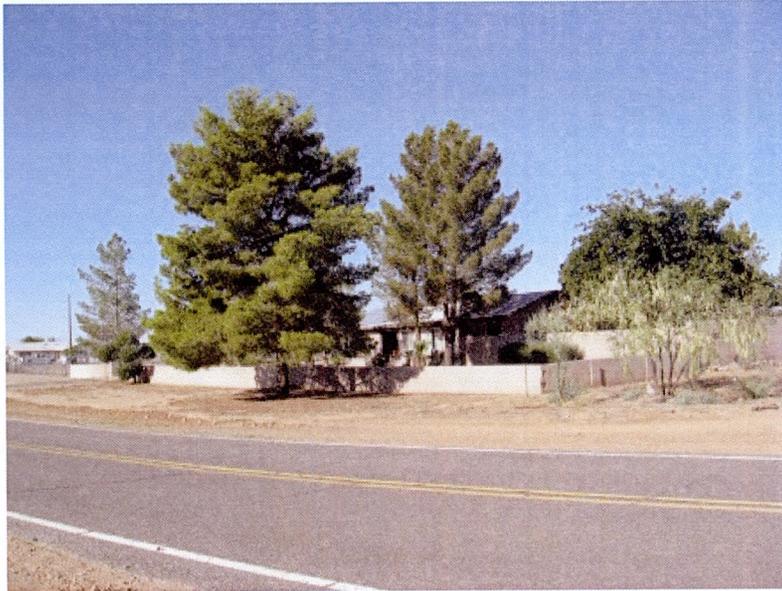


Photo 282 - Picture of house located on Parcels 503-73-087H/
305-73-087L west side of Citrus Road and North of Faye Way.



Photo 283 - Looking North at Citrus Road at the intersection of
Citrus Road and Faye Way.



Photo 284 - Looking West at Faye Way at the intersection of Citrus
Road and Faye Way.

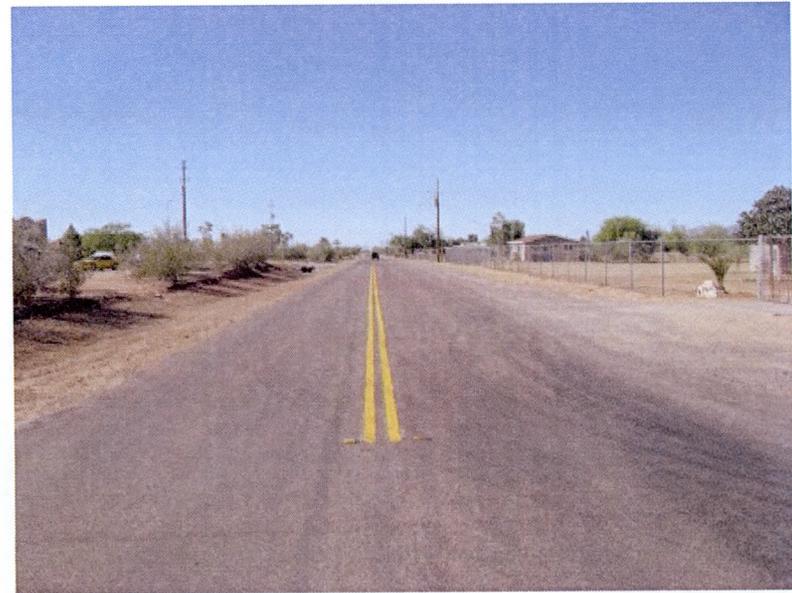


Photo 285 - Looking South at Citrus Road at the intersection of
Citrus Road and Faye Way.



Photo 286 - House located at the SW corner of Citrus Road and Roads.



Photo 287 - At the NW quadrant of Citrus Road and Faye Way Faye looking east at 18" CMP pipe draining across Citrus Road.



Photo 288 - In center of ditch on the east side of Citrus Road and looking north. Ditch has 30' bk-bk and 2' bottom.



Photo 289 - At same location as #288 looking south at ditch east side of Citrus Road. Same size ditch +/-.



Photo 290 - Looking NW at 18" CMP Pipe and Headwall from #287



Photo 291 - Looking North at Citrus Road from intersection of Citrus Road and Beacon Field Blvd.



Photo 292 - Looking East at Beacon Field Blvd. from intersection of Citrus Road and Beacon Field Blvd.



Photo 293 - Looking south at Citrus Road from intersection of Citrus Road and Beacon Field Blvd.



Photo 294 - Looking SE into dirt ditch east side of Citrus Road and the north end of 2 18" CMP crossing under Beacon Field Blvd.



Photo 295 - Looking NE from intersection area at house located on Lot #40 Martin Acres.



Photo 296 - Looking SE from intersection area at house located on Lot #39 Martin Acres.



Photo 297 - Looking SW from intersection area at house located on Parcel #503-73-759.

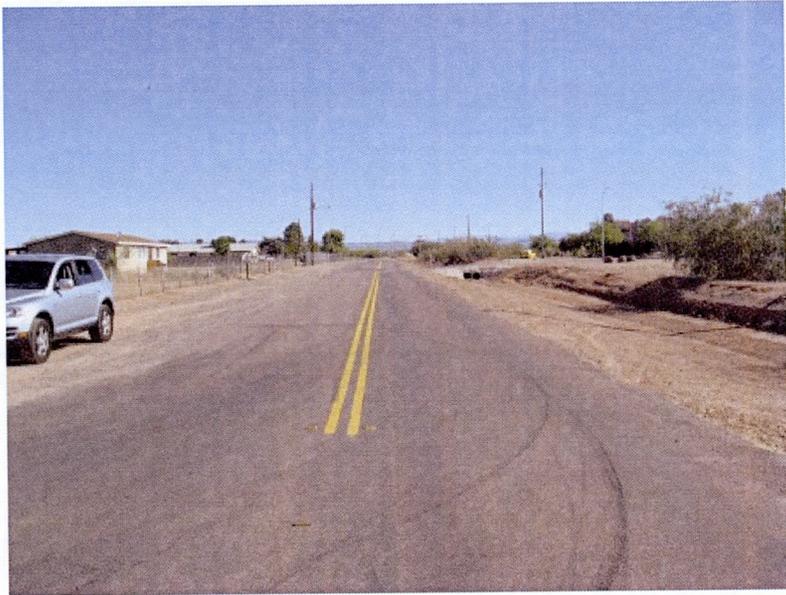


Photo 298 - At intersection of Citrus Road and Enoch Drive looking north at Citrus Road.



Photo 299 - At intersection of Citrus Road and Enoch Drive looking west at Enoch Drive.

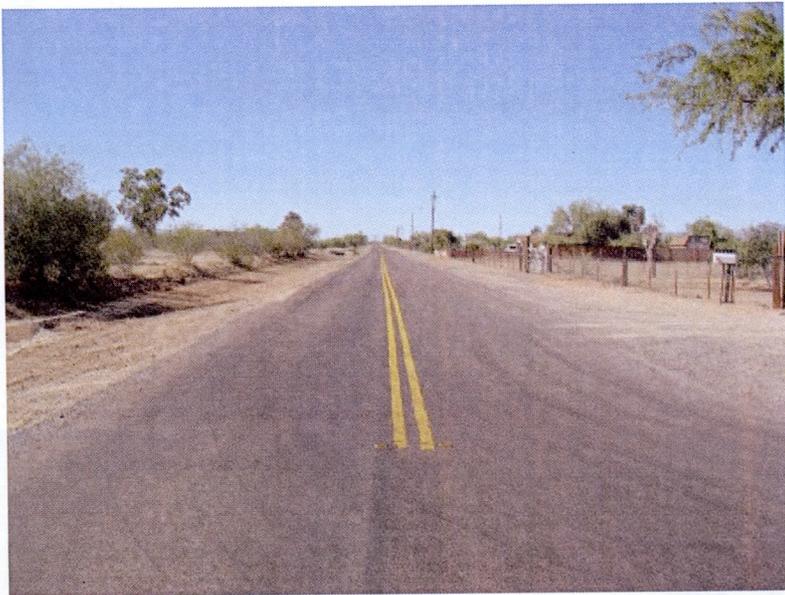


Photo 300 - At intersection of Citrus Road and Enoch Drive looking south at Citrus Road.



Photo 301 - At the SW quadrant of Citrus Road and Enoch Drive looking at 15" CMP running across Citrus Road into dirt ditch east side of roadway.



Photo 302 - In center of dirt ditch east side of Citrus Road at the intersection in #298 above looking north at center of ditch.



Photo 303 - Looking south from same location as #302 above at ditch.



Photo 304 - The end of the 15" pipe & headwall from #301 above the west side of dirt ditch as seen in picture #303.



Photo 305 - From the intersection of Citrus Road and Enoch Drive looking SW at house located Parcel #503-73-759.



Photo 306 - From Citrus Road looking NW at house located on Parcel #503-73-023V.

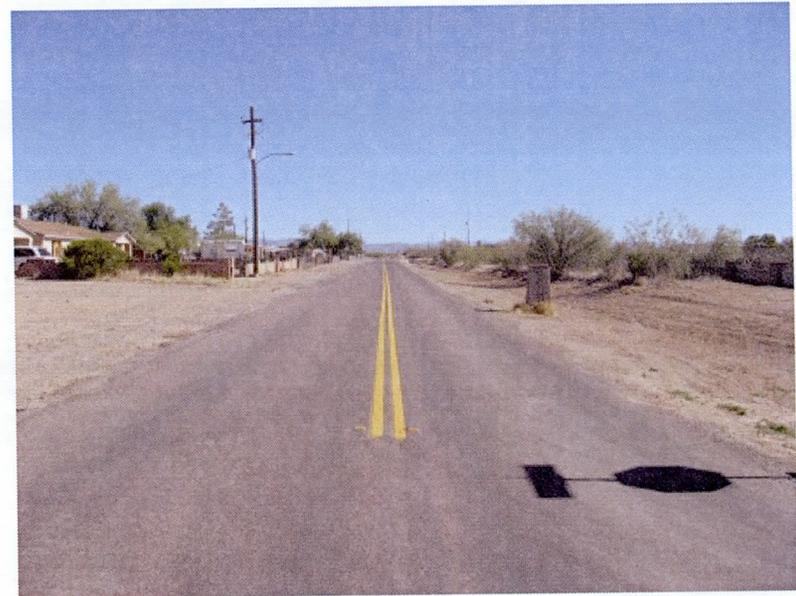


Photo 307 - At the intersection of Citrus Road and Balfour Blvd. looking north at Citrus Road.



Photo 308 - At the intersection of Citrus Road and Balfour Blvd. looking east at Balfour Blvd.



Photo 309 - At the same intersection as #306 above looking NE at house on Lot #35 in Martin Acres.



Photo 310 - At same location as #309 above looking SE at house on Lot #34 in Martin Acres.



Photo 311 - From Citrus Road looking SW at the 2-30" CMP pipes from north to south under Balfour Blvd.



Photo 312 - At the NW corner of the intersection of Citrus Road Audry Lane looking east at 15" CMP pipe across Citrus Road.



Photo 313 - At the intersection of Citrus Road and Audry Lane and looking west at Audry Lane.

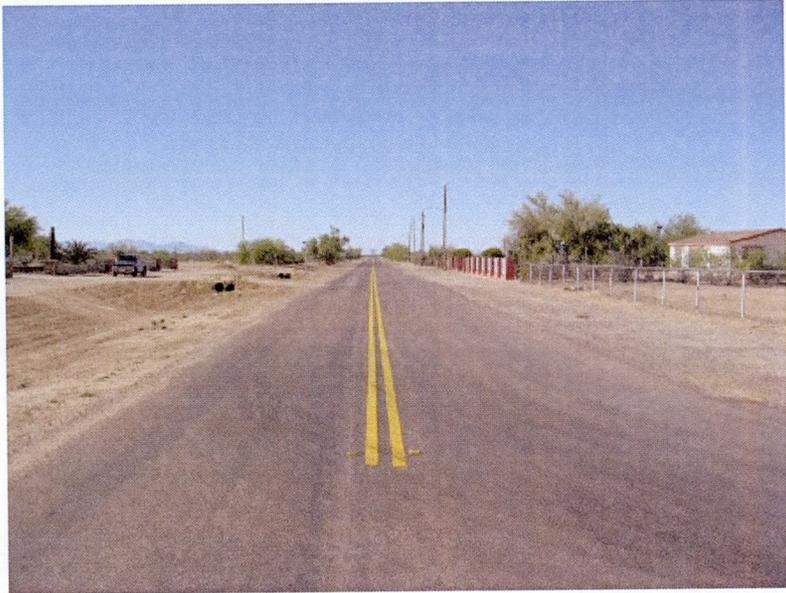


Photo 314 - At the intersection of Citrus Road and Audry Lane looking south at Citrus Road.



Photo 315 - From dirt ditch looking NW at end of 15" pipe listed in #312 above.



Photo 316 - From Citrus Road looking SE at house located on Lot #33 of Martin Acres.



Photo 317 - Looking SE at the north end of 2-24" Corrugated Pipes under north driveway to Lot #33.



Photo 318 - Looking SE at the north end of 2-24" Corrugated Pipes under south driveway to Lot #33.



Photo 319 - From Citrus Road north of the intersection with Norwich Drive looking NW at a house located on Parcel 503-73-093.

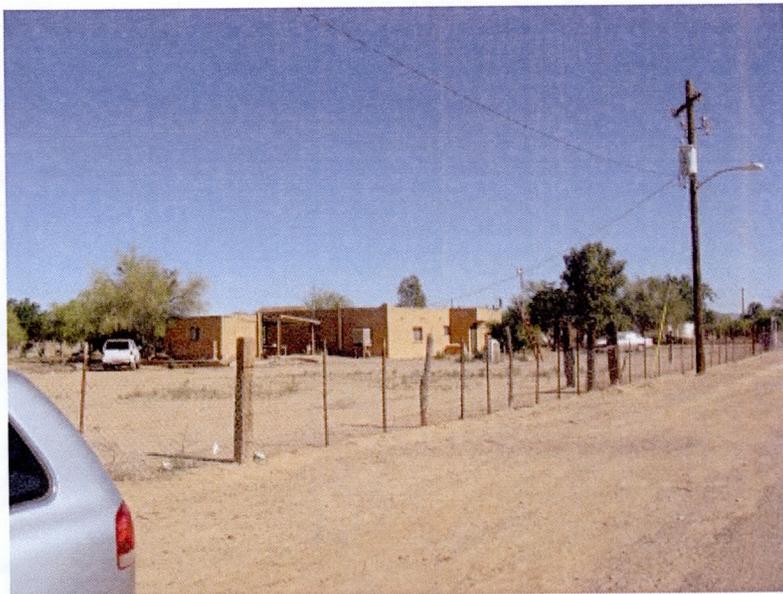


Photo 320 - From Citrus Road just north of the intersection with Norwich Drive looking NW at a house located on Parcel 503-73-023L.

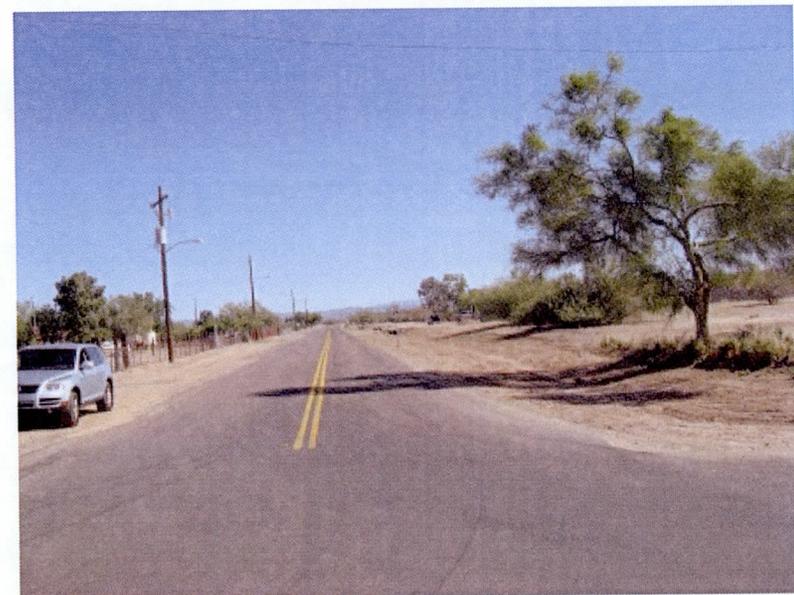


Photo 321 - At the intersection of Citrus Road and Norwich Drive looking north at Citrus Road.



Photo 322 - At the intersection of Citrus Road and Norwich Drive looking west at Norwich Drive.

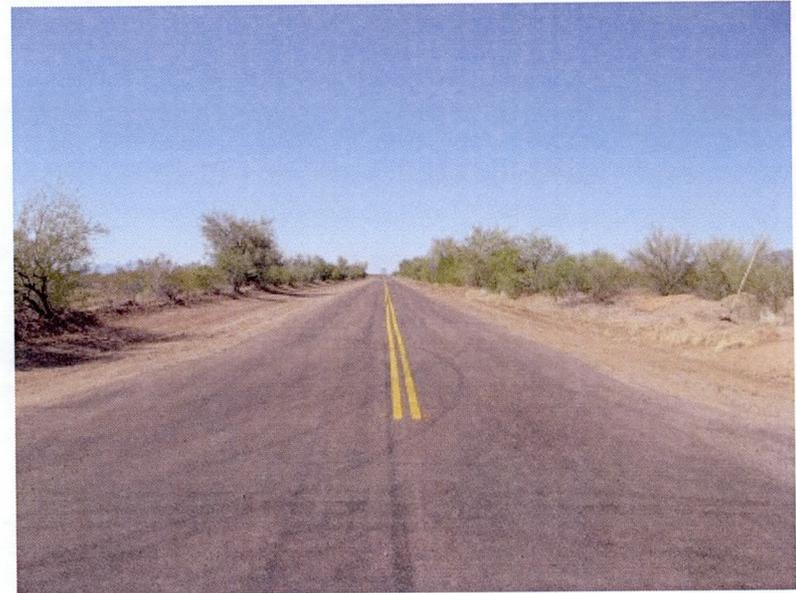


Photo 323 - At the intersection of Citrus Road and Norwich Drive looking south at Citrus Road.



Photo 324 - At the intersection of Citrus Road and Norwich Drive looking east at Norwich Drive.

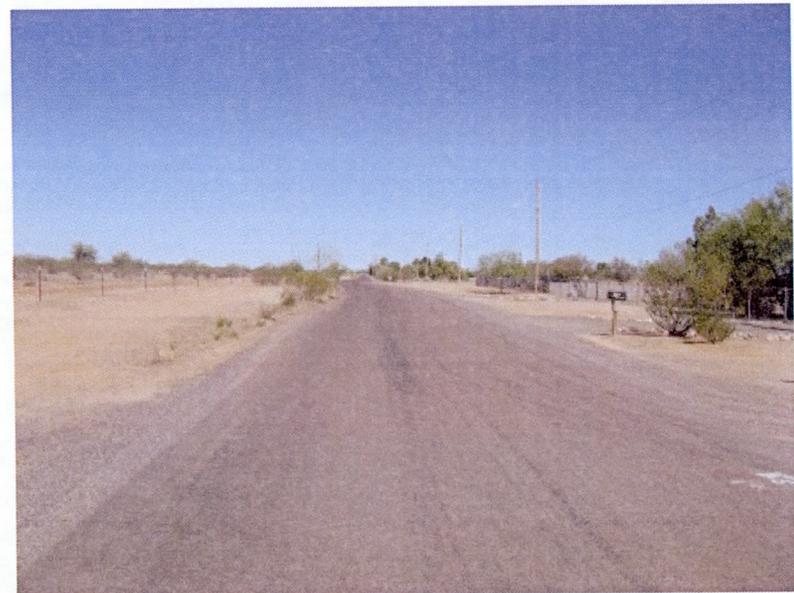


Photo 325 - At the intersection of Norwich Drive and Balfour Blvd. looking west along Norwich Drive.



Photo 326 - At the intersection of Norwich Drive and Balfour Blvd. looking north at Balfour Blvd.



Photo 327 - At the intersection of Norwich Drive and Balfour Blvd. looking east along Norwich Drive.



Photo 328 - At low point in Norwich Drive at Lots #26/27 +/- looking west along Norwich Drive.



Photo 329 - At low point in Norwich Drive at Lots #26/27 +/- looking north from roadway.



Photo 330 - At low point in Norwich Drive at Lots #26/27 +/- looking east along Norwich Drive.



Photo 331 - At low point in Norwich Drive at Lots #26/27 +/- looking south from roadway.



Photo 332 - At same location as #328-331 looking NE at horse and house on Lot #26.

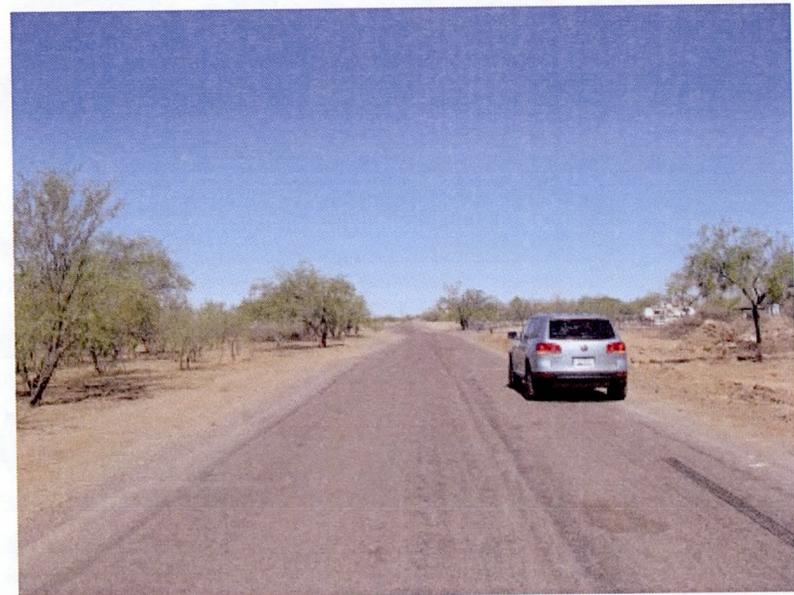


Photo 333 - At intersection of Norwich Drive and Beacon Field Blvd looking west along Norwich Drive.



Photo 334 - At same location as #333 looking north into what should be Beacon Field Blvd.

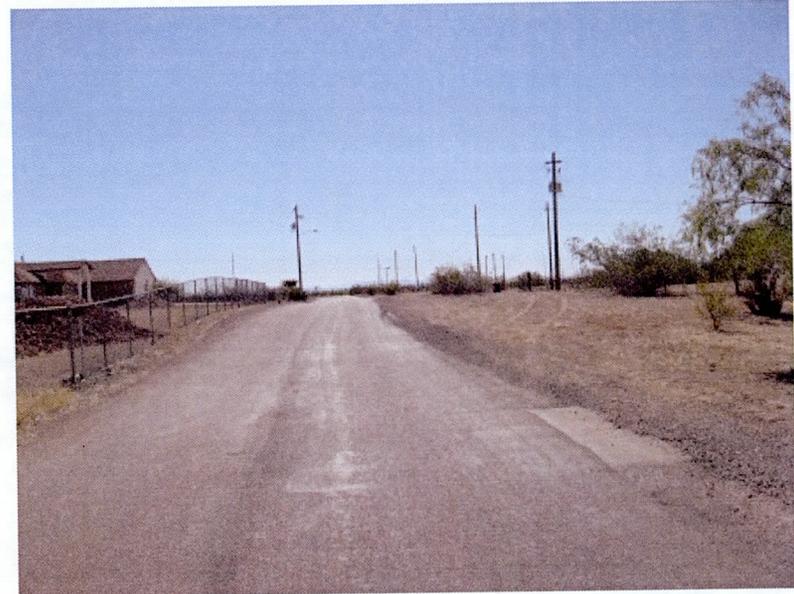


Photo 335 - At same location as #333 looking east along Norwich Drive.



Photo 338 - Looking north from Norwich Drive at house on Lot #23.



Photo 339 - Looking south from Norwich Drive at house located on Parcel #503-70-008J.

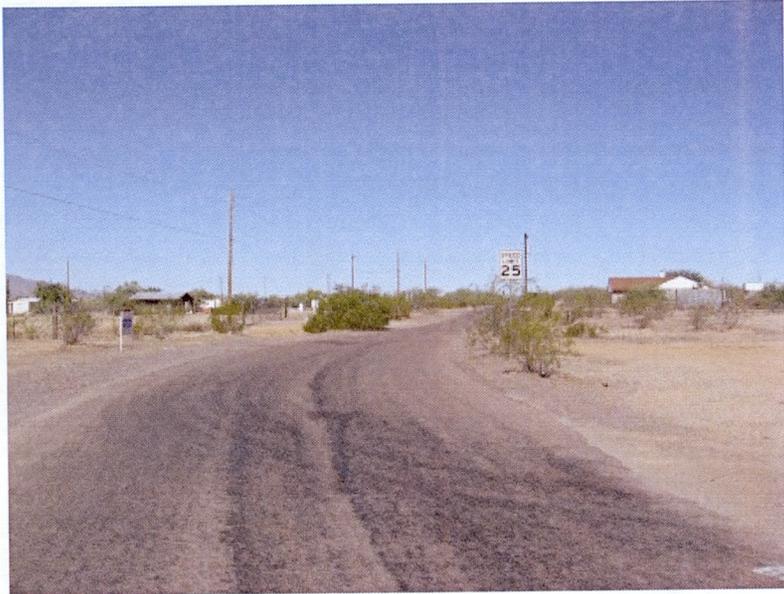


Photo 340 - At the intersection of the field location of Beacon Field Blvd. and Norwich Drive looking west along Norwich Drive.



Photo 341 - At the intersection of the field location of Beacon Field Blvd. and Norwich Drive looking NW at Beacon Field Blvd.



Photo 342 - At the intersection of the field location of Beacon Field Blvd. and Norwich Drive looking easterly towards US 60 along Norwich Drive.



Photo 343 - From Beacon Field Blvd. looking NE at house on Lot #43 Martin Acres.

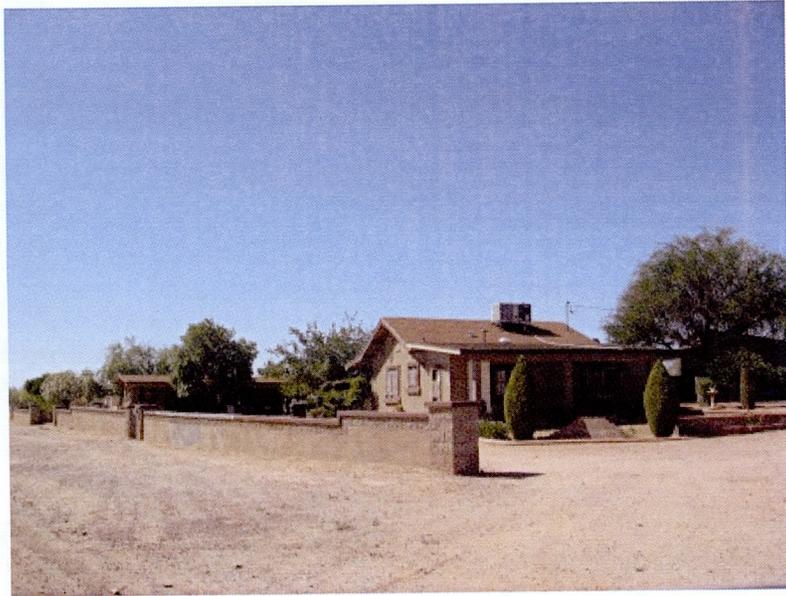


Photo 344 - From Beacon Field Blvd. looking south at house on Lot #62 Martin Acres.



Photo 345 - From Beacon Field Blvd. looking NE at house on Lot #44 Martin Acres.



Photo 346 - From Beacon Field Blvd. looking NE at house on Lot #45 Martin Acres.

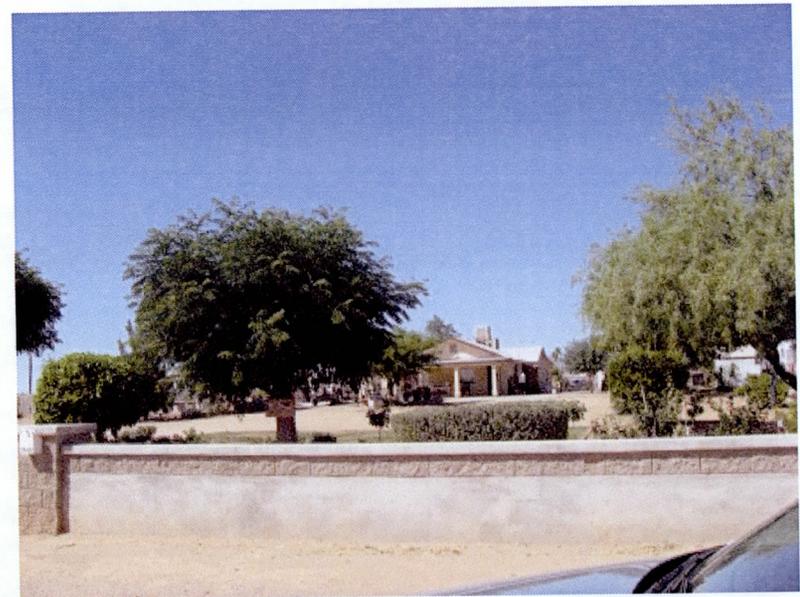


Photo 347 - From Beacon Field Blvd. looking SW at house on Lot #61 Martin Acres.



Photo 348 - From Beacon Field Blvd. looking NE at house on Lot #46 Martin Acres.

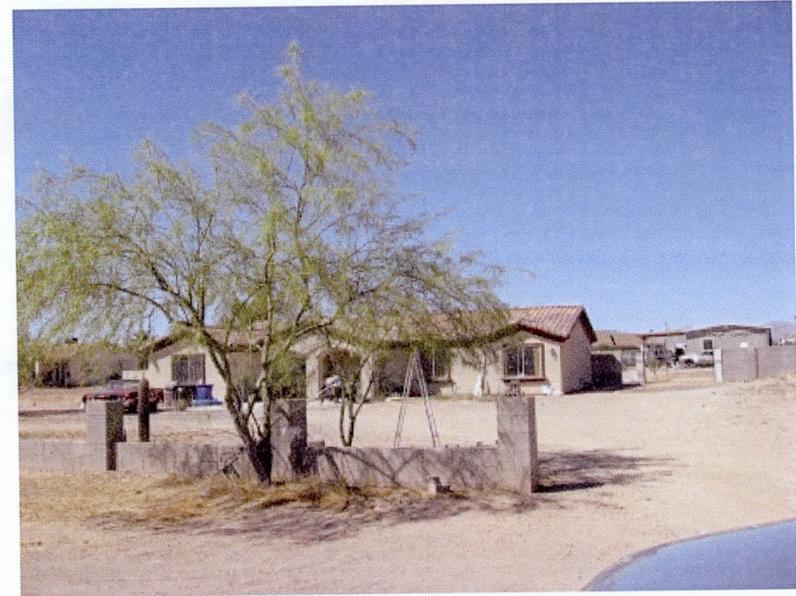


Photo 349 - From Beacon Field Blvd. looking SW at house on Lot #60 Martin Acres.

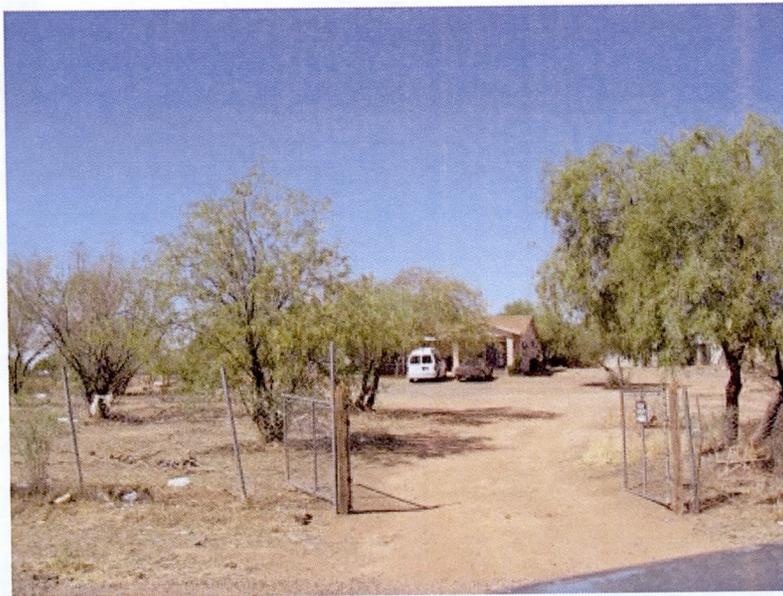


Photo 350 - From Beacon Field Blvd. looking SW at house on Lot #59 Martin Acres.



Photo 351 - From center of Beacon Field Blvd. looking west down roadway.



Photo 352 - Same location as #351 looking NE from roadway.



Photo 353 - Same location as #351 looking SE from roadway.



Photo 354 - From intersection of Beacon Field Blvd. and an alley looking east down alley.



Photo 355 - Same location as #354 looking NW along mapped Beacon Field Blvd.



Photo 356 - Same location as #354 looking west along alleyway.



Photo 357 - Same location as #354 looking SE into what should be Beacon Field Blvd.

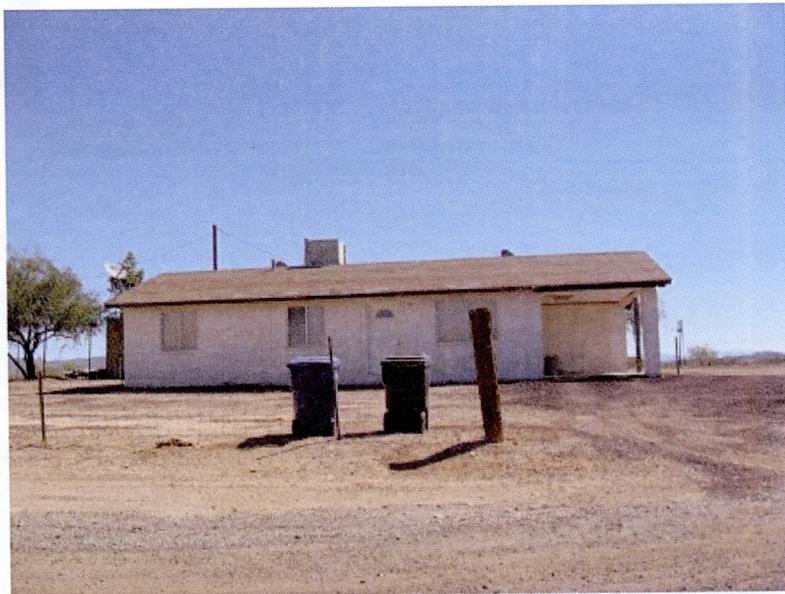


Photo 358 - Same location looking NE at house located on Lot# 53 in Martin Acres.



Photo 359 - Same location looking NW at house located on Lot# 54 in Martin Acres.



Photo 360 - At a location in the mapped alleyway on the north side of Lot #27 +/- looking east down the alleyway.

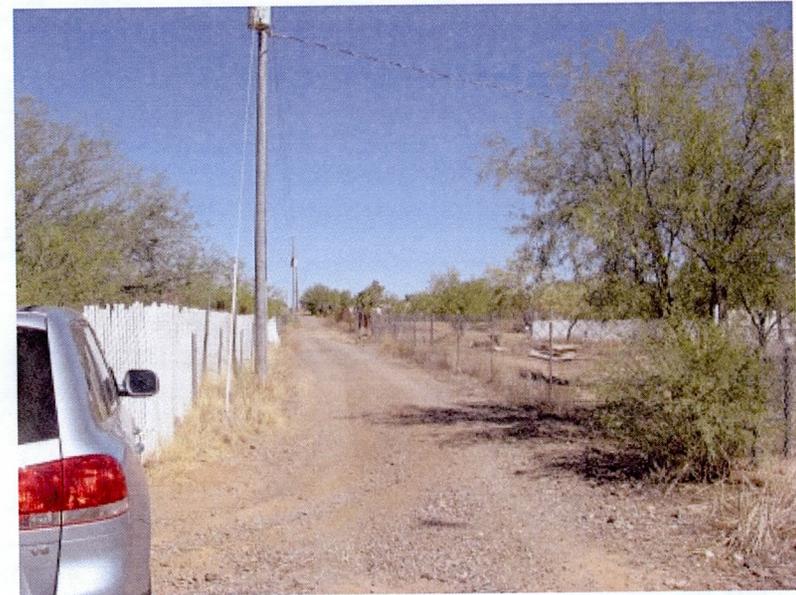


Photo 361 - Same location as #360 looking NW up mapped alleyway.



Photo 362 - Same location as #360 looking west up mapped alleyway.



Photo 363 - Same locations as #360 looking south from alleyway into lot # 27 in Martin Acres.



Photo 364 - From center of Beacon Field Blvd. at Lots 51, 52, 55 & 56 looking SE along roadway.



Photo 365 - Same location as #364 above looking NW up roadway.



Photo 366 - Same location as #364 above looking at house on lot #55 of Martin Acres.



Photo 367 - From mapped alleyway east side of Lot 47 - 53 looking SW at house on lot #50 of Martin Acres.



Photo 368 - From mapped alleyway east side of Lot 47 – 53 looking SW at house on lot #49 of Martin Acres.



Photo 369 - From center of the frontage road from the SE to US 60 looking NE to US 60.



Photo 370 - Same location as #369 looking SE along frontage roadway



Photo 371 – Same location as #369 looking SW into subdivision.



Photo 372 - At a location north of the frontage road in the Highway ROW an 18" +/- concrete pipe from the NE into concrete "V" ditch to the SE parallel to Highway.



Photo 373 - At same location as #372 SE along the concrete "V" ditch.



Photo 374 - From frontage road at approximate Lot #8 looking south into lot #9 showing business onsite.



Photo 375 - From frontage road at approximate Lot #11 looking south into lot #10 showing business onsite.



Photo 376 - From frontage road approximately at lot #20 at the roadway curve looking NW up frontage road.



Photo 377 - From frontage road approximately at lot #20 at the roadway curve looking SE down frontage road.



Photo 378 - Same location as #376 looking at concrete "V" ditch on Highway ROW.

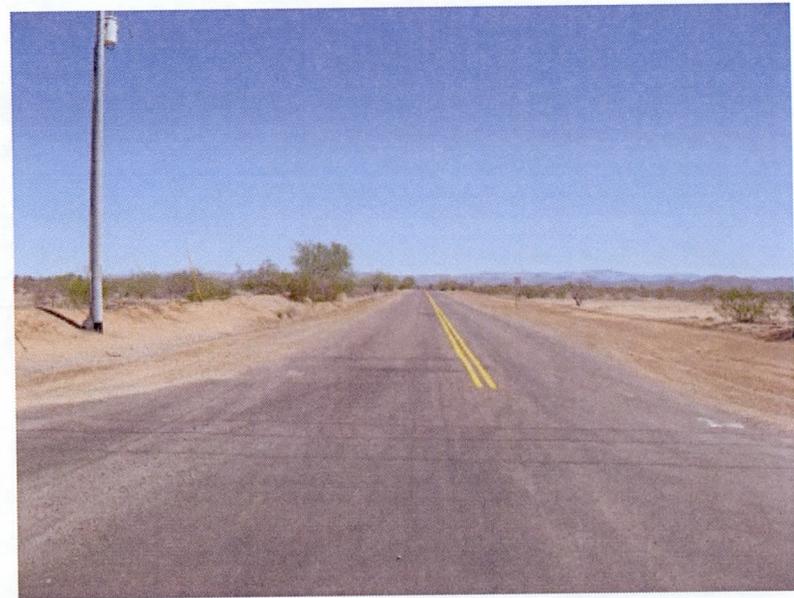


Photo 379 - At the intersection of Citrus Road and Pinnacle Peak Road looking north along Citrus Road.



Photo 380 - At the intersection of Citrus Road and Pinnacle Peak Road looking west along Pinnacle Peak Road.



Photo 381 - At the intersection of Citrus Road and Pinnacle Peak Road looking south along Citrus Road.



Photo 382 - At the intersection of Citrus Road and Pinnacle Peak Road looking east along Pinnacle Peak Road.



Photo 383 - Approximately 1/3 mile east of Citrus Road on Pinnacle Peak Road looking west along Pinnacle Peak roadway.



Photo 384 - Approximately 1/3 mile east of Citrus Road on Pinnacle Peak Road looking south along farm entrance roadway.



Photo 385 - Approximately 1/3 mile east of Citrus Road on Pinnacle Peak Road looking east along Pinnacle Peak roadway.



Photo 386 - Approximately 1/3 mile east of Citrus Road on Pinnacle Peak Road looking north from roadway.



Photo 387 - Approximately 1/2 mile east of Citrus Road on Pinnacle Peak Road looking west along roadway.



Photo 388 - Approximately ½ mile east of Citrus Road on Pinnacle Peak Road looking south along un-named roadway.



Photo 389 - At same location as #387 looking SSE at house in distance.



Photo 390 - At same location as #387 looking east along Pinnacle Peak Road alignment into low area.



Photo 391 - At approximately the lowest area in swale area looking west along Pinnacle Peak Road alignment.

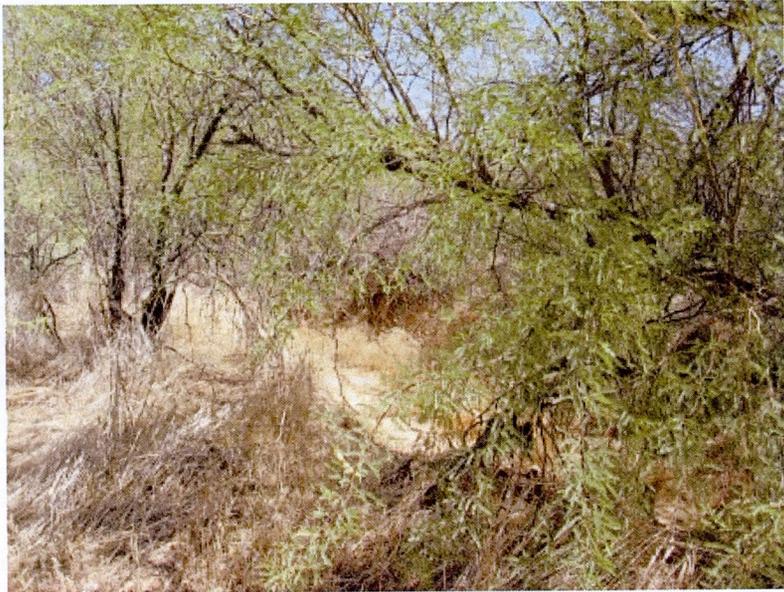


Photo 392 - At same point as #391 looking NW up drainage area.



Photo 393 - At same point as #391 looking east to Pinnacle Peak Road alignment.



Photo 394 - At same point as #391 looking SE into drainage area.



Photo 395 - At the eastern most culvert on the north side of Deer Valley Road west of US 60 looking SE into a 3-3'x10' barrel culvert.



Photo 396 - At the next culvert west on the north side of Deer Valley Road west of US 60 looking SE into a 3-3'x10' barrel culvert.



Photo 397 - At the next culvert west on the north side of Deer Valley Road west of US 60 looking SE into a 3-3'x10' barrel culvert.



Photo 398 - Looking NE at the intersection of the property fences as shown on maps close to culvert located in picture #397.



Photo 399 - At the next culvert west on the north side of Deer Valley Road west of US 60 looking SE into a 3-3'x10' barrel culvert.





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Property Information

Parcel #: 503-72-001-A

MCR #: 06547

Property Address:

Property Description: MARTIN ACRES LOT 1 EX ANY PT RD LY WI/IN P/F 00-50613

Section Township Range: 11 4N 2W

Associated Parcel:

Subdivision Name: MARTIN ACRES

Lot #: 1

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction: SURPRISE

[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: LDT INVESTORS LLC

In Care Of:

Mailing Address: PO BOX 27
EL MIRAGE AZ 85335 USA

Deed #: 110372089

Deed Date: 5/3/2011

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:

2012

2011

2010

Full Cash Value (FCV):

\$82,500

\$64,000

\$135,000

Limited Property Value (LPV):

\$70,400

\$64,000

\$111,387

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

2

2

2

Assessment Ratio:

16.0%

16.0%

16.0%

Assessed FCV:

\$13,200

\$10,240

\$21,600

Assessed LPV:

\$11,264

\$10,240

\$17,822

Property Use Code:

0021

0021

0021

Tax Area Code:

891500

891500

891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-72-002-A

MCR #: 06547

Property Address:

MARTIN ACRES MCR 65/47 LT 2 EX ANY PRT LY W/IN PCL DAF BEG AT MOST NLY COR LT 2 TH S 46D 37M E ALG SWLY R/W LN US HWY 60 BEING ALSO NELY BNDY LN LTS 2 & 3 SD SUB 316.80F TO MOST ELY COR SD LT 3 TH S 43D 23M W ALG SELY BNDY LN LT 3 147.38F TO NON-TAN CUR TO RT WI RAD 352F WH LOCAL TAN BEARS N 70D 05M W TH NWLY ALG SD CUR 144.17F TH N 46D 37M W 45.02F TH S 43D 22M W 31.20F TH N 46D 37M W 110F TH N 43D 22M E 117.70F TO A LN PARL WI & 90F SWLY OF SD HWY R/W LN TH N 46D 37M W ALG SD PARL LN 21.58F TO NWLY BNDY LN LT 2 TH N 43D 23M E ALG BNDY LN LT 2 90F TO POB

Property Description:

Subdivision

Name: MARTIN ACRES

Lot #: 2

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction:

SURPRISE

Tax District

FAQs

Section Township Range: 11 4N 2W

Associated Parcel:

Owner Information

[View Tax Information](#)

Owner: KOPPY ALAN/WAYNE D/GARY J/PAUL/ALLEN G/RICE L

In Care Of:

Mailing Address: 4105 W CAROL AVE
PHOENIX AZ 85051 USA

Deed #: 020051986

Deed Date: 1/16/2002

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$26,000	\$31,000	\$67,000
Limited Property Value (LPV):	\$26,000	\$31,000	\$51,239
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$4,160	\$4,960	\$10,720
Assessed LPV:	\$4,160	\$4,960	\$8,198
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-72-003-A

MCR #: 0654Z

Property Address:

MARTIN ACRES MCR 65/47 LT 3 EX ANY PRT LY W/IN PCL DAF BEG AT MOST NLY COR LT 2 IN SD SUB TH S 46D 37M E ALG SWLY R/W LN US HWY 60 BEING ALSO THE NELY BNDY LNS SD LTS 2 & 3 316.80F TO MOST ELY COR LT 3 TH S 43D 23M W ALG SELY BNDY LN LT 3 147.38F TO NON-TAN CUR TO RT WI RAD 352F WH LOCAL TAN BEARS N 70D 05M W TH NWLY ALG SD CUR 144.17F TH N 46D 37M W 45.02F TH S 43D 22M W 31.20F TH N 46D 37M W 110F TH N 43D 22M E 117.70F TO A LN PARL WI & 90F SWLY OF SD HWY R/W LN TH N 46D 37M W ALG SD PARL LN 21.58F TO NWLY BNDY LN LT 2 TH N 43D 23M E ALG BNDY LN LT 2 90F TO POB

Property Description:

Section Township Range: 11 4N 2W

Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 3
School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction: SURPRISE

Tax District
FAQs

Owner Information

Owner: KOPPY ALAN/WAYNE D/GARY J/PAUL/ALLEN G/RICE L

In Care Of:

Mailing Address: 4105 W CAROL AVE
PHOENIX AZ 85051 USA

Deed #: 020051986

Deed Date: 1/16/2002

[View Tax Information](#)

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$36,500	\$44,000	\$88,500
Limited Property Value (LPV):	\$36,500	\$44,000	\$62,877
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$5,840	\$7,040	\$14,160
Assessed LPV:	\$5,840	\$7,040	\$10,060
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-72-004
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 4
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: ARIZONA STATE OF DEPARTMENT OF TRANSPORTATION
In Care Of:
Mailing Address: 205 S 17TH AVE
 PHOENIX AZ 850073212 USA
Deed #: 000130014
Deed Date: 2/23/2000

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$111,000	\$130,500	\$215,500
Limited Property Value (LPV):	\$111,000	\$130,500	\$131,506
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$17,760	\$20,880	\$34,480
Assessed LPV:	\$17,760	\$20,880	\$21,041
Property Use Code:	9500	9500	9500
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-005-A
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES LOT 5 EX RD P/F 99-1095501
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 5
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: FORMAN FRANKLIN/EMILY TR
In Care Of:
Mailing Address: 8351 W ALYSSA LN
 PEORIA AZ 85383 USA
Deed #: 080271525
Deed Date: 3/28/2008

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$72,000	\$84,500	\$140,500
Limited Property Value (LPV):	\$72,000	\$84,500	\$88,550
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$11,520	\$13,520	\$22,480
Assessed LPV:	\$11,520	\$13,520	\$14,168
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-006
MCR #: 0654Z
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 6
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
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Owner Information

[View Tax Information](#)

Owner: ARIZONA STATE OF DEPARTMENT OF TRANSPORTATION
In Care Of:
Mailing Address: 205 S 17TH AVE
 PHOENIX AZ 850073212 USA
Deed #: 991144046
Deed Date: 12/23/1999

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$110,000	\$130,000	\$214,500
Limited Property Value (LPV):	\$110,000	\$130,000	\$161,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$17,600	\$20,800	\$34,320
Assessed LPV:	\$17,600	\$20,800	\$25,761
Property Use Code:	9500	9500	9500
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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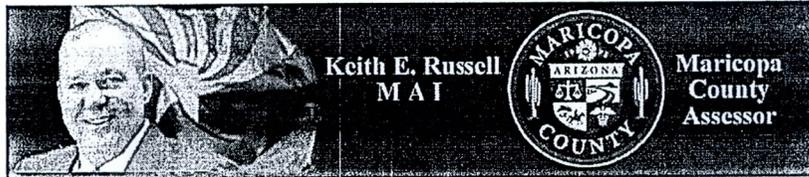
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Property Information

Parcel #: 503-72-007-A
MCR #: 0654Z
Property Address:
Property Description: MARTIN ACRES LOT 7 EX ANY PT RD LY WI/IN P/F 00-232691
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 7
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: SPAHIU LUAN
In Care Of:
Mailing Address: 15320 W DESERT MIRAGE DR
 SURPRISE AZ 85379 USA
Deed #: 070632225
Deed Date: 5/31/2007

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$67,500	\$80,500	\$117,500
Limited Property Value (LPV):	\$67,500	\$80,500	\$81,178
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$10,800	\$12,880	\$18,800
Assessed LPV:	\$10,800	\$12,880	\$12,988
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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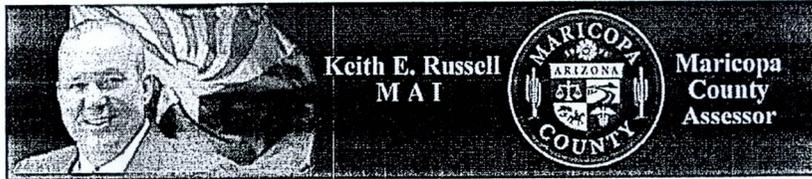
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Property Information

Parcel #: 503-72-008
MCR #: 06547
Property Address: 24634 N GRAND AVE
 Unknown 85387
Property Description: MARTIN ACRES NCR 65-47 LOT 8 EX R/W P/F 99-1128849
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 8
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: BADAWI DAVID
In Care Of:
Mailing Address: 1588 N ARLINGTON HEIGHTS RD
 ARLINGTON HEIGHTS IL 60004 USA
Deed #: 04134625Z
Deed Date: 11/17/2004

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$50,000	\$60,000	\$130,500
Limited Property Value (LPV):	\$50,000	\$60,000	\$86,356
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$8,000	\$9,600	\$20,880
Assessed LPV:	\$8,000	\$9,600	\$13,817
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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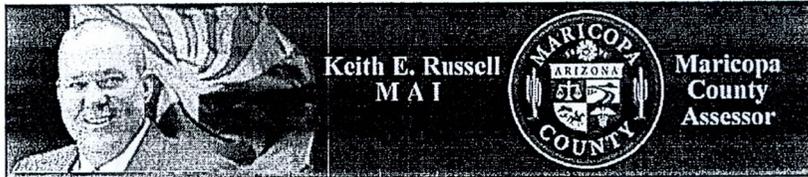
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Property Information

Parcel #: 503-72-009-A
MCR #: 06547
Property Address: 24620 W GRAND AVE
 SURPRISE 85387
Property Description: MARTIN ACRES LOT 9 EX ANY PT RD LY WJ/IN P/F 00-49376
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 9
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: ROARING CAT LLC
In Care Of:
Mailing Address: 24620 N W GRAND AVE
 SURPRISE AZ 85387 USA
Deed #: 060215383
Deed Date: 2/15/2006

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$64,419	\$74,681	\$157,505
Limited Property Value (LPV):	\$64,419	\$74,681	\$106,807
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	1	1	1
Assessment Ratio:	20.0%	20.0%	21.0%
Assessed FCV:	\$12,884	\$14,936	\$33,076
Assessed LPV:	\$12,884	\$14,936	\$22,429
Property Use Code:	1040	1040	1040
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-010-A
MCR #: 06547
Property Address: 24612 N GRAND AVE
 Unknown Unknown
Section Description: MARTIN ACRES LOT 10 EX ANY PT RD LY WI/IN P/F 00-49377
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 10
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: BLAKELY PAULINE W TR
In Care Of:
Mailing Address: 15637 W JOMAX RD
 SUN CITY WEST AZ 85375 USA
Deed #: 970006497
Deed Date: 1/6/1997

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$168,200	\$215,700	\$174,633
Limited Property Value (LPV):	\$158,527	\$144,115	\$120,253
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	1	1	1
Assessment Ratio:	20.0%	20.0%	21.0%
Assessed FCV:	\$33,640	\$43,140	\$36,673
Assessed LPV:	\$31,705	\$28,823	\$25,253
Property Use Code:	3710	3710	3710
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-011-A
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES LOT 11 EX ANY PT RD LY WI/IN P/F 99-1047397
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 11
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: BURTON CHARLENE TR
In Care Of:
Mailing Address: 980 YAQUI DRIVE
 WICKENBURG AZ 85390 USA
Deed #: 041092555
Deed Date: 9/17/2004

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$72,500	\$87,500	\$139,000
Limited Property Value (LPV):	\$72,500	\$87,500	\$86,301
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$11,600	\$14,000	\$22,240
Assessed LPV:	\$11,600	\$14,000	\$13,808
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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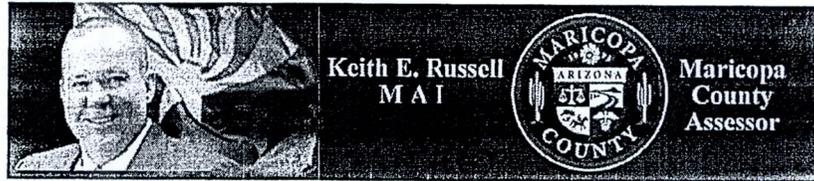
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Property Information

Parcel #: 503-72-012-A
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES LOT 12 EX ANY PT RD LY WI/IN P/F 00-130010
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 12
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
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Owner Information

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Owner: BLAKELY PAULINE W TR
In Care Of:
Mailing Address: 15637 W JOMAX
 SUN CITY WEST AZ 85387 USA
Deed #: 041451502
Deed Date: 12/10/2004

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$76,000	\$92,000	\$139,000
Limited Property Value (LPV):	\$76,000	\$92,000	\$88,524
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$12,160	\$14,720	\$22,240
Assessed LPV:	\$12,160	\$14,720	\$14,164
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-013
MCR #: 0654Z
Property Address:
Property Description: MARTIN ACRES MCR 65-47 LOT 13 EX R/W P/F 99-1128847
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 13
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: LDT INVESTORS LLC
In Care Of:
Mailing Address: PO BOX 27
 EL MIRAGE AZ 85335 USA
Deed #: 110372282
Deed Date: 5/3/2011

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$77,000	\$77,300	\$114,000
Limited Property Value (LPV):	\$77,000	\$77,300	\$83,279
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$12,320	\$12,368	\$18,240
Assessed LPV:	\$12,320	\$12,368	\$13,325
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-014-A
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES LOT 14 EX ANY PT RD LY WI/IN P/F 00-49375
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 14
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: BEARDSLEY WATER COMPANY INC
In Care Of:
Mailing Address: PO BOX 34237
 PHOENIX AZ 85067 USA
Deed #: 14628-0423
Deed Date: 8/20/1980

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$77,000	\$87,800	\$87,800
Limited Property Value (LPV):	\$77,000	\$83,586	\$75,987
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$12,320	\$14,048	\$14,048
Assessed LPV:	\$12,320	\$13,374	\$12,158
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

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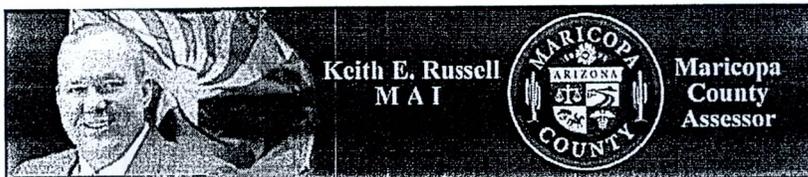
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Property Information

Parcel #: 503-72-015
MCR #: 0654Z
Property Address:
Property Description: MARTIN ACRES LOT 15 EX ANY PT RD LY WI/IN P/F 99-694839
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 15
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
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Owner Information

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Owner: COOLEY CORYDON M & PATRICIA
In Care Of:
Mailing Address: P O BOX 7
 CIBICUE AZ 85911 USA
Deed #: 860568581
Deed Date: 10/17/1986

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$77,000	\$94,000	\$138,500
Limited Property Value (LPV):	\$77,000	\$94,000	\$90,220
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$12,320	\$15,040	\$22,160
Assessed LPV:	\$12,320	\$15,040	\$14,435
Property Use Code:	0021	0021	0021
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-024
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 24
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: OLEA FRANK & PRISCILLA
In Care Of:
Mailing Address: 6920 SAN BERNARDINO CIR
 BUENA PARK CA 90620 USA
Deed #: 10664-0703
Deed Date: 5/22/1974

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$11,000	\$14,500	\$60,500
Limited Property Value (LPV):	\$11,000	\$14,500	\$60,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,760	\$2,320	\$9,680
Assessed LPV:	\$1,760	\$2,320	\$9,680
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-025
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 25
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: PRADO MICHAEL/MARGARET A
In Care Of:
Mailing Address: 6285 W PARKSIDE LN
 GLENDALE AZ 85310 USA
Deed #: 010816605
Deed Date: 9/4/2001

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$9,500	\$11,000	\$61,000
Limited Property Value (LPV):	\$9,500	\$11,000	\$61,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,520	\$1,760	\$9,760
Assessed LPV:	\$1,520	\$1,760	\$9,760
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-72-026
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 26
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: IBARRA JOSE
In Care Of:
Mailing Address: 16245 GREASEWOOD ST
 SURPRISE AZ 853740000 USA
Deed #: 900128544
Deed Date: 3/23/1990

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$7,500	\$8,500	\$45,000
Limited Property Value (LPV):	\$7,500	\$8,500	\$45,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,200	\$1,360	\$7,200
Assessed LPV:	\$1,200	\$1,360	\$7,200
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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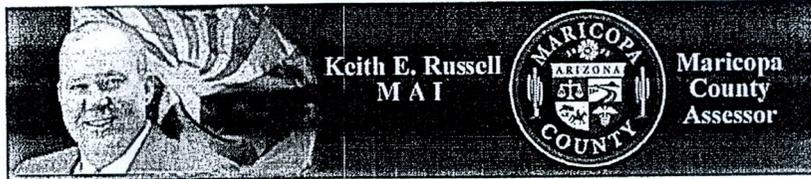
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Property Information

Parcel #: 503-72-027
MCR #: 0654Z
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 27
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: VERA SALVADOR/SHERMAN ANNA/ANAYA JESUS F
In Care Of:
Mailing Address: 18146 W HAPPY VALLEY RD
 WITTMAN AZ 85361 USA
Deed #: 100296902
Deed Date: 4/8/2010

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$7,500	\$9,000	\$50,000
Limited Property Value (LPV):	\$7,500	\$9,000	\$50,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,200	\$1,440	\$8,000
Assessed LPV:	\$1,200	\$1,440	\$8,000
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-028
MCR #: 06547
Property Address: 17722 W NORWICH DR
 SURPRISE AZ 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 28
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: MARTINEZ LILIA A GAMIZ
In Care Of:
Mailing Address: 17722 W NORWICK DR
 SURPRISE AZ 85387 AZ
Deed #: 061356942
Deed Date: 10/13/2006

Sales Price: \$280,000
Sales Month/Year: 6/2006

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$85,000	\$94,200	\$147,700
Limited Property Value (LPV):	\$85,000	\$94,200	\$147,700
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$8,500	\$9,420	\$14,770
Assessed LPV:	\$8,500	\$9,420	\$14,770
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-72-040
MCR #: 06547
Property Address: 24433 N CITRUS RD
 SURPRISE 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 40
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: ARISMEDEZ CHRISTOBAL E/ANNA M
In Care Of:
Mailing Address: P O BOX 994
 EL MIRAGE AZ 85335 USA
Deed #: 000421312
Deed Date: 6/2/2000

Sales Price: \$30,500
Sales Month/Year: 10/1999

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$119,100	\$132,200	\$197,600
Limited Property Value (LPV):	\$119,100	\$132,200	\$197,600
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$11,910	\$13,220	\$19,760
Assessed LPV:	\$11,910	\$13,220	\$19,760
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-041
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 41
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: LDT INVESTORS LLC
In Care Of:
Mailing Address: PO BOX 27
 EL MIRAGE AZ 85335 USA
Deed #: 110372109
Deed Date: 5/3/2011

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$8,000	\$10,500	\$31,233
Limited Property Value (LPV):	\$8,000	\$10,500	\$31,233
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,280	\$1,680	\$4,997
Assessed LPV:	\$1,280	\$1,680	\$4,997
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-042
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 42
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: LDT INVESTORS LLC
In Care Of:
Mailing Address: PO BOX 27
 EL MIRAGE AZ 85335 USA
Deed #: 110372115
Deed Date: 5/3/2011

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$9,500	\$11,500	\$38,967
Limited Property Value (LPV):	\$9,500	\$11,500	\$38,967
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,520	\$1,840	\$6,235
Assessed LPV:	\$1,520	\$1,840	\$6,235
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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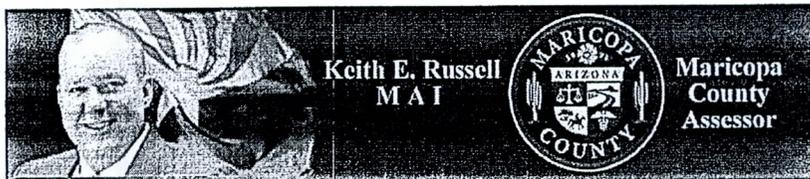
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Property Information

Parcel #: 503-72-043
MCR #: 0654Z
Property Address: 24615 W BEACON FIELD BLVD
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 43
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: LEYVA RAY F & MARIA ELENA
In Care Of:
Mailing Address: 16407 W PRICKLY PEAR TR
 SURPRISE AZ 85387 USA
Deed #: 14446-0941
Deed Date: 5/29/1980

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$53,200	\$61,700	\$103,500
Limited Property Value (LPV):	\$53,200	\$61,700	\$103,500
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$5,320	\$6,170	\$10,350
Assessed LPV:	\$5,320	\$6,170	\$10,350
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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Home
 Contacts
 *Parcel Search:

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Property Information

Parcel #: 503-72-044
MCR #: 06547
Property Address: 24609 W BEACON FIELD BLVD
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 44
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: KENMARK DEEDS LLC
In Care Of:
Mailing Address: 402 W ROOSEVELT ST STE B
 PHOENIX AZ 85003 USA
Deed #: 080069360
Deed Date: 1/25/2008

Sales Price: \$325,000
Sales Month/Year: 7/2007

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$121,000	\$134,700	\$200,200
Limited Property Value (LPV):	\$121,000	\$134,700	\$200,200
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	4	4	4
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$12,100	\$13,470	\$20,020
Assessed LPV:	\$12,100	\$13,470	\$20,020
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-045
MCR #: 06547
Property Address: 17786 W BEACON FIELD BLVD
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 45
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
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Owner Information

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Owner: ARISMEDEZ CHRISTOBAL ELISARDO
In Care Of:
Mailing Address: PO BOX 994
 EL MIRAGE AZ 85335 USA
Deed #: 040895779
Deed Date: 8/2/2004

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$78,600	\$86,800	\$128,700
Limited Property Value (LPV):	\$78,600	\$86,800	\$128,700
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	4	4	4
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$7,860	\$8,680	\$12,870
Assessed LPV:	\$7,860	\$8,680	\$12,870
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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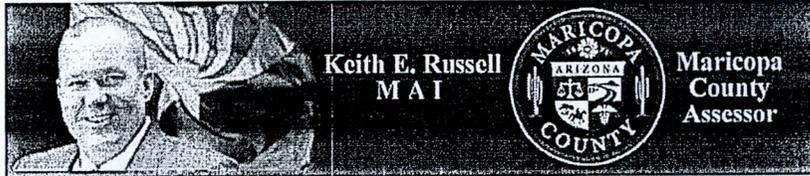
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Property Information

Parcel #: 503-72-046
MCR #: 06547
Property Address: 24587 N BEACON FIELD BLVD
 SURPRISE 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 46
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: SEGOVIA JOSE/VANESSA A
In Care Of:
Mailing Address: 11331 N 91ST DR
 PEORIA AZ 85345 USA
Deed #: 090735469
Deed Date: 8/7/2009

Sales Price: \$70,000*
Sales Month/Year: 7/2009

*Property previously owned by a bank, mortgage company or other financial institution

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$88,000	\$95,300	\$139,300
Limited Property Value (LPV):	\$88,000	\$95,300	\$139,300
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$8,800	\$9,530	\$13,930
Assessed LPV:	\$8,800	\$9,530	\$13,930
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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Home
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Property Information

Parcel #: 503-72-047
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 47
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: BLAKELY PAULINE W TR
In Care Of:
Mailing Address: 980 YAQUI DRIVE
 WICKENBURG AZ 85390 USA
Deed #: 970006496
Deed Date: 1/6/1997

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$7,500	\$9,500	\$45,000
Limited Property Value (LPV):	\$7,500	\$9,500	\$45,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,200	\$1,520	\$7,200
Assessed LPV:	\$1,200	\$1,520	\$7,200
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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[Characteristics](#)
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Property Information

Parcel #: 503-72-048
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 48
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: SANTOYA YSABEL H/NELLIE R
In Care Of:
Mailing Address: 4171 W CYPRESS ST
 PHOENIX AZ 850092041 USA
Deed #: 08879-0486
Deed Date: 8/12/1971

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$8,500	\$11,000	\$47,500
Limited Property Value (LPV):	\$8,500	\$11,000	\$47,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,360	\$1,760	\$7,600
Assessed LPV:	\$1,360	\$1,760	\$7,600
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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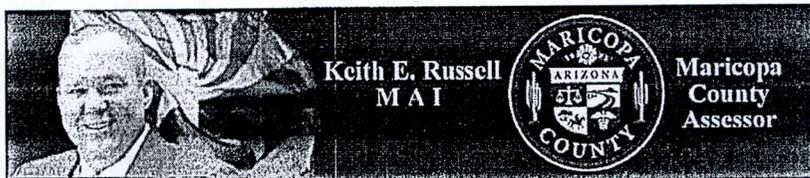
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Property Information

Parcel #: 503-72-049
MCR #: Q654Z
Property Address: 24425 W BEACON FIELD BLVD
 SURPRISE 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 49
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: CASTANEDA LEONARD Q & MARGARITA L
In Care Of:
Mailing Address: 16027 GREASEWOOD ST
 SURPRISE AZ 85374 USA
Deed #: 88022255Z
Deed Date: 5/9/1988

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$92,600	\$102,300	\$151,000
Limited Property Value (LPV):	\$92,600	\$102,300	\$151,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$9,260	\$10,230	\$15,100
Assessed LPV:	\$9,260	\$10,230	\$15,100
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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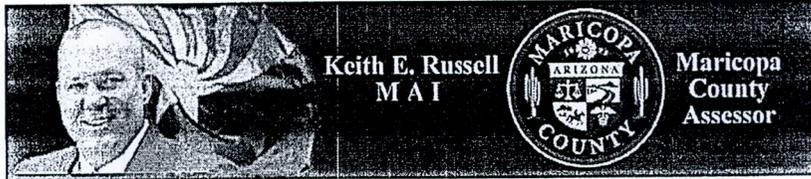
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Property Information

Parcel #: 503-72-050
MCR #: 06547
Property Address: 24209 W BEACON FIELD BLVD
 SURPRISE 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 50
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: BONILLA GLORIA E/LEDESMA CRISTINA E
In Care Of:
Mailing Address: 26224 N 159TH AVE
 SUN CITY AZ 85387 USA
Deed #: 051404818
Deed Date: 9/22/2005

Sales Price: \$75,000
Sales Month/Year: 9/2005

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$43,000	\$48,100	\$73,000
Limited Property Value (LPV):	\$43,000	\$48,100	\$73,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$4,300	\$4,810	\$7,300
Assessed LPV:	\$4,300	\$4,810	\$7,300
Property Use Code:	0134	0134	0134
Tax Area Code:	891500	891500	891500

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[Valuation](#) [Characteristics](#) [Commercial Property Overview](#)

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Property Information

Parcel #: 503-72-051
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 51
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: ORTIZ RAFAEL A/JACKIE D
In Care Of:
Mailing Address: 12535 COTTONWOOD ST
 SURPRISE AZ 85374 USA
Deed #: 041035111
Deed Date: 9/3/2004

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$8,500	\$11,500	\$51,500
Limited Property Value (LPV):	\$8,500	\$11,500	\$51,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,360	\$1,840	\$8,240
Assessed LPV:	\$1,360	\$1,840	\$8,240
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-052
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 52
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: COOLEY CORYDON M & PATRICIA
In Care Of:
Mailing Address: PO BOX 7
 CIBICUE AZ 85911 USA
Deed #: 860568581
Deed Date: 10/17/1986

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$8,500	\$12,000	\$51,500
Limited Property Value (LPV):	\$8,500	\$12,000	\$51,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,360	\$1,920	\$8,240
Assessed LPV:	\$1,360	\$1,920	\$8,240
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

[Valuation](#) [Characteristics](#) [Commercial Property Overview](#)

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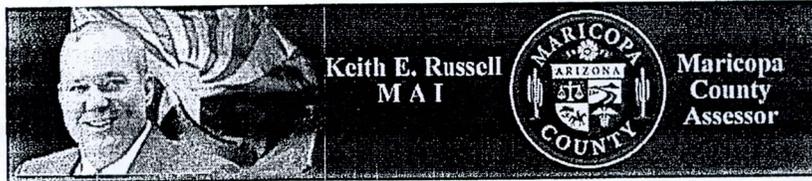
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Property Information

Parcel #: 503-72-053
MCR #: 06547
Property Address: 24229 W BEACON FIELD BLVD
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 53
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: ORTIZ MARIA
In Care Of:
Mailing Address: 24229 BEACONFIELD RD
 SURPRISE AZ 85387 USA
Deed #: 070948432
Deed Date: 8/23/2007

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$61,600	\$71,700	\$111,800
Limited Property Value (LPV):	\$61,600	\$71,700	\$111,800
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$6,160	\$7,170	\$11,180
Assessed LPV:	\$6,160	\$7,170	\$11,180
Property Use Code:	0132	0132	0132
Tax Area Code:	891500	891500	891500

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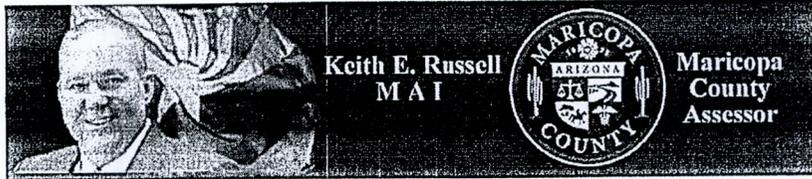
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Property Information

Parcel #: 503-72-054
MCR #: 06547
Property Address: 17675 W BEACON FIELD BLVD
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 54
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: GERLING KRISTOPHER B
In Care Of:
Mailing Address: 17675 BEACON FIELD BLVD
 SURPRISE AZ 85387 USA
Deed #: 080039586
Deed Date: 1/15/2008

Sales Price: \$196,565
Sales Month/Year: 12/2007

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$82,500	\$91,300	\$135,600
Limited Property Value (LPV):	\$82,500	\$91,300	\$135,600
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$8,250	\$9,130	\$13,560
Assessed LPV:	\$8,250	\$9,130	\$13,560
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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[Valuation](#) [Characteristics](#) [Commercial Property Overview](#)

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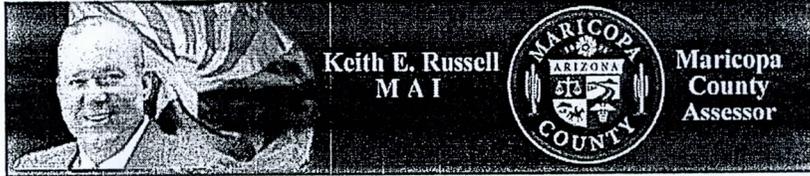
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Property Information

Parcel #: 503-72-055
MCR #: 06547
Property Address: 17885 W BEACON FIELD BLVD
 SURPRISE 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 55
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
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Owner Information

[View Tax Information](#)

Owner: LOPEZ ISIDORO/CRUZ DE LOPEZ JACQUELINE R
In Care Of:
Mailing Address: 17885 W BEACON FIELD BLVD
 SURPRISE AZ 85387 USA
Deed #: 080715626
Deed Date: 8/18/2008

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$75,600	\$82,700	\$121,300
Limited Property Value (LPV):	\$75,600	\$82,700	\$121,300
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$7,560	\$8,270	\$12,130
Assessed LPV:	\$7,560	\$8,270	\$12,130
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

[Valuation](#) [Characteristics](#) [Commercial Property Overview](#)

[New Search](#) [Helpful Information:](#)

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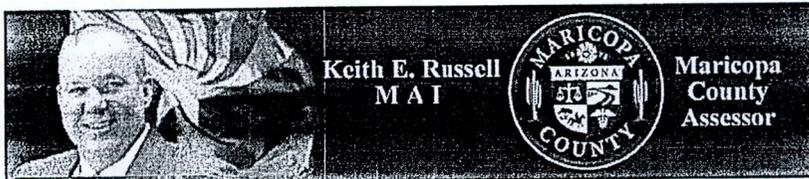
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Property Information

Parcel #: 503-72-056
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 56
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: LOPEZ ISIDORO A/JAQUELINA R
In Care Of:
Mailing Address: 17885 W BEACON FIELD BLVD
 SURPRISE AZ 85345 USA
Deed #: 060606412
Deed Date: 5/4/2006

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$7,000	\$8,500	\$44,500
Limited Property Value (LPV):	\$7,000	\$8,500	\$44,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,120	\$1,360	\$7,120
Assessed LPV:	\$1,120	\$1,360	\$7,120
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

[Valuation](#) [Characteristics](#) [Commercial Property Overview](#)

[New Search](#) [Helpful Information:](#)

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Property Information

Parcel #: 503-72-057
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 57
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: GONZALEZ HECTOR/ARCELIA
In Care Of:
Mailing Address: 1715 W NORTHERN AVE 104
 PHOENIX AZ 85015 USA
Deed #: 000199589
Deed Date: 3/16/2000

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$7,000	\$8,500	\$46,500
Limited Property Value (LPV):	\$7,000	\$8,500	\$46,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,120	\$1,360	\$7,440
Assessed LPV:	\$1,120	\$1,360	\$7,440
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-72-058
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 58
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: HERNANDEZ MARTIN
In Care Of:
Mailing Address: 2699 MOSSY OAKS LN
 LAS VEGAS NV 89142 USA
Deed #: 070446622
Deed Date: 4/17/2007

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$7,000	\$9,000	\$47,000
Limited Property Value (LPV):	\$7,000	\$9,000	\$47,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,120	\$1,440	\$7,520
Assessed LPV:	\$1,120	\$1,440	\$7,520
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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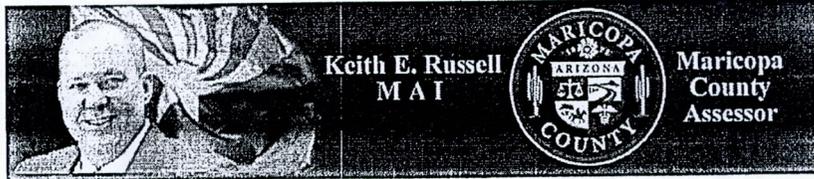
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Property Information

Parcel #: 503-72-059
MCR #: 06547
Property Address: 24442 W BEACON FIELD BLVD
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 59
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: IBARRA JUAN/LETICIA
In Care Of:
Mailing Address: 24442 N BEACON FIELD BLVD
 SURPRISE AZ 85378 USA
Deed #: 000799741
Deed Date: 10/18/2000

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

[View Similar Parcels](#)

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$63,300	\$71,700	\$108,800
Limited Property Value (LPV):	\$63,300	\$71,700	\$108,800
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$6,330	\$7,170	\$10,880
Assessed LPV:	\$6,330	\$7,170	\$10,880
Property Use Code:	0134	0134	0134
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

[Valuation](#) [Characteristics](#) [Commercial Property Overview](#)

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Property Information

Parcel #: 503-72-060
MCR #: 06547
Property Address: 24448 W BEACON FIELD BLVD SURPRISE 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 60
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: SAMANO-CERMENO ALEJANDRO/SAMANO ANGELICA Z
In Care Of:
Mailing Address: 24448 N BEACON FIELD BLVD SURPRISE AZ 85387 USA
Deed #: 010943704
Deed Date: 10/11/2001

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$119,300	\$82,100	\$132,700
Limited Property Value (LPV):	\$119,300	\$82,100	\$132,700
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$11,930	\$8,210	\$13,270
Assessed LPV:	\$11,930	\$8,210	\$13,270
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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[Valuation](#) [Characteristics](#) [Commercial Property Overview](#)

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Property Information

Parcel #: 503-72-061
MCR #: 06547
Property Address: 24454 W BEACON FIELD BLVD
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 61
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: MALAGON JOSE R/GLORIA F/JOSE S
In Care Of:
Mailing Address: 24454 W BECON FIELD BLVD
 SURPRISE AZ 85387 USA
Deed #: 021064136
Deed Date: 10/15/2002

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$52,200	\$63,100	\$104,500
Limited Property Value (LPV):	\$52,200	\$63,100	\$104,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$5,220	\$6,310	\$10,450
Assessed LPV:	\$5,220	\$6,310	\$10,450
Property Use Code:	0123	0123	0123
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-72-062
MCR #: 06547
Property Address: 24604 W BEACON FIELD BLVD
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 62
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: FERNANDEZ JESUS A
In Care Of:
Mailing Address: 24231 N CITRUS
 SURPRISE AZ 85387 USA
Deed #: 051448987
Deed Date: 9/29/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

[View Similar Parcels](#)

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$50,300	\$62,600	\$104,500
Limited Property Value (LPV):	\$50,300	\$62,600	\$104,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$5,030	\$6,260	\$10,450
Assessed LPV:	\$5,030	\$6,260	\$10,450
Property Use Code:	0121	0121	0121
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-72-064
MCR #: 06547
Property Address:
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 64
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: GUERRA GILBERT G & JANIE M
In Care Of:
Mailing Address: P O BOX 905
 EL MIRAGE AZ 85335 USA
Deed #: 880164226
Deed Date: 4/7/1988

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$9,000	\$12,000	\$48,000
Limited Property Value (LPV):	\$9,000	\$12,000	\$48,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,440	\$1,920	\$7,680
Assessed LPV:	\$1,440	\$1,920	\$7,680
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-72-065
MCR #: 06547
Property Address: 17790 W BELFOUR DR
 Unknown 85387
Property Description: MARTIN ACRES
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name: MARTIN ACRES
Lot #: 65
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: POLENZ JEANNE E
In Care Of:
Mailing Address: 17790 W BALFOUR DR
 SURPRISE AZ 85378 USA
Deed #: 020887347
Deed Date: 8/29/2002

Sales Price: \$119,900
Sales Month/Year: 8/2002

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$86,300	\$94,700	\$150,100
Limited Property Value (LPV):	\$86,300	\$94,700	\$150,100
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$8,630	\$9,470	\$15,010
Assessed LPV:	\$8,630	\$9,470	\$15,010
Property Use Code:	0133	0133	0133
Tax Area Code:	891500	891500	891500

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2010
 FCV: \$4,837,938





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Property Information

Parcel #: 503-70-006-A

MCR #:

Property Address:

Property Description:

TH PT SE4 SEC 11 DAF COM SE COR SD SEC TH W 1918.29F TO TPOB & NON-TAN CUR CONC NELY WI-CEN BEARS N 28D 25M 53S E 340F TH ALG SD CUR 93.63F TO RT TH N 45D 47M 25S W 798.57F TO CUR CONC NELY RAD 340F TH ALG SD CUR 108.77F TO RT TH S 694.55F TH E 714.83F TO TPOB

Section Township Range: 11 4N 2W

Associated Parcel:

Subdivision Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction: SURPRISE

[Tax District](#)
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Owner Information

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Owner: METRO GRAND 303 LLC

In Care Of:

Mailing Address: 2390 E CAMELBACK RD STE 320
PHOENIX AZ 85016 USA

Deed #: 090125060

Deed Date: 2/13/2009

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:

2012

2011

2010

Full Cash Value (FCV):

\$25,500

\$34,000

\$148,500

Limited Property Value (LPV):

\$25,500

\$34,000

\$148,500

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

2

2

2

Assessment Ratio:

16.0%

16.0%

16.0%

Assessed FCV:

\$4,080

\$5,440

\$23,760

Assessed LPV:

\$4,080

\$5,440

\$23,760

Property Use Code:

0012

0012

0012

Tax Area Code:

891500

891500

891500

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[Valuation](#)

[Characteristics](#)

[Commercial Property Overview](#)

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Property Information

Parcel #: 503-70-006-B

MCR #:

Property Address:

Property Description:

Section Township Range: 11 4N 2W

Associated Parcel:

Subdivision

Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local

Jurisdiction: SURPRISE

Tax District

FAQs

Owner Information

Owner: METRO GRAND 303 LLC

In Care Of:

Mailing Address: 2390 E CAMELBACK RD STE 320
PHOENIX AZ 85016 USA

Deed #: 090125060

Deed Date: 2/13/2009

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Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$239,000	\$355,500	\$1,023,000
Limited Property Value (LPV):	\$239,000	\$355,500	\$1,023,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$38,240	\$56,880	\$163,680
Assessed LPV:	\$38,240	\$56,880	\$163,680
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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[Valuation](#)

[Characteristics](#)

[Commercial Property Overview](#)

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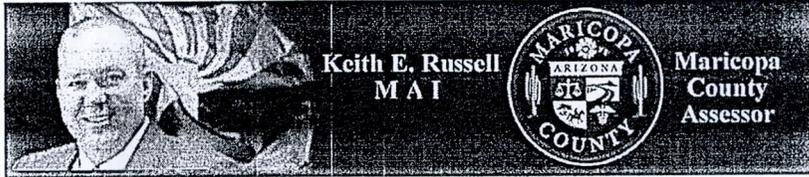
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[Advanced Search Options](#)

[*Market Overview](#)

[*Residential Similar Property Search](#)

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Property Information

Parcel #: 503-70-012-A

MCR #:

Property Address:

Property Description: TH PT S2 SEC 11 DAF COM SE COR SD SEC TH N 88D 24M 28S W 3394.61F TO TPOB TH N 586.39F TH W 348.83F TH S 619.05F TH E 523.02F TH N 44D 55M 42S E 46.31F TO TPOB

Section Township Range: 11 4N 2W

Associated Parcel:

Subdivision Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction:

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[Tax District](#)

[FAQs](#)

Owner Information

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Owner: METRO GRAND 303 LLC

In Care Of:

Mailing Address: 2390 E CAMELBACK RD STE 320 PHOENIX AZ 85016 USA

Deed #: 090125060

Deed Date: 2/13/2009

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$44,000	\$63,500	\$226,000
Limited Property Value (LPV):	\$44,000	\$63,500	\$226,000
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$7,040	\$10,160	\$36,160
Assessed LPV:	\$7,040	\$10,160	\$36,160
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

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[Valuation](#)

[Characteristics](#)

[Commercial Property Overview](#)

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Property Information

Parcel #: 503-70-012-B

MCR #:

Property Address:

Property Description: TH PT SW4 SEC 11 DAF COM SE COR SD SEC TH W 2633.12F TO POB N 694.55F TO NON-TAN CUR CONC NELY WI-CEN BEARS N 62D 32M 21S E 340F TH ALG SD CUR 164.78F TO RT TH N 466.64F TH W 620.56F TH S 659.37F TH W 29.52F TH S 586.43F TH S 45D 4M 18S E 47.02F TH E 331.89F TO CUR CONC SWLY RAD 355F TH ALG SD CUR 170.15F TO RT TH E 151.59F TO TPOB

Section Township Range: 11 4N 2W

Associated Parcel:

Subdivision

Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local

Jurisdiction: SURPRISE

Tax District

[FAQs](#)

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Owner Information

Owner: METRO GRAND 303 LLC

In Care Of:

Mailing Address: 2390 E CAMELBACK RD STE 320
PHOENIX AZ 85016 USA

Deed #: 090125060

Deed Date: 2/13/2009

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:

2012

2011

2010

Full Cash Value (FCV):

\$80,000

\$108,500

\$437,500

Limited Property Value (LPV):

\$80,000

\$108,500

\$437,500

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

2

2

2

Assessment Ratio:

16.0%

16.0%

16.0%

Assessed FCV:

\$12,800

\$17,360

\$70,000

Assessed LPV:

\$12,800

\$17,360

\$70,000

Property Use Code:

0012

0012

0012

Tax Area Code:

891500

891500

891500

Additional Component Information (for this parcel)

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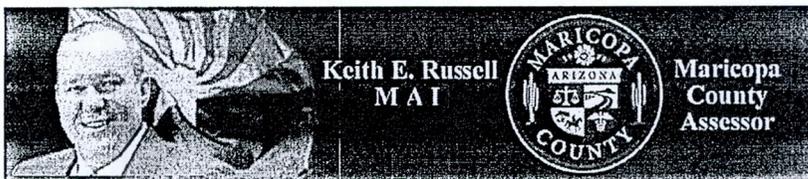
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Property Information

Parcel #: 503-70-013-A
MCR #:
Property Address:
Property Description: TH PT SW4 SW4 SEC 11 NOT LW WI-IN BROOKE PROPERTY MOD MCR 918-09 & TH PT NW4 SE4 SW4 SEC 11 LY SWLY OF BROOKE PROPERTY MOD MCR 918-09
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: METRO GRAND 303 LLC
In Care Of:
Mailing Address: 2390 E CAMELBACK RD STE 320
 PHOENIX AZ 85016 USA
Deed #: 090125060
Deed Date: 2/13/2009

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$178,500	\$259,500	\$830,500
Limited Property Value (LPV):	\$178,500	\$259,500	\$830,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$28,560	\$41,520	\$132,880
Assessed LPV:	\$28,560	\$41,520	\$132,880
Property Use Code:	0012	0012	0012
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-70-013-B
MCR #:
Property Address:
Property Description: TH PT NW4 SE4 SW4 LY NELY FO BROOKE PROTPERTY MOD MCR 918-09
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: METRO GRAND 303 LLC
In Care Of:
Mailing Address: 2390 E CAMELBACK RD STE 320
 PHOENIX AZ 85016 USA
Deed #: 090125060
Deed Date: 2/13/2009

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$11,000	\$14,500	\$73,500
Limited Property Value (LPV):	\$11,000	\$14,500	\$73,500
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$1,760	\$2,320	\$11,760
Assessed LPV:	\$1,760	\$2,320	\$11,760
Property Use Code:	0014	0014	0014
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-70-008-D
MCR #:
Property Address:
Property Description: W2 E2 NE4 SW4 EX N 40F RD P/D 85-224282
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: AUSTIN RANCH LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 051039486
Deed Date: 7/25/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$873	\$873	\$970
Limited Property Value (LPV):	\$873	\$873	\$970
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$140	\$140	\$155
Assessed LPV:	\$140	\$140	\$155
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-70-008-E
MCR #:
Property Address:
Property Description: E2 E2 NE4 SW4 EX E 40F RD & EX N 40F RD P/D 85-224282
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: AUSTIN RANCH LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 051039486
Deed Date: 7/25/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$767	\$767	\$852
Limited Property Value (LPV):	\$767	\$767	\$852
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$123	\$123	\$136
Assessed LPV:	\$123	\$123	\$136
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-70-008-F
MCR #:
Property Address:
Property Description: SW4 NE4 SW4 & ALSO E2 E2 NW4 SW4 EX N 40F RD P/D 85-224282
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: AUSTIN RANCH LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 051039486
Deed Date: 7/25/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$1,773	\$1,773	\$1,970
Limited Property Value (LPV):	\$1,773	\$1,773	\$1,887
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$284	\$284	\$315
Assessed LPV:	\$284	\$284	\$302
Property Use Code:	4710	4710	4719
Tax Area Code:	891500	891500	891500

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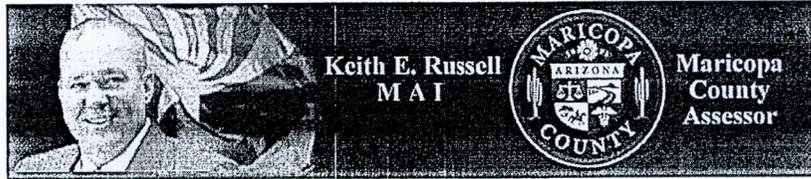
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Property Information

Parcel #: 503-70-008-G
MCR #:
Property Address:
Property Description: SW4 NW4 SW4 & W2 NW4 NW4 SW4
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: AUSTIN RANCH LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 051039486
Deed Date: 7/25/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$1,105	\$1,105	\$1,227
Limited Property Value (LPV):	\$1,105	\$1,105	\$1,227
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$177	\$177	\$196
Assessed LPV:	\$177	\$177	\$196
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-70-008-H
 MCR #:
 Property Address:
 Property Description: W2 E2 NW4 SW4 & E2 NW 4 NW4 SW4
 Section Township Range: 11 4N 2W
 Associated Parcel:

Subdivision Name:
 Lot #:
 School Dist: DYSART UNIFIED SCHOOL DISTRICT
 Local Jurisdiction: SURPRISE
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Owner Information

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Owner: AUSTIN RANCH LLC
 In Care Of:
 Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
 Deed #: 051039486
 Deed Date: 7/25/2005

Sales Price: n/a
 Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$1,295	\$1,295	\$1,439
Limited Property Value (LPV):	\$1,295	\$1,295	\$1,439
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$207	\$207	\$230
Assessed LPV:	\$207	\$207	\$230
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-70-008-J
MCR #:
Property Address: 17623 W NORWICH DR
 WITTMANN 85387
Property Description: N2 NW4 NE4 SW4
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: TIGNOR GLENN E & FAITH
In Care Of:
Mailing Address: 17623 NORWICH DR
 WITTMANN AZ 853610000 USA
Deed #: 10823-0776
Deed Date: 9/11/1974

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$34,580	\$44,700	\$171,415
Limited Property Value (LPV):	\$34,580	\$44,700	\$171,415
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$3,458	\$4,470	\$17,142
Assessed LPV:	\$3,458	\$4,470	\$17,142
Property Use Code:	0830	0830	0830
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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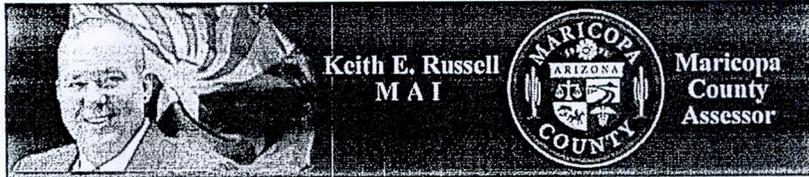
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Property Information

Parcel #: 503-70-008-K
MCR #:
Property Address: 17623 W NORWICH DR
 Unknown 85387
Property Description: S2 NW4 NE4 SW4
Section Township Range: 11 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
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Owner Information

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Owner: KNAACK RICHARD W & CAROLYN J
In Care Of:
Mailing Address: PO BOX 7808
 SURPRISE AZ 85374 USA
Deed #: 10823-0771
Deed Date: 9/11/1974

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$117,300	\$131,700	\$205,100
Limited Property Value (LPV):	\$117,300	\$131,700	\$205,100
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	3	3	3
Assessment Ratio:	10.0%	10.0%	10.0%
Assessed FCV:	\$11,730	\$13,170	\$20,510
Assessed LPV:	\$11,730	\$13,170	\$20,510
Property Use Code:	0134	0134	0134
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-029-C

MCR #:

Property Address:

Property Description:

THAT PRT NW4 SEC 13 DAF BEG NW COR SEC TH E 502.19F TH S 42D 58M W 330F TH S 47D 01M E 650F TO NWLY LN PARCEL 29C OF TRILBY WASH PROJ MCR 63/31 TH S 41D 57M W ALG SD NWLY LN 1125.30F TO W/L SEC TH N ALG SD W/L 1522.60F TO POB EX RD P/F 89-100507 & EX THAT PRT TH/OF LY NELY & NLY OF A LN WH IS PARL WI & 90F SWLY OF SWLY R/W LN US HYW 60-70-89 AS MEAS AT R/A TH/TO

Section Township Range: 13 4N 2W

Associated Parcel:

Subdivision Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction: SURPRISE

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Owner Information

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Owner: MARICOPA COUNTY MUN WTR CONS DIST 1

In Care Of:

Mailing Address: PO BOX 900
WADDELL AZ 853550900 USA

Deed #: 830339650

Deed Date: 8/24/1983

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$55,000	\$1,451,000	\$2,243,000
Limited Property Value (LPV):	\$55,000	\$990,379	\$836,838
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$8,800	\$232,160	\$358,880
Assessed LPV:	\$8,800	\$158,461	\$133,894
Property Use Code:	9600	9600	9600
Tax Area Code:	891500	891500	891500

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Property Information

Parcel #: 503-73-034-H

MCR #:

Property Address:

Property Description: BEG N4 COR SEC E 658.19F TO TPOB TH CONT E 658.19 F TO NW COR NE4 NE4 TH S 1317.89F TO N LN S2 NE4 TH W TO SW COR E2 NW4 NE4 TH N TO POB

Section Township Range: 14 4N 2W

Associated Parcel:

Subdivision Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction: SURPRISE

[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: AUSTIN RANCH LLC

In Care Of:

Mailing Address: 5333 N 7TH ST STE 305
PHOENIX AZ 85014 USA

Deed #: 051095362

Deed Date: 8/2/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$1,653	\$1,653	\$1,837
Limited Property Value (LPV):	\$1,653	\$1,653	\$1,837
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$264	\$264	\$294
Assessed LPV:	\$264	\$264	\$294
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

[Valuation](#)

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Property Information

Parcel #: 503-73-034-N
MCR #:
Property Address:
Property Description: E 1/3 OF W2 NW4 NE4 SEC 14 EX S 397.80F TH/OF
Section Township Range: 14 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: AUSTIN RANCH LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 051095362
Deed Date: 8/2/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$370	\$370	\$411
Limited Property Value (LPV):	\$370	\$370	\$411
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	15.9%	15.9%	16.1%
Assessed FCV:	\$59	\$59	\$66
Assessed LPV:	\$59	\$59	\$66
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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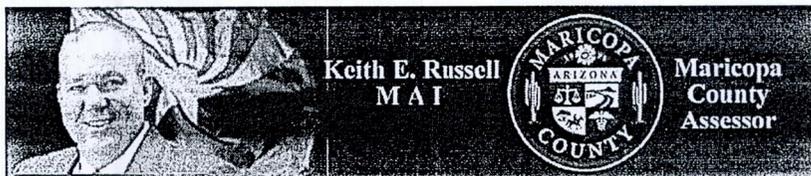
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Property Information

Parcel #: 503-73-034-Q
MCR #:
Property Address:
Property Description: W 1/3 OF W2 NW4 NE4 SEC 14 EX S 397.80F TH/OF
Section Township Range: 14 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: AUSTIN RANCH LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 051095362
Deed Date: 8/2/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$356	\$356	\$395
Limited Property Value (LPV):	\$356	\$356	\$395
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	15.9%
Assessed FCV:	\$57	\$57	\$63
Assessed LPV:	\$57	\$57	\$63
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-034-T
MCR #:
Property Address:
Property Description: E2 W 2/3 W2 NW4 NE4 SEC 14 EX S 397.80F TH/OF
Section Township Range: 14 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: AUSTIN RANCH LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 051095362
Deed Date: 8/2/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$371	\$371	\$413
Limited Property Value (LPV):	\$371	\$371	\$413
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	15.9%	15.9%	16.0%
Assessed FCV:	\$59	\$59	\$66
Assessed LPV:	\$59	\$59	\$66
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-036
 MCR #:
 Property Address:
 Property Description: NE4 NE4 40 AC
 Section Township Range: 14 4N 2W
 Associated Parcel:

Subdivision Name:
 Lot #:
 School Dist: DYSART UNIFIED SCHOOL DISTRICT
 Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: AUSTIN RANCH LLC
 In Care Of:
 Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
 Deed #: 051632096
 Deed Date: 10/28/2005

Sales Price: n/a
 Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$3,600	\$3,600	\$4,000
Limited Property Value (LPV):	\$3,600	\$3,600	\$3,440
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$576	\$576	\$640
Assessed LPV:	\$576	\$576	\$550
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-037-C
MCR #:
Property Address:
Property Description: E2 NE4 NW4 20.00 AC
Section Township Range: 14 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: COURTLAND PROPERTIES LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 050110656
Deed Date: 1/27/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$1,618	\$1,618	\$1,798
Limited Property Value (LPV):	\$1,618	\$1,618	\$1,798
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$259	\$259	\$288
Assessed LPV:	\$259	\$259	\$288
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-037-E
MCR #:
Property Address: 17553 W PINNACLE PEAK RD
 Unknown 85387
Property Description: N2 W2 NE4 NW4
Section Township Range: 14 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: HANSEN BEVERLY J
In Care Of:
Mailing Address: 2325 N WARNER DR
 APACHE JUNCTION AZ 85220 USA
Deed #: 071326141
Deed Date: 12/19/2007

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$900	\$900	\$1,000
Limited Property Value (LPV):	\$900	\$900	\$860
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$144	\$144	\$160
Assessed LPV:	\$144	\$144	\$138
Property Use Code:	4710	4710	4710
Tax Area Code:	891500	891500	891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-037-F
MCR #:
Property Address: 17625 W PINNACLE PEAK RD
 Unknown 85387
Property Description: S2 W2 NE4 NW4
Section Township Range: 14 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: POOLE HARRY D & VIRGINIA L
In Care Of:
Mailing Address: ROUTE 2 BOX 741-33B
 WITTMANN AZ 85361 USA
Deed #: 12416-0282
Deed Date: 9/6/1977

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$62,471	\$25,596	\$27,719
Limited Property Value (LPV):	\$62,471	\$25,596	\$27,719
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	M	M	M
Assessment Ratio:	10.0%	14.1%	14.0%
Assessed FCV:	\$6,247	\$3,613	\$3,879
Assessed LPV:	\$6,247	\$3,609	\$3,881
Property Use Code:	8714	4017	4017
Tax Area Code:	891500	891500	891500

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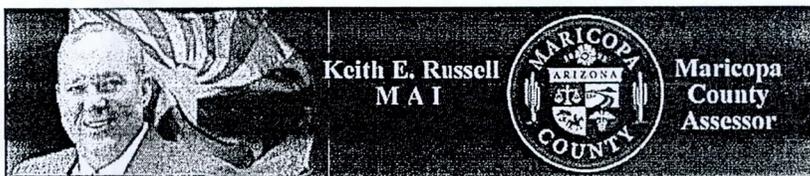
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Property Information

Parcel #: 503-73-037-H
MCR #:
Property Address:
Property Description: NW4 NW4 EX W 55F
Section Township Range: 14 4N 2W
Associated Parcel:

Subdivision Name:
Lot #:
School Dist: DYSART UNIFIED SCHOOL DISTRICT
Local Jurisdiction: SURPRISE
[Tax District FAQs](#)

Owner Information

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Owner: COURTLAND CAPITAL LLC
In Care Of:
Mailing Address: 5333 N 7TH ST STE 305
 PHOENIX AZ 85014 USA
Deed #: 051446045
Deed Date: 9/29/2005

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:	2012	2011	2010
Full Cash Value (FCV):	\$3,450	\$3,450	\$3,833
Limited Property Value (LPV):	\$3,450	\$3,450	\$3,833
Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.			
Legal Class:	2	2	2
Assessment Ratio:	16.0%	16.0%	16.0%
Assessed FCV:	\$552	\$552	\$613
Assessed LPV:	\$552	\$552	\$613
Property Use Code:	4719	4719	4719
Tax Area Code:	891500	891500	891500

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[Characteristics](#)

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Property Information

Parcel #: 503-73-154-A

MCR #:

Property Address:

Property Description: TH PT E2 SE4 SE4 SEC 3 BEG SE COR SEC 3 TH N 134.40F TO SLY R/W LN H/W TH NWLY ALG SD R/W LN 896.50F TO INSEC WITH W LN OF E2 SE4 SE4 SD SEC TH S 740.31F TO S LN SD SEC TH E ALG SD S LN 653.67F TO POB EX S 55F RD EX FOL PROP DAF COM SE COR SD SEC 3 TH N 13.52F TO POB TH N 46D W 891.74F TH N 122.75F TH S 46D E 892.05F TH S 122.54F TO POB & LY S OF N LN OF FOL DESC PROP COM SE COR SEC 3 TH W 159.49F TO POB TH CONT W 160.92F TH N 46D W 454.70F TH N 150.03F TH S 46D E TO POB P/F 00-0380772

Subdivision

Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction: SURPRISE

Tax District
FAQs

Section Township Range: 3 4N 2W

Associated Parcel:

Owner Information

[View Tax Information](#)

Owner: VILLAGOMEZ JOHN M & VICKY

In Care Of:

Mailing Address: 16401 GREASEWOOD ST
SURPRISE AZ 85374 USA

Deed #: 14032-0312

Deed Date: 11/15/1979

Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

Tax Year:

2012

2011

Full Cash Value (FCV):

\$14,000

\$20,500

Limited Property Value (LPV):

\$14,000

\$19,475

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

2

2

Assessment Ratio:

16.0%

16.0%

Assessed FCV:

\$2,240

\$3,280

Assessed LPV:

\$2,240

\$3,116

Property Use Code:

0012

0012

Tax Area Code:

891500

891500

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[Characteristics](#)

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Property Information

Parcel #: 503-73-154-B

MCR #:

Property Address: 25029 N CITRUS RD
WITTMANN 85361

Property Description: TH PT OF E2 SE4 SE4 SEC 3 BEG SE COR SEC 3 TH N 134.40F TO SLY R/W LN H/W TH NWLY ALG SD R/W LN 896.50F TO INSEC WITH W LN OF E2 SE4 SE4 SD SEC TH S 740.31F TO S LN SD SEC TH E ALG SD S LN 653.67F TO POB LY S OF N LN OF FOL DESC PROP COM SE COR SEC 3 TH W 159.49F TO POB TH CONT W 160.92F TH N 46D W 454.70F TH N 150.03F TH S 46D E TO POB P/F 00-0380772 EX S 55F RD

Section Township Range: 3 4N 2W

Associated Parcel:

Subdivision

Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local Jurisdiction: SURPRISE

Tax District
[FAQs](#)

Owner Information

Owner: VILLAGOMEZ JOHN M & VICKY

In Care Of:

Mailing Address: 16401 GREASEWOOD ST
SURPRISE AZ 85374 USA

Deed #: 14032-0312

Deed Date: 11/15/1979

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Sales Price: n/a
Sales Month/Year: n/a

Valuation Information

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Tax Year:

2012

2011

Full Cash Value (FCV):

\$25,000

\$32,600

Limited Property Value (LPV):

\$25,000

\$32,600

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

4

4

Assessment Ratio:

10.0%

10.0%

Assessed FCV:

\$2,500

\$3,260

Assessed LPV:

\$2,500

\$3,260

Property Use Code:

0122

0122

Tax Area Code:

891500

891500

Additional Component Information (for this parcel)

[Valuation](#)

[Characteristics](#)

[Commercial Property Overview](#)

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Property Information

Parcel #: 503-73-155-B

MCR #:

Property Address:

Property Description: FR SE COR SEC 3 N 134.40F & N 47D 28M W ALG SLY R/W LN H/W 896.50F TPOB TH CONT NWLY ALG SD R/W LN 448.20F TO PT TH S 709.17F TH E 326.81F TH N 404.03F TO SD SLY R/W LN H/W TO POB LY SELY OF R/W P/F 02-0450968

Section Township Range: 3 4N 2W

Associated Parcel:

Subdivision

Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local

Jurisdiction: SURPRISE

[Tax District](#)

[FAQs](#)

Owner Information

[View Tax Information](#)

Owner: SOUTHWEST POWER CONSULTANTS INC PROFIT

In Care Of:

Mailing Address: 4935 E RANCHO DEL ORO DR
CAVE CREEK AZ 85331 USA

Deed #: 080274899

Deed Date: 3/28/2008

Sales Price: n/a

Sales Month/Year: n/a

Valuation Information

Tax Year:

2012

2011

Full Cash Value (FCV):

\$71,500

\$89,000

Limited Property Value (LPV):

\$71,500

\$84,550

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

2

2

Assessment Ratio:

16.0%

16.0%

Assessed FCV:

\$11,440

\$14,240

Assessed LPV:

\$11,440

\$13,528

Property Use Code:

0022

0022

Tax Area Code:

891500

891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-155-C

MCR #:

Property Address:

Property Description: FR SE COR SEC 3 N 134.40F & N 47D 28M W ALG SLY R/W LN H/W 896.50F TPOB TH CONT NWLY ALG SD R/W LN 448.20F TO PT TH S 709.17F TH E 326.81F TH N 404.03F TO SD SLY R/W LN H/W TO POB LY SLY OF R/W P/F 02-0450968

Section Township Range: 3 4N 2W

Associated Parcel:

Subdivision

Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local

Jurisdiction: SURPRISE

Tax District

FAQs

Owner Information

[View Tax Information](#)

Owner: SOUTHWEST POWER CONSULTANTS INC PROFIT

In Care Of:

Mailing Address: 4935 E RANCHO DEL ORO DR
CAVE CREEK AZ 85331 USA

Deed #: 080274899

Deed Date: 3/28/2008

Sales Price: n/a

Sales Month/Year: n/a

Valuation Information

Tax Year:

2012

2011

Full Cash Value (FCV):

\$104,000

\$130,500

Limited Property Value (LPV):

\$104,000

\$123,975

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

2

2

Assessment Ratio:

16.0%

16.0%

Assessed FCV:

\$16,640

\$20,880

Assessed LPV:

\$16,640

\$19,836

Property Use Code:

0022

0022

Tax Area Code:

891500

891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-156-B

MCR #:

Property Address:

Property Description: NW4 SW4 SE4 SE4 & S2 SW4 SE4 SE4 SEC 3 EX S 55F RD & EX 00-0273357 & EX TH PT OF NW4 SW4 SE4 SE4 LY NW OF TH N LN P/F 00-0273357

Section Township Range: 3 4N 2W

Associated Parcel:

Subdivision

Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local SURPRISE

Jurisdiction:

[Tax District FAQs](#)

Owner Information

[View Tax Information](#)

Owner: SOUTHWEST POWER CONSULTANTS INC PROFIT

In Care Of:

Mailing Address: 4935 E RANCHO DEL ORO DR
CAVE CREEK AZ 85331 USA

Deed #: 080274899

Deed Date: 3/28/2008

Sales Price: n/a

Sales Month/Year: n/a

Valuation Information

Tax Year:

2012

2011

Full Cash Value (FCV):

\$27,500

\$46,000

Limited Property Value (LPV):

\$27,500

\$43,700

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

2

2

Assessment Ratio:

16.0%

16.0%

Assessed FCV:

\$4,400

\$7,360

Assessed LPV:

\$4,400

\$6,992

Property Use Code:

0012

0012

Tax Area Code:

891500

891500

Additional Component Information (for this parcel)

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Property Information

Parcel #: 503-73-942-A

MCR #:

Property Address:

PT SEC 2, 3 & 11 LY WI-IN FOL DESC PARCEL COM SW COR SEC 2 T4N R2W TH N 625.76F TO POB TH N 46D 13M W 7524.11F TH N 43D 54M E 170.46F TO BEG CUR RAD 1420F TH ELY ALG SD CUR TO RT DIST 2241.96F TH S 45D 37M E 2372.44F TO BEG CUR RAD 1900F TH SELY ALG SD CUR TO LF DIST 1068.05F TH S 12D 9M W 200F TO BEG NON-TAN CUR RAD 2100F TH ELY ALG ARC SD CUR TO LF DIST 842.49F TH N 79D 10M E 56.66F TH S 55D 49M E 42.43F TH S 10D 49M E 128.24F TO BEG CUR RAD 1518F TH SLY ALG ARC SD CUR TO LF DIST 1834.69F TH S 80D 4M E 488.17F TO BEG CUR RAD 1382F TH SELY ALG ARC SD CUR TO RT DIST 810.34F TH S 46D 28M E 511.74F TH S 43D 31M W 2709.63F TH N 46D 13M W 1611.67F TO POB P/F 08-0061743 EX ANY POR LY WI-IN FOL DESC PARCELPT SEC 3 T4N R2W DAF COM S4 COR SEC 34 TH E 16.37F TO POB SD PT BEING PT ON NON-TAN CUR RAD 770F TH SLY ALG ARC SD CUR LF DIST 625.16F TH S 43D 46M W 249.62F TH N 46D 13M W 2433.30F TH N 43D 54M E 169.99F TO BEG CUR RAD 1220F TH NELY ALG ARC SD CUR TO RT DIST 1926.19F TH S 45D 37M E 672.18F TH S 42.65F TH S 43D 46M W 379.75F TO BEG CUR RAD 770F TH SWLY AGL ARC SD CUR TO LF DIST 306.43F TO POB P/F 08-0061743

Property Description:

Subdivision

Name:

Lot #:

School Dist: DYSART UNIFIED SCHOOL DISTRICT

Local

Jurisdiction: SURPRISE

Tax District

FAQs

Section Township Range: 11 4N 2W

Associated Parcel:

Owner Information

[View Tax Information](#)

Owner: LCD ASANTE LLC

In Care Of:

Mailing Address: 1725 W GREENTREE DR STE 114
TEMPE AZ 85284 USA

Deed #: 090486171

Deed Date: 5/29/2009

Sales Price: n/a

Sales Month/Year: n/a

Valuation Information

Tax Year:

2012

2011

2010

Full Cash Value (FCV):

\$27,466

\$27,466

\$30,518

Limited Property Value (LPV):

\$27,466

\$27,466

\$26,245

Notice: The values displayed on this page may not reflect constitutional or statutory adjustments.

Legal Class:

2

2

2

Assessment Ratio:

16.0%

16.0%

16.0%

Assessed FCV:

\$4,395

\$4,395

\$4,883

Assessed LPV:

\$4,395

\$4,395

\$4,199

Property Use Code:

4710

4710

4710

Tax Area Code:

891500

891500

891500

Additional Component Information (for this parcel)

[Valuation](#)

[Characteristics](#)

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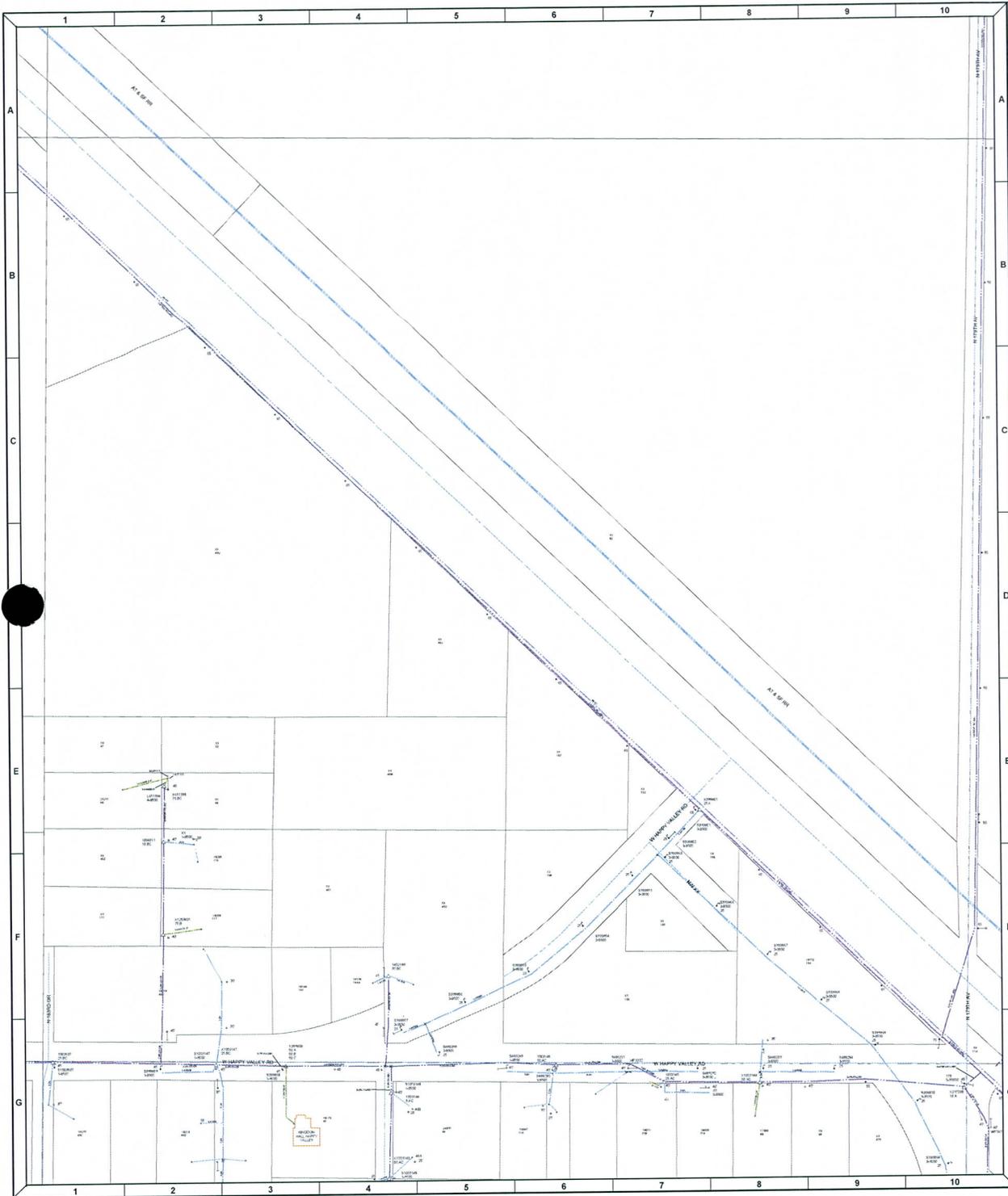
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 STATION 3296
 PO BOX 53533
 PHOENIX AZ 85072-3533
 FAX 602-371-4188
 E-MAIL mapprint@aps.com

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Electric Line Features Legend

- Overhead Primary
- Overhead Aerial Cable
- Overhead Secondary
- Overhead Service
- Underground Secondary
- Underground Service
- Underground Primary
- Underground Transmission
- Underground 250 KV Transmission
- Overhead Transmission
- Overhead Communication Line
- Underground Communication Line
- Conduit / Duct / Direct Buried

Electric Device Features Legend

- Overhead Capacitor Bank
- Pad Mounted Capacitor
- Feeder Circuit Breaker
- Feeder Disconnect
- One Anchor Guy
- OH/OG Change in Wire/Conduit Size
- Overhead Tap Wire Bank
- PM Aerial Transformer Enclosure
- PM Enclosure E Voltage
- PM Junction Enclosure
- PM Subending Enclosure
- PM Termination Enclosure
- OH Aerial Transformer Switch
- OH Recloser
- OH Sectionalizer
- Pad Mounted Sectionalizer
- Metal Pole - APS Owned - Not Joint Use
- Wood Pole - APS Owned - Joint Use
- Wood Pole - APS Owned - Not Joint Use
- Wood Pole - APS Owned - Joint Use
- Road/Transmission Assembly
- OH Primary Meter
- Service Entry Point
- Pad Mounted Primary Meter
- Overhead Light
- Street Light
- Substation
- OH Blank Disconnect
- OH Gang Operated Air Break Switch
- Open Point
- Manhole - Open
- Manhole - Recloser
- Primary P.U. Box - Man Accessible
- Primary Junction Box
- Secondary Junction Box
- Primary P.U. Box
- Vault Building
- OH Voltage Regulator
- Pad Mounted Voltage Regulator
- OH APS XFR Bank - One Unit
- OH APS XFR Bank - Two Units
- OH APS XFR Bank - Three Units
- Pad Mounted 1 Ph. XFR
- Pad Mounted Duplex XFR
- Pad Mounted 3Ph XFR
- Substation XFR

Wire Code Legend

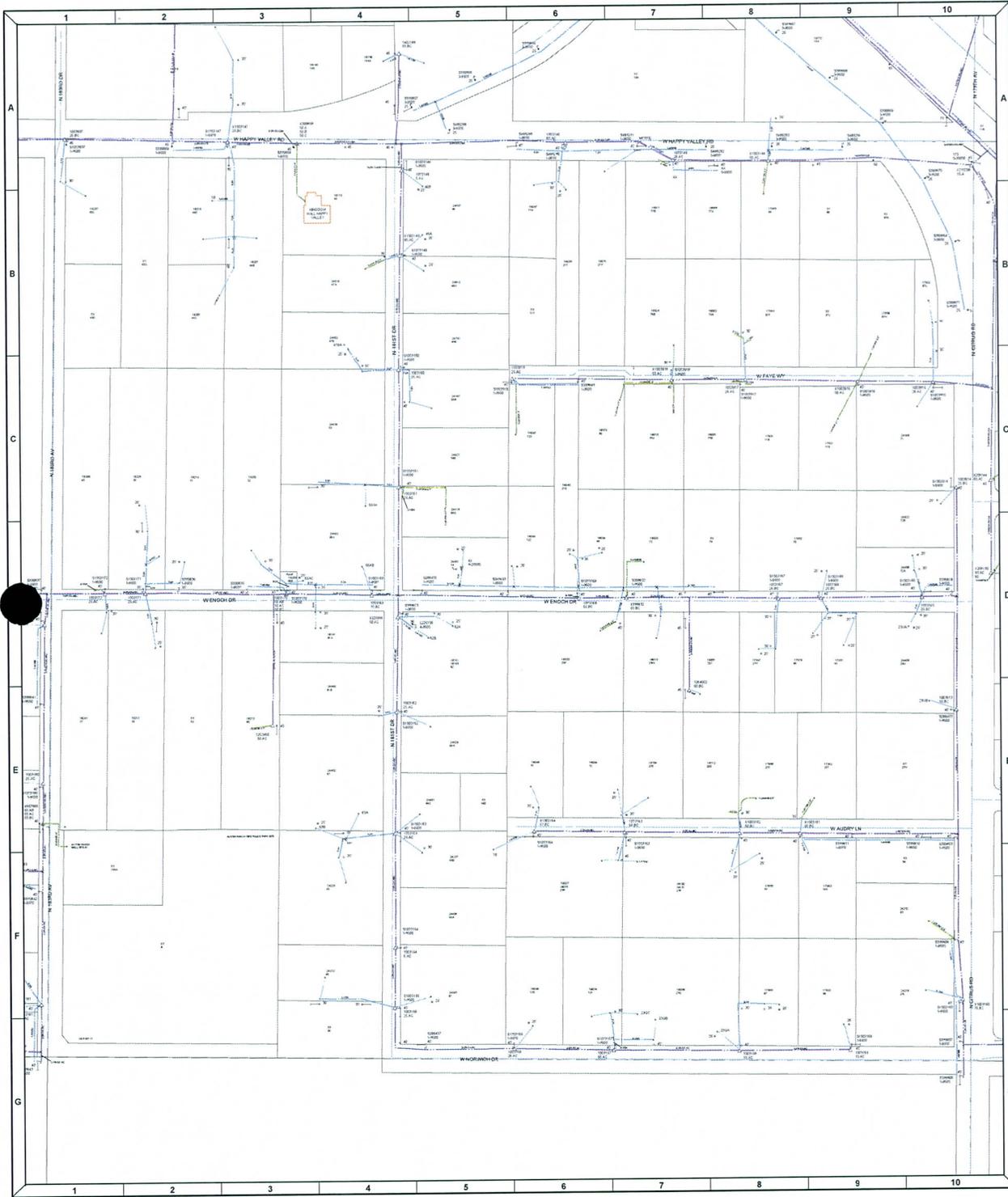
- Overhead:**
- 1 - Phase
 - 2 - Taping Position
 - 3 - # of Conductors
- Underground:**
- 1 - Encasement
 - 2 - Size of Conduit
 - 3 - # of Conductors
- (For Conduit Size or Encasement - Dried Buried)

Arizona Public Service

OH & UG ELECTRIC

4N 2W 03 SE

Date: 6/24/2011
 Scale: 1" = 1,192'
 1" = 100'



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- Electric Line Features Legend**
- Overhead Primary
 - Overhead Aerial Cable
 - Overhead Secondary
 - Overhead Service
 - Underground Secondary
 - Underground Service
 - Underground Primary
 - Underground Transmission
 - Underground 220kV Transmission
 - Overhead Transmission
 - Overhead Communication Line
 - Underground Communication Line
 - Conduit/Conduit Bundle

- Electric Device Features Legend**
- Overhead Conduit Bank
 - Pad Mounted Capacitor
 - Feder Circuit Breaker
 - Fuse Disconnect
 - One Answer Tap
 - Ground Change in Wire Conduit Size
 - Overhead Tap Mid Span
 - PM Aerial Transfer Enclosure
 - PM Enclosing Enclosure
 - PM Junction Enclosure
 - PM Submerging Enclosure
 - PM Termination Enclosure
 - OH Aerial Transfer Switch
 - OH Pedestal
 - OH Transformer
 - Pad Mounted Sectionalizer
 - Met Pad - APS Owned - Not Joint Use
 - Met Pad - APS Owned - Joint Use
 - Wood Pad - APS Owned - Not Joint Use
 - Wood Pad - APS Owned - Joint Use
 - Riser/Terminal Assembly
 - OH Primary Meter
 - Service Entry Panel
 - Pad Mounted Primary Meter
 - Open To-Open Light
 - Street Light
 - Substation
 - OH Blank Disconnect
 - OH Gang Operated Air Break Switch
 - Open Post
 - Merch - Octagon
 - Merch - Rectangle
 - Primary Pull Box - Meter Accessible
 - Primary Junction Box
 - Secondary Junction Box
 - Primary Pull Box
 - Vault Building
 - OH Voltage Regulator
 - Pad Mounted Voltage Regulator
 - OH APS 3PR Bank - One Unit
 - OH APS 3PR Bank - Two Units
 - OH APS 3PR Bank - Three Units
 - Pad Mounted 3PR 3PR
 - Pad Mounted Duplex 3PR
 - Substation 3PR

- Wire Code Legend**
- Overhead:**
- 1 - 1/2" Flat
 - 1 - 1/2" Round
 - 1 - 1/2" Flat
 - 1 - 1/2" Round
 - 1 - 1/2" Flat
 - 1 - 1/2" Round
- Underground:**
- 1 - 1/2" Flat
 - 1 - 1/2" Round
 - 1 - 1/2" Flat
 - 1 - 1/2" Round
 - 1 - 1/2" Flat
 - 1 - 1/2" Round
- (For Conduit Size or Stranding - Open Buckets)

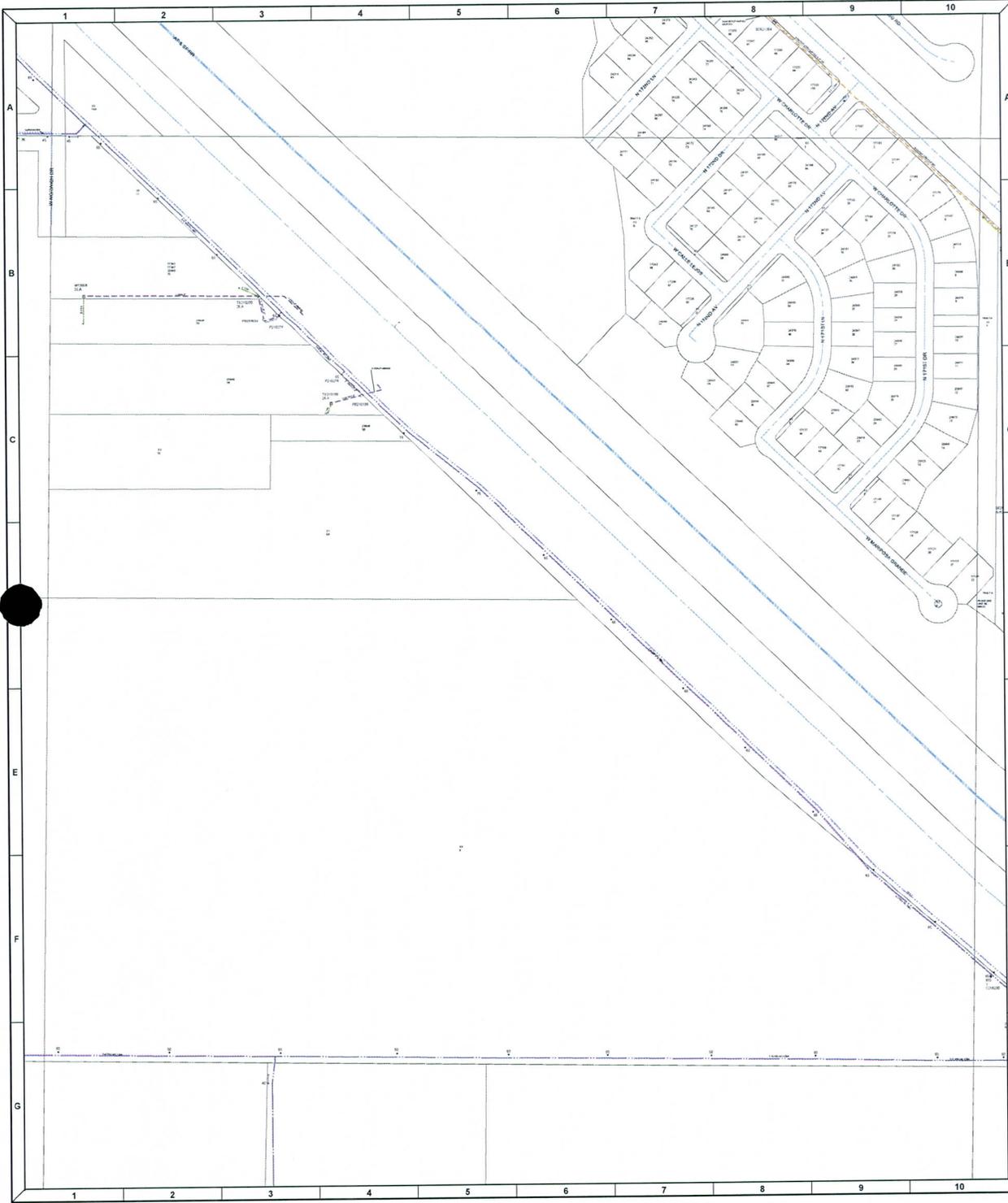
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OH & UG ELECTRIC

4N 2W 10 NE

Date: 6/24/2011

Scale: 1:1,200
1" = 100'



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- Electric Line Features Legend**
- Overhead Primary
 - Overhead Aerial Cable
 - Overhead Secondary
 - Overhead Service
 - Underground Secondary
 - Underground Service
 - Underground Primary
 - Underground Transmission
 - Underground 25kV Transmission
 - Overhead Transmission
 - Overhead Communication Line
 - Underground Communication Line
 - Conduit / Direct Buried
- Electric Device Features Legend**
- Overhead Capacitor Bank
 - Pat Mounted Capacitor
 - Feeder Circuit Breaker
 - Phase Converter
 - One Anchor Guy
 - OH/OG Change in WVA/Conduit Size
 - Overhead Tap Main Span
 - PM Auto Transfer Enclosure
 - PM Enclosure E-Vertical
 - PM Junction Enclosure
 - PM Subending Enclosure
 - PM Termination Enclosure
 - OH Auto Transfer Switch
 - OH Isolator
 - OH Sectionalizer
 - Pat Mounted Sectionalizer
 - Steel Pole - APS Owned - Not Joint Use
 - Wood Pole - APS Owned - Joint Use
 - Wood Pole - APS Owned - Not Joint Use
 - Phase Transition Assembly
 - OH Primary Meter
 - Service Entry Point
 - Pat Mounted Primary Meter
 - Overhead Primary Meter
 - Street Light
 - Substation
 - OH Blank Disconnect
 - OH Gang Operable 3k Break Switch
 - Open Post
 - Metallic - Outspan
 - Metallic - Throughspan
 - Primary N.B. Box - Man Accessible
 - Primary Junction Box
 - Secondary Junction Box
 - Primary N.B. Box
 - Vault Building
 - OH Voltage Regulator
 - Pat Mounted Voltage Regulator
 - OH APS XFR Bank - One Unit
 - OH APS XFR Bank - Two Units
 - OH APS XFR Bank - Three Units
 - Pat Mounted 1 Ph XFR
 - Pat Mounted Duplex XFR
 - Pat Mounted 3Ph XFR
 - Subscriber XFR
- Wire Code Legend**
- Overhead:**
- 1-120/2-120-3-120-4-120-5-120-6-120-7-120-8-120-9-120-10-120-11-120-12-120-13-120-14-120-15-120-16-120-17-120-18-120-19-120-20-120-21-120-22-120-23-120-24-120-25-120-26-120-27-120-28-120-29-120-30-120-31-120-32-120-33-120-34-120-35-120-36-120-37-120-38-120-39-120-40-120-41-120-42-120-43-120-44-120-45-120-46-120-47-120-48-120-49-120-50-120-51-120-52-120-53-120-54-120-55-120-56-120-57-120-58-120-59-120-60-120-61-120-62-120-63-120-64-120-65-120-66-120-67-120-68-120-69-120-70-120-71-120-72-120-73-120-74-120-75-120-76-120-77-120-78-120-79-120-80-120-81-120-82-120-83-120-84-120-85-120-86-120-87-120-88-120-89-120-90-120-91-120-92-120-93-120-94-120-95-120-96-120-97-120-98-120-99-120-100-120-101-120-102-120-103-120-104-120-105-120-106-120-107-120-108-120-109-120-110-120-111-120-112-120-113-120-114-120-115-120-116-120-117-120-118-120-119-120-120-121-120-122-120-123-120-124-120-125-120-126-120-127-120-128-120-129-120-130-120-131-120-132-120-133-120-134-120-135-120-136-120-137-120-138-120-139-120-140-120-141-120-142-120-143-120-144-120-145-120-146-120-147-120-148-120-149-120-150-120-151-120-152-120-153-120-154-120-155-120-156-120-157-120-158-120-159-120-160-120-161-120-162-120-163-120-164-120-165-120-166-120-167-120-168-120-169-120-170-120-171-120-172-120-173-120-174-120-175-120-176-120-177-120-178-120-179-120-180-120-181-120-182-120-183-120-184-120-185-120-186-120-187-120-188-120-189-120-190-120-191-120-192-120-193-120-194-120-195-120-196-120-197-120-198-120-199-120-200-120-201-120-202-120-203-120-204-120-205-120-206-120-207-120-208-120-209-120-210-120-211-120-212-120-213-120-214-120-215-120-216-120-217-120-218-120-219-120-220-120-221-120-222-120-223-120-224-120-225-120-226-120-227-120-228-120-229-120-230-120-231-120-232-120-233-120-234-120-235-120-236-120-237-120-238-120-239-120-240-120-241-120-242-120-243-120-244-120-245-120-246-120-247-120-248-120-249-120-250-120-251-120-252-120-253-120-254-120-255-120-256-120-257-120-258-120-259-120-260-120-261-120-262-120-263-120-264-120-265-120-266-120-267-120-268-120-269-120-270-120-271-120-272-120-273-120-274-120-275-120-276-120-277-120-278-120-279-120-280-120-281-120-282-120-283-120-284-120-285-120-286-120-287-120-288-120-289-120-290-120-291-120-292-120-293-120-294-120-295-120-296-120-297-120-298-120-299-120-300-120-301-120-302-120-303-120-304-120-305-120-306-120-307-120-308-120-309-120-310-120-311-120-312-120-313-120-314-120-315-120-316-120-317-120-318-120-319-120-320-120-321-120-322-120-323-120-324-120-325-120-326-120-327-120-328-120-329-120-330-120-331-120-332-120-333-120-334-120-335-120-336-120-337-120-338-120-339-120-340-120-341-120-342-120-343-120-344-120-345-120-346-120-347-120-348-120-349-120-350-120-351-120-352-120-353-120-354-120-355-120-356-120-357-120-358-120-359-120-360-120-361-120-362-120-363-120-364-120-365-120-366-120-367-120-368-120-369-120-370-120-371-120-372-120-373-120-374-120-375-120-376-120-377-120-378-120-379-120-380-120-381-120-382-120-383-120-384-120-385-120-386-120-387-120-388-120-389-120-390-120-391-120-392-120-393-120-394-120-395-120-396-120-397-120-398-120-399-120-400-120-401-120-402-120-403-120-404-120-405-120-406-120-407-120-408-120-409-120-410-120-411-120-412-120-413-120-414-120-415-120-416-120-417-120-418-120-419-120-420-120-421-120-422-120-423-120-424-120-425-120-426-120-427-120-428-120-429-120-430-120-431-120-432-120-433-120-434-120-435-120-436-120-437-120-438-120-439-120-440-120-441-120-442-120-443-120-444-120-445-120-446-120-447-120-448-120-449-120-450-120-451-120-452-120-453-120-454-120-455-120-456-120-457-120-458-120-459-120-460-120-461-120-462-120-463-120-464-120-465-120-466-120-467-120-468-120-469-120-470-120-471-120-472-120-473-120-474-120-475-120-476-120-477-120-478-120-479-120-480-120-481-120-482-120-483-120-484-120-485-120-486-120-487-120-488-120-489-120-490-120-491-120-492-120-493-120-494-120-495-120-496-120-497-120-498-120-499-120-500-120-501-120-502-120-503-120-504-120-505-120-506-120-507-120-508-120-509-120-510-120-511-120-512-120-513-120-514-120-515-120-516-120-517-120-518-120-519-120-520-120-521-120-522-120-523-120-524-120-525-120-526-120-527-120-528-120-529-120-530-120-531-120-532-120-533-120-534-120-535-120-536-120-537-120-538-120-539-120-540-120-541-120-542-120-543-120-544-120-545-120-546-120-547-120-548-120-549-120-550-120-551-120-552-120-553-120-554-120-555-120-556-120-557-120-558-120-559-120-560-120-561-120-562-120-563-120-564-120-565-120-566-120-567-120-568-120-569-120-570-120-571-120-572-120-573-120-574-120-575-120-576-120-577-120-578-120-579-120-580-120-581-120-582-120-583-120-584-120-585-120-586-120-587-120-588-120-589-120-590-120-591-120-592-120-593-120-594-120-595-120-596-120-597-120-598-120-599-120-600-120-601-120-602-120-603-120-604-120-605-120-606-120-607-120-608-120-609-120-610-120-611-120-612-120-613-120-614-120-615-120-616-120-617-120-618-120-619-120-620-120-621-120-622-120-623-120-624-120-625-120-626-120-627-120-628-120-629-120-630-120-631-120-632-120-633-120-634-120-635-120-636-120-637-120-638-120-639-120-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33.71513/-112.44776 : 33.71513/-112.44422 : 33.71513/-112.44068
 33.71298/-112.44776 : 33.71298/-112.44422 : 33.71298/-112.44068
 33.71084/-112.44776 : 33.71084/-112.44422 : 33.71084/-112.44068

CALL AT LEAST TWO (2) FULL WORKING DAYS
 BEFORE YOU BEGIN EXCAVATION.

ARIZONA 811
 ARIZONA BLUE STAKE, INC.
 DIAL 8-1-1 OR 1-800-STAKE-IT (782-6348).
 IN MARICOPA COUNTY: 802-268-110.
 ALL LOCATIONS ARE APPROXIMATE.
 PLEASE CALL ARIZONA BLUE STAKE
 FOR LOCATION OF UTILITIES
 AND PRIOR TO ANY EXCAVATION.
 PRINTS ARE NOT TO SCALE.

Qwest CONFIDENTIAL AND PROPRIETARY
 INFORMATION. DISCLOSED TO GOVERNMENTAL
 AGENCY PURSUANT TO LAW. NOT TO BE
 DISCLOSED BY GOVERNMENTAL AGENCY TO ANY
 THIRD PARTY WITHOUT WRITTEN AUTHORIZATION
 BY Qwest.



WIRE CENTER
 BEARDSLEY
 ARIZONA

Grid ID: (Lat/Long)
 33.71298/-112.44422

1" = 150'



DISCLAIMER: All Facility Locations are
 Approximate and Facilities must be
 Spotted by Appropriate Agency
 Prior to Excavation



33.71084/-112.44776 : 33.71084/-112.44422 : 33.71084/-112.44068
 33.70869/-112.44776 : 33.70869/-112.44422 : 33.70869/-112.44068
 33.70654/-112.44776 : 33.70654/-112.44422 : 33.70654/-112.44068

CALL AT LEAST TWO (2) FULL WORKING DAYS
 BEFORE YOU BEGIN EXCAVATION.

ARIZONA 811
 ARIZONA BLUE STAKE, INC.
 DIAL 8-1-1 OR 1-800-STAKE-IT (782-5948).
 IN MARICOPA COUNTY: 502-263-1110.
 ALL LOCATIONS ARE APPROXIMATE.
 PLEASE CALL ARIZONA BLUESTAKE
 FOR LOCATION OF UTILITIES
 AND PRIOR TO ANY EXCAVATION.
 PRINTS ARE NOT TO SCALE.

Qwest CONFIDENTIAL AND PROPRIETARY
 INFORMATION. DISCLOSED TO GOVERNMENTAL
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 THIRD PARTY WITHOUT WRITTEN AUTHORIZATION
 BY Qwest.

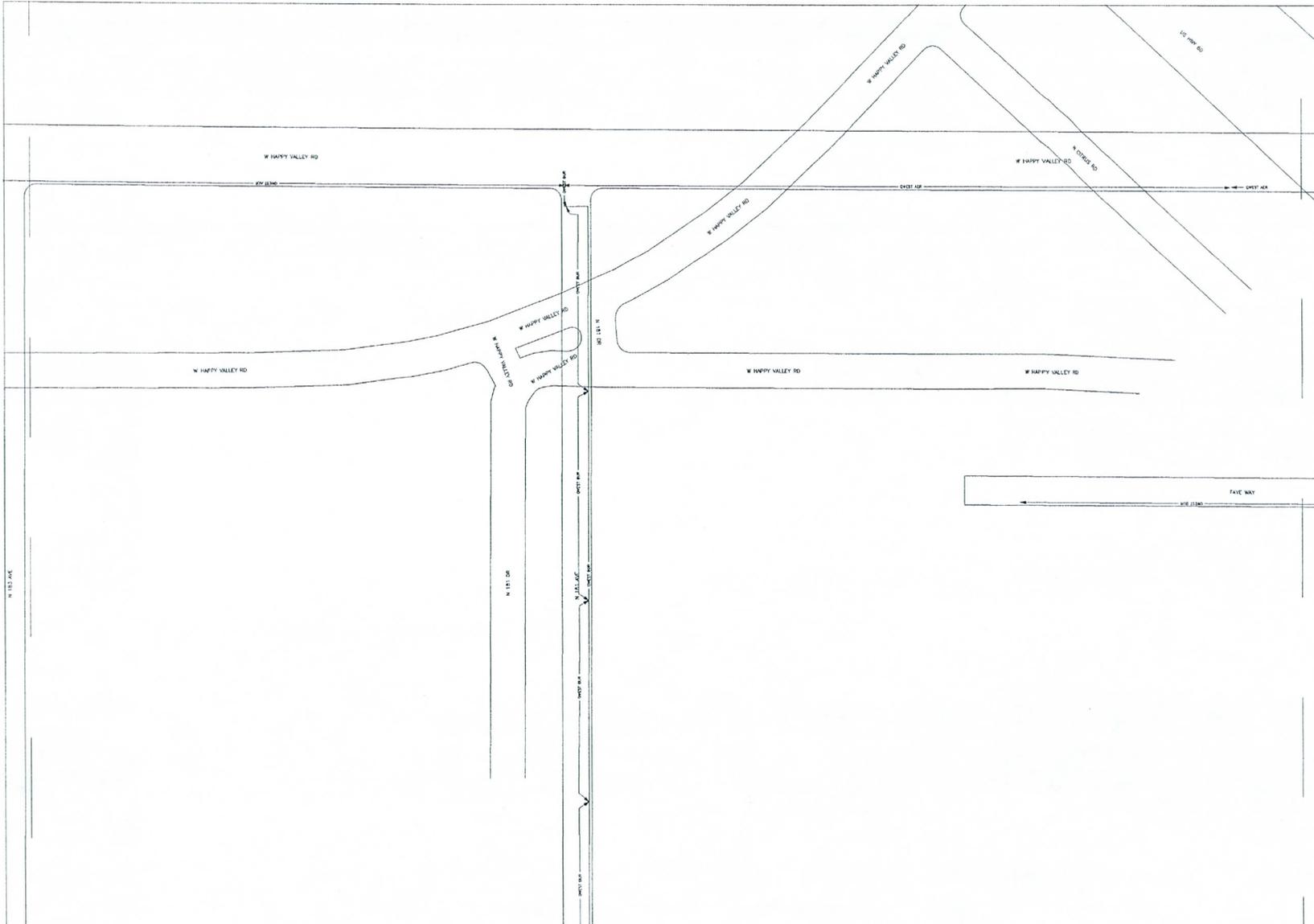


WIRE CENTER
 BEARDSLEY
 ARIZONA

Grid ID: (Lat/Long)
 33.70869/-112.44422



DISCLAIMER: All Facility Locations are
 Approximate and Facilities Must be
 Spotted by Appropriate Agency
 Prior to Excavation.



CALL AT LEAST TWO (2) FULL WORKING DAYS
BEFORE YOU BEGIN EXCAVATION.
ARIZONA 811

ARIZONA BLUE STAKE INC.
IN MARICOPA COUNTY (782-5348).
ALL LOCATIONS ARE APPROXIMATE.
PLEASE CALL ARIZONA BLUE STAKE
FOR LOCATION OF UTILITIES
AND PRIOR TO ANY EXCAVATION.
PRINTS ARE NOT TO SCALE.

Qwest CONFIDENTIAL AND PROPRIETARY
INFORMATION. DISCLOSED TO GOVERNMENTAL
AGENCY PURSUANT TO LAW. NOT TO BE
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THIRD PARTY WITHOUT WRITTEN AUTHORIZATION
BY Qwest.



WIRE CENTER
BEARDSLEY
ARIZONA

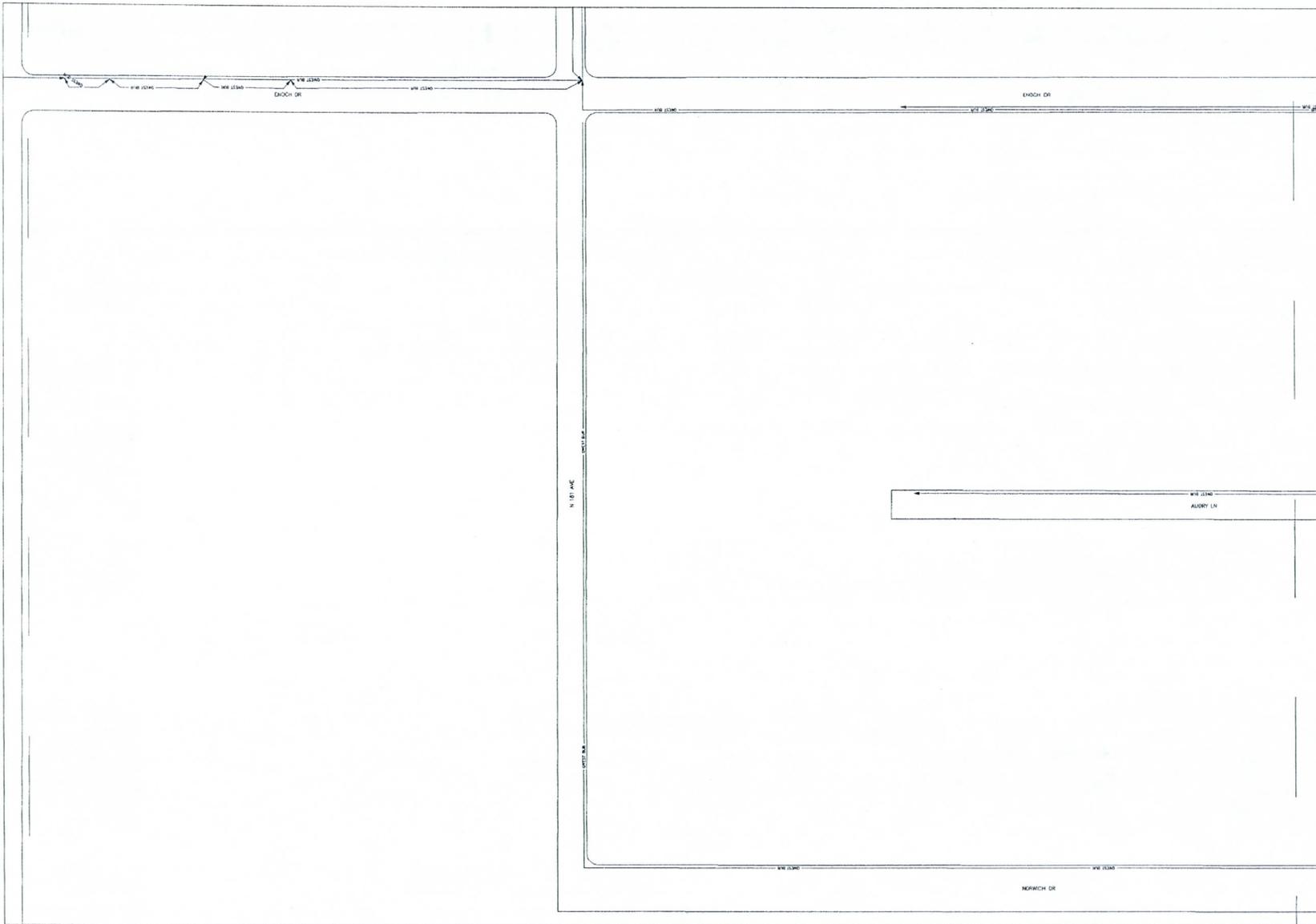
Grid ID: (Lat/Long)
33.70869/-112.4513

1" = 150'



33.71084/-112.45484 : 33.71084/-112.4513 : 33.71084/-112.44776
33.70869/-112.45484 : 33.70869/-112.4513 : 33.70869/-112.44776
33.70654/-112.45484 : 33.70654/-112.4513 : 33.70654/-112.44776

DISCLAIMER: All Facility Locations are
Approximate and Facilities Must be
Spotted by Appropriate Agency
Prior to Excavation



CALL AT LEAST TWO (2) FULL WORKING DAYS BEFORE YOU BEGIN EXCAVATION.
 ARIZONA 811
 ARIZONA BLUE STAKE, INC.
 DIAL 8-1-1 OR 1-800-STAKE-IT (782-5349).
 IN MARICOPA COUNTY: 602-263-1110.
 ALL LOCATIONS ARE APPROXIMATE.
 PLEASE CALL ARIZONA BLUESTAKE FOR LOCATION OF UTILITIES AND PRIOR TO ANY EXCAVATION.
 PRINTS ARE NOT TO SCALE.

Qwest CONFIDENTIAL AND PROPRIETARY INFORMATION. DISCLOSED TO GOVERNMENTAL AGENCY PURSUANT TO LAW. NOT TO BE DISCLOSED BY GOVERNMENTAL AGENCY TO ANY THIRD PARTY WITHOUT WRITTEN AUTHORIZATION BY Qwest.



WIRE CENTER
 BEARDSLEY
 ARIZONA

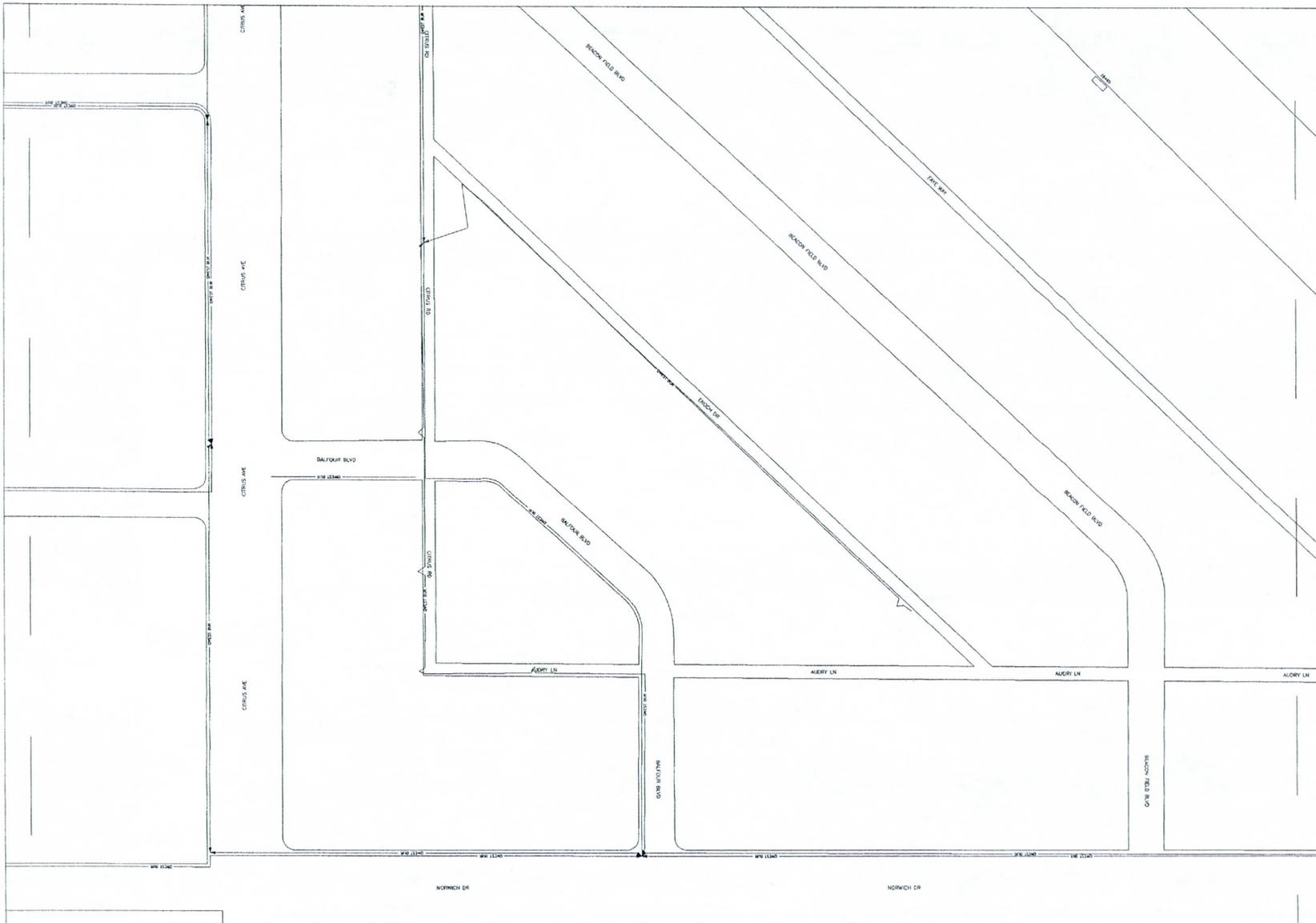
Grid ID: (Lat/Long)
 33.70439/-112.4513

1" = 150'



33.70654/-112.45484 : 33.70654/-112.4513 : 33.70654/-112.44776
 33.70439/-112.45484 : 33.70439/-112.4513 : 33.70439/-112.44776
 33.70224/-112.45484 : 33.70224/-112.4513 : 33.70224/-112.44776

DISCLAIMER: All Facility Locations are Approximate and Facilities Must be Spotted by Appropriate Agency Prior to Excavation



33.70654/-112.44776 : 33.70654/-112.44422 : 33.70654/-112.44068
 33.70439/-112.44776 : 33.70439/-112.44422 : 33.70439/-112.44068
 33.70224/-112.44776 : 33.70224/-112.44422 : 33.70224/-112.44068

CALL AT LEAST TWO (2) FULL WORKING DAYS
 BEFORE YOU BEGIN EXCAVATION.
 ARIZONA 811
 ARIZONA BLUE STAKE, INC.
 DIAL 8-1-1 OR 1-800-STAKE-IT (782-5348).
 IN MARICOPA COUNTY: 602-263-1110.
 ALL LOCATIONS ARE APPROXIMATE.
 PLEASE CALL ARIZONA BLUE STAKE
 FOR LOCATION OF UTILITIES
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 PRINTS ARE NOT TO SCALE.

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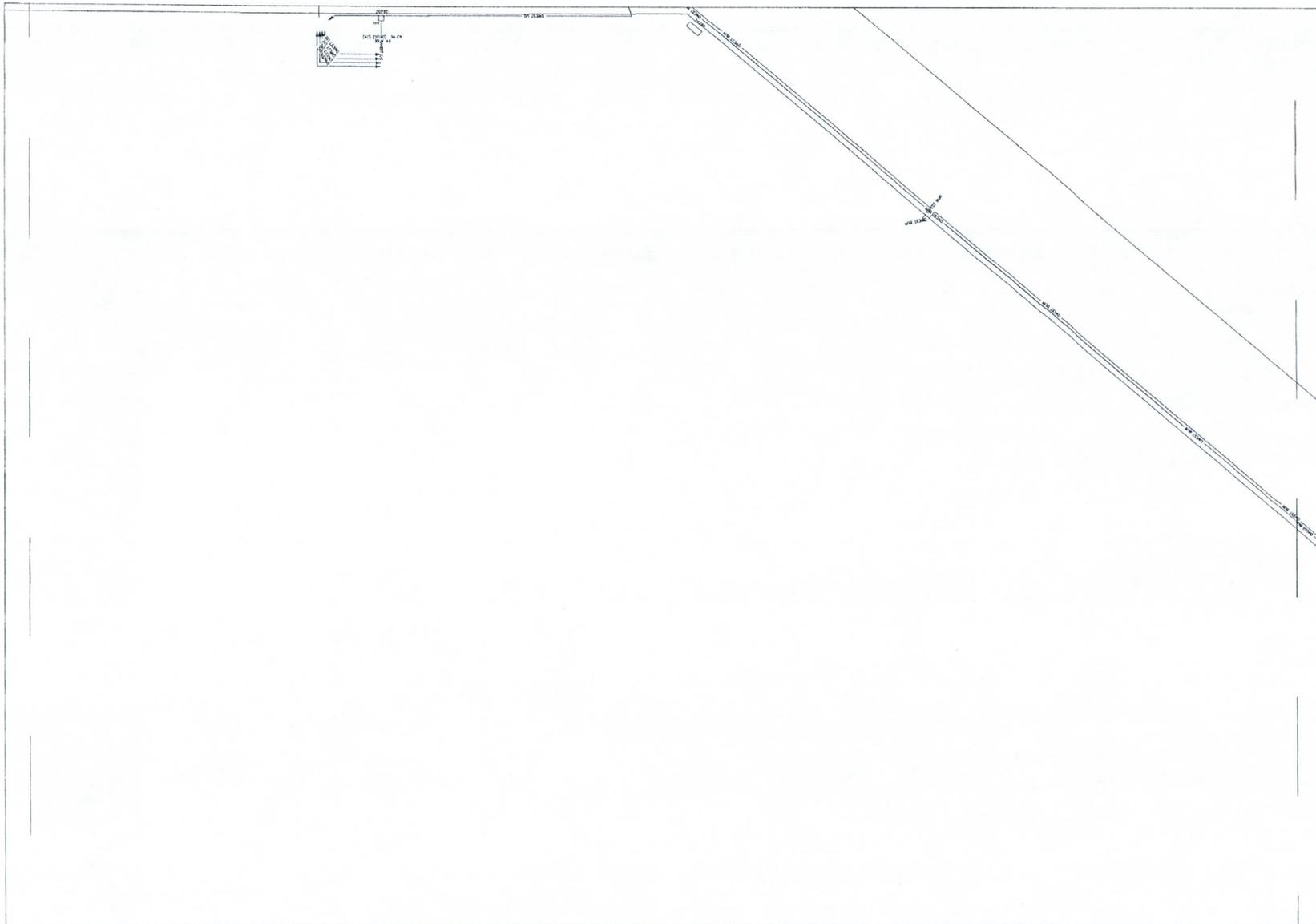


WIRE CENTER
 BEARDSLEY
 ARIZONA

Grid ID: (Lat/Long)
 33.70439/-112.44422



DISCLAIMER: All Facility Locations are
 Approximate and Facilities Must be
 Spotted by Appropriate Agency
 Prior to Excavation



CALL AT LEAST TWO (2) FULL WORKING DAYS
BEFORE YOU BEGIN EXCAVATION.

ARIZONA BTI
ARIZONA BLUE STAKE, INC.
DIAL 8-1-1 OR 1-800-STAKE-IT (782-6348).
IN MARICOPA COUNTY: 602-263-110.
ALL LOCATIONS ARE APPROXIMATE.
PLEASE CALL ARIZONA BLUESTAKE
FOR LOCATION OF UTILITIES
AND PRIOR TO ANY EXCAVATION.
PRINTS ARE NOT TO SCALE.

Qwest CONFIDENTIAL AND PROPRIETARY
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THIRD PARTY WITHOUT WRITTEN AUTHORIZATION
BY Qwest.



WIRE CENTER
BEARDSLEY
ARIZONA

Grid ID: (Lat/Long)
33.70009/-112.43714



33.70224/-112.44068 : 33.70224/-112.43714 : 33.70224/-112.4336
33.70009/-112.44068 : 33.70009/-112.43714 : 33.70009/-112.4336
33.69794/-112.44068 : 33.69794/-112.43714 : 33.69794/-112.4336

DISCLAIMER: All Facility Locations are
Approximate and Facilities Must be
Spotted by Appropriate Agency
Prior to Excavation

01/15/10

33.70224/-112.44776 : 33.70224/-112.44422 : 33.70224/-112.44068
33.70009/-112.44776 : 33.70009/-112.44422 : 33.70009/-112.44068
33.69794/-112.44776 : 33.69794/-112.44422 : 33.69794/-112.44068

CALL AT LEAST TWO (2) FULL WORKING DAYS
BEFORE YOU BEGIN EXCAVATION.
ARIZONA 811

ARIZONA BLUE STAKE, INC.
DIAL 8-1-1 OR 1-800-STAKE-IT (732-3348),
IN MARICOPA COUNTY: 602-263-110.
ALL LOCATIONS ARE APPROXIMATE.
PLEASE CALL ARIZONA BLUE STAKE
FOR LOCATION OF UTILITIES
AND PRIOR TO ANY EXCAVATION.
PRINTS ARE NOT TO SCALE.

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BY Qwest.



WIRE CENTER
BEARDSLEY
ARIZONA

Grid ID: (Lat/Long)
33.70009/-112.44422

1" = 150'



DISCLAIMER: All Facility Locations are
Approximate and Facilities Must be
Spotted by Appropriate Agency
Prior to Excavation.

CALL AT LEAST TWO (2) FULL WORKING DAYS BEFORE YOU BEGIN EXCAVATION.

ARIZONA 811
ARIZONA BLUE STAKE, INC.
DIAL 8-1-1 OR 1-800-STAKE-IT (782-5348).
IN MARICOPA COUNTY: 602-283-110.
ALL LOCATIONS ARE APPROXIMATE.
PLEASE CALL ARIZONA BLUESTAKE FOR LOCATION OF UTILITIES AND PRIOR TO ANY EXCAVATION.
PRINTS ARE NOT TO SCALE.

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WIRE CENTER
BEARDSLEY
ARIZONA

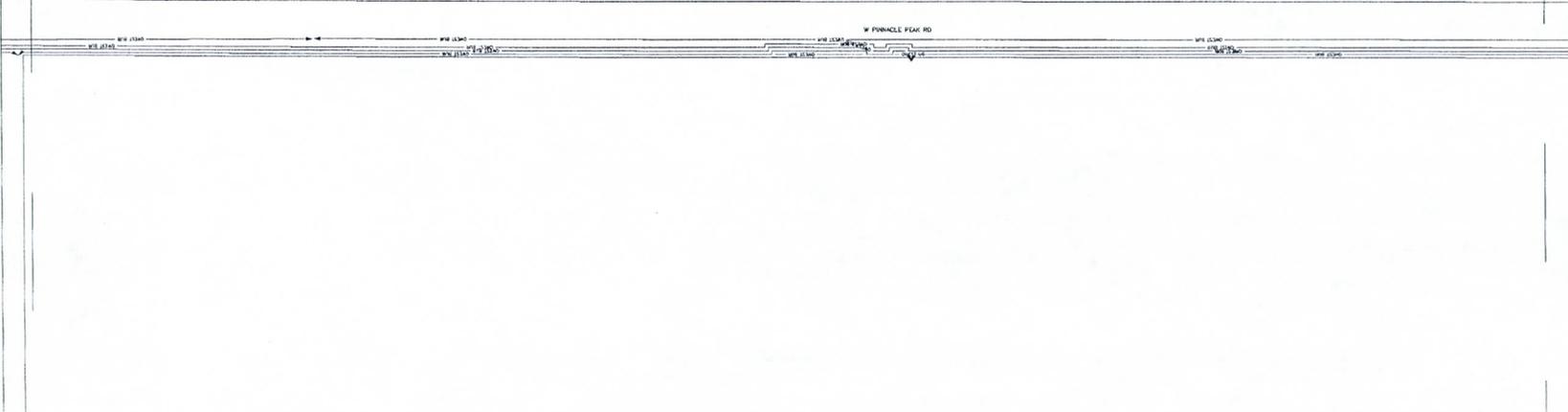
Grid ID: (Lat/Long)
33.70009/-112.4513

1" = 150'



DISCLAIMER: All Facility Locations are Approximate and Facilities Must be Spotted by Appropriate Agency Prior to Excavation

33.70224/-112.45484 : 33.70224/-112.4513 : 33.70224/-112.44776
33.70009/-112.45484 : 33.70009/-112.4513 : 33.70009/-112.44776
33.69794/-112.45484 : 33.69794/-112.4513 : 33.69794/-112.44776



33.69794/-112.45484 : 33.69794/-112.4513 : 33.69794/-112.44776
 33.69579/-112.45484 : 33.69579/-112.4513 : 33.69579/-112.44776
 33.69364/-112.45484 : 33.69364/-112.4513 : 33.69364/-112.44776

CALL AT LEAST TWO (2) FULL WORKING DAYS
 BEFORE YOU BEGIN EXCAVATION.
 ARIZONA 811
 ARIZONA BLUE STAKE, INC.
 DIAL 8-1-1 OR 1-800-STAKE-IT (782-5848).
 IN MARICOPA COUNTY: 602-263-110.
 ALL LOCATIONS ARE APPROXIMATE.
 PLEASE CALL ARIZONA BLUESTAKE
 FOR LOCATION OF UTILITIES
 AND PRIOR TO ANY EXCAVATION.
 PRINTS ARE NOT TO SCALE.

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 BY Qwest.



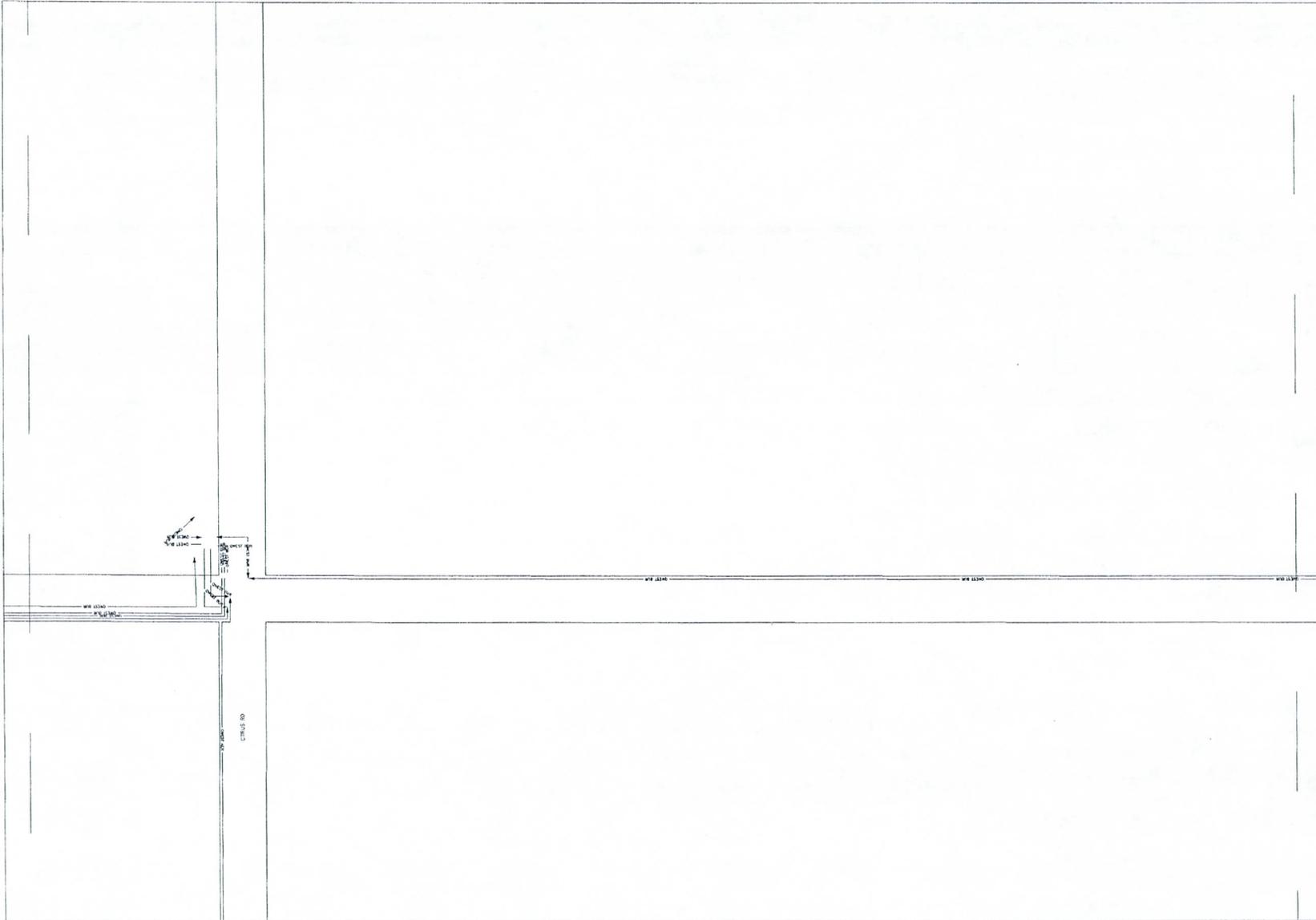
WIRE CENTER
 BEARDSLEY
 ARIZONA

Grid ID: (Lat/Long)
 33.69579/-112.4513

1" = 150'



DISCLAIMER: All Facility Locations are
 Approximate and Facilities Must be
 Spotted by Appropriate Agency
 Prior to Excavation



33.69794/-112.44776 : 33.69794/-112.44422 : 33.69794/-112.44068
 33.69579/-112.44776 : 33.69579/-112.44422 : 33.69579/-112.44068
 33.69364/-112.44776 : 33.69364/-112.44422 : 33.69364/-112.44068

CALL AT LEAST TWO (2) FULL WORKING DAYS
 BEFORE YOU BEGIN EXCAVATION.
 ARIZONA BIT
 ARIZONA BLUE STAKE, INC.
 DIAL 8-1-1 OR 1-800-STAKE-IT (702-5848).
 IN MARICOPA COUNTY: 802-263-1110.
 ALL LOCATIONS ARE APPROXIMATE.
 PLEASE CALL ARIZONA BLUE STAKE
 FOR LOCATION OF UTILITIES
 AND PRIOR TO ANY EXCAVATION.
 PRINTS ARE NOT TO SCALE.

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WIRE CENTER
 BEARDSLEY
 ARIZONA

Grid ID: (Lat/Long)
 33.69579/-112.44422

1" = 150'



DISCLAIMER: All Facility Locations are
 Approximate and Facilities Must be
 Spotted by Appropriate Agency
 Prior to Excavation

CALL AT LEAST TWO (2) FULL WORKING DAYS
BEFORE YOU BEGIN EXCAVATION.
ARIZONA 811

ARIZONA BLUE STAKE, INC.
DIAL 8-1-1 OR 1-800-STAKE-IT (782-5948).
IN MARICOPA COUNTY: 602-268-110.
ALL LOCATIONS ARE APPROXIMATE.
PLEASE CALL ARIZONA BLUE STAKE
FOR LOCATION OF UTILITIES
AND PRIOR TO ANY EXCAVATION.
PRINTS ARE NOT TO SCALE.

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THIRD PARTY WITHOUT WRITTEN AUTHORIZATION
BY Qwest.



WIRE CENTER
BEARDSLEY
ARIZONA

Grid ID: (Lat/Long)
33.69579/-112.43714

1" = 150'



DISCLAIMER: All Facility Locations are
Approximate and Facilities Must be
Spotted by Appropriate Agency
Prior to Excavation

33.69794/-112.44068 : 33.69794/-112.43714 : 33.69794/-112.4336
33.69579/-112.44068 : 33.69579/-112.43714 : 33.69579/-112.4336
33.69364/-112.44068 : 33.69364/-112.43714 : 33.69364/-112.4336



33.69794/-112.42652 : 33.69794/-112.42298 : 33.69794/-112.41944
 33.69579/-112.42652 : 33.69579/-112.42298 : 33.69579/-112.41944
 33.69364/-112.42652 : 33.69364/-112.42298 : 33.69364/-112.41944

CALL AT LEAST TWO (2) FULL WORKING DAYS
 BEFORE YOU BEGIN EXCAVATION.
 ARIZONA BLUE STAKE, INC.
 ARIZONA 811
 DIAL 8-1-1 OR 1-800-STAKE-IT (782-6348).
 IN MARICOPA COUNTY: 602-263-1110.
 ALL LOCATIONS ARE APPROXIMATE.
 PLEASE CALL ARIZONA BLUE STAKE
 FOR LOCATION OF UTILITIES
 AND PRIOR TO ANY EXCAVATION.
 PRINTS ARE NOT TO SCALE.

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 BY Qwest.



WIRE CENTER
 BEARDSLEY
 ARIZONA

Grid ID: (Lat/Long)
 33.69579/-112.42298



DISCLAIMER: All Facility Locations are
 Approximate and Facilities Must be
 Spotted by Appropriate Agency
 Prior to Excavation.



NO BORDER MAP

COVELED MAIN	
UNCOVERED MAIN	
UNCOVERED MAIN - UNCOVERED MAIN	
BRICK TRENCH COVER	
BRICK TRENCH COVER	
END OF MAIN	
END OF MAIN OF MAIN	
VALVE - W/BOX	
VALVE - BOX	
LINE STOP/UP	
BRANCH FITTING - 1/2" TO 1"	
CURB VALVE - 1"	
BRANCH - 2" TO 3" W/BOX	
FITTING - 2" TO 3"	
FITTING - 4" TO 6"	
FITTING - 8" TO 12"	
FITTING - 14" TO 18"	
FITTING - 20" TO 24"	
FITTING - 26" TO 30"	
REGULATION - 1/2" TO 1"	
REGULATION - 1 1/2" TO 2"	
REGULATION - 2 1/2" TO 3"	
REGULATION - 4" TO 6"	
REGULATION - 8" TO 12"	
REGULATION - 14" TO 18"	
REGULATION - 20" TO 24"	
REGULATION - 26" TO 30"	
REGULATION - 36" TO 42"	
REGULATION - 48" TO 54"	
REGULATION - 60" TO 66"	
REGULATION - 72" TO 78"	
REGULATION - 84" TO 90"	
REGULATION - 96" TO 102"	
REGULATION - 108" TO 114"	
REGULATION - 120" TO 126"	
REGULATION - 132" TO 138"	
REGULATION - 144" TO 150"	
REGULATION - 156" TO 162"	
REGULATION - 168" TO 174"	
REGULATION - 180" TO 186"	
REGULATION - 192" TO 198"	
REGULATION - 204" TO 210"	
REGULATION - 216" TO 222"	
REGULATION - 228" TO 234"	
REGULATION - 240" TO 246"	
REGULATION - 252" TO 258"	
REGULATION - 264" TO 270"	
REGULATION - 276" TO 282"	
REGULATION - 288" TO 294"	
REGULATION - 300" TO 306"	
REGULATION - 312" TO 318"	
REGULATION - 324" TO 330"	
REGULATION - 336" TO 342"	
REGULATION - 348" TO 354"	
REGULATION - 360" TO 366"	
REGULATION - 372" TO 378"	
REGULATION - 384" TO 390"	
REGULATION - 396" TO 402"	
REGULATION - 408" TO 414"	
REGULATION - 420" TO 426"	
REGULATION - 432" TO 438"	
REGULATION - 444" TO 450"	
REGULATION - 456" TO 462"	
REGULATION - 468" TO 474"	
REGULATION - 480" TO 486"	
REGULATION - 492" TO 498"	
REGULATION - 504" TO 510"	
REGULATION - 516" TO 522"	
REGULATION - 528" TO 534"	
REGULATION - 540" TO 546"	
REGULATION - 552" TO 558"	
REGULATION - 564" TO 570"	
REGULATION - 576" TO 582"	
REGULATION - 588" TO 594"	
REGULATION - 600" TO 606"	
REGULATION - 612" TO 618"	
REGULATION - 624" TO 630"	
REGULATION - 636" TO 642"	
REGULATION - 648" TO 654"	
REGULATION - 660" TO 666"	
REGULATION - 672" TO 678"	
REGULATION - 684" TO 690"	
REGULATION - 696" TO 702"	
REGULATION - 708" TO 714"	
REGULATION - 720" TO 726"	
REGULATION - 732" TO 738"	
REGULATION - 744" TO 750"	
REGULATION - 756" TO 762"	
REGULATION - 768" TO 774"	
REGULATION - 780" TO 786"	
REGULATION - 792" TO 798"	
REGULATION - 804" TO 810"	
REGULATION - 816" TO 822"	
REGULATION - 828" TO 834"	
REGULATION - 840" TO 846"	
REGULATION - 852" TO 858"	
REGULATION - 864" TO 870"	
REGULATION - 876" TO 882"	
REGULATION - 888" TO 894"	
REGULATION - 900" TO 906"	
REGULATION - 912" TO 918"	
REGULATION - 924" TO 930"	
REGULATION - 936" TO 942"	
REGULATION - 948" TO 954"	
REGULATION - 960" TO 966"	
REGULATION - 972" TO 978"	
REGULATION - 984" TO 990"	
REGULATION - 996" TO 1002"	
REGULATION - 1008" TO 1014"	
REGULATION - 1020" TO 1026"	
REGULATION - 1032" TO 1038"	
REGULATION - 1044" TO 1050"	
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REGULATION - 1068" TO 1074"	
REGULATION - 1080" TO 1086"	
REGULATION - 1092" TO 1098"	
REGULATION - 1104" TO 1110"	
REGULATION - 1116" TO 1122"	
REGULATION - 1128" TO 1134"	
REGULATION - 1140" TO 1146"	
REGULATION - 1152" TO 1158"	
REGULATION - 1164" TO 1170"	
REGULATION - 1176" TO 1182"	
REGULATION - 1188" TO 1194"	
REGULATION - 1200" TO 1206"	
REGULATION - 1212" TO 1218"	
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REGULATION - 1236" TO 1242"	
REGULATION - 1248" TO 1254"	
REGULATION - 1260" TO 1266"	
REGULATION - 1272" TO 1278"	
REGULATION - 1284" TO 1290"	
REGULATION - 1296" TO 1302"	
REGULATION - 1308" TO 1314"	
REGULATION - 1320" TO 1326"	
REGULATION - 1332" TO 1338"	
REGULATION - 1344" TO 1350"	
REGULATION - 1356" TO 1362"	
REGULATION - 1368" TO 1374"	
REGULATION - 1380" TO 1386"	
REGULATION - 1392" TO 1398"	
REGULATION - 1404" TO 1410"	
REGULATION - 1416" TO 1422"	
REGULATION - 1428" TO 1434"	
REGULATION - 1440" TO 1446"	
REGULATION - 1452" TO 1458"	
REGULATION - 1464" TO 1470"	
REGULATION - 1476" TO 1482"	
REGULATION - 1488" TO 1494"	
REGULATION - 1500" TO 1506"	
REGULATION - 1512" TO 1518"	
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REGULATION - 1560" TO 1566"	
REGULATION - 1572" TO 1578"	
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REGULATION - 1596" TO 1602"	
REGULATION - 1608" TO 1614"	
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REGULATION - 1656" TO 1662"	
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REGULATION - 1680" TO 1686"	
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REGULATION - 1752" TO 1758"	
REGULATION - 1764" TO 1770"	
REGULATION - 1776" TO 1782"	
REGULATION - 1788" TO 1794"	
REGULATION - 1800" TO 1806"	
REGULATION - 1812" TO 1818"	
REGULATION - 1824" TO 1830"	
REGULATION - 1836" TO 1842"	
REGULATION - 1848" TO 1854"	
REGULATION - 1860" TO 1866"	
REGULATION - 1872" TO 1878"	
REGULATION - 1884" TO 1890"	
REGULATION - 1896" TO 1902"	
REGULATION - 1908" TO 1914"	
REGULATION - 1920" TO 1926"	
REGULATION - 1932" TO 1938"	
REGULATION - 1944" TO 1950"	
REGULATION - 1956" TO 1962"	
REGULATION - 1968" TO 1974"	
REGULATION - 1980" TO 1986"	
REGULATION - 1992" TO 1998"	
REGULATION - 2000" TO 2006"	
REGULATION - 2012" TO 2018"	
REGULATION - 2024" TO 2030"	
REGULATION - 2036" TO 2042"	
REGULATION - 2048" TO 2054"	
REGULATION - 2060" TO 2066"	
REGULATION - 2072" TO 2078"	
REGULATION - 2084" TO 2090"	
REGULATION - 2096" TO 2102"	
REGULATION - 2108" TO 2114"	
REGULATION - 2120" TO 2126"	
REGULATION - 2132" TO 2138"	
REGULATION - 2144" TO 2150"	
REGULATION - 2156" TO 2162"	
REGULATION - 2168" TO 2174"	
REGULATION - 2180" TO 2186"	
REGULATION - 2192" TO 2198"	
REGULATION - 2200" TO 2206"	
REGULATION - 2212" TO 2218"	
REGULATION - 2224" TO 2230"	
REGULATION - 2236" TO 2242"	
REGULATION - 2248" TO 2254"	
REGULATION - 2260" TO 2266"	
REGULATION - 2272" TO 2278"	
REGULATION - 2284" TO 2290"	
REGULATION - 2296" TO 2302"	
REGULATION - 2308" TO 2314"	
REGULATION - 2320" TO 2326"	
REGULATION - 2332" TO 2338"	
REGULATION - 2344" TO 2350"	
REGULATION - 2356" TO 2362"	
REGULATION - 2368" TO 2374"	
REGULATION - 2380" TO 2386"	
REGULATION - 2392" TO 2398"	
REGULATION - 2400" TO 2406"	
REGULATION - 2412" TO 2418"	
REGULATION - 2424" TO 2430"	
REGULATION - 2436" TO 2442"	
REGULATION - 2448" TO 2454"	
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REGULATION - 2660" TO 2666"	
REGULATION - 2672" TO 2678"	
REGULATION - 2684" TO 2690"	
REGULATION - 2696" TO 2702"	
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REGULATION - 2792" TO 2798"	
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REGULATION - 2812" TO 2818"	
REGULATION - 2824" TO 2830"	
REGULATION - 2836" TO 2842"	
REGULATION - 2848" TO 2854"	
REGULATION - 2860" TO 2866"	

NO BORDER MAP

N47-W1B

N47-W16

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BEARDSLEY WATER COMPANY

Mailing Address: P.O. Box 1020 • Apache Junction, AZ 85117-1020 • Telephone: (480) 677-6080
Street Address: 3880 S. De Niza Road • Apache Junction, Arizona 85119 • Fax No.: (480) 677-6082

June 23, 2011

GOODWIN AND MARSHALL
Attn: Dallas
6909 W. Ray Road, #15
Chandler, Arizona 85226

RE: Beardsley System Maps

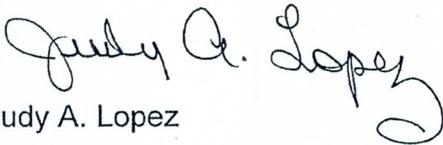
Dear Mr; Paulson:

Per your request, we are sending sketches of the Beardsley system. The system consists of several phases as identified on the enclosed master sheet. The wells serving each phase are identified by the different PWS numbers.

I hope these sketches assist you in the study you are doing for Maricopa County. If you need clarification on any of these documents, please give me a call, and I will provide the information or direct you to the person who has that information.

Good luck with your study.

Sincerely,

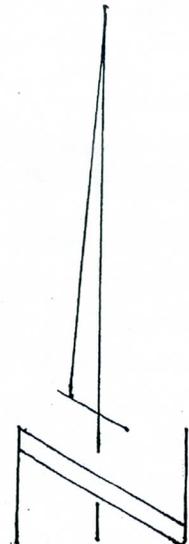
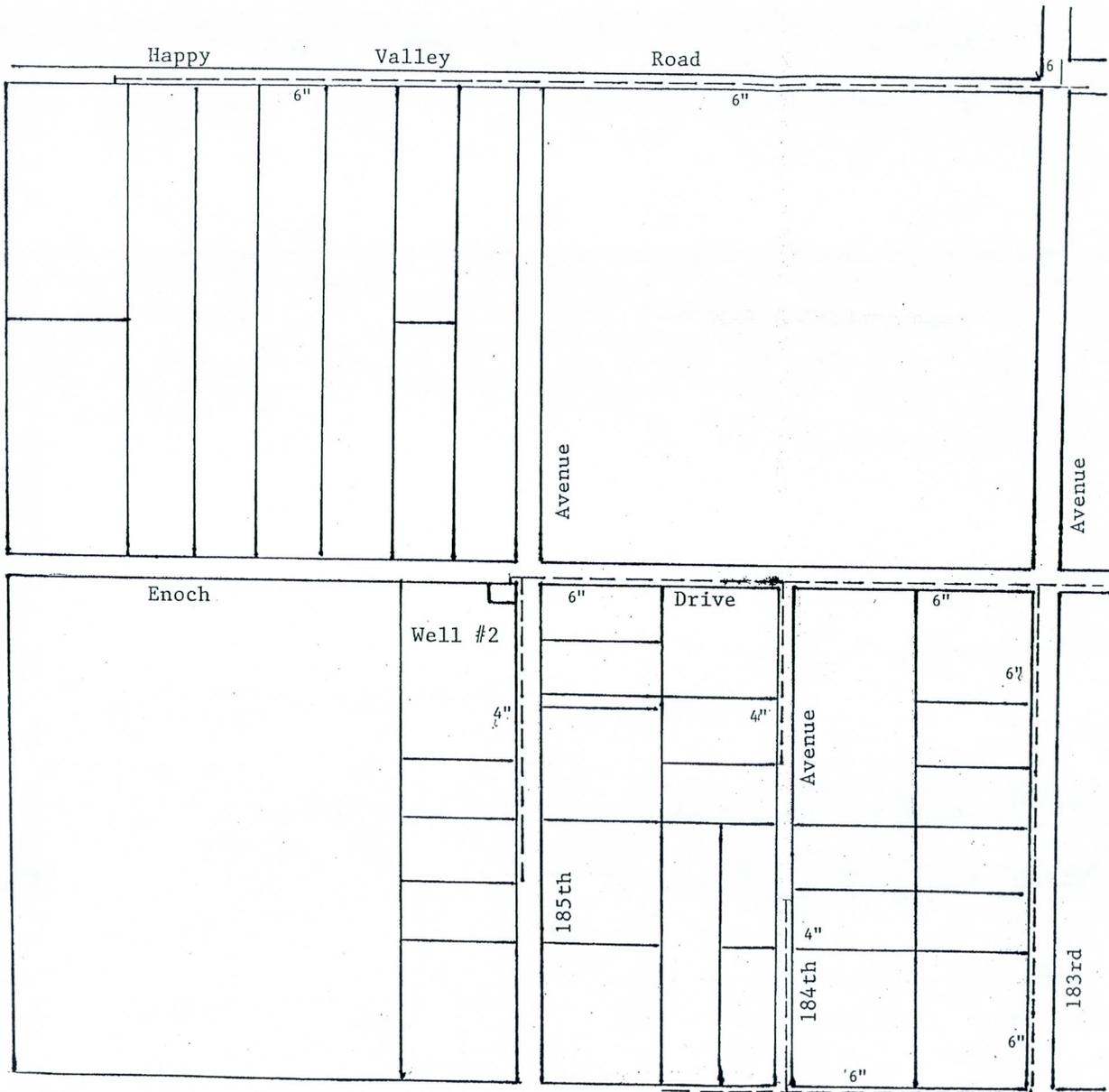


Judy A. Lopez

Cc: RF
File
B. Weed
F.T. Wilkinson

BWC Well Sites	Location	PWS #	ADWR #	Reservoirs	Press. Tank	Boosters	Well Pumps	G.P.M.	Power
BWC #1 Well 1	181st & Enoch	04-07007	55-618472	30,000 Gal	2,000 Gal	1 only 10 hp	15 hp		3 PH.
BWC #1 Well #2	185th & Enoch	04-07007	55-618473	100,000 & 10,000	2,000 Gal	1 Only 10 hp	15 hp		3 PH.
BWC #2 Well	239th & Patton	04-07509	55-556291	2 each 10,000 Gal	2,000 Gal	1 -7.5 hp 1 - 5 hp	7.5 hp	37 GPM	3 PH.
BWC #3 Well	Crozier & Patton	04-07511	55-577605	25,000 Gal	2,000 Gal	2 each 5 hp	5 hp	35 GPM	Single PH 230 V
BWC #4 Well 1	Patton & 247th	04-07517	55-591679	2 each 60,000 Gal	5,000 Gal	2 each 10 hp 1 - 40 hp Fire Pump	40 hp?		Single PH. 230 (1)
BWC #4 Well #2	Dixileta & 244th	04-07517	55-202408	80,000 (2)	5,000 Gal	2 each 15 hp 50 hp Fire Pump	40 hp ?		3 PH 460 V
BWC #5 Well	Peak View	04-07528	55-594072	80,000 Gal (3)	4,000 Gal	2 each 15 hp 50 hp Fire Pump	40 hp ?		3 PH 460 V

- (1) Single Phase 230 volt to be changed to 3 Phase 460 Volt in near future. *(already changed)*
- (2) A second 60,000 gallon reservoir is proposed.
- (3) A second 80,000 gallon reservoir is on site but not connected yet.



Scale: 1" = 275'

BWC #1 PWS #04-07-007

Happy Valley Rd.

Road

Faye Way

Enoch Dr.

Citrus

Audrey Ln.

GRAND

AVENUE

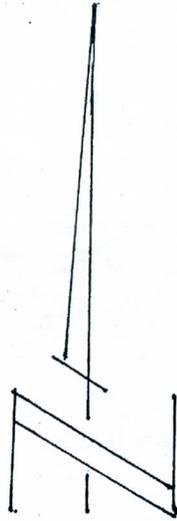
Beacon Field Blvd

Balfour Blvd

Norwich

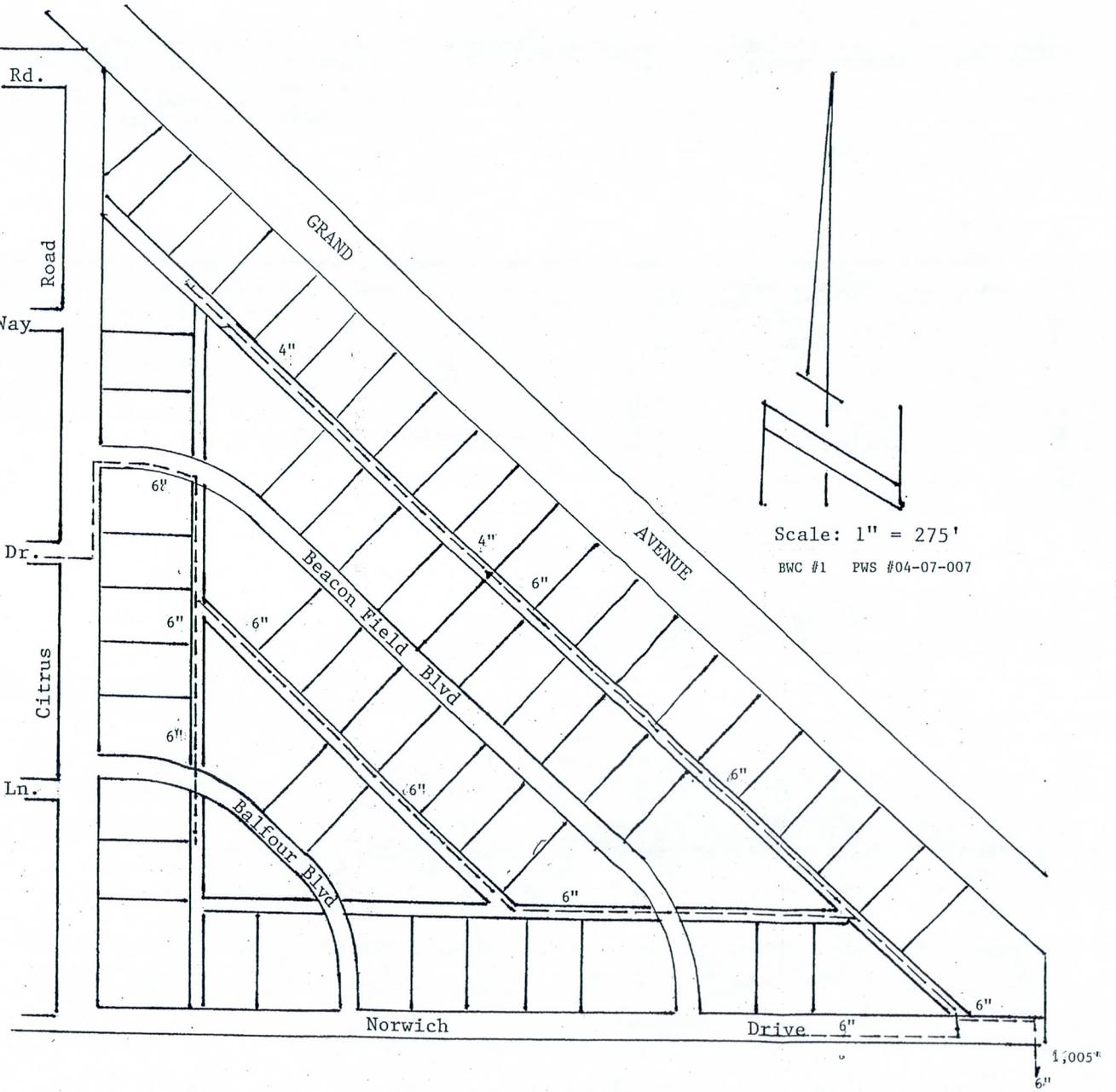
Drive

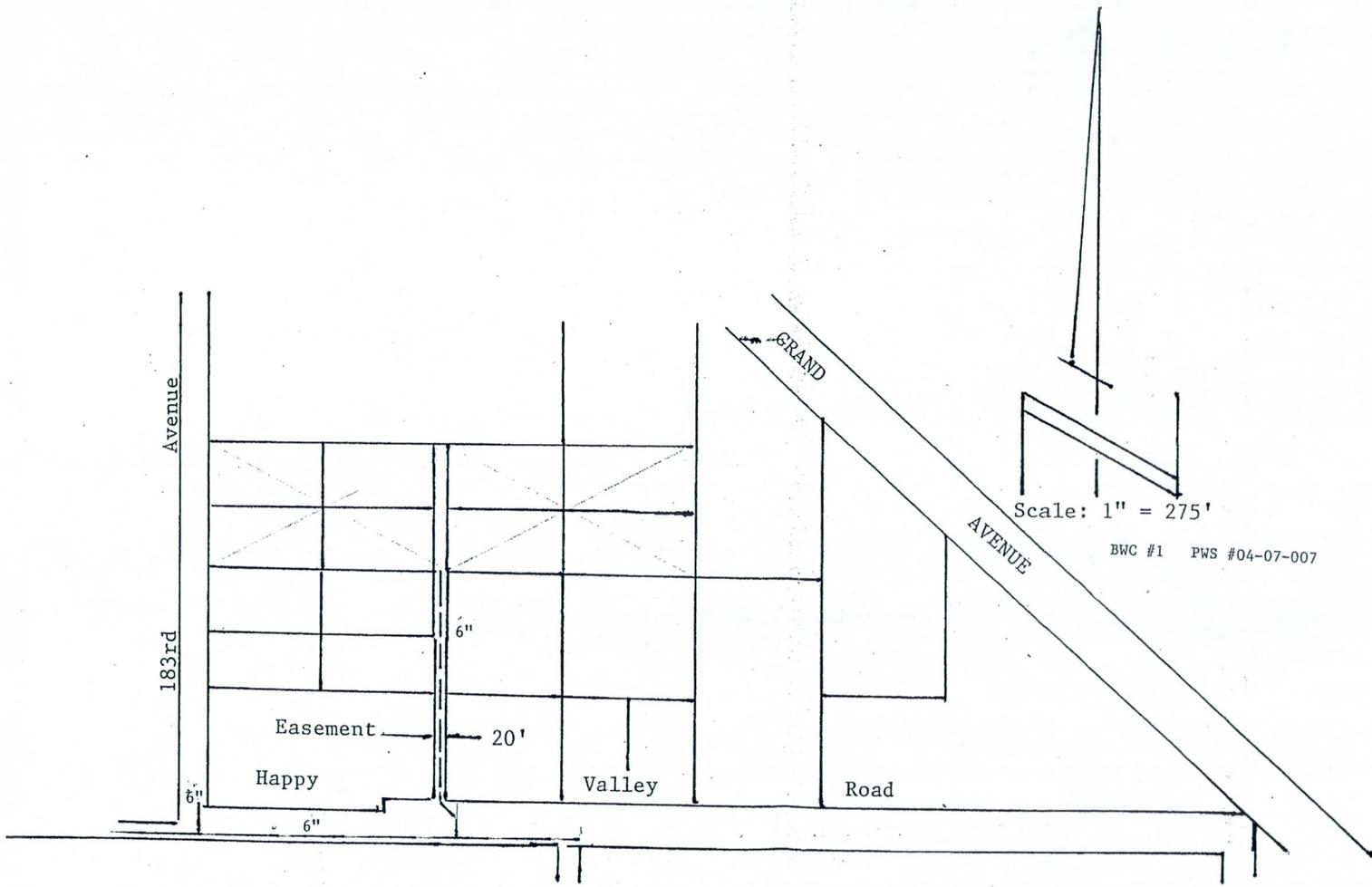
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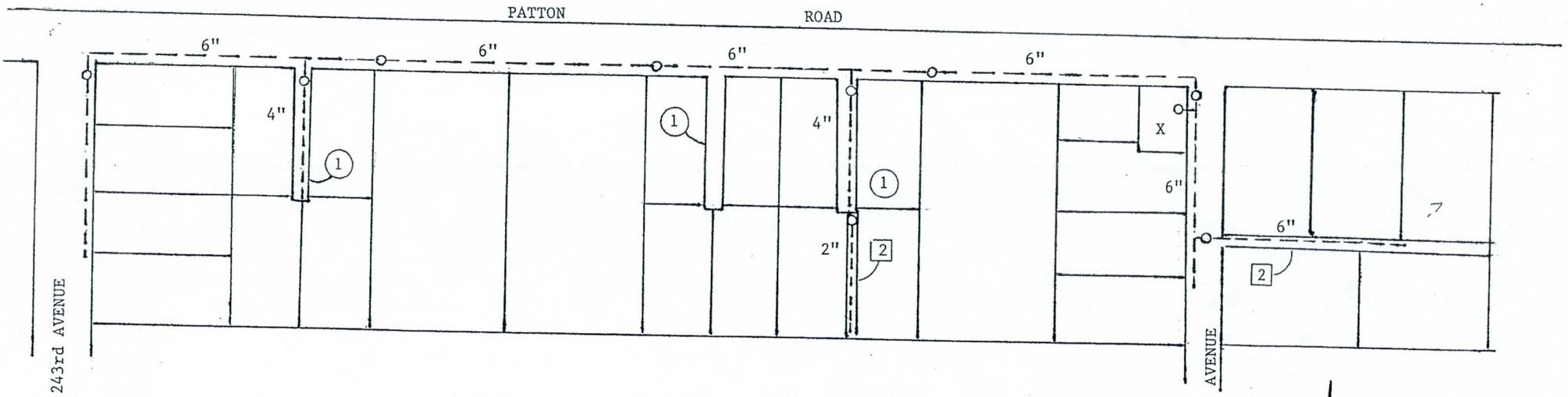


Scale: 1" = 275'

BWC #1 PWS #04-07-007







BEARDSLEY WATER COMPANY
 BWC #2
 PWS #07-509

LEGEND:

- X WELL SITE
- - - MAINLINE VALVE
- ① ROAD EASEMENT
- UTILITY EASEMENT 2

LOCATION:

SECTION 33
 TOWNSHIP 5 NORTH
 RANGE 3 WEST





SCALE: 1" = 150'

LEGEND:

- FIRE HYDRANT
- VALVE
- EXISTING WATER MAIN
- 8" WATER MAIN
- 8" X 2" BLOW OFF ASSY.

BWC #4 PWS #04-07-517
 PATTON PLACE ESTATES UNIT 3

PATTON PLACE ESTATES UNIT III
 EXHIBIT "A"

ORIGINAL

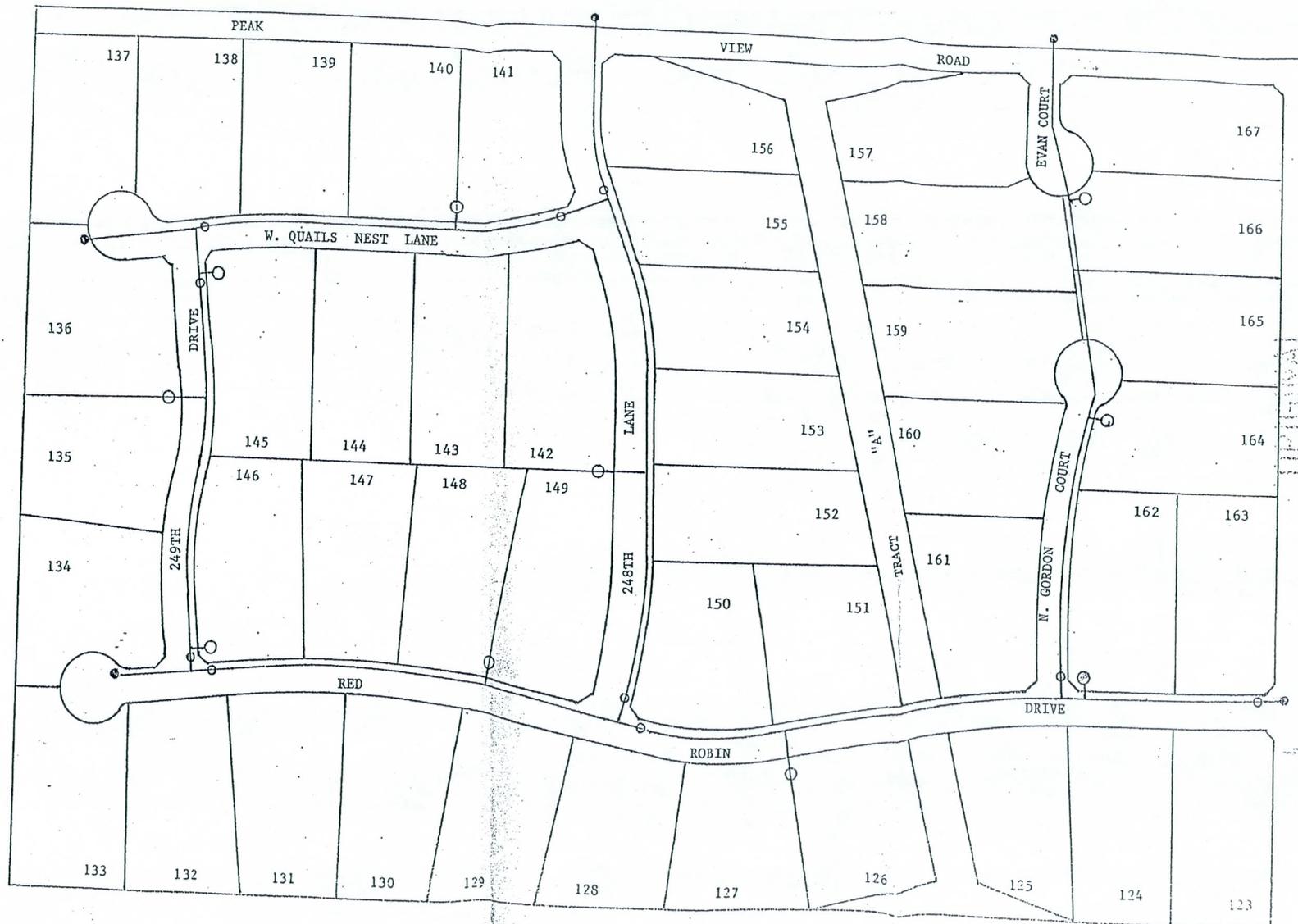
LEGEND:

- 8" PVC (C900) WATER LINE 
- FIRE HYDRANT 
- 8" VALVE 
- 8" x 2" BLOW OFF ASSEMBLY 



SCALE: 1" = 150'

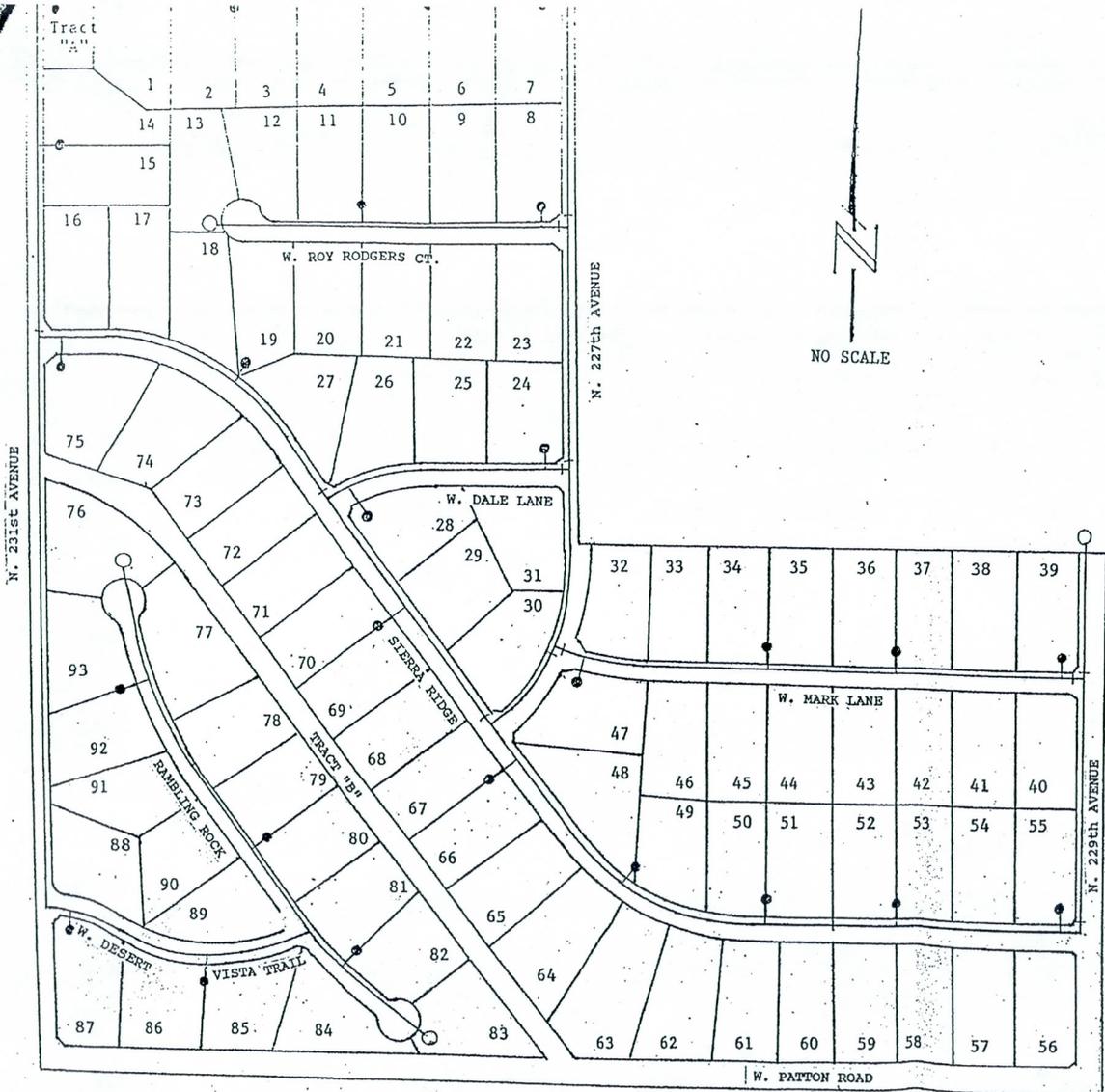
BWC #4 PWS #04-07-517
PATTON PLACE ESTATES UNIT 4



PATTON PLACE ESTATES UNIT 4

EXHIBIT "A"

ORIGINAL



LEGEND:

- ① 8" P.V.C. Water Line
- ② Fire Hydrant
- ③ 8' x 2' Blowoff Assy.
- ④ 8" Valve

BWC #5 PWS #04-07-528
 PEAK VIEW RANCH UNIT 1

PEAK VIEW RANCH PH 1
 MARCH 25th, 2003





Flood Control Capital Project Letter of Intent

Prepared for the Flood Control District of Maricopa County Capital Improvement Program Prioritization Procedure

Project Name Martin Acres

City/Agency Proposing Partnership City of Surprise

1. General

A. Project Area Martin Acres is located in the NW quarter of section 11. T4N, R2W Maricopa County

B. Summary Project Description Construct a new conveyance channel from south of US-60. To provide positive drainage away from Martin Acres.

C. Estimated Project Cost \$4,571,000

2. Proposed Lead Agency by Task (For each task, indicate "District", City/Agency name, or "Not Applicable")

- A. Study FCD
- B. Design FCD
- C. Rights-of-Way Acquisition FCD
- D. Construction FCD
- E. Construction Management FCD
- F. Operations and Maintenance FCD

3. Proposed Cost Share

	District	City/Agency	Other	Total
A. Percentage	50%	50%		
B. Value (Dollars)	\$2,285,500	\$2,285,500		

4. Estimated Availability of City/Agency Funding (Dollars)

FY 2009/2010	FY 2010/2011	FY 2011/2012	FY 2012/2013	FY 2013/2014	Later Fiscal Years
	\$761,833*	\$761,833*	\$761,833*		

5. Master Plan/Master Study Applicable to Submitted Project

- A. Title (or indicate "Not Applicable") Wittmann ADMS/ADMP
- B. Adopted by City/Agency? Adopted Pending Not Applicable

6. Agency Approval (City Engineer, Public Works Director, or Agency Manager)

Signature *Robert E. Maki* Date 7/17/08
 Print Name Robert E Maki Title City Engineer

7. Summary Remarks/Comments

* Contingent on General obligation bond passage in 2009.

City of Surprise
Martin Acres Flood Control Improvement Project
For
Flood Control District of Maricopa County
Capital Improvement Program (CIP)
Fiscal Year 2009

Submitted to:
Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, Arizona 85009
(602) 506-1501

Submitted by:
City of Surprise
12425 W. Bell Road
Surprise, Arizona 85274
(623) 583-1000
Jeff Davidson
Civil Engineer

July 18, 2008

Table of Contents

I	Project Overview & Details.....	1
	Project Location.....	1
	Project History.....	1
	Existing Studies.....	5
	1. Agency Priority.....	5
	2. Master Plan Element.....	5
	3. Hydrologic/Hydraulic Significance	6
	4. Level of Protection.....	7
II	Project Benefits.....	7
	5. Area to Be Protected.....	7
	6. Environmental Quality.....	7
	7. Area-wide Benefits.....	8
III	Project Funding.....	8
	8. Total Project Cost.....	8
	9. Level of Partner Participation.....	10
	10. Operation & Maintenance Costs.....	10
	11. Operation & Maintenance esponsibility.....	10
IV	Post Flood Photographs Provided By J2 Engineering	

City of Surprise

**Martin Acres Flood Control Improvements
For
Flood Control District of Maricopa County
Capital Improvement Program (CIP)
Fiscal Year 2009**

July 18, 2008

I. Project Overview & Details

Project Location

The Martin Acres development is located in the City of Surprise, Arizona. The development is located in the northwest quarter of Section 11 T4N R2W of the Salt and Gila Baseline and Meridian. The development is bounded by US 60 on the northeast, Citrus Road on the west, and Norwich Road on the south. Figures 1, 2 and 3 are Vicinity map; Project Map and Flood Plan Maps respectively for the Martin Acres Project.

Project History

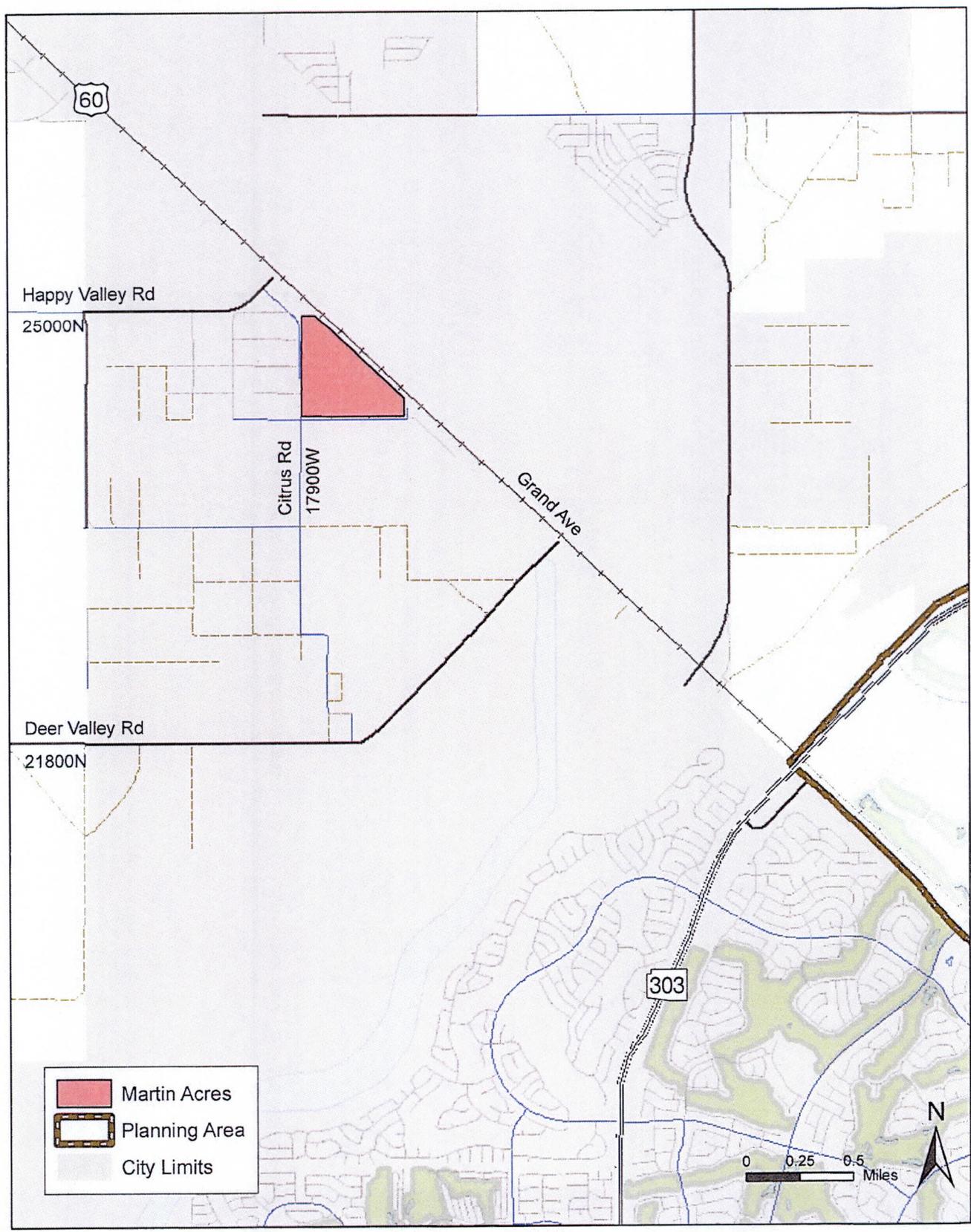
The Martin Acres Development was platted as a County development over 30 years ago. The development was annexed into the City of Surprise in 1994. The development standards (if any) utilized for Martin Acres were less strict than the current Flood Control District of Maricopa County/City of Surprise development standards. A large portion of the Martin Acres development is located within the floodplain/floodway of the Wash 3 East that contributes to the eastern end of McMicken Dam. The development blocks/obstructs a large portion of the wash. Martin Acres has experienced frequent flooding during the past 30 years.

The goal of this project is to remove existing homes and other platted parcels from the floodplain/floodway. To accomplish this goal a flood control facility will be required for the area between US 60 and McMicken Dam. It is anticipated that the regional drainage system will be constructed in several phases. The first phase would collect storm water at US 60 and route it through Martin Acres to an existing wash ¼ mile south of Norwich Road. Due to existing development within Martin Acres, the recommended solution is a concrete lined channel (Phase I). The project will have some amenities. The maintenance road may be utilized as a trail system for the area. Later phases of the project may extend the channelization through Deer Valley Road to McMicken Dam. These phases will consider various channel lining and/or non-structural alternatives.

The key issues that need to be addressed as part of this project include:

Right-of-way acquisition – Right-of-way has not been acquired for the project. The Right-of-way acquisition process has not been determined at the current time. The City of Surprise is evaluating several options with existing property owners (partial takes, total takes, County relocation program, donation right-of-way/easements, etc.).

Martin Acres Vicinity Map Figure 1.0



Martin Acres Flood Control Improvement

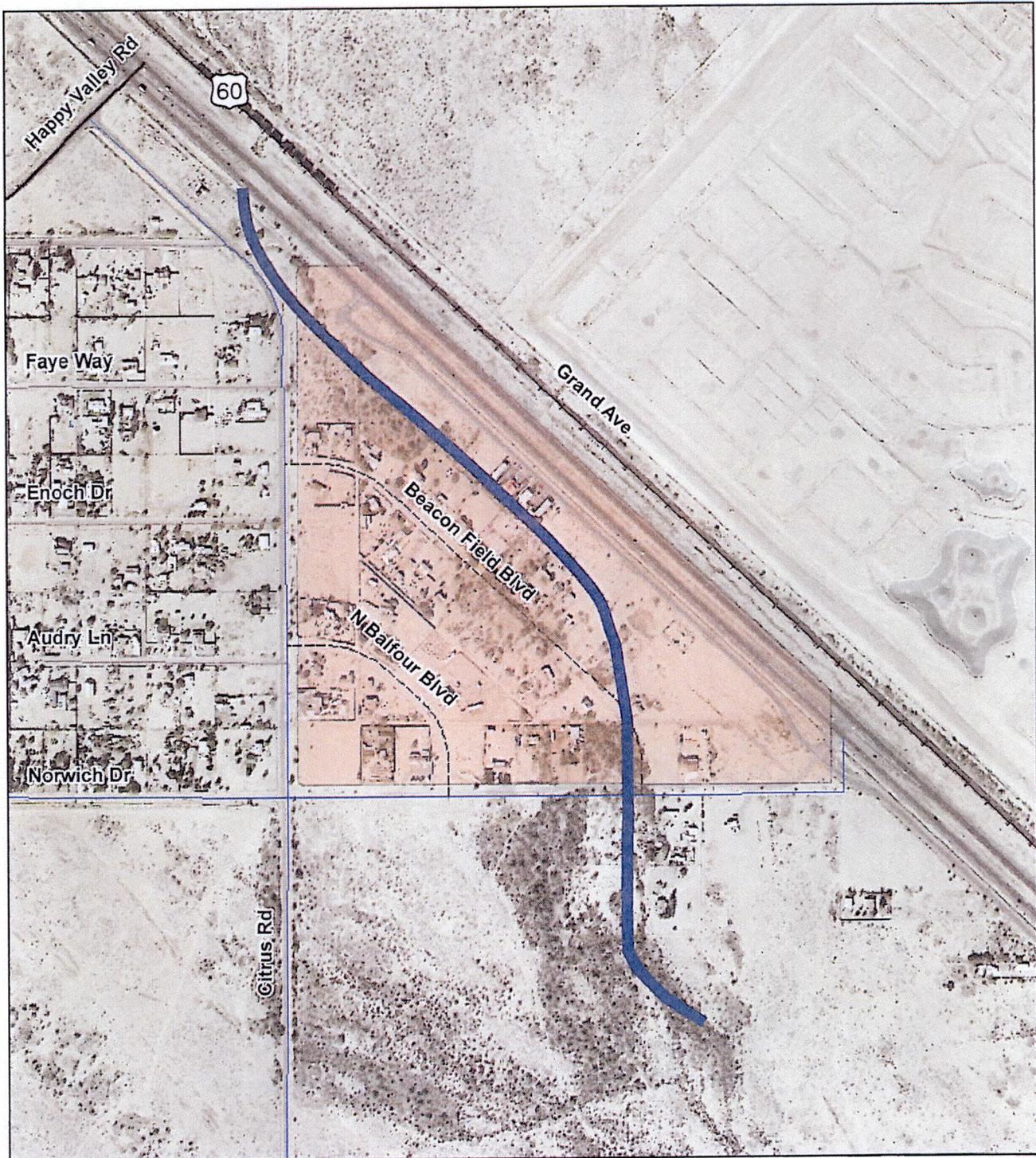


Figure 2.0

0 500 1,000 Feet



-  Flood Control Improvement
-  Martin Acres

Martin Acres Flood Plain

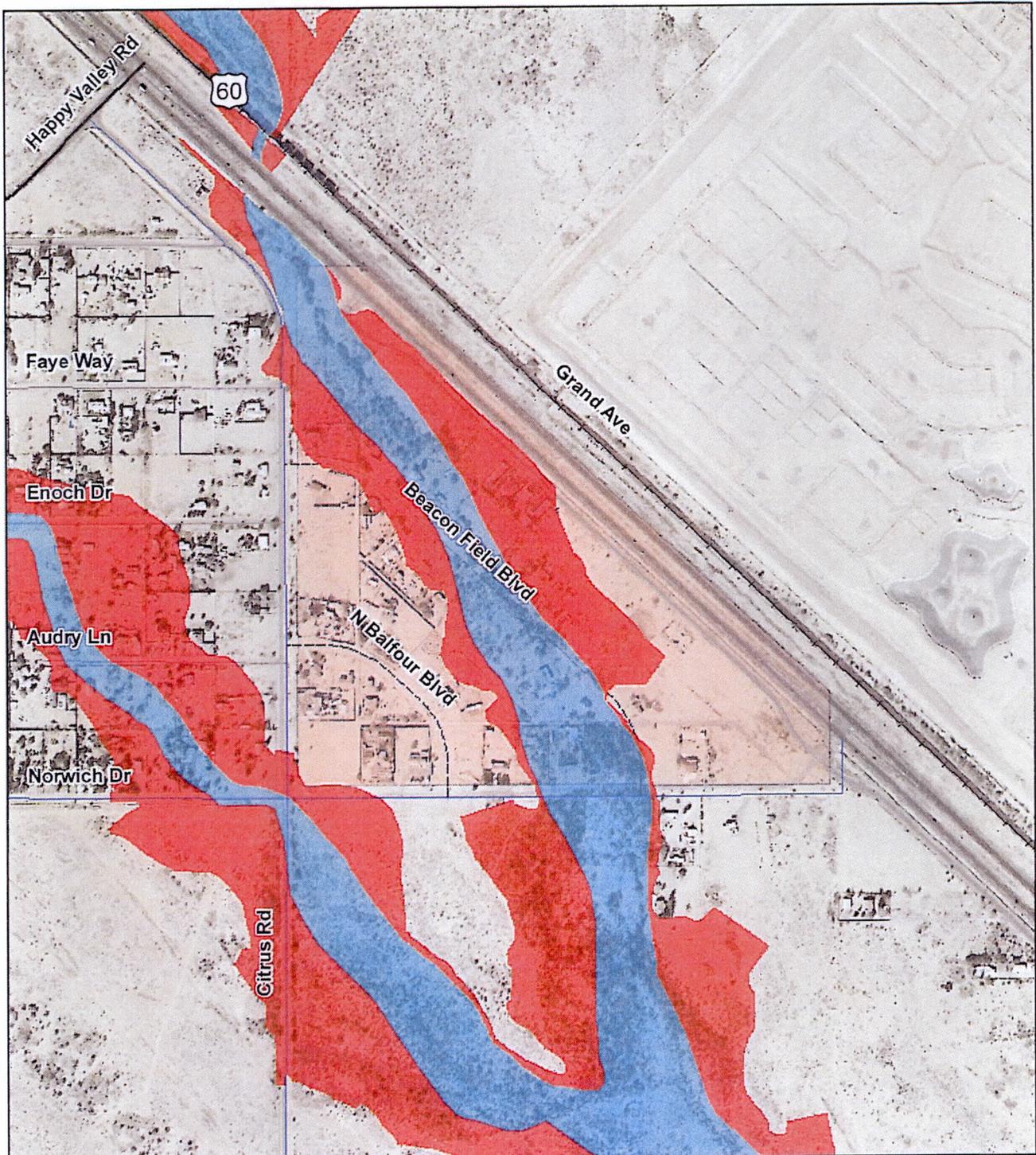


Figure 3.0

0 600 1,200 Feet



Floodplain Zone

AE
FW

Martin Acres

Environmental – It is anticipated that an individual 404 permit may be required for the project. The main area of concern is the jurisdictional delineation (dense vegetation) located immediately south of Norwich Road.

Coordination with Private Development – The area is beginning to experience urbanization. It is anticipated that development will increase in the project vicinity. A large development immediately south of Martin Acres, Austin Ranch, is currently in the planning stages.

Existing Studies

The Flood Control District of Maricopa County (FCDMC) is currently finalizing a study to delineate 100-year floodplain/floodways on watercourses throughout the area as part of the *Wittman ADMS Update* study. The draft floodplain/floodway delineation for the Martin Acres area has been completed. The 100-year peak discharge value for Wash 3 East was determined to be 1650 cfs. The City of Surprise has provided the *Wittman ADMS* team with a priority list of problem drainage areas. The City would like to begin mitigation of flooding in the Martin Acres area in the near future.

The source of the flooding in Martin Acres is a wash that originates from north of US 60; the flow passes under US 60 through a four-barrel 10' X 4' reinforced concrete box culvert (RCBC). Storm water sheet flows through Martin Acres and continues toward the south in a natural wash.

1.0 Agency Priority

This project is the number one priority for the City of Surprise. The City is proposing one other project for MCFCD Capital improvements.

2.0 Master Plan Element

The proposed project is located within the Flood Control District of Maricopa County's (FCDMC) *Wittmann ADMS Update* study area. The hydrologic/hydraulic analyses performed as part of the *Wittmann ADMS* served as the baseline for the proposed flood control improvements. City of Surprise staff worked with the *Wittmann ADMS* team to identify critical flood prone areas within the boundary of the ADMS. The draft floodplain/floodway delineation for the Martin Acres area has been completed. The City of Surprise has provided the *Wittmann ADMS* team with a priority list of problem drainage areas. The City would like to begin design and construction of flood control projects identified in the *Wittmann ADMS*.

The proposed project could serve as the first phase of a regional multi-use drainage facility.

3.0 Hydrologic/Hydraulic Significance

Existing watershed conditions

The proposed project is located within the Wittmann Wash watershed. Wittmann Wash is currently being studied by the Flood Control District of Maricopa County (FCDMC) as part of the Wittman *Area Drainage Master Study (ADMS) Update*. This study is in review at the FCDMC and has not yet been finalized. The wash affecting the proposed Martin Acres Drainage Improvements Project is called "Wash 3 East" in the *Wittman ADMS Update*.

Wash 3 East within Martin Acres is typical of most desert washes. The main channel is relatively small (2-5 year capacity). During large storm events the wash is characterized by wide shallow sheet flow flooding.

US 60 has a significant impact on the washes within the *Wittmann ADMS*. The US 60 drainage facilities collect and concentrate storm water runoff. During the 100-year storm event 1650 cfs is discharged into Martin Acres via a four barrel 10' X 4' box culvert. The capacity of the natural wash was significantly reduced by development over the years.

Contributing watershed characteristics

The contributing watershed is characterized by partially urbanized land that slopes gently towards the south-southeast. Land use within the overall watershed consists of commercial low-density residential, agricultural, and undeveloped native desert. The watershed drainage area for Wash 3 East is approximately 6.7 square miles in size. The longitudinal slope of the watershed is approximately 0.66 ft/ft. There are several smaller washes that are tributary to Wittmann Wash located within the watershed; many of these washes contain flow splits and confluences. One such confluence occurs at the downstream end of the proposed project south of US 60.

Within the immediate area of the proposed project, land use consists of commercial, residential, and vacant desert land.

Existing outfall characteristics

The proposed improvements will discharge into a natural wash. The wash will route storm water south to Deer Valley Road, then into the flood pool of McMicken Dam. It is anticipated that this area may be subject to urbanization in the near future.

The conveyance capacity of the main channel of the receiving wash downstream of the proposed project is undersized with respect to the 100-year discharge, as the floodplain limits extend beyond the banks of the downstream channel. However, the proposed channelization will not discharge any additional flow into the existing Wash 3 East downstream of the project compared to existing conditions. Therefore the conveyance capacity of the downstream wash will not be adversely impacted by the proposed project, and the floodplain limits downstream of the project will remain unchanged compared to the existing condition.

Location in delineated floodway/floodway fringe area or non-delineated flood prone area

The *Wittmann ADMS Update* study recently delineated the 100-year floodplain/floodway through Martin Acres.

The proposed channelization project and the properties it is intended to protect lie within an effective FEMA floodplain. They also lie within the floodway and floodway fringe areas as delineated in the preliminary *Wittmann ADMS Update*.

Peak discharges and frequency of flooding events

Discussions with Martin Acres residents indicate that they experience significant flooding on an annual basis.

The existing condition 100-year peak discharge for Wash 3 East, according to the preliminary *Wittmann ADMS Update*, is 1650 cfs. However, events on the order of the 5-year event have caused flooding in the Martin Acres area, which is the reason for the proposed project.

Depth, velocity and duration of flow

The depth, velocity, and duration of flow are defined in the *Wittmann ADMS Update* Study. The study has not been finalized at the current time; a preliminary HEC-RAS model has been done

The existing condition flow depths in Wash 3 East through the proposed project area range from 0.9 feet to 9.5 feet. Flow velocities range from 1.4 to 14.0 feet per second. The flow duration in the *Wittmann ADMS Update* 100-year design event is 24 hours. Flow durations for the past flooding events typically have been in the range of 2 – 6 hours. However, the ponded water and infrastructure (roadway) repair requires substantially longer to mitigate.

4.0 Level of Protection

The level of protection for the proposed Martin Acres flood control facilities is the 100-year storm event. It is anticipated that street improvements will be constructed after the channelization is complete. The street improvements (curb, gutter, and storm drain) will provide a drainage system for the interior of Martin Acres.

II. Project Benefits

5.0 Area to be Protected

The following is a summary of benefits that would be provided by completion of the proposed Martin Acres channelization project:

The number and estimated value of residential, commercial, and industrial buildings to be protected that are located in delineated floodways or 100-year floodplains are as follows:

Within floodways:

Residential buildings	9	(estimated value \$4,000,000)
Commercial buildings	0	
Industrial buildings	0	

Within 100-year floodplains (floodway fringes):

Residential buildings	11	(estimated value \$4,420,000)
Commercial buildings	5	(estimated value \$2,875,000)
Industrial buildings	0	

Residential, commercial, and industrial buildings that are located outside of the delineated Wash 3 East floodplain will receive some flood protection as a result of the proposed project. Historic flooding indicates that several homes outside of the delineated floodplain may be subject to shallow sheet flow (depth of less than one foot).

There are no public buildings (such as schools, libraries, churches, etc) within the proposed project area.

The amount of infrastructure to be protected by the proposed channelization project includes 0.75 acres of Norwich Drive, 0.90 acres of Citrus Drive and 3.0 acres of Beacon Field Road for a total of 4.65 acres.

There is no cultivated acreage (agricultural land) within the proposed project limits.

Approximately 44 acres of developed land and 30 acres of undeveloped land would be removed from the 100-year floodplain as a result of the proposed project.

One hundred percent of the City of Surprise's jurisdictional area, developed and undeveloped, will be protected by the proposed project. The population directly and indirectly benefited by the proposed project is approximately one hundred people.

The Martin Acres subdivision is approximately 30 years old, and the area has experienced flooding on an annual basis since it was constructed.

The City of Surprise has participated in the National Flood Insurance Program since 1994, at which time drainage regulations and/or floodplain delineation were adopted.

The completion of the proposed channelization project will remove many properties from flood-prone land by eliminating the effective and preliminary floodplain. This will result in an improvement in the community's floodplain rating.

6.0 Environmental Quality

The proposed improvements will route offsite storm water through Martin Acres. Since Martin Acres is already developed, the impact on water quality will be minimal. The proposed improvements may prevent some local runoff from contributing to the wash.

It is anticipated that the future phases of the project may incorporate a kinder and gentler (less structural) channel alternative. It is anticipated that the drainage corridor may still serve as a wildlife corridor from McMicken Dam to the north side of US 60.

The project may have to contribute to funds (or land) to a wetland area as part of the mitigation measure for the 404 permit. The exact requirements will be determined during the 404 permit process.

7.0 Area-wide Benefits

The ultimate project will provide a multi-use connection from McMicken Dam north to US 60. However, the first phase (Martin Acres) will have multi-use opportunities due to the existing development (limited right-of-way). The first phase will provide hiking/biking trails along the maintenance roads (similar to the SRP canals).

The proposed project will provide a significant visual enhancement to Martin Acres. The existing development is subject to extensive damage on an annual basis. The proposed improvements will provide 100-year flood protection for the community and allow the City of Surprise to construct asphalt roadways within the development. This project will serve as the starting point for significant redevelopment projects in this segment of the City of Surprise.

The City of Surprise is not aware of any grand funding that the project may qualify for at the current time.

III. Project Funding

8.0 Total Project Cost

The following table defines the anticipated cost breakdown for the project

Total Design	\$210,000	8 months
Land Acquisition	\$1,500,000	12 months
Construction Cost	\$3,000,000	7 months

The typical time period required for obtaining a 404 permit is approximately six months to one year. Typically, the permit application is initiated at the 60% plan submittal (the design needs to be fixed).

The City of Surprise and FCDMC have held several public hearings in the Martin Acre area. The residents support the project and are anxious for the flood control improvements to be constructed.

9.0 Level of Participation

The City of Surprise is committed to this project. The City is willing to participate in a cost share with the FCDMC. The percentage of the cost share has not been established at the current time.

The City is not aware of any non-cash contributions at the current time. The City is ready to begin Right-of-way/easement acquisition with several property owners along the corridor. The type of acquisitions (land donations, partial take, total take, etc.) has not been determined at the current time.

The only FCDMC expenditure for this area has been the Wittmann ADMS/ADMP. Entellus is in the final stages of completing the Wittman ADMS Update.

The City is not aware of any other available funding sources available at the current time.

10.0 Operation & Maintenance Costs

The annual operation and maintenance cost of a concrete lined channel is relatively small. The main concern would be the development of vegetation growing in sediment deposits in the bottom of the channel. It is anticipated that the annual/bi-annual maintenance (loader removing debris) would be the most significant maintenance cost. The estimated annual operation and maintenance cost would be around \$60,000.

11.0 Operation & Maintenance Responsibility

The City of Surprise is open to negotiating with the FCDMC regarding the Operation and Maintenance responsibilities for the project. One option may be the City contributing funds to the FCDMC for their maintenance of the channel. The FCDMC appears to be better equipped to provide these services than the City of Surprise.

The final operation and maintenance responsibilities will be determined once the funding has been acquired.

IV. Post Flood Photographs



Technical Memorandum
**Martin Acres Drainage
Improvements**

Prepared for:

City of Surprise

Prepared by:

J2 Engineering and Environmental Design
8222 South 48th Street, Suite 135
Phoenix, AZ
(602) 438-2221

February 10, 2005
J2 Project No 3062

Introduction

J2 Engineering and Environmental Design has contracted with the City of Surprise (COS), Arizona to develop a drainage solution for Martin Acres, a residential area within the COS that has experienced severe flooding on several occasions over the past 30 years. Martin Acres lies to the south of the intersection of US 60 and Happy Valley Road in Surprise, Arizona. The area is characterized by homes built between and, in some cases, within natural desert washes.

Background

Martin Acres was constructed as a County development over 30 years ago, and was later annexed into the City of Surprise. The original County development standards were less strict than the current City of Surprise standards. The Martin Acres development blocked a large portion of the existing washes. Storm water flows along streets, between homes, etc. in a large portion of the development.

The purpose of this project is to design a flood control system for Martin Acres. The project collects storm water at the US 60 and route it through Martin Acres to an existing wash south of Martin Acres. In addition, the City of Surprise has discussed integrating the Martin Acres drainage system with the proposed drainage system of the future development to the south.

The Flood Control District of Maricopa County (FCDMC) is currently performing a study to delineate 100-year floodplains and floodways on watercourses throughout the area as part of the *Wittman ADMS Update* study. The floodplain/floodway delineation in the Martin Acres area is expected to be complete within the next few months.

The source of the flooding in Martin Acres is a wash that originates from north of US 60; the flow passes under US 60 through a four-barrel 10' x 4' reinforced concrete box culvert (RCBC). The flow passes through Martin Acres and continues towards the south in a natural wash.

Scope

This purpose of this memorandum is to document hydraulic analysis that was used to develop the preliminary design of a proposed channel through Martin Acres.

Hydrology

The 100-year peak discharge used in the Martin Acres hydraulic analysis was obtained from the *Wittman ADMS Update*.

Hydraulic Analysis / Recommended Solution

The U.S. Army Corps of Engineers' HEC-RAS computer program (version 3.1.2), was used to develop the design of the proposed channel. HEC-RAS cross section numbering is based on the channel stationing in the plans.

The proposed drainage solution consists of a concrete lined channel with a 40 foot bottom width, 2:1 side slopes, and a depth varying from 5.1 to 6.5 feet. The channel bottom has a cross slope of 2 percent.

The channel longitudinal slope was set at a constant slope by matching the outlet invert elevation of the U.S. 60 box culvert at the upstream end of the channel, and the natural ground elevation at the downstream end of the channel at the southern boundary of Martin Acres. This results in a longitudinal slope of 0.67 percent, which produces supercritical flow conditions with a Froude number as high as 1.47. Flow velocities are as high as 12 feet per second, and the normal flow depth is approximately 3 feet.

Although the FCDMC's "kinder and gentler" approach to channel design favors a natural channel lining rather than a rigid lining such as concrete, the rigid lining approach is proposed in this case because it results in a smaller channel width, which in turn reduces the impact to adjacent homes and lots.

Two box culvert crossings are proposed along the channel alignment at locations where streets cross the channel. Both proposed box culverts are four-barrel 10 foot wide by 4 foot high structures. Flow conditions immediately upstream of the box culverts are subcritical with flow depths of approximately 4.5 to 5.0 feet.

Minimum channel freeboard was calculated in accordance with FCDMC requirements. In horizontal curves in the channel alignment, superelevation of the water surface requires as much as 0.81 feet of additional freeboard depending on the radius of the curve. Most horizontal curves along the proposed channel have radii greater than the minimum FCDMC recommended radius, but there are several locations where a smaller radius is used due to geometry constraints. In these cases, adequate freeboard above the superelevated flow is provided.

At several locations along the channel, the required freeboard is obtained by the use of berms. This occurs in reaches where there is flow superelevation, high flow depth upstream of the proposed box culverts, and/or variation in the natural terrain that results in the top of channel lining being above the existing ground. In these locations, the actual water surface will still be below the existing ground elevation, so the berms will not be serving as levees.

In several areas along the berms, area inlets will be necessary to drain localized low areas that are created by the presence of the berms. The area inlets will drain through new pipes into the proposed channel.

A 12-foot wide maintenance road will be provided along the west side of the channel at the top of lining. Two access ramps will be provided to allow maintenance vehicles traveling along the maintenance road to enter the channel. The ramps will be located near the cross streets within the Martin Acres residential area.

Appendix A includes a HEC-RAS output summary, a profile plot and channel cross section printouts, and a channel hydraulics worksheet showing freeboard calculations. A compact disc containing the HEC-RAS files is included in a CD holder on the back cover of this report. Appendix B includes preliminary plans showing the design of the proposed channel, and Appendix C contains a cost estimate.

APPENDIX A
Hydraulic Calculations

HEC-RAS Plan: Martin 01190 River: RIVER-1 Reach: Reach-1 Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Cnt W.S	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	6846.15	PF 1	1228.30	1417.50	1419.95	1420.43	1422.05	0.006919	11.63	105.61	43.10	1.31
Reach-1	6761.15	PF 1	1228.30	1416.91	1420.11	1420.23	1421.54	0.004145	9.61	127.75	51.18	1.07
Reach-1	6700.00	PF 1	1228.30	1416.49	1419.43	1419.81	1421.21	0.005712	10.68	115.04	50.18	1.24
Reach-1	6600.*	PF 1	1228.30	1415.80	1418.65	1419.11	1420.58	0.006539	11.16	110.08	49.78	1.32
Reach-1	6500	PF 1	1430.30	1415.11	1418.54	1418.72	1420.16	0.004261	10.22	139.93	52.12	1.10
Reach-1	6400.*	PF 1	1430.30	1414.42	1417.55	1418.03	1419.60	0.006118	11.51	124.26	50.91	1.30
Reach-1	6300.*	PF 1	1430.30	1413.72	1416.78	1417.33	1418.96	0.006664	11.84	120.83	50.64	1.35
Reach-1	6200.*	PF 1	1430.30	1413.03	1416.08	1416.64	1418.28	0.006787	11.91	120.11	50.58	1.36
Reach-1	6100.*	PF 1	1430.30	1412.34	1415.38	1415.95	1417.59	0.006808	11.92	119.99	50.57	1.36
Reach-1	6000.*	PF 1	1430.30	1411.65	1414.69	1415.26	1416.90	0.006815	11.92	119.95	50.57	1.36
Reach-1	5900.*	PF 1	1430.30	1410.96	1414.00	1414.57	1416.21	0.006825	11.93	119.89	50.56	1.37
Reach-1	5800.*	PF 1	1430.30	1410.27	1413.31	1413.88	1415.52	0.006812	11.92	119.97	50.57	1.36
Reach-1	5700.*	PF 1	1430.30	1409.58	1412.62	1413.19	1414.83	0.006823	11.93	119.90	50.56	1.37
Reach-1	5600.*	PF 1	1430.30	1408.89	1411.93	1412.50	1414.14	0.006831	11.93	119.86	50.56	1.37
Reach-1	5500.*	PF 1	1430.30	1408.19	1411.22	1411.80	1413.45	0.006930	11.99	119.29	50.52	1.37
Reach-1	5400.*	PF 1	1430.30	1407.50	1410.53	1411.11	1412.76	0.006913	11.98	119.39	50.52	1.37
Reach-1	5300.*	PF 1	1430.30	1406.81	1409.84	1410.42	1412.07	0.006912	11.98	119.40	50.52	1.37
Reach-1	5200.*	PF 1	1430.30	1406.12	1409.15	1409.73	1411.38	0.006913	11.98	119.39	50.52	1.37
Reach-1	5100.*	PF 1	1430.30	1405.43	1408.46	1409.04	1410.69	0.006912	11.98	119.40	50.52	1.37
Reach-1	5000.*	PF 1	1430.30	1404.74	1407.77	1408.35	1410.00	0.006913	11.98	119.39	50.52	1.37
Reach-1	4900.*	PF 1	1430.30	1404.05	1407.08	1407.66	1409.31	0.006912	11.98	119.40	50.52	1.37
Reach-1	4800.*	PF 1	1430.30	1403.36	1406.39	1406.97	1408.62	0.006913	11.98	119.39	50.52	1.37
Reach-1	4700.*	PF 1	1430.30	1402.66	1405.69	1406.27	1407.92	0.006921	11.98	119.34	50.52	1.37
Reach-1	4600.*	PF 1	1430.30	1401.97	1405.00	1405.58	1407.23	0.006921	11.98	119.34	50.52	1.37
Reach-1	4500.*	PF 1	1430.30	1401.28	1404.31	1404.89	1408.54	0.006921	11.98	119.34	50.52	1.37
Reach-1	4400.*	PF 1	1430.30	1400.59	1403.62	1404.20	1405.85	0.006921	11.98	119.34	50.52	1.37
Reach-1	4300.*	PF 1	1430.30	1399.90	1402.93	1403.51	1405.16	0.006921	11.98	119.34	50.52	1.37
Reach-1	4200.*	PF 1	1430.30	1399.21	1402.24	1402.81	1404.47	0.006921	11.98	119.34	50.52	1.37
Reach-1	4100.*	PF 1	1430.30	1398.52	1401.55	1402.13	1403.78	0.006921	11.98	119.34	50.52	1.37
Reach-1	4037.48	PF 1	1430.30	1398.09	1402.37	1401.69	1403.29	0.001827	7.72	185.39	55.50	0.74
Reach-1	3952.58	PF 1	1430.30	1397.50	1402.40	1400.74	1403.11	0.001061	6.77	211.15	43.20	0.54
Reach-1	3905.98											
Reach-1	3859.48	PF 1	1430.30	1396.85	1399.68	1400.09	1401.82	0.005975	11.76	121.66	43.11	0.54
Reach-1	3774.48	PF 1	1430.30	1396.28	1399.75	1399.86	1401.30	0.004007	10.02	142.80	52.34	1.07
Reach-1	3700.*	PF 1	1430.30	1395.75	1398.92	1399.35	1400.91	0.005778	11.30	126.60	51.09	1.28
Reach-1	3600.*	PF 1	1430.30	1395.06	1398.14	1398.67	1400.28	0.006523	11.76	121.88	50.70	1.34
Reach-1	3512.56	PF 1	1430.30	1394.46	1397.52	1398.07	1399.70	0.006661	11.84	120.85	50.64	1.35
Reach-1	3427.56	PF 1	1430.30	1393.87	1398.54	1397.11	1399.33	0.001228	7.10	201.37	43.19	0.58
Reach-1	3392.85											
Reach-1	3358.23	PF 1	1430.30	1393.39	1396.27	1396.63	1398.34	0.005622	11.53	124.02	43.12	0.58
Reach-1	3273.23	PF 1	1430.30	1392.81	1396.34	1396.42	1397.85	0.003806	9.85	145.25	52.53	1.04
Reach-1	3200.*	PF 1	1430.30	1392.30	1395.47	1395.91	1397.46	0.005813	11.32	126.35	51.07	1.27
Reach-1	3100.*	PF 1	1430.30	1391.60	1394.67	1395.21	1396.83	0.006557	11.78	121.47	50.69	1.34
Reach-1	3000.*	PF 1	1430.30	1390.91	1393.96	1394.52	1395.15	0.006709	11.86	120.57	50.62	1.35
Reach-1	2900.*	PF 1	1430.30	1390.22	1393.26	1393.83	1395.47	0.006820	11.93	119.92	50.56	1.36
Reach-1	2800.*	PF 1	1430.30	1389.53	1392.57	1393.14	1394.78	0.006816	11.93	119.93	50.57	1.36
Reach-1	2700.*	PF 1	1430.30	1388.84	1391.88	1392.45	1394.09	0.006826	11.93	119.88	50.56	1.37
Reach-1	2600.*	PF 1	1430.30	1388.15	1391.19	1391.76	1393.40	0.006814	11.92	119.95	50.57	1.36
Reach-1	2500.*	PF 1	1430.30	1387.46	1390.50	1391.07	1392.71	0.006825	11.93	119.89	50.56	1.37
Reach-1	2400.*	PF 1	1430.30	1386.77	1389.81	1390.38	1392.02	0.006813	11.92	119.96	50.57	1.36
Reach-1	2300.*	PF 1	1430.30	1386.07	1389.10	1389.68	1391.33	0.006922	11.99	119.34	50.52	1.37
Reach-1	2200.*	PF 1	1430.30	1385.38	1388.41	1388.99	1390.64	0.006894	11.97	119.50	50.53	1.37
Reach-1	2100.*	PF 1	1430.30	1384.69	1387.72	1388.30	1389.95	0.006894	11.97	119.50	50.53	1.37
Reach-1	2000.00	PF 1	1430.30	1384.00	1388.78	1387.81	1389.47	0.001198	6.69	213.66	57.50	0.61
Reach-1	1900.*	PF 1	1430.30	1383.55	1388.19	1387.63	1389.27	0.002302	8.37	174.13	73.56	0.79
Reach-1	1800.*	PF 1	1430.30	1383.11	1388.04	1388.04	1389.02	0.002113	8.39	204.66	104.20	0.77
Reach-1	1700.*	PF 1	1430.30	1382.67	1387.01	1387.51	1388.64	0.005090	11.44	167.44	127.10	1.15
Reach-1	1600.00	PF 1	1430.30	1382.23	1386.11	1386.66	1387.93	0.010066	13.42	154.87	136.70	1.47
Reach-1	1500.00	PF 1	1430.30	1381.50	1385.24	1385.81	1386.96	0.006679	12.56	156.55	136.89	1.39

APPENDIX B
Preliminary Channel Plans

APPENDIX C
Cost Estimate

**ENGINEERS ESTIMATE DCR PLANS (Not For Construction)
Martin Acres Drainage Improvements**

	ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	2020009	REMOVAL OF STRUCTURAL CONCRETE	CU.YD.	20	\$200.00	\$4,000
2	2030401	DRAINAGE EXCAVATION	CU.YD.	38316	\$5.00	\$191,580
3	3030102	AGGREGATE BASE (4" O&M CHANNEL ROAD)	CU. YD.	462	\$30.00	\$13,860
4	5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.FT.	55	\$100.00	\$5,500
5	5011042	PIPE, REINFORCED CONCRETE, CLASS II, 36"	L. FT.	100	\$120.00	\$12,000
6	5015124	FLAP GATE, (24")	EACH	1	\$4,000.00	\$4,000
7	5030141	CONCRETE CATCH BASIN (MEDIAN)	EACH	3	\$2,500.00	\$7,500
8	9158903	BOLLARD (REMOVEABLE)	EA	4	\$400.00	\$1,600
9	9201004	CONCRETE CHANNEL LINING (6")	SQ.YD.	35800	\$28.00	\$1,002,400
10	A	4 - 70' x 10' x 4' RCBC (NORWICH DRIVE)	LS	1	\$106,429.50	\$106,430
11	B	4 - 30' X 10' X 4' RCBC (UNNAMED)	LS	1	\$45,646.55	45646.55
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

SUB-TOTAL	\$1,394,516
20% Contingency	\$278,903
TOTAL	\$1,673,419

**ENGINEERS ESTIMATE DCR PLANS (Not For Construction)
Martin Acres Drainage Improvements**

	ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	A	4 - 70' X 10' X4' RCBC (Norwich)				
2						
3	2030501	STRUCTURAL EXCAVATION	CU.YD.	100	\$8.00	\$800
4	2030506	STRUCTURE BACKFILL	CU.YD.	150	\$15.00	\$2,250
5	6010002	STRUCTURAL CONCRETE (CLASS S) (F'C = 3,000)	CU.YD.	304.76	\$250.00	\$76,190
6	6040001	STRUCTURAL STEEL	LB.	41830	\$0.65	\$27,190
7						
8						\$106,430
9	B	4 - 30' X 10' X 4' RCBC (Un-named)				
10						
11	2030501	STRUCTURAL EXCAVATION	CU.YD.	43	\$8.00	\$344
12	2030506	STRUCTURE BACKFILL	CU.YD.	65	\$15.00	\$975
13	6010002	STRUCTURAL CONCRETE (CLASS S) (F'C = 3,000)	CU.YD.	130.7	\$250.00	\$32,675
14	6040001	STRUCTURAL STEEL	LB.	17927	\$0.65	\$11,653
15						
16						\$45,647
17						

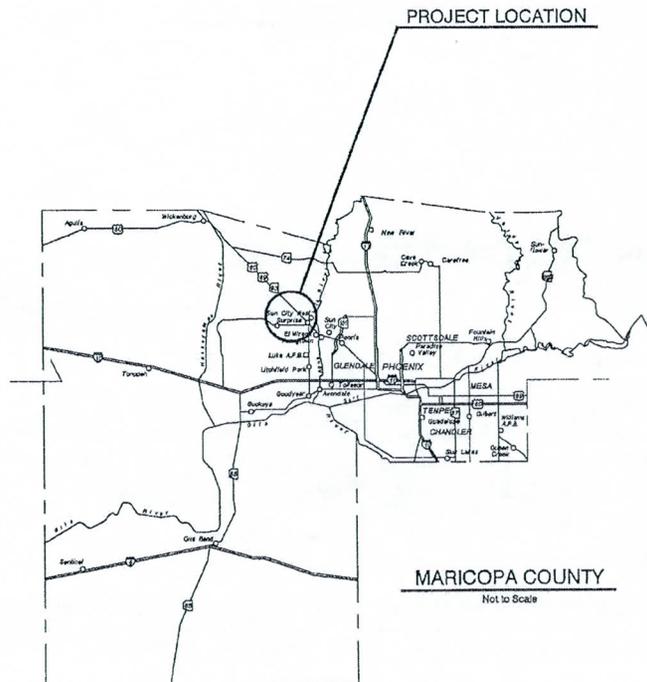
SUB-TOTAL

\$152,076



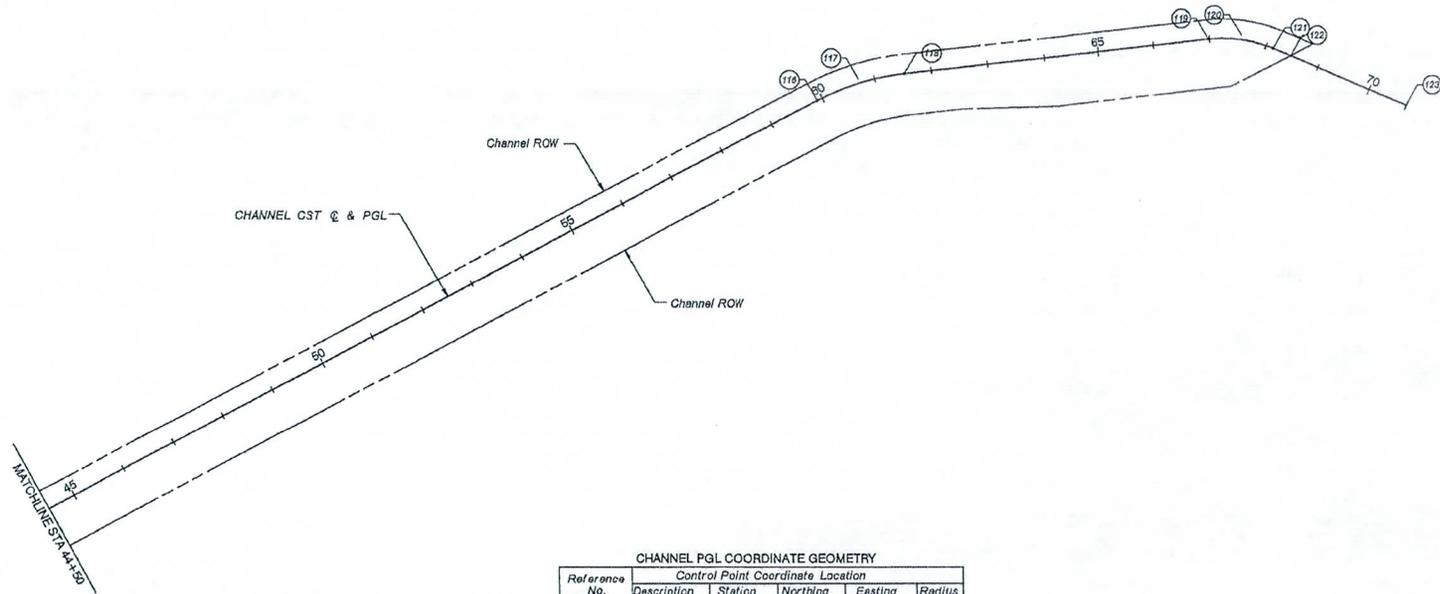
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

PLANS FOR THE CONSTRUCTION OF
MARTIN ACRES
DRAINAGE IMPROVEMENTS



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY	
ISSUED FOR PUBLIC BIDDING BY:	
CHIEF ENGINEER AND GENERAL MANAGER	
BOARD OF DIRECTORS OF THE FLOOD CONTROL DISTRICT	
MAX WILSON - CHAIRMAN	
DISTRICT 1	FULTON BROCK
DISTRICT 2	DON STAPLEY
DISTRICT 3	ANDY KUNASEK
DISTRICT 4	MAX WILSON
DISTRICT 5	MARY ROSE WILCOX

TWO WEEKS DATE
BEFORE YOU CAN CALL
263-1100
BLUE STAKE

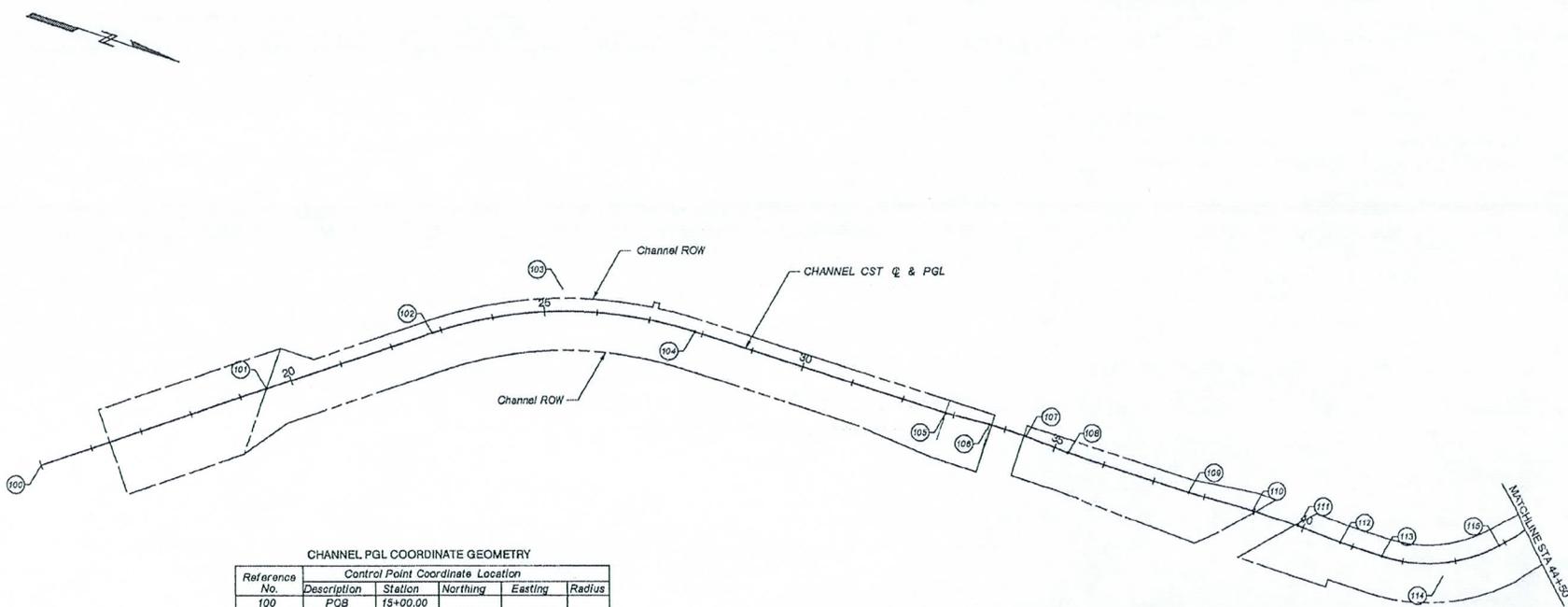


CHANNEL PGL COORDINATE GEOMETRY

Reference No.	Description	Station	Northing	Easting	Radius
116	PC	59+90.02	986196.45	539821.56	0
117	PI	60+72.46	986252.69	539761.28	425
118	PT	61+52.88	986327.39	539726.39	0
119	PC	66+97.80	986821.13	539495.85	0
120	PI	67+56.63	986874.44	539470.98	220
121	PT	68+12.78	986933.06	539476.00	0
122	PI	68+46.22	986966.38	539478.86	0
123	POE	70+71.71	987191.04	539498.18	0

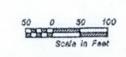
60 0 60 120
Scale in Feet

1			
2			
3			
NO.	REVISION	BY	DATE
 FLOOD CONTROL DISTRICT OF MARICOPA COUNTY ENGINEERING DIVISION			
MARTIN ACRES DRAINAGE IMPROVEMENTS			
PRELIMINARY	DESIGNED	BY	DATE
	TR		02/05
	DRAWN	TR	03/05
	CHECKED	JH	02/05
NOT FOR CONSTRUCTION	 <small>is engineering and environmental design 8222 South Ash Street, Suite 118 Phoenix, Arizona 85044 phone: 602-438-2221</small>		
DRAWING NO.	CHANNEL GEOMETRIC LAYOUT	SHEET	

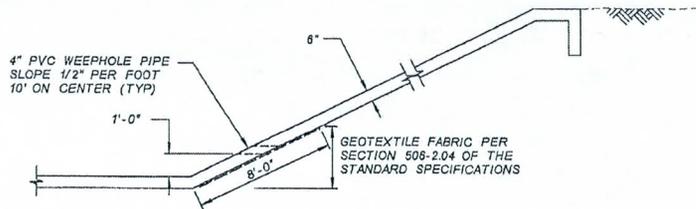


CHANNEL PGL COORDINATE GEOMETRY

Reference No.	Control Point Coordinate Location				
	Description	Station	Northing	Easting	Radius
100	PCB	15+00.00			
101	PI	19+51.81	982796.08	541442.16	0
102	PC	22+82.41	983058.57	541240.85	0
103	PI	25+43.87	983285.89	541081.87	770
104	PT	27+86.16	983527.15	541081.87	0
105	PI	33+84.27	984025.26	541081.87	0
106	PI	33+89.42	984110.26	541076.87	0
107	PI	34+42.85	984183.49	541076.87	0
108	PI	35+27.80	984269.49	541081.87	0
109	PI	37+69.20	984509.89	541081.87	0
110	PI	38+96.28	984638.87	541076.87	0
111	PI	39+89.28	984729.87	541076.87	0
112	PI	40+74.42	984814.87	541081.87	0
113	PC	41+68.64	984899.09	541081.87	0
114	PI	42+12.51	984952.96	541081.83	280
115	PT	43+88.08	985103.64	540992.88	0

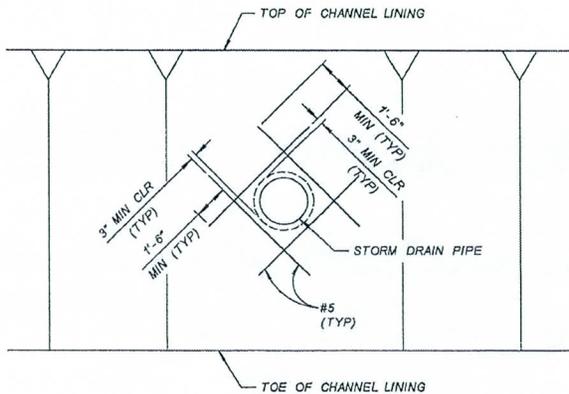


3			
2			
1			
NO.	REVISION	BY	DATE
 FLOOD CONTROL DISTRICT OF MARICOPA COUNTY ENGINEERING DIVISION			
MARTIN ACRES DRAINAGE IMPROVEMENTS			
PRELIMINARY		BY	DATE
DESIGNED	TR		02/05
DRAWN	TB		02/05
CHECKED	JH		02/05
NOT FOR CONSTRUCTION	 <small>J2 engineering and environmental design 8222 South 48th Street, Suite 138 Phoenix, Arizona 85044 phone: 602-438-2221</small>		
DRAWING NO.	CHANNEL GEOMETRIC LAYOUT		SHEET



WEEPHOLE DETAIL
NTS

NOTE:
WEEPHOLES TYPICAL ALONG
CHANNEL AND TRANSITIONS



TYPICAL PIPE PENETRATION THROUGH CHANNEL LINING
NTS

REMOVE

CONSTRUCT

TWO WORKING DAYS
BEFORE YOU DIG
602-263-1100
BLUE STAKE

3			
2			
1			
NO.	REVISION	BY	DATE

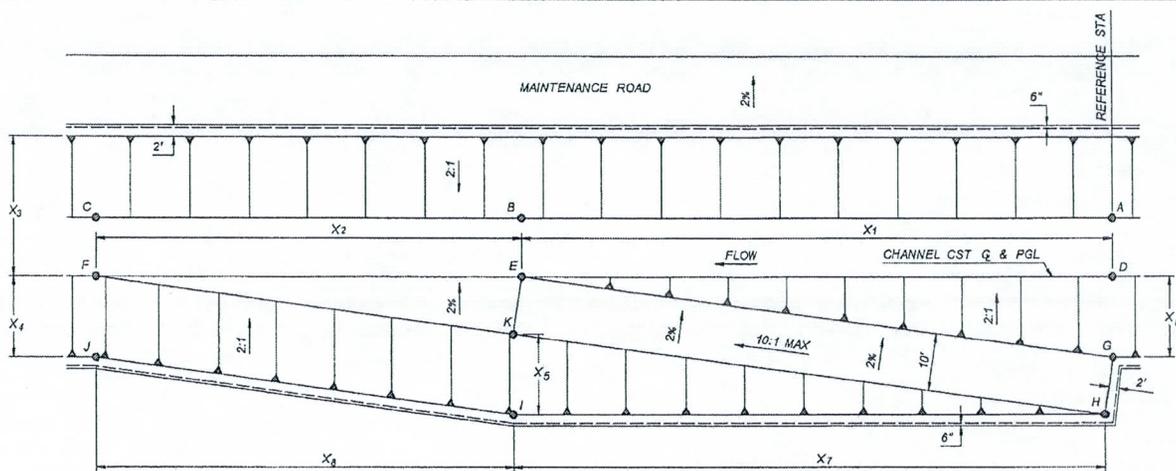
FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

MARTIN ACRES
DRAINAGE IMPROVEMENTS

PRELIMINARY	DESIGNED	TR	DATE	02/05
DCR	DRAWN	TB		02/05
NOT FOR CONSTRUCTION	CHECKED	JH		02/05
DRAWING NO.	CHANNEL DETAILS			SHEET

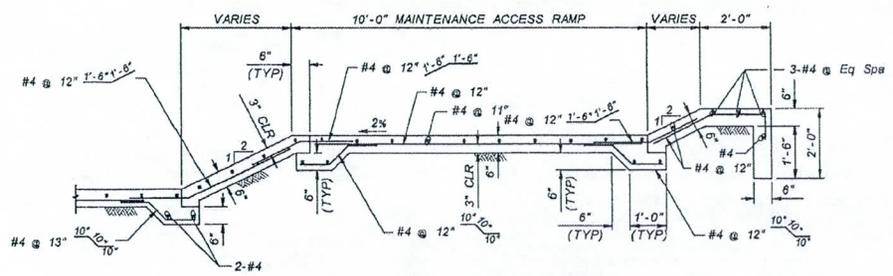
NOT FOR CONSTRUCTION

J2 Engineering and Environmental Design
8222 South 48th Street, Suite 125
Phoenix, Arizona 85044 phone 602-438-2221



PLAN
NTS

NOTE:
ALL DIMENSIONS ARE SHOWN ARE
MEASURED IN THE HORIZONTAL
PLANE.



ACCESS RAMP - TYPICAL SECTION FOR CONCRETE
Scale: 1" = 1'-0"

REMOVE

CONSTRUCT

NO BIDDING COSTS
BEFORE YOU CALL
602-263-1100
BLUE STAKE

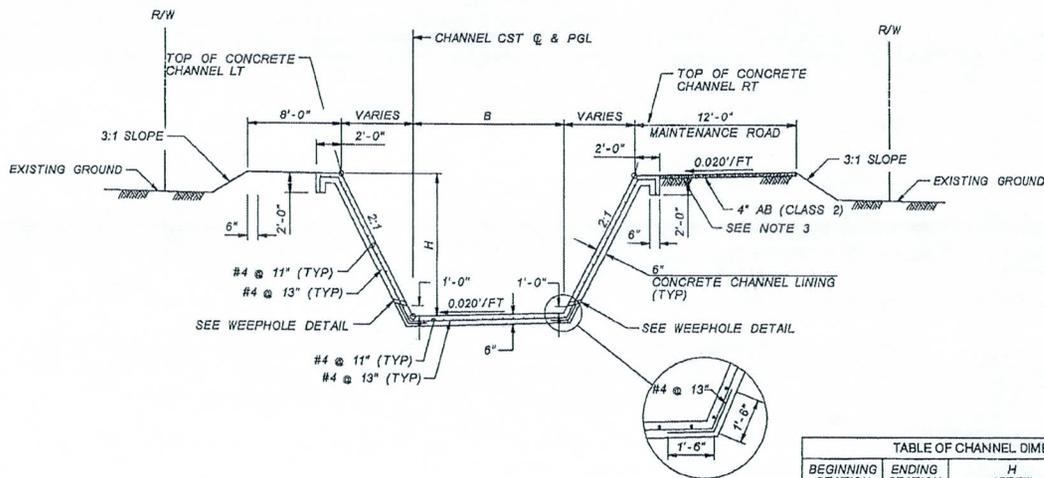
3			
2			
1			
NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

MARTIN ACRES
DRAINAGE IMPROVEMENTS

PRELIMINARY	DESIGNED	TR	DATE
DCR	TR		02/05
NOT FOR CONSTRUCTION	DRAWN	TB	02/05
	CHECKED	JH	02/05

DRAWING NO. CHANNEL RAMP DETAILS SHEET



BEGINNING STATION	ENDING STATION	H (FEET)	B (FEET)
19+51.61	20+00.00	6.5	40.0
20+00.00	21+00.00	VARIES 6.5 TO 5.5	40.0
21+00.00	32+84.27	5.5	40.0
32+84.27	33+69.42	VARIES 5.5 TO 4.5	VARIES 40.0 TO 43.0
34+42.65	35+27.80	VARIES 6.5 TO 5.5	VARIES 43.0 TO 40.0
35+27.80	37+69.20	5.5	40.0
37+69.00	38+98.28	5.5	VARIES 40.0 TO 43.0
38+98.28	43+00.00	6.3	VARIES 43.0 TO 40.0
43+00.00	44+00.00	VARIES 6.3 TO 5.1	40.0
44+00.00	59+00.00	5.1	40.0
59+00.00	60+00.00	VARIES 5.1 TO 6.0	40.0
60+00.00	68+46.22	6.0	40.0

NOTES:

- TOP 2FT OF EARTH UNDER THE MAINTENANCE ROAD SHALL BE NATIVE MATERIAL COMPACTED 95% OF MAXIMUM DRY DENSITY.
- ALL CONCRETE SHALL BE CLASS S (F_c = 3000 PSI) SEE SPECIAL PROVISIONS FOR DETAILS REQUIREMENTS.
- ALL REINFORCED STEEL SHALL CONFORM TO ASTM A615/A615M-06A, GRADE 60
- ALL REINFORCING STEEL SHALL HAVE A MINIMUM 2" CLEAR COVER TO GRADE AND 2" TO EXPOSED SURFACES UNLESS OTHERWISE NOTED.
- CHANNEL LINING SHALL BE CONTINUOUSLY REINFORCED WITHOUT EXPANSION OR TOOLED JOINTS EXCEPT AS FOLLOWS: CONSTRUCTION JOINTS SHALL BE LOCATED AT THE END OF THE DAY'S POUR OR WHEN CONCRETE PLACEMENT STOPS FOR MORE THAN FORTY-FIVE (45) MINUTES AND BETWEEN LONGITUDINAL PAVING STRIPS. LONGITUDINAL CONSTRUCTION JOINTS SHALL BE LOCATED ONE FOOT UP EACH SIDE SLOPE. REINFORCING STEEL SHALL BE CONTINUOUS THROUGH LINING CONSTRUCTION JOINTS AND THROUGH JOINTS WITH BOX CULVERTS AND OTHER HYDRAULIC STRUCTURES UNLESS NOTED OTHERWISE.
- WEEP HOLES 10' ON CENTER TYPICAL.

REMOVE

CONSTRUCT

FOR MARKING DATA, BEFORE YOU DIG, CALL 602-263-1100 BLUE STAKE

NO.	REVISION	BY	DATE
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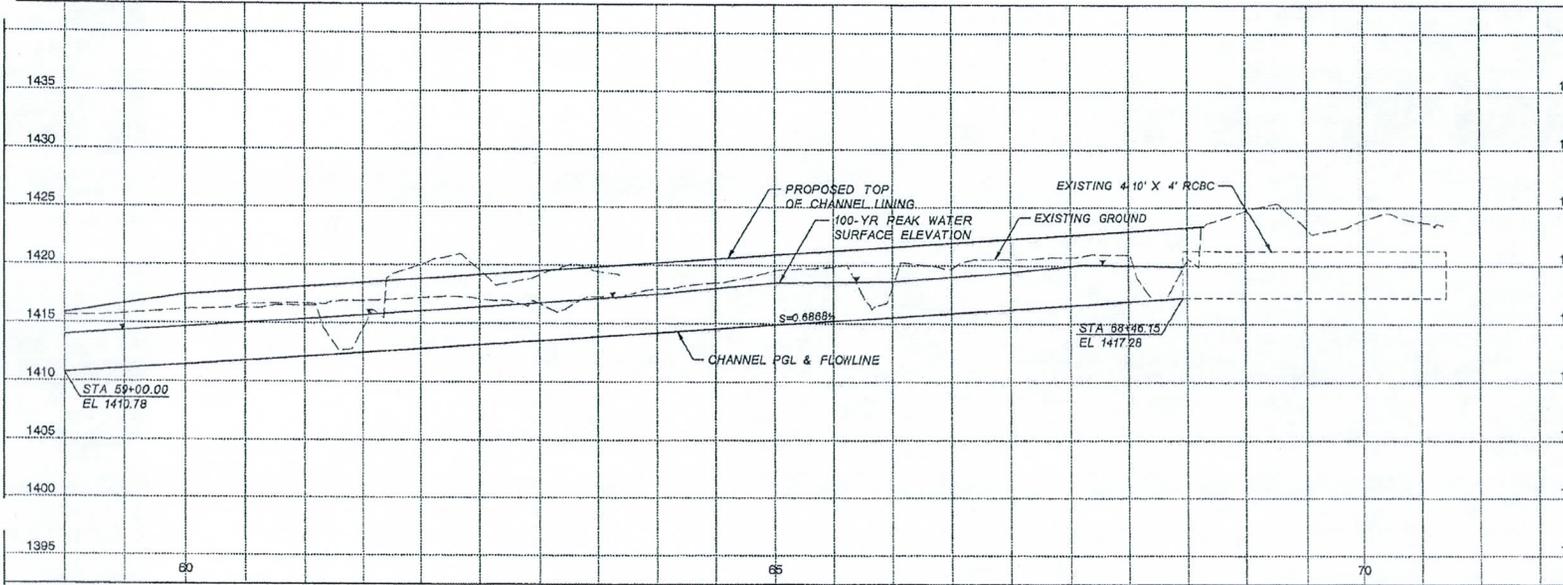
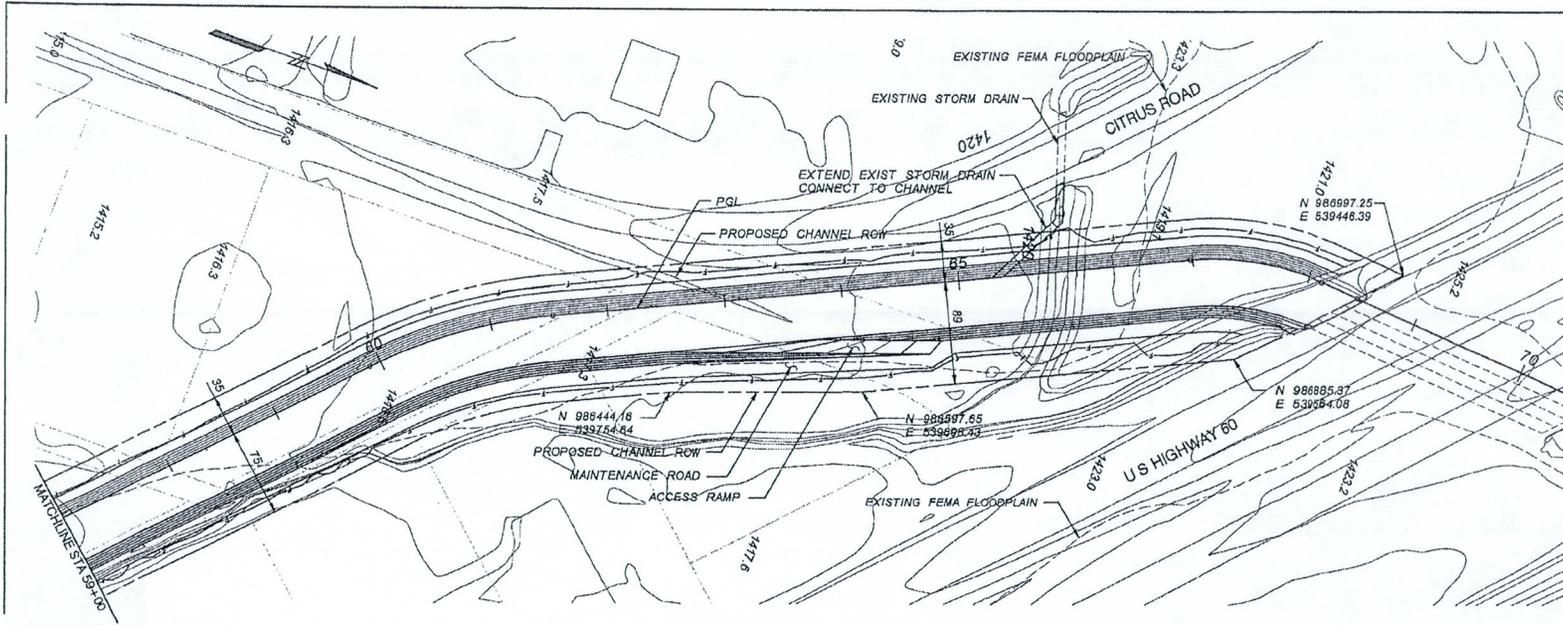
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY ENGINEERING DIVISION

MARTIN ACRES DRAINAGE IMPROVEMENTS

PRELIMINARY	DESIGNED	BY	DATE
DCR	TR		02/05
NOT FOR CONSTRUCTION	TA		02/05
	JH		02/05

DRAWING NO. CONCRETE LINED CHANNEL TYPICAL SECTIONS SHEET

J2 engineering and environmental design 4322 south 46th street suite 108 phoenix, arizona 85044 phone: 602.430.2221



REMOVE

CONSTRUCT

FIG. 400000.0000
 REMOVE YOU LOCAL
 602-263-1100
 BLUE STAKE

Scale in Feet

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NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY ENGINEERING DIVISION

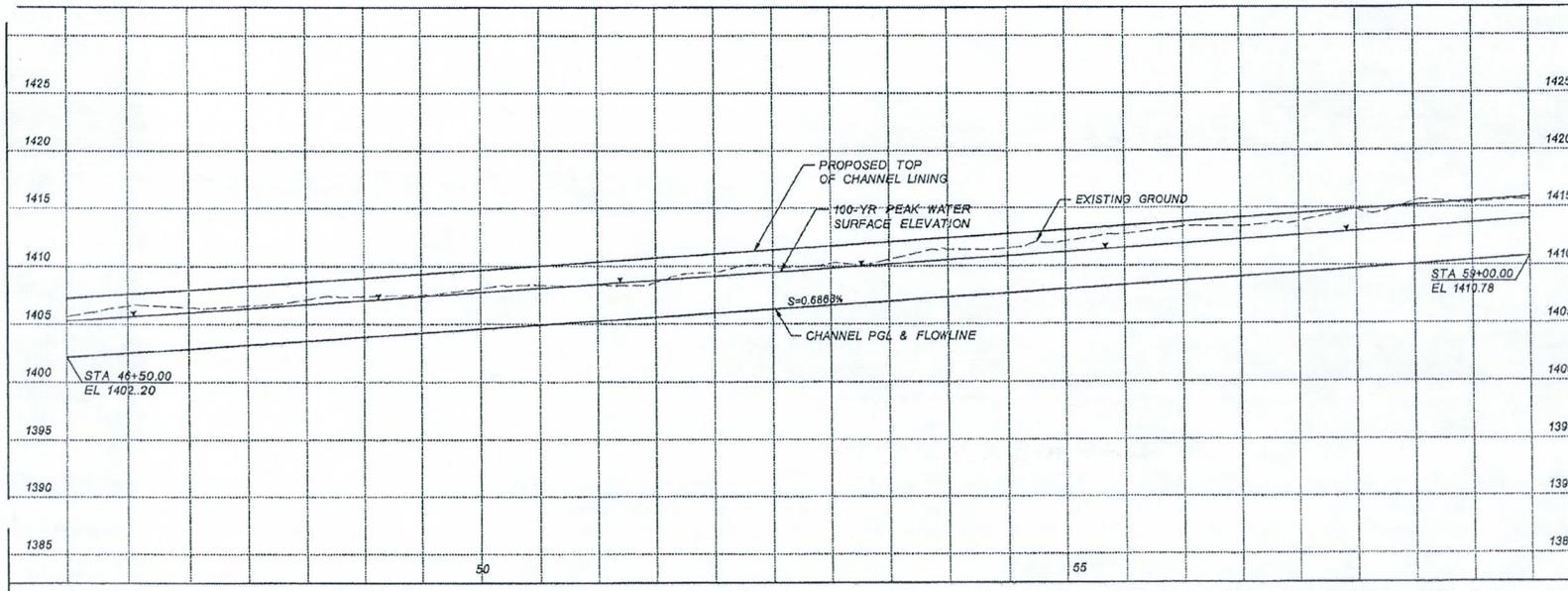
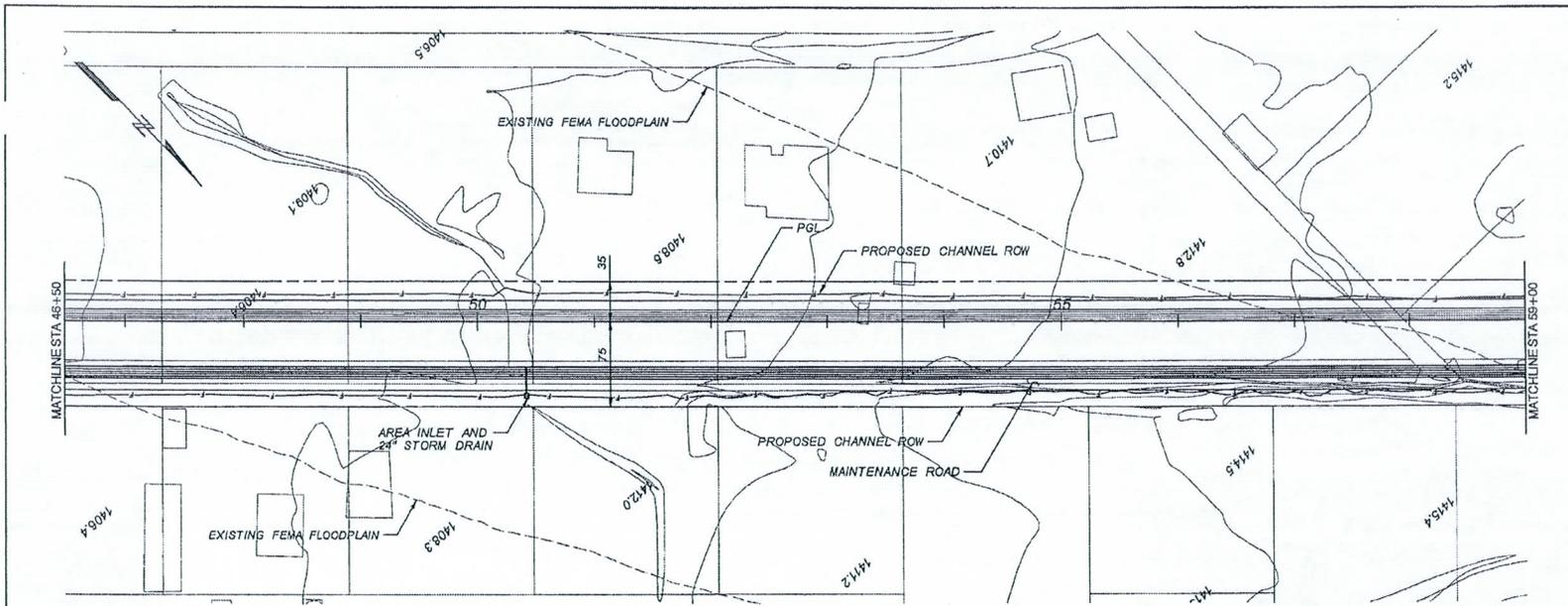
MARTIN ACRES DRAINAGE IMPROVEMENTS

DESIGNED	TR	BY	DATE
DRAWN	TB		02/05
CHECKED	JH		02/05

NOT FOR CONSTRUCTION

J2 engineering and environmental design
 3923 south 48th street suite 128
 phoenix, arizona 85044 phone 602-438-2221

DRAWING NO. PP05 CHANNEL PLAN AND PROFILE STA 60+00.00 TO STA 66+48.15 SHEET



REMOVE

CONSTRUCT

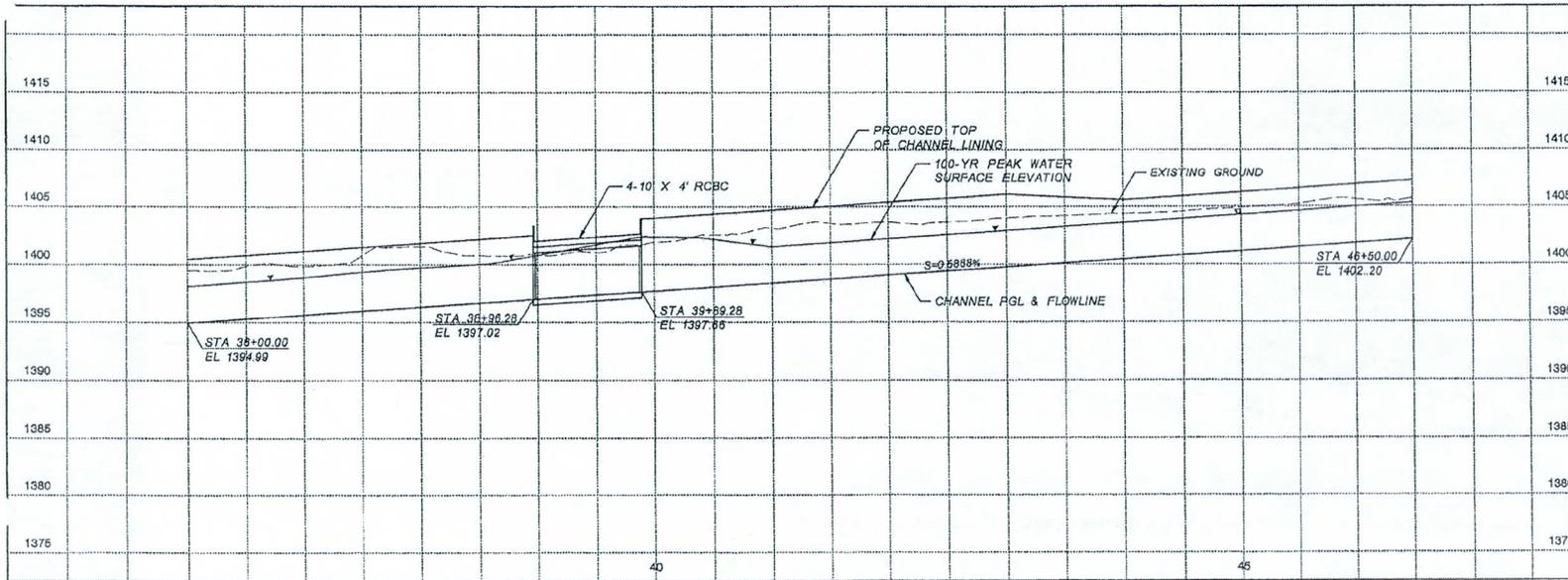
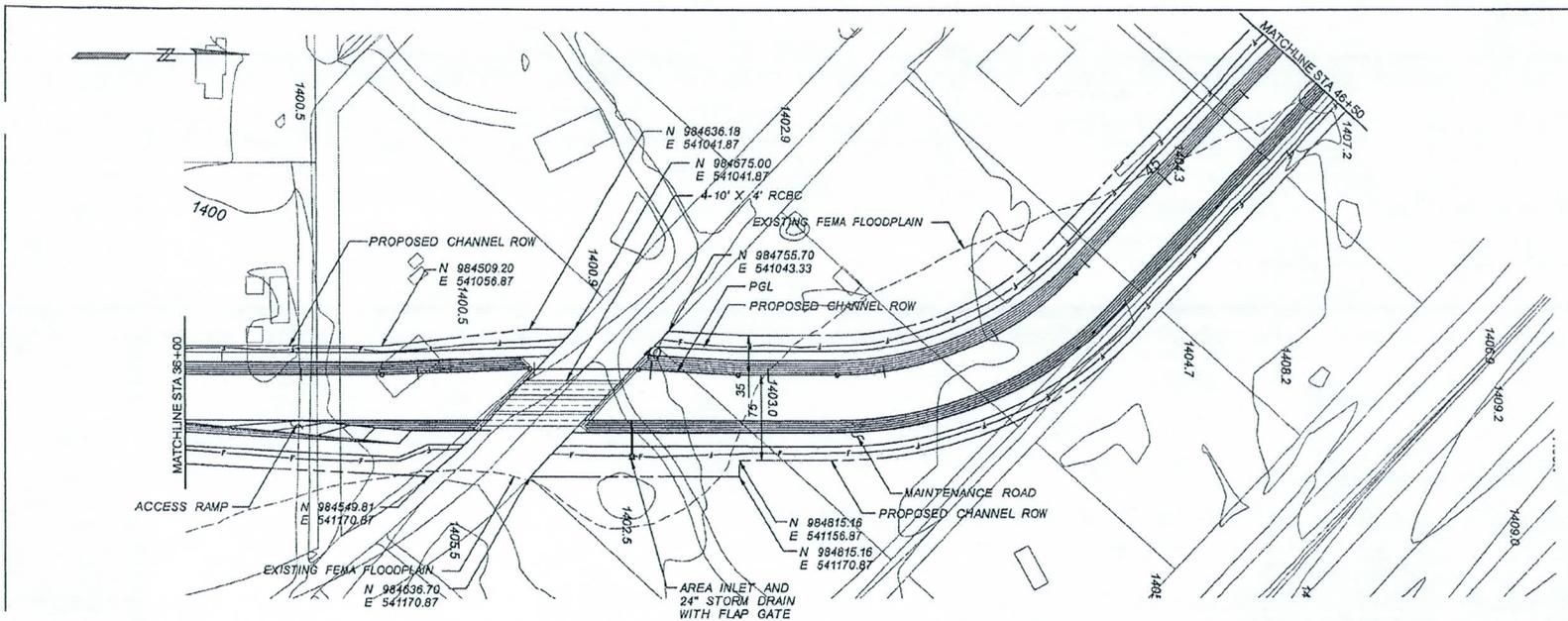
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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY ENGINEERING DIVISION

MARTIN ACRES DRAINAGE IMPROVEMENTS

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	DCR	TR	TR	
NOT FOR CONSTRUCTION	DRAWN		TB	02/05
	CHECKED		JM	02/05
DRAWING NO. P04				SHEET



REMOVE
 CONSTRUCT

THE WORKING DATE ABOVE YOU OR CAL 802-263-1100 BLUE STAKE

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 Scale in Feet

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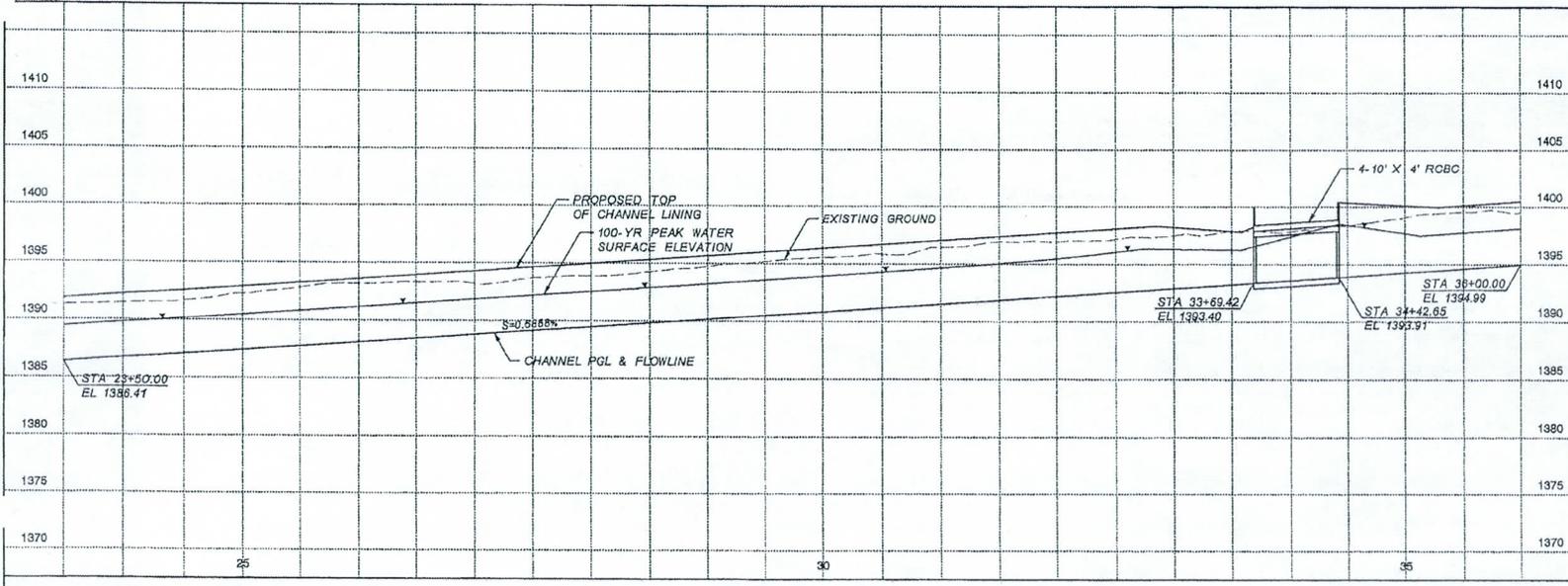
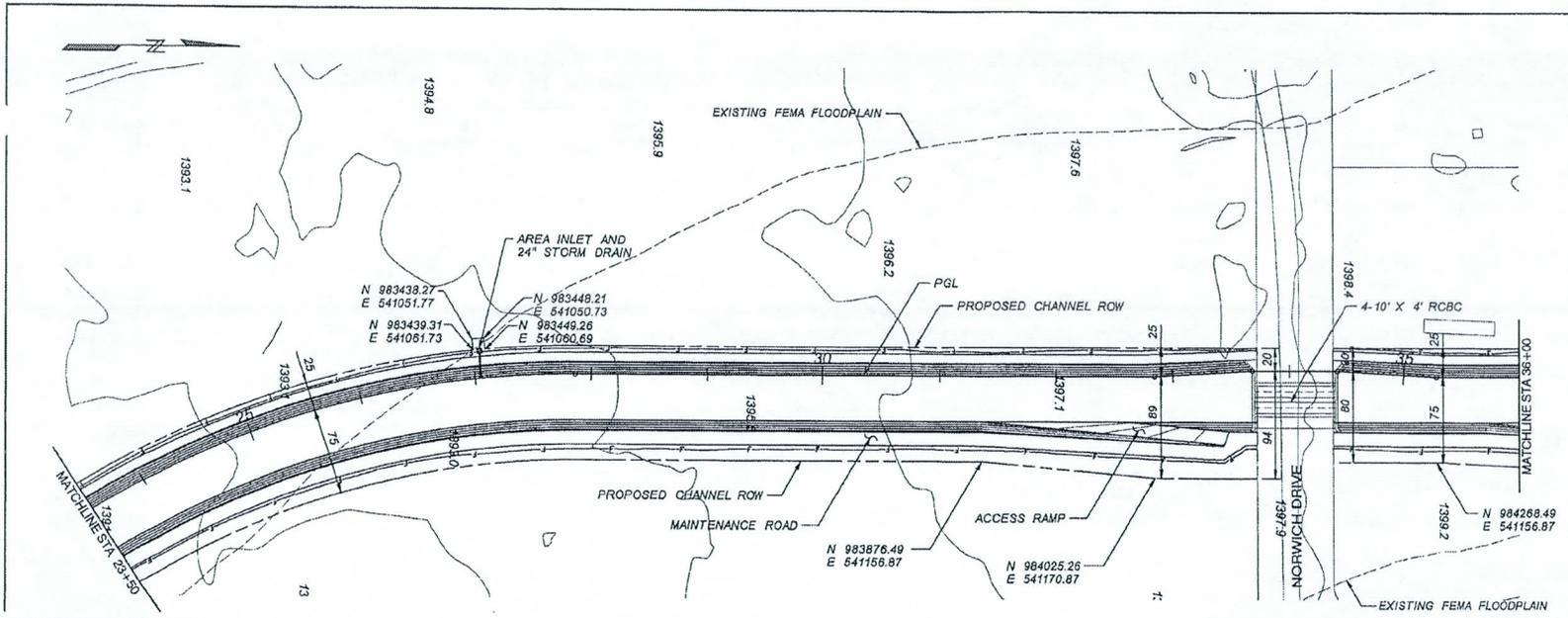
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
 ENGINEERING DIVISION

MARTIN ACRES DRAINAGE IMPROVEMENTS

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	DCR	TR	TR	02/05
NOT FOR CONSTRUCTION	DRAWN		BY	DATE
	TB	TB	TB	02/05
CHECKED		JH	JH	02/05

22 engineering and environmental design
 8222 SOUTH 48TH STREET, SUITE 115
 PHOENIX, ARIZONA 85044 PHONE: 602.438.2221

DRAWING NO.	CHANNEL PLAN AND PROFILE	SHEET
PP03	STA 38+00.00 TO STA 46+50.00	



REMOVE

CONSTRUCT

THIS DRAWING DATE BEFORE YOU CALL
602-263-1100
BLUE STAKE

Scale in Feet
0 50 100

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY ENGINEERING DIVISION

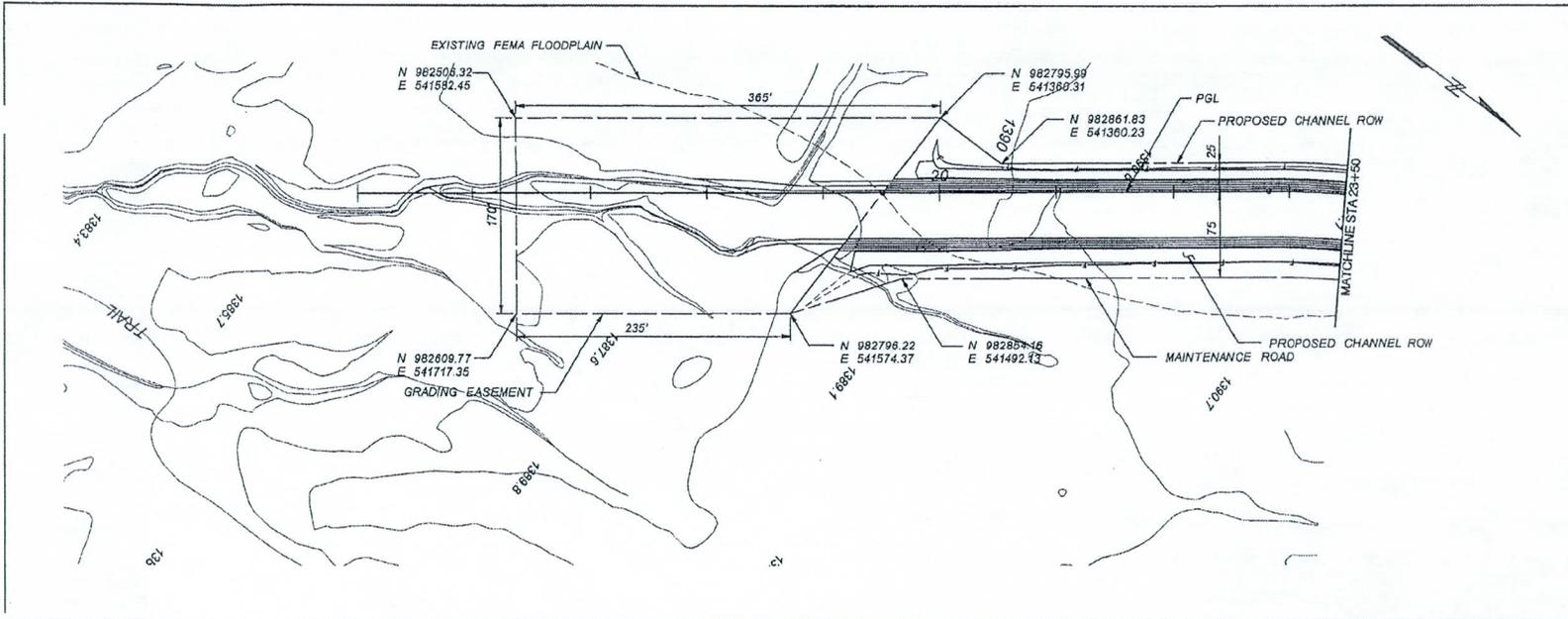
MARTIN ACRES DRAINAGE IMPROVEMENTS

PRELIMINARY	DESIGNED	TR	BY	DATE
DCR	TR			02/06
NOT FOR CONSTRUCTION	DRAWN	TB		02/06
	CHECKED	JH		02/06

DRAWING NO. PP02

CHANNEL PLAN AND PROFILE
STA 23+50.00 TO STA 36+00.00

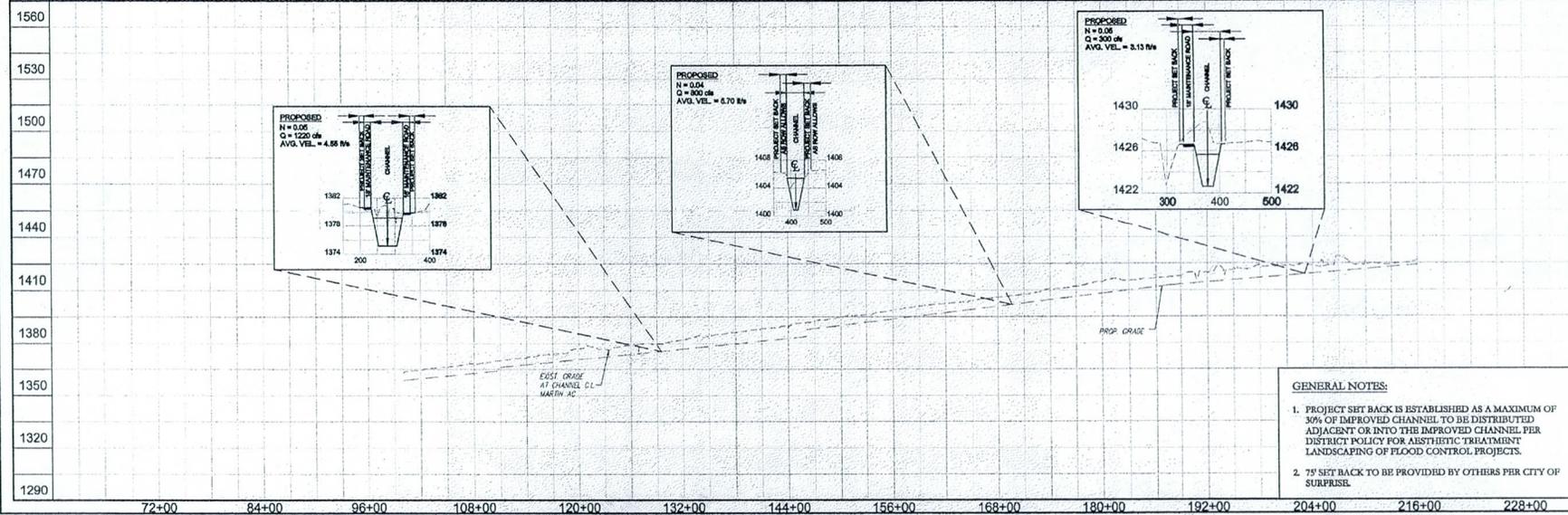
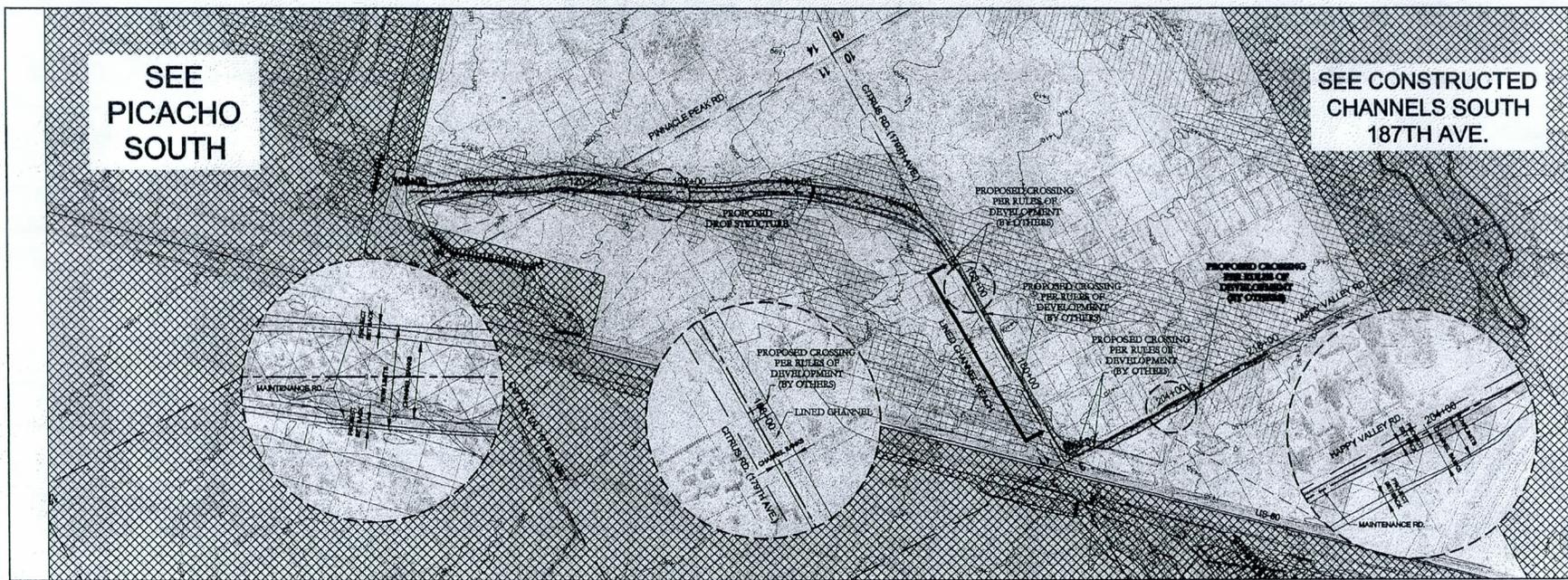
SHEET





SEE
PICACHO
SOUTH

SEE CONSTRUCTED
CHANNELS SOUTH
187TH AVE.



SHEET 5 OF 11



WITTMANN
AREA DRAINAGE MASTER PLAN
FLOOD CONTROL DISTRICT
OF HARRIS COUNTY
CONTRIBUTED (SEAN) & BOUWER
MAY 2010

PROPOSED LIMITS OF UNCONTROLLED WASH
PROPOSED LIMITS OF CONTROLLED WASH
PROPOSED LIMITS OF UNCONTROLLED WASH
PROPOSED LIMITS OF CONTROLLED WASH
PROPOSED LIMITS OF UNCONTROLLED WASH
PROPOSED LIMITS OF CONTROLLED WASH
PROPOSED LIMITS OF UNCONTROLLED WASH
PROPOSED LIMITS OF CONTROLLED WASH
PROPOSED LIMITS OF UNCONTROLLED WASH
PROPOSED LIMITS OF CONTROLLED WASH

LEGEND



GENERAL NOTES:

- PROJECT SET BACK IS ESTABLISHED AS A MAXIMUM OF 30% OF IMPROVED CHANNEL TO BE DISTRIBUTED ADJACENT OR INTO THE IMPROVED CHANNEL PER DISTRICT POLICY FOR AESTHETIC TREATMENT LANDSCAPING OF FLOOD CONTROL PROJECTS.
- 75' SET BACK TO BE PROVIDED BY OTHERS PER CITY OF SURPLUS.

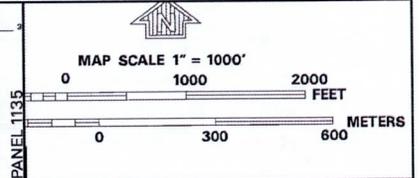
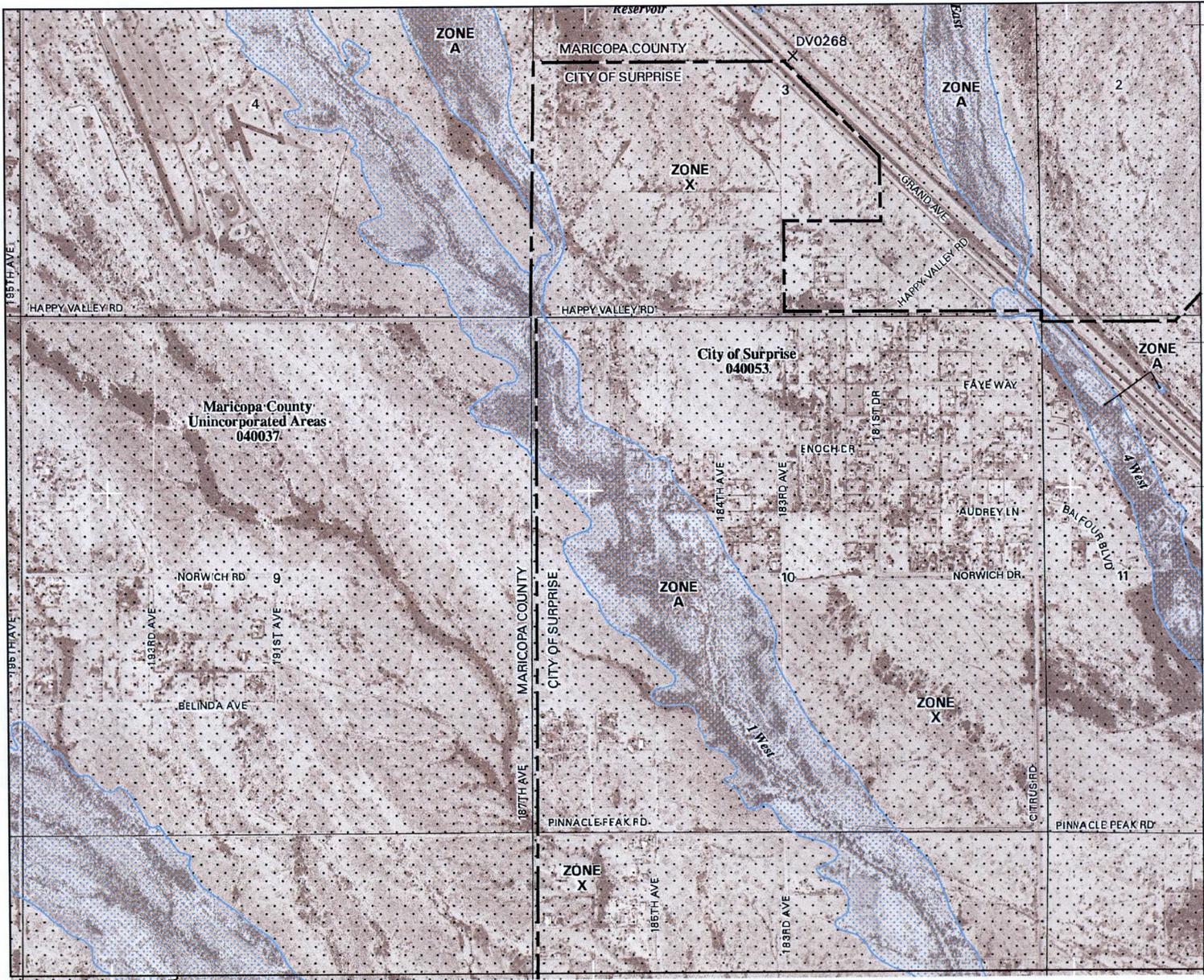
Entellus™
255 N. Hill Street, Suite 125
Houston, TX 77002-2979
Phone: 281.450.2979
Fax: 281.450.2979
Website: www.entellus.com

15% PLAN FROM ADMP (2004)

F:\2010\110\110241\Genrel_Dwg\DWG\Area\A_SHEETS\WITTMAN_AREA_S01.dwg
 Apr 02, 2009 4:08pm

WITTMANN - EIGHT DATE 04/2008 - ORIGINAL DRAWN: SHALEKANE, WADELS, WILSON, CENTRAL, INTERNATIONAL, FEET





JOINS PANEL 1135

NFP

PANEL 1130G

FIRM FLOOD INSURANCE RATE MAP
MARICOPA COUNTY, ARIZONA
AND INCORPORATED AREAS

PANEL 1130 OF 4350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040053	1130	G
SURPRISE CITY OF	040053	1130	G

Notice to User: The Map Numbers shown herein should be used when placing map orders. The Community Numbers shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1130G

MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Follows Conditional Case No.: 05-09-A127R



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Surprise Maricopa County Arizona	CHANNELIZATION	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 040053		
IDENTIFIER	Rio Rancho Estates	APPROXIMATE LATITUDE & LONGITUDE: 33.720, -112.100 SOURCE: Precision Mapping Streets DATUM: NAD 27	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 04013C1130 G DATE: September 30, 2005		NO REVISION TO THE FLOOD INSURANCE STUDY REPORT	

Enclosures reflect changes to flooding sources affected by this revision.
 * FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

Wash 2 East – from Happy Valley Road to approximately 1,200 feet upstream
 Wash 1 West – from approximately 600 feet downstream of Happy Valley Road to Happy Valley Road

SUMMARY OF REVISIONS

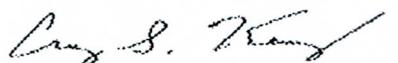
Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Wash 2 East	Zone A	Zone A	YES	YES
	Zone A	Zone A (contained)	YES	YES
Wash 1 West	Zone A	Zone A	YES	YES

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.


 Craig S. Kennedy, CFM, Program Specialist
 Engineering Management Branch
 Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

OTHER COMMUNITIES AFFECTED BY THIS REVISION

CID Number: 040037

Name: Maricopa County, Arizona

AFFECTED MAP PANELS

AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT

TYPE: FIRM NO.: 04013C1130 G DATE: September 30, 2005

NO REVISION TO THE FLOOD INSURANCE STUDY REPORT

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Craig S. Kennedy".

Craig S. Kennedy, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Craig S. Kennedy".

Craig S. Kennedy, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION (CONTINUED)

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

Ms. Sally M. Ziolkowski
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Craig S. Kennedy".

Craig S. Kennedy, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

PUBLIC NOTIFICATION OF REVISION

This revision will become effective 30 days from the date of this letter. Any requests to review or alter this determination should be made within 30 days and must be based on scientific or technical data.

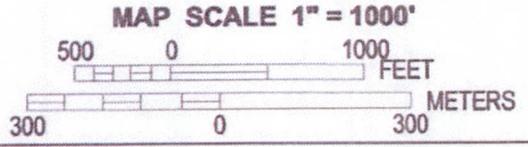
This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Craig S. Kennedy", is positioned above the typed name.

Craig S. Kennedy, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



- Legend**
-  1% annual chance (100-Year) Floodplain
 -  1% annual chance (100-Year) Floodway
 -  0.2% annual chance (500-Year) Floodplain



NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1130G

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 1130 OF 4350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1130	G
SURPRISE, CITY OF	040053	1130	G

REVISED TO REFLECT LOMR
EFFECTIVE: September 18, 2008

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
04013C1130G
MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency

Follows Conditional Case No.: 08-09-0283R



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	Maricopa County Arizona (Unincorporated Areas)	CHANNELIZATION CULVERT FILL	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 040037		
IDENTIFIER	Desert Oasis 171st Ave Channel	APPROXIMATE LATITUDE & LONGITUDE: 33.731, -112.430 SOURCE: FIRM Panel DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 04013C1135G DATE: September 30, 2005 TYPE: FIRM* NO.: 04013C1130G DATE: September 30, 2005		NO REVISION TO THE FLOOD INSURANCE STUDY REPORT	

Enclosures reflect changes to flooding sources affected by this revision.

* FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

Overflow Area from Wash 5 East - from just north to approximately 400 feet north of Dynamite Boulevard, between 171st Avenue and a point approximately 3,100 feet west of 171st Avenue
171st Avenue Channel - from just downstream of Dynamite Boulevard to just upstream of Jomax Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Overflow Area from Wash 5 East	Zone X (shaded) No BFEs*	Zone AO BFEs	YES YES	NONE NONE
171st Avenue Channel	Zone X (shaded)	Depths	YES	NONE

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

OTHER COMMUNITIES AFFECTED BY THIS REVISION

CID Number: 040053 **Name:** City of Surprise, Arizona

AFFECTED MAP PANELS

AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT

TYPE: FIRM* NO.: 04013C1130G DATE: September 30, 2005
TYPE: FIRM* NO.: 04013C1135G DATE: September 30, 2005

NO REVISION TO THE FLOOD INSURANCE STUDY REPORT

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This revision has met our criteria for removing an area from the 1-percent-annual-chance floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base (1-percent-annual-chance) Flood Elevation.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in cursive script that reads "Dahli Kasperski".

Dahli Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

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

Ms. Sally M. Ziolkowski
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in cursive script that reads "Dahlia Kasperski".

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

PUBLIC NOTIFICATION OF REVISION

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (DEPTH IN FEET ABOVE GROUND)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Overflow Area from Wash 5 East	Approximately 400 feet north of Dynamite Boulevard, between 171st Avenue and a point approximately 3,100 feet west of 171st Avenue	None	1	04013C1135G

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. This revision is effective as of the date of this letter. However, until the 90-day period has elapsed, the revised BFEs presented in this LOMR may be changed.

A notice of changes will be published in the *Federal Register*. A short notice also will be published in your local newspaper on or about the dates listed below. Please refer to FEMA's website at https://www.floodmaps.fema.gov/fhm/Scripts/bfe_main.asp for a more detailed description of proposed BFE changes, which will be posted approximately within a week of the date of this letter.

LOCAL NEWSPAPER Name: *Arizona Business Gazette*
 Dates: 03/04/2010 03/11/2010

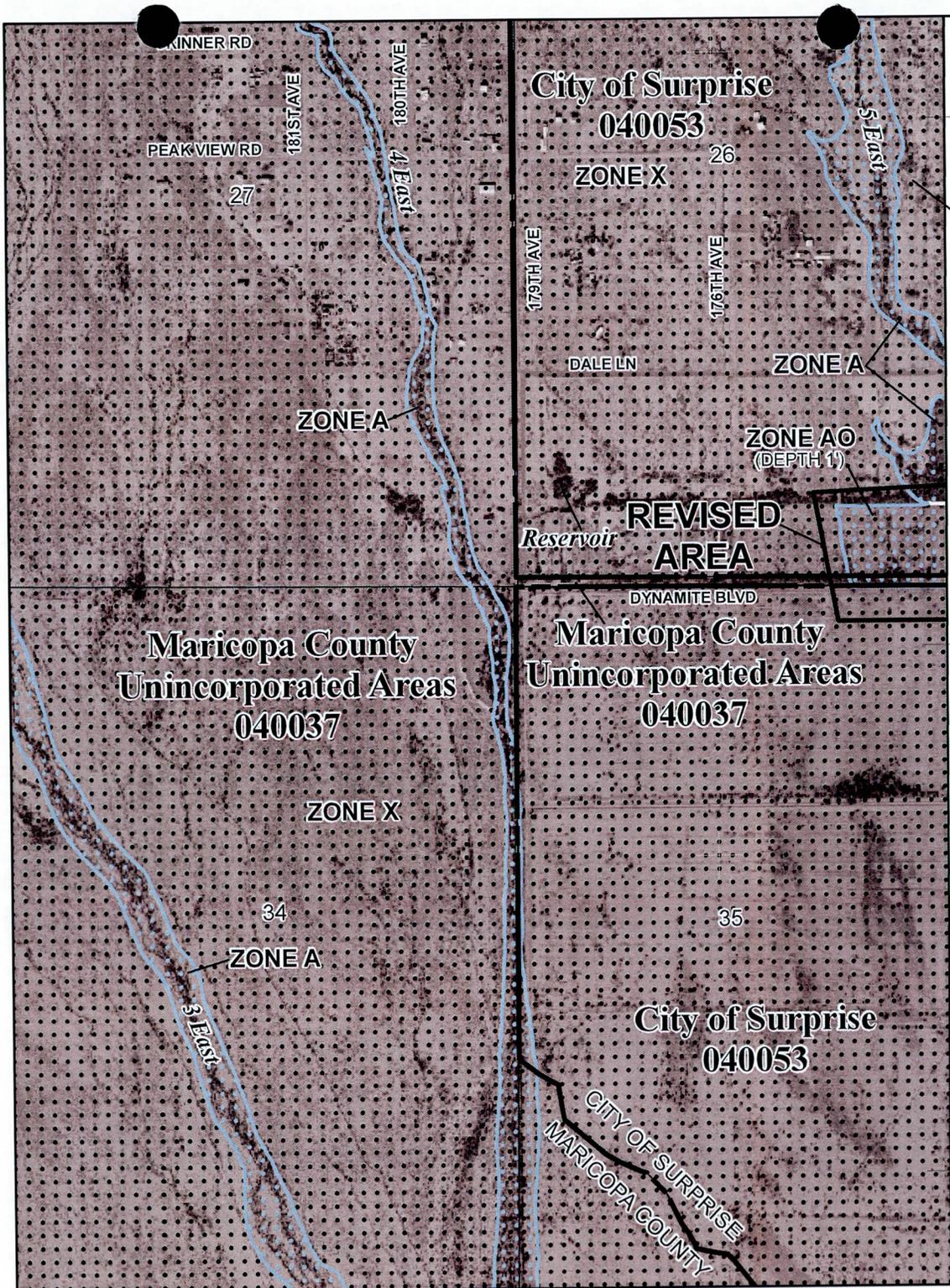
This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate

112553 10.3.1.09092388

102-I-A-C



37 35^{000m} N

37 34^{000m} N

37 33^{000m} N

JOINS PANEL 1135

Legend

- 1% annual chance (100-Year) Floodplain
- 1% annual chance (100-Year) Floodway
- 0.2% annual chance (500-Year) Floodplain

MAP SCALE 1" = 1000'

500 0 1000 FEET

300 0 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1130G

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1130 OF 4350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1130	G
SURPRISE, CITY OF	040053	1130	G

REVISED TO REFLECT LOMR EFFECTIVE: February 25, 2010

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 04013C1130G
MAP REVISED SEPTEMBER 30, 2005

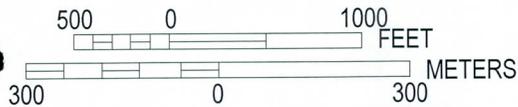
Federal Emergency Management Agency

Legend

-  1% annual chance (100-Year) Floodplain
-  1% annual chance (100-Year) Floodway
-  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 1000'



NFIP

PANEL 1135G

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1135 OF 4350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1135	G
SURPRISE, CITY OF	040053	1135	G

**REVISED TO
REFLECT LOMR
EFFECTIVE: February 25, 2010**

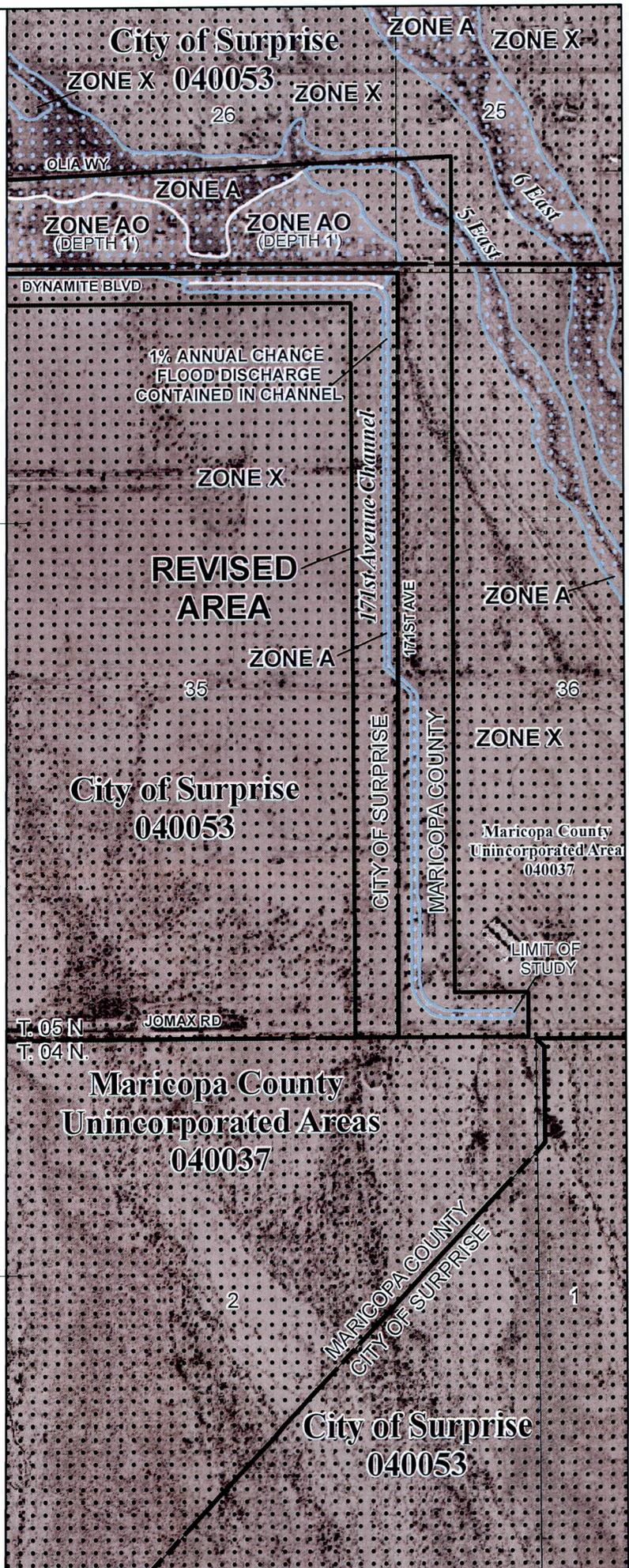
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
04013C1135G
MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency

JOINS PANEL 1130



Follows Conditional Case No.: 08-09-0283R



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Surprise Maricopa County Arizona	CHANNELIZATION CULVERT FILL	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 040053		
IDENTIFIER	Desert Oasis 171st Ave Channel	APPROXIMATE LATITUDE & LONGITUDE: 33.850, -112.500 SOURCE: FIRM Panel DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 04013C1135G DATE: September 30, 2005 TYPE: FIRM* NO.: 04013C1130G DATE: September 30, 2005		NO REVISION TO THE FLOOD INSURANCE STUDY REPORT	

Enclosures reflect changes to flooding sources affected by this revision.

* FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

Overflow Area from Wash 5 East - from just north to approximately 400 feet north of Dynamite Boulevard, between 171st Avenue and a point approximately 3,100 feet west of 171st Avenue

171st Avenue Channel - from just downstream of Dynamite Boulevard to just upstream of Jomax Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Overflow Area from Wash 5 East	Zone X (shaded)	Zone AO	YES	NONE
	No BFEs*	BFEs	YES	NONE
171st Avenue Channel	Zone X (shaded)	Depths	YES	NONE

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

OTHER COMMUNITIES AFFECTED BY THIS REVISION

CID Number: 040037 **Name:** Maricopa County, Arizona

AFFECTED MAP PANELS

TYPE: FIRM* NO.: 04013C1130G DATE: September 30, 2005
TYPE: FIRM* NO.: 04013C1135G DATE: September 30, 2005

AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT

NO REVISION TO THE FLOOD INSURANCE STUDY REPORT

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This revision has met our criteria for removing an area from the 1-percent-annual-chance floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base (1-percent-annual-chance) Flood Elevation.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in cursive script that reads "Dahli Kasperski".

Dahli Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

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

Ms. Sally M. Ziolkowski
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Handwritten signature of Dahlia Kasperski in black ink.

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

PUBLIC NOTIFICATION OF REVISION

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (DEPTH IN FEET ABOVE GROUND)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Overflow Area from Wash 5 East	Just north of Dynamite Boulevard, between 171st Avenue and a point approximately 3,100 feet west of 171st Avenue	None	1	04013C1135G

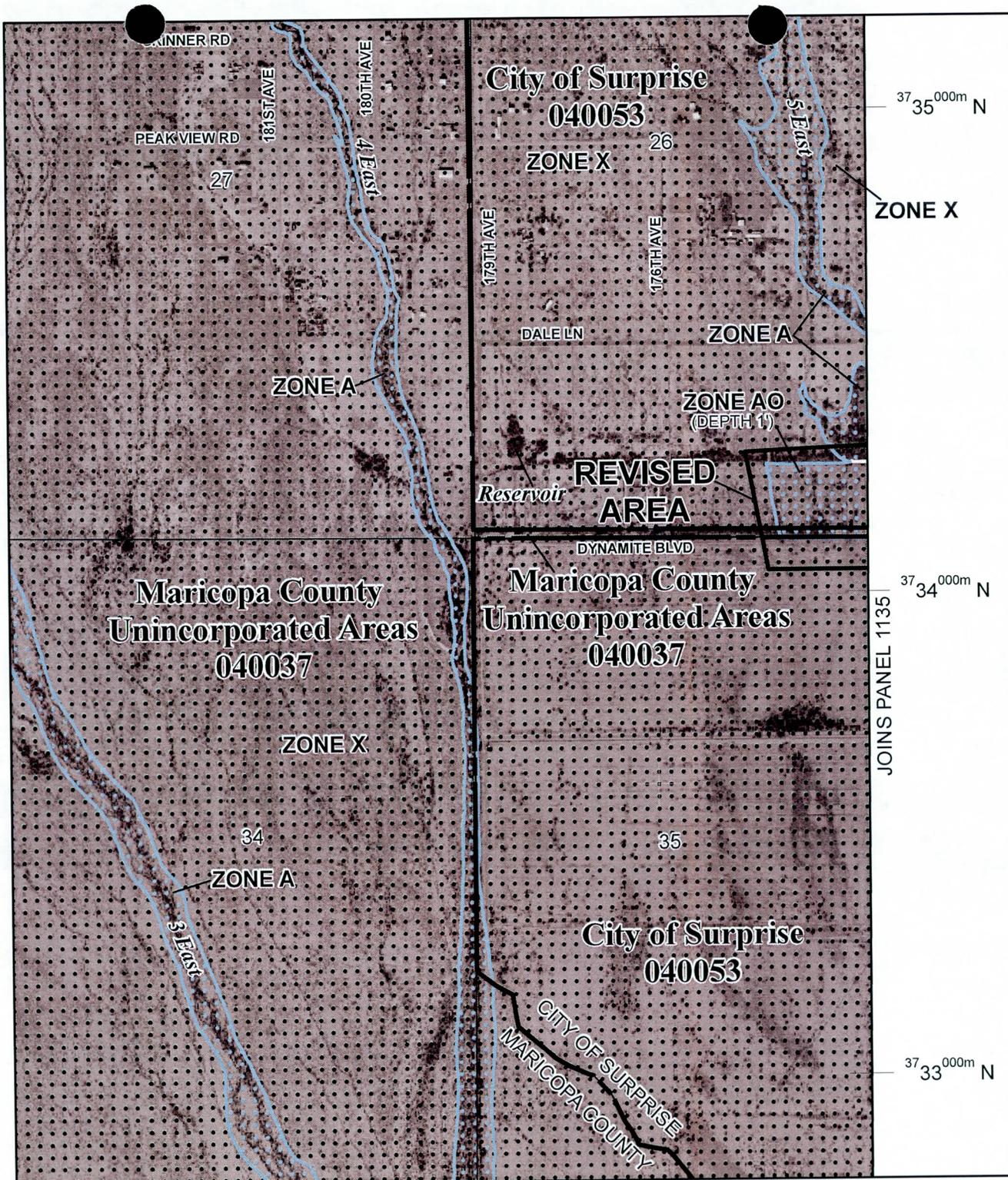
Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. This revision is effective as of the date of this letter. However, until the 90-day period has elapsed, the revised BFEs presented in this LOMR may be changed.

A notice of changes will be published in the *Federal Register*. A short notice also will be published in your local newspaper on or about the dates listed below. Please refer to FEMA's website at https://www.floodmaps.fema.gov/fhm/Scripts/bfe_main.asp for a more detailed description of proposed BFE changes, which will be posted approximately within a week of the date of this letter.

LOCAL NEWSPAPER Name: *Arizona Business Gazette*
 Dates: 03/04/2010 03/11/2010

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Legend

- 1% annual chance (100-Year) Floodplain
- 1% annual chance (100-Year) Floodway
- 0.2% annual chance (500-Year) Floodplain

MAP SCALE 1" = 1000'

NFIP

PANEL 1130G

FIRM
FLOOD INSURANCE RATE MAP

**MARICOPA COUNTY ,
ARIZONA**
AND INCORPORATED AREAS

PANEL 1130 OF 4350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
MARICOPA COUNTY	040037	1130	G
SURPRISE, CITY OF	040053	1130	G

**REVISED TO
REFLECT LOMR
EFFECTIVE: February 25, 2010**

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1130G

MAP REVISED
SEPTEMBER 30, 2005

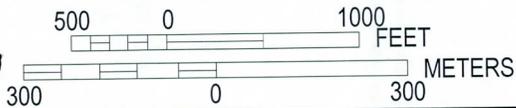
Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

- Legend
-  1% annual chance (100-Year) Floodplain
 -  1% annual chance (100-Year) Floodway
 -  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 1000'



NFIP

PANEL 1135G

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1135 OF 4350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1135	G
SURPRISE, CITY OF	040053	1135	G

**REVISED TO
REFLECT LOMR
EFFECTIVE: February 25, 2010**

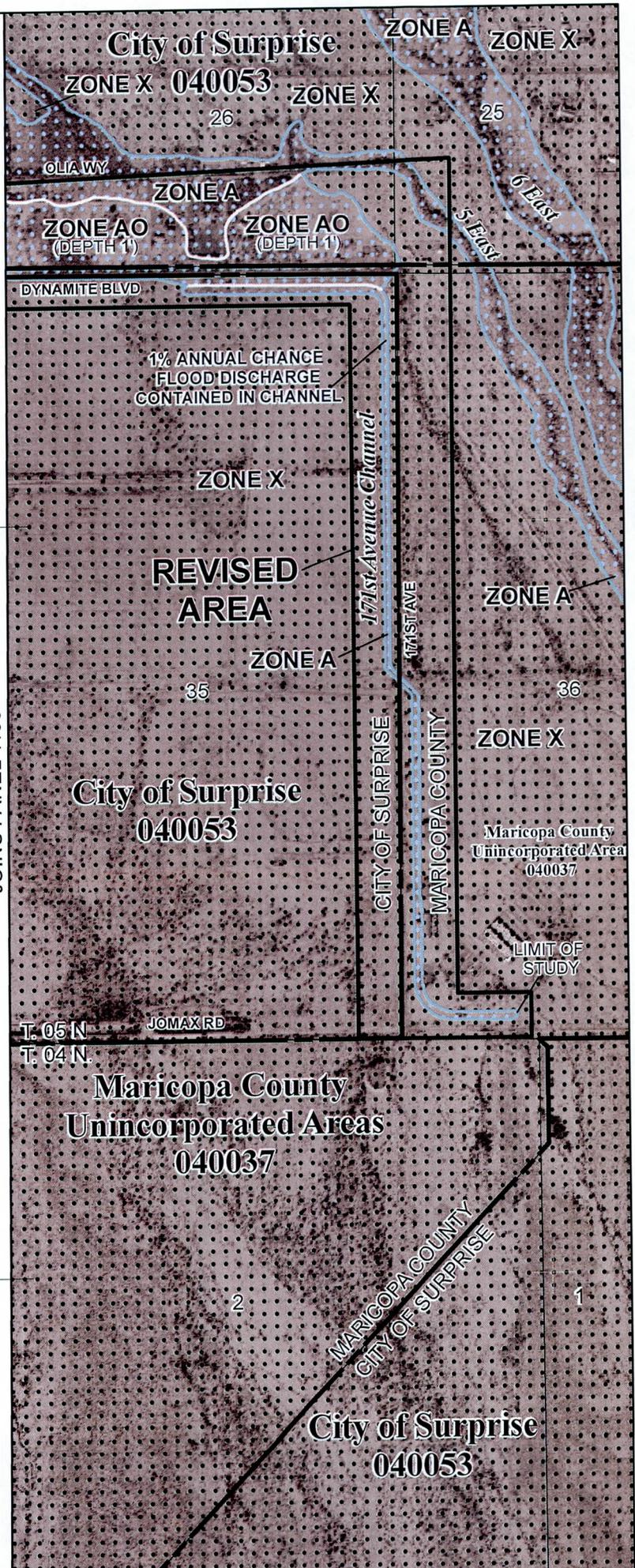
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

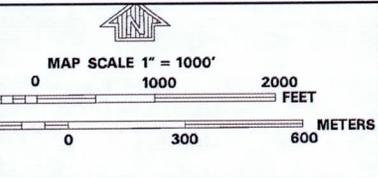
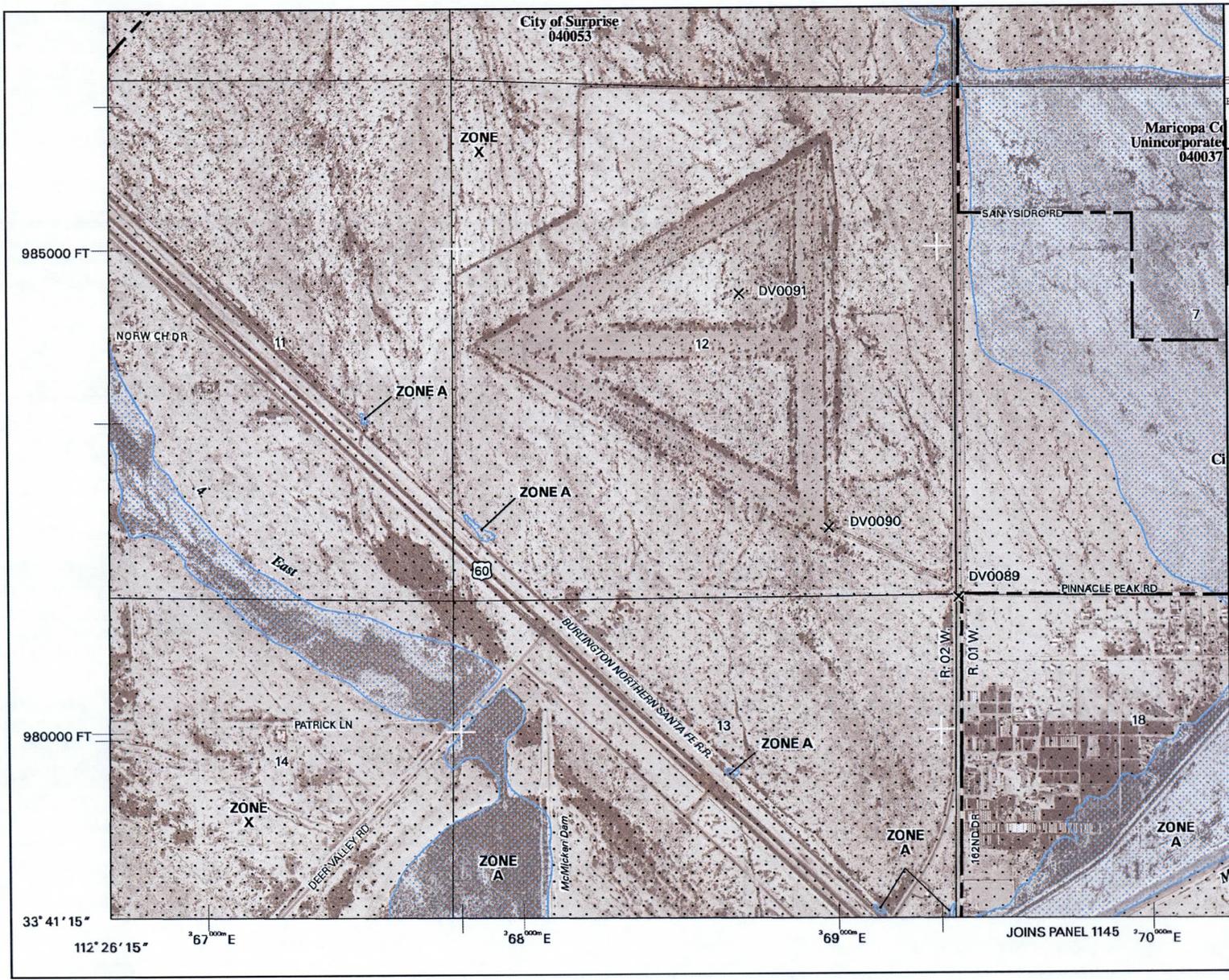


MAP NUMBER
04013C1135G
MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency

JOINS PANEL 1130





NFP
PANEL 1135G

FIRM
FLOOD INSURANCE RATE MAP
MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1135 OF 4350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040057	1135	0
SURFING CITY OF	040053	1135	0

Notice to User: The Map Number shown below should be used when placing rate orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1135G
MAP REVISED
SEPTEMBER 30, 2005
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.nrc.fema.gov



Federal Emergency Management Agency

Washington, D.C. 20472

OCT 31 2007

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Fulton Brock
Chairman, Maricopa County
Board of Supervisors
301 West Jefferson, 10th Floor
Phoenix, AZ 85003

IN REPLY REFER TO:

Case No.: 07-09-0388P
Follows Conditional
Case No.: 03-09-0371R
Community Name: Maricopa County, AZ
Community No.: 040037
Effective Date of **NOV 30 2007**
This Revision:

Dear Mr. Brock:

The Flood Insurance Rate Map for your community has been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel(s) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Oakland, California, at (510) 627-7175, or the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Sincerely,

Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate

For: William R. Blanton Jr., CFM, Chief
Engineering Management Branch
Mitigation Directorate

List of Enclosures:

Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map

cc: (See attached list)

List of Courtesy Copies

The Honorable Joan H. Shafer
Mayor, City of Surprise

Mr. Brian Pirooz, P.E.
Assistant City Engineer
City of Surprise

Mr. Ted Collins, CFM
Principal Floodplain Coordinator
Flood Control District of Maricopa County

Mr. Timothy S. Phillips, P.E.
Acting Chief Engineer & General Manager
Flood Control District of Maricopa County

Ms. Lynn M. Thomas, P.E., CFM
Technical Supervisor
Floodplain Management Branch
Flood Control District of Maricopa County

Mr. Brian Cosson, CFM
NFIP Coordinator
Arizona Department of Water Resources
Office of Dam Safety & Flood Mitigation


Carter-Burgess

Follows Conditional Case No.: 03-09-0371R



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	Maricopa County Arizona (Unincorporated Areas)	CHANNELIZATION CULVERT	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA APPROXIMATE
	COMMUNITY NO.: 040037		
IDENTIFIER	Desert Oasis of Surprise (AZ)	APPROXIMATE LATITUDE & LONGITUDE: 33.722, -112.417 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 04013C1135 G DATE: September 30, 2005		NO REVISION TO THE FLOOD INSURANCE STUDY REPORT	

Enclosures reflect changes to flooding sources affected by this revision.
 * FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

WASH 5 EAST - from approximately 3,400 feet downstream to approximately 800 feet upstream of Jomax Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
WASH 5 EAST	Zone A	Zone A	YES	YES

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Max H. Yuan

Max H. Yuan, P.E., Project Engineer
 Engineering Management Branch
 Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

OTHER COMMUNITIES AFFECTED BY THIS REVISION

CID Number: 040053 **Name:** City of Surprise, Arizona

AFFECTED MAP PANELS

AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT

TYPE: FIRM* NO.: 04013C1135 G DATE: September 30, 2005

NO REVISION TO THE FLOOD INSURANCE STUDY REPORT

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Max H. Yuan
Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

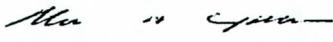
COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.


Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

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

Ms. Sally M. Ziolkowski
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Max H. Yuan".

Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

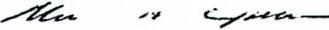
Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

This revision will become effective 30 days from the date of this letter. Any requests to review or alter this determination should be made within 30 days and must be based on scientific or technical data.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

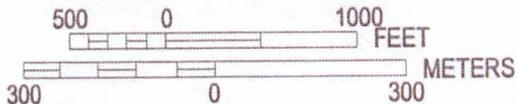

Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate

Legend

-  1% annual chance (100-Year) Floodplain
-  1% annual chance (100-Year) Floodway
-  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 1000'



NFIP

PANEL 1135G

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1135 OF 4350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1135	G
SURPRISE, TOWN OF	040053	1135	G

**REVISED TO
REFLECT LOMR
EFFECTIVE NOV 30 2007**

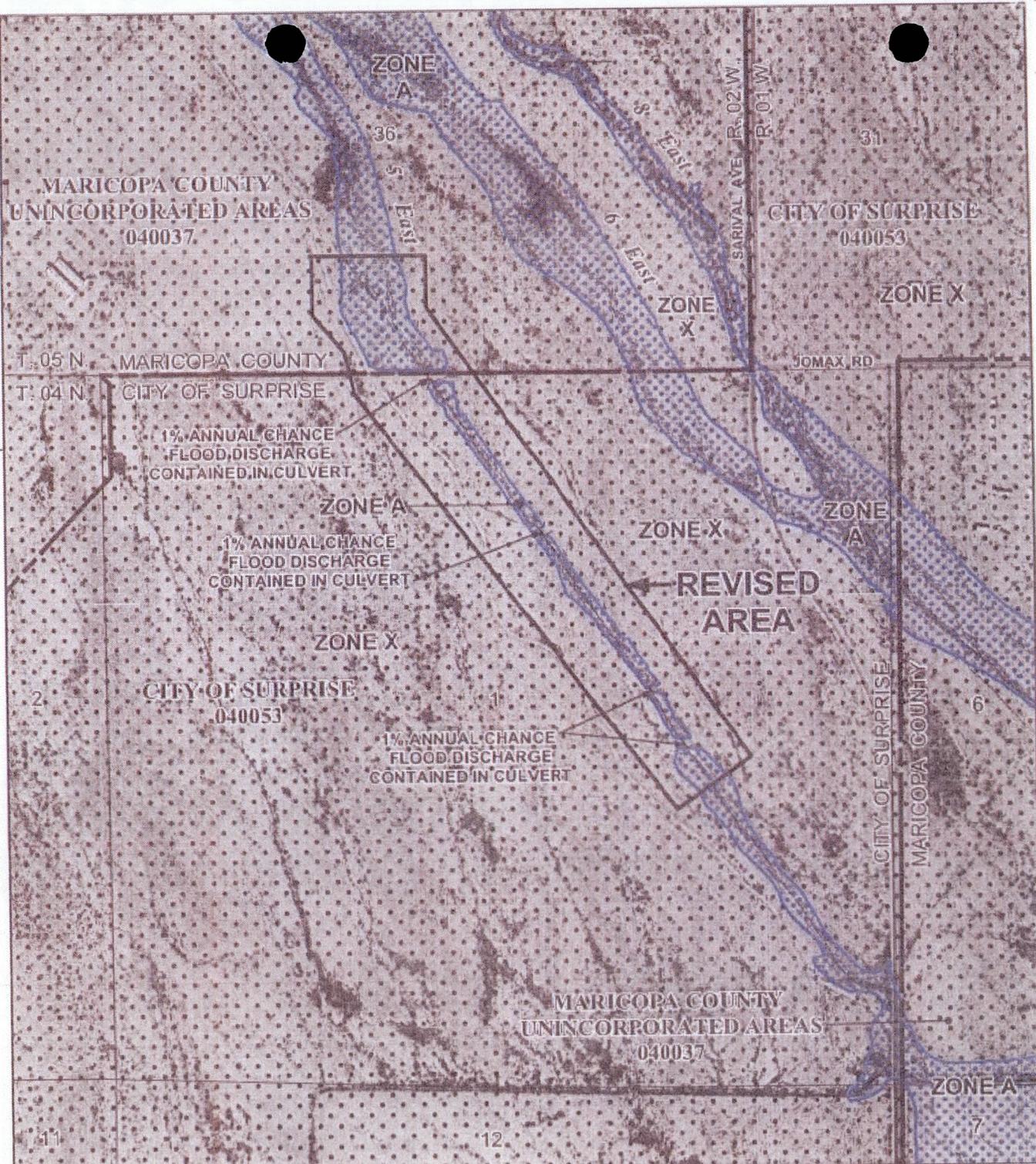
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
04013C1135G

MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency





Federal Emergency Management Agency

Washington, D.C. 20472

OCT 31 2007

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Joan H. Shafer
Mayor, City of Surprise
12425 West Bell Road
Surprise, AZ 85374-9005

IN REPLY REFER TO:

Case No.: 07-09-0388P
Follows Conditional
Case No.: 03-09-0371R
Community Name: City of Surprise, AZ
Community No.: 040053
Effective Date of NOV 30 2007
This Revision:

Dear Mayor Shafer:

The Flood Insurance Rate Map for your community has been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel(s) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Oakland, California, at (510) 627-7175, or the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Sincerely,

Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate

For: William R. Blanton Jr., CFM, Chief
Engineering Management Branch
Mitigation Directorate

List of Enclosures:

Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map

cc: (See attached list)

List of Courtesy Copies

The Honorable Fulton Brock
Chairman, Maricopa County
Board of Supervisors

Mr. Brian Pirooz, P.E.
Assistant City Engineer
City of Surprise

Mr. Ted Collins, CFM
Principal Floodplain Coordinator
Flood Control District of Maricopa County

Mr. Timothy S. Phillips, P.E.
Acting Chief Engineer & General Manager
Flood Control District of Maricopa County

Ms. Lynn M. Thomas, P.E., CFM
Technical Supervisor
Floodplain Management Branch
Flood Control District of Maricopa County

Mr. Brian Cosson, CFM
NFIP Coordinator
Arizona Department of Water Resources
Office of Dam Safety & Flood Mitigation


Carter-Burgess

Follows Conditional Case No.: 03-09-0371R



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT**

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Surprise Maricopa County Arizona	CHANNELIZATION CULVERT	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA APPROXIMATE
	COMMUNITY NO.: 040053		
IDENTIFIER	Desert Oasis of Surprise (AZ)	APPROXIMATE LATITUDE & LONGITUDE: 33.722, -112.417 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM*	NO.: 04013C1135 G DATE: September 30, 2005	NO REVISION TO THE FLOOD INSURANCE STUDY REPORT	

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

WASH 5 EAST - from approximately 3,400 feet downstream to approximately 800 feet upstream of Jomax Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
WASH 5 EAST	Zone A	Zone A	YES	YES

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Max H. Yuan
Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

OTHER COMMUNITIES AFFECTED BY THIS REVISION

CID Number: 040037 **Name:** Maricopa County, Arizona

AFFECTED MAP PANELS

AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT

TYPE: FIRM* **NO.:** 04013C1135 G **DATE:** September 30, 2005

NO REVISION TO THE FLOOD INSURANCE STUDY REPORT

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the FEMA Map Service Center, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Max H. Yuan
Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Max H. Yuan
Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate

112553 10.3.1.07090388

102-I-C



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

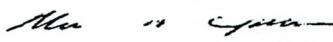
We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Sally M. Ziolkowski
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.


Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

This revision will become effective 30 days from the date of this letter. Any requests to review or alter this determination should be made within 30 days and must be based on scientific or technical data.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

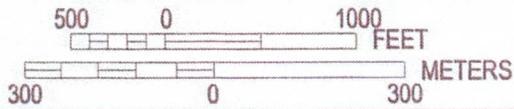

Max H. Yuan, P.E., Project Engineer
Engineering Management Branch
Mitigation Directorate

Legend

-  1% annual chance (100-Year) Floodplain
-  1% annual chance (100-Year) Floodway
-  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 1000'



NFP

PANEL 1135G

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1135 OF 4350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1135	C
SURPRISE, TOWN OF	040053	1135	G

**REVISED TO
REFLECT LOMR
EFFECTIVE NOV 30 2007**

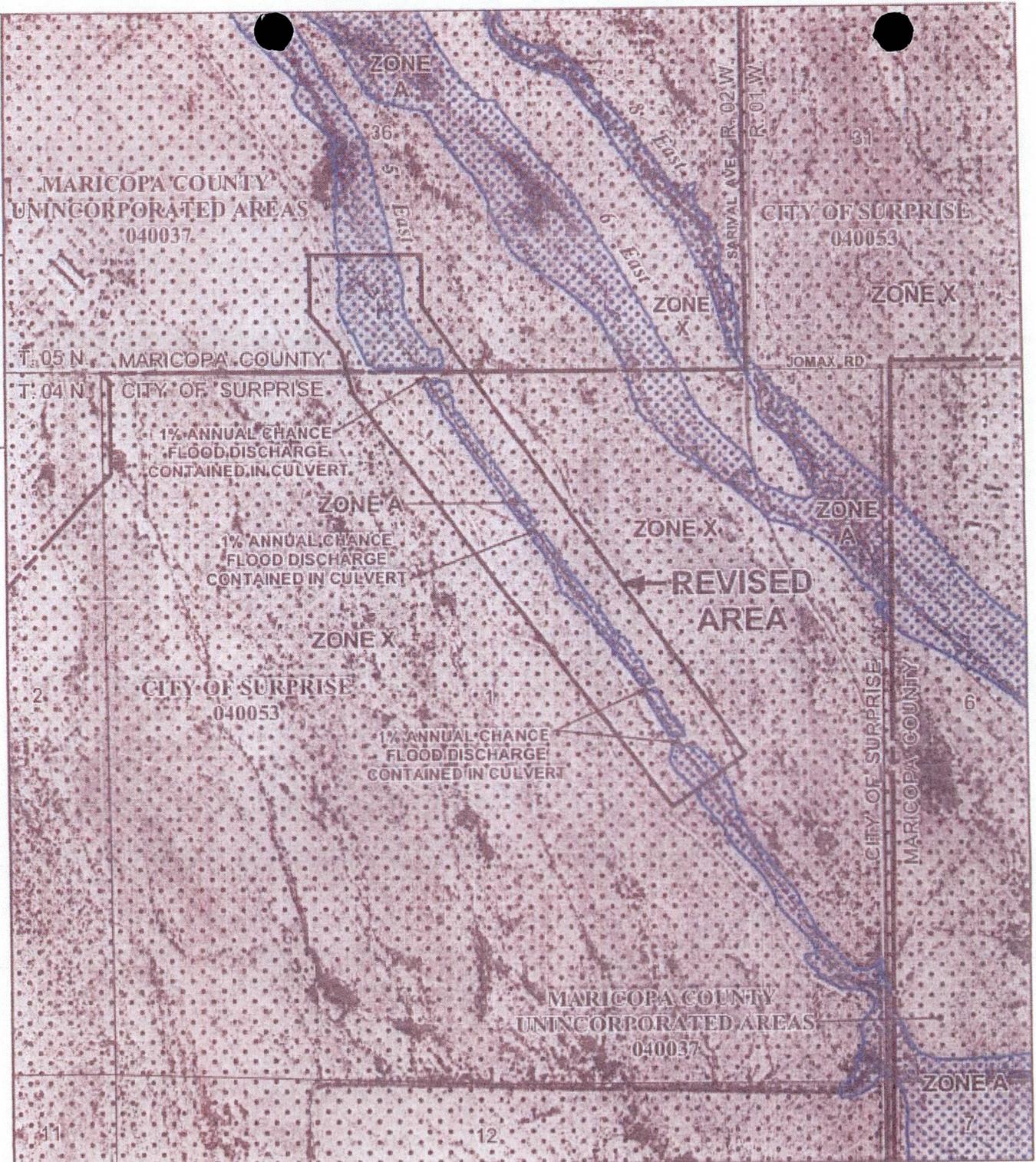
Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
04013C1135G

MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency





Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION BASED ON FILL DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	CITY OF SURPRISE, MARICOPA COUNTY, ARIZONA	A portion of Section 30, Township 5 North, Range 1 West, Gila and Salt River Base and Meridian, as described in the Affidavit of Disclosure recorded as Document No. 20030530935, in the Office of the Recorder, Maricopa County, Arizona (APN: 503-52-011V)
	COMMUNITY NO.: 040053	
AFFECTED MAP PANEL	NUMBER: 04013C1135G	
	DATE: 9/30/2005	
FLOODING SOURCE: PADELFORD WASH		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY: 33.748, -112.402 SOURCE OF LAT & LONG: PRECISION MAPPING STREETS 8.0 DATUM: NAD 83

DETERMINATION

LOT	BLOCK/SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
	--	--	15816 West Skinner Road	Structure	X (shaded)	--	1494.5 feet	--

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

PORTIONS REMAIN IN THE SFHA
ZONE A

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Revision based on Fill for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the structure(s) on the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document revises the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan. A Preferred Risk Policy (PRP) is available for buildings located outside the SFHA. Information about the PRP and how one can apply is enclosed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, 3601 Eisenhower Avenue, Suite 130, Alexandria, VA 22304-6439.

William R. Blanton Jr.

William R. Blanton Jr., CFM, Chief
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION BASED ON FILL DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

PORTIONS OF THE PROPERTY REMAIN IN THE SFHA (This Additional Consideration applies to the preceding 1 Property.)

Portions of this property, but not the subject of the Determination/Comment document, may remain in the Special Flood Hazard Area. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management.

ZONE A (This Additional Consideration applies to the preceding 1 Property.)

The National Flood Insurance Program map affecting this property depicts a Special Flood Hazard Area that was determined using the best flood hazard data available to FEMA, but without performing a detailed engineering analysis. The flood elevation used to make this determination is based on approximate methods and has not been formalized through the standard process for establishing base flood elevations published in the Flood Insurance Study. This flood elevation is subject to change.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, 3601 Eisenhower Avenue, Suite 130, Alexandria, VA 22304-6439.

A handwritten signature in cursive script that reads "William R. Blanton Jr.".

William R. Blanton Jr., CFM, Chief
Engineering Management Branch
Mitigation Directorate

Follows Conditional Case No.: 08-09-0283R



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	Maricopa County Arizona (Unincorporated Areas)	CHANNELIZATION CULVERT FILL	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 040037		
IDENTIFIER	Desert Oasis 171st Ave Channel	APPROXIMATE LATITUDE & LONGITUDE: 33.731, -112.430 SOURCE: FIRM Panel DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 04013C1135G DATE: September 30, 2005 TYPE: FIRM* NO.: 04013C1130G DATE: September 30, 2005		NO REVISION TO THE FLOOD INSURANCE STUDY REPORT	

Closures reflect changes to flooding sources affected by this revision.
 * FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

Overflow Area from Wash 5 East - from just north to approximately 400 feet north of Dynamite Boulevard, between 171st Avenue and a point approximately 3,100 feet west of 171st Avenue
 171st Avenue Channel - from just downstream of Dynamite Boulevard to just upstream of Jomax Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Overflow Area from Wash 5 East	Zone X (shaded) No BFEs*	Zone AO BFEs	YES YES	NONE NONE
171st Avenue Channel	Zone X (shaded)	Depths	YES	NONE

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski
 Dahlia Kasperski, P.E., CFM, Program Specialist
 Engineering Management Branch
 Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

OTHER COMMUNITIES AFFECTED BY THIS REVISION

CID Number: 040053 **Name:** City of Surprise, Arizona

AFFECTED MAP PANELS

AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT

TYPE: FIRM* NO.: 04013C1130G DATE: September 30, 2005
TYPE: FIRM* NO.: 04013C1135G DATE: September 30, 2005

NO REVISION TO THE FLOOD INSURANCE STUDY REPORT

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate

112553 10.3.1.09092388

102-I-A-C



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This revision has met our criteria for removing an area from the 1-percent-annual-chance floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base (1-percent-annual-chance) Flood Elevation.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

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

Ms. Sally M. Ziolkowski
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink that reads "Dahlia Kasperski".

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

PUBLIC NOTIFICATION OF REVISION

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (DEPTH IN FEET ABOVE GROUND)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Overflow Area from Wash 5 East	Approximately 400 feet north of Dynamite Boulevard, between 171st Avenue and a point approximately 3,100 feet west of 171st Avenue	None	1	04013C1135G

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. This revision is effective as of the date of this letter. However, until the 90-day period has elapsed, the revised BFEs presented in this LOMR may be changed.

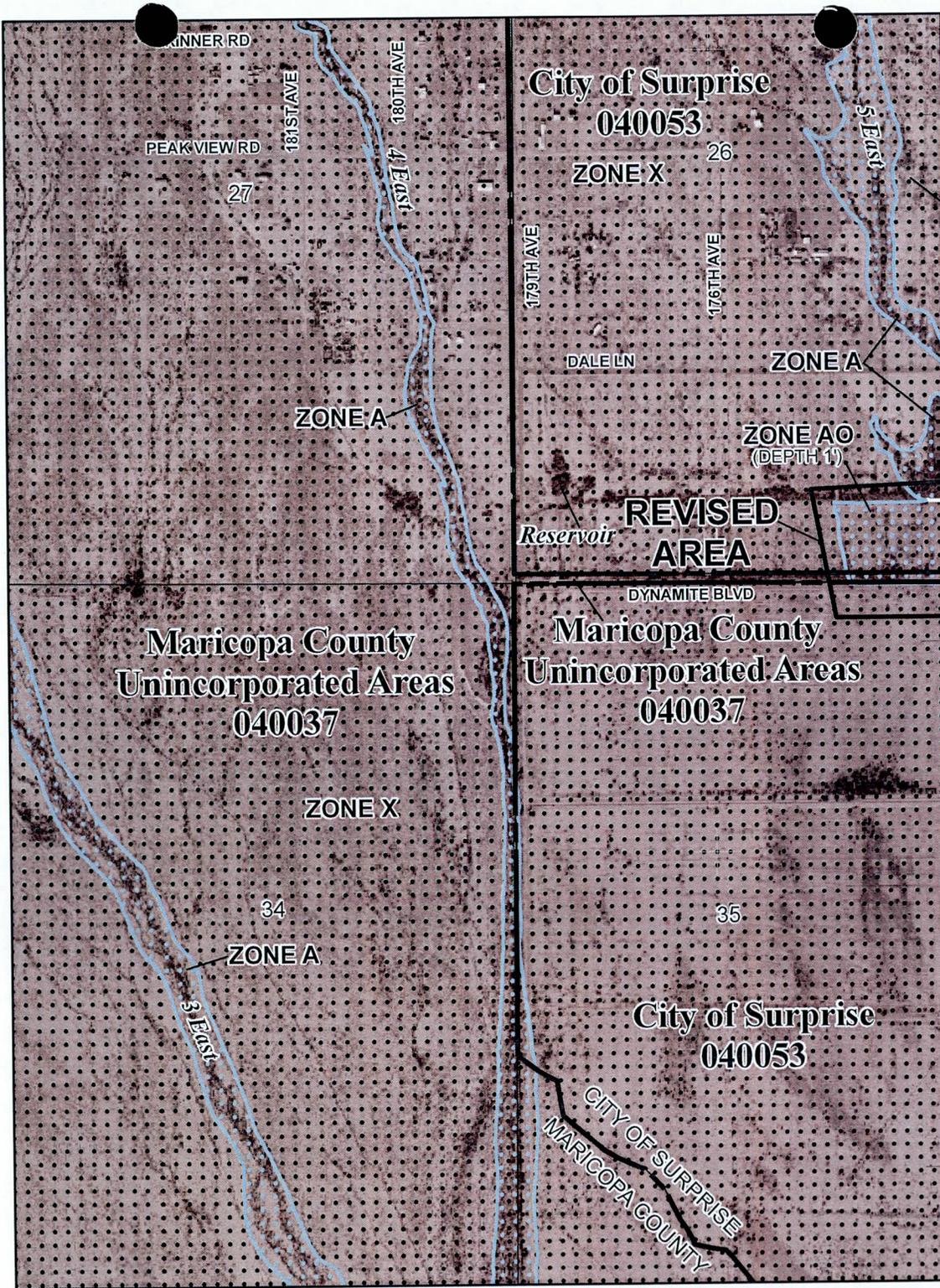
A notice of changes will be published in the *Federal Register*. A short notice also will be published in your local newspaper on or about the dates listed below. Please refer to FEMA's website at https://www.floodmaps.fema.gov/fhm/Scripts/bfe_main.asp for a more detailed description of proposed BFE changes, which will be posted approximately within a week of the date of this letter.

LOCAL NEWSPAPER

Name: *Arizona Business Gazette*
Dates: 03/04/2010 03/11/2010

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Dahlia Kasperski, P.E., CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate



37 35^{000m} N

37 34^{000m} N

37 33^{000m} N

JOINS PANEL 1135

Legend

- 1% annual chance (100-Year) Floodplain
- 1% annual chance (100-Year) Floodway
- 0.2% annual chance (500-Year) Floodplain

MAP SCALE 1" = 1000'

500 0 1000 FEET

300 0 300 METERS

NFIP

PANEL 1130G

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1130 OF 4350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1130	G
SURPRISE, CITY OF	040053	1130	G

REVISED TO REFLECT LOMR EFFECTIVE: February 25, 2010

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number above should be used on insurance applications for the subject community.

MAP NUMBER 04013C1130G
MAP REVISED SEPTEMBER 30, 2005

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

Legend

-  1% annual chance (100-Year) Floodplain
-  1% annual chance (100-Year) Floodway
-  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 1000'



NFIP

PANEL 1135G

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1135 OF 4350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1135	G
SURPRISE, CITY OF	040053	1135	G

**REVISED TO
REFLECT LOMR
EFFECTIVE: February 25, 2010**

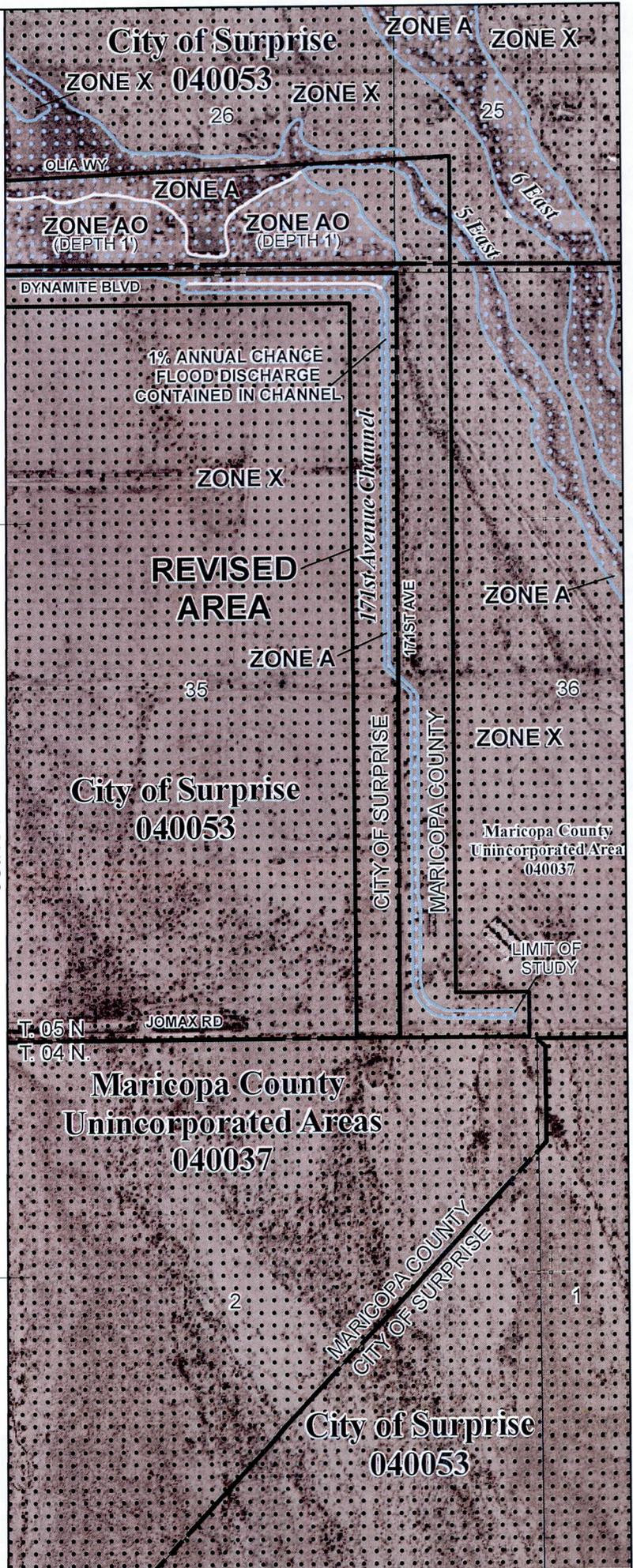
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
04013C1135G
MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency

JOINS PANEL 1130







An **Addendum** for the Wittmann Area Drainage Master Study Update dated **July 2005** includes revisions to the HEC-1 models and other data contained in this volume of the Technical Data Notebook, Volume Hydrology. Without the Volume HY: Addendum, the Wittmann ADMSU Hydrology Report is incomplete.

WITTMANN AREA DRAINAGE MASTER STUDY UPDATE

CONTRACT 2002C029

<u>VOLUME NAME</u>	<u>VOLUME ID</u>
EXISTING CONDITIONS ANALYSIS (PART I)	EC
ADMSU HYDROLOGY	HY
GEOMORPHOLOGY REPORT	GR
SUBSIDENCE REPORT	SU
ALTERNATIVES IDENTIFICATION (PART II)	AI
RULES OF DEVELOPMENT (PART III)	RD
ALTERNATIVE ANALYSIS MCMICKEN DAM	MA
MCMICKEN DAM HYDROLOGY	MD
MCMICKEN DAM FINAL LANDSCAPE CHARACTER COMPATABILITY ANALYSIS REPORT	LA
FLOODPLAIN DELINEATION	HD
REPORT OF SURVEY	SR
SUN VALLEY PARKWAY CULVERT EVALUATION	SV
ADMINISTRATIVE REPORT	AR

Note: Volume ID will be used for Section, Plate, Figure, and Table Identifiers.



**WITTMANN AREA DRAINAGE
MASTER STUDY UPDATE**

TECHNICAL DATA NOTEBOOK

ADMSU HYDROLOGY

VOLUME HY-2 of 3

Contract FCD 2002C029

July 2004

Revised October 2004

Prepared by:

Intelligent Engineering
Environmental Solutions



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**WITTMANN AREA DRAINAGE MASTER STUDY UPDATE
FCD 2002C029**

TABLE OF CONTENTS

TECHNICAL DATA NOTEBOOK
ADMSU HYDROLOGY - VOLUME HY

SECTION HY-1: INTRODUCTION	VOL I
1.1 Project Location.....	Vol I
1.2 Hydrologic Methodology and Results.....	Vol I
SECTION HY-2: ADWR/FEMA FORMS	VOL I
SECTION HY-3: MAPPING AND SURVEY INFORMATION	VOL I
3.1 Mapping.....	Vol I
3.1.1 Watershed Map.....	Vol I
3.1.2 Soils Map.....	Vol I
3.1.3 Land Use Map (Existing Conditions).....	Vol I
3.1.4 Land Use Map (Ultimate Development)	Vol I
3.2 Survey Information.....	Vol I
SECTION HY-4: HYDROLOGY.....	VOL I
4.1 Method Description	Vol I
4.2 Parameter Estimation.....	Vol I
4.2.1 Drainage Area Boundary	Vol I
4.2.2 Watershed Work Maps	Vol I
4.2.3 Gage Data	Vol I
4.2.4 Statistical Parameters.....	Vol I
4.2.5 Precipitation.....	Vol I
4.2.5.1 100-year, 24-hour Rainfall Estimation	Vol I
4.2.5.2 100-Year, 6-Hour Rainfall Estimation	Vol I

4.2.6	Physical Parameters	Vol I
4.2.6.1	Basin Parameters	Vol I
4.2.6.2	Clark Unit Hydrograph	Vol I
4.2.6.3	Time of Concentration.....	Vol I
4.2.6.4	Reach Routing Parameters.....	Vol I
4.2.6.5	Storage Routing Parameters	Vol I
4.2.6.6	Flow Splits and Diversions.....	Vol I
4.3	Problems Encountered During the Study	Vol I
4.3.1	Special Problems	Vol I
4.3.1.1	General Area.....	Vol I
4.3.1.2	Picacho Wash Sub-Watershed.....	Vol I
4.3.1.3	Padelford Wash Sub-Watershed.....	Vol I
4.3.1.4	Wittmann Wash, Trilby Wash, and Iona Wash Sub-Watersheds..	Vol I
4.3.1.5	Sun Valley Parkway Sub-Watershed.....	Vol I
4.3.1.6	White Tanks Sub-Watershed	Vol I
4.3.1.7	Central Arizona Project Canal.....	Vol I
4.3.1.8	Beardsley Canal	Vol I
4.3.2	Modeling Warning and Error Messages.....	Vol I
4.3.2.1	100-Year, 24-Hour Models.....	Vol I
4.3.2.2	100-Year, 6-Hour Models.....	Vol I
4.4	Calibration	Vol I
4.5	Results of Hydrologic Analysis.....	Vol I
4.6	Verification of Results.....	Vol I
SECTION HY-5: HYDRAULICS		VOL I
SECTION HY-6: EROSION AND SEDIMENT TRANSPORT		VOL I

LIST OF APPENDIXES

APPENDIX A: REFERENCES

- A.1. **Data Collection Summary** Vol I
- A.2. **Reference Documents** Vol I

APPENDIX B: GENERAL DOCUMENTATION AND CORRESPONDENCE..... Vol AR
(See Administrative Report – Volume AR)

APPENDIX C: SURVEY FIELD NOTES..... Vol SR
(See Report of Survey – Volume SR)

APPENDIX D: HYDROLOGY ANALYSIS SUPPORTING DOCUMENTATION

D.1. Precipitation Data

- D.1.1. 100-yr 24-hr Data Vol I
- D.1.2. 100-yr 6-hr Data Vol I
- D.1.3. Gage Data Vol I

D.2. Physical Parameter Calculations

- D.2.1. Soils Vol I
- D.2.2. Land Use Vol I
- D.2.3. Time of concentration Vol I
- D.2.4. Hydraulic Length and Slope Vol I
- D.2.5. S-Graphs Vol I

D.3. Hydrograph Routing Data

- D.3.1. Manning’s “n” Value Vol I
- D.3.2. Cross Section Geometry Vol I
- D.3.3. NSTEP Check Data: 100-yr 24-hr Existing Conditions Vol I
- D.3.4. NSTEP Check Data: 100-yr 6-hr Existing Conditions Vol I
- D.3.5. NSTEP Check Data: 100-yr 24-hr Future Conditions Vol I

	D.3.6	NSTEP Check Data: 100-yr 6-hr Existing Conditions.....	Vol I
	D.3.7	Routing Input Data Summary.....	Vol I
D.4.		Storage Routing Data	
	D.4.1.	CAP Canal	Vol I
	D.4.2.	Beardsley Canal.....	Vol I
	D.4.3.	SR 74	Vol I
D.5.		Flow Splits and Diversion Data	
	D.5.1.	CAP Split Data	Vol I
	D.5.2.	US 60 (Grand Ave) Diversion Data	Vol I
	D.5.3	Natural Diversion Data.....	Vol II
	D.5.4	2-Dimensional Modeling Diversion Data.....	Vol II
D.6.		Hydrologic Calculations	
	D.6.1.	100-year, 24-hr Existing Conditions Model Output.....	Vol II
	D.6.2.	100-year, 6-hr Existing Conditions Model Output	Vol II
	D.6.3.	100-year, 24-hr Future Conditions Model Output	Vol III
	D.6.4.	100-year, 6-hr Future Conditions Model Output	Vol III
	D.6.5.	Calibration Data.....	Vol III
APPENDIX E:		HYDRAULIC ANALYSIS SUPPORTING DOCUMENTATION	Vol HD
		(See Floodplain Delineation Report – Volume HD)	
APPENDIX F:		EROSION AND SEDIMENT TRANSPORT	Vol GR
		(See Geomorphology Report – Volume GR)	
APPENDIX G:		DIGITAL FILES CD	Vol III
APPENDIX H:		PLATES	Vol III

LIST OF TABLES

Table HY-4.1 Basin Lag Time..... Appendix D.2.3
Table HY-4.4 Comparison of Peak Discharges..... Section 4.4
Table HY-D.2.3 Time of Concentration Appendix D.2.3
Table HY-D.6 Summary of Peak Discharges Appendix D.6

LIST OF FIGURES

Figure HY-1.1 Vicinity Map..... Section 1
Figure HY-1.2 Sub-Watershed Boundaries..... Section 1
Figure HY-3.1 Mapping Coverage..... Section 3
Half Size Plates Following Report
Figure HY-D.1 Typical Area “n” Values Appendix D.3.1
Figure HY-D.2 Natural Split Flow Location Map..... Appendix D.5.3
Figure HY-D.3 Structures Split flow Location Map..... Appendix D.5.2
Figure HY-D.4 Verification of Results: Existing 100-yr... Appendix D.6.5
Figure HY-D.5 Verification of Results: Future 100-yr..... Appendix D.6.5
Figure HY-D.6 Verification of Results: Existing Reg..... Appendix D.6.5
Figure HY-D.7 Verification of Results: Future Reg..... Appendix D.6.5

LIST OF PLATES APPENDIX H

Plate HY-1(A-D)	HEC-1 Schematic
Plate HY-1E	Padelford Wash Study HEC-1 Schematic (By Others)
Plate HY-2	Hydrology Map
Plate HY-3	Existing Land Use Map
Plate HY-4	Future Land Use Map
Plate HY-5	Soils
Plate HY-6	Topographic Map
Plate HY-7	Roughness Classes
Plate HY-8	Routing Reaches and Cross Section Locations



D.6. Summary of Peak Discharge

- D.6.1. 100-yr, 24-hr Existing Conditions Model Output
- D.6.2. 100-yr, 6-hr Existing Conditions Model Output
- D.6.3. 100-yr, 24-hr Future Conditions Model Output
- D.6.4. 100-yr, 6-hr Future Conditions Model Output
- D.6.5. Calibration Data

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Exst. Cond.		Fut. Cond.	
							Storm	Q [cfs]	Storm	Q [cfs]
AF800	0.72	736	730	0.72	945	952	6-hour	945	6-hour	952
AF802	0.39	425	452	0.39	618	671	6-hour	618	6-hour	671
AF803	2.84	1,811	1,783	2.84	2,044	2,004	6-hour	2,044	6-hour	2,004
AF805	0.63	572	564	0.63	810	805	6-hour	810	6-hour	805
AF807	1.02	1,553	1,627	1.02	1,789	1,935	6-hour	1,789	6-hour	1,935
AF810	2.12	1,393	1,553	2.12	1,543	1,820	6-hour	1,543	6-hour	1,820
AF820	0.70	411	404	0.70	592	584	6-hour	592	6-hour	584
AF830	0.27	244	236	0.27	356	349	6-hour	356	6-hour	349
AF850	0.22	405	445	0.22	585	633	6-hour	585	6-hour	633
AF852	0.17	340	341	0.17	479	481	6-hour	479	6-hour	481
AF854	0.34	583	586	0.34	863	866	6-hour	863	6-hour	866
AF860	0.36	319	369	0.36	476	543	6-hour	476	6-hour	543
AF862	0.18	365	358	0.18	542	533	6-hour	542	6-hour	533
AF864	0.09	79	74	0.09	116	108	6-hour	116	6-hour	108
AF866	0.45	609	620	0.45	896	912	6-hour	896	6-hour	912
C200*	42.48	7,752	9,392	42.48	7,146	9,128	24-hour	7,752	24-hour	9,392
C205*	1.57	919	932	1.57	1,114	1,162	6-hour	1,114	6-hour	1,162
C210*	40.83	7,445	9,095	40.83	6,969	8,907	24-hour	7,445	24-hour	9,095
C216*	2.38	1,079	1,193	2.38	1,295	1,480	6-hour	1,295	6-hour	1,480
C230*	3.91	3,546	3,549	3.91	3,331	3,427	24-hour	3,546	24-hour	3,549
C242*	3.76	2,883	3,084	3.76	2,739	3,039	24-hour	2,883	24-hour	3,084
C302*	54.75	10,663	10,627	54.72	9,848	9,876	24-hour	10,663	24-hour	10,627
C350*	22.23	6,553	6,347	22.22	6,985	6,672	6-hour	6,985	6-hour	6,672
C359*	1.45	778	780	1.45	990	1,004	6-hour	990	6-hour	1,004
C363*	0.54	279	264	0.72	508	490	6-hour	508	6-hour	490
C364*	16.90	5,271	5,346	16.95	5,401	5,578	6-hour	5,401	6-hour	5,578
C390A	5.07	2,903	2,890	5.07	3,030	3,115	6-hour	3,030	6-hour	3,115
C410*	104.45	14,102	15,013	104.42	11,834	12,703	24-hour	14,102	24-hour	15,013
C430*	19.33	3,802	3,754	19.33	3,980	4,054	6-hour	3,980	6-hour	4,054
C442*	12.26	3,831	3,721	12.29	4,121	4,221	6-hour	4,121	6-hour	4,221
C446A	0.42	249	238	0.50	420	408	6-hour	420	6-hour	408
C450B	6.35	2,786	2,834	6.38	3,226	3,447	6-hour	3,226	6-hour	3,447
C452B	3.38	1,302	1,239	3.38	1,645	1,579	6-hour	1,645	6-hour	1,579
C508*	30.55	5,253	5,642	30.53	4,794	5,217	24-hour	5,253	24-hour	5,642
C530*	2.13	1,068	1,309	2.13	1,333	1,662	6-hour	1,333	6-hour	1,662
C538A	2.02	1,278	1,268	2.02	1,595	1,598	6-hour	1,595	6-hour	1,598
C562*	5.03	2,509	2,152	5.03	2,896	2,507	6-hour	2,896	6-hour	2,507

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond.	Fut. Cond.	Drainage Area [mi ²]	Exst. Cond.	Fut. Cond.	Exst. Cond.		Fut. Cond.	
		Q [cfs]	Q [cfs]		Q [cfs]	Q [cfs]	Q [cfs]	Storm	Q [cfs]	Storm
C576B	1.69	687	619	1.69	919	837	6-hour	919	6-hour	837
C580A	3.13	2,218	1,878	3.13	2,424	2,129	6-hour	2,424	6-hour	2,129
C600A	8.62	1,287	1,485	9.67	1,222	1,403	24-hour	1,287	24-hour	1,485
C606A	4.08	363	375	3.55	368	396	6-hour	368	6-hour	396
C624A	6.92	2,060	2,199	7.56	1,746	2,115	24-hour	2,060	24-hour	2,199
C700*	302.88	6,356	8,139	302.88	4,037	5,569	24-hour	6,356	24-hour	8,139
C708*	3.70	1,563	1,750	3.70	1,685	2,010	6-hour	1,685	6-hour	2,010
C726*	41.19	3,037	3,389	36.10	2,672	3,211	24-hour	3,037	24-hour	3,389
C726A	21.41	1,812	1,971	18.85	1,657	1,909	24-hour	1,812	24-hour	1,971
C726B	19.77	1,298	1,654	17.24	1,229	1,695	24-hour	1,298	6-hour	1,695
C802*	313.51	7,101	9,072	313.51	4,066	5,672	24-hour	7,101	24-hour	9,072
CAF807	4.49	2,508	2,600	4.49	2,926	2,905	6-hour	2,926	6-hour	2,905
CAF810	320.12	7,224	9,287	320.12	4,057	5,664	24-hour	7,224	24-hour	9,287
CAF820	320.81	7,221	9,272	320.81	4,046	5,648	24-hour	7,221	24-hour	9,272
CAF850	0.72	1,140	1,184	0.72	1,545	1,596	6-hour	1,545	6-hour	1,596
CAF852	0.51	812	817	0.51	1,174	1,179	6-hour	1,174	6-hour	1,179
CAF860	1.08	860	914	1.08	1,151	1,226	6-hour	1,151	6-hour	1,226
CAF862	0.26	373	364	0.26	555	543	6-hour	555	6-hour	543
CAP1*	53.75	14,390	15,575	53.76	13,205	14,655	24-hour	14,390	24-hour	15,575
CAP2*	39.36	8,461	10,018	33.74	6,672	8,797	24-hour	8,461	24-hour	10,018
CIW300	30.57	6,941	7,056	30.55	6,611	6,819	24-hour	6,941	24-hour	7,056
CIW302	24.18	5,078	5,239	24.24	5,042	5,220	24-hour	5,078	24-hour	5,239
CIW310	1.75	708	686	1.75	885	891	6-hour	885	6-hour	891
CIW314	29.09	7,496	7,416	29.07	7,566	7,448	6-hour	7,566	6-hour	7,448
CIW322	25.16	7,021	6,791	25.14	7,314	7,020	6-hour	7,314	6-hour	7,020
CIW330	23.27	6,608	6,392	23.25	6,979	6,677	6-hour	6,979	6-hour	6,677
CIW334	22.85	5,156	5,266	22.91	5,175	5,351	6-hour	5,175	6-hour	5,351
CIW338	21.26	5,213	5,289	21.32	5,248	5,425	6-hour	5,248	6-hour	5,425
CIW342	17.25	5,157	5,226	17.30	5,302	5,474	6-hour	5,302	6-hour	5,474
CIW346	20.92	5,247	5,319	20.98	5,297	5,470	6-hour	5,297	6-hour	5,470
CIW349	12.30	5,399	5,508	12.27	5,506	5,721	6-hour	5,506	6-hour	5,721
CIW350	17.41	5,647	5,297	17.45	6,037	5,645	6-hour	6,037	6-hour	5,645
CIW351	1.71	559	568	1.67	697	711	6-hour	697	6-hour	711
CIW352	6.31	2,192	2,204	6.39	2,291	2,355	6-hour	2,291	6-hour	2,355
CIW353	15.24	5,023	4,662	15.28	5,494	5,051	6-hour	5,494	6-hour	5,051
CIW354	14.59	5,244	5,334	14.64	5,405	5,595	6-hour	5,405	6-hour	5,595
CIW356	14.23	5,308	5,397	14.28	5,452	5,643	6-hour	5,452	6-hour	5,643

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Exst. Cond.		Fut. Cond.	
							Storm	Q [cfs]	Storm	Q [cfs]
CIW357	8.60	3,504	3,311	8.60	3,583	3,404	6-hour	3,583	6-hour	3,404
CIW359	5.97	3,105	2,625	5.97	3,423	3,009	6-hour	3,423	6-hour	3,009
CIW360	1.54	666	668	1.62	771	775	6-hour	771	6-hour	775
CIW361	4.82	1,600	1,588	4.76	1,886	1,854	6-hour	1,886	6-hour	1,854
CIW362	14.77	5,141	5,227	14.82	5,316	5,506	6-hour	5,316	6-hour	5,506
CIW363	4.38	1,640	1,570	4.26	1,903	1,805	6-hour	1,903	6-hour	1,805
CIW364	2.13	1,337	1,273	2.13	1,456	1,433	6-hour	1,456	6-hour	1,433
CIW365	0.63	353	330	0.74	583	557	6-hour	583	6-hour	557
CIW366	1.08	881	785	1.07	1,105	989	6-hour	1,105	6-hour	989
CIW367	0.17	80	75	0.43	320	301	6-hour	320	6-hour	301
CIW368	0.71	296	301	0.79	479	498	6-hour	479	6-hour	498
CIW370	12.05	5,663	5,761	12.02	5,750	5,961	6-hour	5,750	6-hour	5,961
CIW374	0.53	558	526	0.54	784	757	6-hour	784	6-hour	757
CIW375	0.82	306	329	0.85	446	493	6-hour	446	6-hour	493
CIW380	15.11	7,968	8,319	15.11	7,995	8,664	6-hour	7,995	6-hour	8,664
CIW381	0.72	493	477	0.64	619	599	6-hour	619	6-hour	599
CIW382	0.99	525	539	0.99	685	708	6-hour	685	6-hour	708
CIW384	0.23	164	157	0.41	390	394	6-hour	390	6-hour	394
CIW388	7.85	3,436	3,268	7.85	3,532	3,396	6-hour	3,532	6-hour	3,396
CIW390	6.50	3,038	2,945	6.50	3,093	3,091	6-hour	3,093	6-hour	3,091
CIW395	12.68	7,572	8,032	12.68	7,766	8,463	6-hour	7,766	6-hour	8,463
CIW396	14.61	7,924	8,342	14.61	8,001	8,699	6-hour	8,001	6-hour	8,699
CPD700	313.12	7,100	9,061	313.12	4,067	5,673	24-hour	7,100	24-hour	9,061
CPD704	8.84	3,060	3,449	8.84	3,265	3,804	6-hour	3,265	6-hour	3,804
CPD708	7.76	2,728	3,185	7.76	2,957	3,529	6-hour	2,957	6-hour	3,529
CPD720	293.30	5,912	7,507	296.13	4,039	5,207	24-hour	5,912	24-hour	7,507
CPD726	44.29	2,998	3,378	39.20	2,581	3,146	24-hour	2,998	24-hour	3,378
CPD732	15.04	1,200	1,349	13.11	1,085	1,319	24-hour	1,200	24-hour	1,349
CPD736	5.27	451	476	4.64	441	489	24-hour	451	6-hour	489
CPD740	18.84	1,273	1,652	16.31	1,249	1,698	24-hour	1,273	6-hour	1,698
CPD748	0.47	605	614	0.47	910	914	6-hour	910	6-hour	914
CPI600	258.01	4,378	5,384	263.07	2,575	3,219	24-hour	4,378	24-hour	5,384
CPI603	15.46	2,450	2,711	15.98	2,202	2,506	24-hour	2,450	24-hour	2,711
CPI604	2.03	321	382	1.82	469	496	6-hour	469	6-hour	496
CPI606	3.49	701	785	3.17	753	881	6-hour	753	6-hour	881
CPI609	8.10	1,187	1,387	9.15	1,110	1,291	24-hour	1,187	24-hour	1,387
CPI612	12.43	1,362	1,584	14.40	1,279	1,431	24-hour	1,362	24-hour	1,584

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Exst. Cond.		Fut. Cond.	
							Storm	Q [cfs]	Storm	Q [cfs]
CPI615	8.26	882	1,006	9.61	904	1,148	6-hour	904	6-hour	1,148
CPI618	7.31	850	876	8.63	876	1,064	6-hour	876	6-hour	1,064
CPI621	10.22	1,179	1,387	11.70	1,013	1,272	24-hour	1,179	24-hour	1,387
CPI624	8.94	1,945	2,484	9.64	1,662	2,369	24-hour	1,945	24-hour	2,484
CPI628	4.11	750	763	4.75	594	1,057	24-hour	750	6-hour	1,057
CPI633	241.94	3,871	4,794	246.48	2,169	2,833	24-hour	3,871	24-hour	4,794
CPI635	223.43	2,901	3,734	224.79	1,521	2,117	24-hour	2,901	24-hour	3,734
CPI636	0.80	400	409	0.86	546	566	6-hour	546	6-hour	566
CPI639	0.37	173	184	0.43	288	310	6-hour	288	6-hour	310
CPI645	11.72	4,921	4,890	11.72	5,320	5,404	6-hour	5,320	6-hour	5,404
CPI651	7.26	3,455	3,308	7.26	3,894	3,811	6-hour	3,894	6-hour	3,811
CPI654	6.34	3,103	2,831	6.34	3,587	3,352	6-hour	3,587	6-hour	3,352
CPI660	2.31	986	906	2.31	1,270	1,172	6-hour	1,270	6-hour	1,172
CPI672	6.98	2,266	2,407	6.98	2,483	2,753	6-hour	2,483	6-hour	2,753
CPI675	14.77	6,454	6,800	14.77	6,471	7,156	6-hour	6,471	6-hour	7,156
CPI678	19.55	9,081	9,528	19.55	8,723	9,652	24-hour	9,081	6-hour	9,652
CPI681	18.72	9,687	10,027	18.72	9,152	10,009	24-hour	9,687	24-hour	10,027
CPI684	17.73	10,128	10,632	17.73	9,384	10,270	24-hour	10,128	24-hour	10,632
CPI687	16.99	10,065	10,688	16.99	9,390	10,250	24-hour	10,065	24-hour	10,688
CPI689	9.98	6,934	7,340	9.98	6,591	7,228	24-hour	6,934	24-hour	7,340
CPI690	14.71	6,673	7,007	14.71	6,659	7,346	24-hour	6,673	6-hour	7,346
CSV200	99.52	14,084	14,856	99.49	11,885	12,735	24-hour	14,084	24-hour	14,856
CSV212	38.68	7,363	8,859	38.68	6,822	8,643	24-hour	7,363	24-hour	8,859
CSV216	6.82	2,345	2,364	6.82	2,621	2,753	6-hour	2,621	6-hour	2,753
CSV218	2.82	1,692	1,668	2.82	1,767	1,834	6-hour	1,767	6-hour	1,834
CSV219	1.14	1,104	1,112	1.14	1,122	1,150	6-hour	1,122	6-hour	1,150
CSV220	30.63	6,753	7,844	30.63	6,403	7,777	24-hour	6,753	24-hour	7,844
CSV244	1.62	720	804	1.62	917	1,053	6-hour	917	6-hour	1,053
CSV246	0.76	395	421	0.76	514	555	6-hour	514	6-hour	555
CSV256	0.44	340	391	0.44	484	564	6-hour	484	6-hour	564
CSV260	16.99	5,765	6,663	16.99	6,422	7,564	6-hour	6,422	6-hour	7,564
CSV264	4.82	2,264	2,474	4.82	2,714	3,000	6-hour	2,714	6-hour	3,000
CSV272	3.84	1,566	1,843	3.84	1,966	2,342	6-hour	1,966	6-hour	2,342
CSV276	7.41	3,247	3,634	7.41	3,738	4,303	6-hour	3,738	6-hour	4,303
CSV280	9.54	3,723	4,203	9.54	4,248	4,905	6-hour	4,248	6-hour	4,905
CSV284	1.82	1,157	1,270	1.82	1,449	1,635	6-hour	1,449	6-hour	1,635
CTW400	173.14	17,687	21,552	174.27	11,386	14,449	24-hour	17,687	24-hour	21,552

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond.		Drainage Area [mi ²]	Exst. Cond.		Exst. Cond.		Fut Cond.	
		Q [cfs]	Q [cfs]		Q [cfs]	Q [cfs]	Storm	Q [cfs]	Storm	Q [cfs]
CTW402	135.09	16,124	19,464	135.06	11,555	14,148	24-hour	16,124	24-hour	19,464
CTW404	25.72	5,271	5,951	25.72	4,612	5,469	24-hour	5,271	24-hour	5,951
CTW410	1.48	852	931	1.48	1,107	1,235	6-hour	1,107	6-hour	1,235
CTW412	2.87	1,295	1,711	2.87	1,661	2,214	6-hour	1,661	6-hour	2,214
CTW418	31.58	4,233	4,779	32.74	4,471	4,725	6-hour	4,471	24-hour	4,779
CTW422	33.78	3,939	4,516	34.94	4,196	4,440	6-hour	4,196	24-hour	4,516
CTW430	30.21	5,579	5,564	31.37	5,625	5,596	6-hour	5,625	6-hour	5,596
CTW431	2.78	1,160	1,180	2.75	1,408	1,443	6-hour	1,408	6-hour	1,443
CTW432	1.90	770	769	1.87	976	996	6-hour	976	6-hour	996
CTW434	15.61	3,912	3,821	15.61	4,103	4,176	6-hour	4,103	6-hour	4,176
CTW440	7.60	2,556	2,586	7.40	2,872	3,006	6-hour	2,872	6-hour	3,006
CTW442	4.67	1,417	1,330	4.90	1,793	1,738	6-hour	1,793	6-hour	1,738
CTW444	7.49	2,616	2,641	7.29	2,931	3,064	6-hour	2,931	6-hour	3,064
CTW446	1.04	475	488	1.01	634	664	6-hour	634	6-hour	664
CTW450	7.59	2,832	2,877	7.62	3,229	3,391	6-hour	3,229	6-hour	3,391
CTW452	4.29	1,465	1,389	4.52	1,841	1,787	6-hour	1,841	6-hour	1,787
CTW454	3.52	1,564	1,504	3.52	1,811	1,758	6-hour	1,811	6-hour	1,758
CTW456	3.16	1,517	1,464	3.16	1,736	1,698	6-hour	1,736	6-hour	1,698
CTW458	2.99	1,479	1,435	2.99	1,686	1,658	6-hour	1,686	6-hour	1,658
CTW462	4.02	2,130	2,355	4.05	3,039	3,373	6-hour	3,039	6-hour	3,373
CTW478	10.88	2,663	2,790	12.04	2,955	3,162	6-hour	2,955	6-hour	3,162
CTW480	10.62	2,780	2,882	11.78	3,071	3,279	6-hour	3,071	6-hour	3,279
CTW482	3.88	1,050	1,032	5.04	1,655	1,553	6-hour	1,655	6-hour	1,553
CTW484	5.99	2,046	1,902	5.99	2,286	2,213	6-hour	2,286	6-hour	2,213
CTW485	5.64	1,937	1,727	5.64	2,200	2,060	6-hour	2,200	6-hour	2,060
CWI500	222.82	21,372	26,156	224.18	12,768	16,395	24-hour	21,372	24-hour	26,156
CWI502	203.37	20,106	24,589	204.48	12,272	15,769	24-hour	20,106	24-hour	24,589
CWI504	174.49	17,551	21,457	175.62	11,284	14,378	24-hour	17,551	24-hour	21,457
CWI506	11.42	2,209	2,804	12.67	1,951	2,605	24-hour	2,209	24-hour	2,804
CWI508	31.25	5,171	5,584	31.23	4,652	5,092	24-hour	5,171	24-hour	5,584
CWI510	27.67	4,304	4,706	27.65	3,927	4,322	24-hour	4,304	24-hour	4,706
CWI512	25.55	4,924	5,253	24.99	4,572	4,965	24-hour	4,924	24-hour	5,253
CWI514	20.52	4,829	5,098	19.36	4,827	5,050	24-hour	4,829	24-hour	5,098
CWI516	24.20	5,104	5,388	23.64	5,031	5,253	24-hour	5,104	24-hour	5,388
CWI518	5.00	1,014	1,316	5.54	1,019	1,402	6-hour	1,019	6-hour	1,402
CWI524	1.51	712	734	1.60	940	978	6-hour	940	6-hour	978
CWI525	8.92	1,614	1,802	10.23	1,695	1,778	6-hour	1,695	24-hour	1,802

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond.	Fut. Cond.	Drainage Area [mi ²]	Exst. Cond.	Fut. Cond.	Exst. Cond.		Fut. Cond.	
		Q [cfs]	Q [cfs]		Q [cfs]	Q [cfs]	Q [cfs]	Storm	Q [cfs]	Storm
CWI526	3.49	418	435	4.10	436	506	6-hour	436	6-hour	506
CWI527	0.71	645	717	0.71	886	998	6-hour	886	6-hour	998
CWI528	3.80	420	475	4.41	469	985	6-hour	469	6-hour	985
CWI529	3.53	407	455	4.13	466	834	6-hour	466	6-hour	834
CWI530	9.77	3,248	3,488	9.78	3,730	3,977	6-hour	3,730	6-hour	3,977
CWI532	0.76	539	687	0.76	781	972	6-hour	781	6-hour	972
CWI538	3.45	1,726	1,679	3.45	2,143	2,102	6-hour	2,143	6-hour	2,102
CWI542	2.07	886	996	2.07	1,117	1,271	6-hour	1,117	6-hour	1,271
CWI544	2.71	1,638	1,817	2.71	1,903	2,147	6-hour	1,903	6-hour	2,147
CWI546	0.91	463	521	0.91	631	731	6-hour	631	6-hour	731
CWI550	20.17	5,217	5,312	19.01	5,250	5,340	6-hour	5,250	6-hour	5,340
CWI552	18.77	5,165	5,175	17.61	5,260	5,256	6-hour	5,260	6-hour	5,256
CWI554	18.36	5,164	5,150	17.20	5,275	5,258	6-hour	5,275	6-hour	5,258
CWI560	16.86	5,195	4,991	15.70	5,384	5,204	6-hour	5,384	6-hour	5,204
CWI562	3.26	1,415	1,265	3.26	1,723	1,537	6-hour	1,723	6-hour	1,537
CWI566	0.58	410	387	0.58	562	541	6-hour	562	6-hour	541
CWI576	7.07	2,463	2,277	7.07	2,695	2,439	6-hour	2,695	6-hour	2,439
CWI578	0.77	480	429	0.77	680	616	6-hour	680	6-hour	616
CWI580	5.22	2,239	2,028	5.22	2,520	2,253	6-hour	2,520	6-hour	2,253
CWI582	0.38	361	411	0.38	527	605	6-hour	527	6-hour	605
CWT100	22.55	5,629	6,289	22.55	4,921	5,796	24-hour	5,629	24-hour	6,289
CWT110	18.71	5,882	6,522	18.71	5,207	6,086	24-hour	5,882	24-hour	6,522
CWT120	15.81	5,970	6,604	15.81	5,370	6,236	24-hour	5,970	24-hour	6,604
CWT130	6.36	2,641	2,914	6.36	2,655	3,077	6-hour	2,655	6-hour	3,077
CWT150	5.84	2,964	3,269	5.84	2,868	3,269	24-hour	2,964	24-hour	3,269
IW300	1.48	686	703	1.48	948	1,000	6-hour	948	6-hour	1,000
IW302	1.33	544	648	1.33	746	904	6-hour	746	6-hour	904
IW310	1.17	708	685	1.17	924	921	6-hour	924	6-hour	921
IW312	0.57	346	328	0.57	492	470	6-hour	492	6-hour	470
IW314	2.18	1,094	1,214	2.18	1,305	1,532	6-hour	1,305	6-hour	1,532
IW318	0.58	409	390	0.58	585	561	6-hour	585	6-hour	561
IW322	1.89	932	893	1.89	1,161	1,149	6-hour	1,161	6-hour	1,149
IW326	0.33	327	319	0.33	478	473	6-hour	478	6-hour	473
IW330	1.04	619	587	1.04	805	781	6-hour	805	6-hour	781
IW334	1.26	1,160	1,258	1.26	1,392	1,579	6-hour	1,392	6-hour	1,579
IW338	0.34	358	349	0.34	525	511	6-hour	525	6-hour	511
IW342	0.35	180	175	0.35	279	273	6-hour	279	6-hour	273

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond.		Drainage Area [mi ²]	Exst. Cond.		Exst. Cond.		Fut Cond.	
		Q [cfs]	Q [cfs]		Q [cfs]	Q [cfs]	Storm	Q [cfs]	Storm	Q [cfs]
IW346	3.44	1,969	1,855	3.44	2,036	2,016	6-hour	2,036	6-hour	2,016
IW349	0.25	172	162	0.25	258	243	6-hour	258	6-hour	243
IW350	2.17	1,154	1,130	2.17	1,410	1,438	6-hour	1,410	6-hour	1,438
IW351	0.32	236	228	0.32	354	342	6-hour	354	6-hour	342
IW352	0.10	99	99	0.10	148	148	6-hour	148	6-hour	148
IW353	2.80	2,307	2,180	2.80	2,512	2,507	6-hour	2,512	6-hour	2,507
IW354	0.36	409	402	0.36	596	579	6-hour	596	6-hour	579
IW356	0.29	275	266	0.29	395	391	6-hour	395	6-hour	391
IW357	0.75	647	617	0.75	879	843	6-hour	879	6-hour	843
IW358	0.16	98	95	0.16	146	144	6-hour	146	6-hour	144
IW359	2.91	2,442	2,210	2.91	2,496	2,318	6-hour	2,496	6-hour	2,318
IW360	0.83	670	671	0.83	898	900	6-hour	898	6-hour	900
IW361	0.35	212	218	0.35	334	326	6-hour	334	6-hour	326
IW362	0.18	183	180	0.18	266	260	6-hour	266	6-hour	260
IW363	0.63	804	784	0.63	1,112	1,073	6-hour	1,112	6-hour	1,073
IW364	1.15	1,340	1,274	1.15	1,624	1,576	6-hour	1,624	6-hour	1,576
IW365	0.47	272	259	0.47	394	376	6-hour	394	6-hour	376
IW366	1.06	881	785	1.06	1,107	992	6-hour	1,107	6-hour	992
IW367	0.05	77	75	0.05	109	107	6-hour	109	6-hour	107
IW368	0.29	179	169	0.29	271	263	6-hour	271	6-hour	263
IW369	0.79	435	411	0.79	590	565	6-hour	590	6-hour	565
IW370	0.88	433	410	0.88	588	565	6-hour	588	6-hour	565
IW371	0.05	68	63	0.05	103	96	6-hour	103	6-hour	96
IW372	0.32	354	339	0.32	511	504	6-hour	511	6-hour	504
IW374	0.39	534	512	0.39	758	738	6-hour	758	6-hour	738
IW375	0.66	272	259	0.66	384	368	6-hour	384	6-hour	368
IW377	0.11	106	104	0.11	153	153	6-hour	153	6-hour	153
IW380	0.50	490	439	0.50	701	643	6-hour	701	6-hour	643
IW381	0.38	315	299	0.38	454	433	6-hour	454	6-hour	433
IW382	0.62	526	541	0.62	738	762	6-hour	738	6-hour	762
IW384	0.08	128	127	0.08	184	180	6-hour	184	6-hour	180
IW386	0.37	271	265	0.37	395	389	6-hour	395	6-hour	389
IW387	1.35	1,110	1,083	1.35	1,332	1,312	6-hour	1,332	6-hour	1,312
IW388	1.23	867	803	1.23	1,107	1,052	6-hour	1,107	6-hour	1,052
IW389	0.13	118	110	0.13	168	158	6-hour	168	6-hour	158
IW390	0.31	146	129	0.31	221	197	6-hour	221	6-hour	197
IW390A	0.90	576	560	0.90	771	753	6-hour	771	6-hour	753

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Exst. Cond.		Fut Cond.	
							Storm	Q [cfs]	Storm	Q [cfs]
IW392	1.11	1,713	1,572	1.11	1,985	1,811	6-hour	1,985	6-hour	1,811
IW394	4.17	2,569	2,624	4.17	2,700	2,805	6-hour	2,700	6-hour	2,805
IW395	7.86	6,223	6,506	7.86	5,796	6,231	24-hour	6,223	24-hour	6,506
IW396	0.59	260	256	0.59	390	389	6-hour	390	6-hour	389
IW397	4.81	3,716	3,909	4.81	3,845	4,160	6-hour	3,845	6-hour	4,160
PD700	1.40	1,491	1,451	1.40	1,703	1,683	6-hour	1,703	6-hour	1,683
PD704	0.36	337	342	0.36	480	491	6-hour	480	6-hour	491
PD708	2.40	1,690	1,596	2.40	1,840	1,829	6-hour	1,840	6-hour	1,829
PD712	0.89	755	742	0.89	1,003	987	6-hour	1,003	6-hour	987
PD712A	0.77	407	382	0.77	570	546	6-hour	570	6-hour	546
PD716	1.75	2,751	2,662	1.75	2,644	2,642	24-hour	2,751	24-hour	2,662
PD720	0.59	668	664	0.59	942	944	6-hour	942	6-hour	944
PD726	1.35	843	797	1.35	1,071	1,051	6-hour	1,071	6-hour	1,051
PD726A	1.10	457	431	1.10	605	579	6-hour	605	6-hour	579
PD726B	0.93	642	654	0.93	832	849	6-hour	832	6-hour	849
PD732	0.48	461	462	0.48	681	687	6-hour	681	6-hour	687
PD736	0.78	269	256	0.78	373	358	6-hour	373	6-hour	358
PD740	1.28	798	809	1.28	991	1,005	6-hour	991	6-hour	1,005
PD744	0.80	531	508	0.80	732	709	6-hour	732	6-hour	709
PD748	0.28	374	381	0.28	557	559	6-hour	557	6-hour	559
PD752	0.19	236	239	0.19	354	356	6-hour	354	6-hour	356
PD756	3.23	1,528	1,554	3.23	1,655	1,791	6-hour	1,655	6-hour	1,791
PD760	0.87	1,161	1,168	0.87	1,444	1,464	6-hour	1,444	6-hour	1,464
PDEAST	16.44	8,461	10,018	16.44	6,672	8,797	24-hour	8,461	24-hour	10,018
PDWEST	7.08	4,394	5,033	7.08	3,720	4,407	24-hour	4,394	24-hour	5,033
PI600	0.61	731	718	0.61	1,023	1,007	6-hour	1,023	6-hour	1,007
PI600A	0.52	822	817	0.52	1,191	1,179	6-hour	1,191	6-hour	1,179
PI603	0.52	418	423	0.52	623	633	6-hour	623	6-hour	633
PI604	0.36	312	329	0.36	469	494	6-hour	469	6-hour	494
PI606	1.08	708	790	1.08	921	1,033	6-hour	921	6-hour	1,033
PI606A	0.46	374	353	0.46	575	546	6-hour	575	6-hour	546
PI609	1.94	960	1,030	1.94	1,135	1,233	6-hour	1,135	6-hour	1,233
PI612	0.74	458	492	0.74	656	701	6-hour	656	6-hour	701
PI615	0.84	625	628	0.84	852	855	6-hour	852	6-hour	855
PI618	0.29	323	300	0.29	470	448	6-hour	470	6-hour	448
PI621	0.90	645	667	0.90	865	907	6-hour	865	6-hour	907
PI624	1.23	847	879	1.23	1,112	1,157	6-hour	1,112	6-hour	1,157

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Exst. Cond.		Fut Cond.	
							Storm	Q [cfs]	Storm	Q [cfs]
PI624A	2.81	1,630	1,827	2.81	1,577	1,953	24-hour	1,630	6-hour	1,953
PI628	0.57	695	655	0.57	1,004	953	6-hour	1,004	6-hour	953
PI633	0.34	280	297	0.34	383	411	6-hour	383	6-hour	411
PI635	0.61	622	565	0.61	889	807	6-hour	889	6-hour	807
PI636	0.43	384	373	0.43	576	566	6-hour	576	6-hour	566
PI639	0.34	169	178	0.34	261	273	6-hour	261	6-hour	273
PI642	0.24	162	184	0.24	247	278	6-hour	247	6-hour	278
PI645	1.56	1,160	1,143	1.56	1,292	1,316	6-hour	1,292	6-hour	1,316
PI645A	1.63	912	893	1.63	1,162	1,175	6-hour	1,162	6-hour	1,175
PI648	1.73	1,035	969	1.73	1,286	1,246	6-hour	1,286	6-hour	1,246
PI651	0.46	308	290	0.46	459	436	6-hour	459	6-hour	436
PI654	4.03	2,372	2,194	4.03	2,695	2,599	6-hour	2,695	6-hour	2,599
PI657	0.87	456	432	0.87	607	583	6-hour	607	6-hour	583
PI660	0.84	339	320	0.84	455	432	6-hour	455	6-hour	432
PI663	0.60	329	324	0.60	468	468	6-hour	468	6-hour	468
PI669	0.29	144	145	0.29	219	223	6-hour	219	6-hour	223
PI672	1.51	1,172	1,128	1.51	1,342	1,306	6-hour	1,342	6-hour	1,306
PI675	0.06	72	72	0.06	106	106	6-hour	106	6-hour	106
PI678	0.83	406	514	0.83	556	708	6-hour	556	6-hour	708
PI681	0.99	598	585	0.99	792	798	6-hour	792	6-hour	798
PI684	0.74	637	632	0.74	864	871	6-hour	864	6-hour	871
PI687	7.01	4,139	4,342	7.01	4,123	4,438	24-hour	4,139	6-hour	4,438
PI688	3.20	2,507	2,636	3.20	2,650	2,857	6-hour	2,650	6-hour	2,857
PI689	6.78	4,688	4,972	6.78	4,695	5,150	6-hour	4,695	6-hour	5,150
PI690	0.63	315	334	0.63	447	478	6-hour	447	6-hour	478
PI693	0.84	756	732	0.84	1,003	980	6-hour	1,003	6-hour	980
SV200	2.29	1,931	2,114	2.29	2,003	2,363	6-hour	2,003	6-hour	2,363
SV202	1.44	1,078	1,032	1.44	1,323	1,314	6-hour	1,323	6-hour	1,314
SV203	0.08	120	111	0.08	182	170	6-hour	182	6-hour	170
SV205	0.50	747	739	0.50	1,102	1,095	6-hour	1,102	6-hour	1,095
SV208	1.07	638	676	1.07	831	889	6-hour	831	6-hour	889
SV210	0.72	1,189	1,216	0.72	1,553	1,606	6-hour	1,553	6-hour	1,606
SV212	4.14	3,325	3,361	4.14	3,072	3,358	24-hour	3,325	24-hour	3,361
SV214	1.87	1,910	1,944	1.87	2,019	2,185	6-hour	2,019	6-hour	2,185
SV216	1.63	1,613	1,551	1.63	1,787	1,781	6-hour	1,787	6-hour	1,781
SV218	1.29	1,039	986	1.29	1,258	1,225	6-hour	1,258	6-hour	1,225
SV219	0.90	1,105	1,105	0.90	1,167	1,179	6-hour	1,167	6-hour	1,179

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Drainage Area [mi ²]	Exst. Cond. Q [cfs]	Fut. Cond. Q [cfs]	Exst. Cond.		Fut. Cond.	
							Storm	Q [cfs]	Storm	Q [cfs]
SV220	0.60	797	792	0.60	1,114	1,101	6-hour	1,114	6-hour	1,101
SV230	0.85	1,276	1,261	0.85	1,582	1,580	6-hour	1,582	6-hour	1,580
SV232	3.06	2,919	3,041	3.06	2,720	2,915	24-hour	2,919	24-hour	3,041
SV236	0.59	521	527	0.59	763	760	6-hour	763	6-hour	760
SV240	3.67	2,841	3,045	3.67	2,706	3,008	24-hour	2,841	24-hour	3,045
SV242	0.09	63	63	0.09	93	94	6-hour	93	6-hour	94
SV244	0.95	435	470	0.95	576	640	6-hour	576	6-hour	640
SV246	0.16	200	197	0.16	287	285	6-hour	287	6-hour	285
SV248	1.27	771	845	1.27	944	1,058	6-hour	944	6-hour	1,058
SV250	0.12	107	104	0.12	156	157	6-hour	156	6-hour	157
SV251	0.27	204	204	0.27	313	308	6-hour	313	6-hour	308
SV252	0.15	104	108	0.15	158	162	6-hour	158	6-hour	162
SV254	0.10	99	113	0.10	150	171	6-hour	150	6-hour	171
SV256	0.06	68	79	0.06	104	121	6-hour	104	6-hour	121
SV258	0.74	669	753	0.74	888	1,018	6-hour	888	6-hour	1,018
SV260	1.26	1,154	1,091	1.26	1,404	1,354	6-hour	1,404	6-hour	1,354
SV264	1.92	1,336	1,279	1.92	1,603	1,603	6-hour	1,603	6-hour	1,603
SV264A	2.90	1,695	1,691	2.90	2,000	2,107	6-hour	2,000	6-hour	2,107
SV268	1.38	1,349	1,292	1.38	1,628	1,618	6-hour	1,628	6-hour	1,618
SV272	1.20	976	932	1.20	1,212	1,193	6-hour	1,212	6-hour	1,193
SV276	0.92	678	643	0.92	905	874	6-hour	905	6-hour	874
SV280	1.06	707	664	1.06	925	890	6-hour	925	6-hour	890
SV284	0.28	337	341	0.28	491	495	6-hour	491	6-hour	495
SV286	1.54	1,175	1,181	1.54	1,427	1,504	6-hour	1,427	6-hour	1,504
SV290	0.81	653	664	0.81	881	914	6-hour	881	6-hour	914
SV294	2.65	1,805	1,761	2.65	2,100	2,178	6-hour	2,100	6-hour	2,178
SV298	1.08	506	493	1.08	672	667	6-hour	672	6-hour	667
TW400	4.27	2,211	2,765	4.27	2,394	3,162	6-hour	2,394	6-hour	3,162
TW402	4.91	3,179	3,492	4.91	3,158	3,774	24-hour	3,179	6-hour	3,774
TW404	2.09	2,515	2,509	2.09	2,442	2,543	24-hour	2,515	6-hour	2,543
TW406	0.16	375	378	0.16	521	525	6-hour	521	6-hour	525
TW408	0.91	413	437	0.91	565	604	6-hour	565	6-hour	604
TW410	0.31	178	204	0.31	254	290	6-hour	254	6-hour	290
TW412	2.06	1,239	1,403	2.06	1,453	1,762	6-hour	1,453	6-hour	1,762
TW414	1.17	2,018	2,027	1.17	2,191	2,227	6-hour	2,191	6-hour	2,227
TW416	0.59	420	456	0.59	627	677	6-hour	627	6-hour	677
TW418	1.37	1,476	1,473	1.37	1,784	1,835	6-hour	1,784	6-hour	1,835

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond.	Fut. Cond.	Drainage Area [mi ²]	Exst. Cond.	Fut. Cond.	Exst. Cond.		Fut. Cond.	
		Q [cfs]	Q [cfs]		Q [cfs]	Q [cfs]	Storm	Q [cfs]	Storm	Q [cfs]
TW420	0.81	575	662	0.81	778	923	6-hour	778	6-hour	923
TW422	0.70	516	546	0.70	741	791	6-hour	741	6-hour	791
TW424	1.50	2,046	2,112	1.50	2,266	2,372	6-hour	2,266	6-hour	2,372
TW429	0.56	510	520	0.56	728	749	6-hour	728	6-hour	749
TW430	2.49	2,816	2,732	2.49	2,825	2,852	6-hour	2,825	6-hour	2,852
TW431	0.87	705	682	0.87	940	922	6-hour	940	6-hour	922
TW432	0.86	588	574	0.86	787	778	6-hour	787	6-hour	778
TW434	0.57	453	443	0.57	657	642	6-hour	657	6-hour	642
TW436	0.67	729	733	0.67	1,001	1,007	6-hour	1,001	6-hour	1,007
TW440	0.11	133	134	0.11	191	193	6-hour	191	6-hour	193
TW442	0.38	373	386	0.38	546	567	6-hour	546	6-hour	567
TW444	0.35	357	351	0.35	524	514	6-hour	524	6-hour	514
TW446	0.35	361	345	0.35	522	503	6-hour	522	6-hour	503
TW446A	0.34	221	210	0.34	322	309	6-hour	322	6-hour	309
TW448	0.35	202	194	0.35	291	281	6-hour	291	6-hour	281
TW450	1.25	661	625	1.25	857	825	6-hour	857	6-hour	825
TW450A	0.88	709	692	0.88	937	927	6-hour	937	6-hour	927
TW450B	0.40	452	430	0.40	651	626	6-hour	651	6-hour	626
TW452	0.46	320	304	0.46	466	447	6-hour	466	6-hour	447
TW452A	1.08	822	816	1.08	1,062	1,073	6-hour	1,062	6-hour	1,073
TW452B	1.03	615	580	1.03	813	784	6-hour	813	6-hour	784
TW454	0.36	128	123	0.36	195	188	6-hour	195	6-hour	188
TW456	0.18	117	113	0.18	172	167	6-hour	172	6-hour	167
TW458	0.67	726	725	0.67	985	991	6-hour	985	6-hour	991
TW459	1.04	401	348	1.04	535	472	6-hour	535	6-hour	472
TW460	2.32	1,213	1,171	2.32	1,412	1,362	6-hour	1,412	6-hour	1,362
TW462	0.08	129	124	0.08	184	179	6-hour	184	6-hour	179
TW478	0.26	351	353	0.26	465	470	6-hour	465	6-hour	470
TW480	0.75	741	746	0.75	999	1,006	6-hour	999	6-hour	1,006
TW482	0.76	678	758	0.76	909	1,039	6-hour	909	6-hour	1,039
TW484	0.35	245	265	0.35	365	395	6-hour	365	6-hour	395
TW485	2.37	1,589	1,536	2.37	1,746	1,789	6-hour	1,746	6-hour	1,789
WI500	1.05	765	745	1.05	985	972	6-hour	985	6-hour	972
WI502	1.21	669	687	1.21	851	900	6-hour	851	6-hour	900
WI504	1.35	1,395	1,342	1.35	1,645	1,612	6-hour	1,645	6-hour	1,612
WI506	1.58	961	1,036	1.58	1,175	1,284	6-hour	1,175	6-hour	1,284
WI508	0.70	411	390	0.70	581	563	6-hour	581	6-hour	563

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Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area	Exst. Cond.	Fut. Cond.	Drainage Area	Exst. Cond.	Fut. Cond.	Exst. Cond.		Fut. Cond.	
	[mi ²]	Q [cfs]	Q [cfs]	[mi ²]	Q [cfs]	Q [cfs]	Storm	Q [cfs]	Storm	Q [cfs]
WI510	1.23	563	573	1.23	725	760	6-hour	725	6-hour	760
WI510A	1.13	937	988	1.13	1,156	1,254	6-hour	1,156	6-hour	1,254
WI512	1.36	1,020	1,173	1.36	1,256	1,480	6-hour	1,256	6-hour	1,480
WI514	0.35	441	446	0.35	639	660	6-hour	639	6-hour	660
WI516	0.14	136	150	0.14	199	223	6-hour	199	6-hour	223
WI518	0.53	466	519	0.53	718	803	6-hour	718	6-hour	803
WI524	0.95	712	734	0.95	944	987	6-hour	944	6-hour	987
WI525	1.94	1,548	1,641	1.94	1,695	1,895	6-hour	1,695	6-hour	1,895
WI526	0.05	32	37	0.05	48	54	6-hour	48	6-hour	54
WI527	0.71	645	717	0.71	886	998	6-hour	886	6-hour	998
WI528	0.36	305	360	0.36	469	544	6-hour	469	6-hour	544
WI529	0.17	205	231	0.17	302	338	6-hour	302	6-hour	338
WI530	2.38	1,618	1,616	2.38	1,628	1,709	6-hour	1,628	6-hour	1,709
WI532	0.32	353	419	0.32	490	580	6-hour	490	6-hour	580
WI534	0.43	415	422	0.43	596	616	6-hour	596	6-hour	616
WI536	1.37	680	705	1.37	868	928	6-hour	868	6-hour	928
WI538	1.43	723	726	1.43	915	948	6-hour	915	6-hour	948
WI538A	0.78	553	552	0.78	756	764	6-hour	756	6-hour	764
WI540	1.25	832	823	1.25	1,072	1,075	6-hour	1,072	6-hour	1,075
WI542	1.17	618	691	1.17	783	903	6-hour	783	6-hour	903
WI544	1.79	1,324	1,458	1.79	1,536	1,716	6-hour	1,536	6-hour	1,716
WI546	0.61	464	500	0.61	660	710	6-hour	660	6-hour	710
WI548	0.31	339	329	0.31	486	471	6-hour	486	6-hour	471
WI550	0.14	212	234	0.14	321	350	6-hour	321	6-hour	350
WI552	0.41	322	329	0.41	490	503	6-hour	490	6-hour	503
WI554	1.04	833	939	1.04	1,054	1,217	6-hour	1,054	6-hour	1,217
WI556	0.08	153	169	0.08	217	237	6-hour	217	6-hour	237
WI560	3.56	2,795	2,845	3.56	2,829	3,069	6-hour	2,829	6-hour	3,069
WI560A	2.04	910	802	2.04	1,098	986	6-hour	1,098	6-hour	986
WI562	0.87	569	516	0.87	768	713	6-hour	768	6-hour	713
WI564	1.81	810	785	1.81	1,005	977	6-hour	1,005	6-hour	977
WI566	0.11	119	107	0.11	170	152	6-hour	170	6-hour	152
WI570	2.24	1,622	1,433	2.24	1,907	1,732	6-hour	1,907	6-hour	1,732
WI572	2.06	1,896	1,739	2.06	2,021	1,905	6-hour	2,021	6-hour	1,905
WI574	0.22	219	212	0.22	318	311	6-hour	318	6-hour	311
WI576	1.18	729	711	1.18	915	910	6-hour	915	6-hour	910
WI576A	1.22	633	603	1.22	806	770	6-hour	806	6-hour	770

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

Table D.6: Summary of Peak Discharges

Model ID	100-yr 24-hr Storm			100-yr 6-hr Storm			Controlling Storm			
	Drainage Area [mi ²]	Exst. Cond.	Fut. Cond.	Drainage Area [mi ²]	Exst. Cond.	Fut. Cond.	Exst. Cond.		Fut. Cond.	
		Q [cfs]	Q [cfs]		Q [cfs]	Q [cfs]	Storm	Q [cfs]	Storm	Q [cfs]
WI576B	0.46	356	337	0.46	522	504	6-hour	522	6-hour	504
WI578	0.48	350	306	0.48	517	454	6-hour	517	6-hour	454
WI580	1.32	1,398	1,354	1.32	1,574	1,552	6-hour	1,574	6-hour	1,552
WI580A	2.79	2,029	1,748	2.79	2,197	1,942	6-hour	2,197	6-hour	1,942
WI580B	0.63	509	457	0.63	711	647	6-hour	711	6-hour	647
WI582	0.38	361	411	0.38	527	605	6-hour	527	6-hour	605
WI584	1.26	824	875	1.26	1,038	1,115	6-hour	1,038	6-hour	1,115
WT100	3.85	2,889	3,045	3.85	2,800	3,019	24-hour	2,889	24-hour	3,045
WT110	2.90	2,415	2,523	2.90	2,333	2,494	24-hour	2,415	24-hour	2,523
WT120	2.80	1,802	1,889	2.80	1,864	2,002	6-hour	1,864	6-hour	2,002
WT130	2.57	1,817	1,936	2.57	1,876	2,054	6-hour	1,876	6-hour	2,054
WT140	3.79	1,911	2,090	3.79	1,939	2,211	6-hour	1,939	6-hour	2,211
WT150	1.09	901	970	1.09	1,126	1,230	6-hour	1,126	6-hour	1,230
WT150A	4.75	2,779	3,034	4.75	2,644	3,021	24-hour	2,779	24-hour	3,034
WT160	0.81	569	614	0.81	767	836	6-hour	767	6-hour	836

* Drainage areas may differ between the 24-hour and 6-hour storms: the HEC-1 hard coding was performed separately for the 24-hour and 6-hour storms.

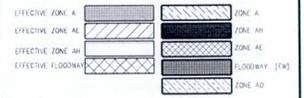


ERM DV2040

SEE SHEET M-15

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
WITTMANN AREA DRAINAGE
MASTER STUDY UPDATE
CONTRACT FCD 2002C029

LEGEND



ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

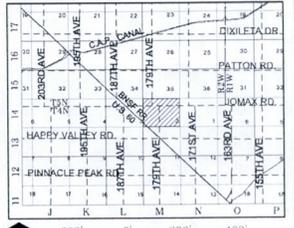
ID NUMBER	ELEV. (FT)	DESCRIPTION / LOCATION
DV2040		NOTE: FOR ERM DESCRIPTION AND ELEVATIONS GO TO THE NATIONAL GEODETIC SURVEY WEB SITE. WWW.NGSD.NGA.GOV

NOTE:

NAVD 29 + 1.90 FEET = NAVD 88



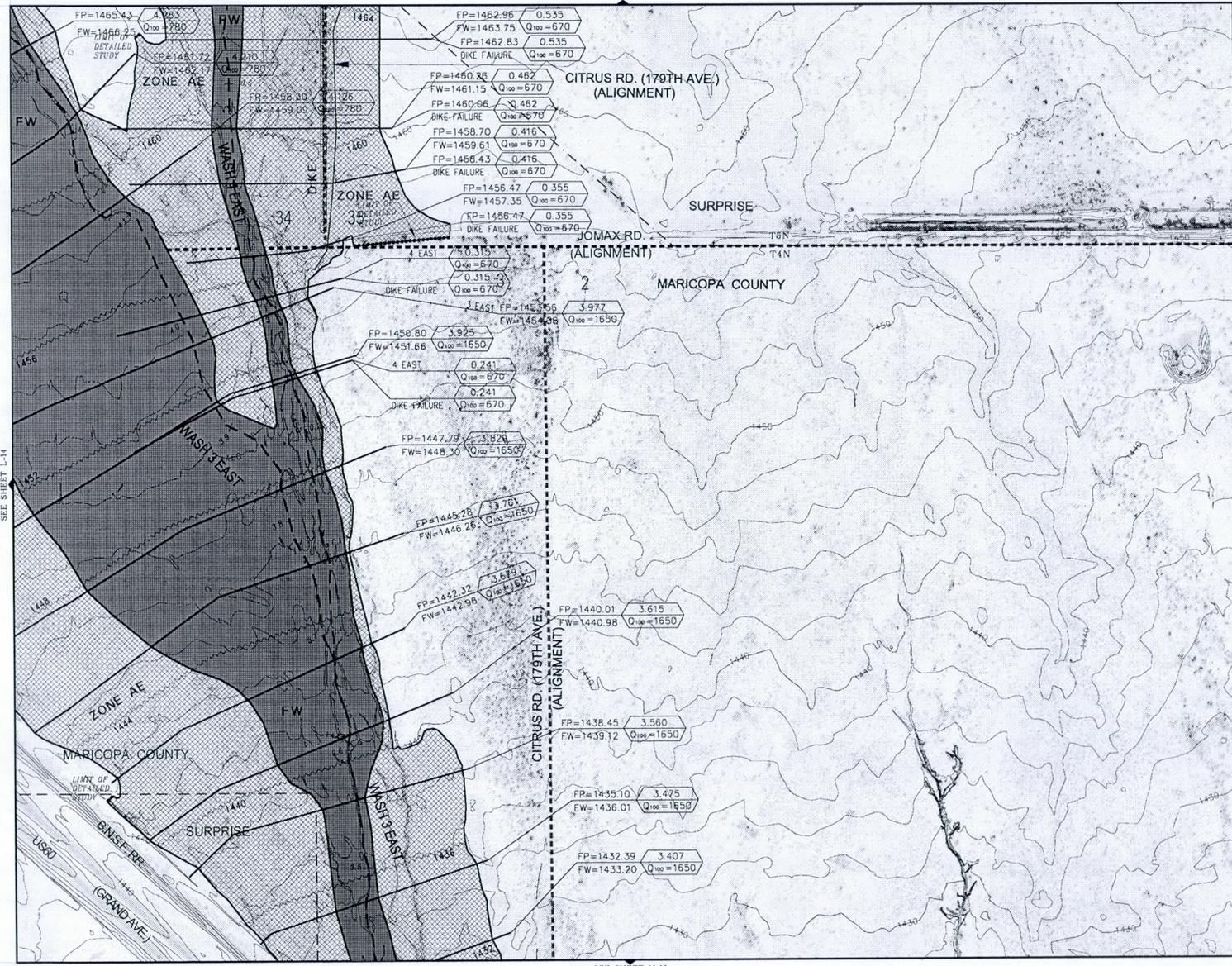
INDEX MAP



SCALE: 1" = 200'



DESIGN	AMG/RAS	07/2005	FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
DESIGN CHK	HAA	07/2005	RECOMMENDED BY
PLANS	KAB	07/2005	DATE
PLANS CHK	AMG/HAA	07/2005	APPROVED BY
SUBMITTED BY			DATE
			CHEF ENGINEER AND GENERAL MANAGER
			SHEET
			M-14 FLOODPLAIN DELINEATION



SEE SHEET M-13

SEE SHEET L-14

1" = 800' (1:7920) FLIGHT DATES: (04/15/02), (04/19/02), (04/23/02), 1"=1200' (1:14400), (04/21/02) BY STEWART GIS TECHNOLOGIES





**WITTMANN AREA DRAINAGE
MASTER STUDY UPDATE
(ADMSU)**

**GEOMORPHIC AND SEDIMENTATION
ANALYSIS REPORT**

VOLUME GR

FINAL REPORT

Contract FCD 2002C029

April, 2005

Prepared by:



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Suite 201*

*Tempe, AZ 85284
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Web: www.westconsultants.com



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FCD 2002C029**



TABLE OF CONTENTS

GEOMOPRHIC AND SEDIMENTATION ANALYSIS REPORT (VOLUME GR)

SECTION GR-1: INTRODUCTION..... 1

**SECTION GR-2: STAGE 1 AND 2 PIEDMONT ASSESSMENT OF THE WHITE TANK
MOUNTAINS AREA 2**

2.1. Introduction..... 2

2.2. Landforms of Maricopa County..... 3

 2.2.1. Pediment 3

 2.2.2. Relict Fan 3

 2.2.3. Alluvial Fan 3

 2.2.4. Alluvial Plain 3

 2.2.5. Other Old Alluvium 4

2.3. Identification of Landforms 4

 2.3.1. Methodology 4

2.4. Identification of Stable and Unstable Areas 9

 2.4.1. Methodology 9

2.5. Maps of the White Tank Mountains Study Area 13

2.6. Summary of Landforms 18

2.7. Landform ID 31 – Active Alluvial Fan..... 19

 2.7.1. Introduction..... 19

 2.7.2. Stage 1 Analysis..... 21

 2.7.3. Stage 2 Analysis..... 24

2.8. Landform ID 67 – Relict Fan..... 26

 2.8.1. Introduction..... 26

 2.8.2. Stage 1 Analysis..... 27

 2.8.3. Stage 2 Analysis..... 32

2.9. Landform ID 62 and 63 – Pediment 33



- 2.9.1. Introduction..... 33
- 2.9.2. Stage 1 Analysis..... 33
- 2.9.3. Stage 2 Analysis..... 38
- 2.10. Landform ID 29 – Relict Fan..... 39
 - 2.10.1. Introduction..... 39
 - 2.10.2. Stage 1 Analysis..... 39
 - 2.10.3. Stage 2 Analysis..... 45
- 2.11. Landform ID 1 – Alluvial Plain..... 46
 - 2.11.1. Introduction..... 46
 - 2.11.2. Stage 1 Analysis..... 46
 - 2.11.3. Stage 2 Analysis..... 52
- 2.12. Landform ID 25 – Inactive Alluvial Fan 53
 - 2.12.1. Introduction..... 53
 - 2.12.2. Stage 1 Analysis..... 53
 - 2.12.3. Stage 2 Analysis..... 59
- 2.13. Landform ID 15 – Pediment 60
 - 2.13.1. Introduction..... 60
 - 2.13.2. Stage 1 Analysis..... 60
 - 2.13.3. Stage 2 Analysis..... 64
- 2.14. Summary and Conclusions 64

SECTION GR-3: STABILITY ANALYSIS FOR THE AREA NORTH OF THE CAP AND EAST OF GRAND AVENUE..... 66

- 3.1. Introduction..... 66
 - 3.1.1. Scope of Work 66
 - 3.1.2. Methodology 66
 - 3.1.3. Sources of Data 67
- 3.2. Mapping of Potential Active Alluvial Fans - Northern Area..... 67
 - 3.2.1. Alluvial Fan 1 – Padelford Fan..... 70
 - 3.2.2. Alluvial Fan 2 76
 - 3.2.3. Small Alluvial Fans (Fans 3 and 4)..... 79
- 3.3. Map of Potentially Unstable Areas in the Northern Portion..... 81



3.4.	Map of the Areas Requiring Two-Dimensional Modeling	83
3.5.	Summary and Conclusions	84
SECTION GR-4: CURSORY REVIEW OF THE PORTIONS OF THE STUDY AREA NOT STUDIED IN DETAIL		89
SECTION GR-5: SEDIMENT YIELD ANALYSIS		92
5.1.	Revised Soil Loss Equation (RUSLE)	93
5.1.1.	Overview of Method	93
5.1.2.	Limitations	93
5.1.3.	Calculation	93
5.1.4.	Determination of <i>R</i>	94
5.1.5.	Determination of <i>C</i>	94
5.1.6.	Determination of <i>K</i>	95
5.1.7.	Determination of <i>LS</i>	96
5.1.8.	Determination of <i>P</i>	97
5.1.9.	Results	97
5.2.	Pacific Southwest Inter-Agency Committee (PSIAC) Method	98
5.2.1.	Overview of Method	98
5.2.2.	Limitations	98
5.2.3.	Calculations and Results	98
5.3.	Los Angeles Corps of Engineers Debris Method	100
5.3.1.	Overview of Method	100
5.3.2.	Limitations	101
5.3.3.	Calculation	102
5.3.4.	Unit Peak Runoff	102
5.3.5.	Relief Ratio	104
5.3.6.	Drainage Area	105
5.3.7.	Non-dimensional Fire Factor	105
5.3.8.	Adjustment-Transposition (<i>A-T</i>) Factors	105
5.3.9.	Results	106
5.4.	Regional Averages, Previous Studies, and Approximate Methods	106
5.4.1.	Sediment Yield for Particular Basins in the Southwest	106

5.4.2.	Relationship between Precipitation and Sediment Yield.....	107
5.4.3.	Regional Sediment Yield by Drainage Area.....	107
5.4.4.	1953 US Army Corps of Engineers Study.....	107
5.4.5.	Langbein and Schumm Sediment Yield.....	108
5.5.	Summary: Existing Conditions.....	109
5.6.	Future Conditions.....	113
5.6.1.	Results.....	116
SECTION GR-6: WITTMANN STUDY AREA SEDIMENT ANALYSIS.....		118
6.1.	The Central Arizona Project Canal (CAP).....	119
6.1.1.	CAP Pipe Over-Chutes.....	119
6.1.2.	CAP Concrete Over-Chutes.....	122
6.2.	BNSF Railroad.....	128
6.3.	Grand Avenue – U.S. 60.....	129
6.4.	Local Features.....	132
6.4.1.	Roads.....	133
6.4.2.	Fences.....	135
6.4.3.	Low Water Crossings.....	135
6.5.	Sediment Sample Analysis.....	137
SECTION GR-7: EROSION HAZARD ZONE DELINEATION FOR THE WITTMANN		
AREA	142
7.1.	Study Area.....	142
7.2.	Methodology.....	143
7.3.	Geomorphic and Geologic Mapping.....	144
7.4.	Field Investigation.....	145
7.4.1.	Channel Bend Angle Factor.....	148
7.4.2.	Channel Velocity Factor.....	148
7.4.3.	Bankfull Width/Depth Ratio.....	149
7.4.4.	Bank Materials Factor.....	149
7.4.5.	Bank Cementation Factor.....	150
7.4.6.	Bank Vegetation Density Factor.....	150
7.4.7.	Bank Vegetation Type Factor.....	152

7.4.8.	Bank Conditions Factor	155
7.4.9.	Flow Conditions Factor.....	157
7.4.10.	Watershed Development Factor.....	157
7.4.11.	Manmade Channel Disturbance Factor.....	157
7.4.12.	Vertical Channel Stability Factor.....	159
7.5.	Hydraulic Modeling.....	159
7.5.1.	100-Year Peak Discharge	160
7.5.2.	Floodplain/Floodway Delineation	161
7.5.3.	Identifying Channel Avulsion Areas	163
7.5.4.	Identifying Channel Banks	173
7.6.	Delineate Erosion Hazard Zone	179
7.7.	Recommended Erosion Hazard Zone	180
SECTION GR-8: SUMMARY		190
SECTION GR-9: REFERENCES.....		192

**APPENDIX A. LARGE SCALE EXHIBITS OF STABLE AND UNSTABLE AREAS IN THE
WHITE TANKS PORTION OF STUDY AREA A-1**

**APPENDIX B. DETAILED INFORMATION DEVELOPED DURING STAGE 1 ANALYSIS
.....B-1**

APPENDIX C. INFORMATION USED TO CLASSIFY LANDFORM STABILITY..... C-1

APPENDIX D. SEDIMENT YIELD ANALYSIS FIGURES AND DATA..... D-1

D-1. Variation in RUSLE and PSIAC Predictions by Sub-Watershed..... D-2

D-2. PSIAC and RUSLE Variables and Values by Sub-Watershed for Existing Conditions D-8

D-3. PSIAC Values by Sub-Watershed for Future Conditions D-14

**APPENDIX E. LARGE SCALE MAPS OF ALLUVIAL FANS, POTENTIAL UNSTABLE
AREAS AND TWO-DIMENSIONAL AREAS FOR WITTMANN STUDY AREA NORTH OF
SUN VALLEY PARKWAY.....E-1**

**APPENDIX F. LARGE SCALE MAPS OF EROSION HAZARAD ZONES IN THE
WITTMANN AREA.....F-1**

List of Figures

Figure GR-1. White Tank Mountains study area. Study area is outlined in red south of Sun Valley Parkway and west of McMicken Dam.....	2
Figure GR-2. Map of landforms in the White Tank Mountains study area.....	14
Figure GR-3. Landform IDs for the White Tank Mountains study area	15
Figure GR-4. Detailed field inspections were performed at the landforms colored red.....	16
Figure GR-5. Map of stable (green) and unstable (red) landforms in the White Tank Mountains area	17
Figure GR-6. Landform 31 – alluvial fan.....	19
Figure GR-7. Contour mapping (4-foot) for landform 31	20
Figure GR-8. Bed material of landform 31.....	22
Figure GR-9. The banks of landform 31 consist of loosely consolidated cobbles	22
Figure GR-10. Typical channel in landform 31.....	23
Figure GR-11. Historic aerial photograph of landform 31 (Fairchild, 1940).....	25
Figure GR-12. Landform 67 – relict fan.....	26
Figure GR-13. Contour mapping (4-foot) for landform 67	27
Figure GR-14. The channel beds on landform 67 are cluttered with vegetation.....	29
Figure GR-15. The interfluves in landform 67 are wide and flat	30
Figure GR-16. The channel beds in landform 67 are composed mostly of gravel and cobbles.....	31
Figure GR-17. Calcium carbonate development was apparent in the large channels that surround landform 67.....	33
Figure GR-18. Landforms 62 and 63 – pediment.....	34
Figure GR-19. Contour mapping (4-foot) for landforms 62 and 63	34
Figure GR-20. Granite cobbles litter the surface of landforms 62 and 63.....	36
Figure GR-21. Landforms 62 and 63 have very little topographic relief	37
Figure GR-22. Landforms 62 and 63 have small, first order channels that are cluttered with vegetation.....	37
Figure GR-23. Landform 29 – relict fan.....	40
Figure GR-24. Contour mapping (4-foot) for landform 29	40
Figure GR-25. Typical channel in landform 29.....	42
Figure GR-26. The interfluves on landform 29 are wide and flat	42
Figure GR-27. Some portions of the channels in landform 29 have vertical walls and a highly developed calcic horizon.....	44

Figure GR-28. Landform 1 – alluvial plain	47
Figure GR-29. Contouring mapping (4-foot) for landform 1	47
Figure GR-30. Overbanks of the channels in landform 1	49
Figure GR-31. Typical channel on landform 1	50
Figure GR-32. Typical channel bottom material in landform 1	50
Figure GR-33. Landform 25 – inactive alluvial fan	54
Figure GR-34. Contour mapping (4-foot) for landform 25	54
Figure GR-35. A thin layer of alluvium (light gray) lies on top of the native soil (orangey-brown color) of landform 25	55
Figure GR-36. The through flow channel (ID 24) bounding landform 25 is deeply incised	57
Figure GR-37. Some places along the through flow channel (ID 24) have vertical wall	57
Figure GR-38. Inset alluvial fan (ID 23) located just south of landform 25	58
Figure GR-39. Typical small drainage channel in landform 25	58
Figure GR-40. Landform 15 – pediment	61
Figure GR-41. Contour mapping (4-foot) for landform 15	61
Figure GR-42. Channels on landform 15 are very small and full of vegetation	63
Figure GR-43. Alluvial fans in the northern portion of the Wittmann study area	69
Figure GR-44. Northern alluvial fan on Padelford Wash	71
Figure GR-45. Contour mapping (4-foot) of the northern alluvial fan on Padelford Wash	71
Figure GR-46. Historic aerial photographs of the northern alluvial fan on Padelford Wash	72
Figure GR-47. Southern alluvial fan on Padelford Wash	73
Figure GR-48. Contour mapping (4-foot) of the southern alluvial fan on Padelford Wash	74
Figure GR-49. The southern alluvial fan on Padelford Wash is streaked with older surfaces	74
Figure GR-50. Close up view of the top portion of the southern alluvial fan on Padelford Wash	75
Figure GR-51. Historical aerial view of the top portion of the southern alluvial fan on Padelford Wash	75
Figure GR-52. Alluvial fan located near the Chrysler Proving Grounds	77
Figure GR-53. Contour mapping (4-foot) of the alluvial fan located near the Chrysler Proving Grounds	77
Figure GR-54. Close up view of the lower portion of the alluvial fan located near the Chrysler Proving Grounds	78
Figure GR-55. Historic aerial view of the lower portion of the alluvial fan located near the Chrysler Proving Grounds	78
Figure GR-56. Northern small fan immediately upstream from Highway 74	80

Figure GR-57. Small southern potential alluvial fan or unstable area (note proximity to homes in the area).....	80
Figure GR-58. Typical potentially unstable through flow channel	82
Figure GR-59. Potentially unstable areas in the northern portion of the Wittmann study area.....	85
Figure GR-60. Areas in the northern portion of the Wittmann study area possibly requiring two-dimensional modeling.....	86
Figure GR-61. Potentially unstable areas keyed to Table GR-16.....	88
Figure GR-62. Possible areas of two-dimensional flow in the area north of the White Tank Mountains and South of Grand Avenue.....	91
Figure GR-63. PSIAC results by subbasin for Case 3.....	111
Figure GR-64. RUSLE results by subbasin using <i>LS</i> Equation Form 1.....	112
Figure GR-65. CAP pipe over-chute carries sediment during flow events	120
Figure GR-66. Pipe over-chute outlet showing some sediment passing from upstream (local material is light brown and upstream material is grey – note downstream channel is approximately 5.5 ft lower than pipe invert and approximately 4 feet lower than the energy dissipater outlet).....	121
Figure GR-67. Small alluvial fans upstream of CAP Canal near 163 rd Avenue.....	122
Figure GR-68. Existing unstable areas upstream of the CAP Canal (the entire 100 year floodplain should be taken to be unstable due to the potential deposition of sediment).....	124
Figure GR-69. CAP concrete over-chute at Grand Avenue looking downstream (photos courtesy of CAP)	125
Figure GR-70. CAP concrete over-chute at Grand Avenue (flow is from upper middle to lower right – photos courtesy of CAP).....	125
Figure GR-71. Wash looking upstream from concrete over-chute west of 219 th Avenue (note that channel exists although it is narrowed substantially and that the area shows significant evidence of deposition)	127
Figure GR-72. Location of high concrete over-chute showing ponding area upstream and possible flow path to west to next over-chute.....	128
Figure GR-73. BNSF Railroad Bridge at Grand Avenue following flood event (the majority of the main channel opening was filled with debris)	129
Figure GR-74. New bridges on wash at Grand Avenue and CAP (note misalignment between wash and protection and avulsion into CAP canal – CAP is just off bottom of photo – photo courtesy of CAP)	130
Figure GR-75. Trilby Wash Bridge and downstream protection (note semi-truck on bridge and width of outlet to wash – stone size in baskets is approximately 6 inches in diameter – also the erosion of the channel downstream of the gabion basket protection).....	132
Figure GR-76. Local instance of erosion problem (site is located south of Jomax Road and west of 157 th Avenue).....	134

Figure GR-77. Culverts on 219th Avenue below CAP before and after 2003 storms showing debris capture..... 136

Figure GR-78. Locations of the various sediment samples taken in the northern portion of the study area..... 138

Figure GR-79. Locations of the various sediment samples taken in the southern portion of the study area..... 139

Figure GR-80. Grain size distribution of sediment samples taken in the northern portion of the study area..... 141

Figure GR-81. Grain size distribution of sediment samples taken in the southern portion of the study area..... 141

Figure GR-82. Study area showing the four washes that were examined 143

Figure GR-83. Surficial geology of the study area..... 146

Figure GR-84. Locations and corresponding waypoint numbers where field data were collected . 147

Figure GR-85. Typical bank material of washes in the Wittmann area (from WPT223)..... 150

Figure GR-86. Dense bank vegetation (from WPT144 on Trilby Wash)..... 151

Figure GR-87. Sparse bank vegetation (from WPT157 on Iona West Wash)..... 151

Figure GR-88. Bank vegetation type condition #1 (from WPT239 on CAP-1 West Wash)..... 153

Figure GR-89. Bank vegetation type condition #2 (from WPT261 on CAP-1 West Wash)..... 154

Figure GR-90. Bank vegetation type condition #3 (from WPT198 on Trilby Wash)..... 154

Figure GR-91. Fresh, vertical cutbanks (from WPT156 on Iona West Wash)..... 156

Figure GR-92. Older cutbanks exhibiting some basal control (from WPT154 on Iona West Wash)
..... 156

Figure GR-93. Manmade berm (right hand side of photo) at the head of the Iona West Wash (from WPT151)..... 158

Figure GR-94. Looking across the dirt bike race track located at CAP-1 West Wash and Jomax Road (from WPT244) 158

Figure GR-95. Existing floodplains for the Wittmann area..... 162

Figure GR-96. Access road that was captured by the channel (from WPT213 near the where the Iona West Wash, the CAP-5 West Wash, and the Trilby Wash converge)..... 165

Figure GR-97. The CAP-5 West Wash has captured the power line access road and changes its flow path..... 166

Figure GR-98. Recommended bank stations for a single channel cross section (from Fuller (2003))
..... 175

Figure GR-99. Recommended bank stations for a multiple channel with shallow islands or bars inundated by the 100-year flood (from Fuller (2003))..... 176

Figure GR-100. Recommended bank stations for braided or multiple channels with shallow, insignificant, or small islands near the 100-year water surface but not inundated by the 100-year flood (from Fuller (2003)) 176

Figure GR-101. Channels banks and surficial geology near the head of the Iona West Wash 178

Figure GR-102. New and historic channel paths on the CAP-1 West Wash just south of the CAP canal 179

Figure GR-103. Head cuts on the Iona West Wash (located between Pinnacle Peak Road and Patrick Lane) 181

Figure GR-104. Head cuts on the Trilby Wash (located downstream from 211th Avenue) 182

Figure GR-105. Exposed roots on the Trilby Wash (located downstream from 211th Avenue) 182

Figure GR-106. Small, deeply incised channel on the CAP-1 West Wash (located near 195th Avenue)..... 183

Figure GR-107. Large head cut on the CAP-1 West Wash (located between Happy Valley Road and Pinnacle Peak Road) 184

Figure GR-108. Head cuts on the CAP-1 West Wash (located between Deer Valley Road and McMicken Dam)..... 185

Figure GR-109. Recommended erosion hazard zone for the Trilby Wash, the Iona East Wash, and the Iona West Wash 186

Figure GR-110. Recommended erosion hazard zone for the CAP-1 West Wash 187

Figure GR-111. Areas with a high avulsion potential on the Trilby Wash, the Iona East Wash, and the Iona West Wash 188

Figure GR-112. Areas with high avulsion potential on the CAP-1 West Wash..... 189

List of Tables

Table GR-1. Labels used on the large landform map	13
Table GR-2. Indicators used to classify landform 31	20
Table GR-3. Indicators used to assess the stability of landform 31	25
Table GR-4. Indicators used to classify landform 67	28
Table GR-5. Indicators used to assess the stability of landform 67	32
Table GR-6. Indicators used to classify landforms 62 and 63	35
Table GR-7. Indicators used to assess the stability of landforms 62 and 63	39
Table GR-8. Indicators used to classify landform 29	41
Table GR-9. Indicators used to assess the stability of landform 29	46
Table GR-10. Indicators used to classify landform 1	48
Table GR-11. Indicators used to assess the stability of landform 1	52
Table GR-12. Indicators used to classify landform 25	55
Table GR-13. Indicators used to assess the stability of landform 25	60
Table GR-14. Indicators used to classify landform 15	62
Table GR-15. Indicators used to assess the stability of landform 15	64
Table GR-16. Summary of indicators used to assess the stability on the northern portion of the Wittmann study area	87
Table GR-17. RUSLE method inputs	97
Table GR-18. RUSLE results	98
Table GR-19. Sediment yield from PSIAC rating	99
Table GR-20. PSIAC factors and results	100
Table GR-21. Weighted average sediment yield by Langbein and Schumm method	109
Table GR-22. Summary of predicted sediment yields in acre-ft/square mile/year, existing / historical conditions	109
Table GR-23. Existing conditions Land Use Factors (<i>G</i>)	113
Table GR-24. Future conditions PSIAC Land Use Factors (<i>G</i>) for regions including roads	114
Table GR-25. Future conditions land use	115
Table GR-26. Comparison of existing and future conditions land use	116
Table GR-27. PSIAC predicted sediment yield, existing and future conditions	117
Table GR-28. Sieve analysis results	140
Table GR-29. Summary of geologic units	145

Table GR-30. 100-year peak discharges for the various washes 161
Table GR-31. Hydraulic parameters used to determine avulsion potential on Trilby Wash..... 168
Table GR-32. Hydraulic parameters used to determine avulsion potential on Iona East Wash..... 170
Table GR-33. Hydraulic parameters used to determine avulsion potential on Iona West Wash..... 171
Table GR-34. Hydraulic parameters used to determine avulsion potential on CAP-1 West Wash. 172

SECTION GR-6: WITTMANN STUDY AREA SEDIMENT ANALYSIS

Sediment Transport in the study area is complex and is significantly impacted by infrastructure in the watershed. Local roads have minor impacts which are primarily localized to the immediate area surrounding the roads unless flows are concentrated by bridges and culverts. Several man-made features do, however, impact sediment transport on a large scale. These features have large impacts primarily due to their length and the fact that nearly all of the water and sediment must cross these features. The large features include the CAP canal, U.S. 60 (Grand Avenue) and the BNSF railroad embankment. These long features have significant impacts on sediment transport in the area. Highway 74 which crosses the watershed higher may have some local impacts but for the most part has a more limited impact due to higher slopes and velocities and more constrained and channelized flow paths.

The impacts of the various infrastructure features will be discussed individually below. The area's infrastructure includes both major infrastructure and more minor features such as local roads.

Sediment transport is related directly to the flow of water. As water velocities slow, sediment is deposited. As the velocity increases transport capacity increases and, if sediment is available, the transport volume increases. If no sediment is available due to hardened channels or sediment sizes being too large to transport, the water retains its capacity to transport sediment and as soon as possible will erode enough sediment to again achieve equilibrium between its capacity to transport sediment and its sediment load.

With these general principles in mind the basin can be analyzed to review the interaction between sediment transport and the various manmade features that exist in the area.

6.1. The Central Arizona Project Canal (CAP)

Water and sediment are passed over or under the CAP via over-chutes, pipes, and culverts. These features pass water and sediment with varying degrees of efficiency. The over-chutes tend to pass more sediment simply because of their size while the pipes appear to pass the least quantity of sediment over the canal. The culverts that pass under the canal are limited in number and are generally in areas with significant relief. The culverts were not reviewed because they are not within the boundaries of the study area. Site visits were made to each pipe and over-chute within the project area. CAP personnel provided access to the various sites and explained problems they had noticed at the various sites. Their assistance was extremely valuable.

6.1.1. CAP Pipe Over-Chutes

The pipe over-chutes for the most part are not passing significant quantities of sediment but force the areas upstream of the canal to act as detention basins. The detention of the flood flows captures nearly all of the sediment coming from the upper basin. The only exception to this general rule was the pipe overflow immediately east of where 163rd Avenue crosses the CAP. The area upstream of this pipe over-chute has filled with sediment to the point that low flows pass directly into the pipe over-chute. Only when the flow exceeds the capacity of the pipe at a particular water surface elevation does water begin to pond in the area upstream. This has resulted in the passing of gravel sized sediment through the pipe. These conditions are illustrated in Figure GR-65 and Figure GR-66. The channel downstream of this pipe over-chute, however, has not received enough sediment to recover and it continues to degrade. This indicates that sufficient sediment is not passing through the pipe over-chute to preserve the continuity of sediment transport even at the lower flow rates. This particular pipe over-chute shows the greatest geomorphic development and will likely continue to build banks along the main channel until a more clearly defined main channel is

defined into the pipe over-chute or the channel avulses to a lower flow path. Water surfaces upstream from the pipe over-chute inlet will continue to rise as the wash approaches equilibrium. The flood elevations in the upper reaches of what was a pool will increase as water begins to flow over the delta/alluvial fan to the pipe over-chute inlet raising water surface elevations upstream of the pool area. This is normal delta/fan behavior and can be expected over time at all of the pipe over-chute inlets.



Figure GR-65. CAP pipe over-chute carries sediment during flow events

All of the other pipe over-chutes trap nearly all of the sediment upstream from the pipe over-chute inlets. This capture of sediment has resulted in

the development of small alluvial fans at just upstream of the CAP. While these small fans were not identified as such in this study since they are immediately upstream of the canal and (hopefully) within the 100 year floodplain, they can readily be noted in any aerial photo of the area. A series of these fans near 163rd Avenue is highlighted in Figure GR-67 and those along the entire CAP are shown in Figure GR-68. Nearly every wash will develop a fan just upstream of the point where it meets the canal.



Figure GR-66. Pipe over-chute outlet showing some sediment passing from upstream (local material is light brown and upstream material is grey – note downstream channel is approximately 5.5 ft lower than pipe invert and approximately 4 feet lower than the energy dissipater outlet)

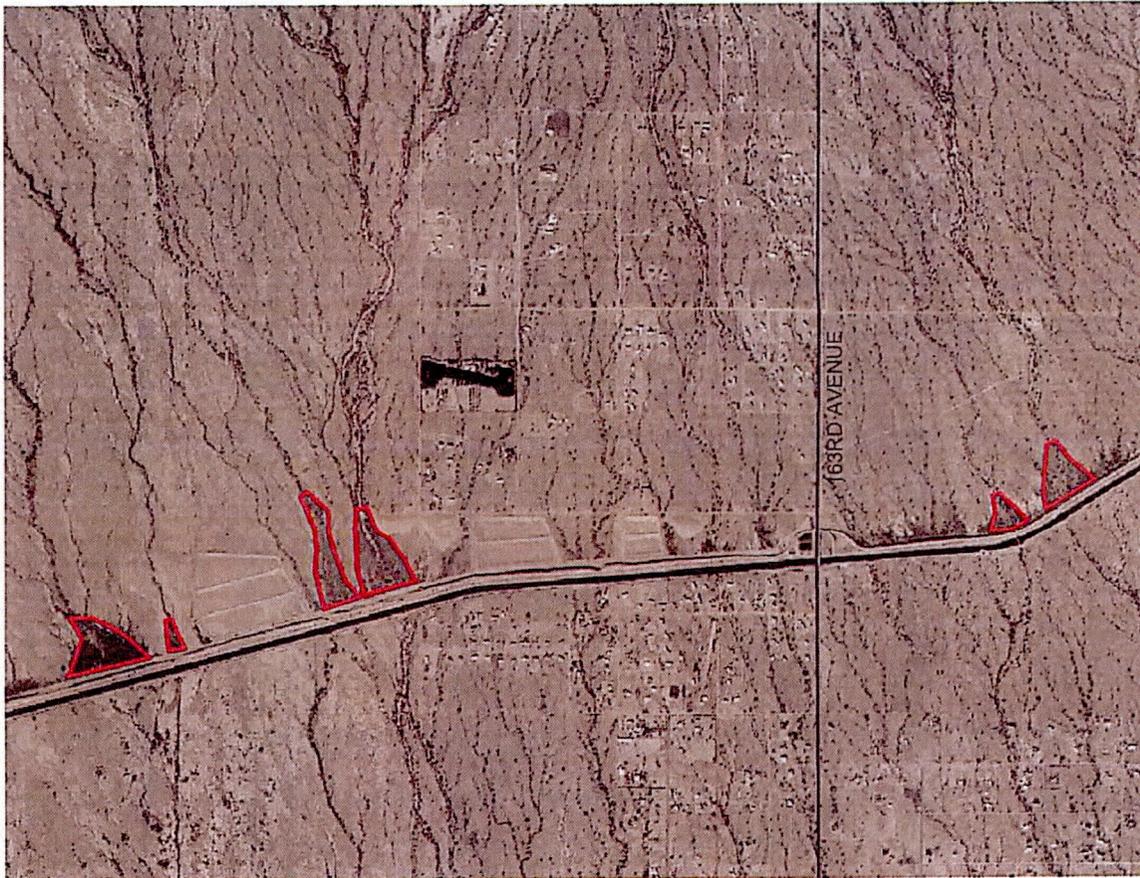


Figure GR-67. Small alluvial fans upstream of CAP Canal near 163rd Avenue

6.1.2. CAP Concrete Over-Chutes

In addition to the pipe over-chutes, there is also a series of concrete over-chutes to pass larger washes over the canal. These over-chutes are located along the CAP canal west of Grand Avenue. The over-chutes also vary widely in the amount of sediment they transport across the CAP canal.

The over-chute immediately west of Grand Avenue, for example, carries nearly its entire sediment load across the canal and deposits the majority of it downstream of the canal (see Figure GR-69 and Figure GR-70)

This over-chute contained a sand bar on the over-chute prior to its

cleaning in 2004. This was due to the sharp approach angle upstream from the over-chute (See Figure GR-69). One of the main reasons this over-chute passes its sediment load is because the upstream channel is constrained from the Grand Avenue crossing to the over-chute. The flow in this area overtopped a low berm and flowed into the CAP canal during one of the 2003 flood events. The channel was subsequently realigned and the east bank was raised to prevent this from occurring in the future.

The area downstream from this concrete over-chute acts like a delta since the wash loses its channel definition immediately downstream. The wash spreads rapidly and exhibits depositional characteristics in this area. A small channel exists but is much smaller than the channel between Grand Avenue and the CAP canal. This sudden expansion allows the wash to deposit most of its coarser sediment load. This process fills the energy dissipater with sediment. The dissipater was cleaned but is located below grade and will refill with sediment during the next flood event.

The other concrete over-chutes carry significantly less sediment and the downstream channels show significant scour below the canal. The over-chute just west of 219th Avenue has experienced large flow events but the downstream channel is clearly erosional. This indicates that the majority of sediment is still being trapped above the canal. A limited investigation of the upstream channel indicates that this area is depositional and, while not as completely depositional as the areas upstream from the pipe overflows, a significant amount of sediment is being deposited upstream from the over-chute. This channel area is shown in Figure GR-71.

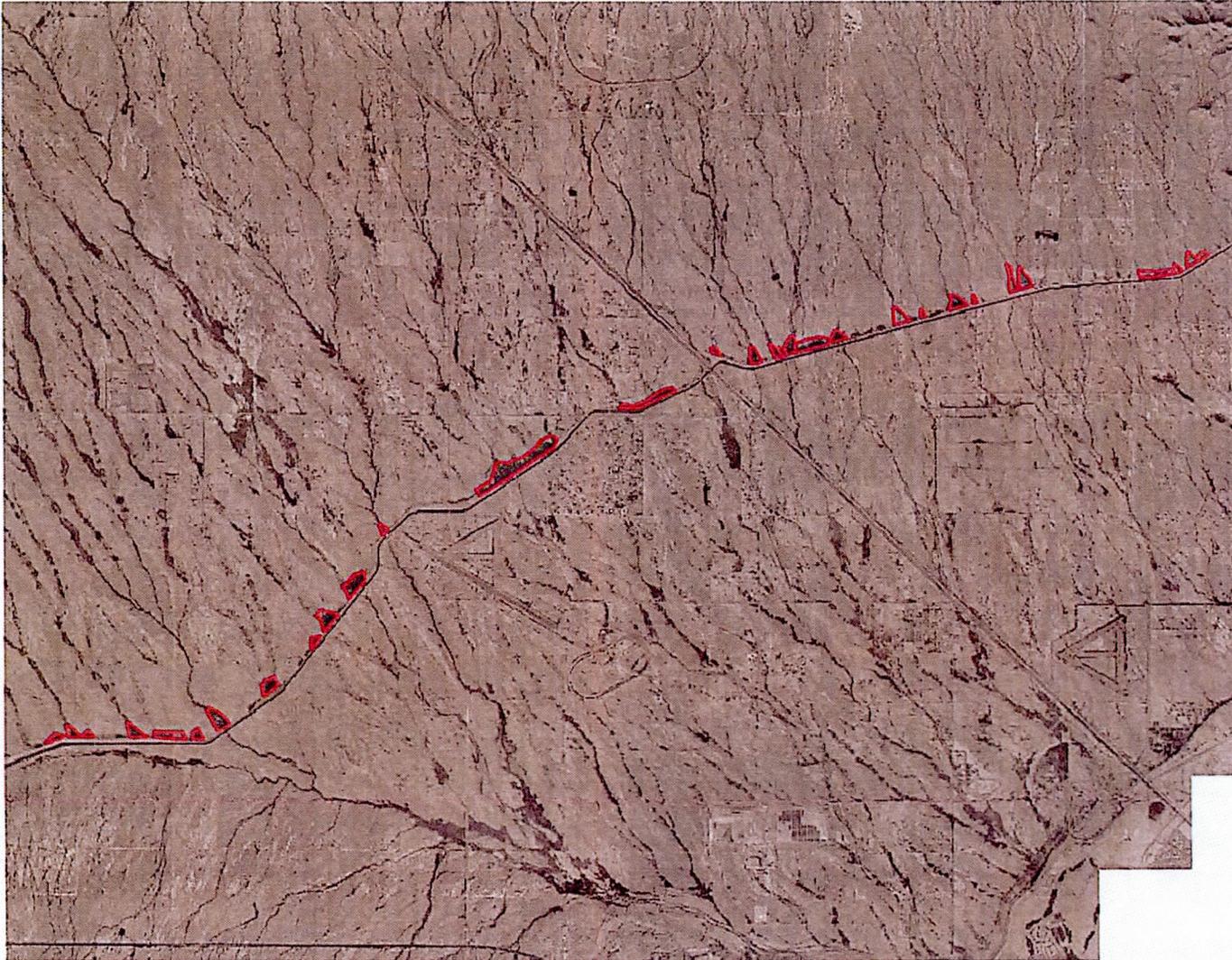


Figure GR-68. Existing unstable areas upstream of the CAP Canal (the entire 100 year floodplain should be taken to be unstable due to the potential deposition of sediment)



Figure GR-69. CAP concrete over-chute at Grand Avenue looking downstream (photos courtesy of CAP)



Figure GR-70. CAP concrete over-chute at Grand Avenue (flow is from upper middle to lower right – photos courtesy of CAP)

One of the over-chutes appears to have seldom passed significant flows and during the large flood events of 2003 did not experience any flow. This over-chute (east of 219th Avenue) appears to be set higher than the other over-chutes and will provide relief flows during large floods but any low flows arriving from upstream of this over-chute will either be forced to flow laterally along the canal to an over-chute either east or west of this site or simply pond and infiltrate or evaporate from behind the canal. From the aerial photos it appears that flows tend to pond in this area and may flow laterally along the canal prior to flowing over the next to the west over-chute. This area is shown in Figure GR-72.

The washes above the concrete over-chutes, with the exception of the one near Grand Avenue and the one east of 219th Avenue, have developed small deltas / fans similar to those noted for the pipe over-chutes but to a smaller degree. The concrete over-chutes pass sufficient water to cause erosion upstream and keep a channel open through the delta area. This was not the case for most of the pipe over-chutes - there the wash channels were, for the most part, completely lost upstream of the pipe over-chutes.

All of the areas above the CAP within the 100-year floodplain should be considered to be depositional hazard areas. This is especially true near washes. Further analysis should be performed in these areas prior to any development. These areas can be found by looking for areas of vegetation above the CAP as can be seen in Figure GR-67 and Figure GR-72. The dark area indicates dense vegetation which here indicates areas of deposition. These conditions will tend to worsen over time as the lower areas fill and water is forced to flow over prior deposits.



Figure GR-71. Wash looking upstream from concrete over-chute west of 219th Avenue (note that channel exists although it is narrowed substantially and that the area shows significant evidence of deposition)

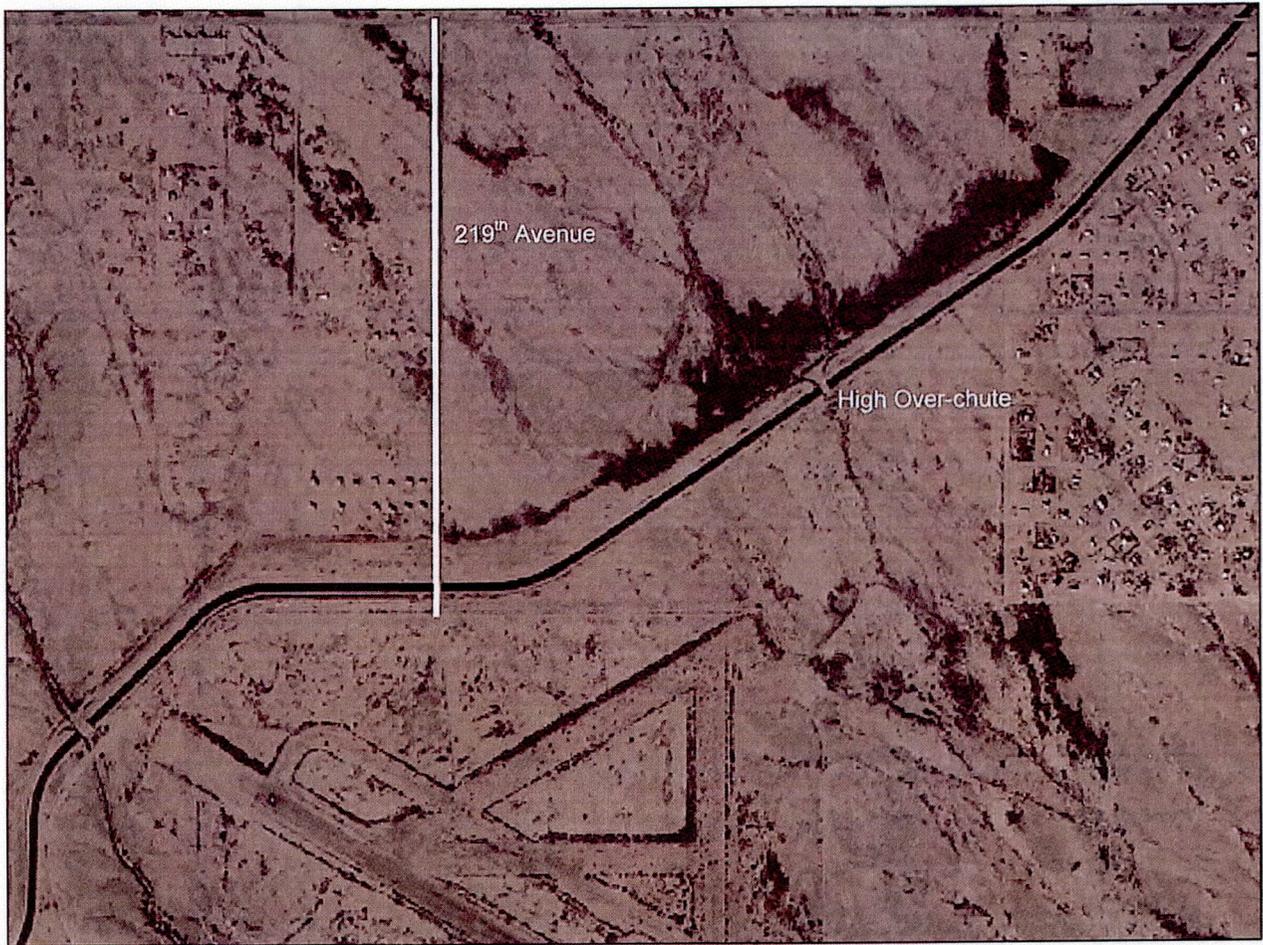


Figure GR-72. Location of high concrete over-chute showing ponding area upstream and possible flow path to west to next over-chute

6.2. BNSF Railroad

The Burlington Northern and Santa Fe (BNSF) rail embankment cuts across nearly the entire watershed. Only a small portion of the watershed at the very eastern portion of the study area reaches the McMicken Outlet Channel prior to crossing the rail embankment.

The rail embankment contains numerous culverts and bridges to allow drainage and floodwaters to pass under the rail embankment. The larger washes have bridges that appear to be adequately sized for most flood events. The bridges are either standard wooden trestle or concrete and steel pier bridges with





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MASTER DRAINAGE REPORT — April 2005

FOR:

ASANTE PHASES I AND II
Case Number: PP04-385

PREPARED BY:

D.E.I PROFESSIONALS
6225 North 24th Street
Suite 200
Phoenix, Arizona 85016

The City of Surprise Engineering staff has reviewed the above referenced Drainage Report and find it to be acceptable. This does not relieve the developer from compliance with ordinances and regulations of the City of Surprise and Maricopa County Flood Control.

Brian Pirooz, P.E.
Assistant City Engineer

4/28/05
Date

bp/lh

c: Chrono

File

DRAINAGE REPORT - MASTER
Case Number: PP04-385
Project Name: ASANTE PHASE I & II
Engineering Number: E05R-0045
Review Number: 2
Date Received: 4/20/2005
Reviewer Name: URS CORPORATION
Approved Plans



Professional Services, LLC

Civil Engineering
Land Surveying
Project Management

MASTER DRAINAGE REPORT -FOR- ASANTE INCLUDING PHASES I & II Surprise, Arizona

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*Recommended
for
Approval by City.
Kashaw
04/25/2005
URS*



1st Submittal: February 9, 2005
2nd Submittal: April 18, 2005

DEI No. 03-101.40

MASTER DRAINAGE REPORT
-FOR-
ASANTE
INCLUDING PHASES I & II



Table of Contents

1.0 INTRODUCTION.....	1
1.1 SCOPE AND PURPOSE.....	1
1.2 SITE DESCRIPTION.....	3
1.3 PROPOSED DEVELOPMENT.....	3
1.4 PROJECT PHASING.....	3
1.5 REGULATORY JURISDICTION.....	3
2.0 HYDROLOGIC SETTING.....	5
3.0 MASTER DRAINAGE CONCEPT.....	6
4.0 MANAGEMENT OF ONSITE RUNOFF.....	10
5.0 FLOOD ZONE INFORMATION.....	10
6.0 SUMMARY AND CONCLUSIONS.....	11
REFERENCES.....	12

Figures

Figure 1: Vicinity Map.....2
Figure 2: Site Ortho Photo4

Appendices

Existing Condition HEC-1 Model 100-Year 6-Hour..... Appendix A
Existing Condition DDMS MCUHP1 Input Data Appendix B
Existing Condition Normal Depth Routing Data..... Appendix C
Future Condition HEC-1 Model 100-Year 6-Hour..... Appendix D
Future Condition DDMS MCUHP1 Input Data Appendix E
Future Condition Normal Depth Routing Data..... Appendix F
Future Condition Retention Summary..... Appendix G
Flood Control District of Maricopa County Permit 2005P024..... Appendix H

Exhibits

Plate HY-1C HEC-1 Schematic.....9
Existing Condition HEC-1 Schematic Appendix A
Future Condition HEC-1 Schematic Appendix D
Plate 4 Corrective Effective Hydrology Mapping..... Back Pocket
FIRM Panels Exhibit Back Pocket
Onsite Drainage Exhibit..... Back Pocket
Offsite Drainage Exhibit..... Back Pocket



Appendix D
Future Condition HEC-1 Model
100-Year 6-Hour

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* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 800 BROAD STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-1974 INPUT STRUCTURE. THE DEFINITION OF -AMSK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE PORTABLE VERSION NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE, SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGN FREQUENCY, DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL, LOSS RATE:GREEN AND AMPT INFILTRATION KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

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HEC-1 INPUT

PAGE 1

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10 ID CLIENT: Lennar Communities Development, Inc.
11 ID PREPARED BY: DEI Professional Services, LLC.
12 ID PROJECT NO: 03101.40
13 ID FILE NAME: ASFC6.dat CREATED DATE: OCT 13, 2004
14 ID MODIFIED DATE: APR 11, 2005
15 ID
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17 ID 100-year 6-hour Storm
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36 PC 0.962 0.972 0.983 0.991 1.000
37 *
37 JD 3.378 0.50
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 107 RC 0.043 0.035 0.043 3360 0.0050
 108 RX 0 4 50 62 122 134 180 184
 109 RY 4 3 3 0 0 3 3 4
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110 KK D0525
 111 KM RAILROAD DIVERSION
 112 BI D525 22
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* Diversion D 525 (WAS#3)

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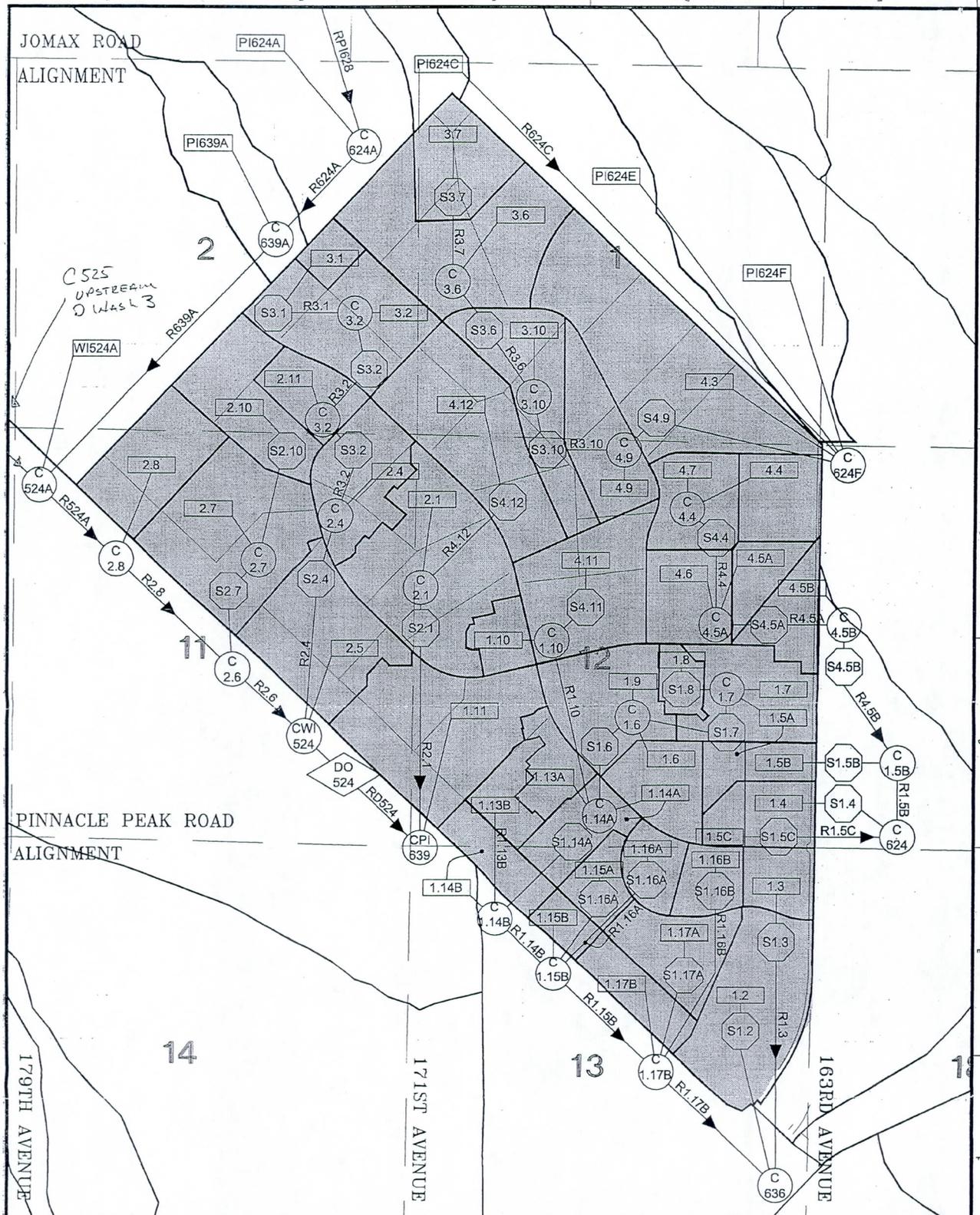
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 141 UA 100
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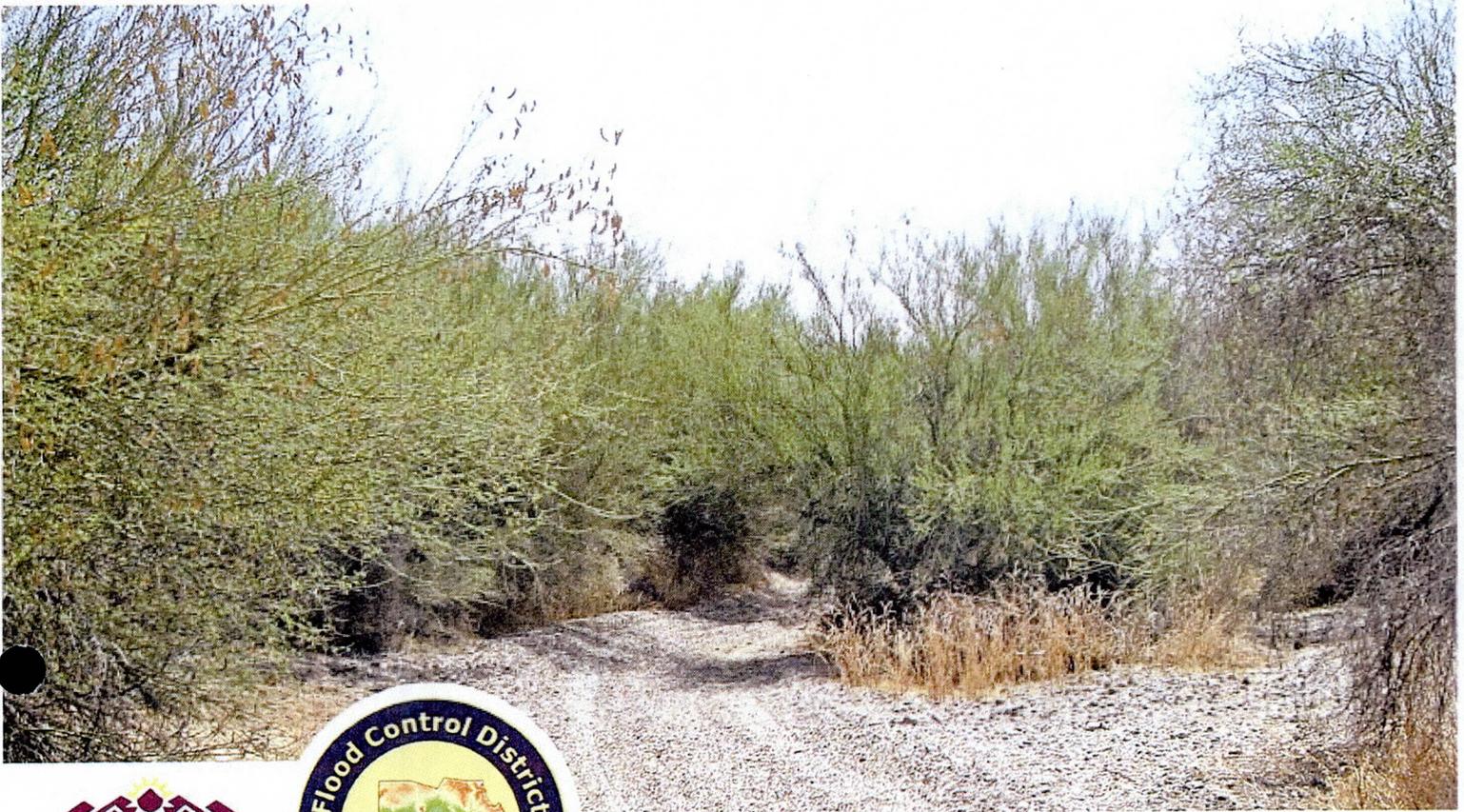
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 158 UA 100
 *

159 KK S2.10
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 161 KM WEIR EQ'N: $Q=CLH^{3/2}$
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December 2010



HAPPY VALLEY DESIGN CONCEPT REPORT

HAPPY VALLEY DESIGN CONCEPT REPORT

SUMMARY REPORT

December 2010

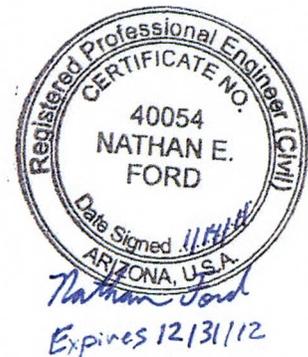
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EXECUTIVE SUMMARY

Project Objectives

The Happy Valley Design Concept Report (DCR) project objectives were as follows:

- 1) Establish the hydrologic baseline conditions,
- 2) Systematically evaluate and update existing area hydrology studies,
- 3) Develop and evaluate preliminary alternatives for flood hazard mitigation, and
- 4) Advance the identified Preferred Alternative that is Project Stakeholder acceptable and that is regionally beneficial, equitable, and cost effective.

Project Background

The Project Study Area is located within the Wittmann Area Drainage Master Study/Plan area and consists of approximately 6,800 acres (10.6 square miles) of land area bounded by Jomax Road to the north, McMicken Dam Outlet Channel to the south, one quarter mile west of 163rd Avenue along the west boundary, and approximately ½ mile east of the Dysart Road alignment to the east. However, the contributing watershed is 230 square miles to the study area and results in a flood hazard that covers most of the study area as Zone A as shown on the existing FEMA Flood Insurance Rate Maps (FIRM).

Additionally, the Wittmann Area Drainage Master Study Update (WADMSU) hydrology which was completed in July 2005, attempted to establish the existing conditions hydrology, but did not include or contemplate the Happy Valley Wash/berm in its analysis/modeling. This feature is of significant size and has diverted flows along the Happy Valley Road section line for the purpose of capturing sheet flows to protect the Luke AFB auxiliary field since its construction in approximately 1942. This omission has caused interpretation and implementation problems to determine the actual existing conditions and how to mitigate the flood hazards identified on the FIRM.

The Wittmann Area Drainage Master Plan (WADMP) which was completed in June 2009 utilized the existing conditions hydrology from the WADMSU, but recommended a regional facility in the study area to mitigate the flooding hazards.

Project Purpose

The Flood Control District of Maricopa County (FCDMC) and the City of Surprise jointly identified the need to systematically evaluate the existing and differing hydrologic studies and previously



conducted alternatives analysis of the Happy Valley Wash. The purpose and intent of the Happy Valley DCR project is to evaluate the current differences in approach with the various hydrology studies in the area and to develop a regional solution that brings the greatest benefit to the greatest number of stakeholders in a cost effective manner.

Stakeholder Interests and Conflicts

The planned development projects situated north of the Happy Valley Wash patterned their drainage reports after the WADMSU hydrology, whereby the Happy Valley Wash is not recognized. Their studies concluded that all flows should return to their southerly historic flow patterns.

The planned development projects south of the existing Happy Valley Wash took exception to this approach. Representatives to the south suggest that the WADMSU incorrectly omitted the wash from the analysis and that although the berm along the south side of the Happy Valley Wash is not a certified levee, the wash itself has existed since 1942 and the capacity of that wash should be a contributing factor in capturing a portion of the upstream flows and thereby reducing the downstream regulatory floodplain burden.

Alternative Analysis and Preferred Alternative Development

The Happy Valley DCR process has included over 15 months of hydrological and hydraulic analyses, a Stakeholder site visit, nine Stakeholder Meetings of review and comment at key project milestones, and analysis of five (5) Proposed Alternatives. The Project Stakeholders unanimously selected a Preferred Alternative generally based on the following criteria:

- 1) The Alternative Eliminates or Significantly Reduces Floodplain
- 2) The Alternative Complements Community Character
- 3) The Alternative Minimizes Construction Costs/Achieves Regional Synergies
- 4) The Alternative Maximizes Operation and Maintenance Efficiencies

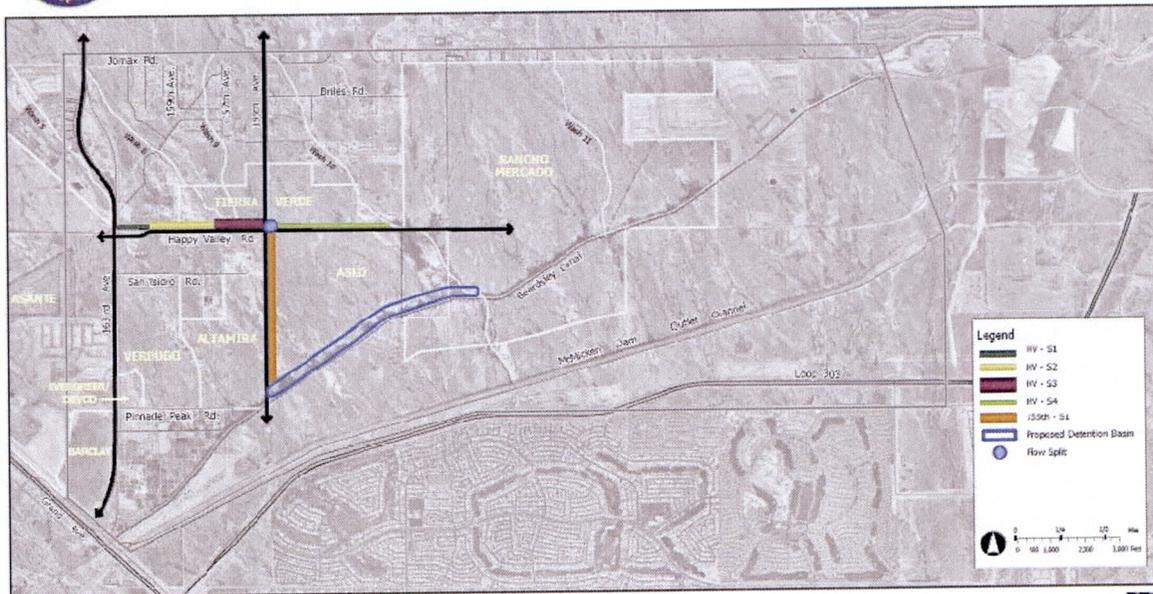
The Preferred Alternative represents the smallest floodplain footprint of the alternatives studied while maximizing the amount of developable property for the vast majority of the stakeholders. The Preferred Alternative also closely resembles the original Wittmann ADMP preferred alignment and is described as follows:

The Happy Valley DCR Preferred Alternative – *Flow Split with Basin*, consists of a series of improved conveyance channels running along the north side of the planned Happy Valley Road and the east side of 155th Avenue. One detention basin is proposed to be located at the

southerly terminus of 155th Avenue just north of the Beardsley Canal as shown on the following graphic.



Happy Valley Design Concept Report Preferred Alternative



2801 West Durango Street, Phoenix, Arizona 85009, (602) 506-1501

www.fcd.maricopa.gov



The improved conveyance channel along the north side of Happy Valley Road expands in size and capacity as it collects contributing flows from Washes 5, 6, and 9 as it flows easterly from 163rd Avenue to 155th Avenue. Three conveyance channel sizes/sections make up this one mile length of channel. Section 3 of the Happy Valley Channel is the largest and carries approximately 2,450 cfs.

A designed flow split at 155th Avenue would direct approximately 1,730 cfs or 70% of the flows south (an approximate representation of historic flow patterns without the berm in place) into a new conveyance channel proposed along the east side of 155th Avenue. The remaining 30% flows (approximately 720 cfs) will continue in a smaller improved conveyance channel extending from the flow split at 155th Avenue to the terminus of the improved conveyance channel section at its confluence with Wash 10. At this location, the Happy Valley Channel and Wash 10 combined flows would be directed into box culverts crossing under Happy Valley Road south into the existing condition section of Wash 10 and on to the existing overchute of the Beardsley Canal.

The 155th Avenue Channel outlets into an approximate 53-acre detention basin that would attenuate flows and bleed off larger events along the northerly edge of the Beardsley Canal towards the existing overchute. Contributing 100-year flows from both the Happy Valley



Channel and the detention basin are planned to not exceed the existing capacity of the overchute as identified in the Wittmann ADMSU.

It should be noted that the Project Stakeholders expressed a desire of still deferring to the "No Action Alternative" in the event that the project cannot be implemented due to funding or timing constraints.

The opinion of probable cost identifies a low and high range of probable costs to construct the flood mitigation facilities identified in the Preferred Alternative. The low estimate total project cost for the Happy Valley DCR is \$14,083,155. The upper end cost estimate is \$19,852,902.

Future Considerations

The Preferred Alternative has been developed to conceptual plans to demonstrate that the concept is feasible for future design. Additional design and analysis will be necessary to complete the final design of the Preferred Alternative. The future design may differ from the conceptual plans provided as part of this project. As the Happy Valley Channel is carried forward from the DCR stage to the design and implementation stages, the Happy Valley DCR identified a series of items that warrant additional investigation and study that were beyond the scope and objective of this Happy Valley DCR project. These items include:

1. Determination of Precise Happy Valley Channel and Happy Valley Road Alignment Locations
2. HEC-RAS Analysis of Preferred Alternative
3. Permissible Velocities
4. Channel ROW Survey
5. Additional Soils Analysis
6. Re-evaluation Detention Basin vs. 155th Avenue Overchute
7. Beardsley Canal Overchute Analysis
8. Community Entrance Road Locations and Use as Grade Control Structures
9. Project Phasing Opportunities
10. Channel Buffer Widths
11. Collaboration with ASLD
12. Define Pro Rata Share/Funding Responsibilities of Construction Costs

Project Implementation

Continued collaboration among the District, City of Surprise, and Project Stakeholders will be necessary to successfully move this project through the design and construction stages that collectively meet the stated project objectives.



ACKNOWLEDGEMENTS

The Flood Control District of Maricopa County and the City of Surprise would like to acknowledge the dedication and commitment of the Project Stakeholders who persevered through numerous meetings and data analysis conducted over the 17 month planning process. Without their oversight and guidance, this project could not have succeeded. The Project Stakeholders include the following:

Ricardo Aguirre, CVL
Stuart Barney, Evergreen DevCo
Don Breeding, Maricopa Water District
Charlie Caldwell, William Lyon Homes
Kevin Kammerzell, Atwell Group
Paul Kroff, Woodside Homes
Hal Marron, DEI Professional Services
Phil Miller, PM Consultants
Manny Patel, ASLD
Brian Rahal, DEI Professional Services
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TABLE OF CONTENTS

EXECUTIVE SUMMARY i

ACKNOWLEDGEMENTS v

CHAPTER 1 – INTRODUCTION 1-1

 1.1 Project Study Area And Background 1-1

 1.2 Project Need and Purpose 1-1

 1.3 Project Scope 1-2

 1.4 Project Overview 1-2

CHAPTER 2 – DATA COLLECTION 2-1

 2.1 Happy Valley DCR Data Collection and Findings 2-1

 2.2 Data Sources 2-1

 2.3 Data Types Obtained 2-1

 2.4 Preliminary Findings of Fact 2-2

 2.4.1 Property Ownership 2-2

 2.4.2 Existing Floodplain 2-2

 2.4.3 GIS Database, Topography, and Aerial Photography 2-3

 2.4.4 Hydrologic Reports and Models 2-3

 2.4.5 Site Visit 2-4

 2.4.6 Existing Development Plans in the Study Area 2-4

 2.4.7 Landscape Aesthetics and Multi-Use Opportunities 2-5

CHAPTER 3 – HYDROLOGY REPORT 3-1

 3.1 Existing Conditions Method Description 3-1

 3.2 Existing Conditions Parameter Estimation 3-2

 3.2.1 Drainage Area Boundaries 3-2

 3.2.2 Watershed Work Maps 3-2

 3.2.3 Precipitation 3-3

 3.2.4 Physical Parameters 3-3

 3.2.4.1 Rainfall Losses 3-3

 3.2.4.2 Unit Hydrograph Method 3-5

 3.2.4.3 Time of Concentration 3-5

 3.2.4.4 Storage Coefficient 3-5

 3.2.4.5 Channel Routing Path Parameters 3-6

 3.2.4.6 Retention 3-7

 3.2.4.7 Reservoir Routing Parameters 3-7

 3.2.4.8 Split Flows 3-8

 3.3 Problems Encountered During the Study 3-9

 3.3.1 Special Problems and Solutions 3-9

 3.3.2 Modeling Warning and Error Messages 3-9

 3.4 Existing Conditions Final Results 3-10

 3.5 Preferred Alternative Hydrology 3-11

 3.6 Future Conditions Hydrology 3-12

 References 3-13



CHAPTER 4 – PROPOSED ALTERNATIVES REPORT..... 4-1

4.1 Formulation of Proposed Alternatives..... 4-1

4.2 Alternative # 1 – Flow Split with Basin..... 4-1

4.2.1 Description..... 4-1

4.2.2 Flood Protection Structural Methods 4-3

4.2.3 Hydrologic/Hydraulic Considerations 4-3

4.2.4 Landscape Theme 4-4

4.2.5 Multiple-Use Opportunities 4-5

4.2.6 Opportunities And Constraints 4-5

4.2.7 Opinion of Probable Costs 4-6

4.3 Alternative # 2 – Southerly Flows..... 4-13

4.3.1 Description..... 4-13

4.3.2 Flood Protection Structural Methods 4-14

4.3.3 Hydrologic/Hydraulic Considerations 4-15

4.3.4 Landscape Theme 4-15

4.3.5 Multiple-Use Opportunities 4-16

4.3.6 Opportunities And Constraints 4-16

4.3.7 Opinion of Probable Costs 4-17

4.4 Alternative # 3 – Two Basins with Flow Split..... 4-24

4.4.1 Description..... 4-24

4.4.2 Flood Protection Structural Methods 4-26

4.4.3 Hydrologic/Hydraulic Considerations 4-26

4.4.4 Landscape Theme 4-27

4.4.5 Multiple-Use Opportunities 4-27

4.4.6 Opportunities And Constraints 4-28

4.4.7 Opinion of Probable Costs 4-29

4.5 Alternative # 4 – Hybrid Scenario..... 4-36

4.5.1 Description..... 4-36

4.5.2 Flood Protection Structural Methods 4-38

4.5.3 Hydrologic/Hydraulic Considerations 4-38

4.5.4 Landscape Theme 4-39

4.5.5 Multiple-Use Opportunities 4-40

4.5.6 Opportunities And Constraints 4-40

4.5.7 Opinion of Probable Costs 4-41

4.6 Alternative # 5 – No Action..... 4-49

4.6.1 Description..... 4-49

4.6.2 Tierra Verde..... 4-49

4.6.3 Rancho Mercado..... 4-61

4.6.4 Arizona State Land Department..... 4-71

4.6.5 Verdugo..... 4-85

4.6.6 Altamira..... 4-93

CHAPTER 5 – PREFERRED ALTERNATIVE: FLOW SPLIT WITH BASIN 5-1

5.1 Introduction 5-1

5.2 Selection of Preferred Alternative 5-1

5.3 Description of Preferred Alternative 5-3

5.4 Flood Protection Structural Methods 5-4

5.5 Hydraulic Considerations..... 5-4



5.6 Additional Hydraulic Analysis for Preferred Alternative 5-5

 5.6.1 Permissible Velocity 5-13

 5.6.2 Equilibrium Slope Analysis..... 5-13

 5.6.3 Sediment Yield 5-15

 5.6.4 Scour Depth..... 5-16

5.7 Landscape Theme 5-17

5.8 Multiple Use Opportunities 5-17

5.9 Preferred Alternative Opportunities and Constraints..... 5-17

5.10 Opinion of Probable Cost 5-18

5.11 Benefited Area 5-24

5.12 Further Considerations: Design and Implementation..... 5-24

APPENDICES

- Appendix A Hydrologic Analysis Supporting Documentation
- Appendix B Soil Collection Supporting Documentation
- Appendix C Project Stakeholder Contact Information
- Appendix D Meeting Agendas And Minutes

CD with Digital Files



LIST OF FIGURES

Figure 1.1 – Project Study Area..... 1-6

Figure 2.1 – Property Ownership..... 2-7

Figure 2.2 – Existing FEMA Floodplain 2-8

Figure 2.3 – Study Area Opportunities And Constraints..... 2-9

Figure 2.4 – Happy Valley Channel Character 2-10

Figure 2.5 – Site Visit Tour 2-11

Figure 2.6 – Altamira Land Use Plan..... 2-12

Figure 2.7 – Rancho Mercado Land Use Plan..... 2-13

Figure 2.8 – Tierra Verde Preliminary Plat..... 2-14

Figure 2.9 – Verdugo Land Use Plan..... 2-15

Figure 2.10 – City of Surprise Parks Master Plan Map 2-16

Figure 2.11 – City of Surprise Trails Master Plan Map 2-17

Figure 2.12 – Planned Scenic Resource Compatibility in Wittmann ADMP Area 2-18

Figure 2.13 – Recreation Inventory And Compatibility in Wittmann ADMP Area 2-19

Figure 2.14 – Existing Study Area Landscape Character Units 2-20

Figure 2.15 – Future Study Area Landscape Character Units 2-21

Figure 2.16 – Floodplain Protection Structure Types 2-22

Figure 2.17 – Floodplain Protection Structural Methods..... 2-23

Figure 3.1 – Location Map 3-14

Figure 3.2 – Sub-Basin Boundaries w/Aerial 3-15

Figure 3.3 – Sub-Basin Boundaries & Topo 3-16

Figure 3.4 – Sub-Basin Boundaries & Soil Type 3-17

Figure 3.5 – Sub-Basin Boundaries & Land Use 3-18

Figure 3.6 – Sub-Basin Boundaries & Hydrologic Results..... 3-19

Figure 3.7 – Sub-Basin Boundaries & Hydrologic Results Preferred Alternative Existing Conditions

Figure 3.8 – Sub-Basin Boundaries & Hydrologic Results Preferred Alternative Future Conditions

Figure 4.1 – Proposed Alternative 1..... 4-10

Figure 4.2 – Proposed Alternative 2..... 4-21

Figure 4.3 – Proposed Alternative 3..... 4-33

Figure 4.4 – Proposed Alternative 4..... 4-46

Figure 4.5 – Proposed Alternative 5: Tierra Verde 4-58

Figure 4.6 – Proposed Alternative 5: Rancho Mercado 4-68

Figure 4.7 – Proposed Alternative 5: ASLD..... 4-81

Figure 4.8 – Proposed Alternative 5: Verdugo 4-91

Figure 4.9 – Proposed Alternative 5: Altamira 4-101

Figure 5.1 – Preferred Alternative..... 5-29

Figure 5.2 – Preferred Alternative: Cross Sections 5-30

Figure 5.3 – Preferred Alternative: Plan View 5-33

Figure 5.4 – Benefited Area Map 5-35

Figure 5.5 – Conceptual 15% Plans 5-36



LIST OF TABLES

Table 2.1 – List of Project Contacts 2-24

Table 2.2 – Property Ownership List 2-25

Table 2.3 – List of Collected Reports and Electronic Files 2-26

Table 2.4 – Surprise Trail Plan 2-27

Table 3.1 – Green-Ampt Parameters..... 3-4

Table 3.2 – Sub-Basin Time of Concentration and Storage Coefficient Parameters..... 3-6

Table 3.3 – Channel Routing Summary 3-7

Table 3.4 – Sub-Basin Hydrologic Analysis Results..... 3-10

Table 4.1 – Alternative #1 Channel Conceptual Design Characteristics 4-2

Table 4.2 – Alternative #1 Basin Conceptual Design Characteristics 4-2

Table 4.3 – Hydraulic Modeling Conditions, Findings, and Assumptions..... 4-3

Table 4.4 – Proposed Alternative #1 Opinion of Probable Cost 4-6

Table 4.5 – Alternative #2 Channel Conceptual Design Characteristics 4-14

Table 4.6 – Hydraulic Modeling Conditions, Findings, and Assumptions..... 4-15

Table 4.7 – Proposed Alternative #2 Opinion of Probable Cost..... 4-18

Table 4.8 – Alternative #3 Channel Design Characteristics..... 4-25

Table 4.9 – Alternative #3 Basin Conceptual Design Characteristics 4-26

Table 4.10 – Hydraulic Modeling Conditions, Findings, and Assumptions 4-26

Table 4.11 – Proposed Alternative #3 Opinion of Probable Cost 4-29

Table 4.12 – Alternative #4 Channel Conceptual Design Characteristics..... 4-38

Table 4.13 – Alternative #4 Basin Conceptual Design Characteristics..... 4-38

Table 4.14 – Hydraulic Modeling Conditions, Findings, and Assumptions..... 4-39

Table 4.15 – Proposed Alternative #4 Opinion of Probable Cost 4-41

Table 4.16 – Alternative #5 Channel Conceptual Design Characteristics – Tierra Verde..... 4-51

Table 4.17 – Hydraulic Modeling Conditions, Findings, and Assumptions – Tierra Verde..... 4-52

Table 4.18 – Proposed Alternative #5 Opinion of Probable Cost – Tierra Verde 4-54

Table 4.19 – No Action Total Cost Estimate Summary – Tierra Verde 4-56

Table 4.20 – Alternative #5 Channel Conceptual Design Characteristics – Rancho Mercado . 4-62

Table 4.21 – Hydraulic Modeling Conditions, Findings, and Assumptions – Rancho Mercado 4-63

Table 4.22 – Proposed Alternative #5 Opinion of Probable Cost – Rancho Mercado 4-65

Table 4.23 – No Action Total Cost Estimate Summary – Rancho Mercado 4-66

Table 4.24 – Alternative #5 Channel Conceptual Design Characteristics – ASLD 4-73

Table 4.25 – Hydraulic Modeling Conditions, Findings, and Assumptions – ASLD 4-75

Table 4.26 – Proposed Alternative #5 Opinion of Probable Cost - ASLD 4-78

Table 4.27 – No Action Total Cost Estimate Summary – ASLD 4-80

Table 4.28 – Alternative #5 Channel Conceptual Design Characteristics – Verdugo 4-85

Table 4.29 – Hydraulic Modeling Conditions, Findings, and Assumptions – Verdugo..... 4-86

Table 4.30 – Proposed Alternative #5 Opinion of Probable Cost – Verdugo 4-88

Table 4.31 – No Action Total Cost Estimate Summary – Verdugo 4-89

Table 4.32 – Alternative #5 Channel Conceptual Design Characteristics – Altamira..... 4-93

Table 4.33 – Hydraulic Modeling Conditions, Findings, and Assumptions – Altamira..... 4-95

Table 4.34 – Proposed Alternative #5 Opinion of Probable Cost – Altamira 4-98

Table 4.35 – No Action Total Cost Estimate Summary – Altamira..... 4-99

Table 5.1 – Preferred Alternative Channel Conceptual Design Characteristics 5-3

Table 5.2 – Preferred Alternative Basin Conceptual Design Characteristics 5-4

Table 5.3 – Hydraulic Modeling Conditions, Findings, and Assumptions..... 5-5



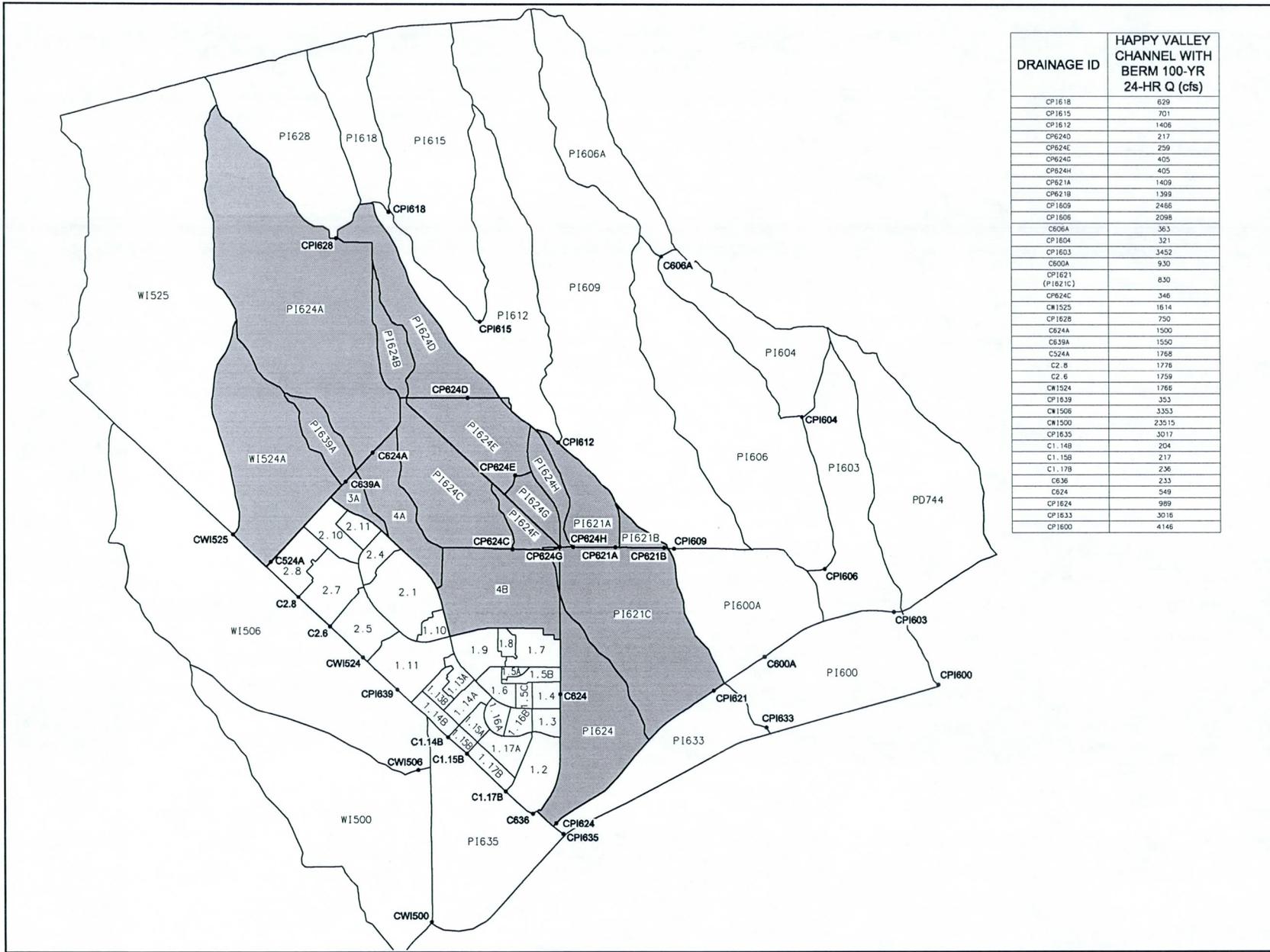
Table 5.4 – Preferred Alternative: Base Condition.....	5-6
Table 5.5 – Preferred Alternative Iteration 1	5-6
Table 5.6 – Preferred Alternative Iteration 2	5-7
Table 5.7 – Preferred Alternative Iteration 3	5-7
Table 5.8 – Preferred Alternative Iteration 4	5-8
Table 5.9 – Preferred Alternative Iteration 5	5-8
Table 5.10 – Preferred Alternative Iteration 6	5-9
Table 5.11 – Preferred Alternative Iteration 7	5-9
Table 5.12 – Preferred Alternative Iteration 8	5-10
Table 5.13 – Preferred Alternative Iteration 9	5-10
Table 5.14 – Soil Sample 1	5-11
Table 5.15 – Soil Sample 2	5-12
Table 5.16 – Soil Sample 3	5-12
Table 5.17 – Equilibrium Slope Analysis Results	5-14
Table 5.18 – Sediment Yield Results.....	5-15
Table 5.19 – Drop Structure Scour Without Bank Protection.....	5-16
Table 5.20 – Scour Analysis Findings.....	5-16
Table 5.21 – Preferred Alternative Opinion of Probable Low Cost	5-19
Table 5.22 – Preferred Alternative Opinion of Probable High Cost.....	5-21



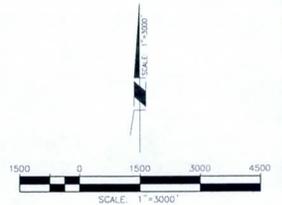
A.3 HEC-1 Model Results



Existing Conditions 100-Year 24-Hour Storm HEC-1 Model With Berm



DRAINAGE ID	HAPPY VALLEY CHANNEL WITH BERM 100-YR 24-HR Q (cfs)
CP1618	629
CP1615	701
CP1612	1406
CP624D	217
CP624E	259
CP624C	405
CP624H	405
CP621A	1409
CP621B	1399
CP1609	2466
CP1606	2098
C606A	363
CP1804	321
CP1603	3452
C600A	930
CP1621 (P1621C)	830
CP624C	346
CW1525	1614
CP1628	750
C624A	1500
C639A	1550
C524A	1768
C2.8	1778
C2.6	1759
CW1524	1768
CP1839	353
CW1506	3353
CW1500	23515
CP1835	3017
C1.14B	204
C1.15B	217
C1.17B	236
C636	233
C624	549
CP1624	989
CP1833	3016
CP1600	4146



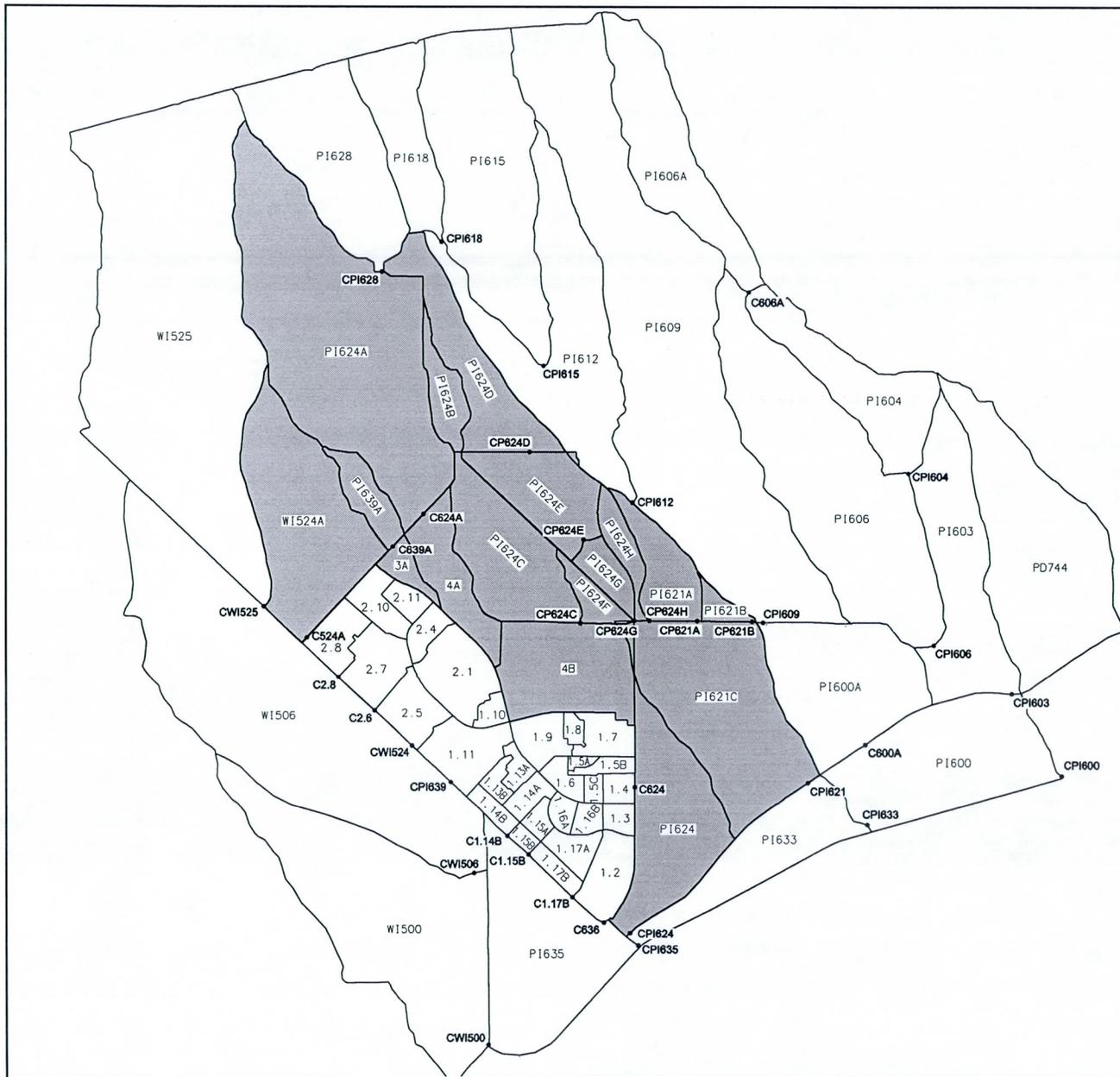
**HAPPY VALLEY CHANNEL DCR
HEC 1 RESULTS W/ BERM**

RBF PLANNING ■ DESIGN ■ CONSTRUCTION
 8405 NORTH 28th AVENUE, SUITE 300
 PHOENIX, ARIZONA 85028-7502
 602.487.2300 • FAX 602.487.2321 • WWW.RBF.COM

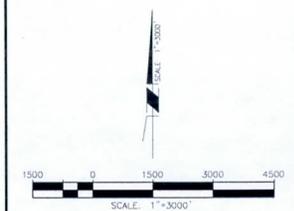
LAYOUT	DRAFTED	CHECKED
NEF	DLP	NEF
DRAWING SCALE(S) 1" = 3000'		
PLAN DATE DEC/2010	SHEET NO. 1	
PROJECT NUMBER 45104030		
OF 1 SHEETS		



Existing Conditions 100-Year 24-Hour Storm HEC-1 Model Without Berm



DRAINAGE ID	HAPPY VALLEY CHANNEL WITHOUT BERM 100-YR 24-HR Q (cfs)
CP1618	629
CP1615	701
CP1612	1406
CP624D	217
CP624E	259
CP624G	405
CP624H	405
CP621A	1317
CP621B	607
CP1609	1740
CP1605	1026
C506A	36.3
CP1604	321
CP1603	2857
C500A	1277
CP1621 (PI621C)	929
CP624C	346
CW1525	1614
CP1628	750
C534A	1500
C539A	1550
C524A	1768
C2.8	1776
C2.6	1759
CW1524	1766
CP1639	35.3
CW1506	335.3
CW1500	235.15
CP1635	3017
C1.14B	204
C1.15B	217
C1.17B	236
C636	233
C624	549
CP1624	989
CP1633	3339
CP1600	4143



**HAPPY VALLEY CHANNEL DCR
HEC 1 RESULTS WO/ BERM**

RBF PLANNING ■ DESIGN ■ CONSTRUCTION
 8806 NORTH 28th AVENUE, SUITE 100
 PHOENIX, ARIZONA 85032-7950
 602.492.2300 • FAX 602.492.2301 • WWW.RBF.COM

LAYOUT	DRAFTED	CHECKED
NEF	DLP	NEF

DRAWING SCALE(S)
1" = 3000'

PLAN DATE
DEC/2010

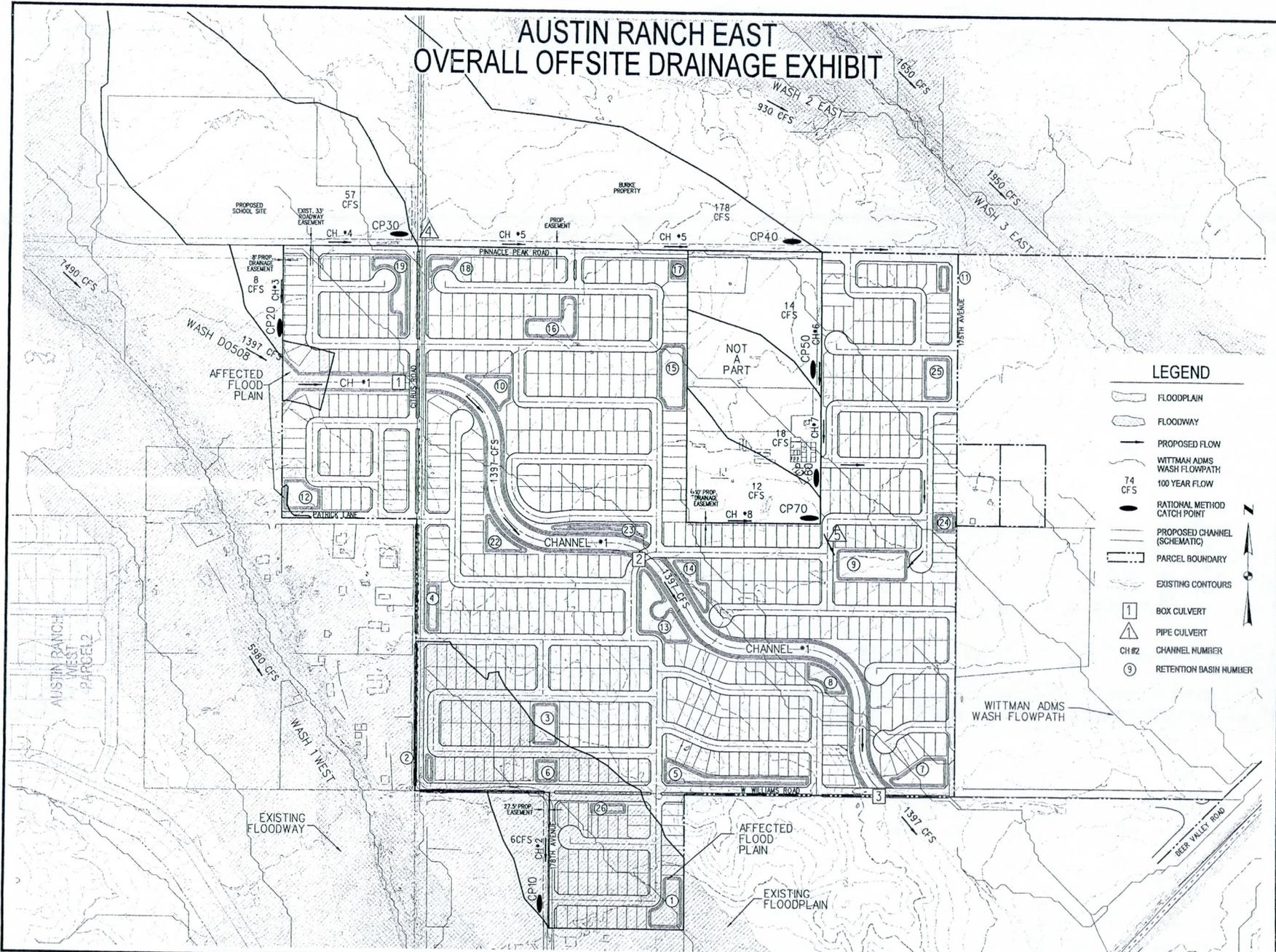
PROJECT NUMBER
45104030

SHEET NO.
1
OF 1 SHEETS

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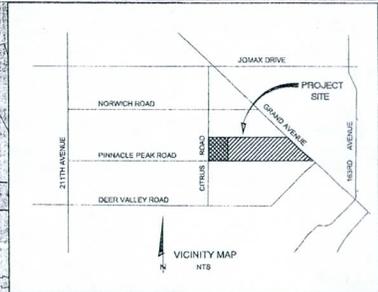
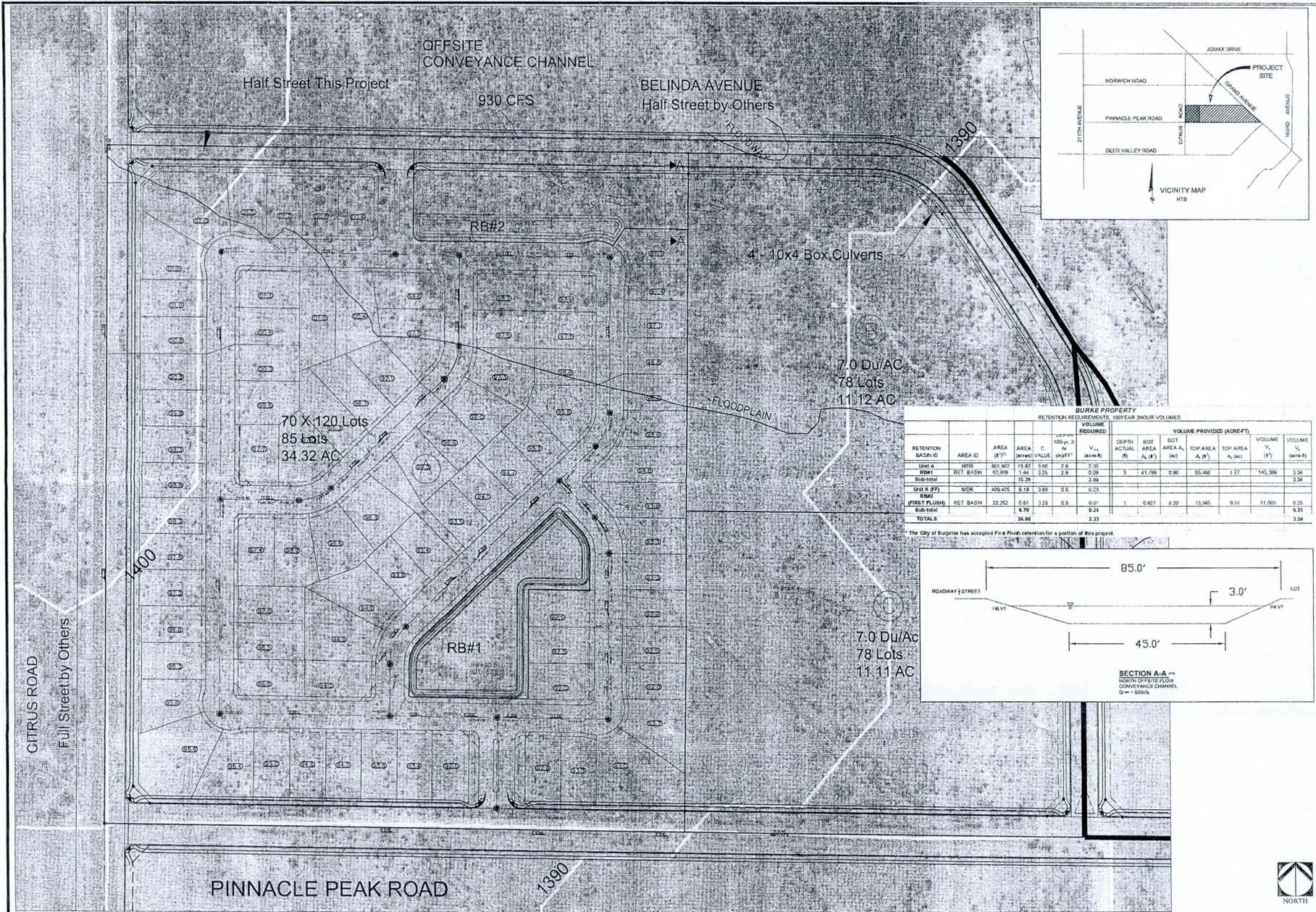
AUSTIN RANCH EAST OVERALL OFFSITE DRAINAGE EXHIBIT



- ### LEGEND
- FLOODPLAIN
 - FLOODWAY
 - PROPOSED FLOW
 - WITTMAN ADMS WASH FLOWPATH
 - 100 YEAR FLOW
 - RATIONAL METHOD CATCH POINT
 - PROPOSED CHANNEL (SCHEMATIC)
 - PARCEL BOUNDARY
 - EXISTING CONTOURS
 - BOX CULVERT
 - PIPE CULVERT
 - CHANNEL NUMBER
 - RETENTION BASIN NUMBER

SHEET	1	1					
 age engineering corporation 114 S. 48th ST. SUITE 8 FARMERSBURG, MO 65630 (417) 366-9971 FAX (417) 329-9501							
AUSTIN RANCH EAST -- OVERALL OFFSITE DRAINAGE EXHIBIT							
				FEBRUARY 2007			
				JOB NO. 1367005			
HORIZ: 1" = 200' VERT: N/A DATE: FEBRUARY 2007 JOB NO. 1367005 AGENCY NO.							





BURKE PROPERTY
RETENTION REQUIREMENTS: 100 YEAR 2 HOUR VOLUMES

RETENTION BASIN ID	AREA ID	AREA (F ²)	AREA (ACRES)	C VALUE	VOLUME REQUIRED (cuft)	VOLUME PROVIDED (cuft)	VOLUME PROVIDED (ACRE-FT)		VOLUME (F ³)	VOLUME (ACRE-FT)
							DEPTH (FT)	AREA (A, F ²)		
Unit A	MDR	601,362	13.82	3.60	2.8	3.00				
RB#1	RET. BASIN	82,879	1.88	2.25	2.8	2.08	3	41,788	0.98	55,402
Sub-total		15,26			2.08					3.34
Unit A (PF)	MDR	400,405	9.19	3.60	0.5	0.23				
RB#2	RET. BASIN	22,252	0.51	3.25	0.5	0.21	1	4,927	0.20	13,565
Sub-total		4,70			0.24					0.25
TOTALS		24.96			2.33					3.59

The City of Surprise has accepted Final Flood retention for a portion of this project.

6222 N. 24th Street, Suite 204
Phoenix, AZ 85018
Phone: (602) 954-0018
Fax: (602) 944-8005

DEL
Professional Services, LLC

1988-2006
24
DEL Professional Services, LLC

BURKE PROPERTY
PRELIMINARY MASTER DRAINAGE REPORT
EXHIBIT A - PROPOSED CHANNEL CONVEYANCE

11-03-06 PROJ. NO. 03101 (3/0 FILE) C:\Program Files\Surpass\Projects\10180\03101\PROPOSED.dwg

DATE:





Meta Data:

Vertical Datum: NAVD 88
 Coordinate System: US State Plane 1983
 Zone: Arizona Central 0202
 Datum: NAD 1983 (NSRS 2007)
 Geoid Model: Geoid09AZ

Point #	Northing	Easting	Elevation	Description
1	987370.717	538862.894	1426.368	BASE
1000	987475.428	538905.489	1424.372	INLET PIPE
1001	987475.889	538906.923	1423.894	INLET PIPE
1002	987479.417	538910.069	1424.001	INLET PIPE
1003	987481.313	538910.767	1424.403	INLET PIPE
1004	987481.704	538911.992	1424.049	INLET PIPE
1005	986840.309	539304.06	1422.117	EP
1006	986823.998	539280.999	1422.213	EP
1007	986813.067	539269.044	1420.991	TOP
1008	986807.229	539257.655	1418.06	FL
1009	986783.716	539282.621	1418.011	FL
1010	986789.588	539292.274	1421.236	TOP
1011	986800.691	539305.384	1422.543	EP
1012	986779.553	539316.12	1422.725	EP
1013	986759.971	539310.902	1422.726	EP
1014	986749.994	539295.592	1422.532	EP
1015	986749.933	539270.062	1422.408	EP
1016	986769.348	539278.097	1421.985	TOP
1017	986775.382	539265.885	1421.734	TOP
1018	986775.417	539243.337	1421.818	TOP
1019	986782.167	539243.978	1419.161	FL
1020	986784.884	539243.823	1420.915	TOP
1021	986784.793	539266.828	1420.412	TOP
1022	986780.321	539273.161	1418.172	FL
1023	986796.895	539255.095	1420.868	TOP
1024	986776.067	539279.995	1420.708	HW
1025	986771.238	539291.276	1421.925	HW
1026	986770.759	539291.036	1422.438	HW2
1027	986769.463	539291.556	1422.245	NG
1028	986775.421	539297.203	1421.934	NG
1029	986775.988	539296.098	1422.464	HW2
1030	986775.828	539295.623	1421.933	HW
1031	986786.006	539290.51	1420.679	HW
1032	986775.465	539295.341	1417.218	C
1033	986726.38	539313.929	1422.864	EP
1034	986734.485	539325.695	1422.989	EP
1035	986740.801	539330.932	1423.059	EP
1036	986746.772	539350.648	1423.258	EP
1037	986739.736	539368.21	1423.432	EP
1038	986786.599	539361.114	1423.146	EP
1039	986706.408	539336.597	1421.494	TCLD
1040	986706.71	539334.569	1421.965	NG
1041	986727.975	539335.765	1422.056	NG

LEGEND

BCLD	BOTTOM CONCRETE LINED DITCH
C	CONCRETE
CMH	COMMUNICATION MANHOLE
CTR	TELECOMMUNICATIONS RISER
EC	EDGE OF CONCRETE
EDR	EDGE OF DIRT ROAD
EP	EDGE OF PAVEMENT
F-BW	BARBED WIRE FENCE
F-CL	CENTERLINE OF FENCE
F-CL	CHAINLINK FENCE
FL	FLOW LINE
F-WR	WIRE FENCE
HW	HEADWALL
HW2	HEADWALL
INLET PIPE	INVERT INLET PIPE
LPA	LIGHT POLE WITH ARM
NG	NATURAL GROUND
OHU	OVERHEAD UTILITY
P	PAVEMENT
PPM	METAL POWER POLE
PPW	WOOD POWER POLE
TCLD	TOP OF CONCE
TDD	TOP OF DIRT DITCH
TOE	TOE OF SLOPE
TOP	TOP OF SLOPE
W-CMU	CMU WALL

1042	986716.89	539342.727	1419.292 HW
1043	986716.985	539343.216	1417.849 TOE
1044	986727.641	539337.345	1421.902 HW
1045	986727.351	539336.894	1422.418 HW2
1046	986732.714	539341.929	1422.426 HW2
1047	986732.19	539341.652	1421.903 HW
1048	986727.508	539352.874	1419.362 HW
1049	986726.752	539352.569	1418.039 TOE
1050	986729.938	539355.653	1419.843 TCLD
1051	986728.07	539337.816	1417.05 C
1052	986733.915	539341.181	1422.165 NG
1053	986735.822	539359.012	1422.464 NG
1054	986691.137	539421.689	1423.797 EP
1055	986641.255	539471.322	1423.056 EP
1056	986642.681	539448.785	1420.229 NG
1057	986666.665	539383.529	1420.076 TCLD
1058	986660.7	539396.779	1420.379 TCLD
1059	986663.763	539413.785	1420.526 TCLD
1060	986669.552	539414.824	1420.288 TCLD
1061	986669.245	539416.107	1420.387 NG
1062	986670.082	539413.662	1420.205 HW
1063	986679.568	539415.854	1421.451 HW
1064	986680.602	539418.725	1422.315 NG
1065	986679.375	539416.332	1421.955 HW2
1066	986685.25	539410.845	1422.031 HW2
1067	986685.041	539410.82	1421.498 HW
1068	986688.068	539413.395	1422.824 NG
1069	986685.873	539395.834	1420.184 HW
1070	986687.037	539397.985	1419.972 TCLD
1071	986690.858	539396.529	1419.57 TCLD
1072	986686.226	539394.699	1417.515 TOE
1073	986677.506	539385.969	1417.777 TOE
1074	986670.163	539394.403	1417.831 TOE
1075	986670.299	539412.732	1417.704 TOE
1076	986679.995	539415.382	1416.752 C
1077	986658.292	539493.998	1423.988 EP
1078	986679.04	539474.195	1424.167 EP
1079	986692.098	539461.174	1424.229 EP
1080	986700.141	539464.5	1422.965 TOP
1081	986717.026	539465.792	1420.41 TOP
1082	986722.496	539469.035	1420.12 TOP
1083	986727.015	539477.772	1420.787 TOP
1084	986716.176	539480.415	1417.42 TOE
1085	986712.047	539471.25	1417.657 TOE
1086	986711.768	539470.499	1420.137 HW
1087	986702.41	539468.263	1421.392 HW
1088	986702.742	539467.754	1421.866 HW2
1089	986696.998	539473.727	1421.777 HW2
1090	986697.115	539473.816	1421.266 HW
1091	986695.984	539487.866	1420.002 HW
1092	986692.805	539473.406	1422.62 TOP
1093	986688.945	539491.624	1420.306 TOP
1094	986691.518	539500.3	1420.046 TOP
1095	986702.034	539498.934	1417.454 TOE
1096	986697.361	539487.102	1417.481 TOE
1097	986697.723	539474.05	1417.097 NG

1098	986697.623	539473.318	1416.549 C
1099	986702.411	539468.778	1417.164 NG
1100	986697.989	539532.923	1420.406 TOP
1101	986711.681	539529.933	1417.345 TOE
1102	986721.757	539527.083	1417.342 TOE
1103	986737.422	539522.427	1420.6 TOP
1104	986747.476	539562.248	1419.89 TOP
1105	986748.657	539566.253	1420.338 TCLD
1106	986739.352	539567.402	1417.847 TOE
1107	986741.403	539596.188	1417.557 TOE
1108	986751.879	539596.547	1420.199 TCLD
1109	986747.701	539630.808	1419.889 TCLD
1110	986749.319	539633.35	1419.943 TCLD
1111	986753.401	539632.117	1420.017 TCLD
1112	986758.539	539637.073	1417.296 TOE
1113	986748.841	539645.239	1417.444 TOE
1114	986740.177	539642.821	1417.672 TOE
1115	986738.225	539628.496	1417.878 TOE
1116	986721.681	539571.273	1417.665 TOE
1117	986709.328	539571.34	1420.4 TOP
1118	986709.924	539573.375	1420.622 TCLD
1119	986712.902	539612.64	1420.826 TCLD
1120	986722.086	539616.585	1417.87 TOE
1121	986709.493	539649.717	1417.969 TOE
1122	986700.912	539643.409	1420.167 TCLD
1123	986670.896	539679.053	1420.228 TCLD
1124	986678.441	539694.65	1416.609 TOE
1125	986686.809	539702.287	1416.987 TOE
1126	986689.254	539712.157	1421.803 TCLD
1127	986736.634	539684.061	1421.89 TCLD
1128	986733.402	539674.134	1416.211 TOE
1129	986776.597	539649.071	1417.124 TOE
1130	986783.878	539655.731	1422.264 TCLD
1131	986816.639	539625.579	1422.596 TCLD
1132	986808.965	539618.033	1417.49 TOE
1133	986805.579	539589.828	1417.082 TOE
1134	986799.348	539583.621	1420.817 TCLD
1135	986860.795	539518.312	1421.06 TCLD
1136	986868.476	539524.736	1417.081 TOE
1137	986886.098	539509.741	1417.16 TOE
1138	986882.062	539500.702	1421.063 TCLD
1139	986899.12	539490.905	1420.998 TCLD
1140	986903.3	539498.946	1417.334 TOE
1141	986920.636	539487.192	1417.26 TOE
1142	986916.076	539480.317	1420.984 TCLD
1143	986935.78	539464.166	1420.84 TCLD
1144	986940.36	539468.833	1417.613 TOE
1145	987021.157	539390.395	1418.223 FL
1146	987015.685	539385.722	1420.76 TCLD
1147	987045.451	539416.668	1423.554 TCLD
1148	986979.544	539469.875	1422.306 TCLD
1149	986954.694	539465.083	1417.979 TOE
1150	986955.315	539467.618	1418.067 NG
1151	986956.838	539467.21	1418.462 HW
1152	986978.09	539472.208	1422.068 HW
1153	986978.892	539472.191	1422.137 HW

1154	986979.924	539471.37	1422.68 HW2
1155	986958.875	539493.572	1422.552 HW2
1156	986936.499	539517.296	1422.533 HW2
1157	986936.988	539516.55	1422.034 HW
1158	986936.513	539516.546	1422.027 HW
1159	986917.444	539524.106	1421.044 HW
1160	986920.073	539528.042	1422.229 TCLD
1161	986968.764	539480.288	1417.103 C
1162	986970.918	539480.603	1417.223 C
1163	986977.834	539472.883	1418.688 NG
1164	986968.294	539482.59	1418.182 NG
1165	986957.723	539493.908	1417.799 NG
1166	986947.171	539505.1	1418.47 NG
1167	986937.21	539515.989	1418.863 NG
1168	986916.513	539522.502	1418.719 TOE
1169	986888.616	539534.952	1418.103 TOE
1170	986894.054	539543.837	1423.135 TCLD
1171	986888.299	539591.114	1423.188 EP
1172	986897.891	539599.8	1423.856 P
1173	986977.394	539515.673	1424.404 P
1174	986968.336	539505.722	1423.725 EP
1175	987050.865	539418.294	1424.232 EP
1176	987060.668	539427.489	1424.938 P
1177	987095.561	539427.607	1425.546 P
1178	987101.28	539430.758	1425.382 EP
1179	987027.667	539508.402	1424.942 EP
1180	987021.776	539505.72	1425.142 P
1181	986951.573	539579.704	1424.657 P
1182	986956.764	539584.018	1424.412 EP
1183	987018.442	539590.982	1422.825 EP
1184	987023.395	539595.219	1423.275 P
1185	987098.781	539515.245	1424.075 P
1186	987094.037	539511.088	1423.745 EP
1187	987168.595	539424.111	1424.339 EP
1188	987176.149	539427.371	1424.873 P
1189	987200.005	539444.704	1425.022 P
1190	987208.007	539450.792	1424.711 EP
1191	987150.366	539512.234	1424.101 EP
1192	987140.646	539507.556	1424.405 P
1193	987067.455	539585.233	1423.578 P
1194	987074.538	539591.964	1423.295 EP
1195	987213.788	539553.954	1424.04 TOP
1196	987168.131	539552.553	1422.726 TOP
1197	987167.509	539543.726	1419.652 TOE
1198	987163.915	539547.224	1421.342 HW
1199	987154.856	539548.964	1422.545 NG
1200	987154.226	539538.478	1423.195 NG
1201	987156.453	539538.912	1422.875 HW
1202	987155.872	539539.238	1423.299 HW2
1203	987173.21	539521.546	1423.401 HW2
1204	987191.412	539503.028	1423.572 HW2
1205	987190.3	539501.682	1423.255 NG
1206	987211.155	539494.685	1422.886 TOP
1207	987253.002	539513.576	1423.548 TOP
1208	987246.873	539527.006	1419.659 TOE
1209	987220.64	539545.42	1419.783 TOE

1210	987188.506	539539.695	1419.273 TOE
1211	987185.587	539551.547	1422.997 TOP
1212	987157.618	539539.119	1418.914 NG
1213	987165.134	539530.462	1419.237 NG
1214	987173.896	539521.66	1418.666 NG
1215	987181.862	539513.122	1418.06 C
1216	987183.785	539512.091	1417.949 NG
1217	987192.126	539504.564	1419.012 NG
1218	987209.93	539503.718	1419.727 TOE
1219	987209.553	539502.318	1421.304 HW
1220	987191.53	539503.106	1423.065 HW
1221	982780.704	543906.32	1378.515 TCLD
1222	982778.624	543902.967	1376.779 FL
1223	982776.111	543898.792	1378.658 TCLD
1224	982758.799	543912.133	1378.459 TCLD
1225	982759.275	543917.039	1376.65 FL
1226	982762.942	543919.629	1378.026 TCLD
1227	982762.563	543924.387	1378.513 NG
1228	982755.792	543935.188	1378.88 NG
1229	982752.415	543911.609	1378.972 TOP
1230	982754.118	543918.94	1376.688 TOE
1231	982730.421	543918.631	1377.693 TOE
1232	982726.627	543908.369	1379.43 TOP
1233	982689.098	543949.929	1379.116 TOP
1234	982695.423	543958.989	1376.355 TOE
1235	982654.443	543992.59	1377.719 TOP
1236	982661.064	544000.045	1376.255 TOE
1237	982668.802	544007.338	1375.86 TOE
1238	982675.217	544014.202	1378.25 TOP
1239	982719.106	543974.899	1378.538 TOP
1240	982717.384	543972.349	1377.536 TOE
1241	982718.553	543972.394	1378.861 HW
1242	982734.436	543965.808	1379.908 HW
1243	982734.551	543965.526	1380.416 HW2
1244	982733.693	543965.25	1377.153 NG
1245	982759.297	543938.855	1380.307 HW2
1246	982758.702	543939.231	1379.806 HW
1247	982751.799	543934.118	1378.77 HW
1248	982750.927	543933.283	1376.996 TOE
1249	982757.905	543939.941	1376.217 NG
1250	982796.374	543922.465	1380.963 EP
1251	982807.503	543929.673	1381.55 P
1252	982708.444	544015.054	1380.354 EP
1253	982716.765	544025.474	1380.942 P
1254	982738.925	544039.479	1381.528 P
1255	982742.841	544044.747	1381.28 EP
1256	982852.615	543928.137	1382.062 EP
1257	982847.616	543924.428	1382.272 P
1258	982858.381	543994.748	1382.423 EP
1259	982863.28	543998.983	1382.748 P
1260	982882.753	544015.048	1382.701 P
1261	982890.952	544022.117	1382.341 EP
1262	982985.051	543922.243	1382.479 EP
1263	982977.285	543915.064	1382.881 P
1264	982956.958	543899.82	1382.942 P
1265	982952.16	543895.446	1382.603 EP

1266	983048.413	543959.393	1382.183 TOP
1267	983045.956	543972.026	1379.132 TOE
1268	983045.553	543971.803	1379.616 TOE
1269	983014.32	543966.08	1378.401 TOE
1270	983016.69	543958.229	1381.031 TOP
1271	983003.604	543951.922	1380.916 TOP
1272	983002.208	543956.019	1377.774 TOE
1273	982992.746	543960.993	1378.189 TOE
1274	982990.732	543956.085	1380.712 TOP
1275	982984.56	543960.69	1380.471 TOP
1276	982986.181	543965.008	1378.024 TOE
1277	982985.353	543964.013	1379.683 HW
1278	982971.651	543968.643	1380.948 HW
1279	982971.494	543968.712	1381.457 HW2
1280	982950.151	543990.376	1381.227 HW2
1281	982950.586	543990.221	1380.673 HW
1282	982956.197	543997.443	1379.429 HW
1283	982956.866	543997.084	1377.662 TOE
1284	982950.876	543989.977	1376.843 C
1285	982971.486	543969.044	1377.14 C
1286	982955.499	544000.432	1380.122 TCLD
1287	983012.863	544011.217	1383.181 TCLD
1288	983014.265	544004.135	1378.861 TOE
1289	981639.571	545044.454	1371.993 TOP
1290	981640.929	545050.806	1370.601 TOE
1291	981685.093	545032.136	1370.225 TOE
1292	981683.711	545025.573	1371.663 TOP
1293	981704.88	545029.13	1371.615 TOP
1294	981700.578	545035.798	1370.14 TOE
1295	981703.111	545054.868	1369.824 C
1296	981701.889	545035.749	1372.365 HW
1297	981711.5	545046.345	1374.681 HW
1298	981712.048	545045.983	1375.192 HW2
1299	981713.604	545046.833	1374.771 NG
1300	981728.344	545023.705	1372.64 NG
1301	981688.186	545070.91	1375.218 HW2
1302	981688.276	545070.522	1374.618 HW
1303	981672.026	545068.288	1372.598 HW
1304	981671.631	545066.521	1370.058 TOE
1305	981678.677	545089.232	1375.305 TOP
1306	981663.409	545080.388	1371.686 TOE
1307	981636.267	545120.603	1371.732 TOE
1308	981653.34	545131.416	1375.63 EP
1309	981662.526	545141.669	1376.295 P
1310	981685.19	545154.425	1376.859 P
1311	981690.501	545158.995	1376.606 EP
1312	981792.496	545051.102	1376.977 EP
1313	981787.108	545046.567	1377.21 P
1314	981771.728	545026.177	1376.581 P
1315	981762.567	545015.422	1375.814 EP
1316	981752.517	545003.977	1372.191 TOE
1317	981839.69	545073.088	1375.402 EP
1318	981844.715	545076.275	1375.661 P
1319	981864.498	545092.228	1375.685 P
1320	981872.585	545099.482	1375.233 EP
1321	981923.096	545170.072	1373.602 TOP

1322	981912.881	545181.884	1371.542 TOE
1323	981896.652	545208.927	1371.443 TOE
1324	981884.767	545223.562	1376.158 TOP
1325	981831.482	545194.854	1373.703 TOP
1326	981829.667	545187.296	1373.562 TOP
1327	981833.735	545183.816	1370.777 TOE
1328	981839.514	545166.938	1369.915 C
1329	981832.244	545186.131	1373.502 HW
1330	981831.934	545174.815	1374.819 HW
1331	981831.569	545174.984	1375.403 HW2
1332	981832.089	545174.424	1375.326 BOX
1333	981854.077	545151.294	1375.365 BOX
1334	981854.637	545150.736	1375.339 HW2
1335	981854.527	545151.124	1374.857 HW
1336	981853.783	545149.083	1374.993 NG
1337	981875.071	545144.594	1373.405 TOP
1338	981866.962	545152.987	1371.02 TOE
1339	981864.402	545148.829	1373.531 NG
1340	981865.54	545150.693	1373.517 HW
2	984098.182	539634.195	1402.946 FND-ACAP
3	981464.659	539629.595	1393.316 FND-BCF
300	987074.504	535757.757	1434.235 NG
301	987075.824	535800.07	1434.304 NG
302	987070.72	535844.788	1433.897 NG
303	987014.367	535855.247	1433.676 NG
304	987009.088	535815.179	1433.724 NG
305	986998.637	535773.922	1433.912 NG
306	986935.839	535782.646	1433.813 NG
307	986929.134	535822.964	1433.387 NG
308	986924.878	535863.747	1433.363 NG
309	986879.048	535868.846	1433.077 NG
310	986868.087	535874.105	1431.82 NG
311	986851.598	535878.025	1431.651 NG
312	986873.171	535831.604	1433.343 NG
313	986865.364	535830.738	1432.365 NG
314	986851.479	535831.251	1431.643 NG
315	986859.562	535787.627	1431.922 NG
316	986863.796	535788.691	1431.91 NG
317	986878.437	535789.161	1433.892 NG
318	986849.07	535787.783	1434.4 NG
319	986839.934	535826.44	1434.949 NG
320	986836.044	535877.911	1434.478 NG
321	986831.227	535877.754	1434.543 NG
322	986820.043	535879.479	1431.815 NG
323	986813.475	535880.912	1433.087 NG
324	986812.335	535838.769	1433.233 NG
325	986819.018	535838.718	1431.935 NG
326	986828.268	535840.371	1434.891 NG
327	986827.518	535794.497	1433.607 NG
328	986819.115	535795.447	1431.943 NG
329	986814.245	535795.113	1432.677 NG
330	986794.828	535793.413	1432.244 EP
331	986782.005	535793.109	1431.898 P
332	986770.495	535793.403	1431.92 EP
333	986757.942	535792.689	1431.692 NG
334	986748.338	535793.143	1432.806 NG

335	986746.271	535793.37	1432.67 OHU
336	986719.251	535798.227	1432.536 NG
337	986710.318	535846.746	1432.55 NG
338	986751.194	535839.054	1433.236 NG
339	986758.135	535840.043	1432.447 NG
340	986770.6	535839.895	1432.554 EP
341	986781.629	535839.785	1432.661 P
342	986794.358	535840.093	1432.967 EP
343	986793.858	535880.245	1433.115 EP
344	986781.352	535880.61	1432.903 P
345	986769.163	535880.573	1432.86 EP
346	986756.309	535880.742	1432.829 NG
347	986709.265	535879.376	1432.944 NG
348	986746.1	535879.831	1432.739 OHU
349	987079.369	537040.59	1429.059 EDR
350	987078.89	537028.429	1428.965 EDR
351	987081.638	537005.206	1429.513 NG
352	987077.262	536955.524	1429.785 NG
353	987075.171	536906.683	1429.886 NG
354	987016.358	536911.145	1429.564 NG
355	987021.681	536956.847	1429.658 NG
356	987024.93	537002.151	1429.198 NG
357	987026.028	537027.017	1428.674 EDR
358	987025.422	537039.127	1429.028 EDR
359	986967.95	537038.173	1428.81 EDR
360	986966.709	537027.894	1428.103 EDR
361	986967.336	537013.833	1427.748 NG
362	986954.823	537017.74	1426.808 NG
363	986966.95	537003.084	1429.341 NG
364	986974.942	536958.023	1429.554 NG
365	986974.075	536909.384	1429.487 NG
366	986913.152	536918.174	1429.179 NG
367	986916.859	536961.272	1429.881 NG
368	986918.572	537002.795	1429.936 NG
369	986920.976	537017.622	1426.789 NG
370	986919.863	537027.099	1427.71 EDR
371	986918.721	537037.724	1428.283 EDR
372	986860.004	537037.096	1427.724 EDR
373	986859.053	537027.377	1426.973 EDR
374	986858.604	537016.561	1426.472 NG
375	986861.124	537003.284	1429.098 NG
376	986871.646	536955.781	1429.207 NG
377	986850.275	536955.212	1427.153 NG
378	986829.899	536957.927	1429.17 NG
379	986815.001	536961.605	1426.221 NG
380	986815.242	536913.267	1426.374 NG
381	986830.989	536913.255	1429.439 NG
382	986844.704	536908.093	1427.244 NG
383	986858.199	536906.667	1428.537 NG
384	986823.786	537027.216	1426.488 EDR
385	986823.62	537036.242	1426.806 EDR
386	986793.399	537039.492	1427.555 EDR
387	986793.789	537021.849	1427.326 EDR
388	986780.216	537041.06	1427.658 EP
389	986767.508	537041.075	1427.803 P
390	986755.699	537041.429	1427.817 EP

391	986738.014	537045.821	1427.655 PPM
392	986707.204	537038.767	1427.288 NG
393	986700.352	536967.496	1427.674 NG
394	986742.738	536963.591	1428.111 NG
395	986754.835	536963.86	1428.266 EP
396	986767.328	536963.984	1428.265 P
397	986780.306	536963.339	1428.119 EP
398	986793.687	536961.45	1427.248 NG
399	986798.02	536959.99	1427.537 NG
4	986742.484	537023.721	1426.869 FND-ACAP
400	986798.818	536905.724	1427.736 NG
401	986796.212	536905.092	1427.5 NG
402	986780.834	536905.684	1428.263 EP
403	986768.202	536903.808	1428.36 P
404	986755.306	536902.302	1428.274 EP
405	986743.703	536901.728	1427.804 NG
406	986690.815	536899.437	1427.744 NG
407	987161.638	538200.837	1428.433 NG
408	987138.449	538161.432	1428.614 NG
409	987123.72	538118.194	1427.906 NG
410	987071.196	538150.238	1427.908 NG
411	987091.513	538193.167	1428.217 NG
412	987112.223	538234.396	1428.657 NG
413	987064.618	538268.541	1427.925 NG
414	987041.639	538226.94	1428.428 NG
415	987017.986	538187.451	1428.155 NG
416	986979.093	538208.986	1427.878 TDD
417	986965.64	538215.913	1423.55 FL
418	986954.379	538222.827	1426.001 TDD
419	986944.226	538230.237	1427.785 EP
420	986931.516	538237.863	1428.25 P
421	986920.869	538244.406	1428.86 EP
422	986910.357	538250.96	1428.445 NG
423	986905.203	538253.087	1427.591 NG
424	986866.564	538271.62	1427.15 NG
425	986891.699	538316.212	1427.215 NG
426	986929.807	538296.08	1427.543 NG
427	986934.261	538293.958	1428.262 NG
428	986942.629	538287.762	1428.73 OHU
429	986945.166	538285.884	1428.704 EP
430	986956.237	538279.728	1428.124 P
431	986969.579	538272.595	1427.67 EP
432	986980.536	538265.631	1426.155 TDD
433	986992.319	538259.933	1423.37 FL
434	987005.989	538254.66	1427.946 TDD
435	987036.359	538297.437	1427.377 TDD
436	987023.687	538304.657	1423.311 FL
437	987012.259	538312.454	1425.723 TDD
438	987001.992	538322.192	1427.407 EP
439	986990.523	538330.291	1427.948 P
440	986979.472	538338.942	1428.503 EP
441	986970.126	538346.116	1427.745 NG
442	986964.384	538350.742	1426.415 NG
443	986929.624	538375.873	1425.959 NG
444	986994.463	538370.911	1428.276 LPA
445	986888.358	538198.559	1429.163 LPA

446	986221.703	539540.697	1419.038 PPW
447	986214.673	539519.827	1418.731 NG
448	986169.148	539518.004	1417.755 NG
449	986176.76	539548.028	1417.674 OHU
450	986136.093	539555.598	1417.041 PPW
451	986217.393	539578.714	1417.138 F-CL
452	986165.498	539578.407	1416.663 F-CL
453	986100.01	539578.251	1416.536 F-CL
454	986099.358	539524.91	1416.265 F-CL
455	986085.007	539526.805	1415.588 NG
456	986075.284	539525.831	1415.871 EP
457	986064.333	539525.646	1416.171 P
458	986054.015	539525.181	1416.375 EP
459	986049.869	539526.264	1416.647 OHU
460	986050.25	539570.457	1416.871 PPW
461	986049.544	539573.326	1416.482 CTR
462	986054.503	539574.457	1416.141 EP
463	986063.966	539574.575	1416.102 P
464	986075.244	539575.399	1415.798 EP
465	986084.234	539576.89	1415.371 NG
466	986074.456	539596.593	1416.029 EP
467	986079.165	539611.07	1415.988 EP
468	986089.45	539619.676	1416.279 EP
469	986085.633	539616.523	1416.207 EC
470	986081.456	539613.744	1416.068 EC
471	986080.46	539610.411	1416.037 EC
472	986081.618	539596.789	1415.895 EC
473	986087.076	539595.738	1415.327 EC
474	986093.036	539598.029	1416.173 EC
475	986094.16	539606.072	1416.427 EC
476	986092.95	539616.462	1416.081 EC
477	986094.509	539617.433	1416.201 SI
478	986087.054	539610.371	1414.259 FL
479	986085.799	539611.25	1414.39 INV-18
480	986064.603	539622.125	1416.382 P
481	986053.777	539601.983	1416.122 EP
482	986048.093	539612.706	1416.073 EP
483	986035.116	539619.876	1416.227 EP
484	986033.899	539633.024	1416.134 P
485	986032.056	539644.458	1415.873 EP
486	986032.806	539650.907	1415.545 TDD
487	986032.196	539659.73	1411.967 FL
488	986045.369	539660.318	1412.572 FL
489	986046.252	539656.007	1412.855 INV
490	986042.796	539655.94	1412.699 NG
491	986050.674	539656.057	1413.223 NG
492	986050.869	539655.268	1416.246 HW
493	986050.866	539654.715	1416.227 HW
494	986042.688	539654.684	1416.239 HW
495	986042.67	539655.257	1416.235 HW
496	986064.686	539633.065	1416.323 P
497	986064.379	539644.716	1416.188 EP
498	986065.369	539652.75	1415.216 TDD
499	986047.135	539653.93	1415.631 NG
5	976209.809	534920.503	1393.285 FND-GDAC
500	986067.184	539661.222	1413.191 FL

501	986068.038	539675.16	1416.018 TDD
502	986033.448	539672.956	1415.507 TDD
503	986182.955	539619.48	1416.473 EP
504	986181.08	539633.29	1416.71 P
505	986180.766	539647.58	1416.698 EP
506	986179.508	539660.595	1413.594 FL
507	986180.666	539674.588	1416.724 TDD
508	986228.578	539673.96	1416.629 TDD
509	986229.594	539661.882	1414.291 FL
510	986229.799	539647.825	1417.01 EP
511	986226.899	539633.863	1416.931 P
512	986226.548	539619.845	1416.578 EP
513	986228.592	539722.265	1416.318 NG
514	986173.694	539721.977	1416.371 NG
515	986113.378	539719.013	1415.868 NG
516	986059.84	539719.777	1415.737 NG
517	986049.886	539701.541	1416.212 PPW
518	986224.912	539701.064	1416.561 OHU
519	986193.917	539975.352	1416.048 NG
520	986255.512	540010.078	1416.128 TDD
521	986260.3	540014.668	1414.034 FL
522	986265.048	540022.476	1416.648 TDD
523	986273.229	540027.35	1415.731 NG
524	986279.654	540032.026	1413.621 FL
525	986283.687	540039.988	1414.826 EP
526	986294.058	540049.227	1415.174 P
527	986305.349	540059.129	1414.835 EP
528	986314.542	540065.023	1414.262 F-BW
529	986342.484	540026.067	1414.718 F-BW
530	986384.764	539980.961	1416.461 F-BW
531	986334.813	540017.631	1415.242 EP
532	986325.91	540006.411	1415.615 P
533	986316.8	539994.928	1415.252 EP
534	986312.029	539988.118	1414.295 FL
535	986306.418	539981.986	1416.005 NG
536	986260.217	539919.81	1416.694 NG
537	986292.948	539886.543	1417.165 NG
538	986339.458	539943.919	1416.6 NG
539	986345.962	539951.356	1414.681 FL
540	986352.849	539957.563	1416.05 EP
541	986361.468	539967.429	1416.243 P
542	986372.041	539978.772	1415.744 EP
543	986267.565	539887.031	1417.305 TDD
544	986263.619	539882.741	1414.672 FL
545	986259.032	539879.223	1417.197 TDD
546	986208.133	539890.793	1417.095 TDD
547	986209.243	539896.073	1414.135 FL
548	986212.893	539901.44	1416.843 TDD
549	986169.793	539930.643	1416.739 TDD
550	986172.199	539933.107	1414.159 FL
551	986174.926	539937.173	1416.506 TDD
552	986131.115	539873.715	1415.769 NG
553	986178.144	539851.844	1416.199 NG
554	986215.234	539822.522	1416.634 NG
555	986253.578	539808.678	1417.351 NG
556	986365.92	539943.101	1416.27 EP

557	986368.153	539933.47	1416.26 EP
558	986365.994	539924.874	1416.162 EP
559	986356.102	539930.707	1414.993 FL
560	986344.912	539929.272	1416.777 NG
561	986343.311	539902.115	1417.005 NG
562	986353.751	539907.917	1416.044 EP
563	986374.502	539885.646	1416.375 EP
564	986400.898	539887.526	1416.435 EP
565	986395.267	539917.684	1417.142 P
566	986422.715	539941.234	1417.883 P
567	986457.709	539936.701	1418.36 EP
568	986458.017	539936.838	1418.356 CATTLE GRATE
569	986463.651	539942.311	1418.639 CATTLE GRATE
570	986463.659	539942.822	1418.65 EP
571	986483.113	539962.905	1419.069 EP
572	986514.576	539970.496	1419.94 EP
573	986539.12	539963.388	1420.148 EP
574	986496.108	540008.716	1419.87 P
575	986404.182	539999.903	1416.829 F-BW
576	986403.948	539997.755	1416.679 G-MRK
577	986378.098	539973.946	1416.071 EP
578	986401.54	539969.253	1417.232 EP
579	986421.024	539975.594	1418.377 EP
580	986421.175	539975.748	1418.36 CATTLE GRATE
581	986423.769	539978.634	1418.489 F-BW
582	986432.191	539984.014	1418.667 EP
583	986448.281	539999.436	1418.925 EP
584	986457.671	540024.327	1419.011 EP
585	986450.35	540057.897	1419.252 EP
586	986411.755	540095.627	1418.546 EP
587	986420.607	540104.837	1419.182 P
588	986429.361	540114.469	1419.476 P
589	986438.044	540123.604	1419.647 P
590	986442.427	540127.778	1419.422 EP
591	986461.465	540149.11	1415.61 NG
592	986425.089	540189.676	1415.147 NG
593	986404.722	540168.115	1419.028 EP
594	986399.561	540164.148	1419.244 P
595	986390.538	540156.1	1419.113 P
596	986380.776	540146.901	1418.715 P
597	986370.806	540138.264	1418.081 EP
598	986358.466	540128.044	1415.345 NG
599	986319.645	540094.183	1415.526 NG
6	989476.872	537163.329	1448.701 FND-GDAC
600	986327.187	540085.507	1416.75 PPM
601	986353.064	540031.83	1415.959 NG
602	986407.44	540075.82	1415.983 NG
603	986425.619	540035.623	1416.667 NG
604	986454.654	540068.619	1419.446 P
605	986463.615	540077.936	1419.856 P
606	986473.035	540086.632	1420.073 P
607	986476.374	540092.296	1419.794 EP
608	986496.345	540113.285	1416.141 NG
609	986579.292	540024.57	1416.838 NG
610	986558.839	540005.425	1420.768 EP
611	986553.396	540001.499	1420.995 P

612	986547.832	539988.908	1420.75 P
613	985852.534	540554.802	1411.043 NG
614	985857.465	540558.892	1409.932 FL
615	985861.186	540562.4	1410.632 NG
616	985864.722	540566.293	1410.592 EP
617	985875.84	540575.14	1410.965 P
618	985885.74	540585.543	1410.705 EP
619	985893.717	540593.65	1410.797 F-BW
620	985932.875	540552.571	1411.16 F-BW
621	985926.093	540542.798	1411.043 EP
622	985916.858	540531.994	1411.439 P
623	985907.222	540521.401	1410.844 EP
624	985903.686	540517.914	1410.713 NG
625	985901.191	540515.176	1410.373 FL
626	985896.053	540511.229	1411.248 NG
627	985861.36	540544.918	1411.069 OHU
628	985927.503	540475.794	1411.476 NG
629	985931.821	540480.132	1410.348 FL
630	985935.535	540483.895	1411.124 NG
631	985939.418	540487.146	1411.328 EP
632	985950.051	540496.738	1411.699 P
633	985960.245	540506.49	1411.485 EP
634	985968.664	540514.915	1411.602 F-BW
635	985878.048	540425.807	1411.179 NG
636	985840.921	540458.941	1410.654 NG
637	985805.66	540499.883	1410.461 NG
638	985973.989	540518.81	1411.498 TCLD
639	985976.956	540520.905	1408.502 BCLD
640	985977.894	540521.772	1408.461 BCLD
641	985979.692	540524.553	1411.526 TCLD
642	985993.578	540537.641	1413.71 EP
643	986001.867	540548.138	1414.368 P
644	986002.695	540541.402	1414.292 CMH
645	986008.368	540560.158	1414.696 P
646	986017.098	540569.207	1414.839 P
647	986021.301	540574.057	1414.615 EP
648	985987.017	540610.054	1414.273 EP
649	985982.366	540606.08	1414.486 P
650	985974.153	540596.679	1414.252 P
651	985964.869	540587.716	1413.965 P
652	985955.142	540578.376	1413.266 EP
653	985941.746	540564.822	1411.168 TCLD
654	985939.733	540562.086	1407.999 BCLD
655	985938.802	540561.216	1407.948 BCLD
656	985936.553	540558.436	1411.107 TCLD
657	985898.757	540598.601	1410.651 TCLD
658	985900.992	540601.269	1407.559 BCLD
659	985901.827	540602.264	1407.638 BCLD
660	985904.326	540604.684	1410.778 TCLD
661	985919.084	540616.726	1412.893 EP
662	985928.711	540625.852	1413.521 P
663	985937.382	540635.228	1413.804 P
664	985946.188	540644.386	1414.064 P
665	985950.929	540648.317	1413.88 EP
666	985803.157	540383.272	1411.075 NG
667	985783.903	540337.089	1411.693 F-BW

668	985744.998	540379.77	1410.865 F-BW
669	985745.017	540379.808	1410.866 OHU
670	985773.981	540412.54	1410.838 NG
671	985705.943	540420.196	1410.085 F-BW
672	985681.583	540447.511	1409.656 PPW
673	985721.205	540478.793	1409.957 NG
674	985646.794	540403.315	1408.044 PPW
675	985630.098	540379.77	1409.511 NG
676	985672.245	540333.818	1409.752 NG
677	985704.914	540295.483	1410.292 NG
678	985524.934	540276.853	1409.115 NG
679	985558.597	540238.973	1409.787 NG
680	985599.513	540198.892	1410.269 NG
681	985552.621	540156.537	1408.856 EDR
682	985537.866	540141.17	1409.059 EDR
683	985521.08	540127.302	1410.656 NG
684	985486.914	540164.732	1409.603 NG
685	985499.758	540180.695	1408.544 EDR
686	985518.153	540196.784	1408.459 EDR
687	985484.113	540231.657	1408.297 EDR
688	985465.057	540214.653	1408.37 EDR
689	985450.957	540202.28	1409.201 NG
690	985376.808	540130.364	1410.979 NG
691	985397.518	540091.08	1411.465 NG
692	985441.062	540064.042	1412.605 NG
693	985001.667	540674.187	1404.917 F-BW
694	984963.833	540714.689	1404.358 F-BW
695	984923.477	540757.6	1404.101 F-BW
696	985039.746	540724.277	1404.931 F-CL
697	984941.917	540626.702	1404.514 NG
698	984907.631	540666.369	1403.792 NG
699	984864.001	540686.193	1403.624 NG
700	984799.923	540608.06	1403.294 NG
701	984836.234	540584.406	1403.245 NG
702	984865.764	540550.242	1403.862 NG
703	984757.909	540534.467	1403.73 F-CL
704	984804.922	540485.064	1404.712 F-CL
705	984801.302	540481.82	1404.511 EDR
706	984793.693	540474.359	1404.455 EDR
707	984790.079	540471.094	1404.283 F-CL
708	984743.389	540426.637	1405.07 F-CL
709	984705.455	540390.663	1406.549 F-CL
710	984741.716	540357.806	1405.728 NG
711	984783.919	540397.344	1405.49 NG
712	984826.722	540438.84	1405.205 EDR
713	984836.078	540446.501	1405.21 EDR
714	984764.952	540521.169	1403.926 EDR
715	984756.878	540513.922	1403.69 EDR
716	984754.207	540509.488	1403.497 F-CL
717	984719.405	540546.375	1403.082 F-CL
718	984722.919	540550.127	1403.013 EDR
719	984729.916	540556.486	1403.166 EDR
720	985075.3	540918.312	1404.052 NG
721	985109.67	540879.896	1404.22 NG
722	985147.043	540840.655	1404.549 NG
723	985141.197	541019.582	1404.826 PPW

724	985141.238	541016.936	1404.963 F-CL
725	985150.424	541016.122	1404.86 EDR
726	985161.577	541026.741	1404.755 EDR
727	985209.05	540973.927	1405.026 EDR
728	985199.854	540963.616	1405.09 EDR
729	985195.448	540959.489	1405.228 F-CL
730	985198.128	540960.646	1405.017 OHU
731	985237.789	540914.701	1405.441 F-CL
732	985242.326	540917.748	1405.531 EDR
733	985252.624	540928.084	1405.431 EDR
734	985246.804	540908.705	1405.773 PPW
735	985311.384	540972.901	1406.14 NG
736	985277.726	541009.06	1405.704 NG
737	985228.473	541056.612	1405.004 NG
738	985273.843	541122.61	1406.532 NG
739	985357.791	541036.873	1406.562 NG
740	985348.543	541078.254	1407.904 EC
741	985307.764	541122.022	1407.611 EC
742	985278.77	541094.722	1407.569 EC
743	985319.46	541051.009	1407.735 EC
744	984451.4	541386.691	1402.253 F-BW
745	984448.106	541386.245	1401.965 EDR
746	984433.204	541387.074	1402.069 EDR
747	984429.934	541386.712	1401.86 F-CL
748	984430.213	541342.319	1402.836 F-CL
749	984432.858	541341.802	1403.01 EDR
750	984447.8	541341.629	1403.201 EDR
751	984451.119	541342.224	1403.498 F-BW
752	984450.556	541293.856	1402.101 F-BW
753	984430.47	541303.992	1401.498 F-CL
754	984398.199	541316.616	1400.222 F-CL
755	984433.129	541303.566	1401.627 EDR
756	984434.439	541287.442	1400.512 EDR
757	984438.792	541271.632	1399.816 EDR
758	984440.393	541252.719	1399.574 EDR
759	984437.918	541234.662	1399.489 EDR
760	984433.01	541209.641	1399.342 EDR
761	984447.265	541210.027	1399.82 EDR
762	984449.8	541255.591	1399.855 EDR
763	984468.095	541235.54	1400.076 EDR
764	984491.135	541213.203	1400.184 EDR
765	984517.344	541245.876	1402.53 F-BW
766	984504.744	541229.965	1400.715 EDR
767	984469.69	541259.239	1400.615 EDR
768	984447.618	541297.805	1401.771 EDR
769	984490.103	541196.007	1400.172 F-CL
770	984470.163	541211.138	1399.951 F-CL
771	984450.84	541211.73	1399.813 F-CL
772	984451.677	541143.669	1399.493 F-CL
773	984445.302	541142.961	1399.501 EDR
774	984434.942	541142.829	1399.507 EDR
775	984417.879	541147.483	1399.569 NG
776	984400.367	541059.271	1400.463 NG
777	984432.962	541057.191	1400.208 PPM
778	984437.325	541060.539	1399.964 EDR
779	984446.673	541060.773	1400.117 EDR

780	984452.926	541061.41	1400.357 F-CL
781	984453.322	540993.493	1400.475 F-CL
782	984448.079	540993.268	1400.11 EDR
783	984438.726	540994.016	1400.022 EDR
784	984431.136	540996.101	1400.887 F-CR
785	984431.219	540924.948	1400.915 F-CR
786	984438.175	540925.23	1400.12 EDR
787	984448.411	540923.848	1400.096 EDR
788	984453.868	540924.233	1400.278 F-CL
789	984431.5	540899.161	1400.481 F-CR
790	984432.025	540898.755	1400.334 F-CL
791	984439.264	540860.184	1400.133 EDR
792	984438.445	540835.684	1400.182 EDR
793	984432.443	540834.312	1400.123 F-CL
794	984436.676	540806.281	1400.417 EDR
795	984437.871	540742.578	1400.596 EDR
796	984433.212	540743.279	1400.573 F-CL
797	984433.451	540681.271	1401.503 F-CL
798	984439.289	540681.95	1401.199 EDR
799	984449.025	540681.393	1401.238 EDR
800	984453.317	540681.096	1401.309 F-CL
801	984453.109	540743.96	1400.515 F-CL
802	984447.703	540743.649	1400.687 EDR
803	984447.19	540809.335	1400.311 EDR
804	984453.972	540818.527	1400.207 EDR
805	984465.77	540818.771	1400.229 EDR
806	984453.101	540812.993	1400.389 F-CL
807	984463.114	540816.953	1400.411 F-CL
808	984486.146	540796.392	1400.522 PPM
809	984501.841	540777.163	1400.473 F-CL
810	984504.662	540780.352	1400.467 EDR
811	984513.988	540787.2	1400.357 EDR
812	984516.85	540789.96	1400.377 F-CL
813	984466.553	540834.407	1400.555 EDR
814	984454.114	540849.328	1400.18 EDR
815	984454.786	540853.072	1400.385 F-CL
816	984449.72	540865.532	1400.305 EDR
817	984435.297	540850.067	1400.126 PPM
818	984430.727	541056.119	1400.333 F-CR
819	984393.737	541056.373	1400.528 F-CR
820	984090.554	541472.117	1400.038 F-WR
821	984134.511	541472.608	1400.857 EP
822	984153.862	541472.363	1401.138 EP
823	984160.224	541473.017	1401.167 F-CL
824	984160.866	541402.635	1400.16 F-CL
825	984156.778	541402.001	1399.891 EP
826	984135.815	541399.713	1399.292 EP
827	984090.928	541382.993	1397.498 F-WR
828	984090.927	541382.729	1397.496 F-BW
829	984161.207	541366.505	1398.346 F-CL
830	984175.728	541347.316	1397.532 F-CL
831	984157.453	541331.985	1398.001 EP
832	984133.164	541330.322	1397.734 EP
833	984128.458	541329.661	1398.276 NG
834	984091.113	541326.779	1397.552 F-BW
835	984091.377	541252.519	1397.694 F-BW

836	984126.404	541251.373	1398.384 NG
837	984131.365	541251.311	1398.042 EP
838	984155.805	541250.641	1398.037 EP
839	984198.21	541254.386	1398.179 NG
840	984191.689	541174.855	1398.207 NG
841	984152.755	541176.813	1397.97 EP
842	984130.368	541177.012	1398.071 EP
843	984091.626	541182.136	1397.523 F-BW
844	984092.111	541110.851	1397.525 F-BW
845	984130.309	541109.526	1397.907 EP
846	984152.082	541109.745	1397.999 EP
847	984195.191	541108.451	1398.295 NG
848	984200.078	541057.486	1398.467 F-CR
849	984159.319	541057.571	1398.405 F-CR
850	984151.608	541036.466	1398.091 EP
851	984131.645	541035.281	1397.523 EP
852	984122.125	541036.046	1398.337 NG
853	984092.338	541033.496	1397.75 F-BW
854	984093.105	540957.521	1397.985 F-BW
855	984126.97	540958.608	1397.885 EP
856	984147.251	540957.111	1398.189 EP
857	984158.982	540956.388	1398.409 F-CR
858	984139.295	540881.909	1397.426 EP
859	984159.109	540898.19	1398.258 F-CR
860	984158.947	540897.857	1398.189 F-CL
861	984119.455	540883.433	1397.117 EP
862	984083.724	540888.276	1397.772 NG
863	984082.971	540810.651	1399.387 NG
864	984098.396	540809.651	1402.106 NG
865	984108.557	540807.824	1401.343 EP
866	984126.233	540805.447	1401.467 EP
867	984130.71	540804.571	1402.427 NG
868	984158.713	540804.012	1401.589 F-CL
869	984158.842	540741.208	1400.635 F-CL
870	984158.82	540741.147	1400.583 W-CMU
871	984131.88	540737.626	1399.536 NG
872	984120.321	540738.479	1399.043 EP
873	984099.037	540740.258	1398.976 EP
874	984089.413	540742.467	1398.901 NG
875	984060.857	540743.005	1398.348 NG
876	984061.233	540669.795	1398.517 NG
877	984096.096	540671.781	1398.949 EP
878	984120.625	540671.86	1399.148 EP
879	984159.009	540669.164	1399.454 W-CMU
880	987222.996	538531.458	1426.302 TOP
881	987225.974	538516.153	1426.987 TOP
882	987226.947	538504.281	1427.438 TOP
883	987217.171	538490.424	1427.15 TOP
884	987179.939	538468.847	1427.469 TOP
885	987171.517	538474.615	1422.175 TOE
886	987168.439	538479.043	1422.304 TOE
887	987161.515	538486.023	1425.08 TOP
888	987152.62	538495.776	1426.382 EP
889	987183.302	538502.056	1424.982 TOP
890	987189.679	538516.65	1425.655 NG
891	987195.914	538523.149	1425.761 NG

892	987186.906	538527.331	1426.41 EP
893	987210.515	538548.654	1426.419 EP
894	987218.89	538538.865	1424.462 FL
895	987206.863	538518.687	1422.849 FL
896	987205.599	538517.478	1422.826 NG
897	987214.362	538514.036	1423.48 TOE
898	987216.885	538505.979	1423.337 TOE
899	987210.256	538497.245	1423.184 TOE
900	987205.574	538517.766	1423.425 HW
901	987196.408	538521.263	1425.246 HW
902	987196.263	538521.696	1425.26 HW
903	987196.632	538522.252	1425.777 HW2
904	987190.857	538516.503	1425.827 HW2
905	987191.407	538516.773	1425.403 HW
906	987191.821	538515.627	1425.41 HW
907	987191.302	538504.15	1423.674 HW
908	987190.026	538503.065	1422.731 TOE
909	987191.534	538504.055	1422.618 NG
910	987195.549	538520.752	1422.883 NG
911	987192.446	538517.714	1422.497 NG
912	987191.687	538516.966	1421.59 C
913	987195.981	538521.334	1421.554 C
914	987142.636	538545.336	1427.734 EP
915	987175.576	538578.417	1427.206 EP
916	987199.322	538602.449	1426.929 EP
917	987195.59	538608.087	1426.678 TOP
918	987183.385	538591.783	1426.488 TOP
919	987167.863	538575.804	1426.182 TOP
920	987147.07	538568.865	1425.766 TOP
921	987120.502	538573.634	1426.617 TOP
922	987130.146	538596.454	1426.99 TOP
923	987152.298	538615.811	1427.556 TOP
924	987182.543	538632.243	1428.266 TOP
925	987194.929	538617.452	1422.476 TOE
926	987188.799	538625.594	1421.887 TOE
927	987166.479	538611.795	1422.132 TOE
928	987150.409	538595.385	1422.499 TOE
929	987158.127	538586.149	1422.557 TOE
930	987161.052	538585.493	1422.362 TOE
931	987161.812	538586.433	1422.398 NG
932	987161.809	538586.148	1422.786 HW
933	987169.956	538582.844	1424.641 HW
934	987170.034	538582.591	1424.671 HW
935	987169.604	538581.974	1425.16 HW2
936	987175.565	538587.708	1425.254 HW2
937	987175.014	538587.369	1424.769 HW
938	987174.782	538588.069	1424.755 HW
939	987175.067	538599.338	1422.843 HW
940	987175.986	538600.176	1422.638 TOE
941	987174.82	538599.317	1422.459 NG
942	987174.11	538586.514	1422.231 NG
943	987171.038	538583.614	1422.194 NG
944	987170.306	538582.999	1420.872 C
945	987174.651	538587.16	1420.959 C
946	987575.733	538787.822	1426.842 TOP
947	987553.955	538809.313	1426.979 TOP

948	987550.229	538818.637	1426.63 TOP
949	987562.913	538829.908	1426.45 TOP
950	987573.041	538833.811	1426.79 TOP
951	987578.196	538830.143	1426.421 TOP
952	987600.198	538809.095	1426.231 TOP
953	987589.054	538801.066	1422.959 TOE
954	987582.204	538793.715	1423.08 TOE
955	987558.621	538812.831	1422.983 TOE
956	987568.493	538821.791	1422.498 TOE
957	987568.071	538822.329	1422.19 C
958	987564.081	538818.423	1422.068 C
959	987562.082	538816.814	1422.155 C
960	987562.534	538824.038	1421.921 INV-36
961	987568.325	538822.653	1423.677 INLET PIPE
962	987562.945	538824.378	1425.236 INLET PIPE
963	987562.464	538824.215	1425.304 INLET PIPE
964	987562.185	538823.717	1425.223 INLET PIPE
965	987563.773	538818.285	1423.463 INLET PIPE
966	987562.388	538817.3	1423.582 INLET PIPE
967	987557.527	538812.994	1423.504 INLET PIPE
968	987556.232	538818.55	1425.101 INLET PIPE
969	987556.427	538819.04	1425.18 INLET PIPE
970	987557.068	538819.249	1425.092 INLET PIPE
971	987556.559	538818.901	1421.753 INV-36
972	987518.512	538834.586	1426.748 EP
973	987553.599	538852.986	1427.653 EP
974	987586.178	538844.857	1428.342 EP
975	987609.322	538818.279	1428.256 EP
976	987478.94	538965.595	1426.97 EP
977	987506.765	538935.274	1427.6 EP
978	987508.522	538907.764	1427.333 EP
979	987499.08	538885.006	1427.037 EP
980	987483.816	538870.357	1426.797 EP
981	987439.046	538931.904	1425.703 TOP
982	987463.949	538901.611	1426.474 TOP
983	987472.819	538897.784	1425.883 TOP
984	987480.902	538904.709	1425.307 TOP
985	987487.961	538912.85	1425.707 TOP
986	987489.716	538929.071	1425.715 TOP
987	987467.979	538960.534	1425.804 TOP
988	987456.897	538948.466	1422.485 TOE
989	987445.825	538936.773	1422.099 TOE
990	987480.21	538917.502	1422.401 TOE
991	987479.246	538916.229	1422.037 NG
992	987479.95	538916.618	1422.422 INLET PIPE
993	987475.24	538912.223	1422.406 INLET PIPE
994	987475.387	538912.684	1422.034 NG
995	987481.002	538910.791	1420.982 INV-36
996	987474.12	538911.156	1422.315 INLET PIPE
997	987469.386	538906.973	1422.299 INLET PIPE
998	987475.295	538905.671	1421.005 INV-36
999	987473.937	538904.863	1424.036 INLET PIPE





Martin Acres Design Concept Report Flooding Issues Questionnaire

The City of Surprise and the Flood Control District of Maricopa County would like to better understand the nature of the flooding problems experienced by the residents in the Martin Acres area. Information regarding the past flooding of residences and other structures, roads, properties, etc. will assist us in determining how best to mitigate those problems.

In the lines below, please describe known flooding problems and draw the location of the flooding on the map (on the opposite side) by writing the number corresponding to each flooding problem. Please also provide the date(s) or approximate date(s) of flooding.

1. In front of our property every time when rain its a problem because water don't run and stay for days & also the
2. pavements get damage our address its 17722 W. Nowich Dr Surprise AZ 85381
3. its happen every time when rain

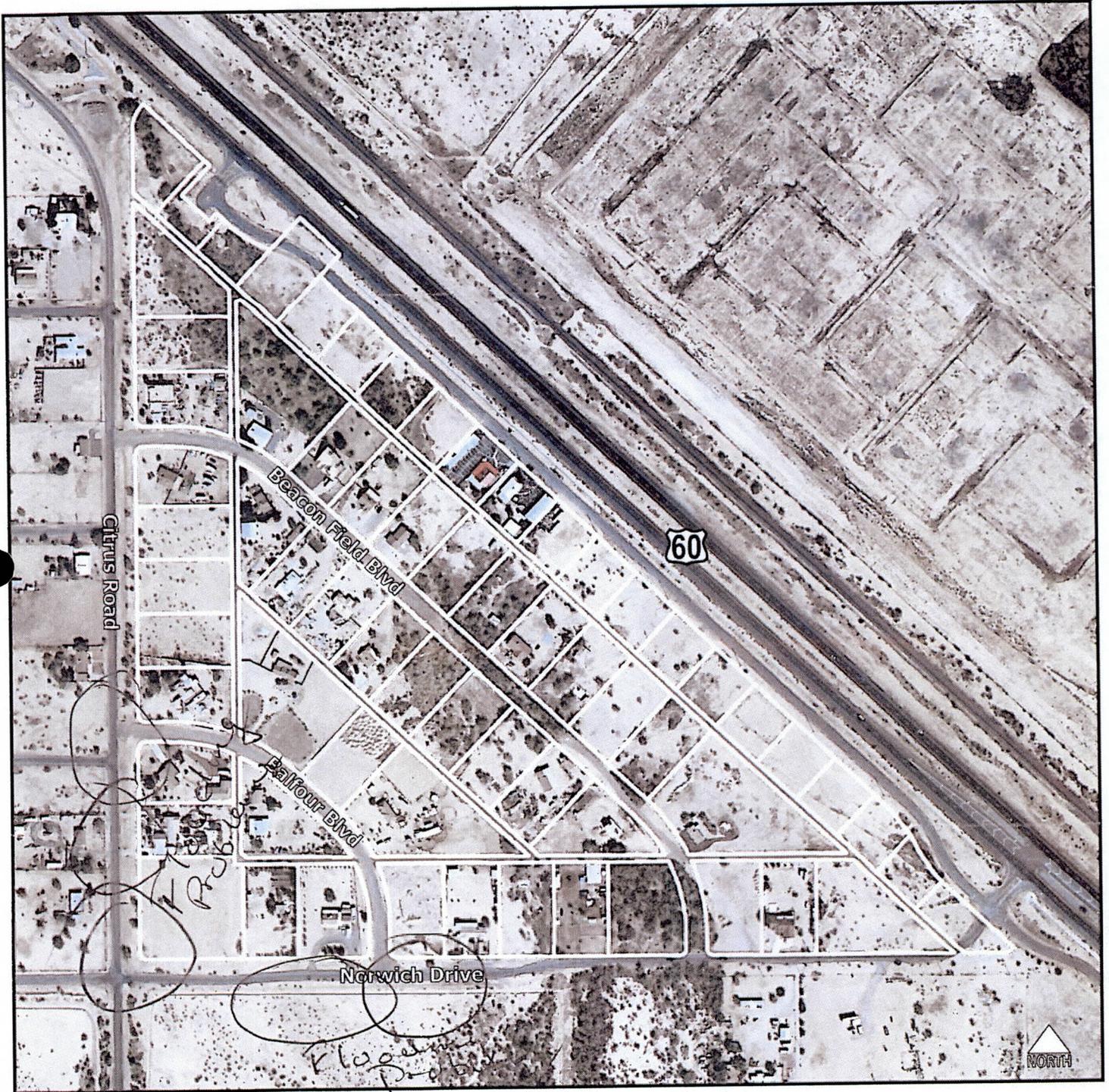
4. _____

Please provide any additional comments and/or concerns in the space provided below:

Please return the completed questionnaire to the Flood Control District of Maricopa County in the provided envelope. Alternatively, you may bring the questionnaire with you to the Martin Acres Design Concept Report public meeting scheduled for 6:00 p.m. to 7:30 p.m. on June 23 at the Mayor's Atrium in the City of Surprise City Hall building (16000 N. Civic Center Plaza).

Flood Control District of Maricopa County

Martin Acres Flooding Locations



Map not to scale.

Approximate parcel boundaries are shown in white.





Martin Acres Design Concept Report Flooding Issues Questionnaire

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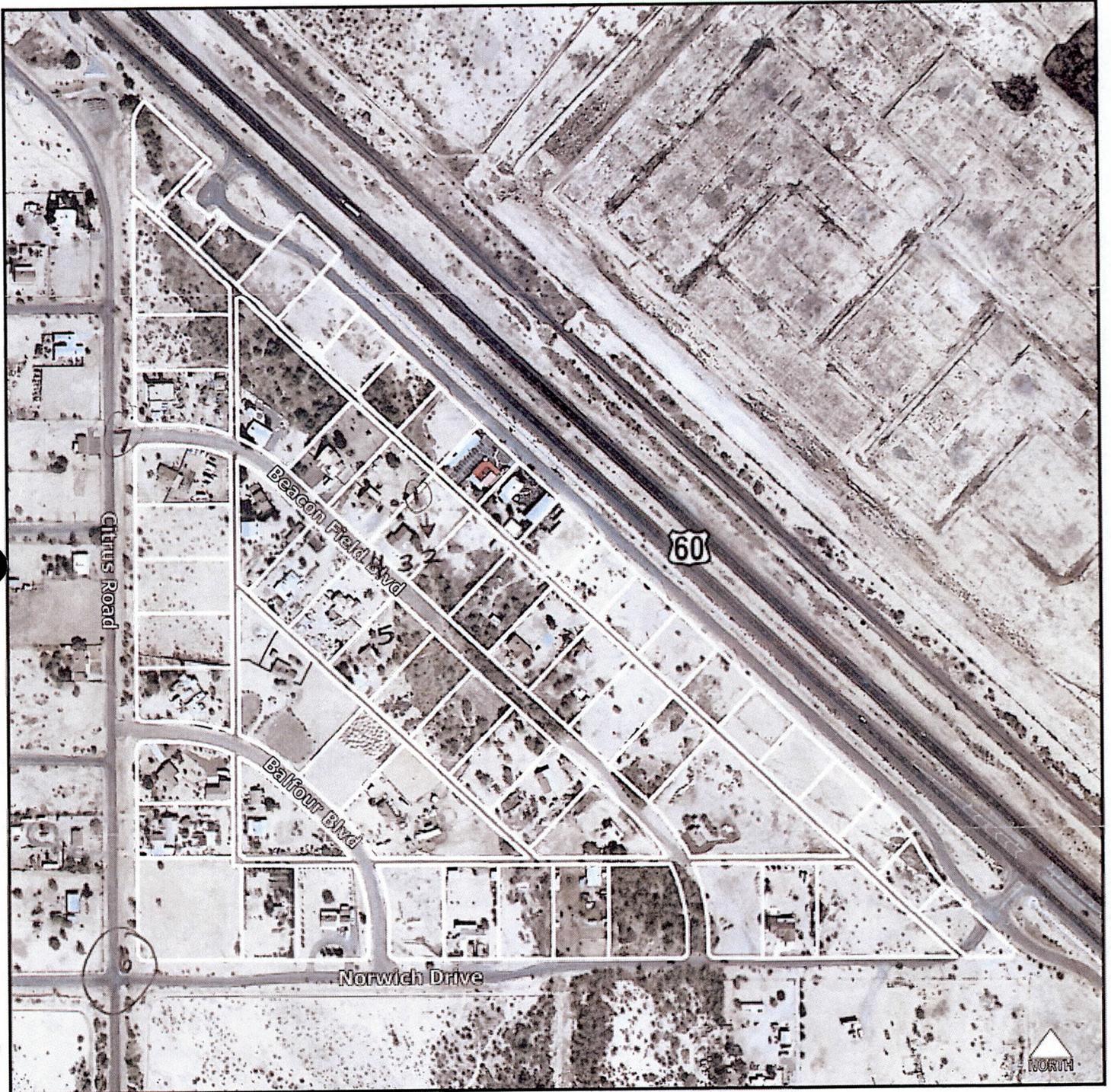
1. The flooding occurs around our home. There is a current of water that flows from our neighbors backyard to our backyard.
2. The current of water from backyard flows to the vacant lot next to our property.
3. The flow of water to the vacant lot eventually begins to overflow and floods the side of our house.
4. There is a second current of water on Beacon Field Blvd that floods the front of our house.

Please provide any additional comments and/or concerns in the space provided below:

The last major flood occurred approximately in the fall/winter of 2009. One of our biggest concerns is the inability to get the fire department to answer an emergency call during the time of floods. Some years back the fire department refused to drive the fire truck to neighbors house (5) because truck could get stuck in the mud. Also anytime it rains we avoid Norwich Drive because it floods. The alternate route we use is Happy Valley Rd.

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Martin Acres Flooding Locations



Map not to scale.

Approximate parcel boundaries are shown in white.

The entire intersection floods and the water begins to back flow, going North on Citrus Road, which eventually floods our entrance to Beacon Field Blvd (7)





NOTES FROM SITE VISIT TO TALK TO PROPERTY RESIDENTS TO DISCUSS THE DRAINAGE FLOW DIRECTIONS AND SEPTIC SYSTEM LOCATIONS ON JULY 6, 2011 ARE AS FOLLOWS:

Note: Maps also provided with these notes.

<u>LOT #</u>	<u>Notes per Lot</u>
#8	Septic system located as shown in red circle at the SE Portion of Lot. Owner stated that most of the water from drainage from the North and West runs behind the lot except for a small area at the very rear of the parcel.
#9	Owners not present, only employees. Left my card and information with him. He did not have any information about drainage patterns or septic system location but did comment that the building at the SE corner of the property is their residence.
#49	"NO TRESSPASSING" Sign and locked gates. Did not attempt to enter property.
#50	"NO TRESSPASSING" Sign and locked gates. Did not attempt to enter property.
#53	Attempted to contact residents but did not answer the door. Lights on the outside of house were on so I left my business card and hand-out.
#54	According to the resident of lot #55 there is no one living in the house at this time. He did not have any information for me other than in the number of years he has resided at lot #55 there has been numerous residents for this lot, mostly military personnel.
#55	Spoke to the owner and he commented that most of the drainage in the area runs down the east side of Citrus Road and does not inundate his lot. His septic system is located in the front yard as shown with red circle on the map.
#25	Only desert & tree growth without any dwelling.
#26	Only horse corrals without any house on this lot.
#27	Only desert & tree growth without any dwelling.

#43 Spoke to the resident of this parcel and she commented that the drainage enters the lot at the NW corner and passes through the parcel to the east side of the dwelling and out the east and southeast portion of this parcel.

#44 Did make contact with the resident of this parcel but and received the general drainage flows across the front yard area from Lot #43 and exiting into the roadway. Also flows in the rear yard into lot #45 at 2 locations along east property line and also along the eastern side of dwelling exiting into the roadway.

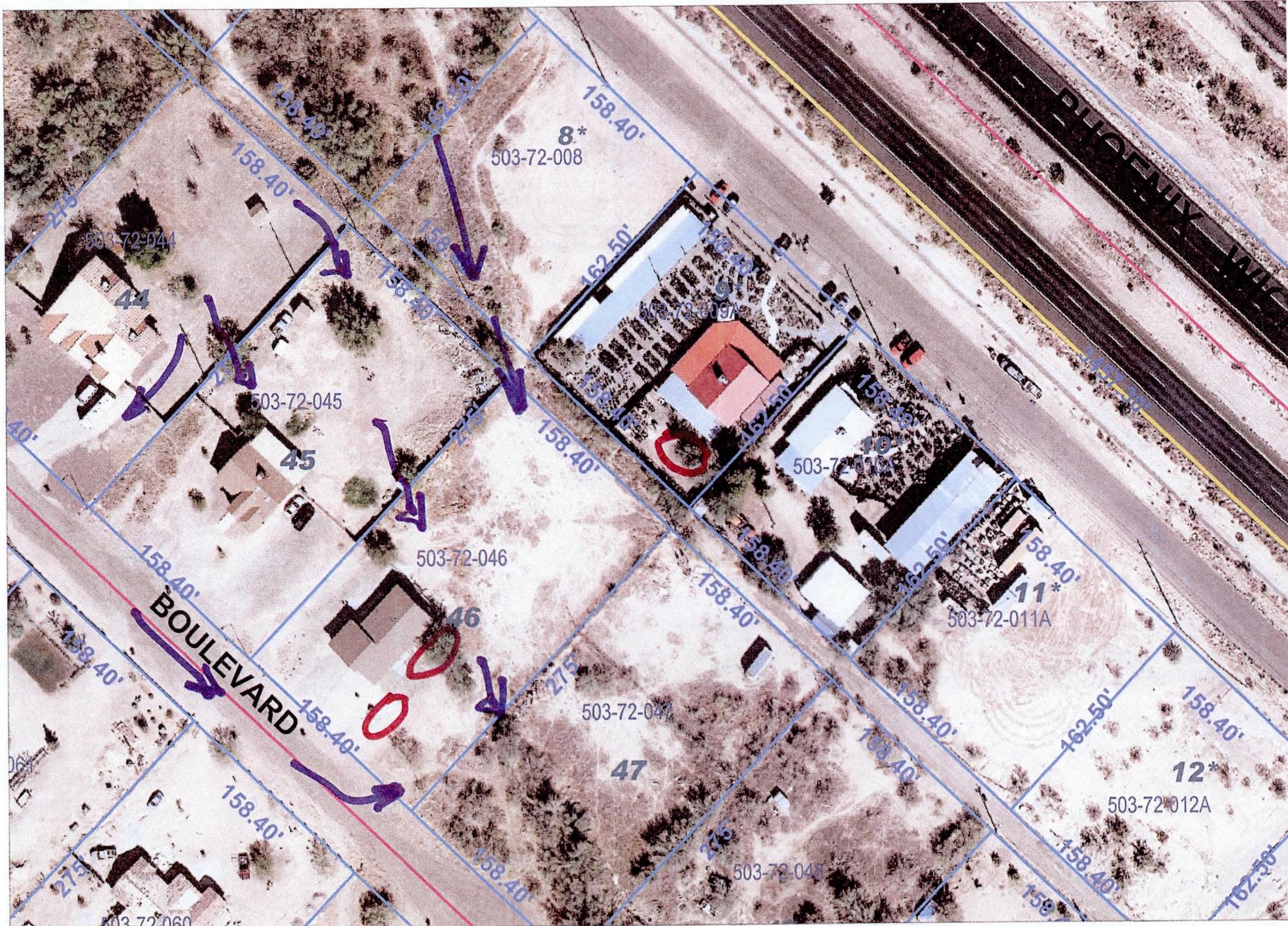
#45 Did not make contact with the residents of this parcel but received the following information from the resident of lot #46. Drainage enters this parcel in 2 locations on the west property line and passes through the lot to the east property line and some drainage enters lot #46 rear yard and I assume that some of the drainage also makes its way to the roadway on both sides of the dwelling.

#46 Spoke to the owners of this parcel and he showed how the drainage enters his lot from the NW from lot #45 and passes through to the opening in his east property line fence. Drainage also enters his lot from the roadway when it is severe enough and passes to the outlet area under fence as mentioned prior in this paragraph. He explained at one time when he was constructing his block wall that a pallet with bags of mortar mix was stored just on the east side of his house, below the high pad elevation, and the water was as high as the top of the second stack of bags. His septic tank is located just off the patio on the eastern side of the house with the leach bed to the SW into the front yard area in front of the block wall.

503-70-008J Had "NO TRASSPASSING SIGN AND BEWARE OF DOG SIGN" so did not attempt to enter.

503-70-008K Had "NO TRASSPASSING SIGN AND BEWARE OF DOG SIGN" so did not attempt to enter.

County Parcels



County Parcels



County Parcels

